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

DATA PACKAGE

METALS

PROJECT NAME : FORMER SCHLUMBERGER STC PTC SITE D3868221

JACOBS ENGINEERING GROUP, INC.

412 Mt. Kemble Ave

Downtown Building

Morristown, NJ - 07960

Phone No: 9732670555

ORDER ID : Q1769

ATTENTION : John Ynfante

Laboratory Certification ID # 20012

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Cover Page

Order ID : Q1769

Project ID : Former Schlumberger STC PTC Site D3868221

Client : JACOBS Engineering Group, Inc.

Lab Sample Number	Client Sample Number
Q1769-02	S-875-KI-SO-1.0-1.5-040925
Q1769-03	S-874-KI-SO-1.0-1.5-040925
Q1769-04	S-874-KI-SO-1.0-1.5-040925-FD
Q1769-08	EB01-040925
Q1769-09	S-873-KI-SO-1.0-1.5-040925
Q1769-10	S-873-KI-SO-1.0-1.5-040925MS
Q1769-11	S-873-KI-SO-1.0-1.5-040925MSD

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

Signature : _____ Date: 4/22/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

JACOBS Engineering Group, Inc.
Project Name: Former Schlumberger STC PTC Site D3868221
Project # N/A
Chemtech Project # Q1769
Test Name: Metals Group4

A. Number of Samples and Date of Receipt:
6 Solid samples were received on 04/09/2025.
1 Water sample was received on 04/09/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Metals Group4. This data package contains results for Metals Group4.

C. Analytical Techniques:
The analysis of Metals Group4 was based on method 6010D, digestion based on method 3010 (waters). The analysis of Metals Group4 was based on method 6020B and digestion based on method 3050 (soils).

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike (S-873-KI-SO-1.0-1.5-040925MS) analysis met criteria for all samples except for Silver due to matrix interference.
The Matrix Spike Duplicate(S-873-KI-SO-1.0-1.5-040925MSD) analysis met criteria for all samples except for Silver due to matrix interference.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:
All samples analyzed and reported with straight 5X dilution because of soil sample matrix was very smelly and possible contains organic chemical interference which causes enhancement effect to the internal standard causing QC failure and possible not the correct concentration of required analyte.

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_____

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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

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: Q1769 MATRIX: Solid

METHOD: 6020B

		NA	NO	YES
1.	Calibration Summary met criteria.			✓
2.	ICP Interference Check Sample Results Summary Submitted.			✓
3.	Serial Dilution Summary (if applicable) Submitted.			✓
4.	Laboratory Control Sample Summary (if applicable) Submitted.			✓
5.	Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Met Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range. The Matrix Spike (S-873-KI-SO-1.0-1.5-040925MS) analysis met criteria for all samples except for Silver due to matrix interference. The Matrix Spike Duplicate(S-873-KI-SO-1.0-1.5-040925MSD) analysis met criteria for all samples except for Silver due to matrix interference.		✓	
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: All samples analyzed and reported with straight 5X dilution because of soil sample matrix was very smelly and possible contains organic chemical interference which causes enhancement effect to the internal standard causing QC failure and possible not the correct concentration of required analyte.

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 Date

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1769

	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:** 04/22/2025

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LAB CHRONICLE

OrderID:	Q1769	**OrderDate:**	4/9/2025 4:31:06 PM
Client:	JACOBS Engineering Group, Inc.	**Project:**	Former Schlumberger STC PTC Site D3868221
Contact:	John Ynfante	**Location:**	L31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1769-02	**S-875-KI-SO-1.0-1.5-040925**	**SOIL**			**04/09/25**			**04/09/25**
			Metals Group4	6020B		04/10/25	04/11/25	
Q1769-03	**S-874-KI-SO-1.0-1.5-040925**	**SOIL**			**04/09/25**			**04/09/25**
			Metals Group4	6020B		04/10/25	04/11/25	
Q1769-04	**S-874-KI-SO-1.0-1.5-040925-FD**	**SOIL**			**04/09/25**			**04/09/25**
			Metals Group4	6020B		04/10/25	04/11/25	
Q1769-08	**EB01-040925**	**Water**			**04/09/25**			**04/09/25**
			Metals Group4	6010D		04/11/25	04/14/25	
Q1769-09	**S-873-KI-SO-1.0-1.5-040925**	**SOIL**			**04/09/25**			**04/09/25**
			Metals Group4	6020B		04/10/25	04/11/25	

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Hit Summary Sheet
SW-846

SDG No.:	Q1769	**Order ID:**	Q1769
Client:	JACOBS Engineering Group, Inc.	**Project ID:**	Former Schlumberger STC PTC Site D386

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : S-875-KI-SO-1.0-1.5-040925								
Q1769-02	S-875-KI-SO-1.0-1.5-040925	SOIL	Silver	6.96	D	0.078	0.30	mg/Kg
Client ID : S-874-KI-SO-1.0-1.5-040925								
Q1769-03	S-874-KI-SO-1.0-1.5-040925	SOIL	Silver	37.2	D	0.092	0.35	mg/Kg
Client ID : S-874-KI-SO-1.0-1.5-040925-FD								
Q1769-04	S-874-KI-SO-1.0-1.5-040925-FD	SOIL	Silver	44.6	D	0.096	0.37	mg/Kg
Client ID : S-873-KI-SO-1.0-1.5-040925								
Q1769-09	S-873-KI-SO-1.0-1.5-040925	SOIL	Silver	13.7	D	0.093	0.36	mg/Kg

SAMPLE DATA

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/09/25
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/09/25
Client Sample ID:	S-875-KI-SO-1.0-1.5-040925	SDG No.:	Q1769
Lab Sample ID:	Q1769-02	Matrix:	SOIL
Level (low/med):	low	% Solid:	78.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-22-4	Silver	6.96	DN	5	0.078	0.30	mg/Kg	04/10/25 13:05	04/11/25 14:21	SW6020	SW3050

Color Before:	Black	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	
Comments:	Metals Group4				

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

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/09/25
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/09/25
Client Sample ID:	S-874-KI-SO-1.0-1.5-040925	SDG No.:	Q1769
Lab Sample ID:	Q1769-03	Matrix:	SOIL
Level (low/med):	low	% Solid:	61.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-22-4	Silver	37.2	DN	5	0.092	0.35	mg/Kg	04/10/25 13:05	04/11/25 14:24	SW6020	SW3050

Color Before:	Black	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	
Comments:	Metals Group4				

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

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/09/25
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/09/25
Client Sample ID:	S-874-KI-SO-1.0-1.5-040925-FD	SDG No.:	Q1769
Lab Sample ID:	Q1769-04	Matrix:	SOIL
Level (low/med):	low	% Solid:	62.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-22-4	Silver	44.6	DN	5	0.096	0.37	mg/Kg	04/10/25 13:05	04/11/25 14:27	SW6020	SW3050

Color Before:	Black	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	
Comments:	Metals Group4				

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

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/09/25
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/09/25
Client Sample ID:	S-873-KI-SO-1.0-1.5-040925	SDG No.:	Q1769
Lab Sample ID:	Q1769-09	Matrix:	SOIL
Level (low/med):	low	% Solid:	67.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-22-4	Silver	13.7	DN	5	0.093	0.36	mg/Kg	04/10/25 13:05	04/11/25 14:31	SW6020	SW3050

Color Before:	Black	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	
Comments:	Metals Group4				

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: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

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	Silver	50.1	50.0	100	90 - 110	P	04/11/2025	12:48	LB135403

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

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
LLICV	Silver	1.02	1.0	102	80 - 120	P	04/11/2025	12:59	LB135403

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

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	Silver	488	500	98	90 - 110	P	04/11/2025	13:31	LB135403
CCV02	Silver	490	500	98	90 - 110	P	04/11/2025	14:51	LB135403
CCV03	Silver	486	500	97	90 - 110	P	04/11/2025	15:36	LB135403

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Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

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	Silver	1.07	1.0	107	70 - 130	P	04/11/2025	13:44	LB135403

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Silver	1.00	+/-1.00	U	1.00	P	04/11/2025	13:06	LB135403

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Silver	1.00	+/-1.00	U	1.00	P	04/11/2025	13:34	LB135403
CCB02	Silver	1.00	+/-1.00	U	1.00	P	04/11/2025	14:54	LB135403
CCB03	Silver	1.00	+/-1.00	U	1.00	P	04/11/2025	15:41	LB135403

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Instrument: P7

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB167552BL		**SOLID**		**Batch Number:**	**PB167552**		**Prep Date:**	**04/10/2025**	
	Silver	0.046	<0.046	U	0.046	P	04/11/2025	14:15	LB135403

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Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

ICS Source: EPA **Instrument ID:** P7

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	Silver	0.030			-2	2	04/11/2025	13:10	LB135403
ICSAB01	Silver	18.3	18.0	102	15.3	20.7	04/11/2025	13:28	LB135403

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q1769

contract: JACO05 **lab code:** CHEM **case no.:** Q1769 **sas no.:** Q1769

matrix: Solid **sample id:** Q1769-09 **client id:** S-873-KI-SO-1.0-1.5-040925MS

Percent Solids for Sample: 67.5 **Spiked ID:** Q1769-10 **Percent Solids for Spike Sample:** 67.5

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	mg/Kg	75 - 125	17.4	D	13.7	D	33.7	11	N	P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q1769

contract: JACO05 **lab code:** CHEM **case no.:** Q1769 **sas no.:** Q1769

matrix: Solid **sample id:** Q1769-09 **client id:** S-873-KI-SO-1.0-1.5-040925MSD

Percent Solids for Sample: 67.5 **Spiked ID:** Q1769-11 **Percent Solids for Spike Sample:** 67.5

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	mg/Kg	75 - 125	15.6	D	13.7	D	30.1	6	N	P

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Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

Matrix: Solid **Level:** LOW **Client ID:** S-873-KI-SO-1.0-1.5-040925A

Sample ID: Q1769-09 **Spiked ID:** Q1769-09A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	mg/Kg	75 - 125	18.5	D	13.7	D	35.6	13		P

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

Matrix: Solid **Sample ID:** Q1769-09 **Client ID:** S-873-KI-SO-1.0-1.5-040925DUP

Percent Solids for Sample: 67.5 **Duplicate ID** Q1769-09DUP **Percent Solids for Spike Sample:** 67.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Silver	mg/Kg	20	13.7	D	12.0	D	13		P

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

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Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

Matrix: Solid **Sample ID:** Q1769-10 **Client ID:** S-873-KI-SO-1.0-1.5-040925MSD

Percent Solids for Sample: 67.5 **Duplicate ID** Q1769-11 **Percent Solids for Spike Sample:** 67.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Silver	mg/Kg	20	17.4	D	15.6	D	11		P

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

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LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1769 **SAS No.:** Q1769

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167552BS							
Silver	mg/Kg	22.6	22.9		101	80 - 120	P

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FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc. Contract: JACO05

Lab Code: CHEM Case no.: Q1769 Sas No.: Q1769 SDG No.: Q1769

Instrument ID: P7 Start Date : 04/11/2025

Run Number: LB135403 End Date : 04/11/2025

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	1209	100		100		100		100		100	
S2	S2	1216	104		102		101		101		100	
S3	S3	1219	108		105		104		103		104	
S4	S4	1223	104		99		100		99		101	
S5	S5	1226	104		97		97		96		100	
S6	S6	1229	100		91		94		91		96	
S7	S7	1231	98		93		96		92		99	
S8	S8	1234	105		109		110		100		111	
ICV01	ICV01	1248	99		103		103		102		102	
LLICV	LLICV	1259	110		109		109		108		109	
ICB01	ICB01	1306	124		123		124		122		122	
ICSA01	ICSA01	1310	98		99		101		97		101	
ICSAB01	ICSAB01	1328	103		102		104		100		107	
CCV01	CCV01	1331	96		99		102		97		105	
CCB01	CCB01	1334	98		103		107		106		108	
CRI	CRI	1344	102		107		109		109		109	
PB167552BL	PB167552BL	1415	97		110		110		110		110	
PB167552BS	PB167552BS	1418	97		105		107		105		109	
Q1769-02	S-875-KI-SO	1421	103		105		109		107		109	
Q1769-03	S-874-KI-SO	1424	104		110		114		110		112	
Q1769-04	S-874-KI-SO	1427	104		111		114		110		112	
Q1769-09	S-873-KI-SO	1431	104		112		116		110		113	
Q1769-09DUP	S-873-KI-SO	1434	101		112		116		109		112	
CCV02	CCV02	1451	100		105		106		100		108	
CCB02	CCB02	1454	105		104		104		104		106	
Q1769-09L	S-873-KI-SO	1457	102		104		106		103		105	
Q1769-10	S-873-KI-SO	1517	103		110		114		109		111	
Q1769-11	S-873-KI-SO	1520	103		112		114		108		112	
Q1769-09A	S-873-KI-SO	1523	103		111		115		109		111	
CCV03	CCV03	1536	98		104		105		99		106	
CCB03	CCB03	1541	97		102		104		103		104	

Internal Standard %RI Limit: 70 - 130

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FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc. Contract: JACO05

Lab Code: CHEM Case no.: Q1769 Sas No.: Q1769 SDG No.: Q1769

Instrument ID: P7 Start Date : 04/11/2025

Run Number: LB135403 End Date : 04/11/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
S0	S0	1209	100		100		100		100		100	
S2	S2	1216	103		104		103		101		102	
S3	S3	1219	102		104		102		103		104	
S4	S4	1223	98		102		100		102		104	
S5	S5	1226	95		97		97		101		103	
S6	S6	1229	93		97		96		102		103	
S7	S7	1231	96		100		97		103		104	
S8	S8	1234	109		111		102		110		111	
ICV01	ICV01	1248	102		106		104		105		105	
LLICV	LLICV	1259	105		109		108		109		108	
ICB01	ICB01	1306	101		104		103		104		104	
ICSA01	ICSA01	1310	97		101		98		103		104	
ICSAB01	ICSAB01	1328	102		106		101		106		108	
CCV01	CCV01	1331	100		104		98		106		106	
CCB01	CCB01	1334	101		106		106		107		107	
CRI	CRI	1344	106		111		111		111		112	
PB167552BL	PB167552BL	1415	106		110		110		109		107	
PB167552BS	PB167552BS	1418	100		107		103		107		107	
Q1769-02	S-875-KI-SO	1421	100		106		102		105		105	
Q1769-03	S-874-KI-SO	1424	110		116		112		114		114	
Q1769-04	S-874-KI-SO	1427	109		117		112		113		114	
Q1769-09	S-873-KI-SO	1431	109		117		112		112		112	
Q1769-09DUP	S-873-KI-SO	1434	109		116		111		111		110	
CCV02	CCV02	1451	103		106		100		109		109	
CCB02	CCB02	1454	102		106		105		107		108	
Q1769-09L	S-873-KI-SO	1457	103		108		107		109		108	
Q1769-10	S-873-KI-SO	1517	109		114		110		111		112	
Q1769-11	S-873-KI-SO	1520	108		114		110		111		113	
Q1769-09A	S-873-KI-SO	1523	110		117		111		113		113	
CCV03	CCV03	1536	102		106		100		106		106	
CCB03	CCB03	1541	101		107		106		106		105	

Internal Standard %RI Limit: 70 - 130

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FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc. Contract: JACO05

Lab Code: CHEM Case no.: Q1769 Sas No.: Q1769 SDG No.: Q1769

Instrument ID: P7 Start Date : 04/11/2025

Run Number: LB135403 End Date : 04/11/2025

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	1209	100		100							
S2	S2	1216	101		102							
S3	S3	1219	104		105							
S4	S4	1223	101		101							
S5	S5	1226	101		103							
S6	S6	1229	98		99							
S7	S7	1231	99		99							
S8	S8	1234	110		102							
ICV01	ICV01	1248	103		103							
LLICV	LLICV	1259	107		110							
ICB01	ICB01	1306	121		122							
ICSA01	ICSA01	1310	102		99							
ICSAB01	ICSAB01	1328	106		105							
CCV01	CCV01	1331	105		101							
CCB01	CCB01	1334	108		109							
CRI	CRI	1344	108		109							
PB167552BL	PB167552BL	1415	109		108							
PB167552BS	PB167552BS	1418	109		108							
Q1769-02	S-875-KI-SO-	1421	109		109							
Q1769-03	S-874-KI-SO-	1424	112		113							
Q1769-04	S-874-KI-SO-	1427	112		112							
Q1769-09	S-873-KI-SO-	1431	112		112							
Q1769-09DUP	S-873-KI-SO-	1434	112		111							
CCV02	CCV02	1451	107		103							
CCB02	CCB02	1454	106		109							
Q1769-09L	S-873-KI-SO-	1457	106		108							
Q1769-10	S-873-KI-SO-	1517	111		112							
Q1769-11	S-873-KI-SO-	1520	111		111							
Q1769-09A	S-873-KI-SO-	1523	112		113							
CCV03	CCV03	1536	107		100							
CCB03	CCB03	1541	103		106							

Internal Standard %RI Limit: 70 -130

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FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc. Contract: JACO05

Lab Code: CHEM Case no.: Q1769 Sas No.: Q1769 SDG No.: Q1769

Instrument ID: P7 Start Date : 04/11/2025

Run Number: LB135403 End Date : 04/11/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1209	100									
S2	S2	1216	102									
S3	S3	1219	104									
S4	S4	1223	103									
S5	S5	1226	102									
S6	S6	1229	102									
S7	S7	1231	100									
S8	S8	1234	100									
ICV01	ICV01	1248	104									
LLICV	LLICV	1259	108									
ICB01	ICB01	1306	104									
ICSA01	ICSA01	1310	100									
ICSAB01	ICSAB01	1328	104									
CCV01	CCV01	1331	100									
CCB01	CCB01	1334	107									
CRI	CRI	1344	111									
PB167552BL	PB167552BL	1415	108									
PB167552BS	PB167552BS	1418	107									
Q1769-02	S-875-KI-SO-	1421	106									
Q1769-03	S-874-KI-SO-	1424	115									
Q1769-04	S-874-KI-SO-	1427	114									
Q1769-09	S-873-KI-SO-	1431	112									
Q1769-09DUP	S-873-KI-SO-	1434	110									
CCV02	CCV02	1451	102									
CCB02	CCB02	1454	108									
Q1769-09L	S-873-KI-SO-	1457	109									
Q1769-10	S-873-KI-SO-	1517	111									
Q1769-11	S-873-KI-SO-	1520	111									
Q1769-09A	S-873-KI-SO-	1523	113									
CCV03	CCV03	1536	100									
CCB03	CCB03	1541	107									

Internal Standard %RI Limit: 70 -130

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

S-873-KI-SO-1.0-1.5-040925L

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

Lab Code: CHEM **Lb No.:** lb135403 **Lab Sample ID :** Q1769-09L **SDG No.:** Q1769

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

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Silver	13.7	D	13.5	D	1		P

METAL PREPARATION & INSTRUMENT DATA

METAL PREPARATION & ANALYICAL SUMMARY

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Metals
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SAMPLE PREPARATION SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1769

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

Case No.: Q1769 **SAS No.:** Q1769

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB167552**						
PB167552BL	PB167552BL	MB	SOLID	04/10/2025	2.18	100.0	100.00
PB167552BS	PB167552BS	LCS	SOLID	04/10/2025	2.21	100.0	100.00
Q1769-02	S-875-KI-SO-1.0-1.5-040925	SAM	SOLID	04/10/2025	2.12	100.0	78.50
Q1769-03	S-874-KI-SO-1.0-1.5-040925	SAM	SOLID	04/10/2025	2.29	100.0	61.80
Q1769-04	S-874-KI-SO-1.0-1.5-040925-FD	SAM	SOLID	04/10/2025	2.15	100.0	62.70
Q1769-09	S-873-KI-SO-1.0-1.5-040925	SAM	SOLID	04/10/2025	2.08	100.0	67.50
Q1769-09DUP	S-873-KI-SO-1.0-1.5-040925DUP	DUP	SOLID	04/10/2025	2.33	100.0	67.50
Q1769-10	S-873-KI-SO-1.0-1.5-040925MS	MS	SOLID	04/10/2025	2.20	100.0	67.50
Q1769-11	S-873-KI-SO-1.0-1.5-040925MSD	MSD	SOLID	04/10/2025	2.46	100.0	67.50

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metals
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ANALYSIS RUN LOG

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

Lab code: CHEM **Case no.:** Q1769 **Sas no.:** Q1769 **Sdg no.:** Q1769

Instrument id number: **Method:** **Run number:** LB135403

Start date: 04/11/2025 **End date:** 04/11/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1209	Ag
S2	S2	1	1216	Ag
S3	S3	1	1219	Ag
S4	S4	1	1223	Ag
S5	S5	1	1226	Ag
S6	S6	1	1229	Ag
S7	S7	1	1231	Ag
S8	S8	1	1234	,
ICV01	ICV01	1	1248	Ag
LLICV	LLICV	1	1259	Ag
ICB01	ICB01	1	1306	Ag
ICSA01	ICSA01	1	1310	Ag
ICSAB01	ICSAB01	1	1328	Ag
CCV01	CCV01	1	1331	Ag
CCB01	CCB01	1	1334	Ag
CRI	CRI	1	1344	Ag
PB167552BL	PB167552BL	1	1415	Ag
PB167552BS	PB167552BS	1	1418	Ag
Q1769-02	S-875-KI-SO-1.0-1.5-040925	5	1421	Ag
Q1769-03	S-874-KI-SO-1.0-1.5-040925	5	1424	Ag
Q1769-04	S-874-KI-SO-1.0-1.5-040925-FD	5	1427	Ag
Q1769-09	S-873-KI-SO-1.0-1.5-040925	5	1431	Ag
Q1769-09DUP	S-873-KI-SO-1.0-1.5-040925DU	5	1434	Ag
CCV02	CCV02	1	1451	Ag
CCB02	CCB02	1	1454	Ag
Q1769-09L	S-873-KI-SO-1.0-1.5-040925L	25	1457	Ag
Q1769-10	S-873-KI-SO-1.0-1.5-040925MS	5	1517	Ag
Q1769-11	S-873-KI-SO-1.0-1.5-040925MS	5	1520	Ag
Q1769-09A	S-873-KI-SO-1.0-1.5-040925A	5	1523	Ag
CCV03	CCV03	1	1536	Ag
CCB03	CCB03	1	1541	Ag

METAL
RAW DATA

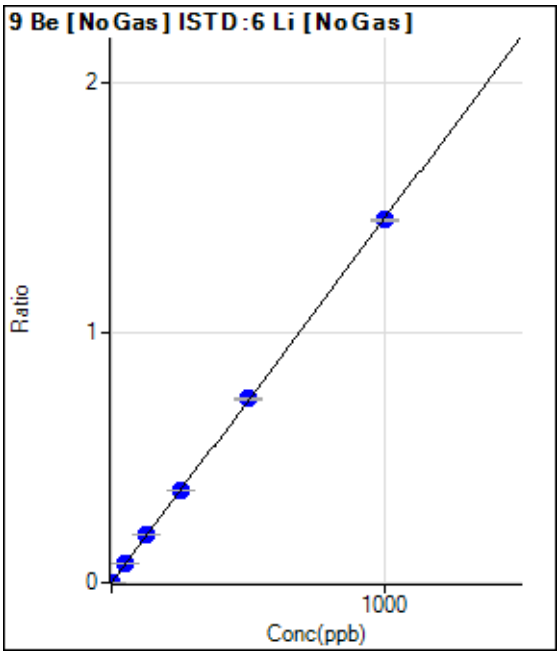
Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

Calibration for 007CALS.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\P7041125 MS.b\
Analysis File: P7041125 MS.batch.bin
DA Date-Time: 2025-04-11 16:27:10
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	S00	2025-04-11 12:09:51
2	006CALS.d	S02	2025-04-11 12:16:28
3	007CALS.d	S03	2025-04-11 12:19:46
4	008CALS.d	S04	2025-04-11 12:23:02
5	009CALS.d	S05	2025-04-11 12:26:05
6	010CALS.d	S06	2025-04-11 12:29:05
7	011CALS.d	S07	2025-04-11 12:31:55
8	012CALS.d	S08	2025-04-11 12:34:43

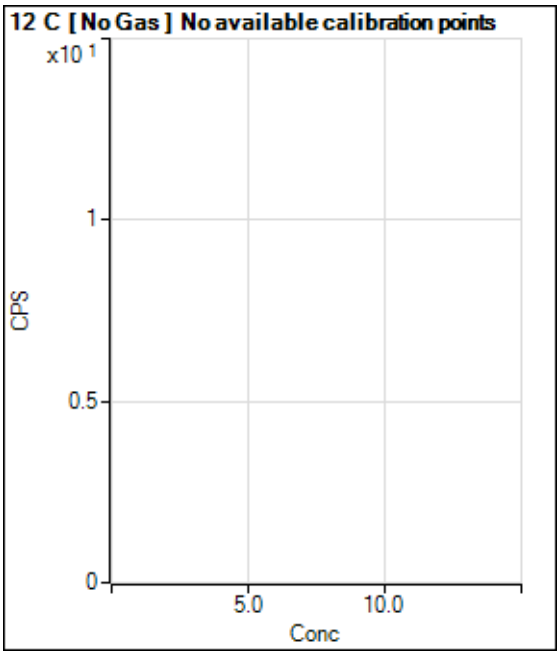
Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28.89	0.0001	P	35.1
2	☐	1.000	1.197	711.13	0.0018	P	6.5
3	☐	50.000	52.421	30790.57	0.0763	P	1.1
4	☐	125.000	131.077	74334.74	0.1907	P	0.6
5	☐	250.000	252.776	143380.18	0.3676	P	1.0
6	☐	500.000	504.335	273361.68	0.7334	P	0.2
7	☐	1000.000	996.257	529533.83	1.4486	P	0.3
8	☐			86.67	0.0002	P	31.0

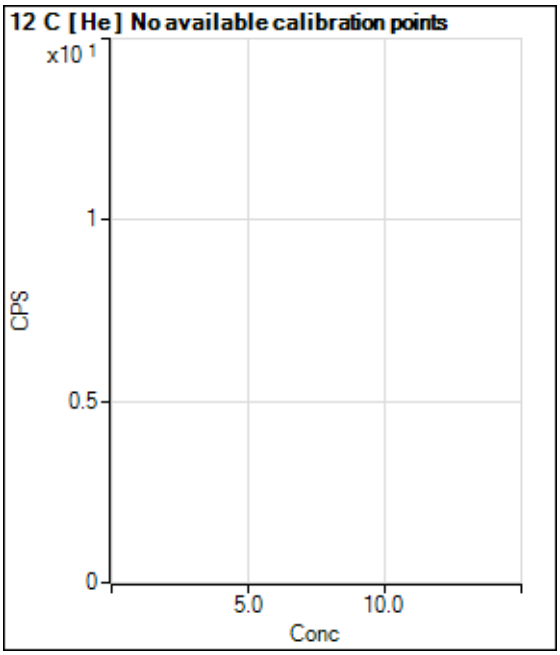
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R = 1.0000
DL = 0.05586
BEC = 0.05304

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Min Conc: 0

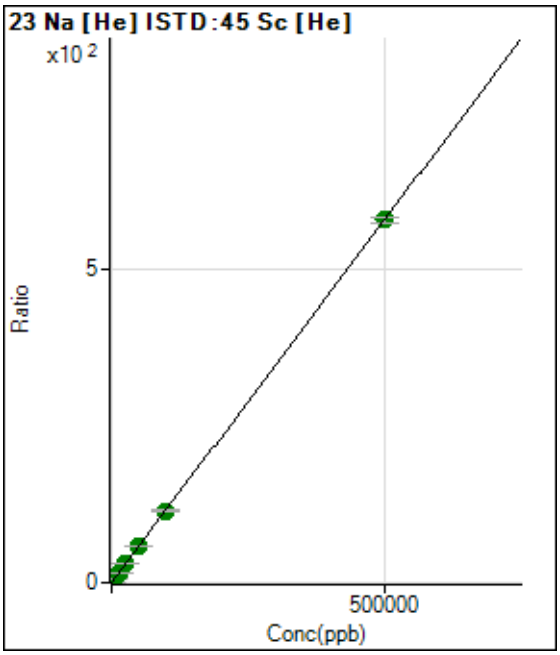


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

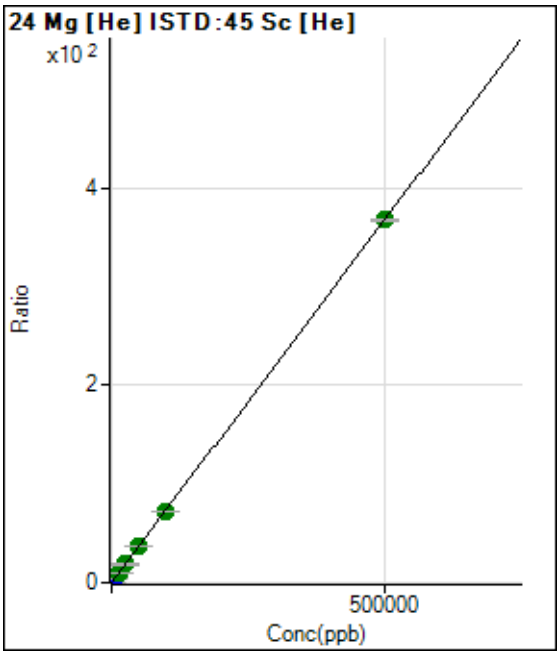


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12306.11	0.0517	P	2.7
2	☐	500.000	506.357	156462.27	0.6391	P	0.6
3	☐	5000.000	5151.258	1466026.19	6.0279	A	0.9
4	☐	12500.000	12983.022	3544534.43	15.1138	A	0.5
5	☐	25000.000	25516.607	6684852.82	29.6546	A	0.6
6	☐	50000.000	50143.540	12959897.44	58.2253	A	1.3
7	☐	100000.00	99222.704	26225135.16	115.1642	A	1.0
8	☐	500000.00	500101.68	150505073.3	580.2409	A	1.3

y = 0.0012 * x + 0.0517
R = 1.0000
DL = 3.667
BEC = 44.56

Weight: <None>
Min Conc: 0

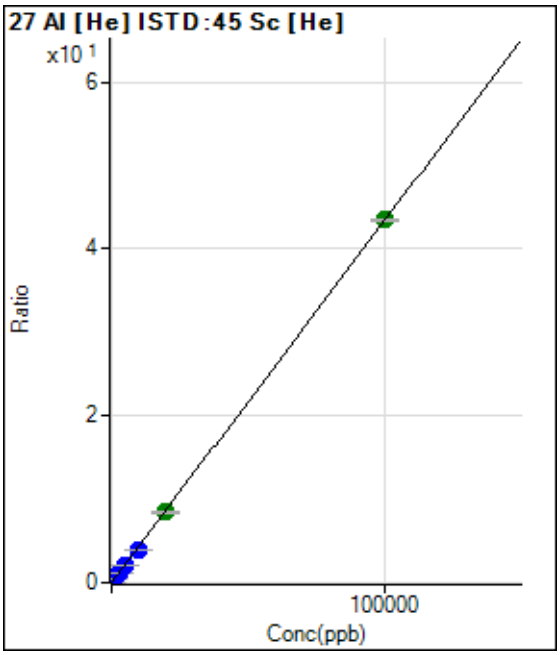
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	174.45	0.0007	P	9.7
2	☐	500.000	508.020	91494.66	0.3737	P	0.5
3	☐	5000.000	4835.526	863625.39	3.5512	P	0.5
4	☐	12500.000	12920.366	2224940.99	9.4874	A	0.6
5	☐	25000.000	25196.666	4170566.64	18.5012	A	1.8
6	☐	50000.000	49792.789	8138490.50	36.5607	A	2.3
7	☐	100000.00	98601.865	16486381.97	72.3983	A	1.2
8	☐	500000.00	500281.64	95289860.80	367.3282	A	0.6

y = 7.3424E-004 * x + 7.3265E-004
R = 1.0000
DL = 0.2901
BEC = 0.9978

Weight: <None>
Min Conc: 0

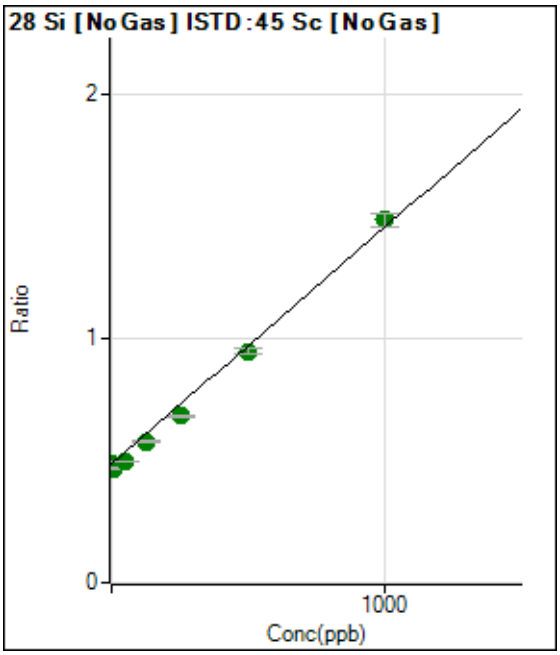


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.67	0.0012	P	2.3
2	☐	20.000	19.129	2315.76	0.0095	P	4.9
3	☐	1000.000	958.030	101372.36	0.4168	P	0.4
4	☐	2500.000	2411.678	245654.30	1.0475	P	0.9
5	☐	5000.000	4709.646	460888.49	2.0446	P	0.8
6	☐	10000.000	9245.280	893162.36	4.0124	P	0.4
7	☐	20000.000	19425.078	1919693.13	8.4292	A	1.3
8	☐	100000.00	100207.60	11278236.77	43.4786	A	0.7

y = 4.3387E-004 * x + 0.0012
R = 1.0000
DL = 0.1823
BEC = 2.678

Weight: <None>
Min Conc: 0

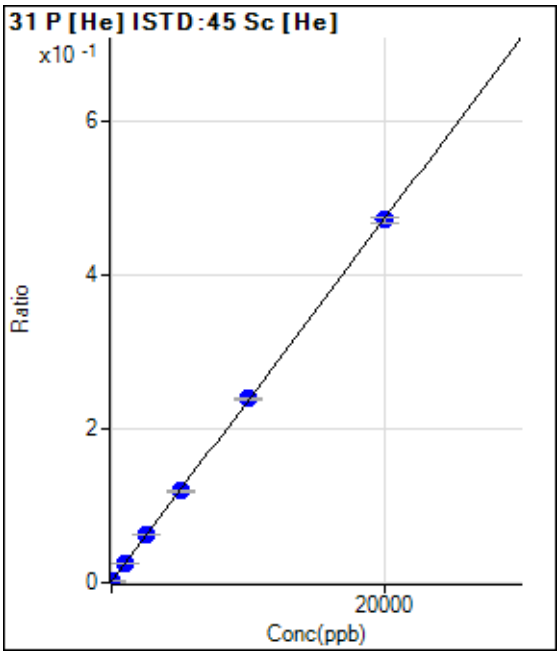
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LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1326060.61	0.4864	A	1.6
2	☐	10.000	-19.535	1302008.09	0.4674	A	2.8
3	☐	50.000	9.784	1424261.05	0.4959	A	1.0
4	☐	125.000	94.766	1568122.50	0.5783	A	1.2
5	☐	250.000	201.430	1801370.91	0.6817	A	1.7
6	☐	500.000	475.507	2361439.37	0.9475	A	2.3
7	☐	1000.000	1030.475	3763250.26	1.4858	A	3.4
8	☐			1241001.13	0.4183	A	2.0

y = 9.6984E-004 * x + 0.4864
R = 0.9986
DL = 23.34
BEC = 501.5

Weight: <None>
Min Conc: 0

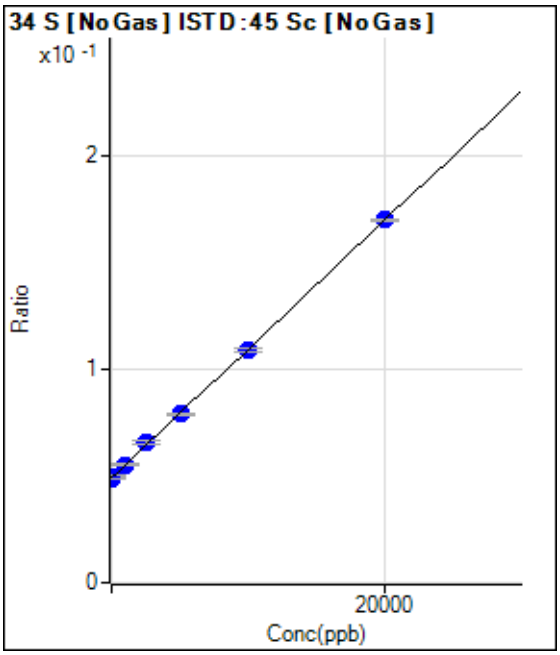


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-17.335	215.56	0.0009	P	16.9
2	☐	0.000	17.335	422.23	0.0017	P	2.9
3	☐	1000.000	1008.528	6107.94	0.0251	P	2.2
4	☐	2500.000	2577.394	14571.47	0.0621	P	0.5
5	☐	5000.000	5026.890	27038.43	0.1199	P	2.3
6	☐	10000.000	10075.621	53214.56	0.2391	P	1.3
7	☐	20000.000	19945.366	107474.70	0.4720	P	1.7
8	☐			261.12	0.0010	P	13.3

y = 2.3597E-005 * x + 0.0013
R = 1.0000
DL = 12.97
BEC = 55.76

Weight: <None>
Min Conc: 0

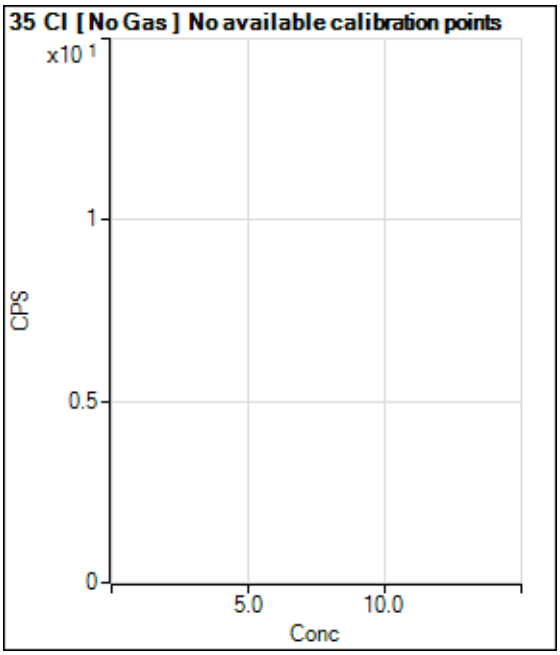
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-57.522	133205.47	0.0489	P	1.9
2	☐	0.000	57.522	138021.91	0.0496	P	2.9
3	☐	1000.000	986.194	158444.96	0.0552	P	1.5
4	☐	2500.000	2732.756	178210.44	0.0657	P	1.8
5	☐	5000.000	4954.141	209141.11	0.0791	P	0.7
6	☐	10000.000	9928.845	272067.40	0.1092	P	1.5
7	☐	20000.000	20018.638	431010.59	0.1702	P	0.5
8	☐			116827.50	0.0394	P	4.5

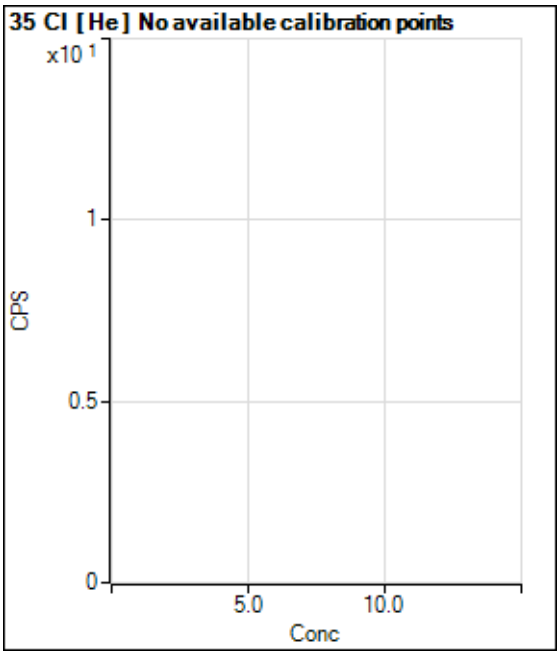
y = 6.0435E-006 * x + 0.0492
R = 0.9999
DL = 585.3
BEC = 8142

Weight: <None>
Min Conc: 0

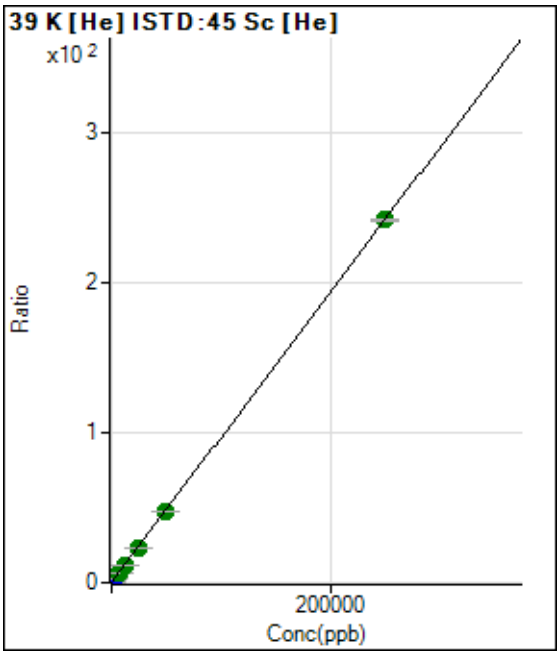


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

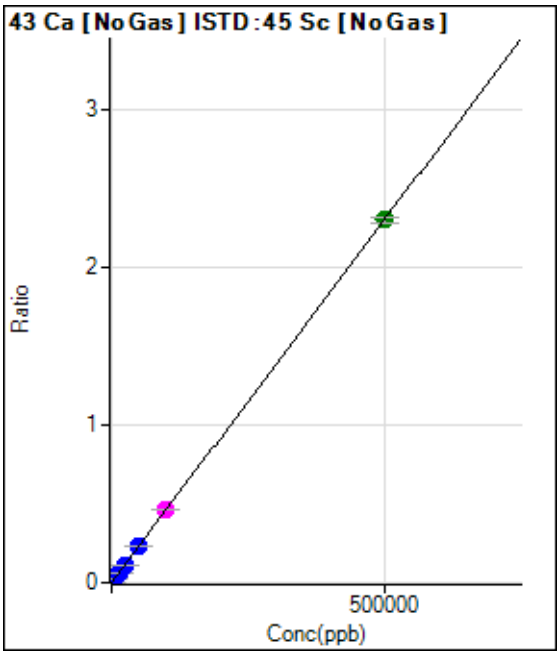


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47724.54	0.2004	P	1.2
2	☐	500.000	501.989	167536.13	0.6844	P	0.6
3	☐	2500.000	2483.593	631021.22	2.5947	P	0.5
4	☐	6250.000	6201.704	1449052.34	6.1791	A	1.7
5	☐	12500.000	12067.699	2667754.06	11.8341	A	1.2
6	☐	25000.000	24237.357	5245707.94	23.5661	A	0.1
7	☐	50000.000	48851.742	10769868.17	47.2952	A	1.3
8	☐	250000.00	250328.89	62652721.85	241.5262	A	0.6

y = 9.6403E-004 * x + 0.2004
R = 1.0000
DL = 7.345
BEC = 207.9

Weight: <None>
Min Conc: 0

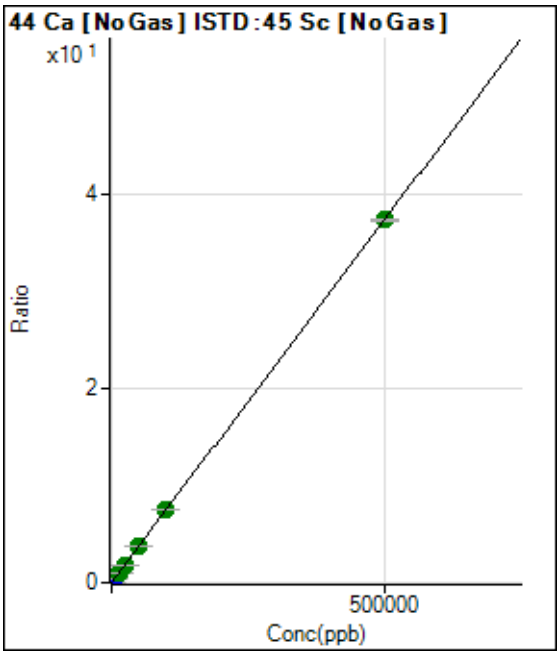
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0001	P	4.8
2	☐	500.000	533.577	7068.37	0.0025	P	5.7
3	☐	5000.000	4984.933	66082.01	0.0230	P	1.5
4	☐	12500.000	12844.753	160396.17	0.0592	P	1.4
5	☐	25000.000	24789.223	301407.50	0.1141	P	2.3
6	☐	50000.000	50512.976	578930.15	0.2324	P	0.4
7	☐	100000.00	100485.63	1170446.49	0.4622	M	0.8
8	☐	500000.00	499853.61	6817744.14	2.2986	A	1.3

y = 4.5984E-006 * x + 8.5575E-005
R = 1.0000
DL = 2.692
BEC = 18.61

Weight: <None>
Min Conc: 0

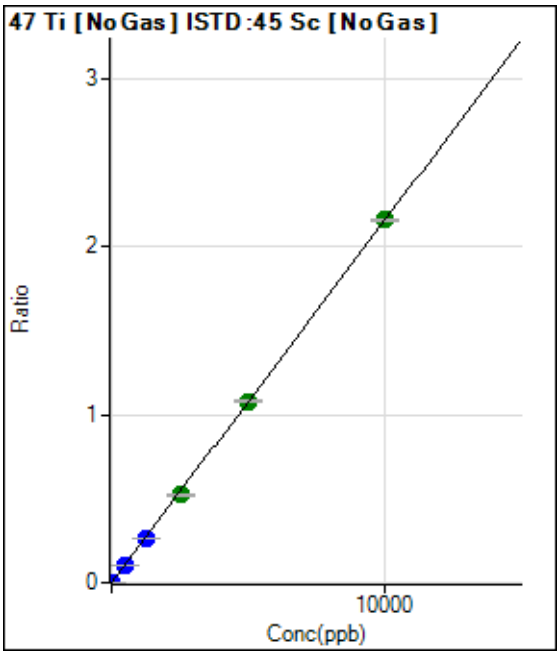


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6290.33	0.0023	P	1.0
2	☐	500.000	538.812	118658.42	0.0426	P	2.9
3	☐	5000.000	4980.928	1076502.46	0.3748	P	1.6
4	☐	12500.000	12728.376	2587655.48	0.9542	A	0.6
5	☐	25000.000	24573.674	4861677.70	1.8401	A	2.8
6	☐	50000.000	50465.115	9408362.43	3.7764	A	1.2
7	☐	100000.00	99870.841	18921515.27	7.4713	A	0.7
8	☐	500000.00	499995.07	110923627.2	37.3951	A	0.8

y = 7.4786E-005 * x + 0.0023
R = 1.0000
DL = 0.896
BEC = 30.85

Weight: <None>
Min Conc: 0

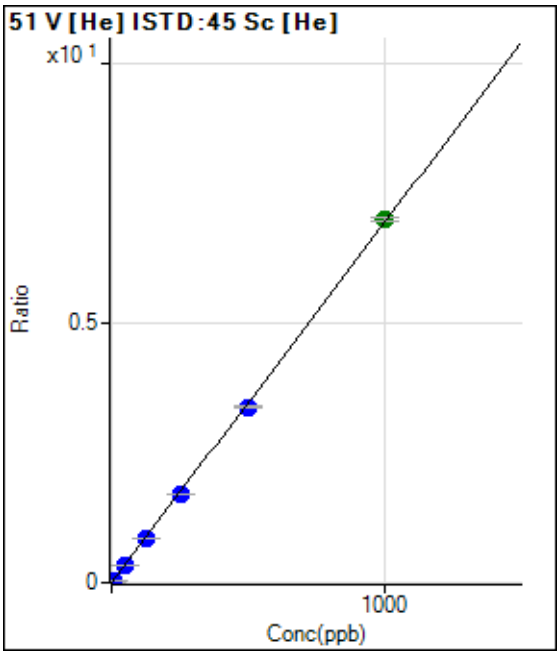
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0000	P	17.0
2	☐	5.000	5.046	3093.68	0.0011	P	6.6
3	☐	500.000	475.568	294316.44	0.1025	P	1.7
4	☐	1250.000	1219.629	712504.36	0.2628	P	1.8
5	☐	2500.000	2417.769	1376338.31	0.5209	A	1.6
6	☐	5000.000	5007.425	2687650.67	1.0788	A	0.8
7	☐	10000.000	10021.863	5467799.64	2.1590	A	0.8
8	☐			383.34	0.0001	P	21.5

y = 2.1543E-004 * x + 2.4444E-005
R = 1.0000
DL = 0.058
BEC = 0.1135

Weight: <None>
Min Conc: 0

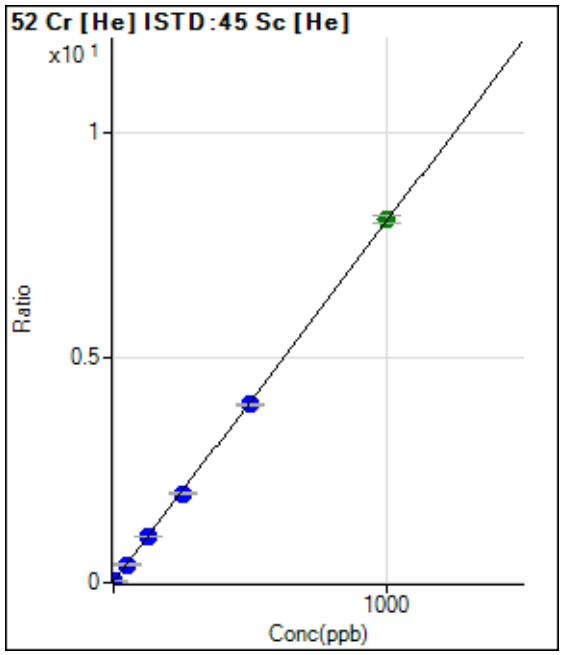


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8.89	0.0000	P	58.3
2	☐	5.000	5.247	8926.04	0.0365	P	1.5
3	☐	50.000	49.120	82927.38	0.3410	P	0.7
4	☐	125.000	123.875	201645.60	0.8598	P	0.8
5	☐	250.000	243.883	381599.22	1.6928	P	0.5
6	☐	500.000	488.157	754165.24	3.3883	P	1.5
7	☐	1000.000	1007.634	1592837.68	6.9940	A	1.2
8	☐			483.34	0.0019	P	8.1

y = 0.0069 * x + 3.7509E-005
R = 0.9999
DL = 0.009455
BEC = 0.005404

Weight: <None>
Min Conc: 0

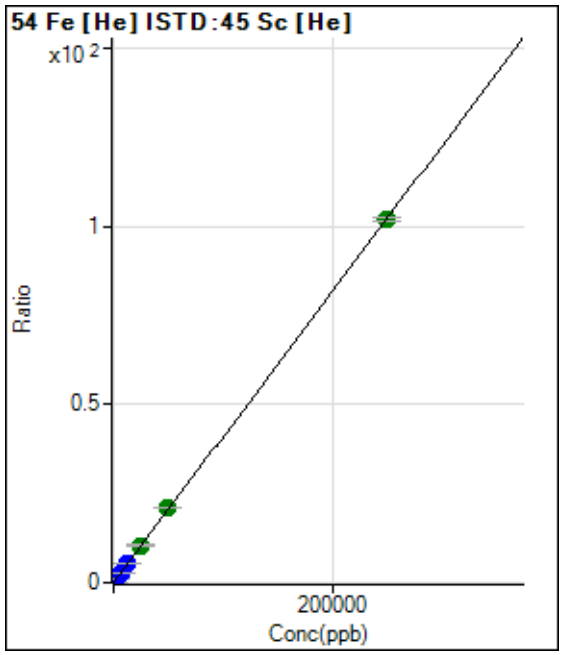
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1747.90	0.0073	P	5.1
2	☐	2.000	2.006	5740.03	0.0234	P	2.1
3	☐	50.000	49.513	98436.34	0.4048	P	0.8
4	☐	125.000	126.673	240165.21	1.0241	P	0.3
5	☐	250.000	246.264	447253.38	1.9840	P	0.5
6	☐	500.000	494.063	884330.04	3.9730	P	1.0
7	☐	1000.000	1003.718	1836357.28	8.0638	A	2.0
8	☐			19598.36	0.0756	P	1.7

y = 0.0080 * x + 0.0073
R = 1.0000
DL = 0.1388
BEC = 0.9149

Weight: <None>
Min Conc: 0

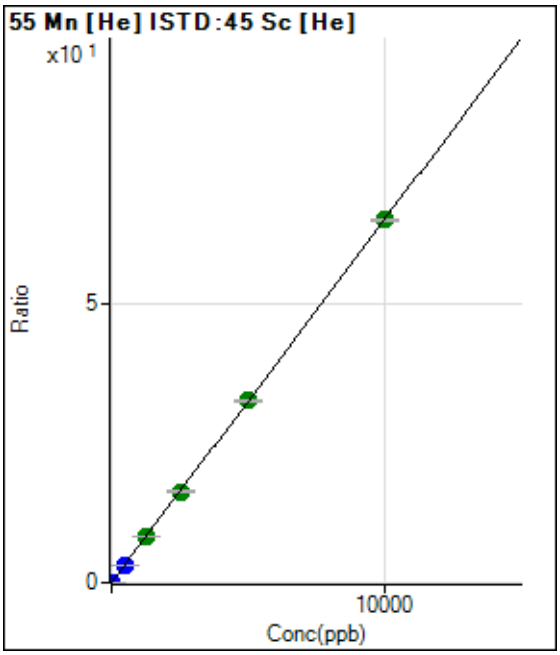


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2521.35	0.0106	P	3.2
2	☐	50.000	53.665	7954.40	0.0325	P	3.1
3	☐	2500.000	2632.503	263847.74	1.0849	P	0.6
4	☐	6250.000	6575.833	631789.48	2.6941	P	1.2
5	☐	12500.000	13041.316	1202051.08	5.3326	P	1.1
6	☐	25000.000	25743.744	2340788.78	10.5163	A	0.8
7	☐	50000.000	51774.736	4814057.46	21.1393	A	0.1
8	☐	250000.00	249534.14	26417501.27	101.8427	A	0.9

y = 4.0809E-004 * x + 0.0106
R = 1.0000
DL = 2.528
BEC = 25.95

Weight: <None>
Min Conc: 0

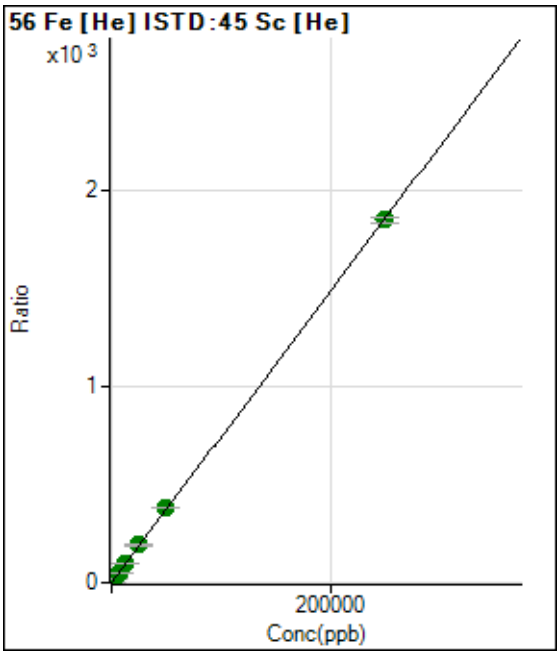
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9013.89	0.0379	P	3.1
2	☐	1.000	1.031	10911.82	0.0446	P	1.5
3	☐	500.000	488.008	781865.75	3.2149	P	0.6
4	☐	1250.000	1264.933	1940134.76	8.2730	A	1.0
5	☐	2500.000	2497.380	3673404.01	16.2966	A	1.7
6	☐	5000.000	5006.566	7263077.39	32.6321	A	1.8
7	☐	10000.000	9996.105	14828193.67	65.1155	A	0.8
8	☐			9908.91	0.0382	P	2.9

y = 0.0065 * x + 0.0379
R = 1.0000
DL = 0.5397
BEC = 5.815

Weight: <None>
Min Conc: 0

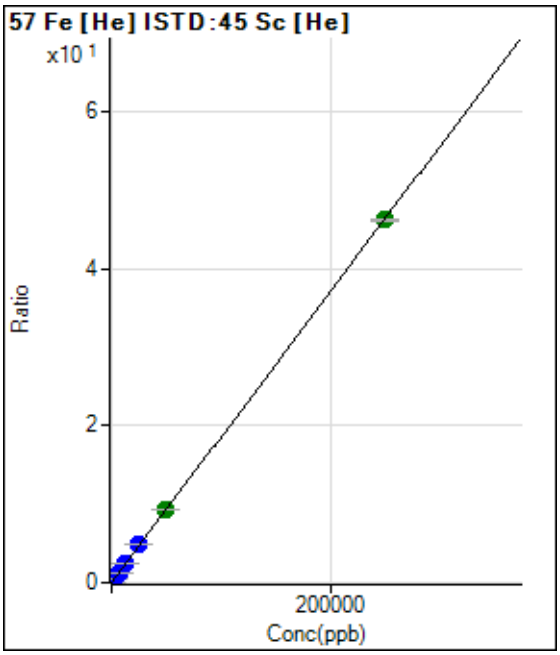


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24512.35	0.1029	P	1.3
2	☐	50.000	53.482	122175.28	0.4991	P	1.2
3	☐	2500.000	2577.446	4667710.42	19.1932	A	0.5
4	☐	6250.000	6617.640	11518108.30	49.1176	A	1.6
5	☐	12500.000	12941.492	21629950.79	95.9563	A	1.1
6	☐	25000.000	25977.632	42848686.58	192.5108	A	1.5
7	☐	50000.000	51302.007	86553539.82	380.0802	A	0.8
8	☐	250000.00	249609.79	479561366.1	1,848.881	A	1.5

y = 0.0074 * x + 0.1029
R = 1.0000
DL = 0.5431
BEC = 13.9

Weight: <None>
Min Conc: 0

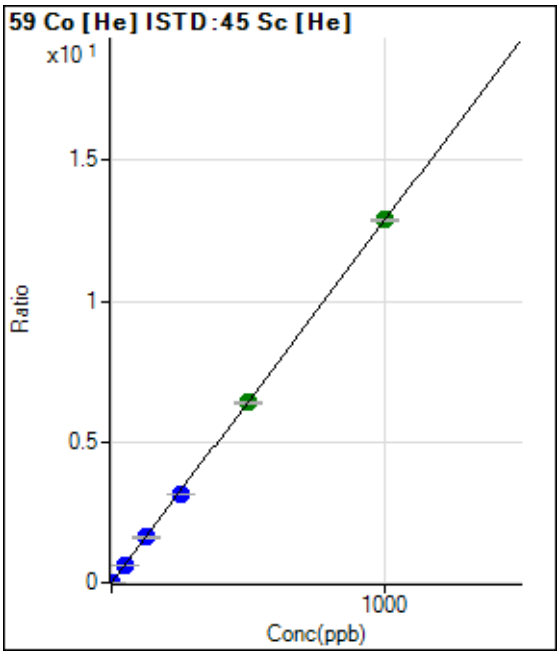
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1304.51	0.0055	P	4.9
2	☐	50.000	56.022	3876.09	0.0158	P	2.1
3	☐	2500.000	2599.390	118181.56	0.4859	P	0.5
4	☐	6250.000	6604.729	287572.19	1.2263	P	0.7
5	☐	12500.000	12989.314	542447.19	2.4064	P	0.4
6	☐	25000.000	26107.906	1075293.05	4.8312	P	1.7
7	☐	50000.000	50631.107	2132458.44	9.3639	A	0.4
8	☐	250000.00	249728.65	11974989.82	46.1643	A	0.6

y = 1.8484E-004 * x + 0.0055
R = 1.0000
DL = 4.32
BEC = 29.63

Weight: <None>
Min Conc: 0

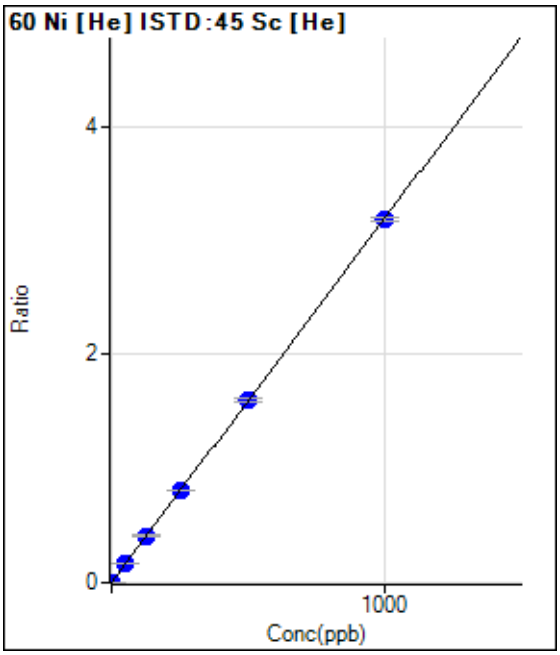


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	55.56	0.0002	P	10.5
2	☐	1.000	1.081	3458.21	0.0141	P	4.9
3	☐	50.000	49.797	155773.98	0.6405	P	1.9
4	☐	125.000	125.138	377405.94	1.6093	P	0.7
5	☐	250.000	245.561	711816.47	3.1578	P	0.9
6	☐	500.000	498.204	1425984.04	6.4064	A	1.1
7	☐	1000.000	1002.001	2934121.24	12.8845	A	0.9
8	☐			8725.94	0.0336	P	1.2

y = 0.0129 * x + 2.3354E-004
R = 1.0000
DL = 0.00571
BEC = 0.01816

Weight: <None>
Min Conc: 0

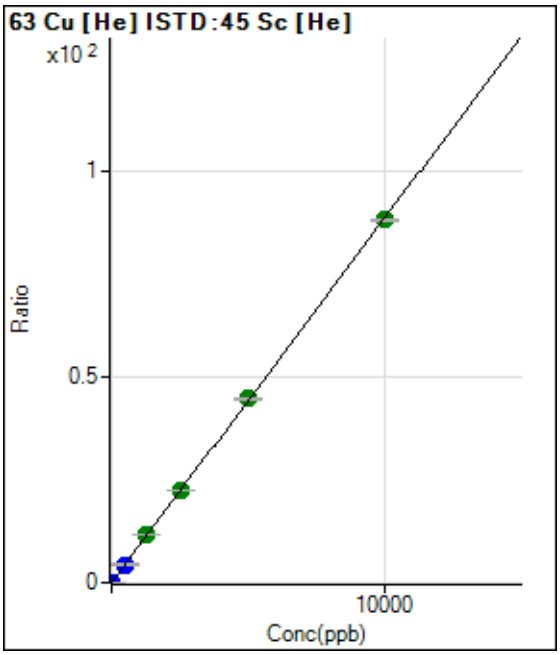
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	415.57	0.0017	P	7.3
2	☐	1.000	1.138	1315.63	0.0054	P	10.6
3	☐	50.000	51.408	40306.27	0.1657	P	0.5
4	☐	125.000	128.941	96863.85	0.4131	P	1.3
5	☐	250.000	253.716	182833.71	0.8111	P	0.7
6	☐	500.000	503.363	357773.58	1.6074	P	1.8
7	☐	1000.000	996.826	724496.69	3.1815	P	0.9
8	☐			4698.55	0.0181	P	2.3

y = 0.0032 * x + 0.0017
R = 1.0000
DL = 0.1196
BEC = 0.5473

Weight: <None>
Min Conc: 0

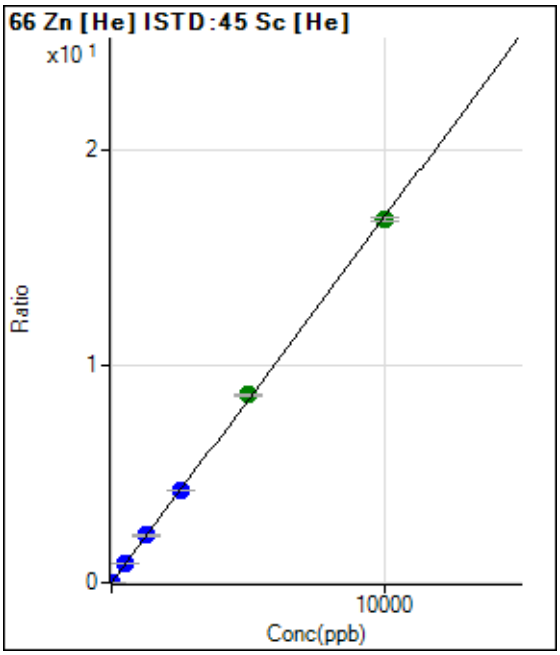


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1729.00	0.0073	P	8.6
2	☐	2.000	2.141	6419.21	0.0262	P	1.7
3	☐	500.000	499.742	1077622.13	4.4311	P	0.5
4	☐	1250.000	1300.981	2702537.84	11.5238	A	0.3
5	☐	2500.000	2540.538	5071336.45	22.4967	A	0.7
6	☐	5000.000	5049.953	9951909.15	44.7106	A	1.0
7	☐	10000.000	9958.529	20076786.09	88.1624	A	0.6
8	☐			7545.31	0.0291	P	2.1

y = 0.0089 * x + 0.0073
R = 1.0000
DL = 0.2125
BEC = 0.8209

Weight: <None>
Min Conc: 0

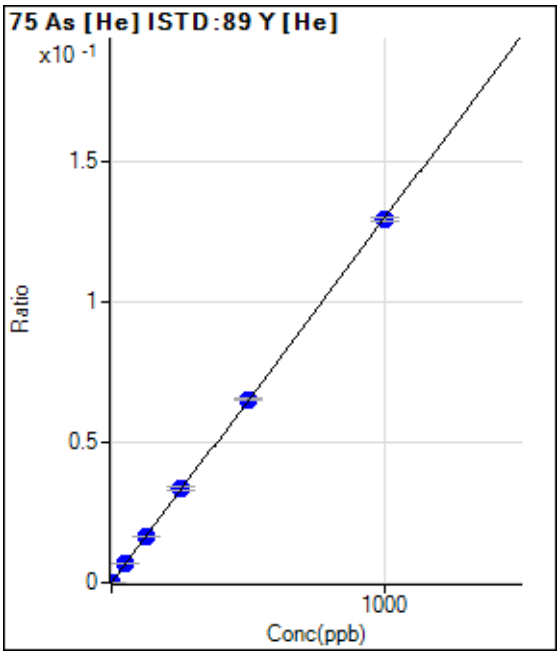
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	198.89	0.0008	P	12.7
2	☐	5.000	5.272	2382.44	0.0097	P	0.9
3	☐	500.000	507.303	208417.71	0.8570	P	1.0
4	☐	1250.000	1289.054	510376.82	2.1764	P	1.2
5	☐	2500.000	2534.113	964291.41	4.2777	P	0.3
6	☐	5000.000	5134.720	1929154.35	8.6668	A	0.6
7	☐	10000.000	9918.864	3812280.22	16.7412	A	1.1
8	☐			24475.70	0.0944	P	2.2

y = 0.0017 * x + 8.3420E-004
R = 0.9999
DL = 0.1877
BEC = 0.4943

Weight: <None>
Min Conc: 0

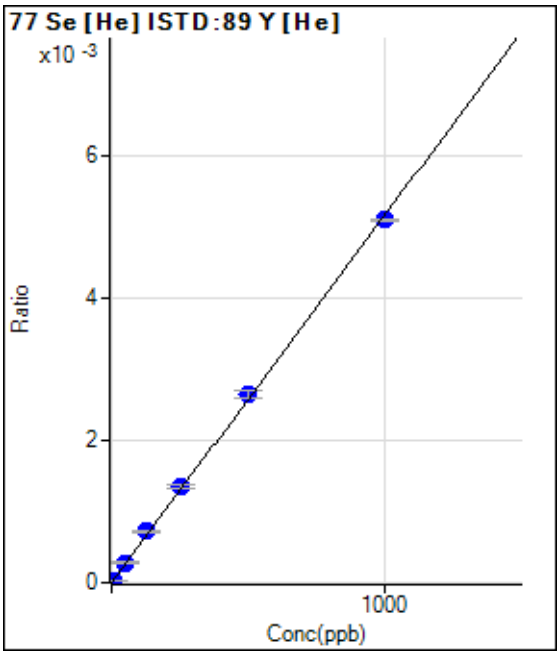


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.
2	☐	1.000	1.237	335.56	0.0002	P	4.1
3	☐	50.000	51.839	14021.14	0.0067	P	2.0
4	☐	125.000	128.825	33947.66	0.0167	P	0.6
5	☐	250.000	257.845	64646.77	0.0335	P	2.7
6	☐	500.000	503.477	126975.39	0.0653	P	1.8
7	☐	1000.000	995.730	257106.00	0.1292	P	1.2
8	☐			147.78	0.0001	P	22.3

y = 1.2976E-004 * x + 5.4546E-007
R = 1.0000
DL = 0.02184
BEC = 0.004204

Weight: <None>
Min Conc: 0

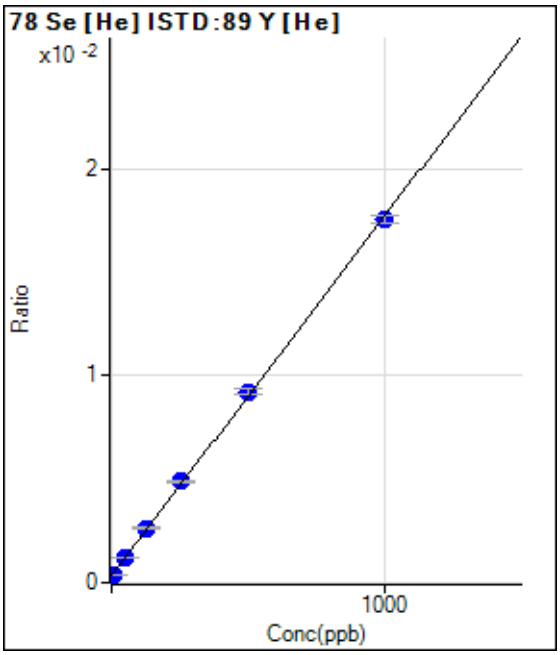
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	5.000	5.998	64.44	0.0000	P	20.9
3	☐	50.000	53.470	576.69	0.0003	P	9.5
4	☐	125.000	139.298	1462.31	0.0007	P	4.8
5	☐	250.000	262.188	2618.03	0.0014	P	5.2
6	☐	500.000	513.272	5156.51	0.0027	P	3.6
7	☐	1000.000	988.351	10169.12	0.0051	P	0.6
8	☐			2.22	0.0000	P	173.

y = 5.1700E-006 * x + 0.0000E+000
R = 0.9997
DL = 0
BEC = 0

Weight: <None>
Min Conc: 0

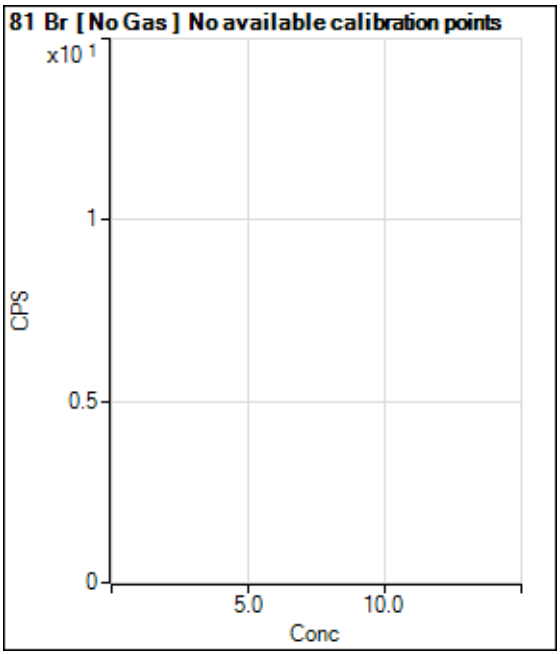


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	661.13	0.0003	P	2.2
2	☐	5.000	3.671	823.37	0.0004	P	9.6
3	☐	50.000	48.971	2463.56	0.0012	P	1.2
4	☐	125.000	131.154	5297.67	0.0026	P	3.9
5	☐	250.000	261.869	9429.76	0.0049	P	3.0
6	☐	500.000	512.051	17925.38	0.0092	P	2.6
7	☐	1000.000	990.296	34878.85	0.0175	P	2.0
8	☐			657.80	0.0003	P	1.8

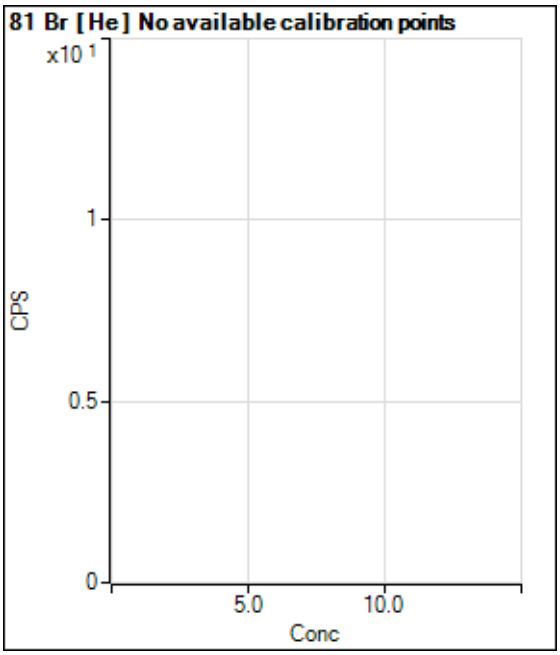
y = 1.7367E-005 * x + 3.3122E-004
R = 0.9998
DL = 1.24
BEC = 19.07

Weight: <None>
Min Conc: 0

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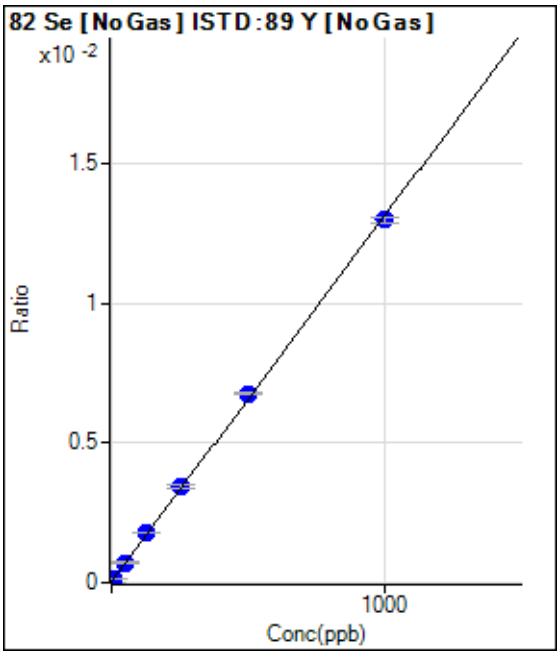


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			26653.05		P	1.4
2	☐			27171.75		P	0.3
3	☐			27059.37		P	0.7
4	☐			25554.48		P	0.7
5	☐			24508.27		P	1.2
6	☐			24565.00		P	2.7
7	☐			26008.58		P	2.1
8	☐			29053.17		P	2.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			165.56		P	18.0
2	☐			172.22		P	14.8
3	☐			171.11		P	20.8
4	☐			177.78		P	2.9
5	☐			175.56		P	19.8
6	☐			180.00		P	18.2
7	☐			180.00		P	8.5
8	☐			174.45		P	17.1

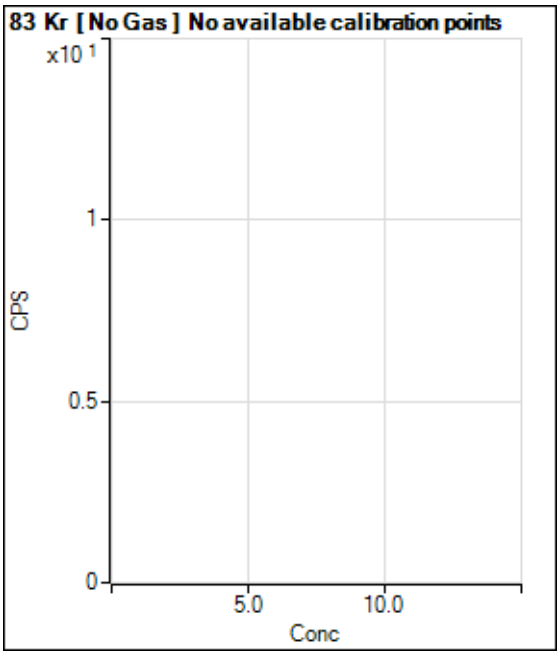
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LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	222.64	0.0000	P	17.8
2	☐	5.000	5.900	789.92	0.0001	P	3.8
3	☐	50.000	52.649	5427.05	0.0007	P	2.5
4	☐	125.000	132.283	12764.60	0.0018	P	0.7
5	☐	250.000	259.408	24162.62	0.0034	P	3.3
6	☐	500.000	514.507	45981.41	0.0068	P	1.1
7	☐	1000.000	989.347	90099.71	0.0130	P	1.7
8	☐			421.08	0.0001	P	4.3

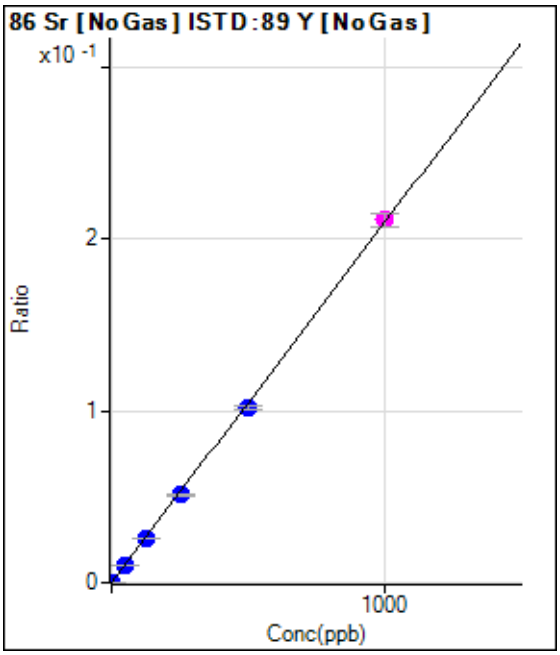
y = 1.3116E-005 * x + 3.0767E-005
R = 0.9998
DL = 1.252
BEC = 2.346

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			355.57		P	6.7
2	☐			331.12		P	12.1
3	☐			322.23		P	5.2
4	☐			325.56		P	12.3
5	☐			304.45		P	7.8
6	☐			300.01		P	5.1
7	☐			345.56		P	8.4
8	☐			371.12		P	7.5

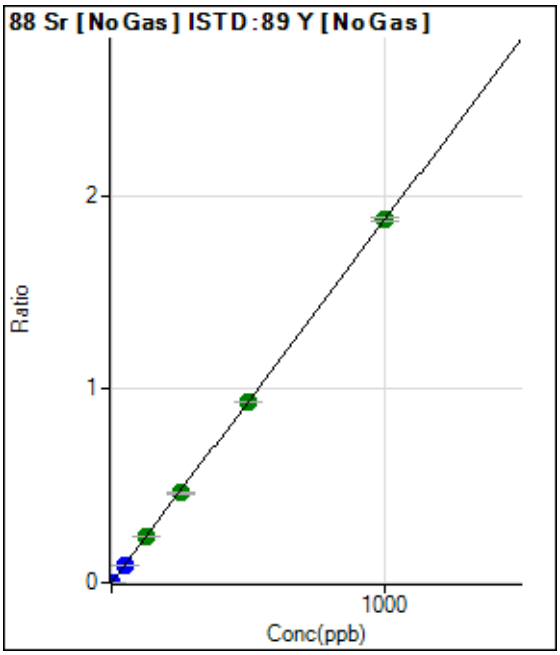
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	528.90	0.0001	P	6.1
2	☐	1.000	1.054	2145.74	0.0003	P	4.8
3	☐	50.000	48.890	77560.48	0.0103	P	1.6
4	☐	125.000	125.059	189795.02	0.0263	P	0.3
5	☐	250.000	244.605	360950.29	0.0513	P	2.6
6	☐	500.000	486.684	691656.20	0.1020	P	1.6
7	☐	1000.000	1008.055	1462267.50	0.2111	M	4.0
8	☐			6057.97	0.0008	P	1.5

y = 2.0936E-004 * x + 7.3103E-005
R = 0.9999
DL = 0.06426
BEC = 0.3492

Weight: <None>
Min Conc: 0

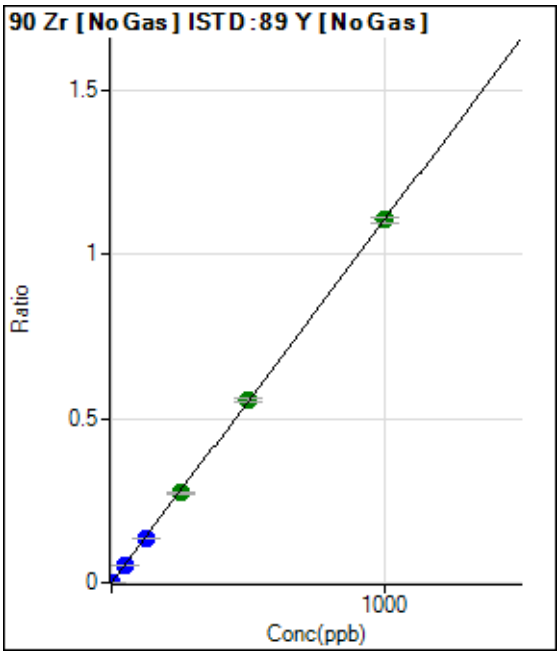


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	78.89	0.0000	P	9.3
2	☐	1.000	1.056	14541.74	0.0020	P	3.6
3	☐	50.000	47.952	676401.78	0.0899	P	1.6
4	☐	125.000	125.982	1707205.29	0.2362	A	0.8
5	☐	250.000	248.746	3282056.65	0.4663	A	2.6
6	☐	500.000	498.614	6340256.64	0.9347	A	0.9
7	☐	1000.000	1000.986	12997929.39	1.8764	A	1.1
8	☐			48913.39	0.0061	P	0.8

y = 0.0019 * x + 1.0909E-005
R = 1.0000
DL = 0.001626
BEC = 0.00582

Weight: <None>
Min Conc: 0

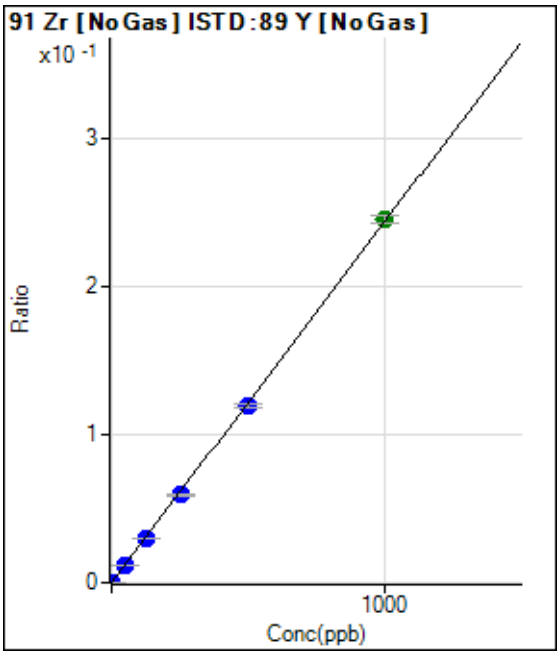
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	282.23	0.0000	P	20.5
2	☐	1.000	1.028	8580.36	0.0012	P	3.7
3	☐	50.000	48.200	401116.49	0.0533	P	1.9
4	☐	125.000	121.794	973438.63	0.1347	P	0.5
5	☐	250.000	247.091	1922428.08	0.2731	A	2.9
6	☐	500.000	502.875	3770765.47	0.5559	A	1.4
7	☐	1000.000	999.780	7654536.97	1.1051	A	1.3
8	☐			4242.88	0.0005	P	3.8

y = 0.0011 * x + 3.9044E-005
R = 1.0000
DL = 0.02171
BEC = 0.03533

Weight: <None>
Min Conc: 0

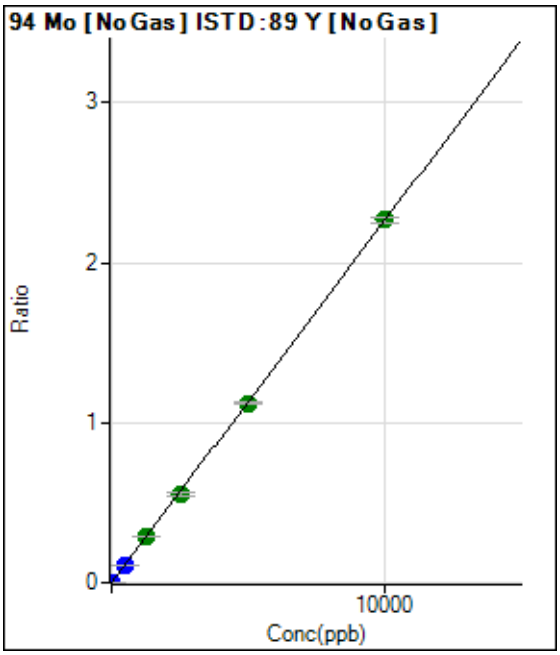


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.66	0.0000	P	8.3
2	☐	1.000	1.079	1985.71	0.0003	P	10.0
3	☐	50.000	48.207	88474.47	0.0118	P	1.5
4	☐	125.000	123.624	217886.31	0.0301	P	0.0
5	☐	250.000	243.284	417412.02	0.0593	P	3.1
6	☐	500.000	490.655	811216.00	0.1196	P	1.5
7	☐	1000.000	1006.613	1699510.01	0.2454	A	2.3
8	☐			932.26	0.0001	P	6.2

y = 2.4374E-004 * x + 9.2142E-006
R = 0.9999
DL = 0.009441
BEC = 0.0378

Weight: <None>
Min Conc: 0

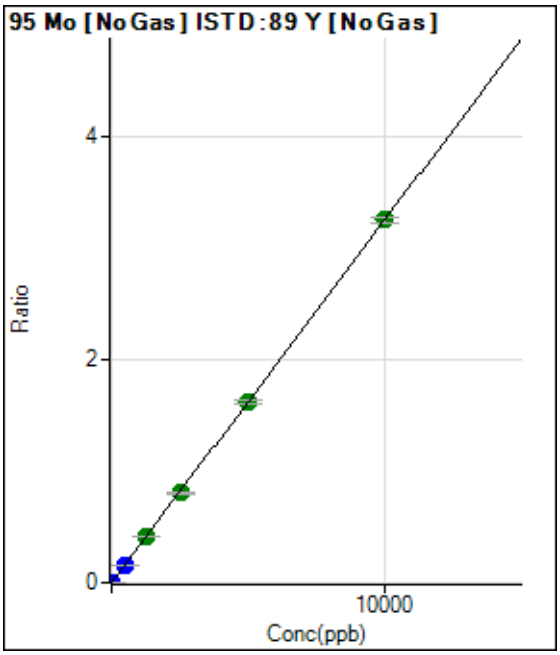
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	128.89	0.0000	P	12.1
2	☐	5.000	6.193	10350.40	0.0014	P	7.6
3	☐	500.000	480.796	818322.46	0.1088	P	1.5
4	☐	1250.000	1254.398	2051051.39	0.2837	A	0.8
5	☐	2500.000	2451.232	3902208.62	0.5544	A	2.8
6	☐	5000.000	4968.414	7622578.77	1.1238	A	1.3
7	☐	10000.000	10028.395	15712355.74	2.2682	A	1.6
8	☐			4163.97	0.0005	P	4.4

y = 2.2618E-004 * x + 1.7818E-005
R = 1.0000
DL = 0.02865
BEC = 0.07878

Weight: <None>
Min Conc: 0

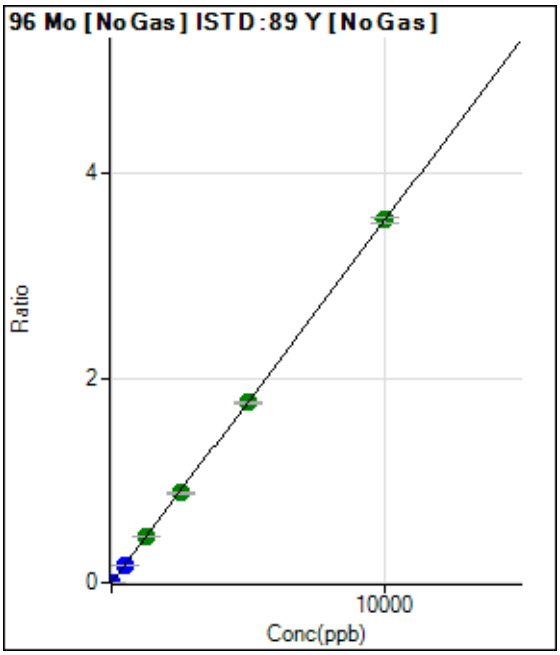


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0000	P	55.6
2	☐	5.000	5.239	12464.27	0.0017	P	5.2
3	☐	500.000	478.871	1169797.52	0.1555	P	1.7
4	☐	1250.000	1261.171	2960050.41	0.4095	A	0.6
5	☐	2500.000	2468.792	5641355.96	0.8015	A	2.9
6	☐	5000.000	4988.224	10985288.03	1.6195	A	1.8
7	☐	10000.000	10013.350	22518728.55	3.2510	A	1.4
8	☐			3217.05	0.0004	P	5.7

y = 3.2466E-004 * x + 6.4477E-006
R = 1.0000
DL = 0.03312
BEC = 0.01986

Weight: <None>
Min Conc: 0

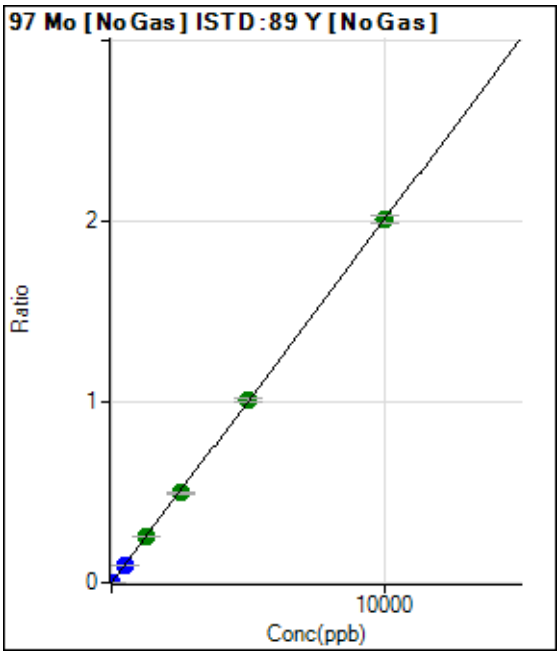
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	156.67	0.0000	P	22.2
2	☐	5.000	5.261	13754.31	0.0019	P	4.0
3	☐	500.000	481.110	1281323.09	0.1703	P	1.4
4	☐	1250.000	1261.101	3226670.30	0.4464	A	0.2
5	☐	2500.000	2481.323	6181486.71	0.8782	A	2.4
6	☐	5000.000	4968.381	11926726.21	1.7585	A	1.7
7	☐	10000.000	10020.035	24565853.24	3.5464	A	1.7
8	☐			16701.88	0.0021	P	0.7

y = 3.5393E-004 * x + 2.1650E-005
R = 1.0000
DL = 0.04083
BEC = 0.06117

Weight: <None>
Min Conc: 0

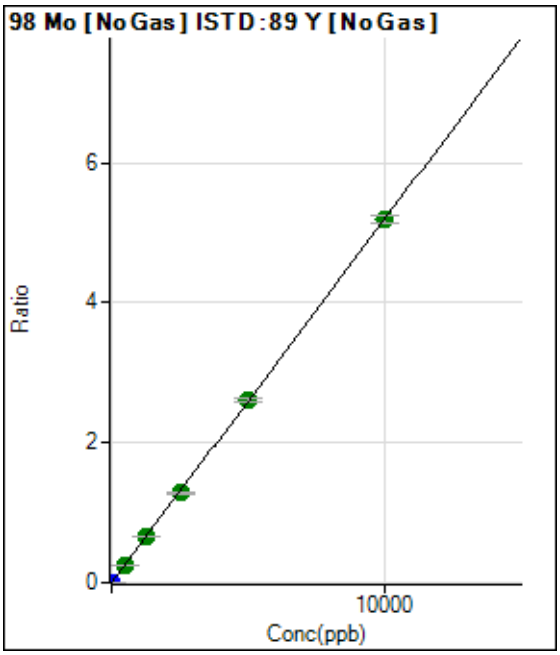


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0000	P	101.
2	☐	5.000	5.194	7666.53	0.0010	P	1.4
3	☐	500.000	485.759	733761.39	0.0975	P	2.1
4	☐	1250.000	1260.181	1828975.94	0.2530	A	1.2
5	☐	2500.000	2472.206	3493206.58	0.4963	A	2.9
6	☐	5000.000	5032.712	6853547.12	1.0104	A	1.4
7	☐	10000.000	9990.032	13892637.43	2.0056	A	2.0
8	☐			2317.98	0.0003	P	5.1

y = 2.0076E-004 * x + 6.4479E-006
R = 1.0000
DL = 0.09734
BEC = 0.03212

Weight: <None>
Min Conc: 0

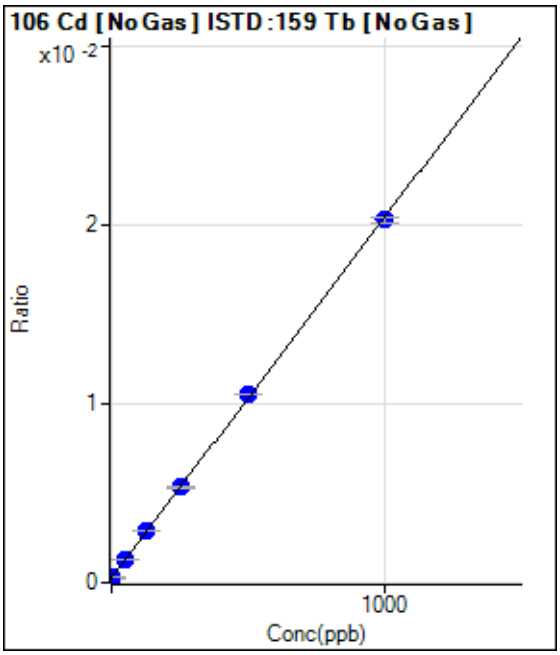
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	95.56	0.0000	P	40.2
2	☐	5.000	5.189	19757.91	0.0027	P	5.2
3	☐	500.000	492.162	1921854.36	0.2554	A	1.3
4	☐	1250.000	1269.090	4761214.62	0.6586	A	1.1
5	☐	2500.000	2476.213	9045547.29	1.2851	A	2.1
6	☐	5000.000	5037.553	17732959.46	2.6143	A	1.4
7	☐	10000.000	9985.176	35895558.91	5.1820	A	1.9
8	☐			5046.47	0.0006	P	0.5

y = 5.1897E-004 * x + 1.3202E-005
R = 1.0000
DL = 0.03068
BEC = 0.02544

Weight: <None>
Min Conc: 0

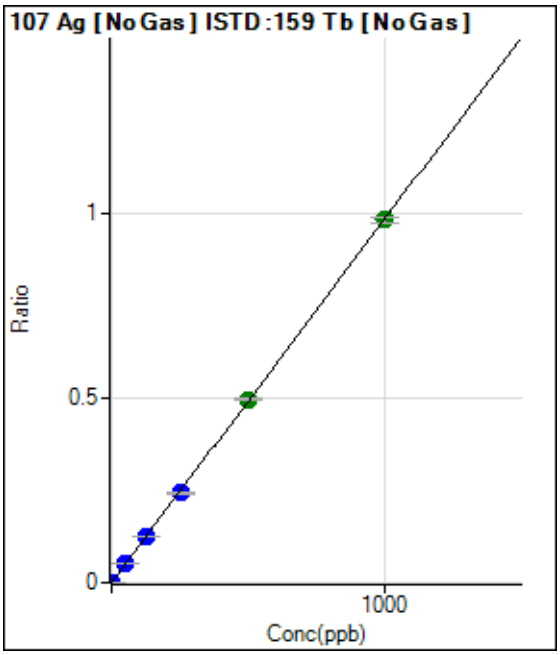


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1600.10	0.0003	P	1.6
2	☐	1.000	1.059	1737.90	0.0003	P	5.0
3	☐	50.000	53.076	8450.31	0.0013	P	0.3
4	☐	125.000	130.799	17937.83	0.0029	P	1.1
5	☐	250.000	251.883	32626.64	0.0053	P	2.3
6	☐	500.000	510.105	62099.83	0.0105	P	0.2
7	☐	1000.000	993.598	122921.69	0.0203	P	1.6
8	☐			1782.36	0.0003	P	1.5

y = 2.0159E-005 * x + 2.6104E-004
R = 0.9999
DL = 0.6296
BEC = 12.95

Weight: <None>
Min Conc: 0

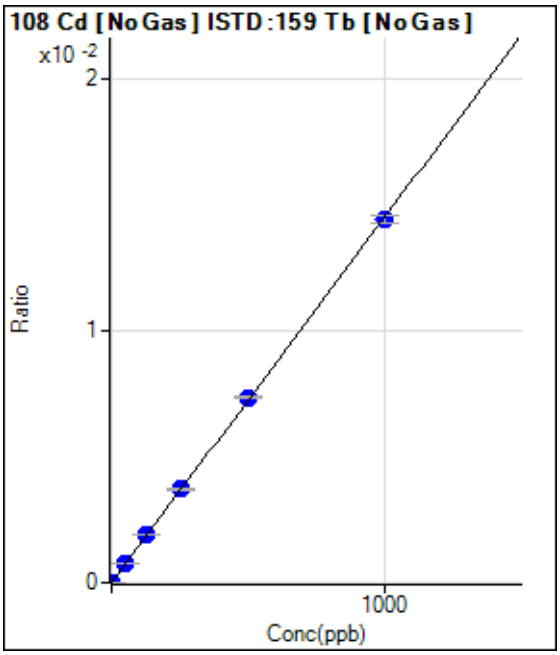
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38.89	0.0000	P	35.5
2	☐	1.000	1.088	6624.90	0.0011	P	1.9
3	☐	50.000	51.539	321914.43	0.0507	P	0.3
4	☐	125.000	128.275	781098.96	0.1262	P	0.5
5	☐	250.000	246.283	1480574.35	0.2423	P	1.1
6	☐	500.000	504.025	2920024.71	0.4958	A	1.5
7	☐	1000.000	998.430	5949647.27	0.9822	A	1.9
8	☐			438.90	0.0001	P	2.8

y = 9.8369E-004 * x + 6.3415E-006
R = 1.0000
DL = 0.006861
BEC = 0.006447

Weight: <None>
Min Conc: 0

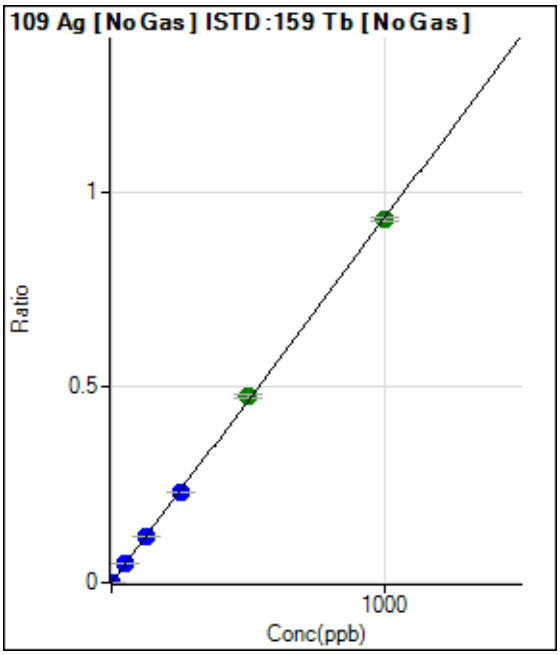


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	99.8
2	☐	1.000	1.134	104.45	0.0000	P	16.5
3	☐	50.000	52.367	4820.85	0.0008	P	1.6
4	☐	125.000	132.503	11888.29	0.0019	P	2.3
5	☐	250.000	256.175	22690.00	0.0037	P	0.9
6	☐	500.000	507.878	43344.59	0.0074	P	1.9
7	☐	1000.000	993.461	87205.53	0.0144	P	2.0
8	☐			46.67	0.0000	P	26.2

y = 1.4490E-005 * x + 5.4146E-007
R = 0.9999
DL = 0.1119
BEC = 0.03737

Weight: <None>
Min Conc: 0

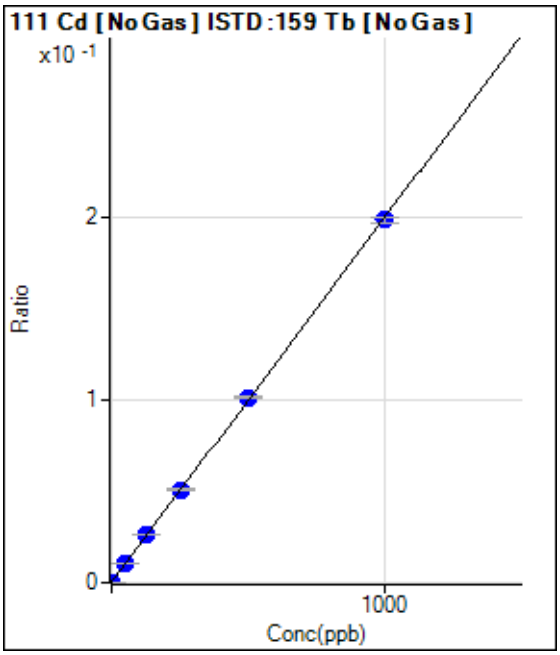
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Inst Id :P7
LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24.45	0.0000	P	28.2
2	☐	1.000	1.096	6309.21	0.0010	P	1.2
3	☐	50.000	51.512	304827.79	0.0480	P	0.2
4	☐	125.000	128.616	742012.27	0.1199	P	0.2
5	☐	250.000	246.550	1404316.82	0.2298	P	0.8
6	☐	500.000	510.133	2800040.27	0.4754	A	1.9
7	☐	1000.000	995.268	5619312.07	0.9276	A	1.2
8	☐			378.90	0.0001	P	15.7

y = 9.3200E-004 * x + 3.9870E-006
R = 0.9999
DL = 0.003615
BEC = 0.004278

Weight: <None>
Min Conc: 0

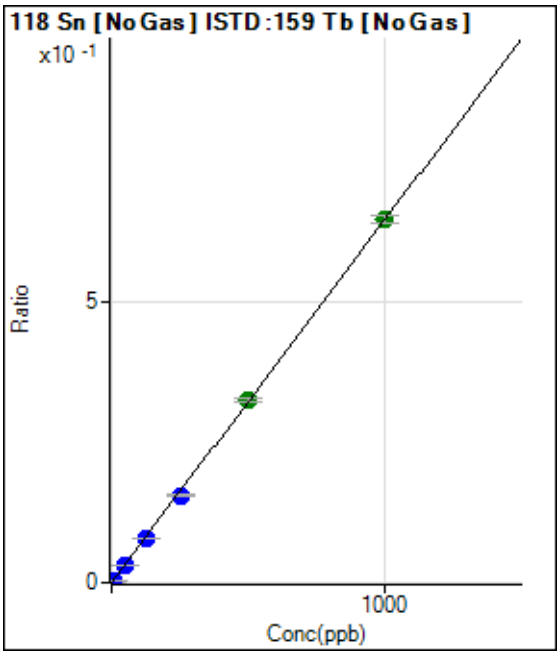


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1127.74	0.0002	P	1.7
2	☐	1.000	1.138	2534.61	0.0004	P	1.7
3	☐	50.000	52.932	68400.69	0.0108	P	1.4
4	☐	125.000	132.018	164626.21	0.0266	P	0.1
5	☐	250.000	254.099	311789.08	0.0510	P	1.9
6	☐	500.000	507.575	599129.75	0.1017	P	0.7
7	☐	1000.000	994.164	1205967.86	0.1991	P	1.9
8	☐			1414.98	0.0002	P	0.9

y = 2.0006E-004 * x + 1.8397E-004
R = 0.9999
DL = 0.04733
BEC = 0.9196

Weight: <None>
Min Conc: 0

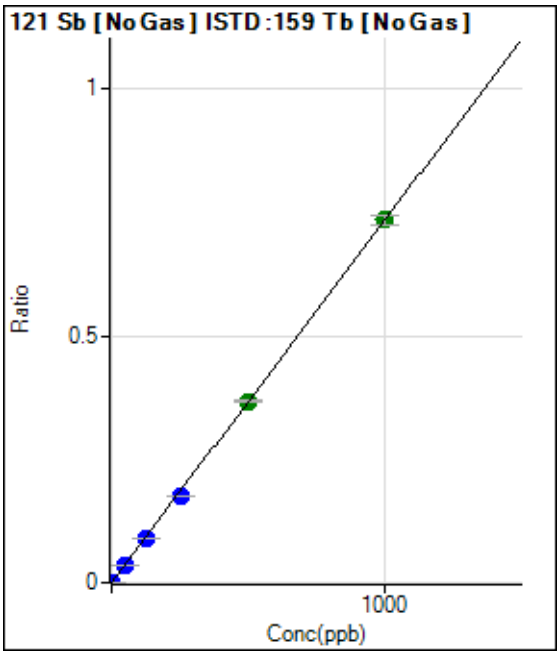
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	668.91	0.0001	P	12.4
2	☐	5.000	5.187	21279.17	0.0035	P	1.7
3	☐	50.000	48.880	201031.40	0.0317	P	0.8
4	☐	125.000	123.907	495794.50	0.0801	P	0.7
5	☐	250.000	239.165	944236.32	0.1545	P	2.0
6	☐	500.000	503.499	1914952.92	0.3252	A	1.4
7	☐	1000.000	1001.151	3915942.16	0.6464	A	2.2
8	☐			1338.97	0.0002	P	5.9

y = 6.4557E-004 * x + 1.0917E-004
R = 0.9999
DL = 0.06291
BEC = 0.1691

Weight: <None>
Min Conc: 0

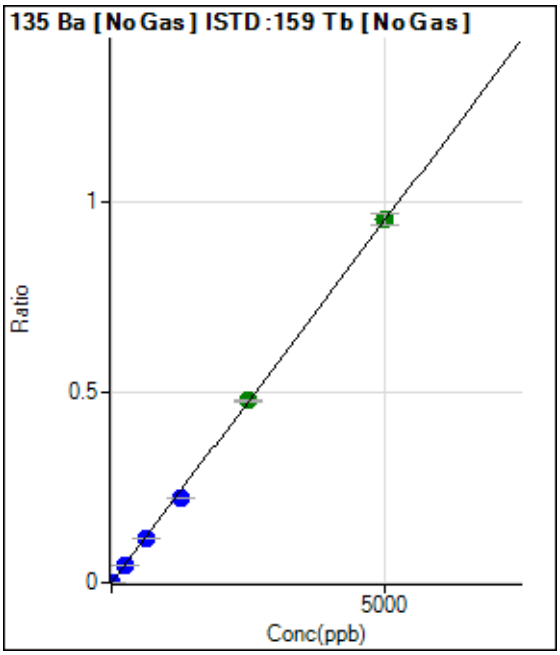


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	28.9
2	☐	2.000	2.102	9511.01	0.0015	P	2.6
3	☐	50.000	48.856	227634.39	0.0359	P	1.2
4	☐	125.000	123.545	561186.33	0.0907	P	0.8
5	☐	250.000	239.937	1076055.69	0.1761	P	1.1
6	☐	500.000	501.779	2168530.13	0.3682	A	1.4
7	☐	1000.000	1001.865	4453417.23	0.7352	A	2.5
8	☐			2770.30	0.0004	P	6.6

y = 7.3381E-004 * x + 3.2622E-006
R = 0.9999
DL = 0.003849
BEC = 0.004446

Weight: <None>
Min Conc: 0

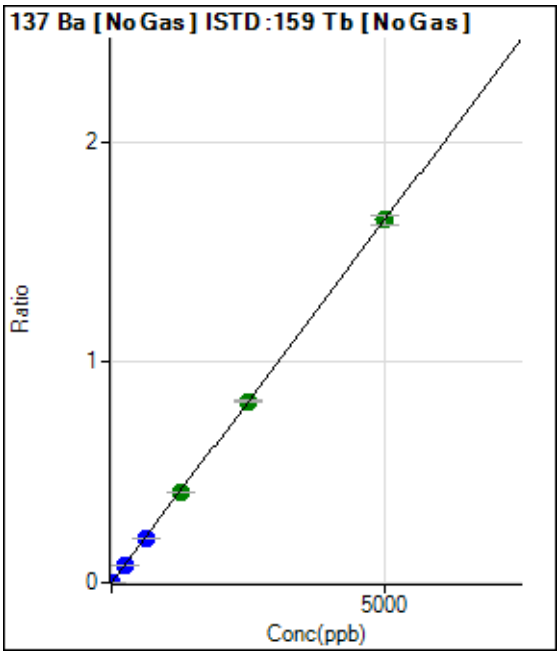
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LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	24.4
2	☐	10.000	10.130	11870.57	0.0019	P	2.1
3	☐	250.000	239.227	288936.22	0.0455	P	1.3
4	☐	625.000	602.793	709785.48	0.1147	P	0.9
5	☐	1250.000	1170.697	1361015.67	0.2227	P	1.2
6	☐	2500.000	2520.671	2824030.38	0.4795	A	1.2
7	☐	5000.000	5012.805	5776304.92	0.9536	A	3.1
8	☐			2589.15	0.0004	P	2.2

y = 1.9023E-004 * x + 2.1729E-006
R = 0.9999
DL = 0.008356
BEC = 0.01142

Weight: <None>
Min Conc: 0

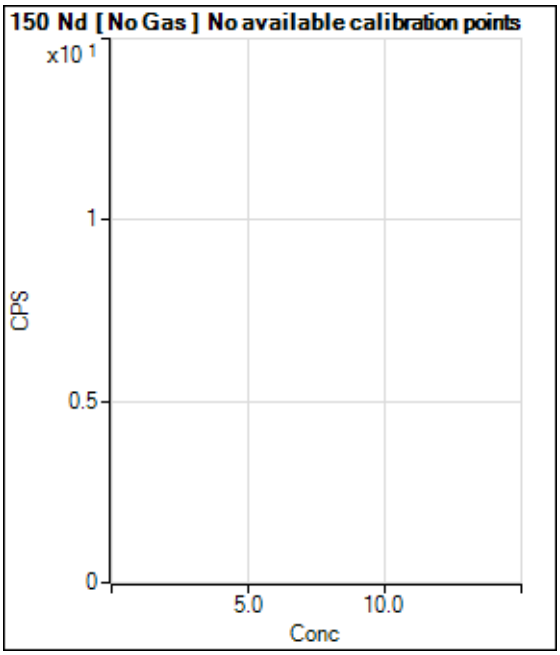


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31.11	0.0000	P	12.4
2	☐	10.000	10.505	21278.23	0.0035	P	3.4
3	☐	250.000	241.020	503028.46	0.0792	P	0.9
4	☐	625.000	607.157	1235417.00	0.1996	P	0.5
5	☐	1250.000	1245.075	2501269.46	0.4093	A	0.4
6	☐	2500.000	2499.066	4837975.00	0.8215	A	0.7
7	☐	5000.000	5004.376	9964903.11	1.6450	A	2.3
8	☐			4558.55	0.0007	P	3.5

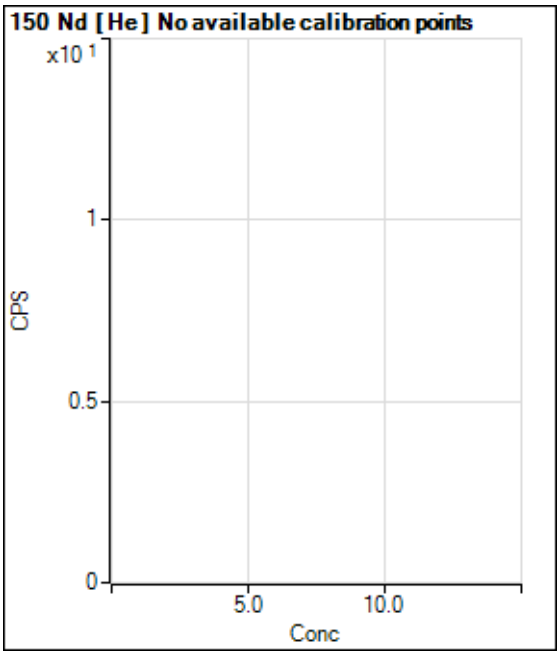
y = 3.2871E-004 * x + 5.0754E-006
R = 1.0000
DL = 0.005724
BEC = 0.01544

Weight: <None>
Min Conc: 0

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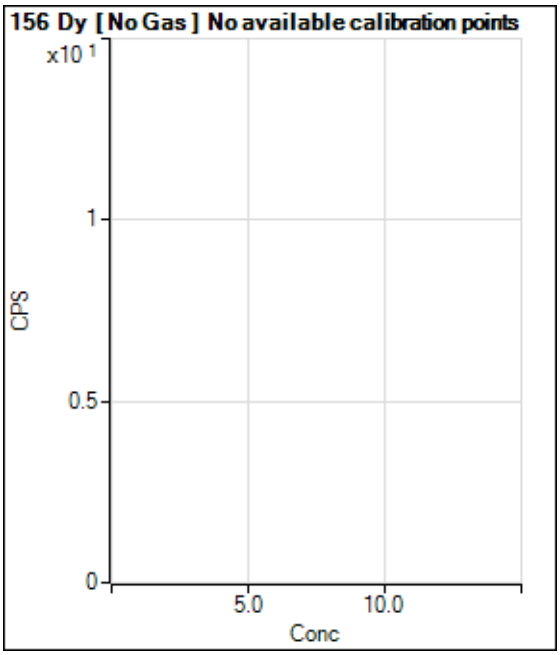


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			4.44		P	43.4
2	☐			13.33		P	43.3
3	☐			13.33		P	66.2
4	☐			35.56		P	53.3
5	☐			62.22		P	20.3
6	☐			127.78		P	21.1
7	☐			270.01		P	5.4
8	☐			114.45		P	32.1

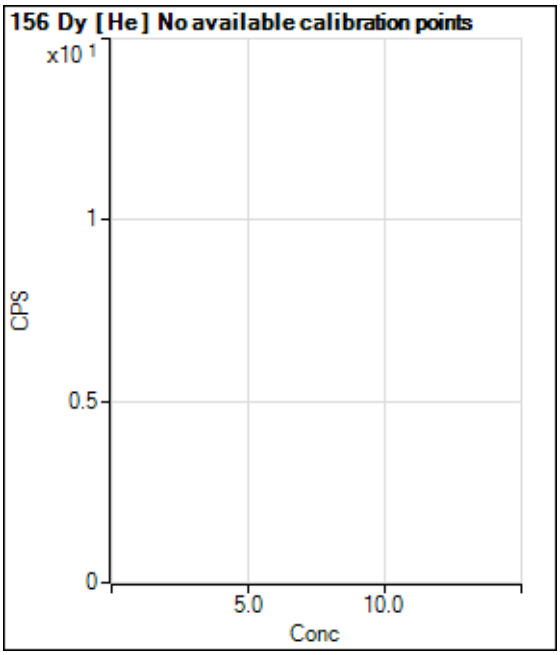


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			0.00		P	
2	☐			1.11		P	173.
3	☐			7.78		P	99.0
4	☐			11.11		P	17.3
5	☐			21.11		P	32.9
6	☐			33.33		P	60.8
7	☐			61.11		P	17.5
8	☐			72.22		P	17.5

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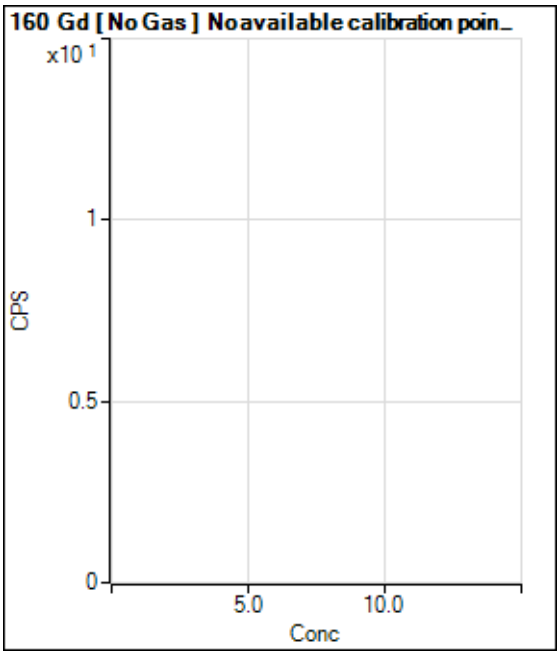


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			4.44		P	43.4
2	☐			6.66		P	86.6
3	☐			14.45		P	48.0
4	☐			11.11		P	17.3
5	☐			25.56		P	60.2
6	☐			35.55		P	44.3
7	☐			62.22		P	11.1
8	☐			165.56		P	22.4

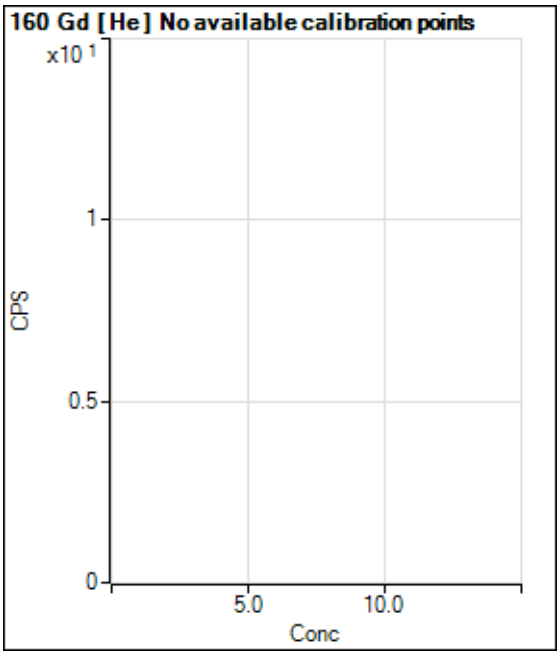


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			0.00		P	
2	☐			2.22		P	86.6
3	☐			6.67		P	100.
4	☐			36.67		P	18.2
5	☐			61.11		P	30.0
6	☐			140.00		P	24.9
7	☐			265.56		P	9.7
8	☐			136.67		P	33.9

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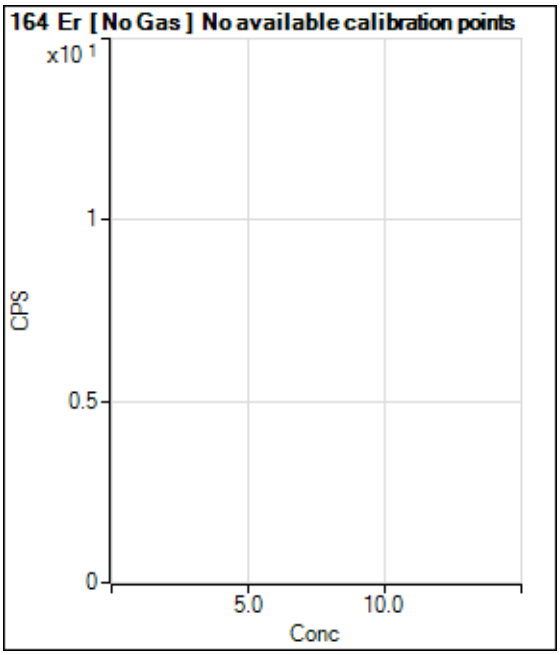


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			25.56		P	30.1
2	☐			32.22		P	26.0
3	☐			20.00		P	33.4
4	☐			24.44		P	41.7
5	☐			24.44		P	47.9
6	☐			44.44		P	42.7
7	☐			47.78		P	17.6
8	☐			175.56		P	7.2

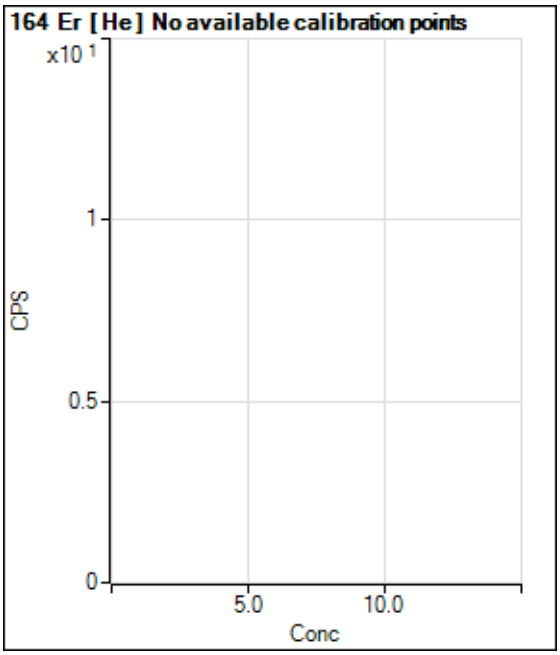


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			234.45		P	12.1
2	☐			236.67		P	13.4
3	☐			228.89		P	10.7
4	☐			221.11		P	8.6
5	☐			217.78		P	23.0
6	☐			246.67		P	14.1
7	☐			235.56		P	13.9
8	☐			375.56		P	8.8

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
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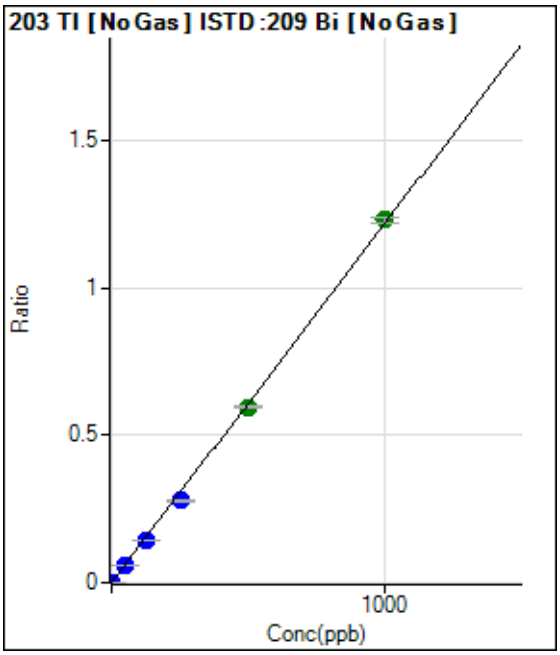


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			33.33		P	26.4
2	☐			47.78		P	34.4
3	☐			51.11		P	19.9
4	☐			54.44		P	34.8
5	☐			58.89		P	3.3
6	☐			65.55		P	16.3
7	☐			90.00		P	11.1
8	☐			251.12		P	17.8



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			25.56		P	19.9
2	☐			23.33		P	28.6
3	☐			43.33		P	27.7
4	☐			41.11		P	47.5
5	☐			45.55		P	29.6
6	☐			60.00		P	5.5
7	☐			58.89		P	35.9
8	☐			206.67		P	9.0

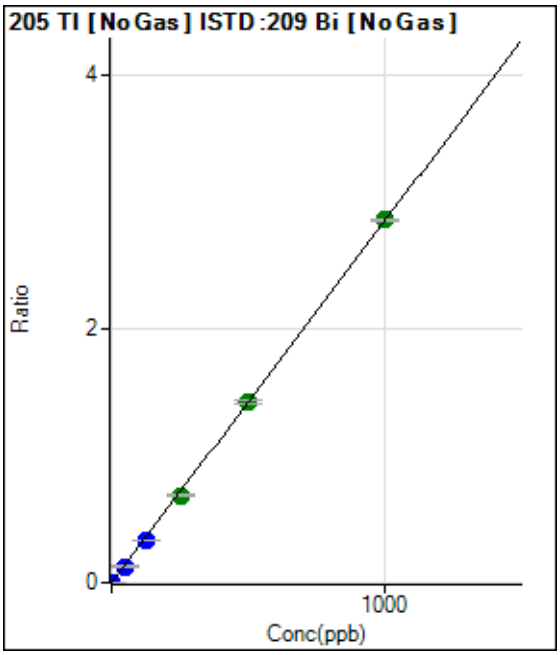
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On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0000	P	23.9
2	☐	1.000	0.971	4354.08	0.0012	P	4.4
3	☐	50.000	45.851	209614.93	0.0558	P	0.3
4	☐	125.000	117.209	516487.10	0.1425	P	0.7
5	☐	250.000	228.694	1019493.28	0.2780	P	1.1
6	☐	500.000	490.056	2115460.49	0.5957	A	0.8
7	☐	1000.000	1011.480	4358587.02	1.2295	A	1.7
8	☐			384.45	0.0001	P	6.6

y = 0.0012 * x + 2.0542E-005
R = 0.9997
DL = 0.01213
BEC = 0.0169

Weight: <None>
Min Conc: 0

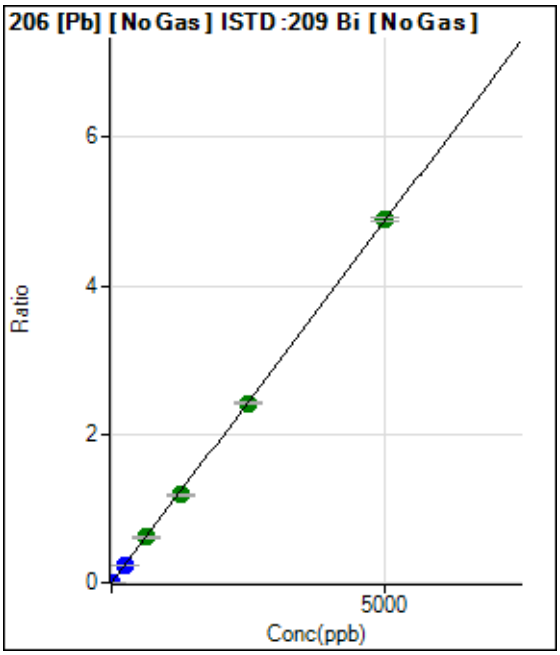


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	154.45	0.0000	P	7.3
2	☐	1.000	0.971	10187.22	0.0028	P	3.5
3	☐	50.000	45.147	483542.60	0.1286	P	0.6
4	☐	125.000	116.727	1205063.01	0.3325	P	0.7
5	☐	250.000	241.193	2518901.04	0.6869	A	1.0
6	☐	500.000	499.206	5048094.37	1.4217	A	1.9
7	☐	1000.000	1003.875	10134103.25	2.8589	A	0.8
8	☐			971.16	0.0003	P	3.0

y = 0.0028 * x + 4.3218E-005
R = 0.9999
DL = 0.003318
BEC = 0.01518

Weight: <None>
Min Conc: 0

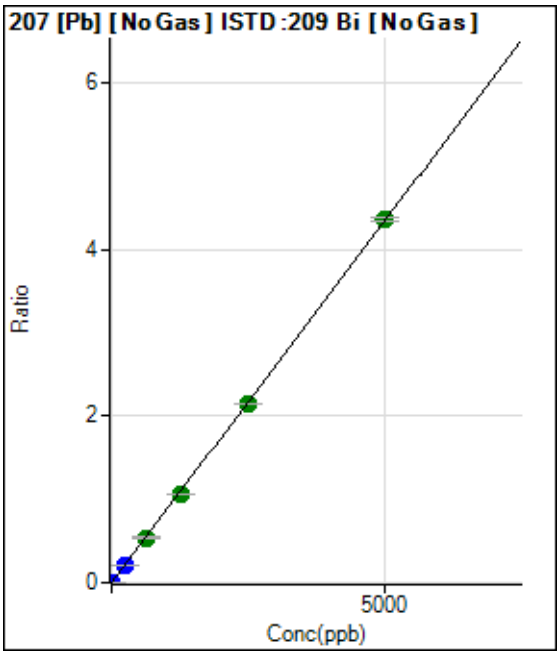
Reviewed By:mohan
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	401.12	0.0001	P	7.8
2	☐	1.000	0.968	3822.81	0.0011	P	5.0
3	☐	250.000	231.140	846501.32	0.2252	P	0.3
4	☐	625.000	625.630	2208343.27	0.6093	A	0.6
5	☐	1250.000	1212.379	4329008.41	1.1805	A	0.8
6	☐	2500.000	2480.396	8576201.75	2.4151	A	1.3
7	☐	5000.000	5020.072	17326582.66	4.8879	A	1.1
8	☐			20113.88	0.0055	P	1.4

y = 9.7365E-004 * x + 1.1226E-004
R = 1.0000
DL = 0.02704
BEC = 0.1153

Weight: <None>
Min Conc: 0

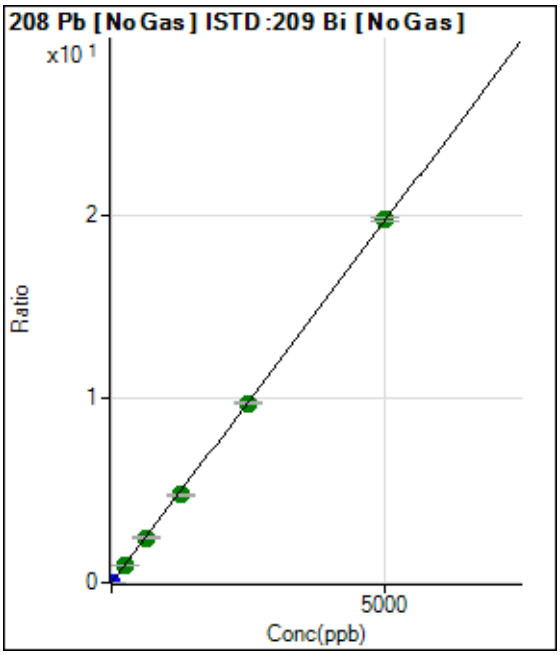


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	355.57	0.0001	P	7.2
2	☐	1.000	0.987	3466.03	0.0010	P	1.3
3	☐	250.000	226.609	739373.35	0.1967	P	0.3
4	☐	625.000	620.968	1952653.10	0.5388	A	1.3
5	☐	1250.000	1221.457	3885928.17	1.0596	A	1.6
6	☐	2500.000	2481.632	7644571.00	2.1528	A	0.4
7	☐	5000.000	5017.993	15430657.13	4.3529	A	1.2
8	☐			17486.92	0.0048	P	1.6

y = 8.6745E-004 * x + 9.9524E-005
R = 1.0000
DL = 0.02482
BEC = 0.1147

Weight: <None>
Min Conc: 0

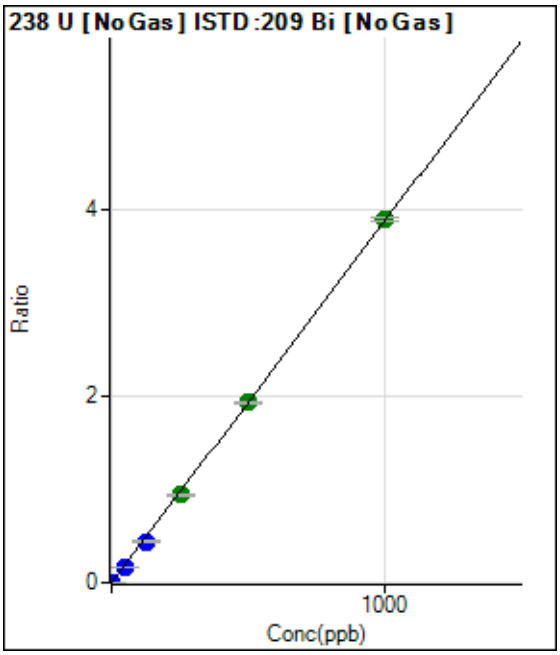
Reviewed By:mohan
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1623.39	0.0005	P	3.9
2	☐	1.000	0.974	15545.86	0.0043	P	2.3
3	☐	250.000	235.805	3489242.35	0.9281	A	0.2
4	☐	625.000	624.067	8900181.26	2.4556	A	1.1
5	☐	1250.000	1214.698	17525511.86	4.7792	A	1.5
6	☐	2500.000	2479.926	34647425.94	9.7567	A	0.8
7	☐	5000.000	5019.689	70004897.29	19.7484	A	1.2
8	☐			79797.33	0.0219	P	2.0

y = 0.0039 * x + 4.5446E-004
R = 1.0000
DL = 0.01349
BEC = 0.1155

Weight: <None>
Min Conc: 0

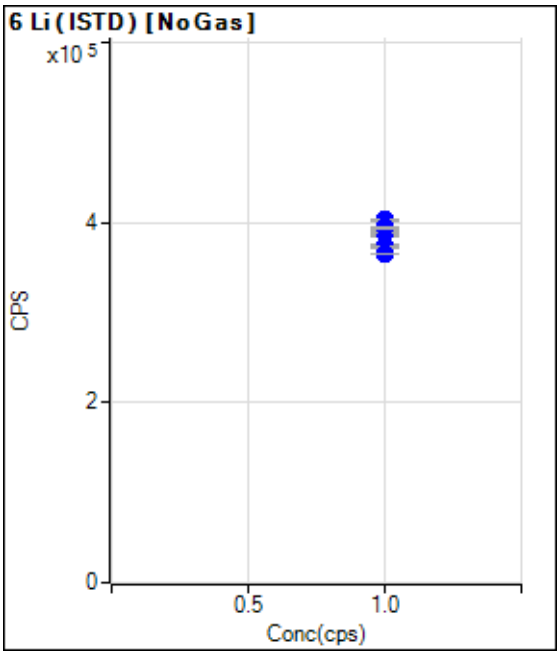


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12.22	0.0000	P	16.1
2	☐	1.000	0.949	13325.62	0.0037	P	2.2
3	☐	50.000	44.083	640799.33	0.1704	P	0.7
4	☐	125.000	114.318	1602054.99	0.4420	P	0.7
5	☐	250.000	242.458	3437725.19	0.9374	A	1.7
6	☐	500.000	498.293	6841062.05	1.9266	A	1.1
7	☐	1000.000	1004.370	13764818.96	3.8833	A	1.1
8	☐			475.57	0.0001	P	6.9

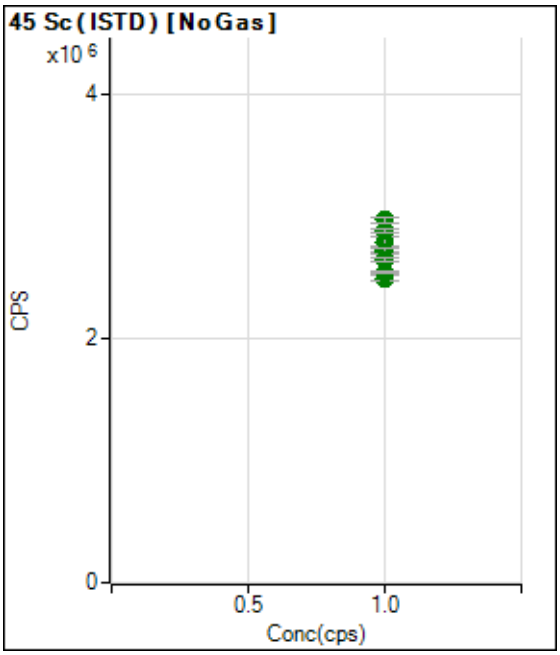
y = 0.0039 * x + 3.4225E-006
R = 0.9999
DL = 0.000427
BEC = 0.0008852

Weight: <None>
Min Conc: 0

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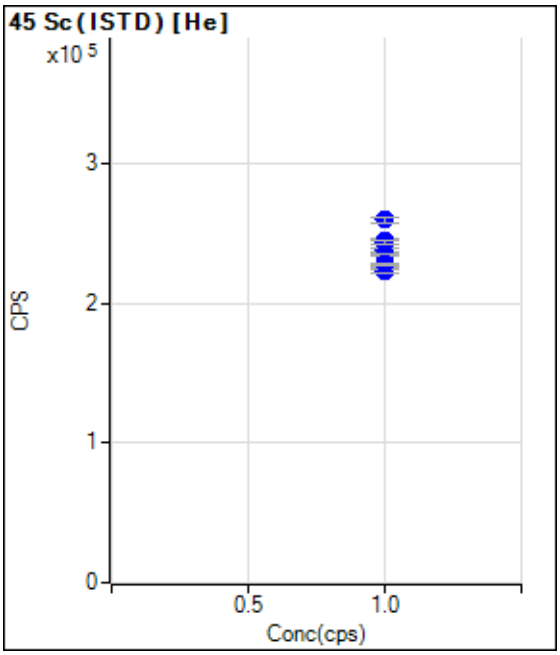


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		374588.77		P	0.4
2	☐	1.000		390754.10		P	2.6
3	☐	1.000		403560.70		P	0.6
4	☐	1.000		389883.34		P	1.0
5	☐	1.000		390042.05		P	0.6
6	☐	1.000		372752.26		P	0.4
7	☐	1.000		365545.53		P	0.4
8	☐	1.000		395180.54		P	0.7

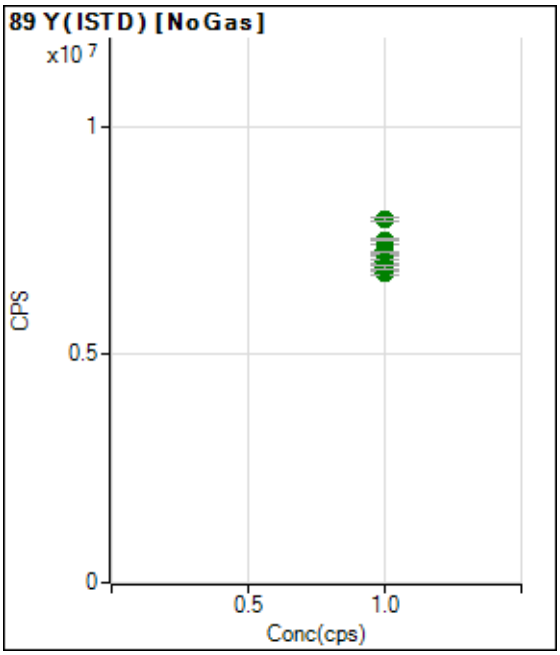


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2726759.99		A	1.4
2	☐	1.000		2786912.74		A	3.1
3	☐	1.000		2872435.51		A	1.2
4	☐	1.000		2711956.52		A	1.4
5	☐	1.000		2642540.57		A	0.9
6	☐	1.000		2491572.36		A	1.6
7	☐	1.000		2532497.93		A	0.6
8	☐	1.000		2966469.43		A	1.7

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Inst Id :P7
LB :LB135403

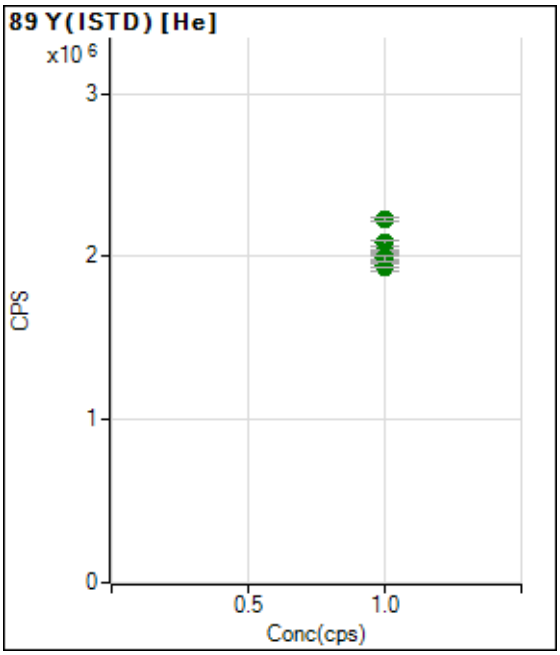


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1	☐	1.000		238117.41		P	1.5
2	☐	1.000		244803.79		P	0.6
3	☐	1.000		243200.37		P	0.8
4	☐	1.000		234517.07		P	0.7
5	☐	1.000		225423.60		P	0.6
6	☐	1.000		222596.15		P	0.8
7	☐	1.000		227730.98		P	0.7
8	☐	1.000		259414.84		P	1.4

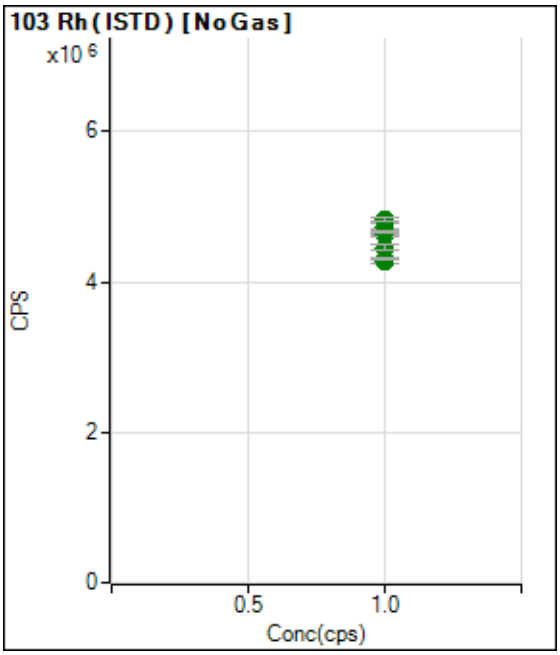


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7233593.92		A	0.5
2	☐	1.000		7309137.46		A	3.4
3	☐	1.000		7524454.33		A	0.7
4	☐	1.000		7228915.38		A	0.9
5	☐	1.000		7040333.79		A	1.6
6	☐	1.000		6783186.08		A	1.0
7	☐	1.000		6927089.13		A	1.0
8	☐	1.000		7954158.63		A	1.1

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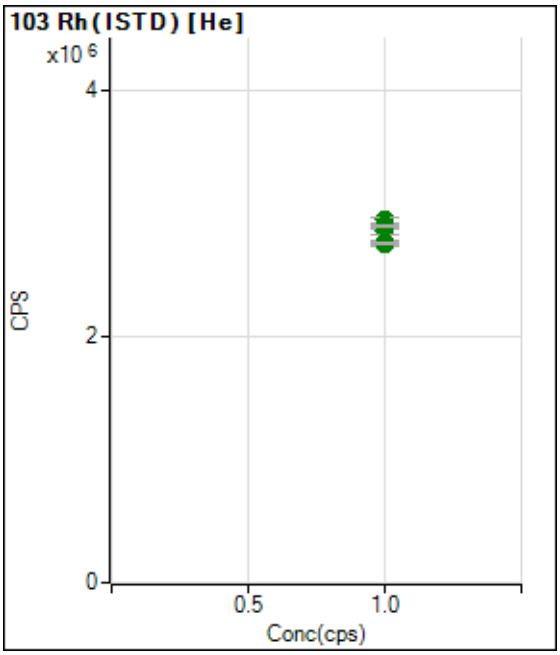


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1996460.32		A	2.0
2	☐	1.000		2082776.10		A	2.0
3	☐	1.000		2084644.05		A	1.4
4	☐	1.000		2030766.79		A	0.4
5	☐	1.000		1932817.77		A	2.1
6	☐	1.000		1943782.61		A	1.4
7	☐	1.000		1990088.84		A	1.5
8	☐	1.000		2225369.71		A	1.2

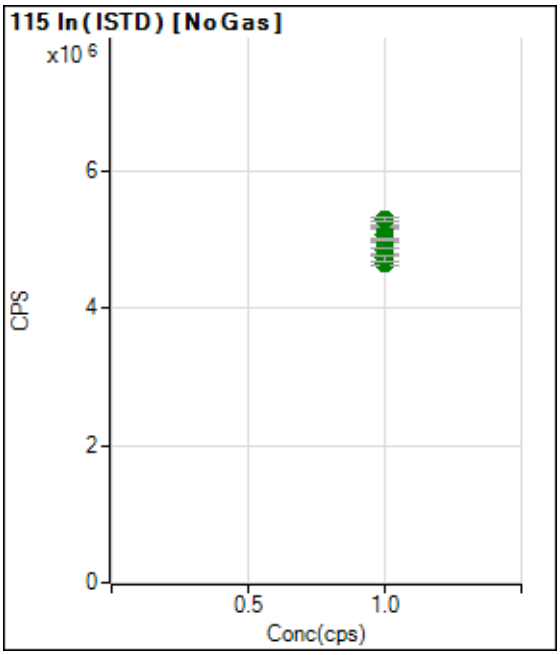


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4663776.74		A	1.2
2	☐	1.000		4727541.08		A	2.5
3	☐	1.000		4824594.20		A	0.9
4	☐	1.000		4631014.38		A	1.0
5	☐	1.000		4457166.77		A	1.6
6	☐	1.000		4264505.21		A	1.2
7	☐	1.000		4299735.53		A	0.6
8	☐	1.000		4675093.26		A	0.6

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On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

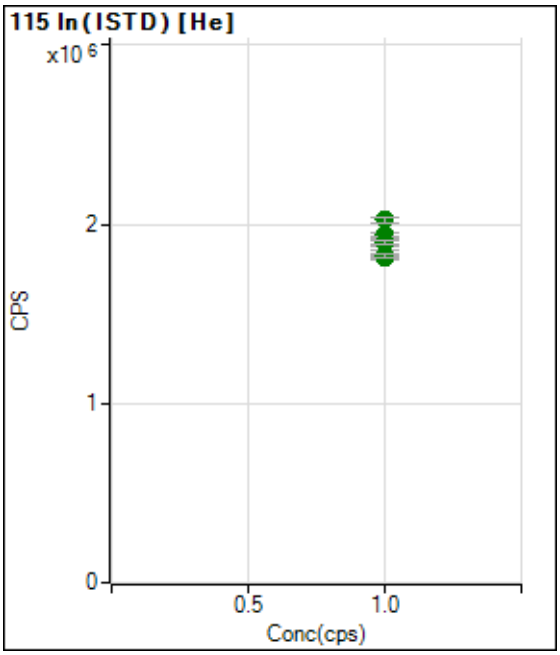


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2853893.05		A	1.3
2	☐	1.000		2949513.29		A	1.6
3	☐	1.000		2907399.50		A	1.0
4	☐	1.000		2859758.95		A	1.9
5	☐	1.000		2759325.48		A	2.2
6	☐	1.000		2750167.04		A	0.4
7	☐	1.000		2764413.57		A	0.4
8	☐	1.000		2899890.20		A	0.2

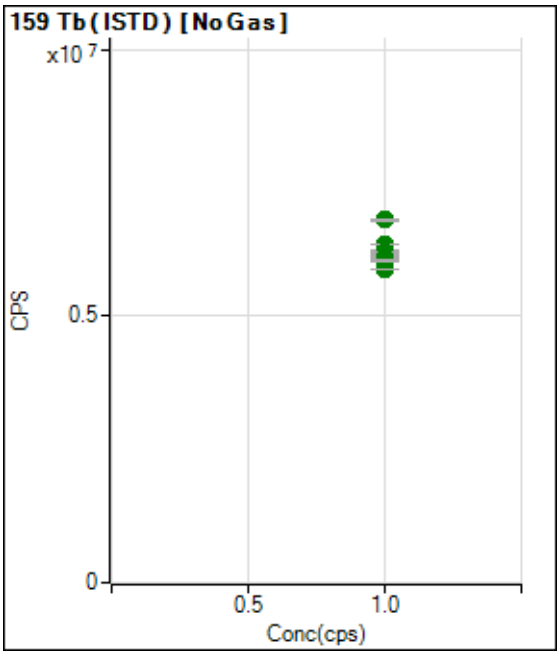


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2	☐	1.000		5080572.99		A	3.3
3	☐	1.000		5198358.85		A	0.1
4	☐	1.000		5008813.95		A	0.6
5	☐	1.000		4839968.82		A	1.4
6	☐	1.000		4650849.33		A	0.9
7	☐	1.000		4725415.03		A	1.9
8	☐	1.000		5286504.29		A	1.2

Reviewed By:mohan
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Inst Id :P7
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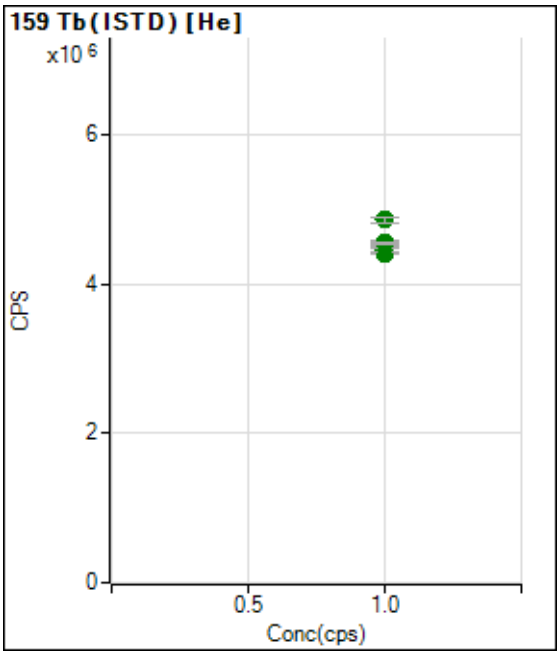


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1	☐	1.000		1897609.39		A	2.0
2	☐	1.000		1940395.30		A	1.1
3	☐	1.000		1926528.04		A	0.6
4	☐	1.000		1895541.66		A	1.0
5	☐	1.000		1831474.00		A	2.5
6	☐	1.000		1817182.75		A	1.0
7	☐	1.000		1825132.42		A	1.6
8	☐	1.000		2024751.64		A	1.4

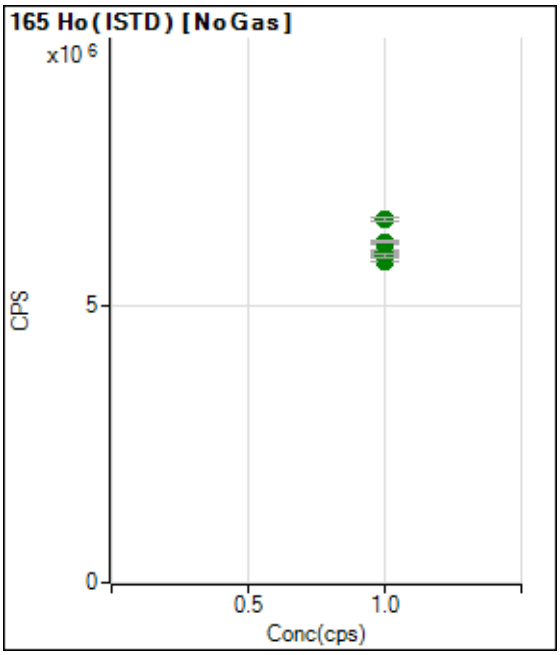


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2	☐	1.000		6155394.77		A	2.7
3	☐	1.000		6348766.50		A	0.2
4	☐	1.000		6189919.28		A	0.7
5	☐	1.000		6111550.46		A	1.0
6	☐	1.000		5889355.95		A	0.2
7	☐	1.000		6058242.41		A	0.6
8	☐	1.000		6807056.77		A	0.5

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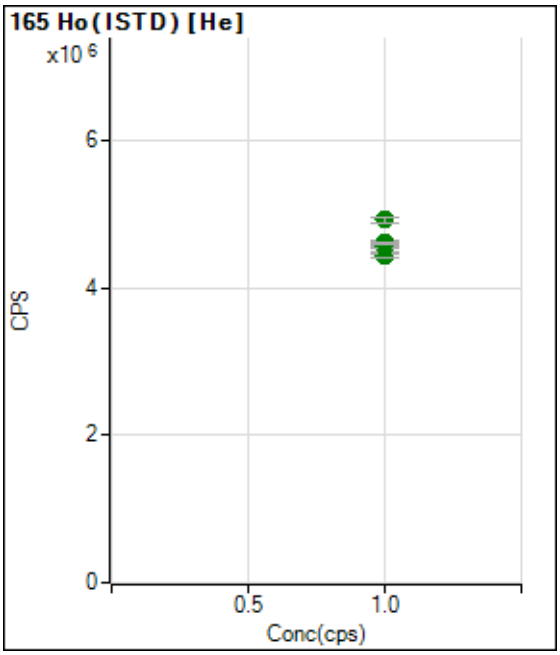


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2	☐	1.000		4473695.21		A	2.6
3	☐	1.000		4554329.97		A	1.8
4	☐	1.000		4513853.02		A	1.1
5	☐	1.000		4458166.74		A	1.2
6	☐	1.000		4508639.24		A	0.7
7	☐	1.000		4555124.86		A	0.6
8	☐	1.000		4865583.75		A	1.3

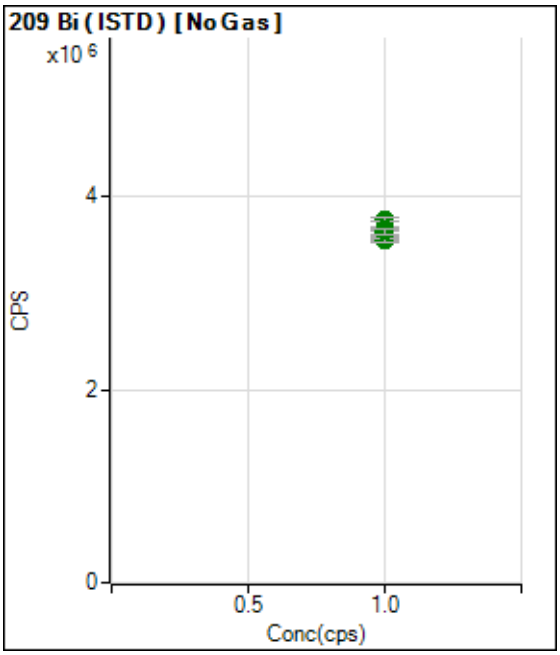


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1	☐	1.000		5928065.40		A	0.4
2	☐	1.000		6014452.69		A	3.2
3	☐	1.000		6157774.49		A	0.5
4	☐	1.000		5977349.70		A	0.4
5	☐	1.000		5971262.27		A	0.7
6	☐	1.000		5803749.29		A	0.3
7	☐	1.000		5897081.65		A	1.2
8	☐	1.000		6548616.98		A	1.0

Reviewed By:mohan
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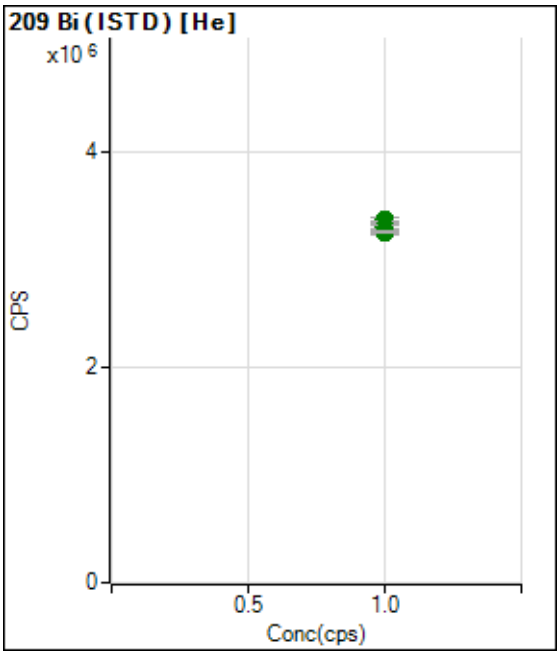


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4440274.62		A	1.2
2	☐	1.000		4526973.09		A	1.6
3	☐	1.000		4623196.81		A	1.1
4	☐	1.000		4615527.19		A	1.2
5	☐	1.000		4559837.78		A	0.9
6	☐	1.000		4579396.35		A	1.5
7	☐	1.000		4614192.75		A	0.6
8	☐	1.000		4919639.20		A	1.3



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3572039.81		A	0.9
2	☐	1.000		3628579.11		A	2.5
3	☐	1.000		3759451.85		A	1.2
4	☐	1.000		3624798.25		A	1.4
5	☐	1.000		3666935.64		A	1.1
6	☐	1.000		3551102.97		A	1.1
7	☐	1.000		3544692.86		A	0.7
8	☐	1.000		3637056.47		A	1.6

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3252561.73		A	1.2
2	☐	1.000		3323856.72		A	2.1
3	☐	1.000		3373271.34		A	1.5
4	☐	1.000		3353895.40		A	0.2
5	☐	1.000		3305007.97		A	1.1
6	☐	1.000		3305354.88		A	1.6
7	☐	1.000		3257778.63		A	1.4
8	☐	1.000		3263772.48		A	0.3

US EPA Tune Check Report

Reviewed By:moh
On:4/15/2025 1:08 PM
Inst Id :P7
LB :LB135403

Operator Name Jaswal

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\P7041125 MS.b

Acq. Date-Time 2025-04-11 11:10:58

Report Comment ---

Instrument Name G8403A JP14410463

[No Gas]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9		5079	50786.64			0.770	5.000
24		78164	781645.00			1.255	5.000
25		9439	94385.43			1.249	5.000
26		10556	105555.47			0.782	5.000
59		44178	441782.07			0.717	5.000
113		6320	63203.08			0.680	5.000
115		74716	747160.37			0.888	5.000
206		14604	146043.49			2.105	5.000
207		12630	126295.99			2.045	5.000
208		30291	302906.33			1.856	5.000
220		0	3.20			59.087	

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	5051	5044	5056	5120	5122
24	77438	77193	77865	79546	78781
25	9297	9381	9412	9496	9607
26	10429	10544	10549	10612	10645
59	43751	44040	44122	44450	44529
113	6300	6278	6292	6378	6353
115	74408	73941	74455	75604	75172
206	14361	14362	14493	15089	14717
207	12412	12448	12537	13044	12706
208	29791	29937	30113	31211	30400

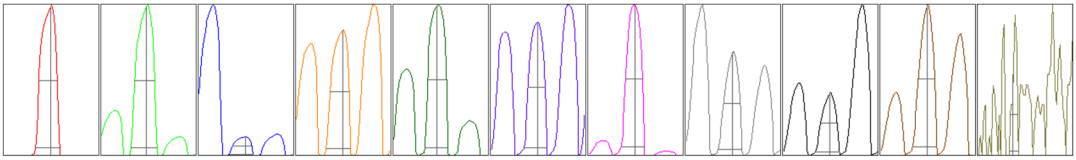
US EPA Tune Check Report

Reviewed By:moh
On:4/15/2025 1:08 PM
Inst Id :P7
LB :LB135403

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
220	1	0	0	0	0

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	9316.14	9.00	8.90 - 9.10	
24	132177.73	23.95	23.90 - 24.10	
25	16221.64	25.00	24.90 - 25.10	
26	18133.94	26.00	25.90 - 26.10	
59	76130.00	58.90	58.90 - 59.10	
113	12114.33	113.00	112.90 - 113.10	
115	143668.32	115.00	114.90 - 115.10	
206	28700.82	206.00	205.90 - 206.10	
207	25035.30	207.00	206.90 - 207.10	
208	60121.46	208.00	207.90 - 208.10	
220	0.40	219.65	-	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.57	0.764	0.900	
24	0.64	0.824	0.900	
25	0.61	0.746	0.900	
26	0.61	0.775	0.900	
59	0.60	0.737	0.900	
113	0.54	0.729	0.900	
115	0.53	0.738	0.900	
206	0.52	0.756	0.900	
207	0.52	0.751	0.900	
208	0.51	0.766	0.900	
220	0.24	0.294		

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

Tune Parameters

Plasma Parameters

Plasma Mode --- Nebulizer Gas 0.87 L/min Dilution Gas 0.40 L/min

US EPA Tune Check Report

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RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0
Sample Depth	8.8 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	16.0 V
Extract 2	-110.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-45 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	138	Axis Gain	0.9977	QP Bias	-3.0 V
Mass Offset	130	Axis Offset	0.10		

Hardware Settings

Torch

Torch H	-0.2 mm	Torch V	0.4 mm		

EM

Discriminator	4.7 mV	Analog HV	2319 V	Pulse HV	1152 V

[He]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
59		14698	146977.20			0.847	
89		46853	468526.54			0.649	
205		17293	172934.08			0.632	

Mass	RSD% (Flag)
59	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	14783	14856	14606	14692	14552
89	46941	47287	46784	46807	46444
205	17375	17409	17177	17179	17326

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.87 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.8 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.4 V	Deflect	4.2 V

US EPA Tune Check Report

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Extract 2	-140.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-65 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.9 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	138	Axis Gain	0.9977	QP Bias	-13.0 V
Mass Offset	130	Axis Offset	0.10		

Hardware Settings

Torch

Torch H	-0.2 mm	Torch V	0.4 mm		

EM

Discriminator	4.7 mV	Analog HV	2319 V	Pulse HV	1152 V

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P7
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:09:51	DataFile Name :	004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.05	-0.02	0.07	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-2	0.01	0.00	0.00	0.00	N/A	ppb
Barium	135-1	0.00	0.00	0.00	0.00	N/A	ppb
Barium	137-1	0.00	0.00	0.00	0.00	N/A	ppb
Beryllium	9-1	-0.02	0.00	0.02	0.00	N/A	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.04	0.00	-0.04	0.00	N/A	ppb
Cadmium	106-1	0.16	-0.24	0.08	0.00	N/A	ppb
Cadmium	111-1	0.01	-0.02	0.00	0.00	N/A	ppb
Calcium	43-1	-0.74	-0.26	1.00	0.00	N/A	ppb
Calcium	44-1	-0.31	0.29	0.01	0.00	N/A	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.05	0.05	0.00	0.00	N/A	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	N/A	ppb
Copper	63-2	0.02	0.06	-0.08	0.00	N/A	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				100		%
Indium	115-1				100		%
Indium	115-2				100		%
Iron	56-2	-0.10	-0.11	0.21	0.00	N/A	ppb
Iron	57-2	1.66	-0.88	-0.78	0.00	N/A	ppb
Iron	54-2	0.42	0.55	-0.97	0.00	N/A	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P7
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:09:51	DataFile Name :	004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	-0.01	0.00	0.01	0.00	N/A	ppb
Lead	207-1	0.01	0.00	0.00	0.00	N/A	ppb
Lead	208-1	0.00	0.00	0.00	0.00	N/A	ppb
Lithium	6-1				100		%
Magnesium	24-2	0.10	-0.01	-0.09	0.00	N/A	ppb
Manganese	55-2	-0.21	0.11	0.09	0.00	N/A	ppb
Molybdenum	94-1	0.01	0.00	-0.01	0.00	N/A	ppb
Molybdenum	95-1	0.01	-0.01	-0.01	0.00	N/A	ppb
Molybdenum	96-1	0.02	-0.01	-0.01	0.00	N/A	ppb
Molybdenum	97-1	0.04	-0.01	-0.03	0.00	N/A	ppb
Molybdenum	98-1	0.01	-0.01	-0.01	0.00	N/A	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.05	0.02	0.02	0.00	N/A	ppb
Phosphorus	31-2	-20.41	-9.88	-21.72	-17.34		ppb
Potassium	39-2	-1.63	2.82	-1.19	0.00	N/A	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	0.46	-0.34	-0.12	0.00	N/A	ppb
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	-0.11	-0.34	0.46	0.00	N/A	ppb
Silicon	28-1	-7.06	8.34	-1.29	0.00	N/A	ppb
Silver	107-1	0.00	0.00	0.00	0.00	N/A	ppb
Silver	109-1	0.00	0.00	0.00	0.00	N/A	ppb
Sodium	23-2	-1.10	1.32	-0.22	0.00	N/A	ppb
Strontium	86-1	0.00	-0.02	0.02	0.00	N/A	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	N/A	ppb
Sulfur	34-1	-173.24	113.75	-113.07	-57.52		ppb
Terbium	159-1				100		%
Terbium	159-2				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	-0.01	0.02	0.00	N/A	ppb
Titanium	47-1	-0.01	-0.01	0.02	0.00	N/A	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P7
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:09:51	DataFile Name :	004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	N/A	ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	N/A	ppb
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	0.03	-0.07	0.04	0.00	N/A	ppb
Zirconium	90-1	0.00	0.01	-0.01	0.00	N/A	ppb
Zirconium	91-1	0.00	0.00	0.00	0.00	N/A	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P7
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:16:28	DataFile Name :	006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	17.90	19.64	19.85	19.13	5.60	ppb
Antimony	121-1	2.05	2.16	2.09	2.10	2.59	ppb
Arsenic	75-2	1.25	1.18	1.28	1.24	4.08	ppb
Barium	135-1	9.89	10.31	10.19	10.13	2.11	ppb
Barium	137-1	10.09	10.71	10.72	10.51	3.43	ppb
Beryllium	9-1	1.28	1.11	1.20	1.20	6.77	ppb
Bismuth	209-1				102		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.95	1.12	1.33	1.13	17.02	ppb
Cadmium	106-1	1.53	1.40	0.25	1.06	66.75	ppb
Cadmium	111-1	1.18	1.11	1.13	1.14	3.06	ppb
Calcium	43-1	505.98	568.15	526.60	533.58	5.94	ppb
Calcium	44-1	528.05	558.16	530.23	538.81	3.12	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.05	2.04	1.94	2.01	3.06	ppb
Cobalt	59-2	1.03	1.07	1.14	1.08	4.99	ppb
Copper	63-2	2.20	2.12	2.10	2.14	2.36	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				101		%
Holmium	165-2				102		%
Indium	115-1				102		%
Indium	115-2				102		%
Iron	56-2	54.18	53.70	52.57	53.48	1.55	ppb
Iron	57-2	57.89	54.22	55.96	56.02	3.28	ppb
Iron	54-2	54.64	50.89	55.47	53.66	4.55	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P7
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:16:28	DataFile Name :	006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.95	1.03	0.92	0.97	5.57	ppb
Lead	207-1	0.97	1.00	0.99	0.99	1.46	ppb
Lead	208-1	0.95	1.00	0.96	0.97	2.58	ppb
Lithium	6-1				104		%
Magnesium	24-2	509.73	505.21	509.11	508.02	0.48	ppb
Manganese	55-2	1.00	0.95	1.15	1.03	9.85	ppb
Molybdenum	94-1	5.76	6.70	6.12	6.19	7.71	ppb
Molybdenum	95-1	4.97	5.51	5.24	5.24	5.17	ppb
Molybdenum	96-1	5.11	5.50	5.17	5.26	4.04	ppb
Molybdenum	97-1	5.12	5.26	5.20	5.19	1.43	ppb
Molybdenum	98-1	4.94	5.47	5.16	5.19	5.21	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.00	1.34	1.08	1.14	15.75	ppb
Phosphorus	31-2	15.31	19.59	17.11	17.34	12.40	ppb
Potassium	39-2	498.65	506.91	500.41	501.99	0.87	ppb
Rhodium	103-1				101		%
Rhodium	103-2				103		%
Scandium	45-1				102		%
Scandium	45-2				103		%
Selenium	82-1	5.56	6.18	5.96	5.90	5.35	ppb
Selenium	77-2	4.58	6.97	6.45	6.00	20.95	ppb
Selenium	78-2	6.18	2.23	2.60	3.67	59.51	ppb
Silicon	28-1	-22.40	-4.77	-31.44	-19.54		ppb
Silver	107-1	1.08	1.11	1.07	1.09	1.87	ppb
Silver	109-1	1.08	1.11	1.10	1.10	1.20	ppb
Sodium	23-2	504.21	504.38	510.48	506.36	0.70	ppb
Strontium	86-1	0.98	1.11	1.07	1.05	6.40	ppb
Strontium	88-1	1.02	1.09	1.06	1.06	3.58	ppb
Sulfur	34-1	-90.23	333.09	-70.29	57.52	415.24	ppb
Terbium	159-1				100		%
Terbium	159-2				101		%
Thallium	203-1	0.95	1.02	0.94	0.97	4.48	ppb
Thallium	205-1	0.96	1.01	0.94	0.97	3.51	ppb
Tin	118-1	5.10	5.28	5.19	5.19	1.71	ppb
Titanium	47-1	4.79	5.43	4.91	5.05	6.71	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P7
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:16:28	DataFile Name :	006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.93	0.97	0.94	0.95	2.20	ppb
Vanadium	51-2	5.34	5.19	5.21	5.25	1.53	ppb
Yttrium	89-1				101		%
Yttrium	89-2				104		%
Zinc	66-2	5.24	5.33	5.24	5.27	1.00	ppb
Zirconium	90-1	1.00	1.07	1.01	1.03	3.81	ppb
Zirconium	91-1	0.96	1.19	1.09	1.08	10.34	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P7
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:19:46	DataFile Name :	007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	962.47	956.70	954.92	958.03	0.41	ppb
Antimony	121-1	48.22	48.94	49.41	48.86	1.23	ppb
Arsenic	75-2	52.52	50.62	52.38	51.84	2.05	ppb
Barium	135-1	236.55	238.60	242.52	239.23	1.27	ppb
Barium	137-1	238.75	241.17	243.13	241.02	0.91	ppb
Beryllium	9-1	51.97	52.24	53.05	52.42	1.07	ppb
Bismuth	209-1				105		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	52.79	52.91	51.40	52.37	1.60	ppb
Cadmium	106-1	53.26	53.11	52.86	53.08	0.38	ppb
Cadmium	111-1	52.06	53.30	53.44	52.93	1.43	ppb
Calcium	43-1	4941.66	5070.86	4942.27	4984.93	1.49	ppb
Calcium	44-1	4919.73	5074.01	4949.05	4980.93	1.64	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	49.78	49.07	49.70	49.51	0.79	ppb
Cobalt	59-2	50.81	49.00	49.58	49.80	1.86	ppb
Copper	63-2	501.78	497.11	500.33	499.74	0.48	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				104		%
Indium	115-1				104		%
Indium	115-2				102		%
Iron	56-2	2568.59	2571.11	2592.64	2577.45	0.51	ppb
Iron	57-2	2612.09	2599.59	2586.49	2599.39	0.49	ppb
Iron	54-2	2648.97	2631.83	2616.71	2632.50	0.61	ppb
Krypton	83-1						cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P7
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:19:46	DataFile Name :	007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	230.64	230.82	231.96	231.14	0.31	ppb
Lead	207-1	226.40	227.26	226.17	226.61	0.25	ppb
Lead	208-1	236.01	236.03	235.37	235.80	0.16	ppb
Lithium	6-1				108		%
Magnesium	24-2	4848.86	4807.04	4850.68	4835.53	0.51	ppb
Manganese	55-2	491.08	485.85	487.09	488.01	0.56	ppb
Molybdenum	94-1	472.44	485.62	484.33	480.80	1.51	ppb
Molybdenum	95-1	469.62	485.20	481.79	478.87	1.71	ppb
Molybdenum	96-1	473.38	485.91	484.04	481.11	1.40	ppb
Molybdenum	97-1	474.05	492.54	490.69	485.76	2.10	ppb
Molybdenum	98-1	484.85	495.71	495.93	492.16	1.29	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	51.70	51.36	51.16	51.41	0.54	ppb
Phosphorus	31-2	1034.89	1002.51	988.18	1008.53	2.37	ppb
Potassium	39-2	2485.93	2470.32	2494.53	2483.59	0.49	ppb
Rhodium	103-1				103		%
Rhodium	103-2				102		%
Scandium	45-1				105		%
Scandium	45-2				102		%
Selenium	82-1	51.14	52.92	53.89	52.65	2.64	ppb
Selenium	77-2	48.02	58.13	54.27	53.47	9.54	ppb
Selenium	78-2	48.04	49.51	49.36	48.97	1.65	ppb
Silicon	28-1	12.14	13.26	3.95	9.78	51.93	ppb
Silver	107-1	51.38	51.58	51.66	51.54	0.28	ppb
Silver	109-1	51.42	51.47	51.64	51.51	0.22	ppb
Sodium	23-2	5185.91	5166.43	5101.43	5151.26	0.86	ppb
Strontium	86-1	48.00	49.48	49.19	48.89	1.60	ppb
Strontium	88-1	47.08	48.43	48.35	47.95	1.57	ppb
Sulfur	34-1	940.31	1138.69	879.57	986.19	13.74	ppb
Terbium	159-1				104		%
Terbium	159-2				103		%
Thallium	203-1	45.71	45.90	45.94	45.85	0.27	ppb
Thallium	205-1	44.84	45.37	45.23	45.15	0.61	ppb
Tin	118-1	48.42	49.03	49.19	48.88	0.83	ppb
Titanium	47-1	471.76	485.10	469.85	475.57	1.75	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P7
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:19:46	DataFile Name :	007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	43.74	44.25	44.25	44.08	0.67	ppb
Vanadium	51-2	49.41	49.19	48.77	49.12	0.66	ppb
Yttrium	89-1				104		%
Yttrium	89-2				104		%
Zinc	66-2	509.61	501.42	510.87	507.30	1.01	ppb
Zirconium	90-1	47.14	48.75	48.71	48.20	1.90	ppb
Zirconium	91-1	47.36	48.57	48.69	48.21	1.52	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P7
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:23:02	DataFile Name :	008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2390.62	2433.45	2410.96	2411.68	0.89	ppb
Antimony	121-1	122.84	123.06	124.73	123.54	0.83	ppb
Arsenic	75-2	128.05	129.71	128.72	128.83	0.65	ppb
Barium	135-1	603.77	597.05	607.57	602.79	0.88	ppb
Barium	137-1	605.57	604.95	610.95	607.16	0.54	ppb
Beryllium	9-1	131.80	131.24	130.19	131.08	0.62	ppb
Bismuth	209-1				101		%
Bismuth	209-2				103		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	133.11	135.17	129.23	132.50	2.28	ppb
Cadmium	106-1	131.33	131.98	129.10	130.80	1.15	ppb
Cadmium	111-1	131.81	132.08	132.16	132.02	0.14	ppb
Calcium	43-1	12662.04	13011.64	12860.58	12844.75	1.37	ppb
Calcium	44-1	12666.51	12811.19	12707.43	12728.38	0.59	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	126.19	127.02	126.81	126.67	0.34	ppb
Cobalt	59-2	124.43	126.15	124.83	125.14	0.72	ppb
Copper	63-2	1301.40	1297.24	1304.31	1300.98	0.27	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				101		%
Holmium	165-2				104		%
Indium	115-1				101		%
Indium	115-2				100		%
Iron	56-2	6498.58	6687.99	6666.36	6617.64	1.57	ppb
Iron	57-2	6554.53	6609.62	6650.04	6604.73	0.73	ppb
Iron	54-2	6508.85	6558.78	6659.87	6575.83	1.17	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P7
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:23:02	DataFile Name :	008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	627.73	627.52	621.64	625.63	0.55	ppb
Lead	207-1	629.97	618.30	614.63	620.97	1.29	ppb
Lead	208-1	631.87	620.66	619.67	624.07	1.09	ppb
Lithium	6-1				104		%
Magnesium	24-2	12901.45	12858.78	13000.88	12920.37	0.56	ppb
Manganese	55-2	1263.35	1253.04	1278.41	1264.93	1.01	ppb
Molybdenum	94-1	1260.34	1260.74	1242.12	1254.40	0.85	ppb
Molybdenum	95-1	1256.28	1269.12	1258.11	1261.17	0.55	ppb
Molybdenum	96-1	1262.92	1262.26	1258.13	1261.10	0.21	ppb
Molybdenum	97-1	1248.69	1254.88	1276.97	1260.18	1.18	ppb
Molybdenum	98-1	1269.33	1283.33	1254.62	1269.09	1.13	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	127.43	130.71	128.68	128.94	1.29	ppb
Phosphorus	31-2	2563.57	2582.96	2585.65	2577.39	0.47	ppb
Potassium	39-2	6148.52	6132.44	6324.15	6201.70	1.71	ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-1				99		%
Scandium	45-2				98		%
Selenium	82-1	133.30	131.69	131.86	132.28	0.67	ppb
Selenium	77-2	132.06	145.23	140.60	139.30	4.80	ppb
Selenium	78-2	126.07	137.67	129.72	131.15	4.52	ppb
Silicon	28-1	90.34	103.02	90.94	94.77	7.55	ppb
Silver	107-1	128.68	128.61	127.54	128.27	0.50	ppb
Silver	109-1	128.71	128.76	128.37	128.62	0.16	ppb
Sodium	23-2	13056.82	12934.92	12957.32	12983.02	0.50	ppb
Strontium	86-1	125.28	124.68	125.22	125.06	0.26	ppb
Strontium	88-1	127.00	124.93	126.02	125.98	0.82	ppb
Sulfur	34-1	2725.38	2937.26	2535.63	2732.76	7.35	ppb
Terbium	159-1				101		%
Terbium	159-2				102		%
Thallium	203-1	118.14	116.87	116.62	117.21	0.69	ppb
Thallium	205-1	117.63	115.94	116.61	116.73	0.73	ppb
Tin	118-1	124.37	122.85	124.51	123.91	0.74	ppb
Titanium	47-1	1200.68	1244.01	1214.20	1219.63	1.82	ppb

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P7
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:23:02	DataFile Name :	008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	115.15	114.10	113.70	114.32	0.65	ppb
Vanadium	51-2	123.24	125.06	123.33	123.88	0.83	ppb
Yttrium	89-1				100		%
Yttrium	89-2				102		%
Zinc	66-2	1272.05	1295.07	1300.04	1289.05	1.16	ppb
Zirconium	90-1	121.25	122.47	121.66	121.79	0.51	ppb
Zirconium	91-1	123.58	123.62	123.68	123.62	0.04	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P7
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:26:05	DataFile Name :	009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4731.80	4665.44	4731.69	4709.65	0.81	ppb
Antimony	121-1	237.15	240.14	242.53	239.94	1.12	ppb
Arsenic	75-2	258.58	250.61	264.35	257.85	2.68	ppb
Barium	135-1	1158.65	1166.55	1186.89	1170.70	1.24	ppb
Barium	137-1	1244.86	1240.68	1249.69	1245.08	0.36	ppb
Beryllium	9-1	251.55	251.16	255.62	252.78	0.98	ppb
Bismuth	209-1				103		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	257.56	257.33	253.64	256.18	0.86	ppb
Cadmium	106-1	246.84	250.33	258.48	251.88	2.37	ppb
Cadmium	111-1	250.38	252.41	259.50	254.10	1.88	ppb
Calcium	43-1	24266.69	25389.89	24711.09	24789.22	2.28	ppb
Calcium	44-1	23791.17	25112.12	24817.73	24573.67	2.82	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	247.44	246.49	244.86	246.26	0.53	ppb
Cobalt	59-2	243.90	244.85	247.94	245.56	0.86	ppb
Copper	63-2	2536.35	2558.98	2526.28	2540.54	0.66	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				101		%
Holmium	165-2				103		%
Indium	115-1				97		%
Indium	115-2				97		%
Iron	56-2	12803.13	12943.03	13078.32	12941.49	1.06	ppb
Iron	57-2	12929.52	13029.48	13008.95	12989.31	0.41	ppb
Iron	54-2	12965.63	12957.47	13200.85	13041.32	1.06	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P7
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:26:05	DataFile Name :	009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1206.04	1207.84	1223.26	1212.38	0.78	ppb
Lead	207-1	1201.86	1221.98	1240.53	1221.46	1.58	ppb
Lead	208-1	1201.33	1207.80	1234.97	1214.70	1.47	ppb
Lithium	6-1				104		%
Magnesium	24-2	25470.52	24671.26	25448.22	25196.67	1.81	ppb
Manganese	55-2	2474.39	2469.94	2547.81	2497.38	1.75	ppb
Molybdenum	94-1	2374.64	2472.05	2507.01	2451.23	2.80	ppb
Molybdenum	95-1	2385.37	2504.32	2516.69	2468.79	2.94	ppb
Molybdenum	96-1	2414.22	2507.68	2522.08	2481.32	2.36	ppb
Molybdenum	97-1	2392.00	2498.45	2526.17	2472.21	2.87	ppb
Molybdenum	98-1	2416.57	2506.93	2505.14	2476.21	2.09	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	252.34	255.65	253.16	253.72	0.68	ppb
Phosphorus	31-2	5162.22	4959.66	4958.78	5026.89	2.33	ppb
Potassium	39-2	12222.46	11939.62	12041.01	12067.70	1.19	ppb
Rhodium	103-1				96		%
Rhodium	103-2				97		%
Scandium	45-1				97		%
Scandium	45-2				95		%
Selenium	82-1	249.95	261.14	267.14	259.41	3.36	ppb
Selenium	77-2	256.88	252.06	277.62	262.19	5.18	ppb
Selenium	78-2	270.53	253.78	261.29	261.87	3.20	ppb
Silicon	28-1	188.08	206.37	209.85	201.43	5.81	ppb
Silver	107-1	245.13	244.25	249.47	246.28	1.13	ppb
Silver	109-1	245.53	245.35	248.77	246.55	0.78	ppb
Sodium	23-2	25637.57	25334.14	25578.10	25516.61	0.63	ppb
Strontium	86-1	237.32	247.31	249.18	244.61	2.61	ppb
Strontium	88-1	241.48	251.54	253.22	248.75	2.55	ppb
Sulfur	34-1	4864.13	5039.50	4958.80	4954.14	1.77	ppb
Terbium	159-1				100		%
Terbium	159-2				101		%
Thallium	203-1	226.42	228.39	231.28	228.69	1.07	ppb
Thallium	205-1	240.35	239.29	243.94	241.19	1.01	ppb
Tin	118-1	234.84	238.42	244.24	239.17	1.98	ppb
Titanium	47-1	2374.01	2444.98	2434.32	2417.77	1.58	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P7
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:26:05	DataFile Name :	009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	238.45	242.13	246.80	242.46	1.73	ppb
Vanadium	51-2	244.44	242.40	244.81	243.88	0.53	ppb
Yttrium	89-1				97		%
Yttrium	89-2				97		%
Zinc	66-2	2531.31	2529.37	2541.65	2534.11	0.26	ppb
Zirconium	90-1	239.32	248.66	253.30	247.09	2.88	ppb
Zirconium	91-1	234.75	248.31	246.79	243.28	3.05	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P7
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:29:05	DataFile Name :	010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9273.91	9205.70	9256.23	9245.28	0.38	ppb
Antimony	121-1	495.75	500.23	509.35	501.78	1.38	ppb
Arsenic	75-2	494.17	504.18	512.08	503.48	1.78	ppb
Barium	135-1	2485.71	2538.31	2537.99	2520.67	1.20	ppb
Barium	137-1	2495.05	2484.57	2517.57	2499.07	0.67	ppb
Beryllium	9-1	503.13	504.81	505.06	504.34	0.21	ppb
Bismuth	209-1				99		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	496.98	512.91	513.74	507.88	1.86	ppb
Cadmium	106-1	509.32	509.50	511.50	510.10	0.24	ppb
Cadmium	111-1	503.60	508.56	510.58	507.58	0.71	ppb
Calcium	43-1	50677.53	50541.54	50319.87	50512.98	0.36	ppb
Calcium	44-1	50842.25	50760.98	49792.12	50465.11	1.16	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	489.59	492.97	499.64	494.06	1.04	ppb
Cobalt	59-2	496.06	493.93	504.62	498.20	1.14	ppb
Copper	63-2	5009.59	5036.13	5104.14	5049.95	0.97	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				98		%
Holmium	165-2				103		%
Indium	115-1				93		%
Indium	115-2				96		%
Iron	56-2	25625.90	25892.35	26414.64	25977.63	1.54	ppb
Iron	57-2	25627.82	26162.30	26533.60	26107.91	1.74	ppb
Iron	54-2	25536.00	25733.87	25961.37	25743.74	0.83	ppb
Krypton	83-1						cps

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On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P7
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:29:05	DataFile Name :	010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2457.95	2518.35	2464.88	2480.40	1.33	ppb
Lead	207-1	2485.75	2487.92	2471.22	2481.63	0.37	ppb
Lead	208-1	2461.05	2499.43	2479.30	2479.93	0.77	ppb
Lithium	6-1				100		%
Magnesium	24-2	50516.64	48483.92	50377.81	49792.79	2.28	ppb
Manganese	55-2	4922.26	4995.57	5101.87	5006.57	1.80	ppb
Molybdenum	94-1	4900.36	5029.17	4975.72	4968.41	1.30	ppb
Molybdenum	95-1	4890.57	5070.27	5003.83	4988.22	1.82	ppb
Molybdenum	96-1	4957.59	5058.30	4889.25	4968.38	1.71	ppb
Molybdenum	97-1	4950.71	5087.52	5059.90	5032.71	1.44	ppb
Molybdenum	98-1	4970.13	5114.73	5027.80	5037.55	1.44	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	496.86	499.43	513.79	503.36	1.81	ppb
Phosphorus	31-2	10044.02	9963.04	10219.81	10075.62	1.30	ppb
Potassium	39-2	24216.03	24260.48	24235.56	24237.36	0.09	ppb
Rhodium	103-1				91		%
Rhodium	103-2				96		%
Scandium	45-1				91		%
Scandium	45-2				93		%
Selenium	82-1	516.48	518.69	508.35	514.51	1.06	ppb
Selenium	77-2	492.21	520.21	527.39	513.27	3.62	ppb
Selenium	78-2	500.76	527.64	507.75	512.05	2.72	ppb
Silicon	28-1	452.34	477.39	496.79	475.51	4.69	ppb
Silver	107-1	496.35	504.39	511.34	504.02	1.49	ppb
Silver	109-1	507.91	501.65	520.84	510.13	1.92	ppb
Sodium	23-2	49642.51	49893.52	50894.59	50143.54	1.32	ppb
Strontium	86-1	477.82	491.60	490.63	486.68	1.58	ppb
Strontium	88-1	493.83	502.15	499.86	498.61	0.86	ppb
Sulfur	34-1	10194.95	9952.67	9638.91	9928.84	2.81	ppb
Terbium	159-1				96		%
Terbium	159-2				102		%
Thallium	203-1	486.32	493.99	489.86	490.06	0.78	ppb
Thallium	205-1	499.90	508.51	489.20	499.21	1.94	ppb
Tin	118-1	495.65	505.73	509.11	503.50	1.39	ppb
Titanium	47-1	5044.69	5010.66	4966.93	5007.43	0.78	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P7
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:29:05	DataFile Name :	010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	499.00	503.24	492.64	498.29	1.07	ppb
Vanadium	51-2	481.05	488.17	495.25	488.16	1.46	ppb
Yttrium	89-1				94		%
Yttrium	89-2				97		%
Zinc	66-2	5101.06	5161.32	5141.78	5134.72	0.60	ppb
Zirconium	90-1	496.33	501.80	510.50	502.88	1.42	ppb
Zirconium	91-1	485.25	499.35	487.37	490.65	1.55	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P7
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:31:55	DataFile Name :	011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	19286.80	19266.04	19722.39	19425.08	1.33	ppb
Antimony	121-1	978.90	998.36	1028.33	1001.87	2.49	ppb
Arsenic	75-2	988.46	1009.75	988.97	995.73	1.22	ppb
Barium	135-1	4886.17	4966.55	5185.70	5012.80	3.09	ppb
Barium	137-1	4896.10	4987.64	5129.39	5004.38	2.35	ppb
Beryllium	9-1	993.40	996.66	998.72	996.26	0.27	ppb
Bismuth	209-1				99		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	977.02	987.14	1016.22	993.46	2.05	ppb
Cadmium	106-1	981.00	987.92	1011.88	993.60	1.63	ppb
Cadmium	111-1	974.81	994.72	1012.96	994.16	1.92	ppb
Calcium	43-1	99851.67	100214.15	101391.09	100485.64	0.80	ppb
Calcium	44-1	99028.06	100405.25	100179.21	99870.84	0.74	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	995.58	1026.70	988.87	1003.72	2.01	ppb
Cobalt	59-2	1011.20	994.00	1000.80	1002.00	0.86	ppb
Copper	63-2	10000.48	9978.72	9896.38	9958.53	0.55	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				99		%
Holmium	165-2				104		%
Indium	115-1				95		%
Indium	115-2				96		%
Iron	56-2	51740.82	51007.37	51157.84	51302.01	0.76	ppb
Iron	57-2	50521.13	50845.49	50526.70	50631.11	0.37	ppb
Iron	54-2	51835.41	51711.21	51777.59	51774.74	0.12	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P7
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:31:55	DataFile Name :	011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	4955.90	5041.07	5063.25	5020.07	1.13	ppb
Lead	207-1	4964.99	5003.16	5085.83	5017.99	1.23	ppb
Lead	208-1	4952.32	5032.24	5074.50	5019.69	1.24	ppb
Lithium	6-1				98		%
Magnesium	24-2	99972.60	98137.73	97695.27	98601.86	1.22	ppb
Manganese	55-2	10078.92	9999.63	9909.76	9996.10	0.85	ppb
Molybdenum	94-1	9843.71	10095.83	10145.65	10028.39	1.61	ppb
Molybdenum	95-1	9877.95	10152.60	10009.50	10013.35	1.37	ppb
Molybdenum	96-1	9828.70	10126.24	10105.16	10020.04	1.66	ppb
Molybdenum	97-1	9759.08	10126.69	10084.32	9990.03	2.01	ppb
Molybdenum	98-1	9761.67	10117.81	10076.05	9985.18	1.95	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1004.15	999.31	987.02	996.83	0.89	ppb
Phosphorus	31-2	20131.97	20161.90	19542.22	19945.37	1.75	ppb
Potassium	39-2	49548.16	48774.19	48232.88	48851.74	1.35	ppb
Rhodium	103-1				92		%
Rhodium	103-2				97		%
Scandium	45-1				93		%
Scandium	45-2				96		%
Selenium	82-1	970.51	1004.12	993.41	989.35	1.74	ppb
Selenium	77-2	995.14	983.42	986.49	988.35	0.61	ppb
Selenium	78-2	982.99	1013.16	974.74	990.30	2.04	ppb
Silicon	28-1	982.74	1023.04	1085.64	1030.47	5.03	ppb
Silver	107-1	978.87	999.18	1017.24	998.43	1.92	ppb
Silver	109-1	984.44	993.15	1008.21	995.27	1.21	ppb
Sodium	23-2	100302.56	99057.92	98307.63	99222.70	1.02	ppb
Strontium	86-1	964.75	1044.66	1014.75	1008.05	4.01	ppb
Strontium	88-1	988.33	1010.55	1004.08	1000.99	1.14	ppb
Sulfur	34-1	19849.18	20144.49	20062.24	20018.64	0.76	ppb
Terbium	159-1				99		%
Terbium	159-2				103		%
Thallium	203-1	993.53	1013.83	1027.08	1011.48	1.67	ppb
Thallium	205-1	995.56	1010.82	1005.25	1003.88	0.77	ppb
Tin	118-1	976.71	1017.91	1008.83	1001.15	2.16	ppb
Titanium	47-1	10049.52	9930.34	10085.72	10021.86	0.81	ppb

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P7
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:31:55	DataFile Name :	011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	994.34	1016.02	1002.75	1004.37	1.09	ppb
Vanadium	51-2	997.31	1005.31	1020.28	1007.63	1.16	ppb
Yttrium	89-1				96		%
Yttrium	89-2				100		%
Zinc	66-2	10041.33	9882.70	9832.56	9918.86	1.10	ppb
Zirconium	90-1	987.02	1013.66	998.66	999.78	1.34	ppb
Zirconium	91-1	981.63	1027.20	1011.01	1006.61	2.29	ppb

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P7
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:34:43	DataFile Name :	012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	99594.10	101001.58	100027.12	100207.60	0.72	ppb
Antimony	121-1	0.51	0.57	0.57	0.55	6.69	ppb
Arsenic	75-2	0.44	0.64	0.44	0.51	22.45	ppb
Barium	135-1	1.94	2.00	2.02	1.99	2.22	ppb
Barium	137-1	1.98	2.10	1.98	2.02	3.53	ppb
Beryllium	9-1	0.12	0.04	0.13	0.10	47.84	ppb
Bismuth	209-1				102		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.33	0.40	0.57	0.44	28.46	ppb
Cadmium	106-1	0.11	0.19	-0.18	0.04	501.99	ppb
Cadmium	111-1	0.13	0.11	0.12	0.12	8.08	ppb
Calcium	43-1	507317.73	494762.90	497480.21	499853.61	1.32	ppb
Calcium	44-1	502277.68	495257.62	502449.94	499995.08	0.82	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	8.53	8.64	8.32	8.50	1.91	ppb
Cobalt	59-2	2.63	2.60	2.56	2.60	1.21	ppb
Copper	63-2	2.40	2.46	2.54	2.46	2.75	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				110		%
Holmium	165-2				111		%
Indium	115-1				106		%
Indium	115-2				107		%
Iron	56-2	246720.47	253710.49	248398.42	249609.79	1.46	ppb
Iron	57-2	248444.23	251529.97	249211.77	249728.66	0.64	ppb
Iron	54-2	249035.85	252017.30	247549.27	249534.14	0.91	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P7
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:34:43	DataFile Name :	012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	5.49	5.65	5.57	5.57	1.44	ppb
Lead	207-1	5.35	5.41	5.53	5.43	1.67	ppb
Lead	208-1	5.33	5.54	5.52	5.46	2.03	ppb
Lithium	6-1				105		%
Magnesium	24-2	502887.96	501147.33	496809.63	500281.64	0.63	ppb
Manganese	55-2	-0.08	0.25	-0.01	0.05	321.11	ppb
Molybdenum	94-1	2.34	2.13	2.24	2.24	4.58	ppb
Molybdenum	95-1	1.25	1.15	1.29	1.23	5.82	ppb
Molybdenum	96-1	5.92	5.84	5.86	5.87	0.72	ppb
Molybdenum	97-1	1.33	1.46	1.46	1.42	5.22	ppb
Molybdenum	98-1	1.20	1.19	1.20	1.20	0.51	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	4.98	5.18	5.23	5.13	2.53	ppb
Phosphorus	31-2	-16.41	-6.51	-16.25	-13.06		ppb
Potassium	39-2	248596.79	251495.61	250894.30	250328.90	0.61	ppb
Rhodium	103-1				100		%
Rhodium	103-2				102		%
Scandium	45-1				109		%
Scandium	45-2				109		%
Selenium	82-1	1.58	1.89	1.60	1.69	10.34	ppb
Selenium	77-2	0.59	0.00	0.00	0.20	173.21	ppb
Selenium	78-2	-1.92	-1.83	-2.40	-2.05		ppb
Silicon	28-1	-76.57	-73.76	-60.22	-70.18		ppb
Silver	107-1	0.06	0.06	0.06	0.06	3.15	ppb
Silver	109-1	0.05	0.05	0.07	0.06	16.95	ppb
Sodium	23-2	495472.66	507345.32	497487.06	500101.68	1.27	ppb
Strontium	86-1	3.35	3.28	3.24	3.29	1.67	ppb
Strontium	88-1	3.28	3.25	3.30	3.27	0.79	ppb
Sulfur	34-1	-1876.19	-1697.12	-1307.74	-1627.02		ppb
Terbium	159-1				111		%
Terbium	159-2				110		%
Thallium	203-1	0.07	0.06	0.07	0.07	8.19	ppb
Thallium	205-1	0.08	0.08	0.08	0.08	3.60	ppb
Tin	118-1	0.13	0.16	0.12	0.14	13.33	ppb
Titanium	47-1	0.58	0.54	0.34	0.49	26.47	ppb

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P7
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:34:43	DataFile Name :	012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.03	0.03	0.03	0.03	7.04	ppb
Vanadium	51-2	0.25	0.29	0.25	0.26	8.29	ppb
Yttrium	89-1				110		%
Yttrium	89-2				111		%
Zinc	66-2	54.05	56.38	55.82	55.42	2.20	ppb
Zirconium	90-1	0.47	0.43	0.44	0.45	4.15	ppb
Zirconium	91-1	0.41	0.47	0.45	0.44	6.73	ppb

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P7
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:48:13	DataFile Name :	014ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	451.51	453.58	447.39	450.83	0.70	ppb
Antimony	121-1	194.10	193.59	190.56	192.75	0.99	ppb
Arsenic	75-2	199.14	201.96	202.30	201.13	0.86	ppb
Barium	135-1	98.75	98.99	97.20	98.31	0.99	ppb
Barium	137-1	97.67	99.28	98.54	98.50	0.82	ppb
Beryllium	9-1	106.58	107.51	107.99	107.36	0.66	ppb
Bismuth	209-1				103		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	102.02	97.64	96.27	98.65	3.05	ppb
Cadmium	106-1	94.87	94.62	92.36	93.95	1.47	ppb
Cadmium	111-1	107.83	107.16	105.16	106.72	1.30	ppb
Calcium	43-1	1919.88	1891.68	1965.43	1925.66	1.93	ppb
Calcium	44-1	1965.38	1915.73	1956.75	1945.95	1.36	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	99.43	98.60	98.61	98.88	0.48	ppb
Cobalt	59-2	98.62	99.26	99.52	99.13	0.47	ppb
Copper	63-2	100.96	101.00	100.48	100.81	0.28	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				105		%
Indium	115-1				104		%
Indium	115-2				104		%
Iron	56-2	1979.79	2029.14	2007.73	2005.55	1.23	ppb
Iron	57-2	1994.33	2015.18	1986.18	1998.56	0.75	ppb
Iron	54-2	2071.49	2062.31	2062.97	2065.59	0.25	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P7
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:48:13	DataFile Name :	014ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	197.45	199.47	199.55	198.82	0.60	ppb
Lead	207-1	188.81	190.82	191.34	190.32	0.70	ppb
Lead	208-1	190.21	194.46	193.91	192.86	1.20	ppb
Lithium	6-1				99		%
Magnesium	24-2	1169.72	1182.25	1170.03	1174.00	0.61	ppb
Manganese	55-2	96.26	95.88	96.16	96.10	0.20	ppb
Molybdenum	94-1	0.09	0.09	0.10	0.09	1.70	ppb
Molybdenum	95-1	0.05	0.04	0.04	0.04	16.91	ppb
Molybdenum	96-1	0.08	0.06	0.07	0.07	12.47	ppb
Molybdenum	97-1	0.02	0.03	0.01	0.02	39.10	ppb
Molybdenum	98-1	0.04	0.03	0.04	0.04	12.53	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	101.87	103.37	102.56	102.60	0.73	ppb
Phosphorus	31-2	-23.30	-17.71	-13.12	-18.05		ppb
Potassium	39-2	1884.62	1898.36	1874.54	1885.84	0.63	ppb
Rhodium	103-1				102		%
Rhodium	103-2				104		%
Scandium	45-1				103		%
Scandium	45-2				102		%
Selenium	82-1	219.42	216.69	222.57	219.56	1.34	ppb
Selenium	77-2	221.26	207.40	234.63	221.09	6.16	ppb
Selenium	78-2	218.99	223.34	214.85	219.06	1.94	ppb
Silicon	28-1	-34.66	-54.46	-40.93	-43.35		ppb
Silver	107-1	50.84	50.08	49.34	50.09	1.50	ppb
Silver	109-1	49.81	50.49	49.81	50.04	0.78	ppb
Sodium	23-2	1834.87	1850.43	1826.77	1837.36	0.65	ppb
Strontium	86-1	0.26	0.32	0.23	0.27	18.02	ppb
Strontium	88-1	0.23	0.24	0.24	0.23	3.46	ppb
Sulfur	34-1	-1139.77	-1307.66	-1209.54	-1218.99		ppb
Terbium	159-1				102		%
Terbium	159-2				105		%
Thallium	203-1	183.29	188.32	187.39	186.33	1.43	ppb
Thallium	205-1	194.74	198.18	202.20	198.37	1.88	ppb
Tin	118-1	0.01	0.03	0.03	0.02	37.37	ppb
Titanium	47-1	0.00	-0.02	-0.02	-0.01		ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P7
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:48:13	DataFile Name :	014ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	28.17	ppb
Vanadium	51-2	96.31	98.02	94.81	96.38	1.66	ppb
Yttrium	89-1				103		%
Yttrium	89-2				106		%
Zinc	66-2	201.29	199.22	201.05	200.52	0.56	ppb
Zirconium	90-1	0.03	0.04	0.05	0.04	16.79	ppb
Zirconium	91-1	0.06	0.11	0.07	0.08	33.11	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	LLICV	Instrumnet Name :	P7
Client Sample ID :	LLICV	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:59:53	DataFile Name :	017LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	17.54	19.05	18.01	18.20	4.23	ppb
Antimony	121-1	1.83	2.05	2.04	1.97	6.18	ppb
Arsenic	75-2	1.13	0.88	1.22	1.07	16.46	ppb
Barium	135-1	9.01	10.28	10.41	9.90	7.83	ppb
Barium	137-1	9.12	10.17	10.32	9.87	6.66	ppb
Beryllium	9-1	1.10	1.09	1.05	1.08	2.45	ppb
Bismuth	209-1				110		%
Bismuth	209-2				108		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	1.44	0.95	1.12	1.17	21.36	ppb
Cadmium	106-1	1.21	-0.56	-0.33	0.11	906.47	ppb
Cadmium	111-1	1.00	1.16	1.06	1.07	7.57	ppb
Calcium	43-1	477.08	517.10	555.21	516.46	7.56	ppb
Calcium	44-1	477.02	521.16	548.57	515.58	7.00	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1.91	1.78	1.77	1.82	4.41	ppb
Cobalt	59-2	1.12	1.10	1.17	1.13	3.11	ppb
Copper	63-2	2.18	2.22	2.18	2.19	1.00	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				107		%
Holmium	165-2				108		%
Indium	115-1				110		%
Indium	115-2				108		%
Iron	56-2	54.00	52.63	53.58	53.41	1.31	ppb
Iron	57-2	53.99	50.82	56.66	53.82	5.43	ppb
Iron	54-2	55.36	55.00	52.65	54.34	2.71	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	LLICV	Instrumnet Name :	P7
Client Sample ID :	LLICV	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:59:53	DataFile Name :	017LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.95	0.90	0.99	0.94	4.69	ppb
Lead	207-1	0.90	0.95	0.98	0.94	4.04	ppb
Lead	208-1	0.92	0.93	0.97	0.94	2.59	ppb
Lithium	6-1				110		%
Magnesium	24-2	510.91	505.43	507.61	507.98	0.54	ppb
Manganese	55-2	1.12	1.33	0.85	1.10	21.80	ppb
Molybdenum	94-1	5.69	6.22	5.77	5.89	4.89	ppb
Molybdenum	95-1	4.50	5.32	5.04	4.95	8.42	ppb
Molybdenum	96-1	4.77	5.35	5.22	5.11	5.96	ppb
Molybdenum	97-1	4.63	5.22	5.28	5.04	7.10	ppb
Molybdenum	98-1	4.68	5.10	5.07	4.95	4.69	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.95	0.96	1.01	0.97	3.07	ppb
Phosphorus	31-2	14.19	11.93	24.48	16.87	39.65	ppb
Potassium	39-2	504.98	505.47	500.48	503.64	0.55	ppb
Rhodium	103-1				108		%
Rhodium	103-2				108		%
Scandium	45-1				109		%
Scandium	45-2				105		%
Selenium	82-1	4.65	5.65	5.87	5.39	12.05	ppb
Selenium	77-2	5.03	5.31	4.21	4.85	11.72	ppb
Selenium	78-2	1.78	3.67	5.48	3.65	50.75	ppb
Silicon	28-1	-62.57	-80.22	-52.63	-65.14		ppb
Silver	107-1	0.94	1.05	1.05	1.02	6.18	ppb
Silver	109-1	0.90	1.12	1.12	1.05	11.92	ppb
Sodium	23-2	511.93	506.29	503.39	507.20	0.86	ppb
Strontium	86-1	1.30	1.21	1.10	1.20	8.21	ppb
Strontium	88-1	0.95	1.08	1.08	1.04	7.24	ppb
Sulfur	34-1	-1722.80	-1379.29	-1048.17	-1383.42		ppb
Terbium	159-1				109		%
Terbium	159-2				109		%
Thallium	203-1	0.89	0.96	0.99	0.95	5.44	ppb
Thallium	205-1	0.88	1.01	0.96	0.95	6.70	ppb
Tin	118-1	4.68	5.17	5.18	5.01	5.68	ppb
Titanium	47-1	4.38	5.20	5.29	4.96	10.13	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	LLICV	Instrumnet Name :	P7
Client Sample ID :	LLICV	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:59:53	DataFile Name :	017LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.85	0.94	0.96	0.92	6.35	ppb
Vanadium	51-2	5.22	5.13	5.25	5.20	1.20	ppb
Yttrium	89-1				109		%
Yttrium	89-2				109		%
Zinc	66-2	5.40	5.41	5.29	5.37	1.26	ppb
Zirconium	90-1	0.93	1.01	1.03	0.99	5.48	ppb
Zirconium	91-1	1.02	1.12	1.09	1.08	4.87	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P7
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:06:33	DataFile Name :	019_ICB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.44	-0.68	-0.03	-0.38		ppb
Antimony	121-1	0.00	0.01	0.00	0.00	134.74	ppb
Arsenic	75-2	0.00	0.02	0.02	0.01	116.11	ppb
Barium	135-1	0.00	0.00	0.00	0.00		ppb
Barium	137-1	-0.01	0.00	-0.01	-0.01		ppb
Beryllium	9-1	-0.01	0.00	0.00	0.00		ppb
Bismuth	209-1				122		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.04	0.00	0.03	0.02	101.97	ppb
Cadmium	106-1	-0.65	0.10	-0.50	-0.35		ppb
Cadmium	111-1	-0.05	0.01	-0.03	-0.03		ppb
Calcium	43-1	-4.96	-6.33	-0.18	-3.82		ppb
Calcium	44-1	-7.52	-1.67	-1.21	-3.47		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.16	-0.18	-0.19	-0.18		ppb
Cobalt	59-2	0.00	0.00	0.01	0.00	94.62	ppb
Copper	63-2	-0.02	-0.02	-0.01	-0.02		ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				121		%
Holmium	165-2				104		%
Indium	115-1				122		%
Indium	115-2				103		%
Iron	56-2	-0.91	-1.02	-1.32	-1.08		ppb
Iron	57-2	-3.92	-1.58	-3.32	-2.94		ppb
Iron	54-2	-0.74	-1.13	0.53	-0.45		ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P7
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:06:33	DataFile Name :	019_ICB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	-0.02	0.02	0.01	0.00	698.29	ppb
Lead	207-1	-0.01	0.01	0.01	0.00	276.31	ppb
Lead	208-1	-0.02	0.02	0.01	0.00	1652.41	ppb
Lithium	6-1				124		%
Magnesium	24-2	-0.12	0.17	-0.14	-0.03		ppb
Manganese	55-2	0.32	0.25	-0.14	0.14	174.91	ppb
Molybdenum	94-1	0.01	0.01	-0.01	0.01	169.25	ppb
Molybdenum	95-1	0.01	0.00	0.00	0.00	113.40	ppb
Molybdenum	96-1	-0.01	-0.01	0.00	-0.01		ppb
Molybdenum	97-1	0.00	-0.01	-0.01	-0.01		ppb
Molybdenum	98-1	0.01	0.00	0.00	0.00	196.58	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.09	-0.16	-0.17	-0.14		ppb
Phosphorus	31-2	-19.19	-20.14	-13.59	-17.64		ppb
Potassium	39-2	-8.85	-5.01	-2.36	-5.41		ppb
Rhodium	103-1				122		%
Rhodium	103-2				103		%
Scandium	45-1				123		%
Scandium	45-2				101		%
Selenium	82-1	-1.65	-0.20	-0.36	-0.74		ppb
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	-2.31	1.20	0.68	-0.14		ppb
Silicon	28-1	-165.79	-90.97	-69.93	-108.90		ppb
Silver	107-1	0.00	0.00	0.00	0.00	3804.43	ppb
Silver	109-1	0.00	0.00	0.00	0.00		ppb
Sodium	23-2	4.23	6.08	4.94	5.08	18.40	ppb
Strontium	86-1	0.40	-0.04	-0.05	0.10	248.39	ppb
Strontium	88-1	0.00	0.01	0.01	0.01	73.02	ppb
Sulfur	34-1	-3772.44	-1646.50	-1411.35	-2276.76		ppb
Terbium	159-1				122		%
Terbium	159-2				104		%
Thallium	203-1	0.00	0.00	0.00	0.00	205.75	ppb
Thallium	205-1	0.00	0.01	0.00	0.00	233.79	ppb
Tin	118-1	-0.08	0.00	0.00	-0.02		ppb
Titanium	47-1	-0.05	-0.04	-0.04	-0.04		ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P7
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:06:33	DataFile Name :	019_ICB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	2643.58	ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	155.20	ppb
Yttrium	89-1				124		%
Yttrium	89-2				104		%
Zinc	66-2	-0.10	0.03	-0.02	-0.03		ppb
Zirconium	90-1	0.01	0.00	0.01	0.01	43.83	ppb
Zirconium	91-1	-0.01	0.00	-0.01	-0.01		ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P7
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:10:21	DataFile Name :	020ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	96447.87	95710.12	96069.90	96075.96	0.38	ppb
Antimony	121-1	1.23	1.28	1.26	1.26	2.07	ppb
Arsenic	75-2	0.29	0.39	0.41	0.36	18.21	ppb
Barium	135-1	1.57	1.51	1.51	1.53	2.42	ppb
Barium	137-1	1.43	1.45	1.46	1.45	1.15	ppb
Beryllium	9-1	0.39	0.42	0.26	0.35	24.03	ppb
Bismuth	209-1				99		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	7.31	7.52	7.53	7.45	1.69	ppb
Cadmium	106-1	-1.00	-1.40	-0.98	-1.13		ppb
Cadmium	111-1	0.25	0.20	0.15	0.20	25.58	ppb
Calcium	43-1	102188.52	101819.56	102329.99	102112.69	0.26	ppb
Calcium	44-1	103578.97	102214.51	103777.55	103190.34	0.82	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	21.20	21.17	21.74	21.37	1.50	ppb
Cobalt	59-2	1.32	1.33	1.34	1.33	0.44	ppb
Copper	63-2	9.82	10.06	9.88	9.92	1.29	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				102		%
Holmium	165-2				104		%
Indium	115-1				100		%
Indium	115-2				99		%
Iron	56-2	105682.82	105674.14	106264.89	105873.95	0.32	ppb
Iron	57-2	104392.78	103821.45	104154.00	104122.74	0.28	ppb
Iron	54-2	104236.70	102779.37	104692.38	103902.81	0.96	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P7
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:10:21	DataFile Name :	020ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	4.67	4.75	4.84	4.76	1.72	ppb
Lead	207-1	4.24	4.27	4.29	4.27	0.65	ppb
Lead	208-1	4.38	4.44	4.46	4.43	0.90	ppb
Lithium	6-1				98		%
Magnesium	24-2	96979.84	97115.39	98190.29	97428.51	0.68	ppb
Manganese	55-2	7.91	7.67	8.23	7.93	3.53	ppb
Molybdenum	94-1	1642.55	1685.62	1676.89	1668.35	1.36	ppb
Molybdenum	95-1	2007.51	2073.55	2064.26	2048.44	1.75	ppb
Molybdenum	96-1	1975.84	2024.07	2003.61	2001.17	1.21	ppb
Molybdenum	97-1	1995.54	2033.41	2052.05	2027.00	1.42	ppb
Molybdenum	98-1	2025.34	2024.63	2025.66	2025.21	0.03	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	6.41	6.44	6.56	6.47	1.22	ppb
Phosphorus	31-2	105844.38	104029.19	105058.39	104977.32	0.87	ppb
Potassium	39-2	98460.85	99013.70	99542.28	99005.61	0.55	ppb
Rhodium	103-1				97		%
Rhodium	103-2				98		%
Scandium	45-1				99		%
Scandium	45-2				97		%
Selenium	82-1	0.06	-0.64	0.08	-0.16		ppb
Selenium	77-2	0.63	0.00	0.65	0.43	86.62	ppb
Selenium	78-2	-2.16	-2.76	-1.39	-2.11		ppb
Silicon	28-1	-24.62	-47.79	-180.96	-84.46		ppb
Silver	107-1	0.02	0.03	0.03	0.03	24.17	ppb
Silver	109-1	0.02	0.02	0.03	0.02	28.07	ppb
Sodium	23-2	105630.87	102779.30	103598.87	104003.02	1.41	ppb
Strontium	86-1	34.37	34.79	34.15	34.44	0.94	ppb
Strontium	88-1	34.24	34.59	34.69	34.51	0.68	ppb
Sulfur	34-1	117539.68	115776.27	116973.50	116763.15	0.77	ppb
Terbium	159-1				101		%
Terbium	159-2				103		%
Thallium	203-1	0.05	0.07	0.08	0.07	21.73	ppb
Thallium	205-1	0.04	0.06	0.07	0.06	25.55	ppb
Tin	118-1	0.37	0.41	0.43	0.41	7.12	ppb
Titanium	47-1	2071.85	1989.59	2030.11	2030.52	2.03	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P7
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:10:21	DataFile Name :	020ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.02	0.02	0.02	0.02	5.17	ppb
Vanadium	51-2	0.20	0.20	0.22	0.21	5.13	ppb
Yttrium	89-1				101		%
Yttrium	89-2				101		%
Zinc	66-2	14.79	14.35	15.27	14.81	3.11	ppb
Zirconium	90-1	0.03	0.05	0.03	0.03	30.50	ppb
Zirconium	91-1	0.02	0.04	0.03	0.03	28.51	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P7
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:28:17	DataFile Name :	022ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	91696.64	90616.27	90927.42	91080.11	0.61	ppb
Antimony	121-1	19.51	19.59	19.83	19.64	0.83	ppb
Arsenic	75-2	19.24	19.08	18.97	19.10	0.71	ppb
Barium	135-1	19.71	19.77	19.85	19.78	0.36	ppb
Barium	137-1	20.07	20.02	20.41	20.17	1.05	ppb
Beryllium	9-1	20.39	20.32	20.51	20.41	0.47	ppb
Bismuth	209-1				105		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	23.60	23.66	23.38	23.54	0.64	ppb
Cadmium	106-1	17.10	15.88	15.23	16.07	5.92	ppb
Cadmium	111-1	19.01	19.36	19.71	19.36	1.81	ppb
Calcium	43-1	98846.57	97852.64	98694.69	98464.64	0.54	ppb
Calcium	44-1	99933.79	99214.26	98723.60	99290.55	0.61	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	37.97	38.13	37.85	37.99	0.37	ppb
Cobalt	59-2	20.17	20.10	20.60	20.29	1.33	ppb
Copper	63-2	29.09	28.67	29.08	28.94	0.84	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				106		%
Holmium	165-2				108		%
Indium	115-1				104		%
Indium	115-2				103		%
Iron	56-2	101524.68	101129.31	101606.41	101420.13	0.25	ppb
Iron	57-2	101413.65	100283.30	102140.46	101279.14	0.92	ppb
Iron	54-2	100415.61	100509.16	100655.83	100526.87	0.12	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P7
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:28:17	DataFile Name :	022ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	23.31	22.95	23.30	23.19	0.88	ppb
Lead	207-1	22.19	22.31	22.00	22.17	0.71	ppb
Lead	208-1	22.25	22.03	22.49	22.25	1.04	ppb
Lithium	6-1				103		%
Magnesium	24-2	91786.08	91781.64	92555.95	92041.22	0.48	ppb
Manganese	55-2	25.87	25.97	25.79	25.87	0.35	ppb
Molybdenum	94-1	1604.66	1612.40	1591.65	1602.90	0.65	ppb
Molybdenum	95-1	1965.27	1997.05	1944.22	1968.85	1.35	ppb
Molybdenum	96-1	1921.93	1959.19	1902.23	1927.78	1.50	ppb
Molybdenum	97-1	1979.13	1990.87	1945.71	1971.90	1.19	ppb
Molybdenum	98-1	1980.26	1985.76	1955.13	1973.71	0.83	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	25.25	25.52	25.81	25.52	1.09	ppb
Phosphorus	31-2	99766.69	99634.66	100898.64	100100.00	0.69	ppb
Potassium	39-2	94426.23	94826.25	96658.90	95303.79	1.25	ppb
Rhodium	103-1				100		%
Rhodium	103-2				101		%
Scandium	45-1				102		%
Scandium	45-2				102		%
Selenium	82-1	19.20	20.36	19.53	19.70	3.02	ppb
Selenium	77-2	17.39	18.23	22.09	19.24	13.04	ppb
Selenium	78-2	17.53	15.48	15.73	16.25	6.88	ppb
Silicon	28-1	-197.16	-196.91	-194.59	-196.22		ppb
Silver	107-1	18.23	18.27	18.33	18.28	0.29	ppb
Silver	109-1	18.20	18.29	18.45	18.31	0.68	ppb
Sodium	23-2	98125.74	99098.74	100536.79	99253.76	1.22	ppb
Strontium	86-1	32.80	33.47	33.48	33.25	1.18	ppb
Strontium	88-1	33.14	33.40	32.89	33.14	0.78	ppb
Sulfur	34-1	111039.14	108223.13	107230.20	108830.82	1.82	ppb
Terbium	159-1				107		%
Terbium	159-2				106		%
Thallium	203-1	18.71	18.79	18.99	18.83	0.77	ppb
Thallium	205-1	18.60	18.64	18.70	18.64	0.27	ppb
Tin	118-1	0.31	0.32	0.37	0.33	8.67	ppb
Titanium	47-1	1925.34	2000.38	1920.05	1948.59	2.31	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P7
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:28:17	DataFile Name :	022ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.03	0.03	0.03	0.03	11.58	ppb
Vanadium	51-2	19.08	18.98	18.89	18.98	0.50	ppb
Yttrium	89-1				104		%
Yttrium	89-2				106		%
Zinc	66-2	33.34	33.94	33.99	33.76	1.08	ppb
Zirconium	90-1	0.02	0.02	0.02	0.02	13.09	ppb
Zirconium	91-1	0.04	0.03	0.02	0.03	25.52	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P7
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:31:24	DataFile Name :	023CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	49649.76	48616.96	49721.55	49329.42	1.25	ppb
Antimony	121-1	497.10	489.04	509.52	498.55	2.07	ppb
Arsenic	75-2	500.74	505.32	489.75	498.60	1.61	ppb
Barium	135-1	2514.63	2477.81	2553.18	2515.21	1.50	ppb
Barium	137-1	2589.03	2447.37	2546.00	2527.47	2.87	ppb
Beryllium	9-1	506.66	501.23	505.62	504.50	0.57	ppb
Bismuth	209-1				101		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	478.33	477.82	480.86	479.01	0.34	ppb
Cadmium	106-1	485.09	473.14	482.28	480.17	1.30	ppb
Cadmium	111-1	484.31	471.75	485.04	480.37	1.56	ppb
Calcium	43-1	247225.08	248409.16	251421.54	249018.59	0.87	ppb
Calcium	44-1	247268.53	247473.02	252096.42	248945.99	1.10	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	498.59	491.79	491.28	493.89	0.83	ppb
Cobalt	59-2	505.33	512.69	495.45	504.49	1.71	ppb
Copper	63-2	5070.54	4904.97	4966.51	4980.67	1.68	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				105		%
Holmium	165-2				106		%
Indium	115-1				100		%
Indium	115-2				99		%
Iron	56-2	126759.13	126041.49	122356.21	125052.27	1.89	ppb
Iron	57-2	127047.23	125470.19	123595.01	125370.81	1.38	ppb
Iron	54-2	124669.25	123451.86	122503.56	123541.56	0.88	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P7
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:31:24	DataFile Name :	023CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2547.19	2517.82	2611.44	2558.82	1.87	ppb
Lead	207-1	2543.42	2528.15	2593.66	2555.08	1.34	ppb
Lead	208-1	2535.09	2521.40	2592.05	2549.51	1.47	ppb
Lithium	6-1				96		%
Magnesium	24-2	247345.55	248020.51	246102.20	247156.09	0.39	ppb
Manganese	55-2	4987.76	4877.07	4797.36	4887.40	1.96	ppb
Molybdenum	94-1	5027.23	5014.12	5032.86	5024.73	0.19	ppb
Molybdenum	95-1	5022.00	5044.42	5151.12	5072.51	1.36	ppb
Molybdenum	96-1	5099.48	5048.92	5142.30	5096.90	0.92	ppb
Molybdenum	97-1	5031.27	5041.07	5107.37	5059.91	0.82	ppb
Molybdenum	98-1	5062.54	5047.06	5192.60	5100.73	1.57	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	502.89	490.52	490.83	494.75	1.43	ppb
Phosphorus	31-2	10216.77	10207.06	10245.55	10223.12	0.20	ppb
Potassium	39-2	123647.78	121535.44	124126.36	123103.19	1.12	ppb
Rhodium	103-1				97		%
Rhodium	103-2				98		%
Scandium	45-1				99		%
Scandium	45-2				100		%
Selenium	82-1	476.17	472.77	486.00	478.31	1.44	ppb
Selenium	77-2	492.02	498.55	480.27	490.28	1.89	ppb
Selenium	78-2	488.64	492.83	479.95	487.14	1.35	ppb
Silicon	28-1	416.18	429.38	435.62	427.06	2.32	ppb
Silver	107-1	488.54	483.76	491.35	487.88	0.79	ppb
Silver	109-1	489.58	483.46	494.37	489.14	1.12	ppb
Sodium	23-2	248652.24	246988.01	252239.18	249293.14	1.08	ppb
Strontium	86-1	493.14	487.42	498.93	493.16	1.17	ppb
Strontium	88-1	497.60	499.85	514.35	503.94	1.80	ppb
Sulfur	34-1	8866.22	8881.94	9040.98	8929.71	1.08	ppb
Terbium	159-1				105		%
Terbium	159-2				106		%
Thallium	203-1	509.45	503.83	516.34	509.88	1.23	ppb
Thallium	205-1	509.45	507.19	516.13	510.92	0.91	ppb
Tin	118-1	497.54	487.66	506.22	497.14	1.87	ppb
Titanium	47-1	5061.90	4961.65	5134.68	5052.74	1.72	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P7
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:31:24	DataFile Name :	023CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	524.89	513.91	519.12	519.30	1.06	ppb
Vanadium	51-2	502.51	493.00	485.97	493.83	1.68	ppb
Yttrium	89-1				102		%
Yttrium	89-2				104		%
Zinc	66-2	4899.85	4766.97	4691.41	4786.08	2.20	ppb
Zirconium	90-1	500.42	513.93	520.55	511.63	2.01	ppb
Zirconium	91-1	494.83	491.94	500.99	495.92	0.93	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P7
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:34:12	DataFile Name :	024CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	30.82	31.61	30.41	30.94	1.97	ppb
Antimony	121-1	0.07	0.10	0.11	0.10	20.73	ppb
Arsenic	75-2	0.03	0.02	0.02	0.02	28.64	ppb
Barium	135-1	0.01	0.03	0.05	0.03	69.08	ppb
Barium	137-1	0.01	0.03	0.03	0.02	55.21	ppb
Beryllium	9-1	0.06	0.02	0.00	0.03	99.86	ppb
Bismuth	209-1				109		%
Bismuth	209-2				107		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.00	0.14	0.10	0.08	92.95	ppb
Cadmium	106-1	-1.29	-1.99	-2.09	-1.79		ppb
Cadmium	111-1	-0.06	-0.14	-0.11	-0.10		ppb
Calcium	43-1	2.88	-0.03	-0.43	0.81	224.23	ppb
Calcium	44-1	5.41	3.93	5.99	5.11	20.78	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.11	-0.23	-0.21	-0.18		ppb
Cobalt	59-2	0.01	0.00	0.00	0.00	252.68	ppb
Copper	63-2	0.69	0.53	0.57	0.60	13.74	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				108		%
Holmium	165-2				107		%
Indium	115-1				108		%
Indium	115-2				105		%
Iron	56-2	1.13	1.04	1.05	1.07	4.73	ppb
Iron	57-2	-2.45	-0.85	-2.24	-1.85		ppb
Iron	54-2	0.88	1.28	0.46	0.87	46.93	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P7
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:34:12	DataFile Name :	024CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.05	0.07	0.09	0.07	30.59	ppb
Lead	207-1	0.06	0.07	0.10	0.08	29.98	ppb
Lead	208-1	0.05	0.06	0.09	0.07	28.42	ppb
Lithium	6-1				98		%
Magnesium	24-2	3.68	3.61	3.83	3.71	3.06	ppb
Manganese	55-2	0.75	0.61	0.48	0.61	21.44	ppb
Molybdenum	94-1	0.25	0.27	0.21	0.24	12.47	ppb
Molybdenum	95-1	0.13	0.13	0.12	0.13	1.88	ppb
Molybdenum	96-1	0.13	0.16	0.10	0.13	24.35	ppb
Molybdenum	97-1	0.16	0.13	0.09	0.13	26.48	ppb
Molybdenum	98-1	0.14	0.10	0.11	0.12	14.58	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.03	-0.06	-0.03	-0.04		ppb
Phosphorus	31-2	-22.33	-10.91	-25.12	-19.45		ppb
Potassium	39-2	-9.81	-6.97	-3.14	-6.64		ppb
Rhodium	103-1				106		%
Rhodium	103-2				106		%
Scandium	45-1				103		%
Scandium	45-2				101		%
Selenium	82-1	0.87	0.45	0.32	0.55	53.27	ppb
Selenium	77-2	0.30	0.00	0.00	0.10	173.21	ppb
Selenium	78-2	-0.69	-1.12	-0.89	-0.90		ppb
Silicon	28-1	-196.88	-81.13	-59.75	-112.59		ppb
Silver	107-1	0.02	0.02	0.02	0.02	21.12	ppb
Silver	109-1	0.01	0.01	0.02	0.01	31.93	ppb
Sodium	23-2	20.54	18.91	20.29	19.91	4.41	ppb
Strontium	86-1	-0.01	0.01	0.00	0.00		ppb
Strontium	88-1	0.01	0.01	0.01	0.01	5.33	ppb
Sulfur	34-1	-2681.40	-2709.56	-2595.19	-2662.05		ppb
Terbium	159-1				108		%
Terbium	159-2				107		%
Thallium	203-1	0.07	0.05	0.07	0.06	15.50	ppb
Thallium	205-1	0.07	0.07	0.07	0.07	3.39	ppb
Tin	118-1	0.04	0.06	0.06	0.05	15.03	ppb
Titanium	47-1	0.06	0.03	0.11	0.07	59.31	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P7
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:34:12	DataFile Name :	024CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.00	0.01	0.01	29.57	ppb
Vanadium	51-2	0.01	0.02	0.01	0.02	33.15	ppb
Yttrium	89-1				107		%
Yttrium	89-2				106		%
Zinc	66-2	0.60	0.36	0.41	0.45	27.69	ppb
Zirconium	90-1	0.10	0.08	0.09	0.09	8.90	ppb
Zirconium	91-1	0.09	0.09	0.07	0.08	16.47	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P7
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:44:13	DataFile Name :	026LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	19.49	19.34	19.94	19.59	1.57	ppb
Antimony	121-1	2.06	2.14	2.09	2.09	1.86	ppb
Arsenic	75-2	1.28	1.16	1.18	1.20	5.39	ppb
Barium	135-1	10.27	10.62	10.06	10.31	2.74	ppb
Barium	137-1	10.27	10.32	10.15	10.25	0.87	ppb
Beryllium	9-1	1.01	1.07	1.08	1.05	3.66	ppb
Bismuth	209-1				109		%
Bismuth	209-2				111		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.94	1.58	0.98	1.17	30.94	ppb
Cadmium	106-1	-1.21	-0.61	-1.11	-0.97		ppb
Cadmium	111-1	0.96	1.01	0.96	0.98	2.83	ppb
Calcium	43-1	522.62	525.53	520.46	522.87	0.49	ppb
Calcium	44-1	541.56	535.02	538.47	538.35	0.61	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1.90	1.70	1.72	1.77	6.12	ppb
Cobalt	59-2	1.07	1.16	1.20	1.14	6.00	ppb
Copper	63-2	2.45	2.75	2.44	2.55	6.90	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				108		%
Holmium	165-2				112		%
Indium	115-1				109		%
Indium	115-2				110		%
Iron	56-2	53.89	53.90	53.55	53.78	0.36	ppb
Iron	57-2	52.76	48.59	56.54	52.63	7.55	ppb
Iron	54-2	54.99	53.95	50.86	53.27	4.03	ppb
Krypton	83-1						cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P7
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:44:13	DataFile Name :	026LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.96	1.02	1.05	1.01	4.27	ppb
Lead	207-1	1.03	1.00	0.99	1.01	2.04	ppb
Lead	208-1	0.99	1.01	0.99	0.99	1.31	ppb
Lithium	6-1				102		%
Magnesium	24-2	494.81	494.25	492.68	493.91	0.22	ppb
Manganese	55-2	1.18	0.92	1.18	1.10	13.71	ppb
Molybdenum	94-1	6.30	6.03	6.16	6.17	2.16	ppb
Molybdenum	95-1	5.07	4.91	5.11	5.03	2.16	ppb
Molybdenum	96-1	5.23	5.18	5.25	5.22	0.64	ppb
Molybdenum	97-1	5.21	5.10	5.10	5.14	1.31	ppb
Molybdenum	98-1	5.13	5.03	5.13	5.10	1.12	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.95	0.86	1.02	0.94	8.48	ppb
Phosphorus	31-2	3.11	4.32	14.46	7.29	85.42	ppb
Potassium	39-2	492.37	490.42	486.26	489.68	0.64	ppb
Rhodium	103-1				109		%
Rhodium	103-2				111		%
Scandium	45-1				107		%
Scandium	45-2				106		%
Selenium	82-1	6.32	5.57	5.71	5.87	6.87	ppb
Selenium	77-2	5.61	7.51	4.60	5.91	25.04	ppb
Selenium	78-2	4.05	7.33	5.74	5.70	28.79	ppb
Silicon	28-1	-73.41	-80.53	-88.45	-80.80		ppb
Silver	107-1	1.05	1.13	1.04	1.07	4.79	ppb
Silver	109-1	1.04	1.11	1.03	1.06	4.36	ppb
Sodium	23-2	490.97	501.71	491.40	494.69	1.23	ppb
Strontium	86-1	1.05	1.04	1.13	1.07	4.98	ppb
Strontium	88-1	1.02	1.02	1.06	1.03	2.55	ppb
Sulfur	34-1	-2067.08	-2133.79	-2283.16	-2161.34		ppb
Terbium	159-1				109		%
Terbium	159-2				111		%
Thallium	203-1	0.99	0.96	1.03	0.99	3.46	ppb
Thallium	205-1	0.99	0.99	1.04	1.00	2.83	ppb
Tin	118-1	5.20	5.36	5.10	5.22	2.49	ppb
Titanium	47-1	4.99	5.04	4.96	5.00	0.79	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P7
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:44:13	DataFile Name :	026LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.96	0.93	0.98	0.96	2.54	ppb
Vanadium	51-2	5.21	5.09	5.34	5.21	2.41	ppb
Yttrium	89-1				109		%
Yttrium	89-2				111		%
Zinc	66-2	5.51	5.45	5.55	5.50	0.94	ppb
Zirconium	90-1	1.08	1.05	1.06	1.06	1.87	ppb
Zirconium	91-1	1.07	1.03	1.04	1.04	1.88	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BL	Instrumnet Name :	P7
Client Sample ID :	PB167552BL	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:15:07	DataFile Name :	027CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.03	-0.19	-0.27	-0.14		ppb
Antimony	121-1	0.00	0.00	0.01	0.00	46.74	ppb
Arsenic	75-2	0.02	0.02	0.03	0.02	30.51	ppb
Barium	135-1	0.00	0.01	0.00	0.00	121.62	ppb
Barium	137-1	0.00	-0.01	-0.01	0.00		ppb
Beryllium	9-1	0.04	0.00	0.03	0.02	96.82	ppb
Bismuth	209-1				108		%
Bismuth	209-2				108		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.00	0.07	-0.04	0.01	622.48	ppb
Cadmium	106-1	-3.18	-1.47	-2.66	-2.44		ppb
Cadmium	111-1	-0.20	-0.11	-0.18	-0.16		ppb
Calcium	43-1	-4.55	1.68	-1.10	-1.32		ppb
Calcium	44-1	-1.53	-1.06	-0.32	-0.97		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.35	-0.36	-0.33	-0.34		ppb
Cobalt	59-2	0.00	0.00	-0.01	-0.01		ppb
Copper	63-2	0.10	0.15	0.07	0.10	39.68	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				109		%
Holmium	165-2				107		%
Indium	115-1				111		%
Indium	115-2				111		%
Iron	56-2	-1.89	-2.01	-1.79	-1.90		ppb
Iron	57-2	-4.64	-4.47	-3.72	-4.28		ppb
Iron	54-2	-3.44	-2.93	-2.48	-2.95		ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BL	Instrumnet Name :	P7
Client Sample ID :	PB167552BL	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:15:07	DataFile Name :	027CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.02	0.01	0.00	0.01	134.06	ppb
Lead	207-1	0.00	-0.01	-0.02	-0.01		ppb
Lead	208-1	0.01	0.00	-0.01	0.00		ppb
Lithium	6-1				97		%
Magnesium	24-2	0.04	0.01	-0.15	-0.03		ppb
Manganese	55-2	0.27	0.21	0.27	0.25	14.06	ppb
Molybdenum	94-1	0.02	0.03	0.02	0.02	34.20	ppb
Molybdenum	95-1	0.00	0.00	-0.01	0.00		ppb
Molybdenum	96-1	-0.01	-0.01	0.00	0.00		ppb
Molybdenum	97-1	0.00	-0.03	-0.01	-0.01		ppb
Molybdenum	98-1	0.01	-0.01	-0.01	0.00		ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.29	-0.23	-0.22	-0.25		ppb
Phosphorus	31-2	-22.21	-26.17	-19.88	-22.75		ppb
Potassium	39-2	-13.07	-14.66	-9.88	-12.54		ppb
Rhodium	103-1				110		%
Rhodium	103-2				110		%
Scandium	45-1				110		%
Scandium	45-2				106		%
Selenium	82-1	0.45	-0.31	-0.42	-0.09		ppb
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	-0.36	1.35	-1.06	-0.02		ppb
Silicon	28-1	-39.00	-45.73	-35.50	-40.08		ppb
Silver	107-1	0.00	0.00	0.00	0.00	150.74	ppb
Silver	109-1	0.00	0.00	0.00	0.00		ppb
Sodium	23-2	2.76	3.56	3.00	3.11	13.22	ppb
Strontium	86-1	-0.02	0.01	0.00	0.00		ppb
Strontium	88-1	0.00	0.00	0.00	0.00		ppb
Sulfur	34-1	-1766.95	-1682.70	-1753.22	-1734.29		ppb
Terbium	159-1				110		%
Terbium	159-2				109		%
Thallium	203-1	0.00	0.00	0.01	0.00	595.67	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	11.83	ppb
Tin	118-1	-0.01	0.00	0.01	0.00		ppb
Titanium	47-1	-0.04	-0.02	-0.03	-0.03		ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BL	Instrumnet Name :	P7
Client Sample ID :	PB167552BL	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:15:07	DataFile Name :	027CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	1086.26	ppb
Yttrium	89-1				110		%
Yttrium	89-2				110		%
Zinc	66-2	0.05	-0.10	-0.08	-0.04		ppb
Zirconium	90-1	0.00	0.00	0.01	0.01	85.91	ppb
Zirconium	91-1	0.00	0.02	0.00	0.00	347.56	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BS	Instrumnet Name :	P7
Client Sample ID :	PB167552BS	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:18:25	DataFile Name :	028LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9236.66	9170.28	9174.96	9193.97	0.40	ppb
Antimony	121-1	500.60	493.93	511.17	501.90	1.73	ppb
Arsenic	75-2	501.96	507.69	491.07	500.24	1.69	ppb
Barium	135-1	2529.72	2525.92	2560.66	2538.77	0.75	ppb
Barium	137-1	2474.67	2521.96	2521.33	2505.99	1.08	ppb
Beryllium	9-1	496.29	512.23	520.59	509.71	2.42	ppb
Bismuth	209-1				108		%
Bismuth	209-2				107		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	493.98	501.40	500.95	498.78	0.83	ppb
Cadmium	106-1	501.94	494.51	502.10	499.52	0.87	ppb
Cadmium	111-1	501.12	507.14	511.14	506.47	1.00	ppb
Calcium	43-1	48126.24	51022.80	49618.67	49589.24	2.92	ppb
Calcium	44-1	48893.22	51127.72	49855.39	49958.78	2.24	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	490.10	499.67	500.32	496.70	1.15	ppb
Cobalt	59-2	502.82	516.02	522.53	513.79	1.95	ppb
Copper	63-2	5069.99	5162.40	5141.02	5124.47	0.94	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				109		%
Holmium	165-2				107		%
Indium	115-1				106		%
Indium	115-2				103		%
Iron	56-2	25471.07	26452.98	26233.87	26052.64	1.98	ppb
Iron	57-2	25605.23	26541.75	26289.11	26145.36	1.85	ppb
Iron	54-2	25913.61	26404.40	26777.86	26365.29	1.64	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BS	Instrumnet Name :	P7
Client Sample ID :	PB167552BS	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:18:25	DataFile Name :	028LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2444.13	2452.49	2505.01	2467.21	1.34	ppb
Lead	207-1	2426.95	2416.04	2482.62	2441.87	1.46	ppb
Lead	208-1	2436.80	2446.55	2504.37	2462.57	1.48	ppb
Lithium	6-1				97		%
Magnesium	24-2	49494.88	48905.21	49457.11	49285.73	0.67	ppb
Manganese	55-2	4866.80	5222.82	5126.95	5072.19	3.63	ppb
Molybdenum	94-1	4756.14	5141.62	5001.31	4966.35	3.93	ppb
Molybdenum	95-1	4759.73	5054.26	5004.18	4939.39	3.19	ppb
Molybdenum	96-1	4691.34	5110.22	5012.21	4937.92	4.44	ppb
Molybdenum	97-1	4740.12	5101.89	5020.21	4954.07	3.83	ppb
Molybdenum	98-1	4815.22	5178.15	5027.39	5006.92	3.64	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	497.80	514.98	514.12	508.97	1.90	ppb
Phosphorus	31-2	9961.34	10026.81	9999.13	9995.76	0.33	ppb
Potassium	39-2	24074.68	23952.25	24257.63	24094.85	0.64	ppb
Rhodium	103-1				105		%
Rhodium	103-2				103		%
Scandium	45-1				105		%
Scandium	45-2				100		%
Selenium	82-1	481.53	514.40	514.42	503.45	3.77	ppb
Selenium	77-2	487.58	499.15	468.98	485.24	3.14	ppb
Selenium	78-2	502.02	501.88	510.49	504.80	0.98	ppb
Silicon	28-1	412.83	476.66	452.29	447.26	7.20	ppb
Silver	107-1	505.73	505.70	505.27	505.57	0.05	ppb
Silver	109-1	511.67	520.90	512.05	514.87	1.01	ppb
Sodium	23-2	50767.14	49790.70	50263.05	50273.63	0.97	ppb
Strontium	86-1	469.07	497.60	488.15	484.94	3.00	ppb
Strontium	88-1	467.64	509.09	503.18	493.30	4.55	ppb
Sulfur	34-1	8454.56	9124.63	8589.87	8723.02	4.06	ppb
Terbium	159-1				109		%
Terbium	159-2				107		%
Thallium	203-1	493.89	486.32	502.83	494.35	1.67	ppb
Thallium	205-1	497.99	493.76	496.89	496.21	0.44	ppb
Tin	118-1	496.37	496.10	507.39	499.95	1.29	ppb
Titanium	47-1	4842.89	5093.89	4928.34	4955.04	2.58	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BS	Instrumnet Name :	P7
Client Sample ID :	PB167552BS	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:18:25	DataFile Name :	028LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	479.07	475.98	486.44	480.50	1.12	ppb
Vanadium	51-2	482.62	497.17	494.96	491.58	1.59	ppb
Yttrium	89-1				107		%
Yttrium	89-2				107		%
Zinc	66-2	5099.04	5237.67	5247.08	5194.60	1.60	ppb
Zirconium	90-1	476.45	496.41	506.38	493.08	3.09	ppb
Zirconium	91-1	465.47	501.12	490.03	485.54	3.76	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-02DLX5	Instrumnet Name :	P7
Client Sample ID :	S-875-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:21:16	DataFile Name :	029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	7467.21	7916.75	8324.87	7902.94	5.43	ppb
Antimony	121-1	0.13	0.12	0.15	0.13	12.29	ppb
Arsenic	75-2	1.94	1.73	2.11	1.92	9.90	ppb
Barium	135-1	108.52	109.40	109.33	109.08	0.45	ppb
Barium	137-1	110.92	110.20	111.53	110.88	0.60	ppb
Beryllium	9-1	0.41	0.33	0.42	0.39	12.50	ppb
Bismuth	209-1				109		%
Bismuth	209-2				106		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.63	0.48	0.68	0.59	17.32	ppb
Cadmium	106-1	0.02	-1.42	-1.37	-0.92		ppb
Cadmium	111-1	0.33	0.20	0.16	0.23	38.66	ppb
Calcium	43-1	2544.04	2465.10	2540.01	2516.38	1.77	ppb
Calcium	44-1	2533.77	2546.11	2570.81	2550.23	0.74	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	18.28	19.49	21.07	19.61	7.13	ppb
Cobalt	59-2	1.71	1.81	1.91	1.81	5.74	ppb
Copper	63-2	10.96	11.90	12.56	11.80	6.82	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				109		%
Holmium	165-2				105		%
Indium	115-1				108		%
Indium	115-2				102		%
Iron	56-2	3691.08	3927.24	4112.15	3910.16	5.40	ppb
Iron	57-2	3686.30	3904.93	4147.76	3913.00	5.90	ppb
Iron	54-2	3683.48	3872.67	4108.30	3888.15	5.47	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-02DLX5	Instrumnet Name :	P7
Client Sample ID :	S-875-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:21:16	DataFile Name :	029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	31.47	31.66	31.36	31.50	0.48	ppb
Lead	207-1	29.46	29.79	29.48	29.58	0.63	ppb
Lead	208-1	30.15	30.49	30.35	30.33	0.56	ppb
Lithium	6-1				103		%
Magnesium	24-2	1015.83	1063.18	1113.95	1064.32	4.61	ppb
Manganese	55-2	94.17	97.55	105.27	99.00	5.75	ppb
Molybdenum	94-1	6.50	5.91	5.77	6.06	6.40	ppb
Molybdenum	95-1	0.26	0.21	0.23	0.24	10.84	ppb
Molybdenum	96-1	0.97	0.86	0.89	0.91	6.32	ppb
Molybdenum	97-1	0.29	0.25	0.28	0.27	7.40	ppb
Molybdenum	98-1	0.22	0.23	0.23	0.23	2.74	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	7.88	7.75	8.52	8.05	5.17	ppb
Phosphorus	31-2	132.20	114.95	115.11	120.75	8.21	ppb
Potassium	39-2	596.20	630.37	679.96	635.51	6.63	ppb
Rhodium	103-1				107		%
Rhodium	103-2				102		%
Scandium	45-1				105		%
Scandium	45-2				100		%
Selenium	82-1	0.59	0.09	0.58	0.42	68.67	ppb
Selenium	77-2	5.84	3.95	3.83	4.54	24.94	ppb
Selenium	78-2	-1.67	0.90	-0.08	-0.28		ppb
Silicon	28-1	402.35	415.90	436.21	418.15	4.08	ppb
Silver	107-1	22.99	23.28	23.19	23.16	0.64	ppb
Silver	109-1	23.14	23.30	23.07	23.17	0.50	ppb
Sodium	23-2	495.25	524.86	556.93	525.68	5.87	ppb
Strontium	86-1	21.53	21.17	21.29	21.33	0.86	ppb
Strontium	88-1	21.26	21.06	21.26	21.19	0.55	ppb
Sulfur	34-1	-2284.97	-2459.91	-2603.39	-2449.43		ppb
Terbium	159-1				109		%
Terbium	159-2				105		%
Thallium	203-1	0.13	0.17	0.15	0.15	12.07	ppb
Thallium	205-1	0.15	0.13	0.16	0.15	9.58	ppb
Tin	118-1	0.08	0.08	0.09	0.08	7.27	ppb
Titanium	47-1	54.80	54.21	54.69	54.56	0.58	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-02DLX5	Instrumnet Name :	P7
Client Sample ID :	S-875-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:21:16	DataFile Name :	029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.90	0.94	0.90	0.91	2.22	ppb
Vanadium	51-2	10.32	11.05	11.36	10.91	4.89	ppb
Yttrium	89-1				109		%
Yttrium	89-2				106		%
Zinc	66-2	34.62	36.44	36.54	35.87	3.01	ppb
Zirconium	90-1	3.37	3.24	3.15	3.25	3.41	ppb
Zirconium	91-1	3.36	3.26	3.26	3.29	1.82	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-03DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:24:34	DataFile Name :	030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9556.22	9563.26	9601.75	9573.74	0.26	ppb
Antimony	121-1	0.25	0.24	0.23	0.24	5.80	ppb
Arsenic	75-2	8.46	8.44	7.93	8.28	3.59	ppb
Barium	135-1	351.89	360.81	347.85	353.51	1.88	ppb
Barium	137-1	356.64	364.20	353.18	358.01	1.57	ppb
Beryllium	9-1	1.34	1.39	1.48	1.40	5.24	ppb
Bismuth	209-1				113		%
Bismuth	209-2				115		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	1.61	1.29	1.57	1.49	11.58	ppb
Cadmium	106-1	0.89	0.46	1.02	0.79	37.37	ppb
Cadmium	111-1	1.31	1.33	1.26	1.30	2.85	ppb
Calcium	43-1	9466.77	9475.77	9009.41	9317.32	2.86	ppb
Calcium	44-1	9217.86	9377.01	9214.70	9269.86	1.00	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	23.68	23.97	24.06	23.91	0.82	ppb
Cobalt	59-2	5.55	5.33	5.58	5.49	2.42	ppb
Copper	63-2	27.59	27.98	27.63	27.73	0.78	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				112		%
Holmium	165-2				114		%
Indium	115-1				112		%
Indium	115-2				112		%
Iron	56-2	10602.71	10809.19	10978.84	10796.91	1.74	ppb
Iron	57-2	10736.39	10786.26	11048.85	10857.16	1.55	ppb
Iron	54-2	10812.41	10817.92	10898.34	10842.89	0.44	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-03DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:24:34	DataFile Name :	030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	71.47	70.89	69.98	70.78	1.06	ppb
Lead	207-1	68.08	67.00	66.79	67.29	1.03	ppb
Lead	208-1	69.46	68.47	67.75	68.56	1.26	ppb
Lithium	6-1				104		%
Magnesium	24-2	1188.51	1189.73	1202.46	1193.57	0.65	ppb
Manganese	55-2	864.12	860.31	886.90	870.44	1.65	ppb
Molybdenum	94-1	6.38	6.24	6.21	6.27	1.42	ppb
Molybdenum	95-1	0.53	0.45	0.45	0.48	9.68	ppb
Molybdenum	96-1	1.25	1.25	1.22	1.24	1.50	ppb
Molybdenum	97-1	0.49	0.49	0.42	0.47	9.47	ppb
Molybdenum	98-1	0.49	0.42	0.46	0.46	7.78	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	15.20	15.32	15.62	15.38	1.43	ppb
Phosphorus	31-2	319.97	317.03	325.70	320.90	1.37	ppb
Potassium	39-2	619.72	638.49	655.19	637.80	2.78	ppb
Rhodium	103-1				110		%
Rhodium	103-2				112		%
Scandium	45-1				110		%
Scandium	45-2				110		%
Selenium	82-1	0.94	1.09	1.59	1.21	27.80	ppb
Selenium	77-2	5.83	6.44	6.32	6.20	5.20	ppb
Selenium	78-2	-1.14	-1.66	-2.38	-1.73		ppb
Silicon	28-1	311.73	321.13	270.96	301.28	8.85	ppb
Silver	107-1	103.82	108.43	103.97	105.41	2.48	ppb
Silver	109-1	105.25	108.13	104.52	105.97	1.80	ppb
Sodium	23-2	943.61	953.13	958.99	951.91	0.82	ppb
Strontium	86-1	75.95	74.92	75.90	75.59	0.77	ppb
Strontium	88-1	74.35	74.51	74.58	74.48	0.16	ppb
Sulfur	34-1	-2272.87	-2260.12	-2554.78	-2362.59		ppb
Terbium	159-1				112		%
Terbium	159-2				114		%
Thallium	203-1	0.25	0.25	0.26	0.25	3.28	ppb
Thallium	205-1	0.25	0.24	0.25	0.25	3.68	ppb
Tin	118-1	0.14	0.16	0.16	0.16	9.20	ppb
Titanium	47-1	32.26	36.04	37.22	35.17	7.36	ppb

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-03DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:24:34	DataFile Name :	030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	1.75	1.77	1.76	1.76	0.62	ppb
Vanadium	51-2	15.64	15.52	16.00	15.72	1.58	ppb
Yttrium	89-1				114		%
Yttrium	89-2				116		%
Zinc	66-2	124.69	124.52	122.09	123.77	1.18	ppb
Zirconium	90-1	3.24	3.16	3.26	3.22	1.79	ppb
Zirconium	91-1	3.60	5.86	3.37	4.28	32.24	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-04DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:27:52	DataFile Name :	031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9381.68	9245.75	9416.44	9347.96	0.96	ppb
Antimony	121-1	0.18	0.19	0.20	0.19	4.96	ppb
Arsenic	75-2	6.21	5.72	6.09	6.01	4.23	ppb
Barium	135-1	323.44	324.76	317.26	321.82	1.24	ppb
Barium	137-1	326.55	326.28	322.52	325.11	0.69	ppb
Beryllium	9-1	0.99	1.05	1.20	1.08	10.32	ppb
Bismuth	209-1				112		%
Bismuth	209-2				114		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.88	1.23	1.34	1.15	20.96	ppb
Cadmium	106-1	1.47	1.44	-0.17	0.91	103.17	ppb
Cadmium	111-1	1.06	0.92	0.83	0.94	12.65	ppb
Calcium	43-1	8506.99	8390.84	8581.40	8493.08	1.13	ppb
Calcium	44-1	8533.63	8305.29	8688.61	8509.18	2.27	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	23.56	23.36	23.80	23.57	0.94	ppb
Cobalt	59-2	5.10	5.21	5.26	5.19	1.62	ppb
Copper	63-2	28.64	27.96	28.24	28.28	1.21	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				112		%
Holmium	165-2				114		%
Indium	115-1				111		%
Indium	115-2				113		%
Iron	56-2	8768.09	8677.40	8812.06	8752.52	0.78	ppb
Iron	57-2	8693.47	8559.20	8866.90	8706.52	1.77	ppb
Iron	54-2	8744.69	8678.64	8858.59	8760.64	1.04	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-04DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:27:52	DataFile Name :	031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	71.31	73.36	72.05	72.24	1.44	ppb
Lead	207-1	66.63	69.83	67.67	68.04	2.40	ppb
Lead	208-1	68.62	70.66	69.45	69.58	1.47	ppb
Lithium	6-1				104		%
Magnesium	24-2	1144.64	1137.09	1153.48	1145.07	0.72	ppb
Manganese	55-2	896.06	900.60	918.50	905.05	1.31	ppb
Molybdenum	94-1	5.47	5.46	5.52	5.48	0.63	ppb
Molybdenum	95-1	0.44	0.43	0.46	0.44	3.56	ppb
Molybdenum	96-1	1.16	1.14	1.09	1.13	3.11	ppb
Molybdenum	97-1	0.44	0.42	0.42	0.43	2.11	ppb
Molybdenum	98-1	0.43	0.40	0.40	0.41	3.45	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	10.93	10.23	10.93	10.70	3.75	ppb
Phosphorus	31-2	322.52	339.01	334.68	332.07	2.57	ppb
Potassium	39-2	625.45	611.83	638.22	625.16	2.11	ppb
Rhodium	103-1				110		%
Rhodium	103-2				112		%
Scandium	45-1				111		%
Scandium	45-2				109		%
Selenium	82-1	1.58	0.79	1.75	1.37	37.34	ppb
Selenium	77-2	8.40	6.55	4.97	6.64	25.91	ppb
Selenium	78-2	-1.47	0.42	0.32	-0.25		ppb
Silicon	28-1	337.90	347.84	332.88	339.54	2.24	ppb
Silver	107-1	120.67	119.66	120.61	120.31	0.47	ppb
Silver	109-1	120.93	120.81	118.38	120.04	1.20	ppb
Sodium	23-2	924.70	916.53	930.96	924.06	0.78	ppb
Strontium	86-1	66.99	69.34	69.60	68.64	2.09	ppb
Strontium	88-1	67.06	68.89	68.01	67.99	1.35	ppb
Sulfur	34-1	-2399.89	-2446.87	-2320.29	-2389.02		ppb
Terbium	159-1				112		%
Terbium	159-2				113		%
Thallium	203-1	0.19	0.18	0.20	0.19	4.09	ppb
Thallium	205-1	0.18	0.19	0.20	0.19	4.50	ppb
Tin	118-1	0.15	0.17	0.16	0.16	6.48	ppb
Titanium	47-1	29.08	29.11	30.48	29.56	2.70	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-04DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:27:52	DataFile Name :	031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	1.70	1.76	1.75	1.74	1.77	ppb
Vanadium	51-2	14.29	14.39	14.77	14.48	1.73	ppb
Yttrium	89-1				114		%
Yttrium	89-2				117		%
Zinc	66-2	101.33	98.69	100.89	100.31	1.41	ppb
Zirconium	90-1	2.74	2.87	2.84	2.82	2.29	ppb
Zirconium	91-1	2.66	2.93	2.99	2.86	6.14	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:31:06	DataFile Name :	032SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9948.17	10474.13	10515.89	10312.73	3.07	ppb
Antimony	121-1	0.10	0.08	0.08	0.09	11.85	ppb
Arsenic	75-2	3.34	3.25	3.41	3.34	2.38	ppb
Barium	135-1	259.72	261.63	258.23	259.86	0.66	ppb
Barium	137-1	263.27	265.84	261.16	263.42	0.89	ppb
Beryllium	9-1	1.25	1.36	1.38	1.33	5.00	ppb
Bismuth	209-1				112		%
Bismuth	209-2				112		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	1.10	1.37	1.12	1.20	12.56	ppb
Cadmium	106-1	0.52	0.92	-0.43	0.34	204.27	ppb
Cadmium	111-1	0.55	0.59	0.55	0.56	3.87	ppb
Calcium	43-1	4981.76	5046.55	5129.99	5052.77	1.47	ppb
Calcium	44-1	5012.13	4964.27	5125.66	5034.02	1.65	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	29.24	28.72	30.06	29.34	2.31	ppb
Cobalt	59-2	3.03	3.03	3.03	3.03	0.11	ppb
Copper	63-2	22.84	22.39	22.57	22.60	1.01	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				112		%
Holmium	165-2				112		%
Indium	115-1				112		%
Indium	115-2				111		%
Iron	56-2	8887.98	8750.36	8707.71	8782.02	1.07	ppb
Iron	57-2	8756.79	8727.99	8835.43	8773.40	0.63	ppb
Iron	54-2	8794.38	8771.00	8870.22	8811.86	0.59	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:31:06	DataFile Name :	032SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	43.08	43.28	43.32	43.23	0.29	ppb
Lead	207-1	40.91	41.11	40.70	40.91	0.50	ppb
Lead	208-1	41.67	41.70	41.79	41.72	0.15	ppb
Lithium	6-1				104		%
Magnesium	24-2	1067.84	1062.21	1059.84	1063.29	0.39	ppb
Manganese	55-2	233.79	230.73	231.93	232.15	0.66	ppb
Molybdenum	94-1	10.58	10.72	10.94	10.75	1.71	ppb
Molybdenum	95-1	0.22	0.21	0.20	0.21	6.61	ppb
Molybdenum	96-1	1.46	1.46	1.52	1.48	2.19	ppb
Molybdenum	97-1	0.21	0.22	0.23	0.22	6.15	ppb
Molybdenum	98-1	0.21	0.20	0.21	0.21	2.64	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	7.85	8.07	8.02	7.98	1.45	ppb
Phosphorus	31-2	189.09	169.64	158.67	172.47	8.93	ppb
Potassium	39-2	849.25	849.06	860.38	852.90	0.76	ppb
Rhodium	103-1				110		%
Rhodium	103-2				112		%
Scandium	45-1				112		%
Scandium	45-2				109		%
Selenium	82-1	1.65	1.35	0.69	1.23	40.03	ppb
Selenium	77-2	9.60	7.63	5.59	7.61	26.38	ppb
Selenium	78-2	-0.21	-0.73	0.97	0.01	7355.86	ppb
Silicon	28-1	663.19	618.76	633.76	638.57	3.54	ppb
Silver	107-1	38.11	38.84	38.25	38.40	1.00	ppb
Silver	109-1	38.47	38.79	38.14	38.47	0.86	ppb
Sodium	23-2	609.30	606.91	622.26	612.83	1.35	ppb
Strontium	86-1	45.57	45.31	46.20	45.69	1.00	ppb
Strontium	88-1	45.03	45.46	45.32	45.27	0.48	ppb
Sulfur	34-1	-2739.94	-2866.48	-2851.84	-2819.42		ppb
Terbium	159-1				113		%
Terbium	159-2				112		%
Thallium	203-1	0.21	0.20	0.19	0.20	3.39	ppb
Thallium	205-1	0.20	0.20	0.18	0.19	3.66	ppb
Tin	118-1	0.06	0.08	0.08	0.07	15.28	ppb
Titanium	47-1	32.88	33.95	32.27	33.03	2.58	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:31:06	DataFile Name :	032SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	2.03	2.04	2.04	2.04	0.32	ppb
Vanadium	51-2	22.11	21.90	22.13	22.04	0.58	ppb
Yttrium	89-1				116		%
Yttrium	89-2				117		%
Zinc	66-2	54.19	53.66	54.50	54.12	0.79	ppb
Zirconium	90-1	5.72	5.81	5.94	5.82	1.84	ppb
Zirconium	91-1	6.00	5.90	6.04	5.98	1.18	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DUPDLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:34:24	DataFile Name :	033SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10949.40	11177.17	11202.05	11109.54	1.25	ppb
Antimony	121-1	0.07	0.07	0.06	0.07	7.43	ppb
Arsenic	75-2	3.46	3.60	3.83	3.63	5.19	ppb
Barium	135-1	266.17	264.75	264.14	265.02	0.39	ppb
Barium	137-1	268.29	267.39	268.23	267.97	0.19	ppb
Beryllium	9-1	1.32	1.35	1.34	1.34	1.17	ppb
Bismuth	209-1				111		%
Bismuth	209-2				110		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	1.05	1.43	1.53	1.34	19.15	ppb
Cadmium	106-1	1.51	-0.40	0.48	0.53	180.33	ppb
Cadmium	111-1	0.68	0.56	0.65	0.63	9.65	ppb
Calcium	43-1	5194.12	5231.84	5180.27	5202.08	0.51	ppb
Calcium	44-1	5110.90	5156.23	5159.93	5142.35	0.53	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	30.53	30.26	31.20	30.66	1.58	ppb
Cobalt	59-2	3.05	3.15	3.09	3.10	1.77	ppb
Copper	63-2	23.28	23.25	23.89	23.48	1.54	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				112		%
Holmium	165-2				110		%
Indium	115-1				113		%
Indium	115-2				110		%
Iron	56-2	8930.76	8664.06	8761.30	8785.37	1.54	ppb
Iron	57-2	8617.43	8720.09	8744.96	8694.16	0.78	ppb
Iron	54-2	8619.75	8726.01	8631.48	8659.08	0.67	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DUPDLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:34:24	DataFile Name :	033SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	44.69	44.19	44.77	44.55	0.71	ppb
Lead	207-1	41.57	41.84	41.40	41.61	0.53	ppb
Lead	208-1	43.06	42.79	42.75	42.86	0.40	ppb
Lithium	6-1				101		%
Magnesium	24-2	1095.38	1120.26	1093.22	1102.95	1.36	ppb
Manganese	55-2	230.49	233.16	231.01	231.55	0.61	ppb
Molybdenum	94-1	16.54	11.82	11.46	13.27	21.32	ppb
Molybdenum	95-1	0.21	0.19	0.18	0.19	7.89	ppb
Molybdenum	96-1	1.52	1.64	1.81	1.66	8.81	ppb
Molybdenum	97-1	0.18	0.22	0.17	0.19	15.21	ppb
Molybdenum	98-1	0.21	0.20	0.20	0.20	3.77	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	8.41	8.43	8.01	8.28	2.85	ppb
Phosphorus	31-2	157.82	187.02	150.55	165.13	11.69	ppb
Potassium	39-2	919.95	940.27	949.55	936.59	1.62	ppb
Rhodium	103-1				109		%
Rhodium	103-2				111		%
Scandium	45-1				112		%
Scandium	45-2				109		%
Selenium	82-1	0.58	0.93	1.71	1.07	53.92	ppb
Selenium	77-2	10.68	12.57	9.71	10.99	13.28	ppb
Selenium	78-2	1.93	2.39	0.82	1.71	47.00	ppb
Silicon	28-1	841.42	725.01	834.77	800.40	8.17	ppb
Silver	107-1	37.84	37.42	37.55	37.60	0.56	ppb
Silver	109-1	37.93	37.44	37.83	37.73	0.69	ppb
Sodium	23-2	625.24	620.30	624.21	623.25	0.42	ppb
Strontium	86-1	47.35	46.15	46.45	46.65	1.34	ppb
Strontium	88-1	46.60	46.13	45.60	46.11	1.08	ppb
Sulfur	34-1	-2992.38	-3078.51	-2967.32	-3012.74		ppb
Terbium	159-1				112		%
Terbium	159-2				111		%
Thallium	203-1	0.20	0.21	0.20	0.20	3.23	ppb
Thallium	205-1	0.20	0.21	0.19	0.20	6.33	ppb
Tin	118-1	0.09	0.06	0.07	0.07	21.61	ppb
Titanium	47-1	40.18	50.71	38.29	43.06	15.54	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DUPDLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:34:24	DataFile Name :	033SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	2.13	2.04	2.11	2.09	2.40	ppb
Vanadium	51-2	22.92	23.17	23.24	23.11	0.74	ppb
Yttrium	89-1				116		%
Yttrium	89-2				116		%
Zinc	66-2	55.09	55.17	54.55	54.94	0.61	ppb
Zirconium	90-1	6.48	6.30	6.28	6.35	1.75	ppb
Zirconium	91-1	6.56	6.36	6.62	6.51	2.10	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P7
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:51:30	DataFile Name :	034CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	49852.51	50294.81	49469.45	49872.25	0.83	ppb
Antimony	121-1	499.60	487.68	487.30	491.53	1.42	ppb
Arsenic	75-2	508.01	493.94	491.42	497.79	1.80	ppb
Barium	135-1	2532.73	2546.57	2481.48	2520.26	1.36	ppb
Barium	137-1	2516.65	2519.41	2448.23	2494.76	1.62	ppb
Beryllium	9-1	517.04	524.62	524.28	521.98	0.82	ppb
Bismuth	209-1				103		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	491.15	475.75	492.00	486.30	1.88	ppb
Cadmium	106-1	482.61	485.36	480.11	482.69	0.54	ppb
Cadmium	111-1	482.48	480.71	480.43	481.21	0.23	ppb
Calcium	43-1	244695.83	245612.90	248626.36	246311.70	0.83	ppb
Calcium	44-1	244323.21	243735.68	249028.82	245695.90	1.18	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	493.35	491.65	497.09	494.03	0.56	ppb
Cobalt	59-2	501.71	504.39	510.87	505.66	0.93	ppb
Copper	63-2	4995.09	5011.26	4949.36	4985.24	0.64	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				107		%
Holmium	165-2				109		%
Indium	115-1				102		%
Indium	115-2				101		%
Iron	56-2	125527.68	126195.18	124611.99	125444.95	0.63	ppb
Iron	57-2	128718.60	125801.39	126324.48	126948.15	1.23	ppb
Iron	54-2	125720.50	125037.48	127191.67	125983.22	0.87	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P7
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:51:30	DataFile Name :	034CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2569.27	2526.27	2595.13	2563.56	1.36	ppb
Lead	207-1	2523.90	2498.99	2545.98	2522.96	0.93	ppb
Lead	208-1	2517.74	2523.47	2545.72	2528.98	0.58	ppb
Lithium	6-1				100		%
Magnesium	24-2	248300.97	249998.42	247288.71	248529.37	0.55	ppb
Manganese	55-2	5003.13	4982.36	4987.43	4990.97	0.22	ppb
Molybdenum	94-1	5069.26	5156.57	4995.96	5073.93	1.58	ppb
Molybdenum	95-1	5032.56	5163.98	5078.94	5091.82	1.31	ppb
Molybdenum	96-1	5054.02	5098.53	5076.96	5076.50	0.44	ppb
Molybdenum	97-1	5003.88	5131.42	5045.62	5060.31	1.29	ppb
Molybdenum	98-1	5013.21	5170.81	5021.03	5068.35	1.75	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	495.04	488.39	495.59	493.00	0.81	ppb
Phosphorus	31-2	10336.65	10064.59	10248.88	10216.71	1.36	ppb
Potassium	39-2	122626.44	121172.77	122802.92	122200.71	0.73	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				105		%
Scandium	45-2				103		%
Selenium	82-1	469.46	473.81	464.21	469.16	1.02	ppb
Selenium	77-2	493.80	475.59	479.86	483.09	1.97	ppb
Selenium	78-2	474.93	472.05	475.91	474.30	0.42	ppb
Silicon	28-1	398.51	398.45	416.40	404.45	2.56	ppb
Silver	107-1	487.97	495.31	488.14	490.48	0.85	ppb
Silver	109-1	489.02	491.50	490.10	490.20	0.25	ppb
Sodium	23-2	256511.34	249267.61	250246.88	252008.61	1.56	ppb
Strontium	86-1	486.17	497.71	485.66	489.85	1.39	ppb
Strontium	88-1	512.67	508.02	500.27	506.98	1.24	ppb
Sulfur	34-1	9207.69	8958.30	9260.89	9142.29	1.77	ppb
Terbium	159-1				108		%
Terbium	159-2				109		%
Thallium	203-1	514.87	506.94	503.44	508.41	1.15	ppb
Thallium	205-1	515.39	510.83	519.19	515.14	0.81	ppb
Tin	118-1	496.04	497.96	492.76	495.59	0.53	ppb
Titanium	47-1	4940.28	4954.19	5029.32	4974.60	0.96	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P7
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:51:30	DataFile Name :	034CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	502.22	508.95	515.30	508.82	1.29	ppb
Vanadium	51-2	488.61	496.02	492.50	492.38	0.75	ppb
Yttrium	89-1				106		%
Yttrium	89-2				106		%
Zinc	66-2	4859.95	4813.15	4725.82	4799.64	1.42	ppb
Zirconium	90-1	502.51	516.57	504.39	507.82	1.50	ppb
Zirconium	91-1	491.45	501.86	493.59	495.63	1.11	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P7
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:54:16	DataFile Name :	035CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.83	0.57	1.32	0.91	41.89	ppb
Antimony	121-1	0.09	0.11	0.10	0.10	10.36	ppb
Arsenic	75-2	0.03	0.00	0.06	0.03	109.74	ppb
Barium	135-1	0.04	0.02	0.04	0.04	29.30	ppb
Barium	137-1	0.01	0.02	0.02	0.02	36.24	ppb
Beryllium	9-1	0.01	0.02	0.02	0.02	37.16	ppb
Bismuth	209-1				109		%
Bismuth	209-2				108		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.07	0.00	0.14	0.07	102.46	ppb
Cadmium	106-1	-0.44	-0.98	-2.20	-1.21		ppb
Cadmium	111-1	-0.01	-0.07	-0.15	-0.08		ppb
Calcium	43-1	-1.77	0.10	0.02	-0.55		ppb
Calcium	44-1	2.46	2.10	2.93	2.50	16.66	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.39	-0.37	-0.37	-0.38		ppb
Cobalt	59-2	0.00	0.01	0.01	0.01	99.00	ppb
Copper	63-2	0.11	0.12	0.17	0.13	21.13	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				106		%
Holmium	165-2				108		%
Indium	115-1				105		%
Indium	115-2				104		%
Iron	56-2	-0.59	-0.60	-0.49	-0.56		ppb
Iron	57-2	-4.64	-1.72	-4.15	-3.50		ppb
Iron	54-2	-0.42	-1.38	-1.99	-1.26		ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P7
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:54:16	DataFile Name :	035CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.03	0.04	0.05	0.04	32.13	ppb
Lead	207-1	0.03	0.03	0.03	0.03	5.03	ppb
Lead	208-1	0.04	0.04	0.04	0.04	3.78	ppb
Lithium	6-1				105		%
Magnesium	24-2	4.57	4.52	4.97	4.68	5.25	ppb
Manganese	55-2	-5.28	-5.28	-5.22	-5.26		ppb
Molybdenum	94-1	0.28	0.18	0.20	0.22	23.00	ppb
Molybdenum	95-1	0.11	0.08	0.12	0.11	19.38	ppb
Molybdenum	96-1	0.12	0.10	0.10	0.11	14.31	ppb
Molybdenum	97-1	0.09	0.10	0.10	0.10	3.08	ppb
Molybdenum	98-1	0.12	0.12	0.10	0.11	10.06	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.19	-0.21	-0.18	-0.19		ppb
Phosphorus	31-2	-21.49	-26.46	-21.91	-23.29		ppb
Potassium	39-2	-18.27	-15.70	-15.45	-16.47		ppb
Rhodium	103-1				104		%
Rhodium	103-2				105		%
Scandium	45-1				104		%
Scandium	45-2				102		%
Selenium	82-1	-0.39	-0.08	-0.31	-0.26		ppb
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	-2.75	-2.76	-0.87	-2.13		ppb
Silicon	28-1	-212.65	-212.21	-212.62	-212.49		ppb
Silver	107-1	0.01	0.01	0.01	0.01	16.99	ppb
Silver	109-1	0.01	0.01	0.01	0.01	22.27	ppb
Sodium	23-2	10.04	11.30	9.61	10.32	8.50	ppb
Strontium	86-1	0.04	-0.02	0.03	0.02	202.37	ppb
Strontium	88-1	0.00	0.00	0.01	0.00	26.75	ppb
Sulfur	34-1	-2414.92	-2377.21	-2367.16	-2386.43		ppb
Terbium	159-1				106		%
Terbium	159-2				107		%
Thallium	203-1	0.02	0.03	0.03	0.02	12.58	ppb
Thallium	205-1	0.02	0.02	0.03	0.02	17.60	ppb
Tin	118-1	0.00	0.00	0.00	0.00	18013.95	ppb
Titanium	47-1	0.02	0.02	0.01	0.02	32.90	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P7
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:54:16	DataFile Name :	035CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.01	0.01	0.01	6.68	ppb
Vanadium	51-2	0.01	0.01	0.01	0.01	30.29	ppb
Yttrium	89-1				104		%
Yttrium	89-2				106		%
Zinc	66-2	0.11	0.31	0.24	0.22	47.00	ppb
Zirconium	90-1	0.08	0.08	0.06	0.07	20.14	ppb
Zirconium	91-1	0.05	0.09	0.08	0.07	27.12	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09LDLX25	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	25
Date & Time Acquired :	2025-04-11 14:57:38	DataFile Name :	036SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2018.35	1987.57	2008.02	2004.65	0.78	ppb
Antimony	121-1	0.03	0.03	0.04	0.04	16.17	ppb
Arsenic	75-2	0.72	0.93	0.56	0.74	25.15	ppb
Barium	135-1	50.74	51.75	52.95	51.81	2.14	ppb
Barium	137-1	52.94	51.61	53.55	52.70	1.88	ppb
Beryllium	9-1	0.29	0.25	0.27	0.27	8.04	ppb
Bismuth	209-1				108		%
Bismuth	209-2				109		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.03	0.14	0.14	0.10	58.19	ppb
Cadmium	106-1	-0.03	-0.92	-1.37	-0.77		ppb
Cadmium	111-1	0.12	0.06	0.02	0.07	71.06	ppb
Calcium	43-1	1005.00	1019.24	1059.56	1027.93	2.75	ppb
Calcium	44-1	1006.53	1041.77	1051.80	1033.37	2.30	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	5.69	5.86	5.64	5.73	1.98	ppb
Cobalt	59-2	0.58	0.58	0.61	0.59	2.98	ppb
Copper	63-2	4.62	4.32	4.60	4.52	3.72	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				106		%
Holmium	165-2				108		%
Indium	115-1				106		%
Indium	115-2				106		%
Iron	56-2	1781.70	1743.53	1764.79	1763.34	1.08	ppb
Iron	57-2	1781.23	1784.33	1756.69	1774.08	0.85	ppb
Iron	54-2	1760.53	1791.57	1782.02	1778.04	0.89	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09LDLX25	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	25
Date & Time Acquired :	2025-04-11 14:57:38	DataFile Name :	036SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	8.77	8.63	8.54	8.65	1.38	ppb
Lead	207-1	8.08	8.13	8.15	8.12	0.45	ppb
Lead	208-1	8.30	8.33	8.29	8.31	0.29	ppb
Lithium	6-1				102		%
Magnesium	24-2	216.65	216.67	215.70	216.34	0.26	ppb
Manganese	55-2	47.49	47.75	47.65	47.63	0.28	ppb
Molybdenum	94-1	2.62	2.63	2.38	2.54	5.68	ppb
Molybdenum	95-1	0.06	0.06	0.06	0.06	5.26	ppb
Molybdenum	96-1	0.38	0.39	0.37	0.38	3.20	ppb
Molybdenum	97-1	0.07	0.05	0.04	0.05	26.76	ppb
Molybdenum	98-1	0.07	0.05	0.06	0.06	17.35	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.41	1.47	1.45	1.44	2.06	ppb
Phosphorus	31-2	15.77	25.21	10.45	17.14	43.60	ppb
Potassium	39-2	162.93	157.13	158.52	159.53	1.90	ppb
Rhodium	103-1				103		%
Rhodium	103-2				107		%
Scandium	45-1				104		%
Scandium	45-2				103		%
Selenium	82-1	0.11	-0.13	-0.13	-0.05		ppb
Selenium	77-2	2.08	0.92	0.89	1.30	52.61	ppb
Selenium	78-2	-1.25	1.11	1.23	0.36	386.43	ppb
Silicon	28-1	61.54	62.13	62.20	61.96	0.59	ppb
Silver	107-1	7.66	7.42	7.67	7.58	1.83	ppb
Silver	109-1	7.61	7.52	7.82	7.65	1.97	ppb
Sodium	23-2	133.48	133.75	132.68	133.30	0.41	ppb
Strontium	86-1	9.36	9.48	9.21	9.35	1.41	ppb
Strontium	88-1	9.20	9.39	9.37	9.32	1.16	ppb
Sulfur	34-1	-2333.06	-2185.94	-2251.18	-2256.73		ppb
Terbium	159-1				105		%
Terbium	159-2				109		%
Thallium	203-1	0.05	0.04	0.04	0.04	12.33	ppb
Thallium	205-1	0.05	0.05	0.05	0.05	4.91	ppb
Tin	118-1	0.03	0.02	0.00	0.02	66.08	ppb
Titanium	47-1	6.27	6.97	6.86	6.70	5.65	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09LDLX25	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	25
Date & Time Acquired :	2025-04-11 14:57:38	DataFile Name :	036SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.40	0.39	0.39	0.39	0.78	ppb
Vanadium	51-2	4.52	4.46	4.68	4.56	2.43	ppb
Yttrium	89-1				106		%
Yttrium	89-2				108		%
Zinc	66-2	11.19	11.25	10.56	11.00	3.46	ppb
Zirconium	90-1	1.40	1.38	1.36	1.38	1.30	ppb
Zirconium	91-1	1.46	1.40	1.33	1.40	4.81	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-10DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:17:05	DataFile Name :	040SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	11949.04	12479.53	12098.00	12175.52	2.25	ppb
Antimony	121-1	91.01	92.49	93.22	92.24	1.22	ppb
Arsenic	75-2	3.53	3.27	3.53	3.44	4.36	ppb
Barium	135-1	649.96	664.88	664.92	659.92	1.31	ppb
Barium	137-1	653.80	669.14	671.89	664.95	1.47	ppb
Beryllium	9-1	101.62	102.33	103.17	102.37	0.76	ppb
Bismuth	209-1				112		%
Bismuth	209-2				111		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	94.35	94.64	99.51	96.17	3.01	ppb
Cadmium	106-1	95.39	97.88	101.34	98.20	3.04	ppb
Cadmium	111-1	95.98	99.06	100.28	98.44	2.25	ppb
Calcium	43-1	13979.58	14371.47	14273.09	14208.05	1.43	ppb
Calcium	44-1	14122.23	14295.10	14371.33	14262.89	0.89	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	118.19	118.20	117.40	117.93	0.39	ppb
Cobalt	59-2	94.96	96.25	95.79	95.67	0.68	ppb
Copper	63-2	971.70	980.28	990.89	980.96	0.98	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				111		%
Holmium	165-2				112		%
Indium	115-1				109		%
Indium	115-2				109		%
Iron	56-2	12540.80	12699.19	12640.31	12626.77	0.63	ppb
Iron	57-2	12397.62	12587.49	12657.30	12547.47	1.07	ppb
Iron	54-2	12465.67	12527.25	12436.71	12476.54	0.37	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-10DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:17:05	DataFile Name :	040SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	510.42	503.44	506.91	506.92	0.69	ppb
Lead	207-1	474.84	463.35	478.61	472.27	1.68	ppb
Lead	208-1	500.88	493.65	501.57	498.70	0.88	ppb
Lithium	6-1				103		%
Magnesium	24-2	10553.49	10018.10	10195.50	10255.70	2.66	ppb
Manganese	55-2	1176.74	1152.83	1153.30	1160.96	1.18	ppb
Molybdenum	94-1	433.41	439.35	433.96	435.57	0.75	ppb
Molybdenum	95-1	317.94	323.83	320.06	320.61	0.93	ppb
Molybdenum	96-1	332.21	337.59	334.72	334.84	0.80	ppb
Molybdenum	97-1	323.08	326.79	326.24	325.37	0.61	ppb
Molybdenum	98-1	315.78	321.33	321.50	319.53	1.02	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	103.61	102.28	103.04	102.98	0.65	ppb
Phosphorus	31-2	136.83	156.97	155.63	149.81	7.52	ppb
Potassium	39-2	5078.25	4854.76	4893.27	4942.09	2.42	ppb
Rhodium	103-1				109		%
Rhodium	103-2				110		%
Scandium	45-1				110		%
Scandium	45-2				109		%
Selenium	82-1	98.64	98.04	98.42	98.37	0.31	ppb
Selenium	77-2	99.31	108.79	111.25	106.45	5.92	ppb
Selenium	78-2	93.74	97.50	101.65	97.63	4.05	ppb
Silicon	28-1	1787.93	962.60	1778.59	1509.71	31.39	ppb
Silver	107-1	50.98	52.08	52.23	51.76	1.31	ppb
Silver	109-1	50.93	52.03	52.15	51.70	1.30	ppb
Sodium	23-2	9937.24	9611.33	9731.13	9759.90	1.69	ppb
Strontium	86-1	150.09	153.56	151.89	151.84	1.14	ppb
Strontium	88-1	152.93	157.75	154.61	155.10	1.58	ppb
Sulfur	34-1	-2320.98	-2124.79	-2279.59	-2241.79		ppb
Terbium	159-1				111		%
Terbium	159-2				111		%
Thallium	203-1	87.30	86.46	88.10	87.28	0.94	ppb
Thallium	205-1	85.87	86.06	88.79	86.91	1.88	ppb
Tin	118-1	81.36	83.15	83.28	82.60	1.30	ppb
Titanium	47-1	48.74	52.32	61.64	54.23	12.28	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-10DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:17:05	DataFile Name :	040SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	84.22	84.07	85.73	84.67	1.09	ppb
Vanadium	51-2	114.78	115.16	113.59	114.51	0.72	ppb
Yttrium	89-1				114		%
Yttrium	89-2				114		%
Zinc	66-2	1011.44	1011.58	1012.32	1011.78	0.05	ppb
Zirconium	90-1	94.67	95.93	95.61	95.40	0.68	ppb
Zirconium	91-1	93.77	97.08	96.36	95.74	1.82	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-11DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:20:11	DataFile Name :	041SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	12905.64	12015.57	12336.22	12419.14	3.63	ppb
Antimony	121-1	92.38	92.55	92.30	92.41	0.14	ppb
Arsenic	75-2	3.46	3.22	2.95	3.21	7.98	ppb
Barium	135-1	662.22	662.87	658.77	661.29	0.33	ppb
Barium	137-1	667.48	696.73	688.31	684.17	2.20	ppb
Beryllium	9-1	100.54	101.68	102.90	101.70	1.16	ppb
Bismuth	209-1				111		%
Bismuth	209-2				111		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	93.20	97.54	94.24	94.99	2.38	ppb
Cadmium	106-1	100.48	96.28	98.66	98.47	2.14	ppb
Cadmium	111-1	99.16	98.68	99.29	99.04	0.33	ppb
Calcium	43-1	14124.10	13988.75	14125.54	14079.46	0.56	ppb
Calcium	44-1	13932.92	14046.08	13981.49	13986.83	0.41	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	119.84	119.17	119.69	119.57	0.29	ppb
Cobalt	59-2	97.96	97.14	97.40	97.50	0.43	ppb
Copper	63-2	1023.12	993.09	976.72	997.65	2.36	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				111		%
Holmium	165-2				113		%
Indium	115-1				110		%
Indium	115-2				109		%
Iron	56-2	12943.48	12770.70	12771.80	12828.66	0.78	ppb
Iron	57-2	12881.08	12764.31	12762.81	12802.74	0.53	ppb
Iron	54-2	12866.37	12798.35	12711.88	12792.20	0.61	ppb
Krypton	83-1						cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-11DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:20:11	DataFile Name :	041SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	499.93	517.32	519.16	512.14	2.07	ppb
Lead	207-1	475.74	488.70	485.93	483.46	1.41	ppb
Lead	208-1	494.16	514.85	510.36	506.46	2.15	ppb
Lithium	6-1				103		%
Magnesium	24-2	10387.93	10231.60	10525.44	10381.66	1.42	ppb
Manganese	55-2	1223.72	1201.11	1165.56	1196.79	2.45	ppb
Molybdenum	94-1	431.49	441.35	439.09	437.31	1.18	ppb
Molybdenum	95-1	314.55	320.58	324.10	319.75	1.51	ppb
Molybdenum	96-1	331.43	337.77	341.29	336.83	1.48	ppb
Molybdenum	97-1	321.38	326.16	330.87	326.14	1.46	ppb
Molybdenum	98-1	319.17	331.94	335.47	328.86	2.61	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	105.15	104.57	104.10	104.60	0.50	ppb
Phosphorus	31-2	159.86	160.79	154.95	158.53	1.98	ppb
Potassium	39-2	5127.29	5081.20	5173.63	5127.37	0.90	ppb
Rhodium	103-1				108		%
Rhodium	103-2				110		%
Scandium	45-1				112		%
Scandium	45-2				108		%
Selenium	82-1	95.80	98.97	100.00	98.26	2.23	ppb
Selenium	77-2	105.95	115.09	108.90	109.98	4.24	ppb
Selenium	78-2	106.27	95.32	98.76	100.12	5.59	ppb
Silicon	28-1	1085.35	1744.43	1106.48	1312.09	28.55	ppb
Silver	107-1	51.64	51.91	51.77	51.77	0.26	ppb
Silver	109-1	51.94	51.52	52.07	51.84	0.55	ppb
Sodium	23-2	9951.26	9927.88	9785.92	9888.35	0.90	ppb
Strontium	86-1	149.31	153.25	155.52	152.69	2.06	ppb
Strontium	88-1	157.41	154.42	156.53	156.12	0.99	ppb
Sulfur	34-1	-2640.76	-2703.08	-2726.15	-2690.00		ppb
Terbium	159-1				112		%
Terbium	159-2				111		%
Thallium	203-1	87.77	89.98	89.36	89.04	1.28	ppb
Thallium	205-1	86.68	89.07	89.92	88.56	1.90	ppb
Tin	118-1	82.57	83.22	83.22	83.00	0.45	ppb
Titanium	47-1	53.92	63.33	56.10	57.79	8.52	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-11DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:20:11	DataFile Name :	041SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	84.21	86.90	87.43	86.18	2.00	ppb
Vanadium	51-2	117.05	115.83	116.44	116.44	0.52	ppb
Yttrium	89-1				114		%
Yttrium	89-2				114		%
Zinc	66-2	1046.52	1028.07	1029.49	1034.69	0.99	ppb
Zirconium	90-1	94.45	95.65	97.03	95.71	1.35	ppb
Zirconium	91-1	95.73	96.75	98.30	96.92	1.33	ppb

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09ADLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:23:17	DataFile Name :	042SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	12233.48	12214.91	11930.80	12126.40	1.40	ppb
Antimony	121-1	91.39	93.44	92.67	92.50	1.12	ppb
Arsenic	75-2	3.35	3.51	3.81	3.55	6.62	ppb
Barium	135-1	650.83	667.24	667.99	662.02	1.47	ppb
Barium	137-1	656.50	673.79	671.77	667.35	1.42	ppb
Beryllium	9-1	100.47	99.73	99.54	99.91	0.49	ppb
Bismuth	209-1				113		%
Bismuth	209-2				113		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	97.98	94.46	95.16	95.86	1.94	ppb
Cadmium	106-1	97.49	98.52	100.39	98.80	1.49	ppb
Cadmium	111-1	98.28	100.34	98.50	99.04	1.14	ppb
Calcium	43-1	13953.71	14434.96	13818.07	14068.91	2.30	ppb
Calcium	44-1	14151.71	14296.50	13944.53	14130.92	1.25	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	119.63	117.70	118.59	118.64	0.81	ppb
Cobalt	59-2	97.20	95.33	95.68	96.07	1.04	ppb
Copper	63-2	1004.78	1008.51	997.12	1003.47	0.58	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				112		%
Holmium	165-2				113		%
Indium	115-1				111		%
Indium	115-2				110		%
Iron	56-2	12700.22	12475.70	12781.72	12652.55	1.25	ppb
Iron	57-2	12717.58	12514.82	12554.73	12595.71	0.85	ppb
Iron	54-2	12681.88	12710.07	12610.43	12667.46	0.41	ppb
Krypton	83-1						cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09ADLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:23:17	DataFile Name :	042SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	505.46	513.86	502.46	507.26	1.16	ppb
Lead	207-1	467.53	474.75	470.54	470.94	0.77	ppb
Lead	208-1	494.20	503.44	491.03	496.22	1.30	ppb
Lithium	6-1				103		%
Magnesium	24-2	10221.23	10186.46	10321.45	10243.05	0.68	ppb
Manganese	55-2	1161.78	1162.21	1170.64	1164.88	0.43	ppb
Molybdenum	94-1	428.76	433.89	440.80	434.48	1.39	ppb
Molybdenum	95-1	314.11	311.35	325.24	316.90	2.32	ppb
Molybdenum	96-1	330.85	325.47	336.99	331.11	1.74	ppb
Molybdenum	97-1	318.55	319.88	327.38	321.94	1.48	ppb
Molybdenum	98-1	316.18	318.39	322.34	318.97	0.98	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	104.06	103.03	105.21	104.10	1.05	ppb
Phosphorus	31-2	158.66	165.59	162.98	162.41	2.15	ppb
Potassium	39-2	5091.51	5111.77	5027.57	5076.95	0.87	ppb
Rhodium	103-1				109		%
Rhodium	103-2				111		%
Scandium	45-1				111		%
Scandium	45-2				110		%
Selenium	82-1	97.23	93.98	96.82	96.01	1.85	ppb
Selenium	77-2	104.42	112.11	103.26	106.60	4.51	ppb
Selenium	78-2	98.84	97.10	94.87	96.94	2.05	ppb
Silicon	28-1	1065.57	1161.37	1483.02	1236.65	17.68	ppb
Silver	107-1	51.29	52.46	51.91	51.89	1.13	ppb
Silver	109-1	51.16	51.90	51.68	51.58	0.74	ppb
Sodium	23-2	9858.37	9523.16	9766.72	9716.08	1.78	ppb
Strontium	86-1	148.96	148.68	153.47	150.37	1.79	ppb
Strontium	88-1	150.59	150.54	155.08	152.07	1.71	ppb
Sulfur	34-1	-2618.01	-2611.07	-2788.57	-2672.55		ppb
Terbium	159-1				111		%
Terbium	159-2				113		%
Thallium	203-1	86.72	89.20	87.32	87.75	1.48	ppb
Thallium	205-1	85.75	87.55	86.57	86.63	1.04	ppb
Tin	118-1	82.47	84.34	83.56	83.46	1.12	ppb
Titanium	47-1	65.09	47.20	45.32	52.54	20.77	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09ADLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:23:17	DataFile Name :	042SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	83.99	86.00	84.27	84.75	1.28	ppb
Vanadium	51-2	116.13	114.63	115.99	115.59	0.72	ppb
Yttrium	89-1				115		%
Yttrium	89-2				117		%
Zinc	66-2	1031.18	1021.37	1006.83	1019.80	1.20	ppb
Zirconium	90-1	93.05	93.18	96.26	94.16	1.93	ppb
Zirconium	91-1	94.84	94.53	98.71	96.03	2.42	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV03	Instrumnet Name :	P7
Client Sample ID :	CCV03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:36:36	DataFile Name :	043CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	49472.01	48946.57	49168.20	49195.60	0.54	ppb
Antimony	121-1	492.63	489.62	485.44	489.23	0.74	ppb
Arsenic	75-2	491.23	482.73	497.90	490.62	1.55	ppb
Barium	135-1	2523.32	2512.96	2457.24	2497.84	1.42	ppb
Barium	137-1	2456.52	2477.41	2470.33	2468.09	0.43	ppb
Beryllium	9-1	508.17	519.48	511.97	513.21	1.12	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	473.08	481.80	459.77	471.55	2.35	ppb
Cadmium	106-1	484.90	473.99	481.25	480.05	1.16	ppb
Cadmium	111-1	475.58	481.44	477.37	478.13	0.63	ppb
Calcium	43-1	241207.54	243047.34	246264.55	243506.48	1.05	ppb
Calcium	44-1	240009.84	245635.60	247146.09	244263.84	1.54	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	486.05	482.85	487.44	485.45	0.49	ppb
Cobalt	59-2	498.47	491.61	500.12	496.74	0.91	ppb
Copper	63-2	4983.86	4986.84	4876.60	4949.10	1.27	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				107		%
Holmium	165-2				106		%
Indium	115-1				102		%
Indium	115-2				101		%
Iron	56-2	125177.70	125624.85	123769.50	124857.35	0.78	ppb
Iron	57-2	124227.31	124461.89	122572.07	123753.76	0.83	ppb
Iron	54-2	124440.55	124390.88	124283.12	124371.52	0.06	ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV03	Instrumnet Name :	P7
Client Sample ID :	CCV03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:36:36	DataFile Name :	043CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2544.55	2552.02	2541.35	2545.97	0.22	ppb
Lead	207-1	2563.15	2520.09	2587.48	2556.91	1.33	ppb
Lead	208-1	2515.33	2518.59	2554.81	2529.58	0.87	ppb
Lithium	6-1				98		%
Magnesium	24-2	247680.56	242746.46	245874.26	245433.76	1.02	ppb
Manganese	55-2	4940.54	4983.54	4937.38	4953.82	0.52	ppb
Molybdenum	94-1	4894.39	4999.82	5029.55	4974.59	1.43	ppb
Molybdenum	95-1	4985.84	5045.24	4961.91	4997.66	0.86	ppb
Molybdenum	96-1	4969.60	5008.84	4967.01	4981.82	0.47	ppb
Molybdenum	97-1	4907.60	4967.29	4938.32	4937.74	0.60	ppb
Molybdenum	98-1	4923.13	4984.09	4975.41	4960.87	0.66	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	492.99	487.94	484.81	488.58	0.84	ppb
Phosphorus	31-2	9907.67	10046.71	10035.17	9996.52	0.77	ppb
Potassium	39-2	122326.17	120800.70	122093.62	121740.16	0.68	ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-1				104		%
Scandium	45-2				102		%
Selenium	82-1	464.29	466.69	461.78	464.26	0.53	ppb
Selenium	77-2	472.33	477.50	485.35	478.39	1.37	ppb
Selenium	78-2	464.24	477.56	478.50	473.43	1.69	ppb
Silicon	28-1	389.65	405.16	428.75	407.86	4.83	ppb
Silver	107-1	485.43	491.34	482.25	486.34	0.95	ppb
Silver	109-1	497.63	493.89	489.62	493.71	0.81	ppb
Sodium	23-2	250592.37	250460.68	248251.06	249768.04	0.53	ppb
Strontium	86-1	480.21	486.43	481.40	482.68	0.68	ppb
Strontium	88-1	493.75	493.25	500.42	495.81	0.81	ppb
Sulfur	34-1	8971.18	8964.02	8857.97	8931.06	0.71	ppb
Terbium	159-1				106		%
Terbium	159-2				106		%
Thallium	203-1	518.66	498.79	516.78	511.41	2.15	ppb
Thallium	205-1	512.93	509.60	517.58	513.37	0.78	ppb
Tin	118-1	495.90	502.44	479.12	492.49	2.44	ppb
Titanium	47-1	4877.40	4980.32	5064.76	4974.16	1.89	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV03	Instrumnet Name :	P7
Client Sample ID :	CCV03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:36:36	DataFile Name :	043CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	512.63	506.11	512.98	510.57	0.76	ppb
Vanadium	51-2	490.93	488.39	491.81	490.38	0.36	ppb
Yttrium	89-1				105		%
Yttrium	89-2				106		%
Zinc	66-2	4830.25	4785.97	4656.74	4757.65	1.89	ppb
Zirconium	90-1	489.02	504.56	502.72	498.77	1.70	ppb
Zirconium	91-1	480.59	488.63	487.59	485.60	0.90	ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB03	Instrumnet Name :	P7
Client Sample ID :	CCB03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:41:09	DataFile Name :	044CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.14	0.71	1.10	0.98	23.91	ppb
Antimony	121-1	0.07	0.06	0.10	0.08	26.64	ppb
Arsenic	75-2	0.02	0.06	0.06	0.04	47.68	ppb
Barium	135-1	0.01	0.00	0.03	0.01	102.06	ppb
Barium	137-1	0.03	0.02	0.04	0.03	29.79	ppb
Beryllium	9-1	0.04	0.01	0.02	0.02	56.75	ppb
Bismuth	209-1				106		%
Bismuth	209-2				107		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.11	0.18	0.07	0.12	45.59	ppb
Cadmium	106-1	-1.35	-3.19	-2.63	-2.39		ppb
Cadmium	111-1	-0.10	-0.22	-0.17	-0.16		ppb
Calcium	43-1	-0.05	-0.18	-1.19	-0.47		ppb
Calcium	44-1	1.47	0.27	3.40	1.71	92.41	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.61	-0.56	-0.59	-0.59		ppb
Cobalt	59-2	0.00	0.01	0.01	0.01	37.83	ppb
Copper	63-2	-0.01	0.08	-0.03	0.01	506.97	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				105		%
Indium	115-1				104		%
Indium	115-2				106		%
Iron	56-2	-1.87	-2.16	-1.93	-1.99		ppb
Iron	57-2	-4.44	-5.23	-5.79	-5.15		ppb
Iron	54-2	-3.06	-1.50	-3.34	-2.63		ppb
Krypton	83-1						cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB03	Instrumnet Name :	P7
Client Sample ID :	CCB03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:41:09	DataFile Name :	044CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.02	0.03	0.02	0.02	37.12	ppb
Lead	207-1	0.03	0.03	0.01	0.02	38.76	ppb
Lead	208-1	0.02	0.03	0.02	0.03	9.07	ppb
Lithium	6-1				97		%
Magnesium	24-2	3.01	3.22	3.47	3.23	7.01	ppb
Manganese	55-2	-5.31	-5.25	-5.25	-5.27		ppb
Molybdenum	94-1	0.13	0.13	0.14	0.14	2.19	ppb
Molybdenum	95-1	0.05	0.03	0.07	0.05	33.56	ppb
Molybdenum	96-1	0.05	0.06	0.08	0.06	23.34	ppb
Molybdenum	97-1	0.05	0.04	0.06	0.05	13.83	ppb
Molybdenum	98-1	0.04	0.04	0.07	0.05	36.66	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.39	-0.33	-0.36	-0.36		ppb
Phosphorus	31-2	-24.85	-23.42	-15.49	-21.25		ppb
Potassium	39-2	-16.61	-15.74	-16.33	-16.23		ppb
Rhodium	103-1				103		%
Rhodium	103-2				106		%
Scandium	45-1				102		%
Scandium	45-2				101		%
Selenium	82-1	0.57	-0.34	-0.38	-0.05		ppb
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	2.08	1.62	-0.54	1.05	132.48	ppb
Silicon	28-1	-198.01	-201.62	-202.13	-200.59		ppb
Silver	107-1	0.00	0.00	0.01	0.01	102.59	ppb
Silver	109-1	0.01	0.01	0.01	0.01	27.98	ppb
Sodium	23-2	10.06	9.61	7.68	9.11	13.88	ppb
Strontium	86-1	-0.02	-0.02	0.02	-0.01		ppb
Strontium	88-1	0.00	0.00	0.00	0.00	15.91	ppb
Sulfur	34-1	-2482.97	-2510.71	-2439.17	-2477.61		ppb
Terbium	159-1				104		%
Terbium	159-2				106		%
Thallium	203-1	0.03	0.03	0.04	0.03	24.33	ppb
Thallium	205-1	0.02	0.03	0.03	0.03	10.27	ppb
Tin	118-1	-0.03	0.01	-0.01	-0.01		ppb
Titanium	47-1	-0.04	-0.01	0.03	-0.01		ppb

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB03	Instrumnet Name :	P7
Client Sample ID :	CCB03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:41:09	DataFile Name :	044CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	10.22	ppb
Vanadium	51-2	0.00	0.01	0.01	0.01	75.77	ppb
Yttrium	89-1				104		%
Yttrium	89-2				107		%
Zinc	66-2	-0.01	0.09	0.04	0.04	125.70	ppb
Zirconium	90-1	0.05	0.05	0.06	0.05	14.04	ppb
Zirconium	91-1	0.01	0.02	0.05	0.03	73.70	ppb

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P7
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:09:51	DataFile Name :	004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	273	270	287	277	3.19	cps
Antimony	121-1	23	13	23	20	28.87	cps
Arsenic	75-2	3	0	0	1	173.21	cps
Barium	135-1	17	13	10	13	25.01	cps
Barium	137-1	33	27	33	31	12.36	cps
Beryllium	9-1	20	27	40	29	35.25	cps
Bismuth	209-1	3586698	3534273	3595148	3572040	0.92	cps
Bismuth	209-2	3240345	3220033	3297308	3252562	1.23	cps
Bromine	81-1	26651	27025	26284	26653	1.39	cps
Bromine	81-2	150	200	147	166	18.05	cps
Cadmium	108-1	7	3	0	3	100.05	cps
Cadmium	106-1	1630	1570	1600	1600	1.88	cps
Cadmium	111-1	1153	1107	1123	1128	2.08	cps
Calcium	43-1	227	227	247	233	4.95	cps
Calcium	44-1	6301	6255	6315	6290	0.50	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1673	1807	1763	1748	3.89	cps
Cobalt	59-2	57	60	50	56	9.17	cps
Copper	63-2	1777	1827	1583	1729	7.43	cps
Dysprosium	156-1	3	3	7	4	43.40	cps
Dysprosium	156-2	0	0	0	0	0.00	cps
Erbium	164-1	27	30	43	33	26.45	cps
Erbium	164-2	30	20	27	26	19.92	cps
Gadolinium	160-1	30	17	30	26	30.11	cps
Gadolinium	160-2	267	223	213	234	12.09	cps
Holmium	165-1	5947637	5905508	5931052	5928065	0.36	cps
Holmium	165-2	4503710	4411426	4405688	4440275	1.24	cps
Indium	115-1	4929124	4974633	5026046	4976601	0.97	cps
Indium	115-2	1936629	1861252	1894947	1897609	1.99	cps
Iron	56-2	24507	23886	25144	24512	2.57	cps
Iron	57-2	1387	1243	1283	1305	5.67	cps
Iron	54-2	2580	2530	2454	2521	2.53	cps
Krypton	83-1	360	377	330	356	6.65	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P7
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:09:51	DataFile Name :	004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	383	380	440	401	8.41	cps
Lead	207-1	387	337	343	356	7.64	cps
Lead	208-1	1700	1590	1580	1623	4.10	cps
Lithium	6-1	375577	372715	375475	374589	0.43	cps
Magnesium	24-2	193	170	160	174	9.81	cps
Manganese	55-2	8753	9029	9260	9014	2.82	cps
Molybdenum	94-1	147	123	117	129	12.22	cps
Molybdenum	95-1	77	33	30	47	55.79	cps
Molybdenum	96-1	197	130	143	157	22.52	cps
Molybdenum	97-1	100	30	10	47	101.27	cps
Molybdenum	98-1	140	70	77	96	40.43	cps
Neodymium	150-1	7	3	3	4	43.40	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	383	427	437	416	6.82	cps
Phosphorus	31-2	200	253	193	216	15.26	cps
Potassium	39-2	47678	47531	47965	47725	0.46	cps
Rhodium	103-1	4729886	4623932	4637512	4663777	1.24	cps
Rhodium	103-2	2815429	2858256	2887995	2853893	1.28	cps
Scandium	45-1	2758670	2685755	2735855	2726760	1.37	cps
Scandium	45-2	239736	233954	240662	238117	1.53	cps
Selenium	82-1	267	189	212	223	18.09	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	670	650	663	661	1.54	cps
Silicon	28-1	1322892	1328036	1327254	1326061	0.21	cps
Silver	107-1	50	23	43	39	35.69	cps
Silver	109-1	30	17	27	24	28.38	cps
Sodium	23-2	12088	12452	12378	12306	1.56	cps
Strontium	86-1	530	493	563	529	6.62	cps
Strontium	88-1	73	87	77	79	8.80	cps
Sulfur	34-1	132858	134005	132754	133205	0.52	cps
Terbium	159-1	6170498	6127780	6090752	6129677	0.65	cps
Terbium	159-2	4432743	4441906	4379679	4418109	0.76	cps
Thallium	203-1	53	83	83	73	23.62	cps
Thallium	205-1	160	140	163	154	8.17	cps
Tin	118-1	630	617	760	669	11.84	cps
Titanium	47-1	60	60	80	67	17.32	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P7
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:09:51	DataFile Name :	004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	10	13	13	12	15.73	cps
Vanadium	51-2	10	13	3	9	57.30	cps
Yttrium	89-1	7249532	7190078	7261172	7233594	0.53	cps
Yttrium	89-2	2034988	1998609	1955785	1996460	1.99	cps
Zinc	66-2	213	167	217	199	14.06	cps
Zirconium	90-1	257	347	243	282	19.92	cps
Zirconium	91-1	63	63	73	67	8.66	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P7
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:16:28	DataFile Name :	006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2200	2360	2387	2316	4.36	cps
Antimony	121-1	9510	9487	9537	9511	0.26	cps
Arsenic	75-2	343	313	350	336	5.82	cps
Barium	135-1	11858	11715	12038	11871	1.37	cps
Barium	137-1	20905	21039	21890	21278	2.51	cps
Beryllium	9-1	763	643	727	711	8.65	cps
Bismuth	209-1	3641933	3530402	3713402	3628579	2.54	cps
Bismuth	209-2	3395811	3259742	3316018	3323857	2.06	cps
Bromine	81-1	27275	27145	27095	27172	0.34	cps
Bromine	81-2	200	167	150	172	14.78	cps
Cadmium	108-1	90	100	123	104	16.38	cps
Cadmium	106-1	1837	1727	1650	1738	5.40	cps
Cadmium	111-1	2640	2422	2542	2535	4.30	cps
Calcium	43-1	6855	7252	7098	7068	2.83	cps
Calcium	44-1	118777	118391	118807	118658	0.20	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	5858	5774	5588	5740	2.41	cps
Cobalt	59-2	3337	3400	3637	3458	4.57	cps
Copper	63-2	6588	6345	6325	6419	2.28	cps
Dysprosium	156-1	3	13	3	7	86.65	cps
Dysprosium	156-2	3	0	3	2	86.60	cps
Erbium	164-1	40	37	67	48	34.42	cps
Erbium	164-2	30	17	23	23	28.56	cps
Gadolinium	160-1	23	40	33	32	26.04	cps
Gadolinium	160-2	217	220	273	237	13.44	cps
Holmium	165-1	6107976	5792617	6142766	6014453	3.21	cps
Holmium	165-2	4609014	4472466	4499440	4526973	1.60	cps
Indium	115-1	5129531	4891569	5220619	5080573	3.34	cps
Indium	115-2	1946680	1916263	1958243	1940395	1.12	cps
Iron	56-2	124275	122021	120229	122175	1.66	cps
Iron	57-2	3987	3777	3864	3876	2.72	cps
Iron	54-2	8106	7642	8116	7954	3.40	cps
Krypton	83-1	370	290	333	331	12.09	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P7
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:16:28	DataFile Name :	006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	3777	3931	3761	3823	2.45	cps
Lead	207-1	3434	3417	3547	3466	2.04	cps
Lead	208-1	15330	15524	15784	15546	1.46	cps
Lithium	6-1	395244	379275	397743	390754	2.56	cps
Magnesium	24-2	92426	90582	91477	91495	1.01	cps
Manganese	55-2	10934	10734	11067	10912	1.54	cps
Molybdenum	94-1	9920	10784	10347	10350	4.17	cps
Molybdenum	95-1	12172	12622	12599	12464	2.03	cps
Molybdenum	96-1	13763	13850	13650	13754	0.73	cps
Molybdenum	97-1	7769	7475	7755	7667	2.16	cps
Molybdenum	98-1	19353	20067	19854	19758	1.86	cps
Neodymium	150-1	10	10	20	13	43.30	cps
Neodymium	150-2	0	3	0	1	173.21	cps
Nickel	60-2	1213	1467	1267	1316	10.15	cps
Phosphorus	31-2	413	433	420	422	2.41	cps
Potassium	39-2	167885	167945	166779	167536	0.39	cps
Rhodium	103-1	4820313	4596193	4766117	4727541	2.47	cps
Rhodium	103-2	3002792	2929752	2915996	2949513	1.58	cps
Scandium	45-1	2841703	2687675	2831360	2786913	3.09	cps
Scandium	45-2	246468	243708	244235	244804	0.60	cps
Selenium	82-1	779	787	804	790	1.58	cps
Selenium	77-2	50	73	70	64	19.58	cps
Selenium	78-2	927	753	790	823	11.10	cps
Silicon	28-1	1320409	1294812	1290804	1302008	1.23	cps
Silver	107-1	6752	6555	6568	6625	1.66	cps
Silver	109-1	6365	6171	6391	6309	1.90	cps
Sodium	23-2	156914	155205	157267	156462	0.71	cps
Strontium	86-1	2094	2154	2190	2146	2.27	cps
Strontium	88-1	14431	14494	14701	14542	0.97	cps
Sulfur	34-1	138282	137663	138120	138022	0.23	cps
Terbium	159-1	6294126	5968513	6203545	6155395	2.73	cps
Terbium	159-2	4566923	4344716	4509447	4473695	2.58	cps
Thallium	203-1	4277	4454	4331	4354	2.08	cps
Thallium	205-1	10134	10297	10131	10187	0.94	cps
Tin	118-1	21403	20979	21456	21279	1.23	cps
Titanium	47-1	3004	3210	3067	3094	3.42	cps

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P7
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:16:28	DataFile Name :	006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	13123	13280	13574	13326	1.72	cps
Vanadium	51-2	9143	8786	8849	8926	2.13	cps
Yttrium	89-1	7517032	7031248	7379133	7309137	3.43	cps
Yttrium	89-2	2112739	2036364	2099225	2082776	1.96	cps
Zinc	66-2	2387	2397	2364	2382	0.72	cps
Zirconium	90-1	8639	8613	8489	8580	0.93	cps
Zirconium	91-1	1837	2100	2020	1986	6.80	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P7
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:19:46	DataFile Name :	007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	101714	102087	100316	101372	0.92	cps
Antimony	121-1	224086	228501	230316	227634	1.41	cps
Arsenic	75-2	14093	13917	14053	14021	0.66	cps
Barium	135-1	284989	288779	293041	288936	1.39	cps
Barium	137-1	497042	504396	507647	503028	1.08	cps
Beryllium	9-1	30580	30480	31312	30791	1.47	cps
Bismuth	209-1	3714900	3761852	3801603	3759452	1.15	cps
Bismuth	209-2	3350794	3431857	3337162	3373271	1.52	cps
Bromine	81-1	26898	26998	27282	27059	0.74	cps
Bromine	81-2	190	193	130	171	20.83	cps
Cadmium	108-1	4848	4881	4734	4821	1.60	cps
Cadmium	106-1	8453	8473	8426	8450	0.28	cps
Cadmium	111-1	67127	69006	69069	68401	1.61	cps
Calcium	43-1	65665	66334	66247	66082	0.55	cps
Calcium	44-1	1065860	1082096	1081551	1076502	0.86	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	98835	98392	98083	98436	0.38	cps
Cobalt	59-2	158754	154588	153981	155774	1.67	cps
Copper	63-2	1080694	1081037	1071136	1077622	0.52	cps
Dysprosium	156-1	17	7	20	14	48.02	cps
Dysprosium	156-2	7	13	0	7	99.98	cps
Erbium	164-1	60	53	40	51	19.92	cps
Erbium	164-2	57	33	40	43	27.74	cps
Gadolinium	160-1	27	20	13	20	33.35	cps
Gadolinium	160-2	257	210	220	229	10.74	cps
Holmium	165-1	6186591	6122082	6164650	6157774	0.53	cps
Holmium	165-2	4617364	4678117	4574110	4623197	1.13	cps
Indium	115-1	5204945	5191095	5199036	5198359	0.13	cps
Indium	115-2	1937791	1927020	1914773	1926528	0.60	cps
Iron	56-2	4646079	4695715	4661337	4667710	0.54	cps
Iron	57-2	118604	119188	116753	118182	1.08	cps
Iron	54-2	265150	266006	260387	263848	1.15	cps
Krypton	83-1	307	320	340	322	5.21	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P7
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:19:46	DataFile Name :	007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	834625	845858	859021	846501	1.44	cps
Lead	207-1	729939	741966	746214	739373	1.14	cps
Lead	208-1	3450973	3494796	3521958	3489242	1.03	cps
Lithium	6-1	404278	400870	405534	403561	0.60	cps
Magnesium	24-2	864953	865814	860110	863625	0.36	cps
Manganese	55-2	785757	785038	774803	781866	0.78	cps
Molybdenum	94-1	810654	821524	822789	818322	0.82	cps
Molybdenum	95-1	1156564	1178090	1174738	1169798	0.99	cps
Molybdenum	96-1	1271019	1286254	1286695	1281323	0.70	cps
Molybdenum	97-1	721929	739518	739837	733761	1.40	cps
Molybdenum	98-1	1908710	1923949	1932903	1921854	0.64	cps
Neodymium	150-1	17	20	3	13	66.16	cps
Neodymium	150-2	3	3	17	8	99.04	cps
Nickel	60-2	40484	40612	39823	40306	1.05	cps
Phosphorus	31-2	6251	6125	5948	6108	2.50	cps
Potassium	39-2	630801	633229	629034	631021	0.33	cps
Rhodium	103-1	4868001	4779890	4825893	4824594	0.91	cps
Rhodium	103-2	2938437	2905277	2878485	2907400	1.03	cps
Scandium	45-1	2878868	2834387	2904051	2872436	1.23	cps
Scandium	45-2	242898	245255	241448	243200	0.79	cps
Selenium	82-1	5322	5421	5539	5427	2.01	cps
Selenium	77-2	513	637	580	577	10.71	cps
Selenium	78-2	2410	2524	2457	2464	2.31	cps
Silicon	28-1	1434126	1415044	1423612	1424261	0.67	cps
Silver	107-1	320100	322845	322798	321914	0.49	cps
Silver	109-1	303542	305234	305708	304828	0.37	cps
Sodium	23-2	1473930	1482685	1441464	1466026	1.48	cps
Strontium	86-1	76782	78018	77881	77560	0.87	cps
Strontium	88-1	669535	678959	680711	676402	0.89	cps
Sulfur	34-1	158021	158977	158337	158445	0.31	cps
Terbium	159-1	6332825	6362004	6351470	6348767	0.23	cps
Terbium	159-2	4626596	4567881	4468513	4554330	1.75	cps
Thallium	203-1	206502	209950	212393	209615	1.41	cps
Thallium	205-1	474562	486193	489873	483543	1.65	cps
Tin	118-1	198660	202047	202388	201031	1.03	cps
Titanium	47-1	292653	296279	294018	294316	0.62	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P7
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:19:46	DataFile Name :	007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	628264	643675	650460	640799	1.77	cps
Vanadium	51-2	83308	83737	81736	82927	1.27	cps
Yttrium	89-1	7585255	7478347	7509761	7524454	0.73	cps
Yttrium	89-2	2067860	2118686	2067386	2084644	1.41	cps
Zinc	66-2	209116	207756	208381	208418	0.33	cps
Zirconium	90-1	395537	403219	404593	401116	1.22	cps
Zirconium	91-1	87636	88602	89185	88474	0.88	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P7
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:23:02	DataFile Name :	008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	245454	246992	244517	245654	0.51	cps
Antimony	121-1	553907	563240	566412	561186	1.16	cps
Arsenic	75-2	33912	34076	33855	33948	0.34	cps
Barium	135-1	705733	708366	715257	709785	0.69	cps
Barium	137-1	1223149	1240266	1242835	1235417	0.87	cps
Beryllium	9-1	75338	73610	74056	74335	1.21	cps
Bismuth	209-1	3569404	3639769	3665222	3624798	1.37	cps
Bismuth	209-2	3357454	3356809	3347423	3353895	0.17	cps
Bromine	81-1	25392	25532	25739	25554	0.68	cps
Bromine	81-2	183	173	177	178	2.86	cps
Cadmium	108-1	11855	12219	11591	11888	2.65	cps
Cadmium	106-1	17871	18222	17721	17938	1.43	cps
Cadmium	111-1	163164	165948	164766	164626	0.85	cps
Calcium	43-1	159584	159876	161729	160396	0.73	cps
Calcium	44-1	2598831	2562616	2601519	2587655	0.84	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	241162	239958	239375	240165	0.38	cps
Cobalt	59-2	378270	379113	374835	377406	0.60	cps
Copper	63-2	2724870	2685125	2697619	2702538	0.75	cps
Dysprosium	156-1	10	10	13	11	17.30	cps
Dysprosium	156-2	43	37	30	37	18.18	cps
Erbium	164-1	33	60	70	54	34.82	cps
Erbium	164-2	63	27	33	41	47.50	cps
Gadolinium	160-1	33	13	27	24	41.66	cps
Gadolinium	160-2	227	237	200	221	8.57	cps
Holmium	165-1	6006408	5965022	5960619	5977350	0.42	cps
Holmium	165-2	4603314	4565436	4677831	4615527	1.24	cps
Indium	115-1	5030635	4973975	5021832	5008814	0.61	cps
Indium	115-2	1904457	1909321	1872847	1895542	1.04	cps
Iron	56-2	11401948	11599481	11552896	11518108	0.90	cps
Iron	57-2	287672	286764	288281	287572	0.27	cps
Iron	54-2	630372	627931	637066	631789	0.75	cps
Krypton	83-1	287	367	323	326	12.30	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P7
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:23:02	DataFile Name :	008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2181980	2224244	2218805	2208343	1.04	cps
Lead	207-1	1950923	1952519	1954517	1952653	0.09	cps
Lead	208-1	8874581	8889030	8936934	8900181	0.37	cps
Lithium	6-1	392986	385591	391073	389883	0.98	cps
Magnesium	24-2	2239342	2206432	2229049	2224941	0.76	cps
Manganese	55-2	1953120	1915124	1952160	1940135	1.12	cps
Molybdenum	94-1	2039749	2074067	2039339	2051051	0.97	cps
Molybdenum	95-1	2918371	2996862	2964918	2960050	1.33	cps
Molybdenum	96-1	3198321	3249395	3232294	3226670	0.81	cps
Molybdenum	97-1	1793715	1832350	1860863	1828976	1.84	cps
Molybdenum	98-1	4713419	4844036	4726188	4761215	1.51	cps
Neodymium	150-1	57	20	30	36	53.31	cps
Neodymium	150-2	10	13	10	11	17.30	cps
Nickel	60-2	96495	97844	96253	96864	0.88	cps
Phosphorus	31-2	14610	14550	14554	14571	0.23	cps
Potassium	39-2	1448494	1428320	1470343	1449052	1.45	cps
Rhodium	103-1	4605913	4684375	4602755	4631014	1.00	cps
Rhodium	103-2	2805656	2859624	2913996	2859759	1.89	cps
Scandium	45-1	2736794	2668252	2730824	2711957	1.40	cps
Scandium	45-2	236379	233678	233493	234517	0.69	cps
Selenium	82-1	12730	12786	12778	12765	0.24	cps
Selenium	77-2	1393	1520	1473	1462	4.38	cps
Selenium	78-2	5144	5511	5238	5298	3.60	cps
Silicon	28-1	1570910	1564392	1569066	1568122	0.21	cps
Silver	107-1	777797	789052	776449	781099	0.89	cps
Silver	109-1	737117	748484	740436	742012	0.79	cps
Sodium	23-2	3592841	3518739	3522023	3544534	1.18	cps
Strontium	86-1	188183	190378	190824	189795	0.74	cps
Strontium	88-1	1703515	1703342	1714759	1707205	0.38	cps
Sulfur	34-1	179747	178662	176223	178210	1.01	cps
Terbium	159-1	6144473	6236837	6188448	6189919	0.75	cps
Terbium	159-2	4509315	4468532	4563712	4513853	1.06	cps
Thallium	203-1	512659	517135	519667	516487	0.69	cps
Thallium	205-1	1195917	1201897	1217375	1205063	0.92	cps
Tin	118-1	494008	495292	498084	495795	0.42	cps
Titanium	47-1	707975	715154	714383	712504	0.55	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P7
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:23:02	DataFile Name :	008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1589163	1605688	1611314	1602055	0.72	cps
Vanadium	51-2	202213	202844	199879	201646	0.77	cps
Yttrium	89-1	7155062	7273121	7258563	7228915	0.89	cps
Yttrium	89-2	2040864	2024524	2026913	2030767	0.43	cps
Zinc	66-2	507672	510952	512507	510377	0.48	cps
Zirconium	90-1	959173	984790	976354	973439	1.34	cps
Zirconium	91-1	215575	219212	218872	217886	0.92	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P7
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:26:05	DataFile Name :	009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	465490	456986	460189	460888	0.93	cps
Antimony	121-1	1059160	1089589	1079418	1076056	1.44	cps
Arsenic	75-2	65356	63890	64694	64647	1.14	cps
Barium	135-1	1341508	1372130	1369409	1361016	1.25	cps
Barium	137-1	2490581	2521688	2491539	2501269	0.71	cps
Beryllium	9-1	141896	143439	144806	143380	1.02	cps
Bismuth	209-1	3625097	3705015	3670696	3666936	1.09	cps
Bismuth	209-2	3330045	3322011	3262968	3305008	1.11	cps
Bromine	81-1	24524	24784	24217	24508	1.16	cps
Bromine	81-2	137	187	203	176	19.76	cps
Cadmium	108-1	22718	23058	22294	22690	1.69	cps
Cadmium	106-1	31875	32817	33188	32627	2.07	cps
Cadmium	111-1	306000	313376	315991	311789	1.66	cps
Calcium	43-1	297893	305904	300425	301408	1.36	cps
Calcium	44-1	4752411	4923126	4909496	4861678	1.95	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	451730	448065	441965	447253	1.10	cps
Cobalt	59-2	710738	710422	714290	711816	0.30	cps
Copper	63-2	5089516	5112776	5011717	5071336	1.04	cps
Dysprosium	156-1	17	17	43	26	60.23	cps
Dysprosium	156-2	60	80	43	61	30.04	cps
Erbium	164-1	60	57	60	59	3.26	cps
Erbium	164-2	33	60	43	46	29.58	cps
Gadolinium	160-1	13	37	23	24	47.91	cps
Gadolinium	160-2	247	160	247	218	22.98	cps
Holmium	165-1	5967748	5931910	6014128	5971262	0.69	cps
Holmium	165-2	4535869	4607489	4536155	4559838	0.91	cps
Indium	115-1	4836629	4911740	4771538	4839969	1.45	cps
Indium	115-2	1882858	1818519	1793046	1831474	2.53	cps
Iron	56-2	21512221	21653233	21724398	21629951	0.50	cps
Iron	57-2	542798	544626	539918	542447	0.44	cps
Iron	54-2	1201411	1195478	1209264	1202051	0.58	cps
Krypton	83-1	283	330	300	304	7.77	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P7
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:26:05	DataFile Name :	009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4257199	4357550	4372277	4329008	1.45	cps
Lead	207-1	3779708	3927694	3950382	3885928	2.39	cps
Lead	208-1	17134380	17606438	17835718	17525512	2.04	cps
Lithium	6-1	387890	392704	389532	390042	0.63	cps
Magnesium	24-2	4238074	4087383	4186243	4170567	1.84	cps
Manganese	55-2	3659010	3636693	3724509	3673404	1.24	cps
Molybdenum	94-1	3847926	3922771	3935929	3902209	1.22	cps
Molybdenum	95-1	5548293	5704277	5671497	5641356	1.46	cps
Molybdenum	96-1	6121610	6226844	6196006	6181487	0.88	cps
Molybdenum	97-1	3440365	3519028	3520226	3493207	1.31	cps
Molybdenum	98-1	8984813	9127690	9024139	9045547	0.82	cps
Neodymium	150-1	77	53	57	62	20.29	cps
Neodymium	150-2	23	27	13	21	32.88	cps
Nickel	60-2	182797	184393	181312	182834	0.84	cps
Phosphorus	31-2	27902	26703	26510	27038	2.79	cps
Potassium	39-2	2715515	2642281	2645466	2667754	1.55	cps
Rhodium	103-1	4530294	4453289	4387917	4457167	1.60	cps
Rhodium	103-2	2817902	2764145	2695930	2759325	2.22	cps
Scandium	45-1	2667551	2618194	2641877	2642541	0.93	cps
Scandium	45-2	226608	225630	224033	225424	0.58	cps
Selenium	82-1	23708	24246	24534	24163	1.74	cps
Selenium	77-2	2587	2560	2707	2618	2.98	cps
Selenium	78-2	9797	9310	9183	9430	3.44	cps
Silicon	28-1	1784022	1797460	1822631	1801371	1.09	cps
Silver	107-1	1467654	1485632	1488437	1480574	0.76	cps
Silver	109-1	1392818	1413890	1406242	1404317	0.76	cps
Sodium	23-2	6751764	6643217	6659578	6684853	0.88	cps
Strontium	86-1	356480	363767	362604	360950	1.08	cps
Strontium	88-1	3243127	3308164	3294878	3282057	1.05	cps
Sulfur	34-1	209678	208573	209172	209141	0.26	cps
Terbium	159-1	6086358	6183135	6065159	6111550	1.03	cps
Terbium	159-2	4517821	4431841	4424838	4458167	1.16	cps
Thallium	203-1	997806	1028652	1032022	1019493	1.85	cps
Thallium	205-1	2481428	2525010	2550265	2518901	1.38	cps
Tin	118-1	923375	952374	956959	944236	1.93	cps
Titanium	47-1	1364345	1379129	1385540	1376338	0.79	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P7
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:26:05	DataFile Name :	009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	3342112	3468468	3502596	3437725	2.46	cps
Vanadium	51-2	384484	379624	380690	381599	0.67	cps
Yttrium	89-1	7164158	7015729	6941114	7040334	1.61	cps
Yttrium	89-2	1947828	1964663	1885962	1932818	2.14	cps
Zinc	66-2	968294	963380	961201	964291	0.38	cps
Zirconium	90-1	1895273	1928437	1943575	1922428	1.29	cps
Zirconium	91-1	409981	424671	417584	417412	1.76	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P7
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:29:05	DataFile Name :	010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	904019	887947	887521	893162	1.05	cps
Antimony	121-1	2138499	2167576	2199515	2168530	1.41	cps
Arsenic	75-2	126605	125623	128699	126975	1.24	cps
Barium	135-1	2779651	2851287	2841153	2824030	1.37	cps
Barium	137-1	4821251	4822688	4869985	4837975	0.57	cps
Beryllium	9-1	273896	272601	273588	273362	0.25	cps
Bismuth	209-1	3523700	3535459	3594149	3551103	1.06	cps
Bismuth	209-2	3255018	3299347	3361700	3305355	1.62	cps
Bromine	81-1	23803	25061	24831	24565	2.73	cps
Bromine	81-2	170	153	217	180	18.24	cps
Cadmium	108-1	42335	43890	43809	43345	2.02	cps
Cadmium	106-1	61891	62192	62216	62100	0.29	cps
Cadmium	111-1	593332	601872	602186	599130	0.84	cps
Calcium	43-1	570454	582406	583930	578930	1.27	cps
Calcium	44-1	9310051	9515454	9399582	9408362	1.09	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	884300	881043	887647	884330	0.37	cps
Cobalt	59-2	1432741	1411616	1433596	1425984	0.87	cps
Copper	63-2	9962119	9909691	9983917	9951909	0.38	cps
Dysprosium	156-1	53	23	30	36	44.31	cps
Dysprosium	156-2	180	117	123	140	24.86	cps
Erbium	164-1	53	73	70	66	16.35	cps
Erbium	164-2	60	63	57	60	5.55	cps
Gadolinium	160-1	50	23	60	44	42.65	cps
Gadolinium	160-2	230	287	223	247	14.11	cps
Holmium	165-1	5799270	5823613	5788366	5803749	0.31	cps
Holmium	165-2	4653431	4521400	4563358	4579396	1.47	cps
Indium	115-1	4670661	4604825	4677062	4650849	0.86	cps
Indium	115-2	1797710	1818137	1835701	1817183	1.05	cps
Iron	56-2	42654423	42645006	43246631	42848687	0.80	cps
Iron	57-2	1065188	1075956	1084735	1075293	0.91	cps
Iron	54-2	2343015	2336352	2343000	2340789	0.16	cps
Krypton	83-1	303	313	283	300	5.09	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P7
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:29:05	DataFile Name :	010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	8433224	8669290	8626092	8576202	1.47	cps
Lead	207-1	7598369	7630376	7704968	7644571	0.72	cps
Lead	208-1	34118166	34765834	35058277	34647426	1.39	cps
Lithium	6-1	374374	371362	372522	372752	0.41	cps
Magnesium	24-2	8331209	7911995	8172268	8138491	2.60	cps
Manganese	55-2	7206168	7236550	7346514	7263077	1.02	cps
Molybdenum	94-1	7494463	7653573	7719701	7622579	1.52	cps
Molybdenum	95-1	10736253	11075936	11143676	10985288	1.99	cps
Molybdenum	96-1	11864415	12045801	11869963	11926726	0.86	cps
Molybdenum	97-1	6720484	6872180	6967977	6853547	1.82	cps
Molybdenum	98-1	17440829	17859846	17898203	17732959	1.43	cps
Neodymium	150-1	97	143	143	128	21.09	cps
Neodymium	150-2	57	23	20	33	60.84	cps
Nickel	60-2	356382	354460	362478	357774	1.17	cps
Phosphorus	31-2	53530	52543	53570	53215	1.09	cps
Potassium	39-2	5288529	5242505	5206090	5245708	0.79	cps
Rhodium	103-1	4245644	4227205	4320667	4264505	1.16	cps
Rhodium	103-2	2761372	2751916	2737213	2750167	0.44	cps
Scandium	45-1	2447041	2505030	2522646	2491572	1.59	cps
Scandium	45-2	224608	222249	220931	222596	0.84	cps
Selenium	82-1	46014	45982	45948	45981	0.07	cps
Selenium	77-2	5024	5164	5281	5157	2.49	cps
Selenium	78-2	17824	18231	17721	17925	1.51	cps
Silicon	28-1	2263707	2378215	2442396	2361439	3.83	cps
Silver	107-1	2870173	2929851	2960050	2920025	1.57	cps
Silver	109-1	2782700	2760838	2856583	2800040	1.79	cps
Sodium	23-2	12947349	12876080	13056263	12959897	0.70	cps
Strontium	86-1	676898	692984	705087	691656	2.04	cps
Strontium	88-1	6259558	6333636	6427576	6340257	1.33	cps
Sulfur	34-1	271181	273939	271082	272067	0.60	cps
Terbium	159-1	5878403	5904953	5884712	5889356	0.24	cps
Terbium	159-2	4514685	4538945	4472287	4508639	0.75	cps
Thallium	203-1	2083109	2123051	2140222	2115460	1.39	cps
Thallium	205-1	5016711	5120103	5007470	5048094	1.24	cps
Tin	118-1	1881602	1928518	1934739	1914953	1.52	cps
Titanium	47-1	2659461	2704119	2699372	2687651	0.91	cps

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On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P7
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:29:05	DataFile Name :	010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	6798286	6879000	6845900	6841062	0.59	cps
Vanadium	51-2	749961	753068	759467	754165	0.64	cps
Yttrium	89-1	6761711	6728406	6859441	6783186	1.00	cps
Yttrium	89-2	1974366	1920158	1936824	1943783	1.43	cps
Zinc	66-2	1933884	1936176	1917403	1929154	0.53	cps
Zirconium	90-1	3709588	3732056	3870652	3770765	2.31	cps
Zirconium	91-1	799788	818967	814893	811216	1.25	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P7
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:31:55	DataFile Name :	011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1891540	1904232	1963307	1919693	2.00	cps
Antimony	121-1	4376540	4443210	4540502	4453417	1.85	cps
Arsenic	75-2	255460	256851	259007	257106	0.70	cps
Barium	135-1	5663126	5730064	5935724	5776305	2.46	cps
Barium	137-1	9805693	9943530	10145487	9964903	1.72	cps
Beryllium	9-1	526084	529399	533118	529534	0.66	cps
Bismuth	209-1	3532962	3528238	3572879	3544693	0.69	cps
Bismuth	209-2	3267151	3299597	3206588	3257779	1.45	cps
Bromine	81-1	25556	26597	25873	26009	2.05	cps
Bromine	81-2	167	197	177	180	8.49	cps
Cadmium	108-1	86258	86754	88605	87206	1.42	cps
Cadmium	106-1	122082	122371	124313	122922	0.99	cps
Cadmium	111-1	1189330	1208074	1220500	1205968	1.30	cps
Calcium	43-1	1155317	1168127	1187895	1170446	1.40	cps
Calcium	44-1	18637028	19036554	19090964	18921515	1.31	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1807768	1878753	1822551	1836357	2.04	cps
Cobalt	59-2	2938795	2911313	2952256	2934121	0.71	cps
Copper	63-2	20009704	20121792	20098862	20076786	0.29	cps
Dysprosium	156-1	60	57	70	62	11.15	cps
Dysprosium	156-2	237	273	287	266	9.75	cps
Erbium	164-1	80	100	90	90	11.11	cps
Erbium	164-2	83	47	47	59	35.94	cps
Gadolinium	160-1	47	57	40	48	17.56	cps
Gadolinium	160-2	217	217	273	236	13.89	cps
Holmium	165-1	5831753	5970188	5889304	5897082	1.18	cps
Holmium	165-2	4615343	4585738	4641497	4614193	0.60	cps
Indium	115-1	4632670	4734174	4809401	4725415	1.88	cps
Indium	115-2	1792406	1848805	1834186	1825132	1.60	cps
Iron	56-2	86637312	86075239	86948069	86553540	0.51	cps
Iron	57-2	2111768	2141884	2143724	2132458	0.84	cps
Iron	54-2	4783332	4809073	4849767	4814057	0.70	cps
Krypton	83-1	353	370	313	346	8.43	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P7
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:31:55	DataFile Name :	011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	17047972	17317753	17614022	17326583	1.63	cps
Lead	207-1	15216341	15312824	15762806	15430657	1.89	cps
Lead	208-1	68834122	69851330	71329240	70004897	1.79	cps
Lithium	6-1	364212	365308	367117	365546	0.40	cps
Magnesium	24-2	16590365	16412815	16455966	16486382	0.56	cps
Manganese	55-2	14838744	14836840	14808997	14828194	0.11	cps
Molybdenum	94-1	15426474	15650341	16060253	15712356	2.05	cps
Molybdenum	95-1	22220726	22591386	22744075	22518729	1.20	cps
Molybdenum	96-1	24102810	24563692	25031057	24565853	1.89	cps
Molybdenum	97-1	13574972	13933870	14169070	13892637	2.15	cps
Molybdenum	98-1	35101133	35988012	36597532	35895559	2.10	cps
Neodymium	150-1	253	280	277	270	5.38	cps
Neodymium	150-2	53	73	57	61	17.53	cps
Nickel	60-2	724338	726468	722685	724497	0.26	cps
Phosphorus	31-2	107666	108667	106091	107475	1.21	cps
Potassium	39-2	10841033	10755584	10712987	10769868	0.61	cps
Rhodium	103-1	4274664	4297490	4327053	4299736	0.61	cps
Rhodium	103-2	2762022	2776409	2754811	2764414	0.40	cps
Scandium	45-1	2515709	2534404	2547381	2532498	0.63	cps
Scandium	45-2	226012	227774	229407	227731	0.75	cps
Selenium	82-1	88413	90478	91408	90100	1.70	cps
Selenium	77-2	10247	9967	10294	10169	1.74	cps
Selenium	78-2	34661	35142	34834	34879	0.70	cps
Silicon	28-1	3621318	3747292	3921141	3763250	4.00	cps
Silver	107-1	5866741	5961169	6021032	5949647	1.31	cps
Silver	109-1	5590089	5613836	5654011	5619312	0.58	cps
Sodium	23-2	26311647	26187838	26175920	26225135	0.29	cps
Strontium	86-1	1399961	1499475	1487366	1462267	3.71	cps
Strontium	88-1	12836951	12983598	13173239	12997929	1.30	cps
Sulfur	34-1	425569	433255	434207	431011	1.10	cps
Terbium	159-1	6092686	6064933	6017108	6058242	0.63	cps
Terbium	159-2	4567374	4521915	4576086	4555125	0.64	cps
Thallium	203-1	4266820	4348196	4460745	4358587	2.23	cps
Thallium	205-1	10016846	10156804	10228659	10134103	1.06	cps
Tin	118-1	3842306	3986103	3919418	3915942	1.84	cps
Titanium	47-1	5446519	5421924	5534956	5467800	1.09	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P7
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:31:55	DataFile Name :	011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	13582468	13859932	13852057	13764819	1.15	cps
Vanadium	51-2	1564524	1589381	1624608	1592838	1.90	cps
Yttrium	89-1	6928757	6853768	6998742	6927089	1.05	cps
Yttrium	89-2	1991681	1960301	2018285	1990089	1.46	cps
Zinc	66-2	3830419	3799297	3807125	3812280	0.42	cps
Zirconium	90-1	7559091	7679061	7725458	7654537	1.12	cps
Zirconium	91-1	1657830	1716012	1724688	1699510	2.14	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P7
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:34:43	DataFile Name :	012CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	11323884	11184722	11326104	11278237	0.72	cps
Antimony	121-1	2570	2887	2854	2770	6.28	cps
Arsenic	75-2	127	187	130	148	22.82	cps
Barium	135-1	2537	2607	2624	2589	1.78	cps
Barium	137-1	4487	4744	4444	4559	3.56	cps
Beryllium	9-1	97	57	107	87	30.53	cps
Bismuth	209-1	3704869	3606574	3599727	3637056	1.62	cps
Bismuth	209-2	3268941	3271522	3250855	3263772	0.35	cps
Bromine	81-1	28227	29510	29423	29053	2.47	cps
Bromine	81-2	140	190	193	174	17.13	cps
Cadmium	108-1	37	43	60	47	25.75	cps
Cadmium	106-1	1800	1803	1743	1782	1.89	cps
Cadmium	111-1	1434	1402	1408	1415	1.21	cps
Calcium	43-1	6797293	6852689	6803250	6817744	0.45	cps
Calcium	44-1	109453238	111563945	111753698	110923627	1.15	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	19876	19573	19346	19598	1.36	cps
Cobalt	59-2	8913	8599	8666	8726	1.89	cps
Copper	63-2	7475	7405	7755	7545	2.46	cps
Dysprosium	156-1	123	193	180	166	22.45	cps
Dysprosium	156-2	160	167	83	137	33.89	cps
Erbium	164-1	200	283	270	251	17.83	cps
Erbium	164-2	187	210	223	207	8.98	cps
Gadolinium	160-1	170	167	190	176	7.19	cps
Gadolinium	160-2	360	413	353	376	8.76	cps
Holmium	165-1	6615604	6551324	6478923	6548617	1.04	cps
Holmium	165-2	4958153	4954721	4846043	4919639	1.30	cps
Indium	115-1	5311154	5332070	5216289	5286504	1.17	cps
Indium	115-2	2055118	2018820	2000318	2024752	1.38	cps
Iron	56-2	478894433	479631526	480158140	479561366	0.13	cps
Iron	57-2	12035227	11867243	12022500	11974990	0.78	cps
Iron	54-2	26634769	26251385	26366350	26417501	0.74	cps
Krypton	83-1	403	353	357	371	7.53	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P7
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:34:43	DataFile Name :	012CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	20202	20228	19911	20114	0.87	cps
Lead	207-1	17561	17281	17618	17487	1.03	cps
Lead	208-1	79440	80193	79758	79797	0.47	cps
Lithium	6-1	393095	398481	393965	395181	0.73	cps
Magnesium	24-2	96760445	93913365	95195772	95289861	1.50	cps
Manganese	55-2	9787	10073	9867	9909	1.49	cps
Molybdenum	94-1	4294	4011	4187	4164	3.44	cps
Molybdenum	95-1	3227	3037	3387	3217	5.45	cps
Molybdenum	96-1	16623	16730	16753	16702	0.42	cps
Molybdenum	97-1	2154	2404	2397	2318	6.15	cps
Molybdenum	98-1	5004	5058	5078	5046	0.75	cps
Neodymium	150-1	77	150	117	114	32.08	cps
Neodymium	150-2	67	63	87	72	17.48	cps
Nickel	60-2	4624	4661	4811	4699	2.11	cps
Phosphorus	31-2	243	297	243	261	11.79	cps
Potassium	39-2	62854762	61930452	63172951	62652722	1.03	cps
Rhodium	103-1	4695989	4642986	4686305	4675093	0.60	cps
Rhodium	103-2	2900083	2904347	2895241	2899890	0.16	cps
Scandium	45-1	2913637	3011917	2973855	2966469	1.67	cps
Scandium	45-2	262052	255224	260968	259415	1.41	cps
Selenium	82-1	404	445	414	421	5.14	cps
Selenium	77-2	7	0	0	2	173.21	cps
Selenium	78-2	653	670	650	658	1.63	cps
Silicon	28-1	1200770	1249483	1272750	1241001	2.96	cps
Silver	107-1	443	450	423	439	3.16	cps
Silver	109-1	363	330	443	379	15.37	cps
Sodium	23-2	150645791	150236484	150632944	150505073	0.15	cps
Strontium	86-1	6081	6088	6005	6058	0.76	cps
Strontium	88-1	48322	48904	49513	48913	1.22	cps
Sulfur	34-1	110335	117316	122832	116828	5.36	cps
Terbium	159-1	6837438	6808634	6775098	6807057	0.46	cps
Terbium	159-2	4877739	4795815	4923198	4865584	1.33	cps
Thallium	203-1	413	353	387	384	7.82	cps
Thallium	205-1	1020	960	933	971	4.57	cps
Tin	118-1	1310	1430	1277	1339	6.02	cps
Titanium	47-1	433	427	290	383	21.10	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P7
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:34:43	DataFile Name :	012CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	447	487	493	476	5.31	cps
Vanadium	51-2	460	520	470	483	6.65	cps
Yttrium	89-1	7855526	8016671	7990278	7954159	1.09	cps
Yttrium	89-2	2193956	2237808	2244345	2225370	1.23	cps
Zinc	66-2	24123	24500	24804	24476	1.39	cps
Zirconium	90-1	4367	4134	4227	4243	2.77	cps
Zirconium	91-1	860	993	943	932	7.23	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P7
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:48:13	DataFile Name :	014ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	48025	47768	47864	47886	0.27	cps
Antimony	121-1	879651	891558	890799	887336	0.75	cps
Arsenic	75-2	54747	54670	56129	55182	1.49	cps
Barium	135-1	116025	118199	117799	117341	0.99	cps
Barium	137-1	198311	204854	206369	203178	2.11	cps
Beryllium	9-1	57961	57860	58209	58010	0.31	cps
Bismuth	209-1	3667907	3693235	3673713	3678285	0.36	cps
Bismuth	209-2	3339285	3392481	3413959	3381908	1.14	cps
Bromine	81-1	28020	27960	27456	27812	1.11	cps
Bromine	81-2	147	173	163	161	8.36	cps
Cadmium	108-1	9133	8883	8889	8968	1.59	cps
Cadmium	106-1	13423	13610	13523	13519	0.69	cps
Cadmium	111-1	134360	135705	135185	135083	0.50	cps
Calcium	43-1	24687	25018	25271	24992	1.17	cps
Calcium	44-1	413457	414606	411738	413267	0.35	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	196294	192743	195815	194951	0.99	cps
Cobalt	59-2	309119	308024	313743	310295	0.98	cps
Copper	63-2	219568	217492	219816	218959	0.58	cps
Dysprosium	156-1	7	10	7	8	24.71	cps
Dysprosium	156-2	17	7	10	11	45.82	cps
Erbium	164-1	40	43	40	41	4.68	cps
Erbium	164-2	27	47	33	36	28.64	cps
Gadolinium	160-1	23	30	23	26	15.07	cps
Gadolinium	160-2	207	230	283	240	16.38	cps
Holmium	165-1	6049414	6125494	6176831	6117247	1.05	cps
Holmium	165-2	4672627	4604210	4660236	4645691	0.78	cps
Indium	115-1	5160439	5224950	5192593	5192661	0.62	cps
Indium	115-2	1996140	1922154	2000301	1972865	2.23	cps
Iron	56-2	3598721	3651393	3670254	3640123	1.02	cps
Iron	57-2	91171	91201	91329	91234	0.09	cps
Iron	54-2	208600	205636	208953	207730	0.88	cps
Krypton	83-1	360	343	293	332	10.44	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P7
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:48:13	DataFile Name :	014ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	705551	717676	714167	712465	0.88	cps
Lead	207-1	601109	611692	610123	607642	0.94	cps
Lead	208-1	2746415	2827075	2804245	2792578	1.49	cps
Lithium	6-1	373827	369970	370555	371451	0.56	cps
Magnesium	24-2	209488	209641	210755	209961	0.33	cps
Manganese	55-2	161948	159756	162726	161477	0.95	cps
Molybdenum	94-1	290	293	290	291	0.66	cps
Molybdenum	95-1	163	137	133	144	11.38	cps
Molybdenum	96-1	370	330	333	344	6.44	cps
Molybdenum	97-1	83	87	63	78	16.23	cps
Molybdenum	98-1	233	230	257	240	6.05	cps
Neodymium	150-1	10	10	17	12	31.50	cps
Neodymium	150-2	7	0	0	2	173.21	cps
Nickel	60-2	79617	79989	80615	80074	0.63	cps
Phosphorus	31-2	187	217	247	217	13.85	cps
Potassium	39-2	491627	489969	492087	491228	0.23	cps
Rhodium	103-1	4742291	4752870	4736167	4743776	0.18	cps
Rhodium	103-2	2979667	2914260	2985036	2959654	1.33	cps
Scandium	45-1	2769475	2848009	2769937	2795807	1.62	cps
Scandium	45-2	243707	241301	245116	243375	0.79	cps
Selenium	82-1	21572	21606	21562	21580	0.11	cps
Selenium	77-2	2424	2237	2594	2418	7.38	cps
Selenium	78-2	8759	8783	8686	8743	0.58	cps
Silicon	28-1	1253932	1234793	1237303	1242009	0.84	cps
Silver	107-1	308892	309232	309232	309119	0.06	cps
Silver	109-1	286746	295347	295717	292603	1.73	cps
Sodium	23-2	531380	530491	532150	531340	0.16	cps
Strontium	86-1	947	1060	883	963	9.29	cps
Strontium	88-1	3217	3437	3380	3345	3.42	cps
Sulfur	34-1	117201	117635	116053	116963	0.70	cps
Terbium	159-1	6175680	6275968	6370116	6273921	1.55	cps
Terbium	159-2	4629357	4604702	4625995	4620018	0.29	cps
Thallium	203-1	817308	845493	836909	833237	1.73	cps
Thallium	205-1	2034369	2084620	2115609	2078199	1.97	cps
Tin	118-1	730	810	813	784	6.01	cps
Titanium	47-1	70	60	57	62	11.15	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P7
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:48:13	DataFile Name :	014ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	43	30	37	37	18.18	cps
Vanadium	51-2	162926	164173	161313	162804	0.88	cps
Yttrium	89-1	7416481	7520716	7309083	7415427	1.43	cps
Yttrium	89-2	2118624	2086151	2138121	2114299	1.24	cps
Zinc	66-2	82996	81334	83378	82569	1.32	cps
Zirconium	90-1	560	630	660	617	8.32	cps
Zirconium	91-1	173	270	197	213	23.65	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	LLICV	Instrumnet Name :	P7
Client Sample ID :	LLICV	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:59:53	DataFile Name :	017LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2197	2360	2244	2267	3.71	cps
Antimony	121-1	9263	9860	9887	9670	3.65	cps
Arsenic	75-2	320	250	340	303	15.58	cps
Barium	135-1	11782	12829	13039	12550	5.37	cps
Barium	137-1	20615	21944	22354	21638	4.20	cps
Beryllium	9-1	720	663	643	676	5.89	cps
Bismuth	209-1	4022481	3903603	3851677	3925920	2.23	cps
Bismuth	209-2	3486156	3581579	3473627	3513787	1.68	cps
Bromine	81-1	29780	29653	29002	29478	1.42	cps
Bromine	81-2	227	203	153	194	19.27	cps
Cadmium	108-1	147	93	110	117	23.39	cps
Cadmium	106-1	1960	1637	1673	1757	10.08	cps
Cadmium	111-1	2636	2727	2611	2658	2.30	cps
Calcium	43-1	7008	7332	7499	7280	3.42	cps
Calcium	44-1	116782	122869	123144	120932	2.97	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	5684	5418	5384	5495	2.99	cps
Cobalt	59-2	3677	3600	3817	3698	2.97	cps
Copper	63-2	6645	6735	6648	6676	0.76	cps
Dysprosium	156-1	10	7	0	6	91.64	cps
Dysprosium	156-2	7	10	3	7	50.03	cps
Erbium	164-1	30	33	37	33	10.01	cps
Erbium	164-2	47	70	27	48	45.39	cps
Gadolinium	160-1	20	27	13	20	33.35	cps
Gadolinium	160-2	203	297	247	249	18.76	cps
Holmium	165-1	6601307	6289551	6218808	6369889	3.19	cps
Holmium	165-2	4810415	4813503	4757267	4793728	0.66	cps
Indium	115-1	5683363	5402906	5360677	5482316	3.20	cps
Indium	115-2	2079730	2042225	2019275	2047076	1.49	cps
Iron	56-2	125932	123391	124947	124757	1.03	cps
Iron	57-2	3871	3724	3987	3861	3.42	cps
Iron	54-2	8309	8272	8019	8200	1.93	cps
Krypton	83-1	650	290	350	430	44.86	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	LLICV	Instrumnet Name :	P7
Client Sample ID :	LLICV	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:59:53	DataFile Name :	017LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4154	3851	4131	4045	4.17	cps
Lead	207-1	3554	3591	3657	3601	1.46	cps
Lead	208-1	16417	16074	16417	16303	1.22	cps
Lithium	6-1	430383	400276	402108	410923	4.11	cps
Magnesium	24-2	94119	93110	93355	93528	0.56	cps
Manganese	55-2	11311	11645	10847	11268	3.55	cps
Molybdenum	94-1	10564	10981	10304	10616	3.22	cps
Molybdenum	95-1	11872	13343	12806	12673	5.87	cps
Molybdenum	96-1	13843	14748	14574	14388	3.34	cps
Molybdenum	97-1	7582	8126	8306	8004	4.71	cps
Molybdenum	98-1	19787	20491	20598	20292	2.17	cps
Neodymium	150-1	3	3	0	2	86.60	cps
Neodymium	150-2	0	0	3	1	173.21	cps
Nickel	60-2	1197	1207	1240	1215	1.87	cps
Phosphorus	31-2	413	400	473	429	9.11	cps
Potassium	39-2	172098	172209	170723	171677	0.48	cps
Rhodium	103-1	5164160	5031836	4972569	5056188	1.94	cps
Rhodium	103-2	3085341	3040741	3087639	3071240	0.86	cps
Scandium	45-1	3074700	2976307	2841857	2964288	3.94	cps
Scandium	45-2	250408	250400	249985	250265	0.10	cps
Selenium	82-1	743	808	839	796	6.17	cps
Selenium	77-2	57	60	47	54	12.74	cps
Selenium	78-2	790	863	913	856	7.25	cps
Silicon	28-1	1308909	1216058	1237175	1254047	3.88	cps
Silver	107-1	6418	6825	6852	6698	3.63	cps
Silver	109-1	5798	6852	6875	6508	9.45	cps
Sodium	23-2	161666	160022	158914	160201	0.86	cps
Strontium	86-1	2790	2520	2364	2558	8.44	cps
Strontium	88-1	14537	15702	15899	15379	4.78	cps
Sulfur	34-1	119284	121646	121838	120923	1.18	cps
Terbium	159-1	6868514	6553098	6578785	6666799	2.63	cps
Terbium	159-2	4819887	4800058	4809184	4809710	0.21	cps
Thallium	203-1	4434	4641	4714	4596	3.16	cps
Thallium	205-1	10284	11385	10681	10783	5.17	cps
Tin	118-1	21500	22581	22698	22260	2.97	cps
Titanium	47-1	2977	3407	3310	3231	6.98	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	LLICV	Instrumnet Name :	P7
Client Sample ID :	LLICV	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 12:59:53	DataFile Name :	017LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	13247	14148	14338	13911	4.19	cps
Vanadium	51-2	9083	8926	9120	9043	1.14	cps
Yttrium	89-1	8096519	7703445	7789845	7863270	2.63	cps
Yttrium	89-2	2181338	2185691	2141822	2169617	1.11	cps
Zinc	66-2	2490	2497	2440	2476	1.25	cps
Zirconium	90-1	8626	8906	9183	8905	3.13	cps
Zirconium	91-1	2090	2180	2150	2140	2.14	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P7
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:06:33	DataFile Name :	019_ICB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	237	207	273	239	13.98	cps
Antimony	121-1	20	57	40	39	47.21	cps
Arsenic	75-2	0	7	7	4	86.60	cps
Barium	135-1	27	13	10	17	52.93	cps
Barium	137-1	27	27	20	24	15.75	cps
Beryllium	9-1	33	33	30	32	5.97	cps
Bismuth	209-1	5292783	4038236	3764662	4365227	18.67	cps
Bismuth	209-2	3311855	3362512	3439162	3371176	1.90	cps
Bromine	81-1	26528	27713	28070	27437	2.94	cps
Bromine	81-2	167	163	150	160	5.51	cps
Cadmium	108-1	10	3	7	7	50.03	cps
Cadmium	106-1	2254	1807	1623	1895	17.11	cps
Cadmium	111-1	1574	1279	1145	1333	16.46	cps
Calcium	43-1	260	170	247	226	21.53	cps
Calcium	44-1	7225	6572	6451	6749	6.17	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1477	1397	1383	1419	3.56	cps
Cobalt	59-2	67	57	77	67	15.00	cps
Copper	63-2	1717	1687	1710	1705	0.92	cps
Dysprosium	156-1	7	3	0	3	100.05	cps
Dysprosium	156-2	7	13	0	7	99.98	cps
Erbium	164-1	40	50	53	48	14.52	cps
Erbium	164-2	23	17	30	23	28.56	cps
Gadolinium	160-1	23	33	33	30	19.25	cps
Gadolinium	160-2	257	270	213	247	12.01	cps
Holmium	165-1	8825616	6541526	6128812	7165318	20.27	cps
Holmium	165-2	4628763	4572623	4588598	4596661	0.63	cps
Indium	115-1	7497503	5553343	5226650	6092499	20.15	cps
Indium	115-2	1946952	1944702	1956839	1949498	0.33	cps
Iron	56-2	23415	22684	22160	22753	2.77	cps
Iron	57-2	1157	1233	1157	1182	3.74	cps
Iron	54-2	2504	2410	2570	2495	3.22	cps
Krypton	83-1	1127	347	377	617	71.67	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P7
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:06:33	DataFile Name :	019_ICB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	467	550	463	493	9.95	cps
Lead	207-1	480	453	407	447	8.31	cps
Lead	208-1	1923	2090	1873	1962	5.78	cps
Lithium	6-1	582256	418255	393451	464654	22.08	cps
Magnesium	24-2	157	203	150	170	17.10	cps
Manganese	55-2	9720	9396	8783	9300	5.12	cps
Molybdenum	94-1	223	170	127	173	27.93	cps
Molybdenum	95-1	103	60	50	71	39.86	cps
Molybdenum	96-1	213	157	157	176	18.64	cps
Molybdenum	97-1	60	37	37	44	30.31	cps
Molybdenum	98-1	197	120	90	136	40.58	cps
Neodymium	150-1	3	20	13	12	68.66	cps
Neodymium	150-2	0	10	0	3	173.21	cps
Nickel	60-2	353	297	283	311	11.95	cps
Phosphorus	31-2	210	200	237	216	8.79	cps
Potassium	39-2	46701	46538	47129	46789	0.65	cps
Rhodium	103-1	6897238	5188249	4959006	5681498	18.64	cps
Rhodium	103-2	2974720	2943560	2880924	2933068	1.63	cps
Scandium	45-1	4141501	3011791	2910133	3354475	20.38	cps
Scandium	45-2	243345	237905	237821	239690	1.32	cps
Selenium	82-1	100	230	200	177	38.32	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	607	727	713	682	9.64	cps
Silicon	28-1	1348443	1199173	1218068	1255228	6.48	cps
Silver	107-1	47	50	43	47	7.15	cps
Silver	109-1	17	43	23	28	49.95	cps
Sodium	23-2	13773	13976	13656	13802	1.17	cps
Strontium	86-1	1723	527	483	911	77.24	cps
Strontium	88-1	143	177	207	176	18.04	cps
Sulfur	34-1	109371	118233	118377	115327	4.47	cps
Terbium	159-1	9090603	6868232	6468958	7475931	18.89	cps
Terbium	159-2	4616419	4629620	4552784	4599608	0.89	cps
Thallium	203-1	93	103	93	97	5.97	cps
Thallium	205-1	240	250	143	211	27.90	cps
Tin	118-1	530	767	727	674	18.78	cps
Titanium	47-1	53	50	43	49	10.42	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P7
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:06:33	DataFile Name :	019_ICB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	43	7	3	18	124.84	cps
Vanadium	51-2	17	7	13	12	41.65	cps
Yttrium	89-1	11008741	8169046	7671183	8949657	20.12	cps
Yttrium	89-2	2084162	2063797	2079760	2075906	0.52	cps
Zinc	66-2	160	210	190	187	13.48	cps
Zirconium	90-1	517	353	383	418	20.81	cps
Zirconium	91-1	87	70	53	70	23.81	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P7
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:10:21	DataFile Name :	020ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	9797810	9697868	9526935	9674204	1.42	cps
Antimony	121-1	5594	5775	5775	5715	1.82	cps
Arsenic	75-2	77	103	107	96	17.21	cps
Barium	135-1	1860	1770	1793	1808	2.58	cps
Barium	137-1	2930	2940	3014	2961	1.54	cps
Beryllium	9-1	233	253	167	218	20.84	cps
Bismuth	209-1	3523201	3574190	3547093	3548162	0.72	cps
Bismuth	209-2	3250460	3263342	3245507	3253103	0.28	cps
Bromine	81-1	29222	29336	29012	29190	0.56	cps
Bromine	81-2	273	320	257	283	11.59	cps
Cadmium	108-1	657	670	680	669	1.75	cps
Cadmium	106-1	1487	1423	1497	1469	2.71	cps
Cadmium	111-1	1448	1367	1328	1381	4.41	cps
Calcium	43-1	1256000	1271836	1266088	1264641	0.63	cps
Calcium	44-1	20707481	20767401	20884908	20786597	0.43	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	41557	41407	41564	41509	0.21	cps
Cobalt	59-2	4041	4037	3977	4018	0.89	cps
Copper	63-2	22046	22497	21642	22062	1.94	cps
Dysprosium	156-1	27	20	23	23	14.29	cps
Dysprosium	156-2	17	30	13	20	44.10	cps
Erbium	164-1	63	57	60	60	5.55	cps
Erbium	164-2	43	77	67	62	27.50	cps
Gadolinium	160-1	33	57	33	41	32.78	cps
Gadolinium	160-2	263	250	240	251	4.66	cps
Holmium	165-1	5965232	5900952	6213032	6026405	2.73	cps
Holmium	165-2	4638600	4640620	4511697	4596972	1.61	cps
Indium	115-1	4945962	4960549	4979442	4961985	0.34	cps
Indium	115-2	1875208	1879366	1853518	1869364	0.74	cps
Iron	56-2	183292984	182806697	179912097	182003926	1.00	cps
Iron	57-2	4518991	4482711	4401257	4467653	1.35	cps
Iron	54-2	9961959	9797461	9767156	9842192	1.07	cps
Krypton	83-1	360	433	437	410	10.57	cps

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P7
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:10:21	DataFile Name :	020ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	16430	16941	17108	16826	2.10	cps
Lead	207-1	13303	13607	13560	13490	1.21	cps
Lead	208-1	62372	64085	63868	63442	1.47	cps
Lithium	6-1	366085	370423	369785	368764	0.64	cps
Magnesium	24-2	16671930	16652306	16477919	16600719	0.64	cps
Manganese	55-2	20915	20501	20895	20770	1.12	cps
Molybdenum	94-1	2735119	2752471	2781479	2756356	0.85	cps
Molybdenum	95-1	4798271	4860110	4914804	4857728	1.20	cps
Molybdenum	96-1	5148346	5171831	5200470	5173549	0.50	cps
Molybdenum	97-1	2949368	2947119	3021137	2972541	1.42	cps
Molybdenum	98-1	7738047	7585507	7709321	7677625	1.06	cps
Neodymium	150-1	20	17	33	23	37.78	cps
Neodymium	150-2	23	7	17	16	53.90	cps
Nickel	60-2	5194	5208	5181	5194	0.26	cps
Phosphorus	31-2	585085	573577	566908	575190	1.60	cps
Potassium	39-2	22270683	22337886	21978449	22195672	0.86	cps
Rhodium	103-1	4533716	4456202	4536505	4508808	1.01	cps
Rhodium	103-2	2826570	2813779	2733458	2791269	1.81	cps
Scandium	45-1	2672414	2715913	2690155	2692827	0.81	cps
Scandium	45-2	234132	233530	228555	232072	1.32	cps
Selenium	82-1	233	162	234	209	19.70	cps
Selenium	77-2	7	0	7	4	86.60	cps
Selenium	78-2	597	573	610	593	3.13	cps
Silicon	28-1	1236016	1195093	836311	1089140	20.19	cps
Silver	107-1	167	210	250	209	19.95	cps
Silver	109-1	133	140	203	159	24.32	cps
Sodium	23-2	28704268	27857895	27481705	28014623	2.24	cps
Strontium	86-1	53517	53102	52961	53194	0.54	cps
Strontium	88-1	472610	468156	476977	472581	0.93	cps
Sulfur	34-1	2029840	2033937	2034111	2032630	0.12	cps
Terbium	159-1	6171624	6116176	6205066	6164289	0.73	cps
Terbium	159-2	4592422	4566548	4470860	4543277	1.41	cps
Thallium	203-1	300	373	430	368	17.72	cps
Thallium	205-1	593	797	907	766	20.77	cps
Tin	118-1	2167	2294	2407	2289	5.25	cps
Titanium	47-1	1192874	1164163	1176601	1177879	1.22	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P7
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:10:21	DataFile Name :	020ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	263	293	287	281	5.60	cps
Vanadium	51-2	337	340	360	346	3.65	cps
Yttrium	89-1	7361869	7219259	7333357	7304828	1.03	cps
Yttrium	89-2	2031963	2024426	1987069	2014486	1.19	cps
Zinc	66-2	6041	5851	6081	5991	2.05	cps
Zirconium	90-1	547	653	497	566	14.15	cps
Zirconium	91-1	107	133	117	119	11.33	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P7
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:28:17	DataFile Name :	022ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	9673451	9555995	9530476	9586641	0.80	cps
Antimony	121-1	93552	94786	95655	94664	1.12	cps
Arsenic	75-2	5278	5254	5174	5235	1.04	cps
Barium	135-1	24504	24798	24838	24714	0.74	cps
Barium	137-1	43135	43406	44138	43560	1.19	cps
Beryllium	9-1	11511	11494	11434	11480	0.35	cps
Bismuth	209-1	3689156	3781145	3755255	3741852	1.27	cps
Bismuth	209-2	3461140	3353791	3374353	3396428	1.68	cps
Bromine	81-1	29282	30138	29650	29690	1.44	cps
Bromine	81-2	437	447	383	422	8.06	cps
Cadmium	108-1	2237	2264	2230	2244	0.79	cps
Cadmium	106-1	3957	3831	3734	3841	2.92	cps
Cadmium	111-1	26039	26743	27126	26636	2.07	cps
Calcium	43-1	1258910	1258578	1269069	1262186	0.47	cps
Calcium	44-1	20702171	20756405	20648302	20702293	0.26	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	75890	76178	75170	75746	0.69	cps
Cobalt	59-2	63122	62888	64053	63354	0.97	cps
Copper	63-2	64381	63440	63936	63919	0.74	cps
Dysprosium	156-1	23	27	30	27	12.51	cps
Dysprosium	156-2	27	10	17	18	47.19	cps
Erbium	164-1	87	67	57	70	21.82	cps
Erbium	164-2	63	30	47	47	35.71	cps
Gadolinium	160-1	40	30	33	34	14.78	cps
Gadolinium	160-2	297	247	287	277	9.56	cps
Holmium	165-1	6274796	6352020	6277827	6301548	0.69	cps
Holmium	165-2	4850428	4761060	4831441	4814310	0.98	cps
Indium	115-1	5121999	5147407	5227272	5165559	1.06	cps
Indium	115-2	1913885	1986478	1937695	1946019	1.90	cps
Iron	56-2	182854817	182076404	181822417	182251213	0.30	cps
Iron	57-2	4558921	4506479	4561988	4542462	0.69	cps
Iron	54-2	9965990	9971634	9925433	9954353	0.25	cps
Krypton	83-1	350	337	317	334	5.02	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P7
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:28:17	DataFile Name :	022ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	84132	84923	85617	84891	0.88	cps
Lead	207-1	71373	73564	72043	72327	1.55	cps
Lead	208-1	324550	329375	333972	329299	1.43	cps
Lithium	6-1	387189	387994	382407	385863	0.78	cps
Magnesium	24-2	16385982	16379215	16416914	16394037	0.12	cps
Manganese	55-2	50150	50294	49702	50049	0.62	cps
Molybdenum	94-1	2697933	2748374	2747362	2731223	1.06	cps
Molybdenum	95-1	4742856	4886105	4817070	4815344	1.49	cps
Molybdenum	96-1	5056422	5225613	5137924	5139987	1.65	cps
Molybdenum	97-1	2953471	3012012	2980961	2982148	0.98	cps
Molybdenum	98-1	7639164	7766166	7743175	7716168	0.88	cps
Neodymium	150-1	27	33	17	26	32.81	cps
Neodymium	150-2	7	17	7	10	57.72	cps
Nickel	60-2	20007	20207	20307	20174	0.76	cps
Phosphorus	31-2	572719	571753	575480	573317	0.34	cps
Potassium	39-2	22181590	22267229	22558561	22335793	0.88	cps
Rhodium	103-1	4569508	4746256	4686638	4667467	1.93	cps
Rhodium	103-2	2890960	2878626	2903662	2891083	0.43	cps
Scandium	45-1	2769152	2796536	2795793	2787160	0.56	cps
Scandium	45-2	243138	243049	241570	242586	0.36	cps
Selenium	82-1	2101	2244	2190	2178	3.31	cps
Selenium	77-2	190	200	240	210	12.60	cps
Selenium	78-2	1343	1273	1270	1296	3.20	cps
Silicon	28-1	817370	826126	832193	825229	0.90	cps
Silver	107-1	117175	118499	118596	118090	0.67	cps
Silver	109-1	110836	112371	113053	112087	1.01	cps
Sodium	23-2	27691314	27955575	28188533	27945140	0.89	cps
Strontium	86-1	51580	53356	54055	52997	2.41	cps
Strontium	88-1	461917	471902	470522	468114	1.16	cps
Sulfur	34-1	1994530	1966661	1949362	1970184	1.16	cps
Terbium	159-1	6532105	6591309	6573527	6565647	0.46	cps
Terbium	159-2	4689443	4663850	4687058	4680117	0.30	cps
Thallium	203-1	83990	86452	86774	85739	1.78	cps
Thallium	205-1	195532	200911	200111	198851	1.46	cps
Tin	118-1	2040	2064	2267	2124	5.87	cps
Titanium	47-1	1148651	1205218	1156514	1170128	2.62	cps

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On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P7
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:28:17	DataFile Name :	022ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	470	387	457	438	10.22	cps
Vanadium	51-2	32214	32021	31690	31975	0.83	cps
Yttrium	89-1	7433239	7535877	7631292	7533469	1.31	cps
Yttrium	89-2	2113293	2122080	2101116	2112163	0.50	cps
Zinc	66-2	13883	14127	14060	14023	0.90	cps
Zirconium	90-1	473	440	453	456	3.68	cps
Zirconium	91-1	133	130	110	124	10.14	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P7
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:31:24	DataFile Name :	023CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	5092683	5059972	5171626	5108094	1.12	cps
Antimony	121-1	2289140	2363781	2426717	2359879	2.92	cps
Arsenic	75-2	134301	134517	133370	134063	0.45	cps
Barium	135-1	3001893	3104741	3152370	3086335	2.49	cps
Barium	137-1	5340707	5299049	5431929	5357228	1.27	cps
Beryllium	9-1	261527	264959	267580	264689	1.15	cps
Bismuth	209-1	3527780	3691861	3624514	3614718	2.28	cps
Bismuth	209-2	3294956	3270294	3221698	3262316	1.14	cps
Bromine	81-1	27980	28404	29019	28468	1.83	cps
Bromine	81-2	190	190	193	191	1.01	cps
Cadmium	108-1	43498	45608	45227	44778	2.51	cps
Cadmium	106-1	63006	64546	64797	64116	1.51	cps
Cadmium	111-1	609193	622869	631015	621026	1.78	cps
Calcium	43-1	3023280	3114634	3143068	3093661	2.02	cps
Calcium	44-1	49180639	50466938	51257458	50301678	2.08	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	947795	948631	947037	947821	0.08	cps
Cobalt	59-2	1536113	1581370	1527229	1548237	1.88	cps
Copper	63-2	10612540	10416799	10540736	10523358	0.94	cps
Dysprosium	156-1	107	103	110	107	3.12	cps
Dysprosium	156-2	187	220	190	199	9.23	cps
Erbium	164-1	113	187	157	152	24.22	cps
Erbium	164-2	93	140	73	102	33.47	cps
Gadolinium	160-1	107	77	133	106	26.86	cps
Gadolinium	160-2	290	283	287	287	1.16	cps
Holmium	165-1	6133006	6257982	6300112	6230367	1.39	cps
Holmium	165-2	4686600	4707036	4716358	4703331	0.32	cps
Indium	115-1	4956862	4957221	4999695	4971259	0.50	cps
Indium	115-2	1888710	1917955	1854750	1887138	1.68	cps
Iron	56-2	221969297	223953470	217267323	221063363	1.55	cps
Iron	57-2	5552595	5564202	5477565	5531454	0.85	cps
Iron	54-2	12029497	12086956	11986474	12034309	0.42	cps
Krypton	83-1	383	343	350	359	5.97	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P7
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:31:24	DataFile Name :	023CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	8749524	9050890	9216164	9005526	2.63	cps
Lead	207-1	7783631	8096751	8155034	8011805	2.49	cps
Lead	208-1	35185173	36622915	36962302	36256796	2.60	cps
Lithium	6-1	354977	363530	363937	360815	1.40	cps
Magnesium	24-2	42932633	43681883	43316361	43310292	0.87	cps
Manganese	55-2	7685197	7625193	7495929	7602106	1.27	cps
Molybdenum	94-1	8275778	8485705	8458721	8406735	1.36	cps
Molybdenum	95-1	11866917	12254213	12427176	12182769	2.35	cps
Molybdenum	96-1	13136181	13370708	13524160	13343683	1.46	cps
Molybdenum	97-1	7351542	7572447	7619172	7514387	1.90	cps
Molybdenum	98-1	19122092	19598301	20024500	19581631	2.31	cps
Neodymium	150-1	157	150	177	161	8.61	cps
Neodymium	150-2	93	43	47	61	45.74	cps
Nickel	60-2	379633	375739	375742	377038	0.60	cps
Phosphorus	31-2	57304	58090	58271	57888	0.89	cps
Potassium	39-2	28226140	28152123	28732899	28370387	1.11	cps
Rhodium	103-1	4486555	4598615	4502994	4529388	1.34	cps
Rhodium	103-2	2753214	2782935	2831289	2789146	1.41	cps
Scandium	45-1	2659185	2726480	2718408	2701357	1.36	cps
Scandium	45-2	236397	239868	239715	238660	0.82	cps
Selenium	82-1	45680	46628	47596	46635	2.05	cps
Selenium	77-2	5258	5288	5211	5252	0.74	cps
Selenium	78-2	18225	18238	18188	18217	0.14	cps
Silicon	28-1	2366697	2461487	2470660	2432948	2.37	cps
Silver	107-1	3015822	3134553	3137096	3095824	2.24	cps
Silver	109-1	2863439	2967999	2990544	2940661	2.31	cps
Sodium	23-2	68206279	68744621	70161111	69037337	1.46	cps
Strontium	86-1	751949	764083	776723	764252	1.62	cps
Strontium	88-1	6789161	7011111	7164787	6988353	2.70	cps
Sulfur	34-1	273337	280513	282295	278715	1.70	cps
Terbium	159-1	6275386	6586859	6490458	6450901	2.47	cps
Terbium	159-2	4771912	4656884	4605641	4678146	1.82	cps
Thallium	203-1	2184730	2261118	2274992	2240280	2.17	cps
Thallium	205-1	5118447	5332670	5327704	5259607	2.32	cps
Tin	118-1	2016294	2074391	2121790	2070825	2.55	cps
Titanium	47-1	2899878	2914386	3007087	2940450	1.98	cps

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On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P7
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:31:24	DataFile Name :	023CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7159363	7335554	7274740	7256552	1.23	cps
Vanadium	51-2	824546	820818	808597	817987	1.02	cps
Yttrium	89-1	7278207	7482341	7430778	7397108	1.44	cps
Yttrium	89-2	2066895	2051468	2098645	2072336	1.16	cps
Zinc	66-2	1955110	1930024	1898222	1927786	1.48	cps
Zirconium	90-1	4025866	4250490	4275641	4183999	3.29	cps
Zirconium	91-1	877873	897219	907441	894178	1.68	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P7
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:34:12	DataFile Name :	024CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3500	3560	3440	3500	1.71	cps
Antimony	121-1	390	517	567	491	18.54	cps
Arsenic	75-2	10	7	7	8	24.71	cps
Barium	135-1	27	47	73	49	47.88	cps
Barium	137-1	53	103	97	84	32.15	cps
Beryllium	9-1	60	40	30	43	35.25	cps
Bismuth	209-1	3927432	3906829	3836297	3890186	1.23	cps
Bismuth	209-2	3534897	3453106	3465947	3484650	1.26	cps
Bromine	81-1	28000	28321	28234	28185	0.59	cps
Bromine	81-2	167	173	147	162	8.56	cps
Cadmium	108-1	3	17	13	11	62.48	cps
Cadmium	106-1	1587	1453	1440	1493	5.43	cps
Cadmium	111-1	1165	1026	1065	1085	6.61	cps
Calcium	43-1	277	243	230	250	9.62	cps
Calcium	44-1	7592	7409	7579	7526	1.36	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1563	1310	1357	1410	9.56	cps
Cobalt	59-2	83	47	60	63	29.30	cps
Copper	63-2	3214	2860	2950	3008	6.11	cps
Dysprosium	156-1	0	13	3	6	124.93	cps
Dysprosium	156-2	0	3	0	1	173.21	cps
Erbium	164-1	70	50	50	57	20.38	cps
Erbium	164-2	23	30	40	31	26.97	cps
Gadolinium	160-1	30	37	30	32	11.95	cps
Gadolinium	160-2	200	260	183	214	18.80	cps
Holmium	165-1	6478884	6334406	6371979	6395090	1.17	cps
Holmium	165-2	4787901	4710410	4742779	4747030	0.82	cps
Indium	115-1	5362439	5330171	5369953	5354188	0.39	cps
Indium	115-2	1986513	1967795	1997379	1983896	0.75	cps
Iron	56-2	26811	26484	26533	26609	0.66	cps
Iron	57-2	1210	1273	1213	1232	2.89	cps
Iron	54-2	2637	2660	2584	2627	1.50	cps
Krypton	83-1	297	313	310	307	2.88	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P7
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:34:12	DataFile Name :	024CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	620	720	763	701	10.49	cps
Lead	207-1	580	633	717	643	10.71	cps
Lead	208-1	2550	2720	3044	2771	9.04	cps
Lithium	6-1	370531	366304	365278	367371	0.76	cps
Magnesium	24-2	827	810	850	829	2.42	cps
Manganese	55-2	10287	10020	9827	10045	2.30	cps
Molybdenum	94-1	570	603	503	559	9.11	cps
Molybdenum	95-1	367	373	363	368	1.38	cps
Molybdenum	96-1	517	597	430	514	16.20	cps
Molybdenum	97-1	300	247	197	248	20.86	cps
Molybdenum	98-1	653	520	560	578	11.84	cps
Neodymium	150-1	7	10	10	9	21.63	cps
Neodymium	150-2	0	3	3	2	86.60	cps
Nickel	60-2	400	373	397	390	3.73	cps
Phosphorus	31-2	190	253	173	206	20.53	cps
Potassium	39-2	45996	46370	47317	46561	1.46	cps
Rhodium	103-1	4944374	5002816	4912846	4953345	0.92	cps
Rhodium	103-2	2995651	2996598	3066147	3019465	1.34	cps
Scandium	45-1	2799927	2848556	2751200	2799894	1.74	cps
Scandium	45-2	240835	239361	239677	239958	0.32	cps
Selenium	82-1	324	282	270	292	9.75	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	677	653	670	667	1.80	cps
Silicon	28-1	827217	1161351	1178712	1055760	18.77	cps
Silver	107-1	143	150	187	160	14.58	cps
Silver	109-1	107	97	150	118	24.07	cps
Sodium	23-2	18187	17624	18031	17947	1.62	cps
Strontium	86-1	543	577	560	560	2.98	cps
Strontium	88-1	197	190	187	191	2.66	cps
Sulfur	34-1	92404	93524	92229	92719	0.76	cps
Terbium	159-1	6752641	6579404	6578109	6636718	1.51	cps
Terbium	159-2	4793111	4699414	4742357	4744960	0.99	cps
Thallium	203-1	397	337	423	386	11.51	cps
Thallium	205-1	960	987	917	954	3.70	cps
Tin	118-1	923	957	957	946	2.04	cps
Titanium	47-1	103	90	133	109	20.39	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P7
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:34:12	DataFile Name :	024CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	133	80	97	103	26.41	cps
Vanadium	51-2	33	43	27	34	24.35	cps
Yttrium	89-1	7683719	7694495	7736522	7704912	0.36	cps
Yttrium	89-2	2119146	2095524	2121656	2112109	0.68	cps
Zinc	66-2	443	343	367	384	13.61	cps
Zirconium	90-1	1143	1007	1087	1079	6.36	cps
Zirconium	91-1	247	240	200	229	11.03	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P7
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:44:13	DataFile Name :	026LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2424	2404	2487	2438	1.78	cps
Antimony	121-1	9980	10481	10451	10304	2.72	cps
Arsenic	75-2	363	337	343	348	3.99	cps
Barium	135-1	12889	13493	13026	13136	2.41	cps
Barium	137-1	22288	22675	22718	22560	1.05	cps
Beryllium	9-1	587	627	633	616	4.10	cps
Bismuth	209-1	3869180	3947662	3827889	3881577	1.57	cps
Bismuth	209-2	3588572	3622079	3627032	3612561	0.58	cps
Bromine	81-1	30295	30248	30438	30327	0.33	cps
Bromine	81-2	190	153	157	167	12.16	cps
Cadmium	108-1	93	157	100	117	29.83	cps
Cadmium	106-1	1560	1660	1623	1615	3.13	cps
Cadmium	111-1	2473	2573	2563	2536	2.16	cps
Calcium	43-1	7108	7308	7359	7258	1.82	cps
Calcium	44-1	122268	123609	126391	124089	1.69	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	5691	5284	5364	5447	3.96	cps
Cobalt	59-2	3520	3807	3981	3769	6.16	cps
Copper	63-2	7285	7949	7325	7520	4.95	cps
Dysprosium	156-1	3	10	7	7	50.03	cps
Dysprosium	156-2	0	7	7	4	86.60	cps
Erbium	164-1	43	37	53	44	18.87	cps
Erbium	164-2	30	23	37	30	22.23	cps
Gadolinium	160-1	27	47	30	34	31.11	cps
Gadolinium	160-2	257	227	270	251	8.84	cps
Holmium	165-1	6408885	6399697	6470668	6426417	0.60	cps
Holmium	165-2	4955312	4985108	4932303	4957575	0.53	cps
Indium	115-1	5344985	5435058	5556376	5445473	1.95	cps
Indium	115-2	2085991	2079224	2090499	2085238	0.27	cps
Iron	56-2	126504	126312	126634	126484	0.13	cps
Iron	57-2	3837	3637	4037	3837	5.21	cps
Iron	54-2	8322	8202	7945	8157	2.36	cps
Krypton	83-1	300	320	427	349	19.52	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P7
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:44:13	DataFile Name :	026LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4061	4367	4331	4253	3.94	cps
Lead	207-1	3837	3834	3661	3777	2.68	cps
Lead	208-1	16778	17465	16594	16945	2.71	cps
Lithium	6-1	380543	384109	385144	383265	0.63	cps
Magnesium	24-2	91722	91473	91879	91692	0.22	cps
Manganese	55-2	11474	11034	11551	11353	2.46	cps
Molybdenum	94-1	11108	11101	11058	11089	0.24	cps
Molybdenum	95-1	12726	12846	13059	12877	1.31	cps
Molybdenum	96-1	14414	14904	14724	14681	1.69	cps
Molybdenum	97-1	8106	8269	8066	8147	1.32	cps
Molybdenum	98-1	20585	21062	20962	20869	1.21	cps
Neodymium	150-1	13	10	0	8	89.21	cps
Neodymium	150-2	0	0	3	1	173.21	cps
Nickel	60-2	1207	1127	1263	1199	5.73	cps
Phosphorus	31-2	350	357	420	376	10.29	cps
Potassium	39-2	170096	169354	169631	169694	0.22	cps
Rhodium	103-1	5005904	5161090	5042082	5069692	1.60	cps
Rhodium	103-2	3200875	3197418	3144099	3180797	1.00	cps
Scandium	45-1	2856165	2920854	2968502	2915174	1.93	cps
Scandium	45-2	251953	251557	253476	252329	0.40	cps
Selenium	82-1	875	833	828	845	3.09	cps
Selenium	77-2	63	87	53	68	25.24	cps
Selenium	78-2	877	1023	967	956	7.74	cps
Silicon	28-1	1185834	1192524	1189185	1189181	0.28	cps
Silver	107-1	6872	7472	6968	7104	4.54	cps
Silver	109-1	6395	6935	6532	6620	4.24	cps
Sodium	23-2	156534	159422	157608	157855	0.92	cps
Strontium	86-1	2247	2334	2434	2338	4.00	cps
Strontium	88-1	14731	15415	15685	15277	3.22	cps
Sulfur	34-1	104864	106061	105111	105345	0.60	cps
Terbium	159-1	6592624	6673120	6800184	6688643	1.56	cps
Terbium	159-2	4862116	4904402	4893474	4886664	0.45	cps
Thallium	203-1	4734	4678	4854	4755	1.90	cps
Thallium	205-1	11061	11251	11462	11258	1.78	cps
Tin	118-1	22862	23810	23132	23268	2.10	cps
Titanium	47-1	3140	3244	3247	3210	1.89	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P7
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 13:44:13	DataFile Name :	026LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	14314	14271	14558	14381	1.08	cps
Vanadium	51-2	9113	8889	9400	9134	2.80	cps
Yttrium	89-1	7696940	8027985	7834187	7853037	2.12	cps
Yttrium	89-2	2183620	2231939	2243644	2219735	1.43	cps
Zinc	66-2	2554	2524	2587	2555	1.24	cps
Zirconium	90-1	9527	9590	9473	9530	0.61	cps
Zirconium	91-1	2070	2087	2050	2069	0.89	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BL	Instrumnet Name :	P7
Client Sample ID :	PB167552BL	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:15:07	DataFile Name :	027CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	297	273	263	278	6.16	cps
Antimony	121-1	33	37	50	40	22.05	cps
Arsenic	75-2	7	7	10	8	24.71	cps
Barium	135-1	20	23	13	19	26.96	cps
Barium	137-1	43	20	17	27	54.47	cps
Beryllium	9-1	50	27	47	41	30.69	cps
Bismuth	209-1	3848867	3875652	3874487	3866335	0.39	cps
Bismuth	209-2	3536021	3483159	3481577	3500252	0.89	cps
Bromine	81-1	29931	31113	30108	30384	2.10	cps
Bromine	81-2	147	167	130	148	12.42	cps
Cadmium	108-1	3	10	0	4	114.60	cps
Cadmium	106-1	1317	1550	1410	1426	8.24	cps
Cadmium	111-1	959	1091	1007	1019	6.56	cps
Calcium	43-1	197	277	240	238	16.84	cps
Calcium	44-1	6668	6605	6805	6693	1.53	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1147	1137	1183	1156	2.13	cps
Cobalt	59-2	47	43	33	41	16.89	cps
Copper	63-2	2053	2167	1977	2066	4.63	cps
Dysprosium	156-1	7	3	3	4	43.40	cps
Dysprosium	156-2	3	10	7	7	50.03	cps
Erbium	164-1	33	40	40	38	10.19	cps
Erbium	164-2	33	30	20	28	24.98	cps
Gadolinium	160-1	20	33	27	27	24.99	cps
Gadolinium	160-2	243	217	213	224	7.33	cps
Holmium	165-1	6459993	6492286	6388945	6447075	0.82	cps
Holmium	165-2	4784965	4749070	4707875	4747303	0.81	cps
Indium	115-1	5540778	5518050	5491674	5516834	0.45	cps
Indium	115-2	2103516	2098980	2107865	2103453	0.21	cps
Iron	56-2	22467	22270	22594	22443	0.73	cps
Iron	57-2	1167	1177	1207	1183	1.76	cps
Iron	54-2	2320	2377	2414	2370	1.98	cps
Krypton	83-1	317	357	400	358	11.65	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BL	Instrumnet Name :	P7
Client Sample ID :	PB167552BL	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:15:07	DataFile Name :	027CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	510	487	417	471	10.31	cps
Lead	207-1	383	347	327	352	8.16	cps
Lead	208-1	1877	1703	1660	1747	6.56	cps
Lithium	6-1	361440	363527	366108	363692	0.64	cps
Magnesium	24-2	193	187	157	179	10.92	cps
Manganese	55-2	10007	9920	9977	9968	0.44	cps
Molybdenum	94-1	173	197	170	180	8.07	cps
Molybdenum	95-1	53	60	27	47	37.79	cps
Molybdenum	96-1	143	150	183	159	13.49	cps
Molybdenum	97-1	53	7	40	33	72.10	cps
Molybdenum	98-1	127	80	73	93	31.14	cps
Neodymium	150-1	3	0	3	2	86.60	cps
Neodymium	150-2	3	3	0	2	86.60	cps
Nickel	60-2	207	253	263	241	12.54	cps
Phosphorus	31-2	200	177	213	197	9.44	cps
Potassium	39-2	47447	47133	48106	47562	1.04	cps
Rhodium	103-1	5119754	5095612	5131456	5115607	0.36	cps
Rhodium	103-2	3154152	3121817	3137344	3137771	0.52	cps
Scandium	45-1	3041150	2965082	2980526	2995586	1.34	cps
Scandium	45-2	252577	252973	251969	252506	0.20	cps
Selenium	82-1	293	215	199	236	21.44	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	720	783	680	728	7.16	cps
Silicon	28-1	1364142	1310662	1347043	1340616	2.04	cps
Silver	107-1	53	43	43	47	12.37	cps
Silver	109-1	33	27	10	23	51.50	cps
Sodium	23-2	13866	14123	13903	13964	0.99	cps
Strontium	86-1	557	603	570	577	4.17	cps
Strontium	88-1	57	100	77	78	27.88	cps
Sulfur	34-1	117171	115750	115083	116002	0.92	cps
Terbium	159-1	6684743	6700516	6799321	6728193	0.92	cps
Terbium	159-2	4814986	4820244	4810649	4815293	0.10	cps
Thallium	203-1	73	67	110	83	28.00	cps
Thallium	205-1	237	233	223	231	3.00	cps
Tin	118-1	677	720	773	723	6.69	cps
Titanium	47-1	50	60	57	56	9.17	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BL	Instrumnet Name :	P7
Client Sample ID :	PB167552BL	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:15:07	DataFile Name :	027CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	13	17	7	12	41.65	cps
Vanadium	51-2	17	7	7	10	57.72	cps
Yttrium	89-1	8003320	8033006	7853472	7963266	1.21	cps
Yttrium	89-2	2215393	2208236	2173953	2199194	1.01	cps
Zinc	66-2	233	167	177	192	18.70	cps
Zirconium	90-1	337	347	417	367	11.89	cps
Zirconium	91-1	70	107	63	80	29.17	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BS	Instrumnet Name :	P7
Client Sample ID :	PB167552BS	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:18:25	DataFile Name :	028LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	971699	945473	939908	952360	1.78	cps
Antimony	121-1	2439669	2434455	2473988	2449370	0.88	cps
Arsenic	75-2	138954	139240	135984	138060	1.31	cps
Barium	135-1	3196000	3227378	3212749	3212042	0.49	cps
Barium	137-1	5402486	5568127	5466329	5478981	1.52	cps
Beryllium	9-1	261256	268641	274009	267969	2.39	cps
Bismuth	209-1	3801291	3919212	3843602	3854701	1.55	cps
Bismuth	209-2	3484616	3478226	3453398	3472080	0.47	cps
Bromine	81-1	29957	29132	28050	29046	3.29	cps
Bromine	81-2	147	170	143	153	9.47	cps
Cadmium	108-1	47541	48802	47879	48074	1.36	cps
Cadmium	106-1	68936	68712	68481	68709	0.33	cps
Cadmium	111-1	667051	682700	675657	675136	1.16	cps
Calcium	43-1	649174	662740	655393	655769	1.04	cps
Calcium	44-1	10728823	10803307	10712546	10748225	0.45	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	955330	954524	949665	953173	0.32	cps
Cobalt	59-2	1567295	1576341	1586008	1576548	0.59	cps
Copper	63-2	10880712	10857992	10743900	10827535	0.68	cps
Dysprosium	156-1	50	60	37	49	23.94	cps
Dysprosium	156-2	130	140	153	141	8.30	cps
Erbium	164-1	70	90	83	81	12.55	cps
Erbium	164-2	70	60	57	62	11.15	cps
Gadolinium	160-1	33	43	37	38	13.48	cps
Gadolinium	160-2	257	230	260	249	6.61	cps
Holmium	165-1	6457134	6340640	6525436	6441070	1.45	cps
Holmium	165-2	4762109	4740358	4784851	4762439	0.47	cps
Indium	115-1	5281279	5318237	5214283	5271266	1.00	cps
Indium	115-2	1917671	1969559	1961199	1949476	1.43	cps
Iron	56-2	45754601	46569586	45888833	46071007	0.95	cps
Iron	57-2	1148537	1166749	1148268	1154518	0.92	cps
Iron	54-2	2565931	2562326	2581920	2570059	0.41	cps
Krypton	83-1	367	323	323	338	7.41	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BS	Instrumnet Name :	P7
Client Sample ID :	PB167552BS	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:18:25	DataFile Name :	028LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9046420	9358961	9374962	9260114	2.00	cps
Lead	207-1	8003060	8214241	8277751	8165018	1.76	cps
Lead	208-1	36443288	37724131	37870654	37346024	2.10	cps
Lithium	6-1	362017	360664	361966	361549	0.21	cps
Magnesium	24-2	8809176	8530594	8571715	8637162	1.74	cps
Manganese	55-2	7689360	8086593	7887574	7887843	2.52	cps
Molybdenum	94-1	8592464	8838548	8659164	8696725	1.46	cps
Molybdenum	95-1	12343145	12471528	12436749	12417140	0.53	cps
Molybdenum	96-1	13262406	13746215	13579518	13529380	1.82	cps
Molybdenum	97-1	7601037	7784523	7714969	7700177	1.20	cps
Molybdenum	98-1	19960226	20424093	19972026	20118782	1.31	cps
Neodymium	150-1	117	183	157	152	22.04	cps
Neodymium	150-2	17	33	40	30	40.05	cps
Nickel	60-2	385334	390661	387515	387837	0.69	cps
Phosphorus	31-2	57297	56521	56005	56608	1.15	cps
Potassium	39-2	5674341	5533108	5567229	5591560	1.32	cps
Rhodium	103-1	4939742	4898652	4831121	4889838	1.12	cps
Rhodium	103-2	2960140	2934752	2904347	2933080	0.95	cps
Scandium	45-1	2932289	2823681	2871370	2875780	1.89	cps
Scandium	45-2	242397	237562	236043	238667	1.39	cps
Selenium	82-1	50694	51513	51885	51364	1.19	cps
Selenium	77-2	5378	5454	5174	5335	2.71	cps
Selenium	78-2	19306	19122	19626	19352	1.32	cps
Silicon	28-1	2600247	2678732	2656108	2645029	1.53	cps
Silver	107-1	3304008	3341245	3278158	3307803	0.96	cps
Silver	109-1	3167139	3260778	3147569	3191829	1.90	cps
Sodium	23-2	14289021	13734870	13776421	13933437	2.22	cps
Strontium	86-1	784971	792312	782863	786715	0.63	cps
Strontium	88-1	7002019	7253141	7220497	7158552	1.91	cps
Sulfur	34-1	294114	294655	290352	293040	0.80	cps
Terbium	159-1	6641331	6716608	6595459	6651132	0.92	cps
Terbium	159-2	4859957	4710060	4640097	4736705	2.37	cps
Thallium	203-1	2282181	2316957	2349359	2316166	1.45	cps
Thallium	205-1	5391135	5511207	5439122	5447154	1.11	cps
Tin	118-1	2128877	2151832	2161091	2147267	0.77	cps
Titanium	47-1	3059353	3098726	3048656	3068912	0.86	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	PB167552BS	Instrumnet Name :	P7
Client Sample ID :	PB167552BS	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:18:25	DataFile Name :	028LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7040985	7212652	7228832	7160823	1.45	cps
Vanadium	51-2	812010	819789	810942	814247	0.59	cps
Yttrium	89-1	7987426	7600204	7654849	7747493	2.71	cps
Yttrium	89-2	2133329	2113587	2134046	2126987	0.55	cps
Zinc	66-2	2086219	2100186	2090510	2092305	0.34	cps
Zirconium	90-1	4206552	4170312	4284625	4220496	1.38	cps
Zirconium	91-1	906270	928374	914343	916329	1.22	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-02DLX5	Instrumnet Name :	P7
Client Sample ID :	S-875-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:21:16	DataFile Name :	029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	815969	813201	821419	816863	0.51	cps
Antimony	121-1	673	597	767	679	12.54	cps
Arsenic	75-2	557	477	553	529	8.56	cps
Barium	135-1	136133	139058	140549	138580	1.62	cps
Barium	137-1	240457	242063	247751	243424	1.57	cps
Beryllium	9-1	260	217	267	248	10.96	cps
Bismuth	209-1	3874799	3904414	3943853	3907689	0.89	cps
Bismuth	209-2	3652277	3400056	3322220	3458184	4.99	cps
Bromine	81-1	29222	30451	31009	30228	3.02	cps
Bromine	81-2	930	887	930	916	2.73	cps
Cadmium	108-1	63	50	70	61	16.66	cps
Cadmium	106-1	1723	1553	1577	1618	5.70	cps
Cadmium	111-1	1649	1499	1458	1535	6.54	cps
Calcium	43-1	33494	32866	34082	33480	1.82	cps
Calcium	44-1	545147	554581	563618	554449	1.67	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	38793	38760	40120	39224	1.98	cps
Cobalt	59-2	5581	5578	5648	5602	0.71	cps
Copper	63-2	26246	26650	26924	26607	1.28	cps
Dysprosium	156-1	12949	13076	13530	13185	2.32	cps
Dysprosium	156-2	13430	12839	12926	13065	2.44	cps
Erbium	164-1	8603	8823	8990	8805	2.20	cps
Erbium	164-2	6695	6718	6688	6701	0.24	cps
Gadolinium	160-1	11932	11892	12212	12012	1.45	cps
Gadolinium	160-2	9797	9580	10070	9816	2.50	cps
Holmium	165-1	6419923	6466284	6433038	6439748	0.37	cps
Holmium	165-2	4865392	4614981	4467204	4649192	4.33	cps
Indium	115-1	5386821	5375221	5415492	5392511	0.38	cps
Indium	115-2	2018486	1889327	1885011	1930941	3.93	cps
Iron	56-2	6908841	6908534	6947713	6921696	0.33	cps
Iron	57-2	172922	172117	175540	173527	1.03	cps
Iron	54-2	381117	376536	383563	380405	0.94	cps
Krypton	83-1	343	437	423	401	12.59	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-02DLX5	Instrumnet Name :	P7
Client Sample ID :	S-875-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:21:16	DataFile Name :	029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	119177	120802	120868	120282	0.80	cps
Lead	207-1	99414	101291	101237	100647	1.06	cps
Lead	208-1	461393	470111	472629	468044	1.26	cps
Lithium	6-1	382334	385763	387535	385211	0.69	cps
Magnesium	24-2	187968	184925	186114	186336	0.82	cps
Manganese	55-2	163888	159258	164421	162522	1.75	cps
Molybdenum	94-1	11545	10711	10487	10914	5.11	cps
Molybdenum	95-1	717	600	650	656	8.93	cps
Molybdenum	96-1	2837	2580	2674	2697	4.82	cps
Molybdenum	97-1	503	450	493	482	5.88	cps
Molybdenum	98-1	990	1060	1037	1029	3.46	cps
Neodymium	150-1	29103	29648	29254	29335	0.96	cps
Neodymium	150-2	19173	18883	19387	19148	1.32	cps
Nickel	60-2	6765	6261	6578	6535	3.90	cps
Phosphorus	31-2	1117	953	917	996	10.70	cps
Potassium	39-2	195171	191263	194597	193677	1.09	cps
Rhodium	103-1	4991570	4926338	4990693	4969533	0.75	cps
Rhodium	103-2	3049637	2880714	2807393	2912581	4.27	cps
Scandium	45-1	2842291	2877635	2896750	2872225	0.96	cps
Scandium	45-2	251766	236669	227345	238593	5.17	cps
Selenium	82-1	299	252	304	285	9.97	cps
Selenium	77-2	67	43	40	50	29.06	cps
Selenium	78-2	667	737	667	690	5.86	cps
Silicon	28-1	2491551	2560344	2634403	2562099	2.79	cps
Silver	107-1	149177	153057	154209	152148	1.73	cps
Silver	109-1	142260	145101	145304	144222	1.18	cps
Sodium	23-2	157668	156346	158645	157553	0.73	cps
Strontium	86-1	35523	35614	35907	35681	0.56	cps
Strontium	88-1	309242	312219	315941	312468	1.07	cps
Sulfur	34-1	100611	98820	96965	98799	1.85	cps
Terbium	159-1	6593994	6681194	6756960	6677383	1.22	cps
Terbium	159-2	4888254	4558830	4477413	4641499	4.69	cps
Thallium	203-1	700	877	797	791	11.18	cps
Thallium	205-1	1807	1647	1980	1811	9.21	cps
Tin	118-1	1067	1053	1117	1079	3.09	cps
Titanium	47-1	33624	33674	34199	33832	0.94	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-02DLX5	Instrumnet Name :	P7
Client Sample ID :	S-875-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:21:16	DataFile Name :	029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	13500	14158	13794	13817	2.38	cps
Vanadium	51-2	18044	18158	17934	18045	0.62	cps
Yttrium	89-1	7756378	7906111	7925201	7862563	1.18	cps
Yttrium	89-2	2206264	2123613	2021511	2117129	4.37	cps
Zinc	66-2	14921	14754	14210	14628	2.54	cps
Zirconium	90-1	29172	28591	27876	28547	2.27	cps
Zirconium	91-1	6431	6348	6378	6386	0.66	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-03DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:24:34	DataFile Name :	030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1094661	1083653	1080278	1086197	0.69	cps
Antimony	121-1	1287	1183	1183	1218	4.90	cps
Arsenic	75-2	2550	2524	2417	2497	2.83	cps
Barium	135-1	456815	462252	464438	461168	0.85	cps
Barium	137-1	800049	806277	814851	807059	0.92	cps
Beryllium	9-1	777	817	870	821	5.70	cps
Bismuth	209-1	3946600	4035467	4100318	4027462	1.92	cps
Bismuth	209-2	3785287	3699520	3717668	3734158	1.21	cps
Bromine	81-1	36151	39349	40526	38675	5.85	cps
Bromine	81-2	2714	2684	2764	2720	1.49	cps
Cadmium	108-1	163	130	163	152	12.64	cps
Cadmium	106-1	1903	1820	1977	1900	4.13	cps
Cadmium	111-1	3048	3027	3056	3044	0.50	cps
Calcium	43-1	126990	129139	128244	128124	0.84	cps
Calcium	44-1	2013786	2081123	2135966	2076959	2.95	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	52116	52160	51963	52080	0.20	cps
Cobalt	59-2	18882	17964	18652	18499	2.58	cps
Copper	63-2	66370	66567	65285	66074	1.04	cps
Dysprosium	156-1	15792	16063	16546	16134	2.37	cps
Dysprosium	156-2	15178	15572	15278	15343	1.33	cps
Erbium	164-1	13693	14101	14247	14014	2.05	cps
Erbium	164-2	10888	10831	10134	10617	3.95	cps
Gadolinium	160-1	15242	16026	15879	15716	2.65	cps
Gadolinium	160-2	12713	12569	12723	12668	0.68	cps
Holmium	165-1	6600697	6617701	6655351	6624583	0.42	cps
Holmium	165-2	5104080	5087305	4991913	5061099	1.20	cps
Indium	115-1	5501576	5543634	5667481	5570897	1.55	cps
Indium	115-2	2130456	2112793	2107800	2117016	0.56	cps
Iron	56-2	20754753	20930219	21107174	20930715	0.84	cps
Iron	57-2	525231	521973	530845	526016	0.85	cps
Iron	54-2	1167420	1155416	1155711	1159516	0.59	cps
Krypton	83-1	447	430	403	427	5.12	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-03DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:24:34	DataFile Name :	030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	275084	278974	279845	277968	0.91	cps
Lead	207-1	233479	234951	237958	235463	0.97	cps
Lead	208-1	1080286	1088821	1094678	1087928	0.67	cps
Lithium	6-1	384618	388874	389937	387810	0.73	cps
Magnesium	24-2	230524	228271	229071	229288	0.50	cps
Manganese	55-2	1494854	1472256	1506651	1491254	1.17	cps
Molybdenum	94-1	11868	11788	11822	11826	0.34	cps
Molybdenum	95-1	1457	1263	1273	1331	8.18	cps
Molybdenum	96-1	3777	3827	3764	3789	0.88	cps
Molybdenum	97-1	857	867	747	823	8.09	cps
Molybdenum	98-1	2174	1903	2080	2052	6.68	cps
Neodymium	150-1	31619	32401	31502	31840	1.53	cps
Neodymium	150-2	20552	20578	20331	20487	0.66	cps
Nickel	60-2	13256	13216	13373	13282	0.61	cps
Phosphorus	31-2	2340	2297	2334	2324	1.00	cps
Potassium	39-2	210594	213046	215706	213115	1.20	cps
Rhodium	103-1	5106104	5036661	5185284	5109350	1.46	cps
Rhodium	103-2	3191874	3238596	3194558	3208343	0.82	cps
Scandium	45-1	2911450	2957907	3089148	2986168	3.09	cps
Scandium	45-2	263942	261095	259239	261426	0.91	cps
Selenium	82-1	351	372	429	384	10.47	cps
Selenium	77-2	70	77	77	74	5.17	cps
Selenium	78-2	723	697	680	700	3.12	cps
Silicon	28-1	2296304	2359911	2314288	2323501	1.41	cps
Silver	107-1	696996	718371	717891	711086	1.72	cps
Silver	109-1	669422	678695	683745	677288	1.07	cps
Sodium	23-2	302588	302209	301822	302206	0.13	cps
Strontium	86-1	129874	130068	132703	130882	1.21	cps
Strontium	88-1	1133297	1152925	1162245	1149489	1.29	cps
Sulfur	34-1	103272	105148	104312	104244	0.90	cps
Terbium	159-1	6824125	6734521	7018542	6859063	2.12	cps
Terbium	159-2	5061979	5038113	5025720	5041937	0.37	cps
Thallium	203-1	1260	1313	1390	1321	4.95	cps
Thallium	205-1	3030	2894	3077	3000	3.18	cps
Tin	118-1	1357	1450	1503	1437	5.17	cps
Titanium	47-1	20307	23041	24842	22730	10.05	cps

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-03DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:24:34	DataFile Name :	030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	26750	27695	27969	27472	2.33	cps
Vanadium	51-2	28661	28133	28794	28529	1.23	cps
Yttrium	89-1	8130427	8254240	8312732	8232466	1.13	cps
Yttrium	89-2	2322220	2303619	2346168	2324002	0.92	cps
Zinc	66-2	55767	55088	53633	54829	1.99	cps
Zirconium	90-1	29476	29112	30311	29633	2.07	cps
Zirconium	91-1	7214	11875	6898	8662	32.17	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-04DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:27:52	DataFile Name :	031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1061355	1052558	1052814	1055576	0.47	cps
Antimony	121-1	930	973	1057	987	6.53	cps
Arsenic	75-2	1857	1757	1847	1820	3.03	cps
Barium	135-1	415758	424607	421882	420749	1.08	cps
Barium	137-1	725343	737158	741088	734530	1.12	cps
Beryllium	9-1	593	610	717	640	10.46	cps
Bismuth	209-1	4003251	3913780	4037091	3984707	1.60	cps
Bismuth	209-2	3722767	3711508	3704869	3713048	0.24	cps
Bromine	81-1	40422	41274	43033	41576	3.20	cps
Bromine	81-2	2774	2964	2784	2840	3.77	cps
Cadmium	108-1	90	127	140	119	21.78	cps
Cadmium	106-1	1963	1993	1800	1919	5.42	cps
Cadmium	111-1	2678	2527	2442	2549	4.69	cps
Calcium	43-1	117219	117669	118892	117926	0.73	cps
Calcium	44-1	1915097	1897036	1960470	1924201	1.70	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	51217	51106	51110	51144	0.12	cps
Cobalt	59-2	17153	17644	17497	17431	1.44	cps
Copper	63-2	67973	66822	66276	67024	1.29	cps
Dysprosium	156-1	15689	15686	16093	15822	1.48	cps
Dysprosium	156-2	14778	14698	14598	14691	0.61	cps
Erbium	164-1	13056	13377	13847	13427	2.96	cps
Erbium	164-2	10491	10361	10291	10381	0.98	cps
Gadolinium	160-1	14831	14791	15549	15057	2.83	cps
Gadolinium	160-2	12299	11989	11915	12068	1.69	cps
Holmium	165-1	6580185	6593739	6832980	6668968	2.13	cps
Holmium	165-2	5081776	5072645	5046319	5066914	0.36	cps
Indium	115-1	5497252	5479865	5639265	5538794	1.58	cps
Indium	115-2	2148689	2151980	2131659	2144109	0.51	cps
Iron	56-2	16955432	16885846	16840826	16894035	0.34	cps
Iron	57-2	420291	416424	423629	420115	0.86	cps
Iron	54-2	932995	931790	934045	932943	0.12	cps
Krypton	83-1	377	407	350	378	7.50	cps

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LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-04DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:27:52	DataFile Name :	031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	278392	279983	283655	280677	0.96	cps
Lead	207-1	231776	237475	237363	235538	1.38	cps
Lead	208-1	1082603	1089695	1104873	1092390	1.04	cps
Lithium	6-1	392185	380407	392066	388219	1.74	cps
Magnesium	24-2	219271	219195	218376	218947	0.23	cps
Manganese	55-2	1530527	1547900	1550245	1542891	0.70	cps
Molybdenum	94-1	10380	10327	10474	10394	0.71	cps
Molybdenum	95-1	1230	1210	1293	1245	3.50	cps
Molybdenum	96-1	3577	3500	3374	3484	2.95	cps
Molybdenum	97-1	777	757	747	760	2.01	cps
Molybdenum	98-1	1940	1820	1847	1869	3.37	cps
Neodymium	150-1	30390	30433	29842	30221	1.09	cps
Neodymium	150-2	19924	19393	19647	19655	1.35	cps
Nickel	60-2	9540	9019	9430	9330	2.94	cps
Phosphorus	31-2	2327	2444	2374	2381	2.47	cps
Potassium	39-2	209423	207297	210143	208954	0.71	cps
Rhodium	103-1	5066803	5208093	5181846	5152247	1.46	cps
Rhodium	103-2	3209103	3151942	3204191	3188412	0.99	cps
Scandium	45-1	2989971	3042902	3006409	3013094	0.90	cps
Scandium	45-2	260671	262310	257619	260200	0.91	cps
Selenium	82-1	426	339	444	403	13.91	cps
Selenium	77-2	100	80	60	80	25.00	cps
Selenium	78-2	703	800	787	763	6.86	cps
Silicon	28-1	2434117	2506536	2432863	2457839	1.72	cps
Silver	107-1	802144	809022	829338	813502	1.74	cps
Silver	109-1	761616	773880	771226	768907	0.84	cps
Sodium	23-2	293120	292476	291557	292384	0.27	cps
Strontium	86-1	116628	120345	121093	119355	2.00	cps
Strontium	88-1	1040071	1065353	1054330	1053251	1.20	cps
Sulfur	34-1	103762	104735	105779	104759	0.96	cps
Terbium	159-1	6757091	6872870	6989982	6873314	1.69	cps
Terbium	159-2	4994964	5015130	4938482	4982859	0.80	cps
Thallium	203-1	1020	953	1060	1011	5.33	cps
Thallium	205-1	2210	2294	2417	2307	4.51	cps
Tin	118-1	1407	1523	1490	1473	4.08	cps
Titanium	47-1	18805	19156	19814	19258	2.66	cps

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-04DLX5	Instrumnet Name :	P7
Client Sample ID :	S-874-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:27:52	DataFile Name :	031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	26370	26613	27395	26793	2.00	cps
Vanadium	51-2	25869	26210	26417	26165	1.06	cps
Yttrium	89-1	8272939	8248633	8269450	8263674	0.16	cps
Yttrium	89-2	2301467	2363676	2336386	2333843	1.34	cps
Zinc	66-2	44797	43911	44082	44263	1.06	cps
Zirconium	90-1	25419	26461	26290	26056	2.15	cps
Zirconium	91-1	5438	5971	6095	5835	5.98	cps

Reviewed By:mohan
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LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:31:06	DataFile Name :	032SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1123388	1193697	1181587	1166224	3.22	cps
Antimony	121-1	510	437	417	454	10.81	cps
Arsenic	75-2	1020	1000	1023	1014	1.24	cps
Barium	135-1	339690	341748	341866	341101	0.36	cps
Barium	137-1	595021	600047	597454	597507	0.42	cps
Beryllium	9-1	737	803	813	784	5.31	cps
Bismuth	209-1	3993094	4022335	4024874	4013435	0.44	cps
Bismuth	209-2	3656835	3634129	3623161	3638042	0.47	cps
Bromine	81-1	36107	36004	35790	35967	0.45	cps
Bromine	81-2	1460	1587	1483	1510	4.46	cps
Cadmium	108-1	113	140	117	123	11.78	cps
Cadmium	106-1	1867	1920	1757	1848	4.51	cps
Cadmium	111-1	2021	2073	2051	2048	1.28	cps
Calcium	43-1	70603	71511	72271	71462	1.17	cps
Calcium	44-1	1158053	1146947	1177201	1160734	1.32	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	62978	62456	64370	63268	1.56	cps
Cobalt	59-2	10207	10287	10164	10219	0.61	cps
Copper	63-2	54496	53947	53619	54021	0.82	cps
Dysprosium	156-1	23036	23166	23550	23250	1.15	cps
Dysprosium	156-2	21373	22324	21620	21773	2.27	cps
Erbium	164-1	19357	19247	19647	19417	1.07	cps
Erbium	164-2	14331	14591	14628	14517	1.12	cps
Gadolinium	160-1	22962	22839	22759	22853	0.45	cps
Gadolinium	160-2	17888	18092	17348	17776	2.16	cps
Holmium	165-1	6693839	6693191	6620027	6669019	0.64	cps
Holmium	165-2	4991380	5002074	4954264	4982572	0.50	cps
Indium	115-1	5582755	5708772	5456185	5582571	2.26	cps
Indium	115-2	2137080	2110079	2075776	2107645	1.46	cps
Iron	56-2	17155817	17046700	16724978	16975832	1.32	cps
Iron	57-2	422576	425084	424243	423968	0.30	cps
Iron	54-2	936583	942734	939949	939755	0.33	cps
Krypton	83-1	383	393	477	418	12.27	cps

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LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:31:06	DataFile Name :	032SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	167950	169956	170211	169372	0.73	cps
Lead	207-1	142108	143830	142498	142812	0.63	cps
Lead	208-1	656461	661737	663553	660584	0.56	cps
Lithium	6-1	388064	392023	391354	390480	0.54	cps
Magnesium	24-2	204200	205002	201666	203623	0.86	cps
Manganese	55-2	405878	404413	400744	403679	0.66	cps
Molybdenum	94-1	20184	20675	20798	20552	1.58	cps
Molybdenum	95-1	663	623	587	624	6.14	cps
Molybdenum	96-1	4521	4557	4664	4581	1.63	cps
Molybdenum	97-1	400	423	443	422	5.14	cps
Molybdenum	98-1	1003	1007	1037	1016	1.81	cps
Neodymium	150-1	45587	45466	45416	45490	0.19	cps
Neodymium	150-2	29204	28983	28629	28939	1.00	cps
Nickel	60-2	6968	7218	7072	7086	1.77	cps
Phosphorus	31-2	1503	1397	1310	1403	6.90	cps
Potassium	39-2	265183	267586	266646	266472	0.45	cps
Rhodium	103-1	5077821	5177705	5144913	5133480	0.99	cps
Rhodium	103-2	3310443	3190839	3128186	3209823	2.88	cps
Scandium	45-1	3070566	3070257	3052614	3064479	0.34	cps
Scandium	45-2	260199	262604	258908	260571	0.72	cps
Selenium	82-1	439	410	332	394	14.06	cps
Selenium	77-2	117	93	67	92	27.13	cps
Selenium	78-2	770	753	803	776	3.28	cps
Silicon	28-1	3468426	3335773	3361010	3388403	2.08	cps
Silver	107-1	257775	262349	261899	260674	0.97	cps
Silver	109-1	246544	248289	247377	247403	0.35	cps
Sodium	23-2	197380	198476	200293	198716	0.74	cps
Strontium	86-1	80509	80890	81306	80902	0.49	cps
Strontium	88-1	706980	721109	708938	712342	1.07	cps
Sulfur	34-1	100249	97891	97599	98580	1.47	cps
Terbium	159-1	6875198	6866261	6959075	6900178	0.74	cps
Terbium	159-2	4924024	4964169	4924043	4937412	0.47	cps
Thallium	203-1	1087	1073	1030	1063	2.79	cps
Thallium	205-1	2414	2434	2294	2380	3.18	cps
Tin	118-1	1027	1090	1140	1086	5.23	cps
Titanium	47-1	21826	22531	21295	21884	2.83	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:31:06	DataFile Name :	032SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	31367	31801	31708	31625	0.72	cps
Vanadium	51-2	39933	39923	39783	39879	0.21	cps
Yttrium	89-1	8374696	8461586	8343070	8393117	0.73	cps
Yttrium	89-2	2350341	2364931	2307825	2341032	1.27	cps
Zinc	66-2	24016	23999	24029	24015	0.06	cps
Zirconium	90-1	53303	54675	55066	54348	1.70	cps
Zirconium	91-1	12315	12252	12362	12310	0.45	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DUPDLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:34:24	DataFile Name :	033SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1244577	1261640	1258249	1254822	0.72	cps
Antimony	121-1	357	387	337	360	6.99	cps
Arsenic	75-2	1030	1080	1157	1089	5.86	cps
Barium	135-1	343440	346378	345995	345271	0.46	cps
Barium	137-1	598200	604500	607136	603279	0.76	cps
Beryllium	9-1	747	777	767	763	2.00	cps
Bismuth	209-1	3924977	3977319	3961377	3954557	0.68	cps
Bismuth	209-2	3578769	3581100	3526073	3561981	0.87	cps
Bromine	81-1	34437	35252	35640	35110	1.75	cps
Bromine	81-2	1330	1307	1243	1293	3.47	cps
Cadmium	108-1	107	147	157	137	19.36	cps
Cadmium	106-1	1977	1740	1863	1860	6.36	cps
Cadmium	111-1	2172	2042	2168	2128	3.48	cps
Calcium	43-1	72515	73999	72529	73015	1.17	cps
Calcium	44-1	1163305	1188975	1177751	1176677	1.09	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	66107	65083	66720	65970	1.25	cps
Cobalt	59-2	10317	10610	10340	10423	1.57	cps
Copper	63-2	55874	55432	56623	55976	1.08	cps
Dysprosium	156-1	24328	24638	24625	24530	0.72	cps
Dysprosium	156-2	23380	22538	22872	22930	1.85	cps
Erbium	164-1	19948	20292	20208	20149	0.89	cps
Erbium	164-2	15212	15338	15112	15221	0.75	cps
Gadolinium	160-1	23630	23767	23784	23727	0.35	cps
Gadolinium	160-2	18876	18689	18315	18627	1.53	cps
Holmium	165-1	6580452	6635430	6620751	6612211	0.43	cps
Holmium	165-2	4915738	4864687	4870310	4883578	0.57	cps
Indium	115-1	5617097	5643129	5560429	5606885	0.75	cps
Indium	115-2	2085059	2100968	2068428	2084818	0.78	cps
Iron	56-2	17351984	16717724	16822164	16963958	2.00	cps
Iron	57-2	418617	420647	419774	419679	0.24	cps
Iron	54-2	924096	928959	914421	922492	0.80	cps
Krypton	83-1	383	400	357	380	5.75	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DUPDLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:34:24	DataFile Name :	033SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	171227	171572	173131	171977	0.59	cps
Lead	207-1	141936	144758	142660	143118	1.02	cps
Lead	208-1	666702	671300	667968	668657	0.36	cps
Lithium	6-1	374439	381585	377385	377803	0.95	cps
Magnesium	24-2	210844	214131	207943	210973	1.47	cps
Manganese	55-2	402931	404664	399050	402215	0.71	cps
Molybdenum	94-1	30867	22691	22114	25224	19.41	cps
Molybdenum	95-1	600	570	537	569	5.57	cps
Molybdenum	96-1	4597	5061	5610	5089	9.96	cps
Molybdenum	97-1	353	430	337	373	13.33	cps
Molybdenum	98-1	1013	977	993	994	1.85	cps
Neodymium	150-1	47118	48918	48058	48032	1.87	cps
Neodymium	150-2	30807	30209	30513	30510	0.98	cps
Nickel	60-2	7482	7449	7065	7332	3.16	cps
Phosphorus	31-2	1320	1490	1260	1357	8.79	cps
Potassium	39-2	284784	287902	288806	287164	0.73	cps
Rhodium	103-1	5061031	5149878	5070961	5093957	0.96	cps
Rhodium	103-2	3160767	3156503	3160381	3159217	0.07	cps
Scandium	45-1	3025244	3064974	3033877	3041365	0.69	cps
Scandium	45-2	261916	260098	258822	260279	0.60	cps
Selenium	82-1	315	362	451	376	18.29	cps
Selenium	77-2	127	150	117	131	13.04	cps
Selenium	78-2	837	860	803	833	3.42	cps
Silicon	28-1	3940153	3645875	3931820	3839283	4.36	cps
Silver	107-1	252485	253212	254364	253354	0.37	cps
Silver	109-1	239782	239981	242778	240847	0.70	cps
Sodium	23-2	203525	200621	200813	201653	0.81	cps
Strontium	86-1	82034	82047	82992	82358	0.67	cps
Strontium	88-1	717692	728846	724235	723591	0.77	cps
Sulfur	34-1	94154	93795	94882	94277	0.59	cps
Terbium	159-1	6782609	6877189	6885620	6848472	0.84	cps
Terbium	159-2	4866210	4930803	4899952	4898988	0.66	cps
Thallium	203-1	1030	1103	1050	1061	3.57	cps
Thallium	205-1	2407	2590	2294	2430	6.16	cps
Tin	118-1	1133	1020	1043	1066	5.62	cps
Titanium	47-1	26259	33556	25103	28306	16.19	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09DUPDLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 14:34:24	DataFile Name :	033SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	32389	31327	32286	32001	1.83	cps
Vanadium	51-2	41671	41838	41761	41757	0.20	cps
Yttrium	89-1	8214219	8428003	8470650	8370957	1.64	cps
Yttrium	89-2	2294506	2307304	2325105	2308972	0.67	cps
Zinc	66-2	24570	24437	24046	24351	1.12	cps
Zirconium	90-1	59177	58988	59155	59107	0.18	cps
Zirconium	91-1	13199	13139	13748	13362	2.51	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P7
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:51:30	DataFile Name :	034CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	5303598	5383781	5222285	5303221	1.52	cps
Antimony	121-1	2436117	2370740	2371195	2392684	1.57	cps
Arsenic	75-2	138082	137052	134967	136701	1.16	cps
Barium	135-1	3201528	3209230	3130223	3180327	1.37	cps
Barium	137-1	5497080	5486357	5336525	5439987	1.65	cps
Beryllium	9-1	279430	285810	287474	284238	1.49	cps
Bismuth	209-1	3640560	3724058	3667907	3677508	1.16	cps
Bismuth	209-2	3325716	3343032	3281345	3316697	0.96	cps
Bromine	81-1	31226	29777	28842	29948	4.01	cps
Bromine	81-2	127	130	150	136	9.31	cps
Cadmium	108-1	47294	45672	47277	46747	1.99	cps
Cadmium	106-1	66384	66548	65912	66281	0.50	cps
Cadmium	111-1	642631	638323	638576	639843	0.38	cps
Calcium	43-1	3281823	3268098	3218078	3256000	1.03	cps
Calcium	44-1	53295818	52747658	52424996	52822824	0.83	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	972736	975385	972535	973552	0.16	cps
Cobalt	59-2	1581828	1600116	1598294	1593413	0.63	cps
Copper	63-2	10843373	10945809	10661293	10816825	1.33	cps
Dysprosium	156-1	97	93	90	93	3.57	cps
Dysprosium	156-2	197	200	217	204	5.24	cps
Erbium	164-1	117	140	163	140	16.67	cps
Erbium	164-2	143	87	107	112	25.61	cps
Gadolinium	160-1	93	60	113	89	30.31	cps
Gadolinium	160-2	310	327	263	300	10.94	cps
Holmium	165-1	6311168	6420361	6307775	6346435	1.01	cps
Holmium	165-2	4800140	4829287	4843660	4824362	0.46	cps
Indium	115-1	5197002	5091989	4977802	5088931	2.15	cps
Indium	115-2	1884989	1964385	1926784	1925386	2.06	cps
Iron	56-2	227985830	230617223	224578543	227727199	1.33	cps
Iron	57-2	5834786	5737891	5682152	5751610	1.34	cps
Iron	54-2	12581942	12591085	12631034	12601354	0.21	cps
Krypton	83-1	387	327	380	364	9.02	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P7
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:51:30	DataFile Name :	034CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9107479	9160453	9268261	9178731	0.89	cps
Lead	207-1	7970822	8073160	8100948	8048310	0.85	cps
Lead	208-1	36061514	36972590	36736257	36590120	1.29	cps
Lithium	6-1	371661	374656	377081	374466	0.72	cps
Magnesium	24-2	44700878	45285144	44175518	44720513	1.24	cps
Manganese	55-2	7995480	8011623	7908979	7972027	0.69	cps
Molybdenum	94-1	8828688	8819514	8686066	8778090	0.91	cps
Molybdenum	95-1	12581177	12677944	12675305	12644808	0.44	cps
Molybdenum	96-1	13773705	13645560	13812438	13743901	0.64	cps
Molybdenum	97-1	7735320	7790071	7786444	7770611	0.39	cps
Molybdenum	98-1	20033375	20292193	20030137	20118568	0.75	cps
Neodymium	150-1	180	183	190	184	2.76	cps
Neodymium	150-2	63	50	50	54	14.14	cps
Nickel	60-2	387607	384772	385046	385808	0.41	cps
Phosphorus	31-2	60128	58916	59160	59401	1.08	cps
Potassium	39-2	29034182	28868233	28851796	28918070	0.35	cps
Rhodium	103-1	4719254	4650460	4571086	4646934	1.60	cps
Rhodium	103-2	2867397	2898294	2826798	2864163	1.25	cps
Scandium	45-1	2916426	2893386	2814572	2874795	1.86	cps
Scandium	45-2	245187	246705	243297	245063	0.70	cps
Selenium	82-1	47651	47227	47040	47306	0.66	cps
Selenium	77-2	5348	5258	5251	5285	1.02	cps
Selenium	78-2	17971	18238	18195	18135	0.79	cps
Silicon	28-1	2545665	2525401	2505603	2525556	0.79	cps
Silver	107-1	3189662	3227820	3184172	3200551	0.74	cps
Silver	109-1	3028539	3034638	3028909	3030695	0.11	cps
Sodium	23-2	72977736	71356366	70647062	71660388	1.67	cps
Strontium	86-1	784310	788496	782137	784981	0.41	cps
Strontium	88-1	7400140	7201407	7208721	7270089	1.55	cps
Sulfur	34-1	305797	299021	296022	300280	1.67	cps
Terbium	159-1	6644898	6624676	6631097	6633557	0.16	cps
Terbium	159-2	4851507	4812695	4771574	4811925	0.83	cps
Thallium	203-1	2278540	2294901	2244687	2272709	1.13	cps
Thallium	205-1	5343609	5417873	5423510	5394997	0.83	cps
Tin	118-1	2128597	2130358	2110141	2123032	0.53	cps
Titanium	47-1	3103996	3088142	3049577	3080572	0.91	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P7
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:51:30	DataFile Name :	034CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7069109	7328214	7307717	7235014	1.99	cps
Vanadium	51-2	831549	849372	831709	837543	1.22	cps
Yttrium	89-1	7700087	7561846	7686849	7649594	1.00	cps
Yttrium	89-2	2094693	2138284	2116552	2116510	1.03	cps
Zinc	66-2	2011293	2004260	1940714	1985423	1.96	cps
Zirconium	90-1	4277039	4317747	4285686	4293491	0.50	cps
Zirconium	91-1	922425	925043	924842	924104	0.16	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P7
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:54:16	DataFile Name :	035CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	370	340	420	377	10.73	cps
Antimony	121-1	447	550	520	506	10.52	cps
Arsenic	75-2	10	0	17	9	94.38	cps
Barium	135-1	67	43	63	58	21.85	cps
Barium	137-1	57	67	83	69	19.55	cps
Beryllium	9-1	37	43	43	41	9.35	cps
Bismuth	209-1	3884518	3867286	3885080	3878961	0.26	cps
Bismuth	209-2	3541786	3512587	3514252	3522875	0.47	cps
Bromine	81-1	26891	28110	27225	27409	2.30	cps
Bromine	81-2	167	180	193	180	7.41	cps
Cadmium	108-1	10	3	17	10	66.70	cps
Cadmium	106-1	1630	1577	1423	1543	6.95	cps
Cadmium	111-1	1177	1115	1005	1099	7.95	cps
Calcium	43-1	220	243	243	236	5.72	cps
Calcium	44-1	7078	6968	7175	7074	1.46	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1023	1047	1053	1041	1.51	cps
Cobalt	59-2	53	97	93	81	29.73	cps
Copper	63-2	2013	2007	2114	2045	2.92	cps
Dysprosium	156-1	0	7	13	7	99.98	cps
Dysprosium	156-2	0	0	0	0	0.00	cps
Erbium	164-1	43	33	13	30	50.92	cps
Erbium	164-2	30	40	33	34	14.78	cps
Gadolinium	160-1	23	10	17	17	39.99	cps
Gadolinium	160-2	240	210	200	217	9.61	cps
Holmium	165-1	6317878	6234363	6260079	6270774	0.68	cps
Holmium	165-2	4810834	4731456	4829916	4790735	1.09	cps
Indium	115-1	5172533	5213573	5247570	5211225	0.72	cps
Indium	115-2	1980586	1980155	1979655	1980132	0.02	cps
Iron	56-2	23963	23746	24026	23911	0.61	cps
Iron	57-2	1123	1243	1140	1169	5.56	cps
Iron	54-2	2534	2417	2367	2439	3.51	cps
Krypton	83-1	317	337	380	344	9.40	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P7
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:54:16	DataFile Name :	035CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	533	570	623	576	7.86	cps
Lead	207-1	497	490	503	497	1.34	cps
Lead	208-1	2360	2310	2357	2342	1.19	cps
Lithium	6-1	394877	392394	391055	392775	0.49	cps
Magnesium	24-2	993	977	1060	1010	4.37	cps
Manganese	55-2	850	840	933	874	5.86	cps
Molybdenum	94-1	600	453	467	507	16.01	cps
Molybdenum	95-1	327	257	350	311	15.61	cps
Molybdenum	96-1	487	427	420	444	8.26	cps
Molybdenum	97-1	187	197	197	193	2.99	cps
Molybdenum	98-1	550	563	480	531	8.43	cps
Neodymium	150-1	0	3	3	2	86.60	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	277	257	283	272	5.10	cps
Phosphorus	31-2	197	167	193	186	8.86	cps
Potassium	39-2	44461	44665	44906	44678	0.50	cps
Rhodium	103-1	4743396	4965498	4819453	4842783	2.33	cps
Rhodium	103-2	3011125	2982527	2989493	2994382	0.50	cps
Scandium	45-1	2841563	2827773	2840161	2836499	0.27	cps
Scandium	45-2	243177	241022	242011	242070	0.45	cps
Selenium	82-1	192	226	201	207	8.58	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	613	603	657	624	4.54	cps
Silicon	28-1	796057	793402	795730	795063	0.18	cps
Silver	107-1	97	90	110	99	10.30	cps
Silver	109-1	70	90	97	86	16.22	cps
Sodium	23-2	15404	15618	15208	15410	1.33	cps
Strontium	86-1	610	527	590	576	7.56	cps
Strontium	88-1	123	153	153	143	12.08	cps
Sulfur	34-1	98354	98521	99125	98667	0.41	cps
Terbium	159-1	6466010	6533814	6567932	6522585	0.80	cps
Terbium	159-2	4798913	4733606	4711769	4748096	0.95	cps
Thallium	203-1	180	203	207	197	7.39	cps
Thallium	205-1	397	410	483	430	10.85	cps
Tin	118-1	703	697	737	712	3.01	cps
Titanium	47-1	80	83	77	80	4.16	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P7
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 14:54:16	DataFile Name :	035CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	87	97	93	92	5.52	cps
Vanadium	51-2	30	20	27	26	19.92	cps
Yttrium	89-1	7477173	7629108	7530888	7545723	1.02	cps
Yttrium	89-2	2163552	2129597	2077608	2123586	2.04	cps
Zinc	66-2	247	327	300	291	13.99	cps
Zirconium	90-1	970	953	753	892	13.51	cps
Zirconium	91-1	160	233	210	201	18.63	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09LDLX25	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	25
Date & Time Acquired :	2025-04-11 14:57:38	DataFile Name :	036SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	214712	212411	214036	213720	0.55	cps
Antimony	121-1	160	190	213	188	14.24	cps
Arsenic	75-2	203	257	160	207	23.43	cps
Barium	135-1	61914	64703	64582	63733	2.47	cps
Barium	137-1	111637	111506	112864	112002	0.67	cps
Beryllium	9-1	190	167	180	179	6.54	cps
Bismuth	209-1	3825037	3837192	3883540	3848590	0.80	cps
Bismuth	209-2	3585200	3550777	3526427	3554135	0.83	cps
Bromine	81-1	27907	28270	28621	28266	1.26	cps
Bromine	81-2	423	367	313	368	14.96	cps
Cadmium	108-1	7	17	17	13	43.29	cps
Cadmium	106-1	1670	1593	1497	1587	5.47	cps
Cadmium	111-1	1334	1290	1209	1278	4.96	cps
Calcium	43-1	13583	13443	13940	13655	1.88	cps
Calcium	44-1	223879	225953	227654	225829	0.84	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	12976	13373	12916	13088	1.90	cps
Cobalt	59-2	1873	1890	1977	1913	2.90	cps
Copper	63-2	11798	11198	11778	11591	2.94	cps
Dysprosium	156-1	4537	4604	4367	4503	2.71	cps
Dysprosium	156-2	4127	4291	4247	4222	2.00	cps
Erbium	164-1	3707	3764	3861	3777	2.05	cps
Erbium	164-2	2794	2877	2744	2805	2.40	cps
Gadolinium	160-1	4364	4274	4351	4330	1.12	cps
Gadolinium	160-2	3817	3774	3644	3745	2.41	cps
Holmium	165-1	6299978	6352116	6228187	6293427	0.99	cps
Holmium	165-2	4781038	4811101	4767885	4786675	0.46	cps
Indium	115-1	5252803	5228362	5284087	5255084	0.53	cps
Indium	115-2	2015740	1992003	2014646	2007463	0.67	cps
Iron	56-2	3256528	3201892	3232193	3230204	0.85	cps
Iron	57-2	81959	82475	81007	81813	0.91	cps
Iron	54-2	178515	182449	181019	180661	1.10	cps
Krypton	83-1	357	377	347	360	4.24	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09LDLX25	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	25
Date & Time Acquired :	2025-04-11 14:57:38	DataFile Name :	036SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	33100	32673	32709	32827	0.72	cps
Lead	207-1	27194	27428	27852	27491	1.21	cps
Lead	208-1	126565	127553	128410	127509	0.72	cps
Lithium	6-1	382328	383280	378928	381512	0.60	cps
Magnesium	24-2	39130	39313	39036	39160	0.36	cps
Manganese	55-2	84975	85783	85404	85387	0.47	cps
Molybdenum	94-1	4674	4644	4254	4524	5.18	cps
Molybdenum	95-1	200	187	187	191	4.03	cps
Molybdenum	96-1	1207	1220	1167	1198	2.32	cps
Molybdenum	97-1	153	120	113	129	16.63	cps
Molybdenum	98-1	367	287	323	326	12.30	cps
Neodymium	150-1	8486	8653	9733	8957	7.56	cps
Neodymium	150-2	5718	5614	5421	5584	2.70	cps
Nickel	60-2	1530	1583	1560	1558	1.72	cps
Phosphorus	31-2	413	470	383	422	10.42	cps
Potassium	39-2	87543	86568	86672	86927	0.62	cps
Rhodium	103-1	4750502	4813822	4842999	4802441	0.98	cps
Rhodium	103-2	3075288	3023828	3087973	3062363	1.11	cps
Scandium	45-1	2885707	2816758	2811671	2838045	1.46	cps
Scandium	45-2	244862	245984	245344	245397	0.23	cps
Selenium	82-1	246	221	222	230	6.07	cps
Selenium	77-2	23	10	10	14	53.28	cps
Selenium	78-2	670	740	767	726	6.88	cps
Silicon	28-1	1575794	1539760	1537170	1550908	1.39	cps
Silver	107-1	48380	48029	48377	48262	0.42	cps
Silver	109-1	45541	46110	46735	46129	1.29	cps
Sodium	23-2	50576	50884	50449	50636	0.44	cps
Strontium	86-1	15535	15608	15341	15495	0.89	cps
Strontium	88-1	131848	133664	134676	133396	1.07	cps
Sulfur	34-1	101310	101393	100102	100935	0.72	cps
Terbium	159-1	6413528	6570917	6409867	6464771	1.42	cps
Terbium	159-2	4814235	4822084	4816413	4817577	0.08	cps
Thallium	203-1	317	270	280	289	8.50	cps
Thallium	205-1	733	697	693	708	3.14	cps
Tin	118-1	813	800	720	778	6.49	cps
Titanium	47-1	3967	4301	4224	4164	4.19	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09LDLX25	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	25
Date & Time Acquired :	2025-04-11 14:57:38	DataFile Name :	036SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	5895	5845	5898	5879	0.51	cps
Vanadium	51-2	7699	7629	7976	7768	2.36	cps
Yttrium	89-1	7644399	7587831	7662706	7631645	0.51	cps
Yttrium	89-2	2165266	2111158	2174491	2150305	1.59	cps
Zinc	66-2	4827	4874	4577	4760	3.35	cps
Zirconium	90-1	12092	11832	11818	11914	1.29	cps
Zirconium	91-1	2790	2664	2547	2667	4.56	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-10DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:17:05	DataFile Name :	040SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1357887	1406187	1354301	1372792	2.11	cps
Antimony	121-1	454614	459785	464627	459675	1.09	cps
Arsenic	75-2	1047	967	1040	1018	4.36	cps
Barium	135-1	841665	856788	859124	852526	1.11	cps
Barium	137-1	1462979	1490017	1500124	1484374	1.29	cps
Beryllium	9-1	56599	56800	58376	57258	1.70	cps
Bismuth	209-1	3938463	4042252	3981356	3987357	1.31	cps
Bismuth	209-2	3625638	3675316	3570652	3623869	1.44	cps
Bromine	81-1	32325	33201	33578	33035	1.95	cps
Bromine	81-2	1117	997	1183	1099	8.61	cps
Cadmium	108-1	9310	9293	9797	9467	3.02	cps
Cadmium	106-1	14868	15135	15649	15217	2.61	cps
Cadmium	111-1	131968	135489	137512	134990	2.08	cps
Calcium	43-1	193420	195626	199020	196022	1.44	cps
Calcium	44-1	3180526	3167410	3261817	3203251	1.60	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	250348	248243	244975	247855	1.09	cps
Cobalt	59-2	319822	321400	317779	319667	0.57	cps
Copper	63-2	2254352	2255031	2264538	2257974	0.25	cps
Dysprosium	156-1	21951	21830	22455	22079	1.50	cps
Dysprosium	156-2	20632	21083	19854	20523	3.03	cps
Erbium	164-1	18072	18305	19003	18460	2.62	cps
Erbium	164-2	14034	13910	13560	13835	1.78	cps
Gadolinium	160-1	21353	21089	21974	21472	2.12	cps
Gadolinium	160-2	16570	17341	16446	16786	2.89	cps
Holmium	165-1	6491085	6556395	6610591	6552690	0.91	cps
Holmium	165-2	5038885	5005505	4897361	4980584	1.49	cps
Indium	115-1	5416353	5391286	5484002	5430547	0.88	cps
Indium	115-2	2055887	2067070	2100667	2074541	1.12	cps
Iron	56-2	24350040	24449096	24176870	24325336	0.57	cps
Iron	57-2	601495	605530	604903	603976	0.36	cps
Iron	54-2	1334884	1330142	1311922	1325649	0.91	cps
Krypton	83-1	313	377	350	347	9.17	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-10DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:17:05	DataFile Name :	040SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	1957739	1981845	1965461	1968348	0.63	cps
Lead	207-1	1622650	1625126	1653318	1633698	1.04	cps
Lead	208-1	7762554	7852221	7857992	7824256	0.68	cps
Lithium	6-1	382864	381581	388952	384466	1.02	cps
Magnesium	24-2	2029299	1910100	1931220	1956873	3.25	cps
Manganese	55-2	2016007	1958568	1946573	1973716	1.88	cps
Molybdenum	94-1	805746	813585	813350	810894	0.55	cps
Molybdenum	95-1	848367	860689	860996	856684	0.84	cps
Molybdenum	96-1	966456	978235	981702	975464	0.82	cps
Molybdenum	97-1	533097	537096	542690	537628	0.90	cps
Molybdenum	98-1	1346886	1365173	1382477	1364845	1.30	cps
Neodymium	150-1	42604	43644	43617	43288	1.37	cps
Neodymium	150-2	27537	27540	27333	27470	0.43	cps
Nickel	60-2	87007	85171	85238	85805	1.21	cps
Phosphorus	31-2	1190	1303	1287	1260	4.86	cps
Potassium	39-2	1334456	1267250	1268548	1290085	2.98	cps
Rhodium	103-1	5053749	5081909	5153896	5096518	1.01	cps
Rhodium	103-2	3153047	3116553	3169803	3146468	0.87	cps
Scandium	45-1	3004868	2956365	3028369	2996534	1.23	cps
Scandium	45-2	261861	259650	257954	259822	0.75	cps
Selenium	82-1	10886	10778	10951	10872	0.80	cps
Selenium	77-2	1173	1280	1303	1252	5.54	cps
Selenium	78-2	4477	4607	4751	4612	2.97	cps
Silicon	28-1	6671986	4197887	6696717	5855530	24.52	cps
Silver	107-1	341433	347096	348973	345834	1.14	cps
Silver	109-1	323149	328524	330136	327270	1.12	cps
Sodium	23-2	3032427	2908654	2925504	2955528	2.27	cps
Strontium	86-1	258832	263758	264065	262218	1.12	cps
Strontium	88-1	2356049	2420800	2401358	2392736	1.39	cps
Sulfur	34-1	105712	107511	107297	106840	0.92	cps
Terbium	159-1	6807132	6773990	6792016	6791046	0.24	cps
Terbium	159-2	4937037	4783084	4981425	4900515	2.12	cps
Thallium	203-1	418036	424892	426430	423119	1.06	cps
Thallium	205-1	963314	990869	1006866	987016	2.23	cps
Tin	118-1	358292	364348	365897	362845	1.11	cps
Titanium	47-1	31624	33393	40288	35102	13.04	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-10DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:17:05	DataFile Name :	040SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1282505	1313889	1319749	1305381	1.53	cps
Vanadium	51-2	208630	207558	203386	206525	1.34	cps
Yttrium	89-1	8218148	8185870	8285214	8229744	0.62	cps
Yttrium	89-2	2285328	2275906	2266076	2275770	0.42	cps
Zinc	66-2	447224	443511	440936	443890	0.71	cps
Zirconium	90-1	860229	868227	875826	868094	0.90	cps
Zirconium	91-1	187910	193771	194663	192115	1.91	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-11DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:20:11	DataFile Name :	041SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1427351	1346994	1371035	1381793	2.98	cps
Antimony	121-1	457085	468061	467097	464081	1.31	cps
Arsenic	75-2	1030	957	870	952	8.41	cps
Barium	135-1	849403	868993	864185	860861	1.19	cps
Barium	137-1	1479417	1578331	1560257	1539335	3.42	cps
Beryllium	9-1	56114	57402	57918	57145	1.63	cps
Bismuth	209-1	3946184	3963625	3959795	3956535	0.23	cps
Bismuth	209-2	3583306	3618936	3615960	3606067	0.55	cps
Bromine	81-1	31701	33291	33622	32871	3.12	cps
Bromine	81-2	1180	1180	1340	1233	7.49	cps
Cadmium	108-1	9110	9743	9420	9424	3.36	cps
Cadmium	106-1	15418	15175	15515	15369	1.14	cps
Cadmium	111-1	134996	137318	138253	136856	1.23	cps
Calcium	43-1	195650	197911	198243	197268	0.72	cps
Calcium	44-1	3141731	3234747	3194102	3190193	1.46	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	247017	248992	247918	247975	0.40	cps
Cobalt	59-2	321094	322727	320813	321545	0.32	cps
Copper	63-2	2310074	2272804	2216141	2266340	2.09	cps
Dysprosium	156-1	21603	21894	22221	21906	1.41	cps
Dysprosium	156-2	21240	21046	20565	20950	1.66	cps
Erbium	164-1	18035	18629	18452	18372	1.66	cps
Erbium	164-2	13974	14007	14174	14052	0.76	cps
Gadolinium	160-1	21123	22498	21830	21817	3.15	cps
Gadolinium	160-2	17558	17137	17207	17301	1.30	cps
Holmium	165-1	6472003	6638480	6574562	6561681	1.28	cps
Holmium	165-2	5078650	5004876	4982267	5021931	1.00	cps
Indium	115-1	5471155	5473742	5508773	5484557	0.38	cps
Indium	115-2	2066564	2077650	2040551	2061588	0.92	cps
Iron	56-2	24458987	24460842	24252499	24390776	0.49	cps
Iron	57-2	608184	610875	605549	608203	0.44	cps
Iron	54-2	1340862	1351916	1331249	1341342	0.77	cps
Krypton	83-1	373	370	447	397	10.92	cps

Reviewed By:mohan
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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-11DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:20:11	DataFile Name :	041SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	1921266	1996881	2002052	1973400	2.29	cps
Lead	207-1	1628904	1680657	1669534	1659698	1.64	cps
Lead	208-1	7673534	8030012	7952368	7885305	2.38	cps
Lithium	6-1	383670	388080	386931	386227	0.59	cps
Magnesium	24-2	1944051	1940824	1979381	1954752	1.09	cps
Manganese	55-2	2040045	2029747	1953011	2007601	2.37	cps
Molybdenum	94-1	806129	828294	819012	817812	1.36	cps
Molybdenum	95-1	843465	863526	867661	858217	1.51	cps
Molybdenum	96-1	968931	991945	996137	985671	1.49	cps
Molybdenum	97-1	532897	543286	547751	541311	1.41	cps
Molybdenum	98-1	1368060	1429264	1435605	1410977	2.64	cps
Neodymium	150-1	42109	43424	43503	43012	1.82	cps
Neodymium	150-2	28315	28172	28248	28245	0.25	cps
Nickel	60-2	85928	86618	85486	86010	0.66	cps
Phosphorus	31-2	1297	1320	1273	1297	1.80	cps
Potassium	39-2	1310819	1317158	1328648	1318875	0.69	cps
Rhodium	103-1	4962217	5151072	5060487	5057925	1.87	cps
Rhodium	103-2	3147310	3131677	3114799	3131262	0.52	cps
Scandium	45-1	3008455	3072625	3048003	3043028	1.06	cps
Scandium	45-2	254858	258322	256100	256426	0.68	cps
Selenium	82-1	10632	11025	11069	10908	2.20	cps
Selenium	77-2	1253	1360	1277	1297	4.32	cps
Selenium	78-2	4981	4541	4641	4721	4.89	cps
Silicon	28-1	4630004	6692797	4753338	5358713	21.59	cps
Silver	107-1	342570	351927	351185	348561	1.49	cps
Silver	109-1	326410	330930	334666	330668	1.25	cps
Sodium	23-2	2955479	2988642	2920754	2954958	1.15	cps
Strontium	86-1	258761	266774	269062	264865	2.04	cps
Strontium	88-1	2437106	2401559	2419542	2419402	0.73	cps
Sulfur	34-1	100025	101001	99766	100264	0.65	cps
Terbium	159-1	6742577	6891328	6895816	6843240	1.27	cps
Terbium	159-2	4978515	4863769	4910880	4917721	1.17	cps
Thallium	203-1	421118	433622	430201	428313	1.51	cps
Thallium	205-1	974314	1005568	1014226	998036	2.10	cps
Tin	118-1	360151	370992	371216	367453	1.72	cps
Titanium	47-1	35022	41997	36913	37977	9.50	cps

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Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-11DLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:20:11	DataFile Name :	041SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1284832	1331808	1338572	1318404	2.22	cps
Vanadium	51-2	207058	207690	206992	207247	0.19	cps
Yttrium	89-1	8258658	8296186	8245274	8266706	0.32	cps
Yttrium	89-2	2288198	2285687	2267722	2280536	0.49	cps
Zinc	66-2	450354	448432	445184	447990	0.58	cps
Zirconium	90-1	862505	877407	884589	874834	1.29	cps
Zirconium	91-1	192766	195717	197619	195368	1.25	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09ADLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:23:17	DataFile Name :	042SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1381562	1397194	1344172	1374310	1.98	cps
Antimony	121-1	457106	463877	468531	463171	1.24	cps
Arsenic	75-2	1023	1063	1147	1078	5.84	cps
Barium	135-1	843841	858696	875486	859341	1.84	cps
Barium	137-1	1470876	1498375	1521383	1496878	1.69	cps
Beryllium	9-1	56074	55723	56673	56157	0.86	cps
Bismuth	209-1	3991679	3982418	4100984	4025027	1.64	cps
Bismuth	209-2	3728116	3653422	3613442	3664993	1.59	cps
Bromine	81-1	32620	32299	33852	32923	2.49	cps
Bromine	81-2	1190	1300	1140	1210	6.76	cps
Cadmium	108-1	9680	9263	9503	9482	2.21	cps
Cadmium	106-1	15175	15201	15742	15373	2.08	cps
Cadmium	111-1	135260	137044	137032	136445	0.75	cps
Calcium	43-1	192601	196389	197387	195459	1.29	cps
Calcium	44-1	3179526	3166113	3242420	3196020	1.27	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	251786	250947	249020	250584	0.57	cps
Cobalt	59-2	325303	323140	319460	322634	0.92	cps
Copper	63-2	2316550	2355028	2293417	2321665	1.34	cps
Dysprosium	156-1	21406	22161	22445	22004	2.44	cps
Dysprosium	156-2	20408	20291	21179	20626	2.34	cps
Erbium	164-1	18018	18873	18365	18419	2.33	cps
Erbium	164-2	13974	14010	13700	13895	1.22	cps
Gadolinium	160-1	21487	21644	21687	21606	0.49	cps
Gadolinium	160-2	17751	17438	17728	17639	0.99	cps
Holmium	165-1	6544557	6693038	6676739	6638111	1.23	cps
Holmium	165-2	4970410	5061017	4982954	5004794	0.98	cps
Indium	115-1	5594886	5551856	5467365	5538035	1.17	cps
Indium	115-2	2106038	2086707	2076689	2089811	0.71	cps
Iron	56-2	24505956	24382593	24604199	24497583	0.45	cps
Iron	57-2	613146	611148	603869	609388	0.80	cps
Iron	54-2	1349548	1369926	1338759	1352744	1.17	cps
Krypton	83-1	410	327	433	390	14.38	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09ADLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:23:17	DataFile Name :	042SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	1964897	1992905	2006751	1988184	1.07	cps
Lead	207-1	1619237	1640446	1674303	1644662	1.69	cps
Lead	208-1	7762561	7889296	7923965	7858607	1.08	cps
Lithium	6-1	383666	384080	391371	386372	1.12	cps
Magnesium	24-2	1953199	1971574	1967644	1964139	0.49	cps
Manganese	55-2	1978131	2004287	1988392	1990270	0.66	cps
Molybdenum	94-1	801581	832520	825194	819765	1.97	cps
Molybdenum	95-1	842848	857425	873895	858056	1.81	cps
Molybdenum	96-1	967918	977206	987198	977441	0.99	cps
Molybdenum	97-1	528572	544731	543948	539083	1.69	cps
Molybdenum	98-1	1356178	1401578	1384473	1380743	1.66	cps
Neodymium	150-1	42741	43403	44172	43439	1.65	cps
Neodymium	150-2	28185	27627	28210	28007	1.18	cps
Nickel	60-2	86833	87088	87584	87168	0.44	cps
Phosphorus	31-2	1317	1377	1340	1345	2.25	cps
Potassium	39-2	1329489	1351722	1310314	1330509	1.56	cps
Rhodium	103-1	5066961	5092296	5078400	5079219	0.25	cps
Rhodium	103-2	3135870	3201769	3153433	3163691	1.08	cps
Scandium	45-1	2997679	2954866	3102293	3018279	2.51	cps
Scandium	45-2	260233	263577	259612	261141	0.82	cps
Selenium	82-1	10794	10716	10764	10758	0.37	cps
Selenium	77-2	1270	1353	1237	1287	4.67	cps
Selenium	78-2	4818	4711	4584	4704	2.48	cps
Silicon	28-1	4555904	4765377	5970909	5097397	14.98	cps
Silver	107-1	343925	349155	351819	348300	1.15	cps
Silver	109-1	324984	327266	331875	328042	1.07	cps
Sodium	23-2	2989765	2925687	2955028	2956826	1.08	cps
Strontium	86-1	258333	264634	266501	263156	1.63	cps
Strontium	88-1	2333000	2393591	2405787	2377459	1.64	cps
Sulfur	34-1	100078	98773	100373	99741	0.85	cps
Terbium	159-1	6815694	6765053	6889582	6823443	0.92	cps
Terbium	159-2	5109747	4909002	4946632	4988460	2.14	cps
Thallium	203-1	420883	431911	435358	429384	1.76	cps
Thallium	205-1	975014	993137	1011232	993128	1.82	cps
Tin	118-1	363632	369066	372394	368364	1.20	cps
Titanium	47-1	42108	30117	30366	34197	20.04	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	Q1769-09ADLX5	Instrumnet Name :	P7
Client Sample ID :	S-873-KI-SO-1.0-1.5-040	Dilution Factor :	5
Date & Time Acquired :	2025-04-11 15:23:17	DataFile Name :	042SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1296280	1324154	1336195	1318876	1.55	cps
Vanadium	51-2	209772	209731	209026	209510	0.20	cps
Yttrium	89-1	8264348	8481702	8275417	8340489	1.47	cps
Yttrium	89-2	2352558	2335001	2316514	2334691	0.77	cps
Zinc	66-2	453114	454575	441364	449684	1.61	cps
Zirconium	90-1	850289	873901	880768	868319	1.84	cps
Zirconium	91-1	191112	195509	199166	195262	2.07	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV03	Instrumnet Name :	P7
Client Sample ID :	CCV03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:36:36	DataFile Name :	043CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	5215381	5190038	5176637	5194019	0.38	cps
Antimony	121-1	2332500	2340483	2351795	2341592	0.41	cps
Arsenic	75-2	134802	134927	135287	135005	0.19	cps
Barium	135-1	3097187	3114064	3086059	3099103	0.45	cps
Barium	137-1	5210221	5304944	5361085	5292084	1.44	cps
Beryllium	9-1	267207	276726	275070	273001	1.86	cps
Bismuth	209-1	3519226	3644847	3574981	3579685	1.76	cps
Bismuth	209-2	3288733	3240345	3208274	3245784	1.25	cps
Bromine	81-1	29192	28818	29296	29102	0.86	cps
Bromine	81-2	157	127	153	146	11.30	cps
Cadmium	108-1	44234	45481	43986	44567	1.80	cps
Cadmium	106-1	64757	63946	65775	64826	1.41	cps
Cadmium	111-1	615100	628629	631734	625154	1.41	cps
Calcium	43-1	3148782	3162209	3185781	3165591	0.59	cps
Calcium	44-1	50959034	51979294	52000458	51646262	1.15	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	949676	948911	951138	949908	0.12	cps
Cobalt	59-2	1557364	1544875	1560487	1554242	0.53	cps
Copper	63-2	10720848	10789724	10476563	10662378	1.54	cps
Dysprosium	156-1	83	97	113	98	15.38	cps
Dysprosium	156-2	210	183	187	193	7.51	cps
Erbium	164-1	140	153	110	134	16.51	cps
Erbium	164-2	117	107	93	106	11.09	cps
Gadolinium	160-1	117	100	90	102	13.18	cps
Gadolinium	160-2	270	260	273	268	2.59	cps
Holmium	165-1	6299997	6294927	6363287	6319404	0.60	cps
Holmium	165-2	4723430	4775129	4661361	4719973	1.21	cps
Indium	115-1	5064016	5095567	5046049	5068544	0.49	cps
Indium	115-2	1922725	1897578	1911547	1910617	0.66	cps
Iron	56-2	225288037	227409230	222465243	225054170	1.10	cps
Iron	57-2	5580165	5623254	5498696	5567372	1.14	cps
Iron	54-2	12340907	12407814	12309325	12352682	0.41	cps
Krypton	83-1	363	337	353	351	3.84	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV03	Instrumnet Name :	P7
Client Sample ID :	CCV03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:36:36	DataFile Name :	043CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	8719236	9057010	8846241	8874162	1.92	cps
Lead	207-1	7824998	7968157	8024426	7939194	1.30	cps
Lead	208-1	34826391	36116209	35933341	35625314	1.96	cps
Lithium	6-1	361607	366342	369484	365811	1.08	cps
Magnesium	24-2	44184734	43556681	43805658	43849024	0.72	cps
Manganese	55-2	7823949	7937921	7808812	7856894	0.90	cps
Molybdenum	94-1	8423004	8629993	8694750	8582582	1.65	cps
Molybdenum	95-1	12316511	12500243	12312840	12376531	0.87	cps
Molybdenum	96-1	13382969	13528690	13436488	13449382	0.55	cps
Molybdenum	97-1	7496477	7610195	7577519	7561397	0.77	cps
Molybdenum	98-1	19439992	19739140	19735311	19638147	0.87	cps
Neodymium	150-1	140	137	207	161	24.51	cps
Neodymium	150-2	57	37	97	63	48.24	cps
Nickel	60-2	382500	380794	375676	379657	0.94	cps
Phosphorus	31-2	57123	58257	57779	57720	0.99	cps
Potassium	39-2	28700493	28508229	28608900	28605874	0.34	cps
Rhodium	103-1	4575455	4639143	4612405	4609001	0.69	cps
Rhodium	103-2	2888644	2847694	2803691	2846676	1.49	cps
Scandium	45-1	2838662	2829188	2813044	2826965	0.46	cps
Scandium	45-2	242963	244378	242648	243329	0.38	cps
Selenium	82-1	46570	46948	46529	46682	0.50	cps
Selenium	77-2	5164	5318	5254	5245	1.47	cps
Selenium	78-2	17751	18578	18095	18141	2.29	cps
Silicon	28-1	2453408	2487778	2537933	2493040	1.71	cps
Silver	107-1	3081084	3148519	3131955	3120519	1.13	cps
Silver	109-1	2992577	2998546	3012720	3001281	0.34	cps
Sodium	23-2	70647391	71021429	69896741	70521853	0.81	cps
Strontium	86-1	765499	777710	770863	771357	0.79	cps
Strontium	88-1	7042564	7056269	7169920	7089585	0.99	cps
Sulfur	34-1	293586	292484	289012	291694	0.82	cps
Terbium	159-1	6452322	6514211	6602012	6522848	1.15	cps
Terbium	159-2	4707488	4704502	4684204	4698731	0.27	cps
Thallium	203-1	2218805	2209973	2245799	2224859	0.84	cps
Thallium	205-1	5140869	5289859	5269638	5233455	1.54	cps
Tin	118-1	2066338	2113641	2042748	2074242	1.74	cps
Titanium	47-1	2982775	3035551	3069398	3029241	1.44	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCV03	Instrumnet Name :	P7
Client Sample ID :	CCV03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:36:36	DataFile Name :	043CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	6975134	7132267	7090511	7065971	1.15	cps
Vanadium	51-2	827910	828420	828320	828217	0.03	cps
Yttrium	89-1	7608730	7631325	7643144	7627733	0.23	cps
Yttrium	89-2	2114810	2154032	2093976	2120939	1.44	cps
Zinc	66-2	1980870	1974139	1907247	1954085	2.08	cps
Zirconium	90-1	4112874	4256099	4247212	4205395	1.91	cps
Zirconium	91-1	891338	908931	908414	902894	1.11	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB03	Instrumnet Name :	P7
Client Sample ID :	CCB03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:41:09	DataFile Name :	044CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	393	353	397	381	6.33	cps
Antimony	121-1	367	307	500	391	25.30	cps
Arsenic	75-2	7	17	17	13	43.29	cps
Barium	135-1	20	20	47	29	53.30	cps
Barium	137-1	87	73	107	89	18.88	cps
Beryllium	9-1	47	33	40	40	16.68	cps
Bismuth	209-1	3774256	3756712	3775921	3768963	0.28	cps
Bismuth	209-2	3541848	3426300	3486114	3484754	1.66	cps
Bromine	81-1	27118	26815	26721	26885	0.77	cps
Bromine	81-2	170	157	157	161	4.78	cps
Cadmium	108-1	13	20	10	14	35.26	cps
Cadmium	106-1	1477	1267	1333	1359	7.90	cps
Cadmium	111-1	1031	903	963	966	6.65	cps
Calcium	43-1	237	237	223	232	3.31	cps
Calcium	44-1	6702	6498	7142	6781	4.85	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	583	683	637	634	7.89	cps
Cobalt	59-2	70	83	90	81	12.55	cps
Copper	63-2	1703	1910	1690	1768	6.98	cps
Dysprosium	156-1	3	0	3	2	86.60	cps
Dysprosium	156-2	0	0	3	1	173.21	cps
Erbium	164-1	30	20	47	32	41.81	cps
Erbium	164-2	27	17	20	21	24.12	cps
Gadolinium	160-1	37	7	27	23	65.46	cps
Gadolinium	160-2	233	237	250	240	3.68	cps
Holmium	165-1	6031972	6140840	6198697	6123836	1.38	cps
Holmium	165-2	4799396	4638485	4603619	4680500	2.23	cps
Indium	115-1	5165514	5164962	5242631	5191036	0.86	cps
Indium	115-2	2014951	1979621	2013643	2002738	1.00	cps
Iron	56-2	21165	20885	21459	21169	1.36	cps
Iron	57-2	1107	1083	1067	1086	1.85	cps
Iron	54-2	2220	2397	2234	2284	4.31	cps
Krypton	83-1	320	320	410	350	14.85	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB03	Instrumnet Name :	P7
Client Sample ID :	CCB03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:41:09	DataFile Name :	044CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	483	540	497	507	5.85	cps
Lead	207-1	470	457	417	448	6.20	cps
Lead	208-1	2080	2130	2080	2097	1.38	cps
Lithium	6-1	363412	364863	365115	364463	0.25	cps
Magnesium	24-2	700	743	793	746	6.26	cps
Manganese	55-2	780	883	893	852	7.36	cps
Molybdenum	94-1	357	363	370	363	1.84	cps
Molybdenum	95-1	163	130	210	168	23.95	cps
Molybdenum	96-1	303	317	380	333	12.29	cps
Molybdenum	97-1	120	117	137	124	8.61	cps
Molybdenum	98-1	243	253	370	289	24.38	cps
Neodymium	150-1	3	0	0	1	173.21	cps
Neodymium	150-2	3	3	0	2	86.60	cps
Nickel	60-2	117	163	143	141	16.59	cps
Phosphorus	31-2	173	183	230	196	15.47	cps
Potassium	39-2	43826	44505	44705	44346	1.04	cps
Rhodium	103-1	4764310	4813892	4848508	4808903	0.88	cps
Rhodium	103-2	3009880	3066322	3000037	3025413	1.18	cps
Scandium	45-1	2772838	2792612	2788324	2784591	0.37	cps
Scandium	45-2	237630	240207	242031	239956	0.92	cps
Selenium	82-1	285	199	194	226	22.74	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	790	770	687	749	7.32	cps
Silicon	28-1	816179	812207	809592	812659	0.41	cps
Silver	107-1	70	47	130	82	52.28	cps
Silver	109-1	73	57	57	62	15.46	cps
Sodium	23-2	15057	15094	14667	14940	1.58	cps
Strontium	86-1	517	527	577	540	5.95	cps
Strontium	88-1	117	130	130	126	6.13	cps
Sulfur	34-1	94835	95043	96103	95327	0.71	cps
Terbium	159-1	6313935	6440567	6408722	6387741	1.03	cps
Terbium	159-2	4740667	4672262	4615086	4676005	1.34	cps
Thallium	203-1	197	193	253	214	15.72	cps
Thallium	205-1	420	477	453	450	6.33	cps
Tin	118-1	583	747	643	658	12.56	cps
Titanium	47-1	47	60	87	64	31.60	cps

Reviewed By:mohan
On:4/15/2025 1:08:59 PM
Inst Id :P7
LB :LB135403

LB Number :	LB135403	Operator :	Jaswal
Lab Sample ID :	CCB03	Instrumnet Name :	P7
Client Sample ID :	CCB03	Dilution Factor :	1
Date & Time Acquired :	2025-04-11 15:41:09	DataFile Name :	044CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	60	70	63	64	7.90	cps
Vanadium	51-2	13	20	33	22	45.83	cps
Yttrium	89-1	7451612	7537099	7526748	7505153	0.62	cps
Yttrium	89-2	2150958	2143061	2133133	2142384	0.42	cps
Zinc	66-2	193	237	220	217	10.09	cps
Zirconium	90-1	673	750	807	743	9.00	cps
Zirconium	91-1	90	113	170	124	33.06	cps

Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB167552

SOP ID : M3050B-Digestion-20

SDG No : N/A

Matrix : SOIL

Pippete ID: ICP A

Balance ID : M SC-2

Filter paper ID : N/A

pH Strip ID : N/A

Hood ID : #3

Block ID: 1. HOT BLOCK #3 2. N/A

Start Digest Date: 04/10/2025 **Time :** 13:05 **Temp :** 96 °C

End Digest Date: 04/10/2025 **Time :** 15:10 **Temp :** 96 °C

Digestion tube ID: M6054

Block thermometer ID: MET-DIG. #3

Dig Technician Signature: SLB

Supervisor Signature:

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
Spike Sol 1	1.00	MP85065
Spike Sol 2	2.00	MP85066
Spike Sol 3	2.00	MP85067
Spike Sol 4	2.00	MP85068
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	5.00	M6158
1:1 HNO3	10.00	MP84041
30% H2O2	3.00	M6125
PTFE Boiling Stones	N/A	M5581
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 #3 CELL#35 96C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
04/10/25 16:10	SLB. met.dig	[illegible]
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB167552

Lab Sample ID	Client Sample ID	pH	Initial Weight (g)	Final Vol (ml)	Color Before	Color After	Texture	Artifact	Comment	Prep Pos
PB167552BL	PBS552	N/A	2.18	100	Black	Yellow	Medium	N/A	N/A	1
PB167552BS	LCS552	N/A	2.21	100	Black	Yellow	Medium	N/A	MP85065,MP85066,MP85067,N	2
Q1769-02	S-875-KI-SO-1.0-1.5-04092 5	N/A	2.12	100	Black	Yellow	Medium	N/A	N/A	3
Q1769-03	S-874-KI-SO-1.0-1.5-04092 5	N/A	2.29	100	Black	Yellow	Medium	N/A	N/A	4
Q1769-04	S-874-KI-SO-1.0-1.5-04092 5 FD	N/A	2.15	100	Black	Yellow	Medium	N/A	N/A	5
Q1769-09	S-873-KI-SO-1.0-1.5-04092 5	N/A	2.08	100	Black	Yellow	Medium	N/A	N/A	6
Q1769-09DUP	S-873-KI-SO-1.0-1.5-04092 5DUP	N/A	2.33	100	Black	Yellow	Medium	N/A	N/A	7
Q1769-10	Q1769-09MS	N/A	2.20	100	Black	Yellow	Medium	N/A	MP85065,MP85066,MP85067,N	8
Q1769-11	Q1769-09MSD	N/A	2.46	100	Black	Yellow	Medium	N/A	MP85065,MP85066,MP85067,N	9

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB167552 **WorkList ID :** 188851 **Department :** Digestion **Date :** 04-10-2025 12:32:35

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1769-02	S-875-KI-SO-1.0-1.5-040925	Solid	Metals Group4	Cool 4 deg C	JACO05	L31	04/09/2025	6020B
Q1769-03	S-874-KI-SO-1.0-1.5-040925	Solid	Metals Group4	Cool 4 deg C	JACO05	L31	04/09/2025	6020B
Q1769-04	S-874-KI-SO-1.0-1.5-040925-FI	Solid	Metals Group4	Cool 4 deg C	JACO05	L31	04/09/2025	6020B
Q1769-09	S-873-KI-SO-1.0-1.5-040925	Solid	Metals Group4	Cool 4 deg C	JACO05	L31	04/09/2025	6020B
Q1769-10	Q1769-09MS	Solid	Metals Group4	Cool 4 deg C	JACO05	L31	04/09/2025	6020B
Q1769-11	Q1769-09MSD	Solid	Metals Group4	Cool 4 deg C	JACO05	L31	04/09/2025	6020B

Date/Time 04/20/25 12:50
Raw Sample Received by: SKS.method
Raw Sample Relinquished by: CP

Date/Time 04/20/25 13:50
Raw Sample Received by: CP
Raw Sample Relinquished by: SKS.method

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 4/11/2025

OVENTEMP IN Celsius(°C): 106
Time IN: 17:00
In Date: 04/10/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:18
Out Date: 04/11/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB135370

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q1764-01	BUR-25-0020	34	1.15	10.24	11.39	10.9	95.2	
Q1767-04	NWB-2106	37	1.14	10.00	11.14	10.75	96.1	
Q1768-01	CRUSHED STONE	35	1.00	1.00	2.00	2.00	100.0	CRUSHED STONE
Q1768-02	CRUSHED STONE	36	1.00	1.00	2.00	2.00	100.0	CRUSHED STONE
Q1769-01	S-878-KI-SO-1.0-1.5-040925	1	1.14	10.33	11.47	9.01	76.2	
Q1769-02	S-875-KI-SO-1.0-1.5-040925	2	1.15	10.84	11.99	9.66	78.5	
Q1769-03	S-874-KI-SO-1.0-1.5-040925	3	1.18	10.34	11.52	7.57	61.8	
Q1769-04	S-874-KI-SO-1.0-1.5-040925-FD	4	1.19	10.48	11.67	7.76	62.7	
Q1769-05	S-877-KI-SO-1.0-1.5-040925	5	1.12	10.65	11.77	8.87	72.8	
Q1769-07	S-876-KI-SO-1.0-1.5-040925	6	1.19	10.17	11.36	8.1	67.9	
Q1769-09	S-873-KI-SO-1.0-1.5-040925	7	1.15	10.44	11.59	8.2	67.5	
Q1769-10	Q1769-09MS	8	1.15	10.44	11.59	8.2	67.5	
Q1769-11	Q1769-09MSD	9	1.15	10.44	11.59	8.2	67.5	
Q1771-01	TP-6C	10	1.14	10.41	11.55	10.45	89.4	
Q1771-02	TP-6C-EPH	11	1.19	10.38	11.57	10.15	86.3	
Q1771-03	TP-6C-VOC	12	1.18	10.40	11.58	10.55	90.1	
Q1771-05	TP-7C	13	1.19	10.41	11.6	10.76	91.9	
Q1771-06	TP-7C-EPH	14	1.19	10.22	11.41	10.58	91.9	
Q1771-07	TP-7C-VOC	15	1.13	10.47	11.6	10.73	91.7	
Q1771-09	TP-3A	16	1.19	10.43	11.62	9.53	80.0	
Q1771-10	TP-3A-EPH	17	1.15	10.83	11.98	9.82	80.1	
Q1771-11	TP-3A-VOC	18	1.12	10.55	11.67	9.56	80.0	
Q1779-01	TP-22	19	1.15	10.08	11.23	10.13	89.1	
Q1779-02	TP-22-EPH	20	1.15	10.66	11.81	10.64	89.0	
Q1779-03	TP-22-VOC	21	1.18	12.19	13.37	12.11	89.7	
Q1779-05	TP-23	22	1.14	10.48	11.62	9.61	80.8	

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 4/11/2025

OVENTEMP IN Celsius(°C): 106
Time IN: 17:00
In Date: 04/10/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:18
Out Date: 04/11/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB135370

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q1779-06	TP-23-EPH	23	1.17	10.67	11.84	9.77	80.6	
Q1779-07	TP-23-VOC	24	1.13	10.84	11.97	10.03	82.1	
Q1781-01	WC-13	25	1.13	10.79	11.92	10.00	82.2	
Q1781-02	WC-13-EPH	26	1.18	10.47	11.65	9.96	83.9	
Q1781-03	WC-13-VOC	27	1.15	10.45	11.6	10.69	91.3	
Q1781-05	WC-12	28	1.19	11.11	12.3	10.8	86.5	
Q1781-06	WC-12-EPH	29	1.17	10.70	11.87	11.02	92.1	
Q1781-07	WC-12-VOC	30	1.19	10.47	11.66	10.73	91.1	
Q1781-09	WC-11	31	1.19	10.27	11.46	10.16	87.3	
Q1781-10	WC-11-EPH	32	1.12	11.20	12.32	9.9	78.4	
Q1781-11	WC-11-VOC	33	1.11	10.44	11.55	10.48	89.8	

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

VB 135370

WorkList Name : %1-041025 **WorkList ID :** 188832 **Department :** Wet-Chemistry **Date :** 04-10-2025 08:06:31

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1764-01	BUR-25-0020	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	04/10/2025	Chemtech -SO
Q1767-04	NWB-2106	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1768-01	CRUSHED STONE	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	04/10/2025	Chemtech -SO
Q1768-02	CRUSHED STONE	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	04/10/2025	Chemtech -SO
Q1769-01	S-878-KI-SO-1.0-1.5-040925	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-02	S-875-KI-SO-1.0-1.5-040925	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-03	S-874-KI-SO-1.0-1.5-040925	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-04	S-874-KI-SO-1.0-1.5-040925-FI	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-05	S-877-KI-SO-1.0-1.5-040925	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-07	S-876-KI-SO-1.0-1.5-040925	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-09	S-873-KI-SO-1.0-1.5-040925	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-10	Q1769-09MS	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1769-11	Q1769-09MSD	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1771-01	TP-6C	Solid	Percent Solids	Cool 4 deg C	JACO05	L31	04/09/2025	Chemtech -SO
Q1771-02	TP-6C-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO
Q1771-03	TP-6C-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO
Q1771-05	TP-7C	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO
Q1771-06	TP-7C-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO
Q1771-07	TP-7C-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO
Q1771-09	TP-3A	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO
Q1771-10	TP-3A-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO

Date/Time 04.10.25 15:20

Raw Sample Received by: JR WC

Raw Sample Relinquished by: CP SM

Date/Time 04.10.25 17:15

Raw Sample Received by: CP SM

Raw Sample Relinquished by: JR WC

WORKLIST(Hardcopy Internal Chain)

VB 135370

WorkList Name : %1-041025 **WorkList ID :** 188832 **Department :** Wet-Chemistry **Date :** 04-10-2025 08:06:31

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1771-11	TP-3A-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/09/2025	Chemtech -SO
Q1779-01	TP-22	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1779-02	TP-22-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1779-03	TP-22-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1779-05	TP-23	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1779-06	TP-23-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1779-07	TP-23-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-01	WC-13	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-02	WC-13-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-03	WC-13-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-05	WC-12	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-06	WC-12-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-07	WC-12-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-09	WC-11	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-10	WC-11-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO
Q1781-11	WC-11-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	F11	04/10/2025	Chemtech -SO

Date/Time 04.10.25 1520

Raw Sample Received by: JB HYCI

Raw Sample Relinquished by: CP SM

Date/Time 04.10.25 17:15

Raw Sample Received by: CP SM

Raw Sample Relinquished by: JB HYCI

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

Instrument ID: P7

Daily Analysis Runlog For Sequence/QCBatch ID # LB135403

Review By	jaswal	Review On	4/15/2025 12:52:48 PM
Supervise By	mohan	Supervise On	4/15/2025 1:08:59 PM

STD. NAME	STD REF.#
ICAL Standard	MP84981,MP84989,MP84988,MP84986,MP84985,MP84984,MP84983,MP84980,MP84982
ICV Standard	MP85193,MP84998
CCV Standard	MP84992
ICSA Standard	MP84993,MP84996
CRI Standard	MP84988
LCS Standard	
Chk Standard	MP84998,MP84999

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	TUNE	TUNE	TUNE	04/11/25 11:13		Jaswal	OK
2	S0	S0	CAL1	04/11/25 12:09		Jaswal	OK
3	S2	S2	CAL3	04/11/25 12:16		Jaswal	OK
4	S3	S3	CAL4	04/11/25 12:19		Jaswal	OK
5	S4	S4	CAL5	04/11/25 12:23		Jaswal	OK
6	S5	S5	CAL6	04/11/25 12:26		Jaswal	OK
7	S6	S6	CAL7	04/11/25 12:29		Jaswal	OK
8	S7	S7	CAL8	04/11/25 12:31		Jaswal	OK
9	S8	S8	CAL9	04/11/25 12:34		Jaswal	OK
10	ICV01	ICV01	ICV	04/11/25 12:48		Jaswal	OK
11	LLICV	LLICV	LLICV	04/11/25 12:59		Jaswal	OK
12	ICB01	ICB01	ICB	04/11/25 13:06		Jaswal	OK
13	ICSA01	ICSA01	ICSA	04/11/25 13:10		Jaswal	OK
14	ICSAB01	ICSAB01	ICSAB	04/11/25 13:28		Jaswal	OK
15	CCV01	CCV01	CCV	04/11/25 13:31		Jaswal	OK
16	CCB01	CCB01	CCB	04/11/25 13:34		Jaswal	OK
17	CRI	CRI	CRDL	04/11/25 13:44		Jaswal	OK
18	PB167552BL	PB167552BL	MB	04/11/25 14:15		Jaswal	OK

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

Instrument ID: P7

Daily Analysis Runlog For Sequence/QCBatch ID # LB135403

Review By	jaswal	Review On	4/15/2025 12:52:48 PM
Supervise By	mohan	Supervise On	4/15/2025 1:08:59 PM

STD. NAME	STD REF.#
ICAL Standard	MP84981,MP84989,MP84988,MP84986,MP84985,MP84984,MP84983,MP84980,MP84982
ICV Standard	MP85193,MP84998
CCV Standard	MP84992
ICSA Standard	MP84993,MP84996
CRI Standard	MP84988
LCS Standard	
Chk Standard	MP84998,MP84999

19	PB167552BS	PB167552BS	LCS	04/11/25 14:18		Jaswal	OK
20	Q1769-02DL	S-875-KI-SO-1.0-1.5-(	SAM	04/11/25 14:21		Jaswal	OK
21	Q1769-03DL	S-874-KI-SO-1.0-1.5-(	SAM	04/11/25 14:24		Jaswal	OK
22	Q1769-04DL	S-874-KI-SO-1.0-1.5-(	SAM	04/11/25 14:27		Jaswal	OK
23	Q1769-09DL	S-873-KI-SO-1.0-1.5-(	SAM	04/11/25 14:31		Jaswal	OK
24	Q1769-09DUPDL	S-873-KI-SO-1.0-1.5-(	DUP	04/11/25 14:34		Jaswal	OK
25	CCV02	CCV02	CCV	04/11/25 14:51		Jaswal	OK
26	CCB02	CCB02	CCB	04/11/25 14:54		Jaswal	OK
27	Q1769-09LDL	S-873-KI-SO-1.0-1.5-(	SD	04/11/25 14:57		Jaswal	OK
28	Q1769-10DL	S-873-KI-SO-1.0-1.5-(	MS	04/11/25 15:17		Jaswal	OK
29	Q1769-11DL	S-873-KI-SO-1.0-1.5-(	MSD	04/11/25 15:20		Jaswal	OK
30	Q1769-09ADL	S-873-KI-SO-1.0-1.5-(	PS	04/11/25 15:23		Jaswal	OK
31	CCV03	CCV03	CCV	04/11/25 15:36		Jaswal	OK
32	CCB03	CCB03	CCB	04/11/25 15:41		Jaswal	OK

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

Prep Standard - Chemical Standard Summary

Order ID : Q1769

Test : Metals Group4

Prepbatch ID : PB167552,

Sequence ID/Qc Batch ID: LB135403,

Standard ID :
MP84041,MP84980,MP84981,MP84982,MP84983,MP84984,MP84985,MP84986,MP84987,MP84988,MP84989,MP84992,MP84993,MP84996,MP84997,MP84998,MP84999,MP85065,MP85066,MP85067,MP85068,MP85193,

Chemical ID :
M4888,M5305,M5472,M5519,M5520,M5545,M5581,M5658,M5739,M5751,M5798,M5799,M5800,M5801,M 5811,M5815,M5817,M5873,M5874,M5942,M5961,M5962,M5977,M5981,M5983,M6019,M6020,M6021,M6023,M6025,M6026,M6028,M6030,M6032,M6055,M6058,M6079,M6086,M6125,M6126,M6127,M6128,M6137,M6144,M6145,M6146,M6150,M6151,M6153,M6158,M6159,W3112,

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

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
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
3947	S7(SFAM,6020,200.8)	MP84980	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 1.00000ml of M5799 + 1.00000ml of M5981 + 1.00000ml of M6079 + 1.00000ml of M6137 + 1.00000ml of M6153 + 1.90000ml of M6159 + 10.00000ml of M5942 + 10.00000ml of M5977 + 10.00000ml of M6158 + 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 M6151 + 50.00000ml of M5305 + 829.60000ml of W3112 + 9.00000ml of M5751 + 9.00000ml of M6128 + 9.00000ml of M6145 + 9.90000ml of M6086 + 9.90000ml of M6127 + 9.90000ml of M6144 = Final Quantity: 1000.000 ml

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

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP84981	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 25.00000ml of M6151 + 4925.00000ml of W3112 + 50.00000ml of M6158 = Final Quantity: 5000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2902	S8 ICPMS	MP84982	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 1.00000ml of M6159 + 2.50000ml of M5520 + 2.50000ml of M5811 + 5.00000ml of M6086 + 5.00000ml of M6127 + 5.00000ml of M6144 + 79.00000ml of MP84981 = Final Quantity: 100.000 ml

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

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3948	S6(SFAM,6020,200.8)	MP84983	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 48.50000ml of W3112 + 50.00000ml of MP84980 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3949	S5(SFAM,6020,200.8)	MP84984	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 73.50000ml of W3112 + 25.00000ml of MP84980 = 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
3954	S4(SFAM,6020,200.8)	MP84985	03/25/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 86.00000ml of W3112 + 12.50000ml of MP84980 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3951	S3(SFAM, 6020,200.8)	MP84986	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 88.50000ml of W3112 + 10.00000ml of MP84983 = 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
3955	S2CONC(SFAM,6020,200.8)	MP84987	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.00500ml of M6153 + 0.05000ml of M5798 + 0.05000ml of M5800 + 0.05000ml of M5801 + 0.05000ml of M5961 + 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 M5658 + 0.10000ml of M5751 + 0.10000ml of M6146 + 0.10000ml of M6159 + 0.25000ml of M5799 + 0.25000ml of M5811 + 0.25000ml of M5942 + 0.25000ml of M5962 + 0.25000ml of M5977 + 0.25000ml of M6021 + 0.25000ml of M6145 + 0.50000ml of M6032 + 0.50000ml of M6137 + 1.25000ml of M5815 + 1.25000ml of M5817 + 1.25000ml of M6151 + 2.50000ml of M5520 + 2.50000ml of M6086 + 2.50000ml of M6127 + 2.50000ml of M6144 + 2.50000ml of M6158 + 230.04500ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3956	S2(SFAM,6020,200.8)	MP84988	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 98.00000ml of W3112 + 0.50000ml of MP84987 = 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
3957	S1(SFAM,6020,200.8)	MP84989	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 88.50000ml of W3112 + 10.00000ml of MP84988 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3961	CCV	MP84992	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.20000ml of M6026 + 0.50000ml of M5799 + 0.50000ml of M5981 + 0.50000ml of M6079 + 0.50000ml of M6137 + 1.00000ml of M5815 + 1.00000ml of M5817 + 1.25000ml of M6153 + 10.00000ml of M6158 + 12.45000ml of M5520 + 12.45000ml of M5811 + 2.00000ml of M6032 + 24.95000ml of M6086 + 24.95000ml of M6127 + 24.95000ml of M6144 + 25.00000ml of M5305 + 4.50000ml of M5751 + 4.50000ml of M6128 + 4.50000ml of M6145 + 4.95000ml of M6159 + 5.00000ml of M6151 + 5.50000ml of M5942 + 5.50000ml of M5977 + 823.35000ml of W3112 = Final Quantity: 1000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1142	ICSA ICPMS	MP84993	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 10.00000ml of M5873 + 90.00000ml of MP84981 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1143	ICSAB ICPMS	MP84996	03/25/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.00500ml of M5983 + 0.00500ml of M6019 + 0.00500ml of M6020 + 0.00500ml of M6058 + 10.00000ml of M5873 + 10.00000ml of M5874 + 79.98000ml of MP84981 = 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
3962	MG 10PPM FOR TUNE	MP84997	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.01000ml of M6127 + 9.99000ml of MP84981 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3894	TUNE 200PPB	MP84998	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 2.00000ml of M6055 + 2.00000ml of MP84997 + 96.00000ml of MP84981 = 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
3903	ISS 3PPM	MP84999	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 5.00000ml of M6158 + 75.00000ml of M5739 + 170.00000ml of MP84981 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3880	M&B SPIKE-1	MP85065	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 5.00000ml of M5472 + 5.00000ml of M5658 + 5.00000ml of M5798 + 5.00000ml of M5800 + 5.00000ml of M5961 + 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 + 35.00000ml of MP84981 = 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
3881	M&B SPIKE-2	MP85066	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 10.00000ml of M4888 + 10.00000ml of M5977 + 12.50000ml of M5520 + 12.50000ml of M5811 + 12.50000ml of M6032 + 2.50000ml of M5799 + 2.50000ml of M6137 + 5.00000ml of M6159 + 32.50000ml of MP84981 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3882	M&B SPIKE-3	MP85067	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 0.62500ml of M6026 + 12.50000ml of M5751 + 12.50000ml of M6128 + 12.50000ml of M6145 + 11.87500ml of MP84981 = 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	MP85068	03/24/2025	04/14/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 04/07/2025

FROM 6.25000ml of M6086 + 6.25000ml of M6127 + 6.25000ml of M6144 + 6.25000ml of MP84981 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3959	ICV(6020,200.8)	MP85193	04/07/2025	04/14/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 04/16/2025

FROM 0.05000ml of M5983 + 0.05000ml of M6019 + 0.05000ml of M6020 + 0.05000ml of M6058 + 0.45000ml of M5545 + 0.45000ml of M5977 + 2.00000ml of M6150 + 96.90000ml of MP84981 = 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.	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 #
Inorganic Ventures	6020CAL-1 / Calibration Standard Method 6020	S2-MEB711244	10/20/2026	03/07/2025 / JANVI	04/01/2022 / jaswal	M5305

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

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.	57119 / Potassium (K) 10,000PPM	120822	12/08/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5520

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57022 / Titanium (Ti) 1000PPM	050223	05/02/2026	05/08/2023 / jaswal	05/08/2023 / jaswal	M5545

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	26397-103 / PTFE BOILING STONES	W126678	03/20/2026	03/20/2025 / jaswal	06/12/2023 / jaswal	M5581

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	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

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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 #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	06/18/2024 / Jaswal	02/22/2024 / Jaswal	M5942

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57028 / Ni, 1000 PPM, 125 ml	041124	04/11/2027	07/02/2024 / Jaswal	06/11/2024 / Jaswal	M5961

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

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

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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	07/29/2024 / Jaswal	06/11/2024 / Jaswal	M5983

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSR1-1 / Strontium, 125 ml, 1000 PPM	U2-SR730227	03/03/2028	01/14/2025 / Jaswal	08/05/2024 / Jaswal	M6019

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGU1-1 / Uranium 1000 ug/ml	U2-U735194	04/03/2028	01/15/2025 / Jaswal	08/05/2024 / Jaswal	M6020

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57082 / Pb, 1000 PPM, 125 ml	061224	11/09/2026	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

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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	110923	11/09/2026	12/05/2024 / janvi	08/05/2024 / Jaswal	M6026

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 #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	V2-MEB746173	01/29/2026	01/29/2025 / JANVI	08/22/2024 / Jaswal	M6058

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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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Calcium, 500 ml, 10000 PPM	082324	08/23/2027	03/06/2025 / JANVI	10/14/2024 / jaswal	M6086

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1403 / Hydrogen Peroxide, 30% 1 gal	820803	05/25/2025	11/26/2024 / Eman	11/22/2024 / Eman	M6125

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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSI1-1 / SILICON 125mL 1000ug/mL	V2-SI744713	07/10/2029	01/14/2025 / Jaswal	10/03/2024 / Jaswal	M6137

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSR10 / Strontium (SR), 125mL 10,000ppm	V2-SR754329	02/28/2026	02/28/2025 / JANVI	01/07/2025 / JANVI	M6153

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011325	03/18/2026	03/18/2025 / kareem	02/09/2025 / kareem	M6159

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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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R 8/5/24

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		

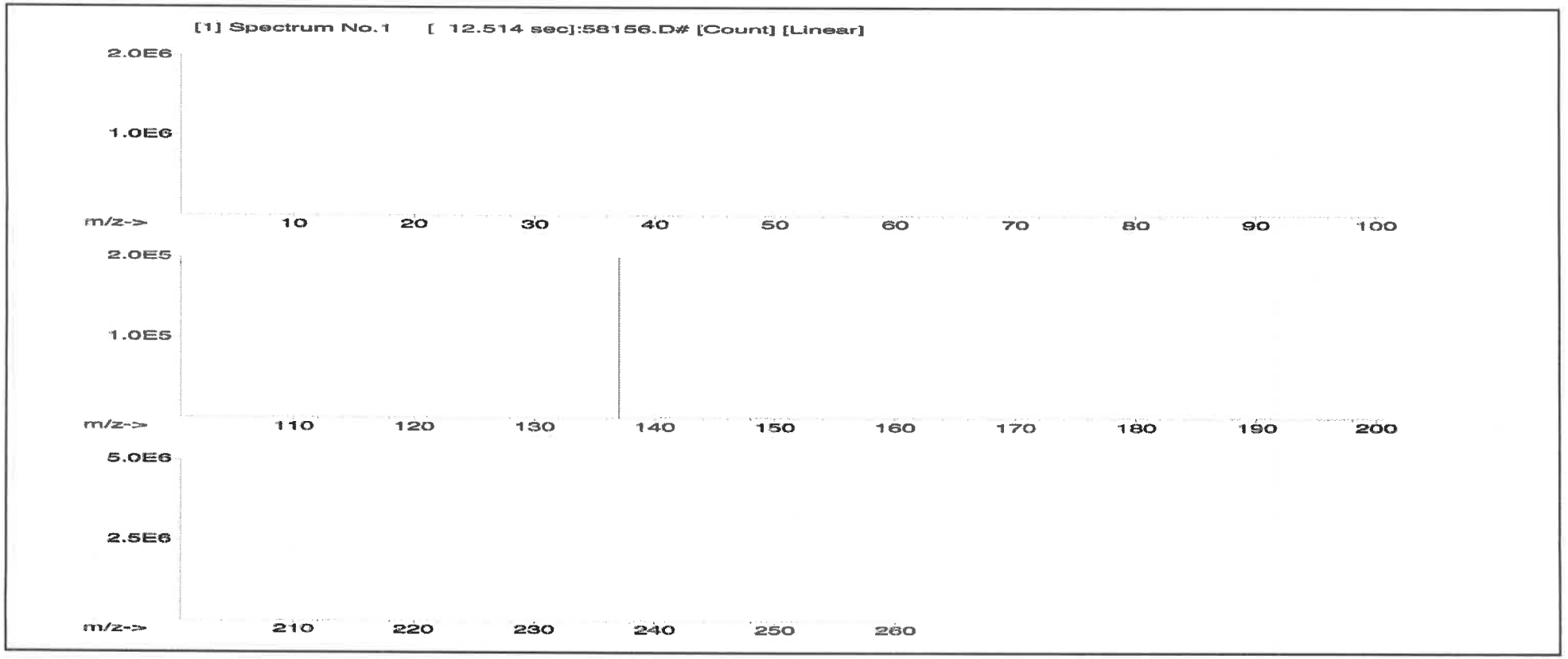
Giovanni Esposito

Formulated By:	Giovanni Esposito	010924

Pedro Rentas

Reviewed By:	Pedro L. Rentas	010924

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



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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.
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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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Revd 10/14/2024 M6085/M6086/M6087

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 082324
Description: Calcium (Ca)

Expiration Date: 082327
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.1 0.15 Flask Uncertainty

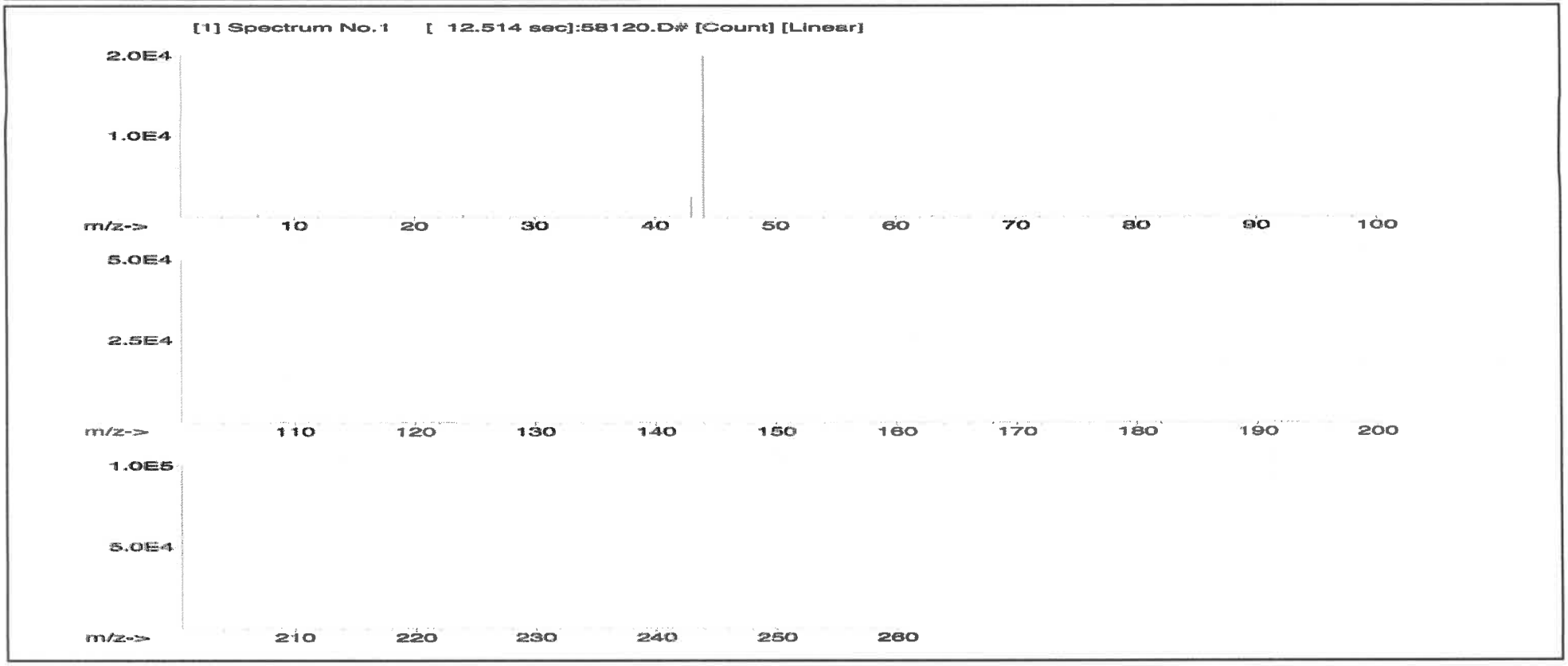
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 082324

Pedro Rentas
Reviewed By: Pedro L. Rentas 082324

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD03203B3	10000	99.999	0.10	39.9	100.2537	100.2656	**10001.2**	**20.0**	471-34-1	5 mg/m3	ori-rat >2000mg/kg	3109a



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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	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	30	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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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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M6028

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CERTIFIED WEIGHT REPORT:

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

Expiration Date: 070127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

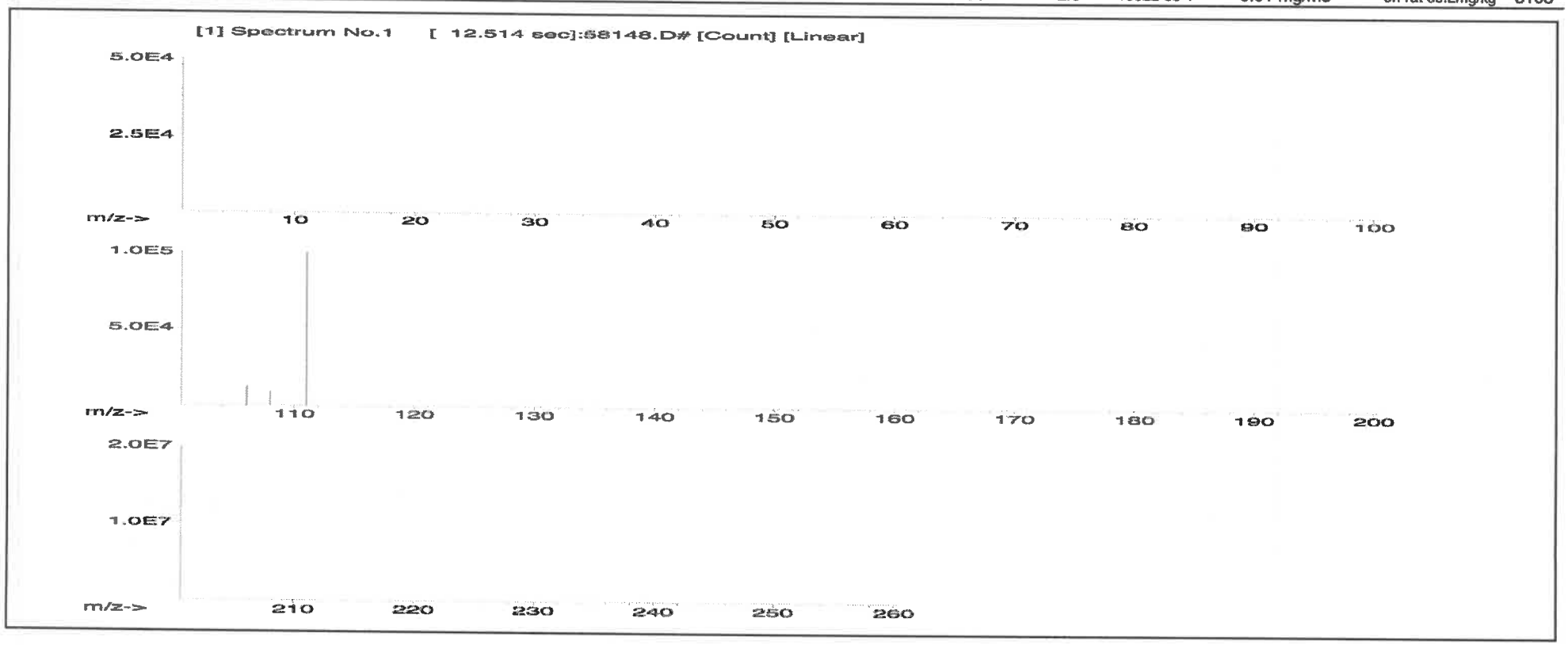
Weight shown below was diluted to (mL): 2000.07 ± 0.100 Flask Uncertainty

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

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

Pedro Rentas
Reviewed By: Pedro L. Rentas 070124

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



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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.

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R : 01/03/24. M5810, M5811

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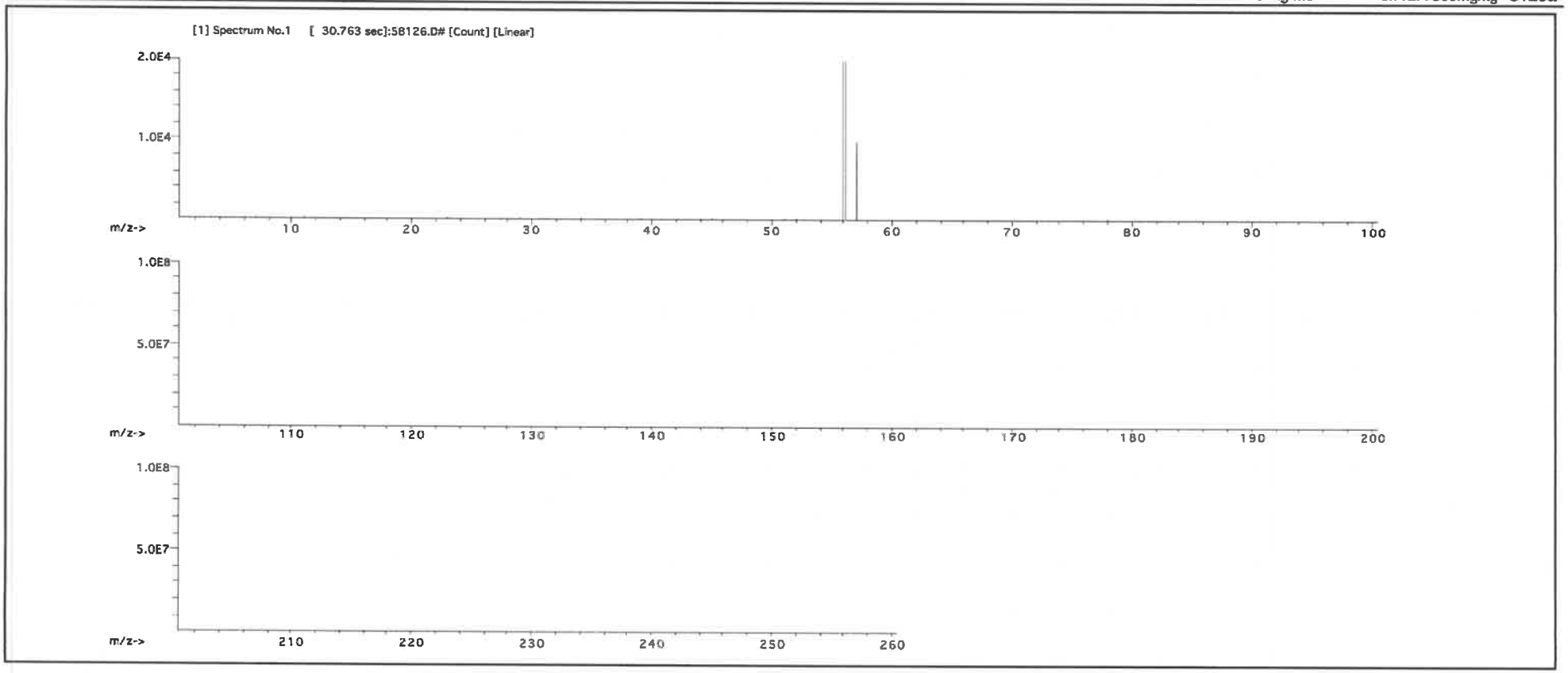
CERTIFIED WEIGHT REPORT:

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

Giovanni Esposito

Formulated By:	Giovanni Esposito	051523
Reviewed By:	Pedro L. Rentas	051523

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



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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	<0.10	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.
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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

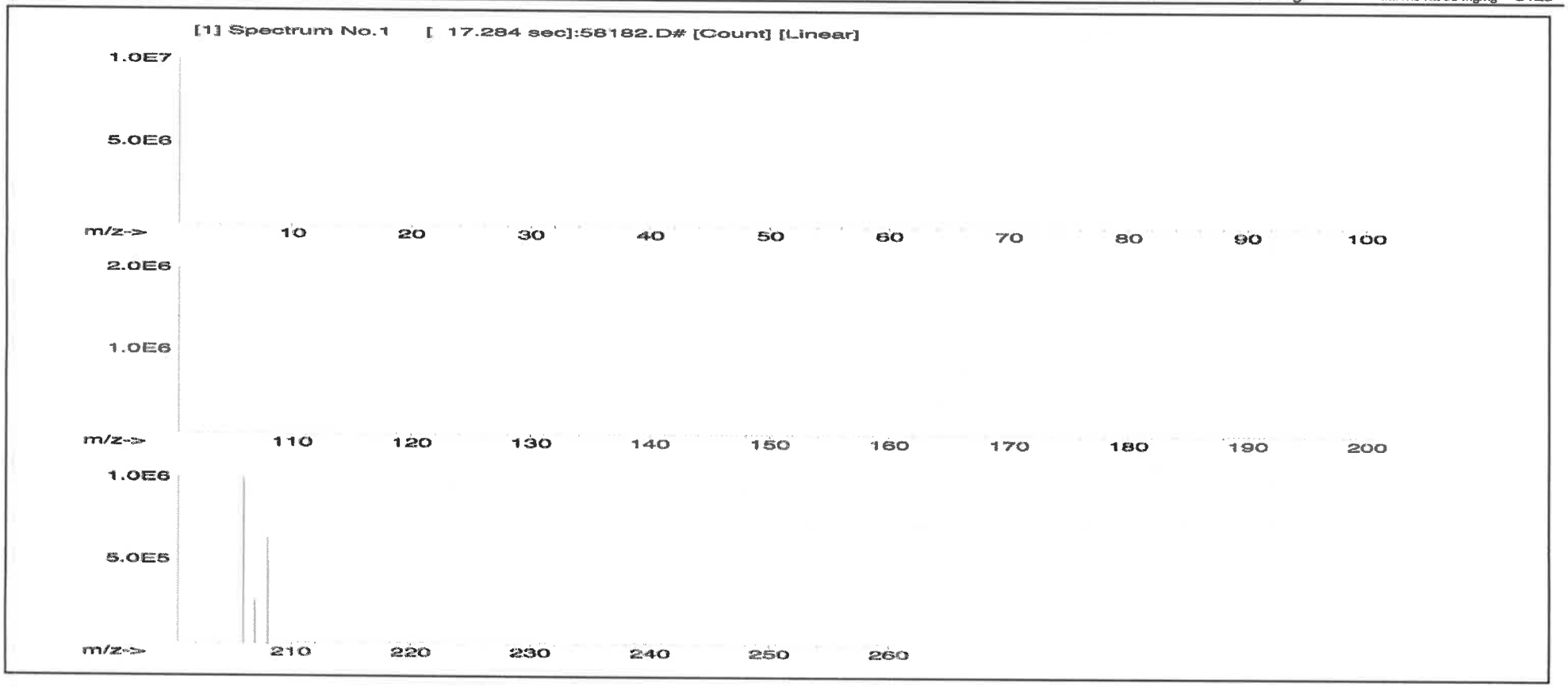
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

	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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* 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

M6026

R: 8/5/24

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CERTIFIED WEIGHT REPORT:

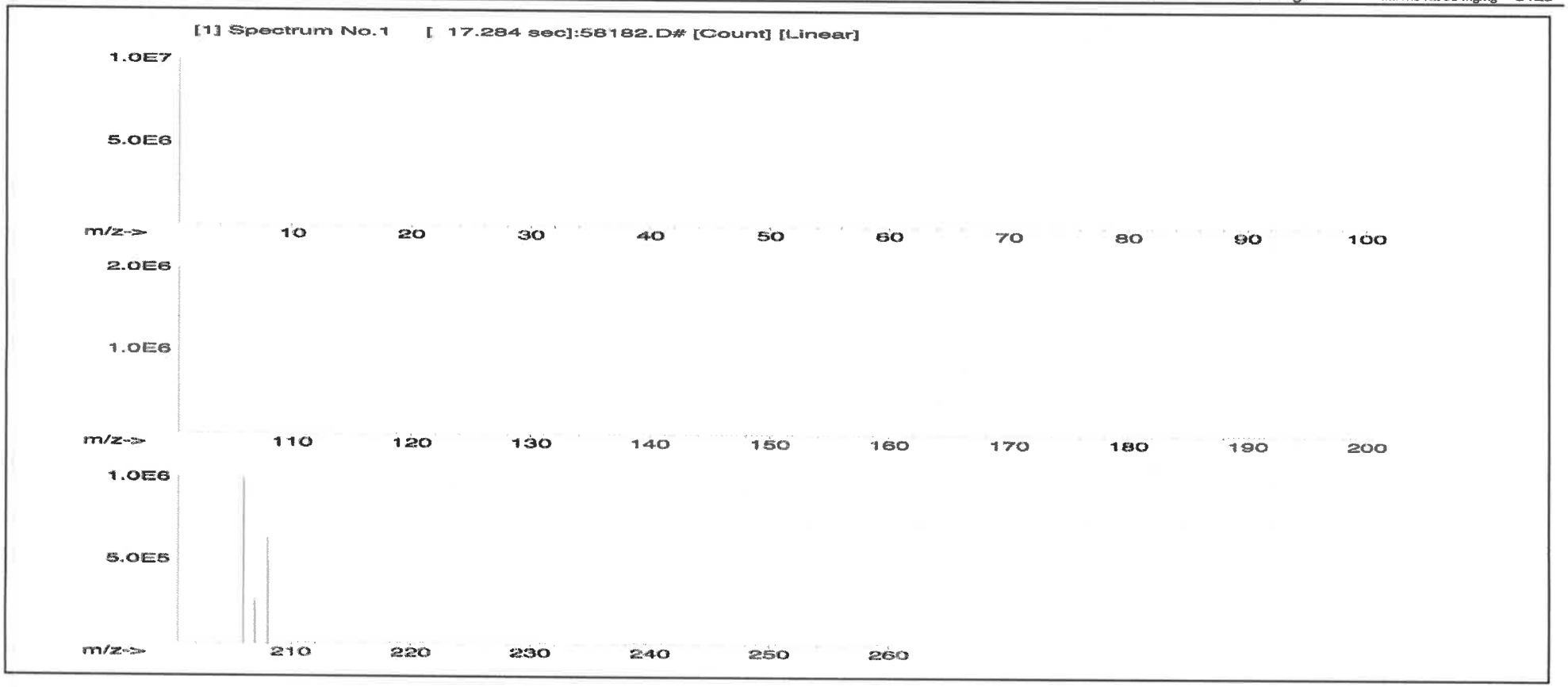
Part Number: 57182
Lot Number: 110923
Description: Lead (Pb)

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

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

Formulated By:	Lawence Barry	110923
Reviewed By:	Pedro L. Rentas	110923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	10000	99.999	0.10	62.5	32.0006	32.0040	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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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.

* 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

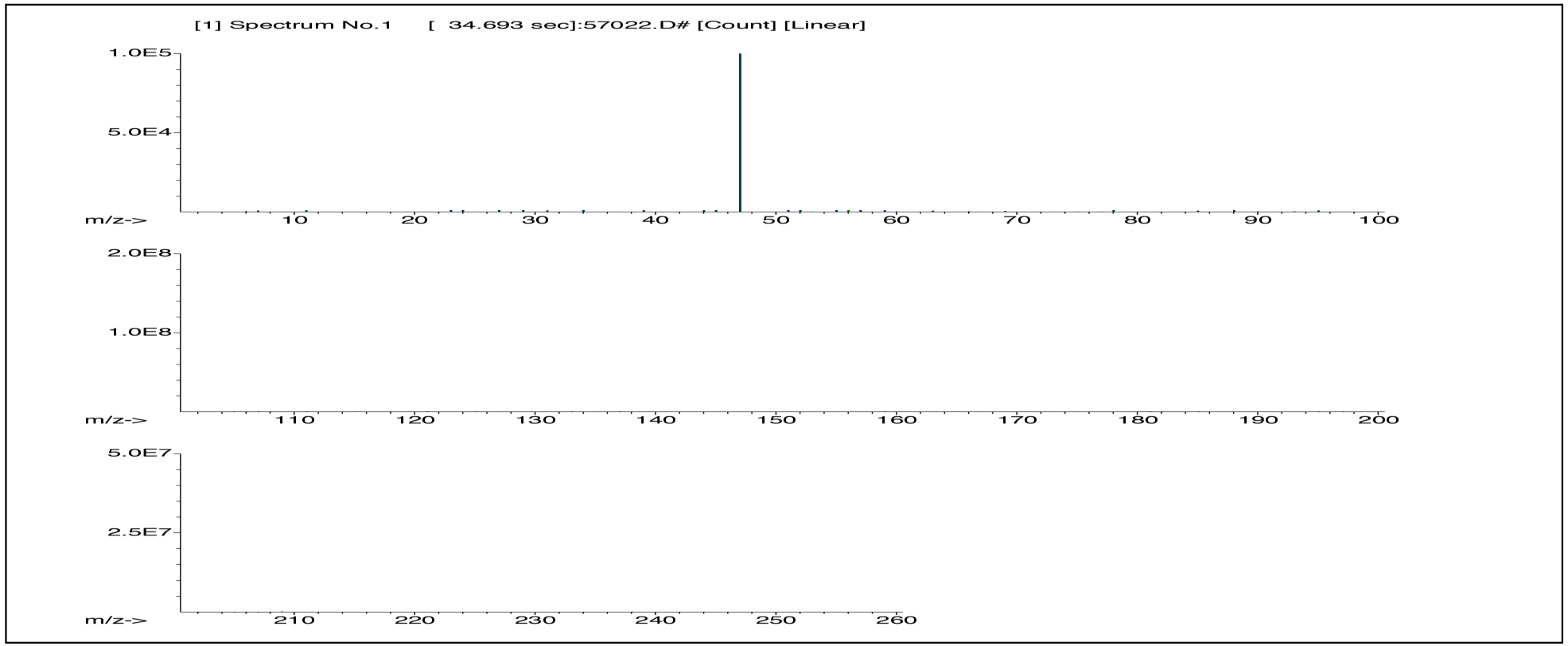
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CERTIFIED WEIGHT REPORT:

		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.

* 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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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

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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



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Certified Reference Material CRM

M519. M520 BH R:03/17/23

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CERTIFIED WEIGHT REPORT:

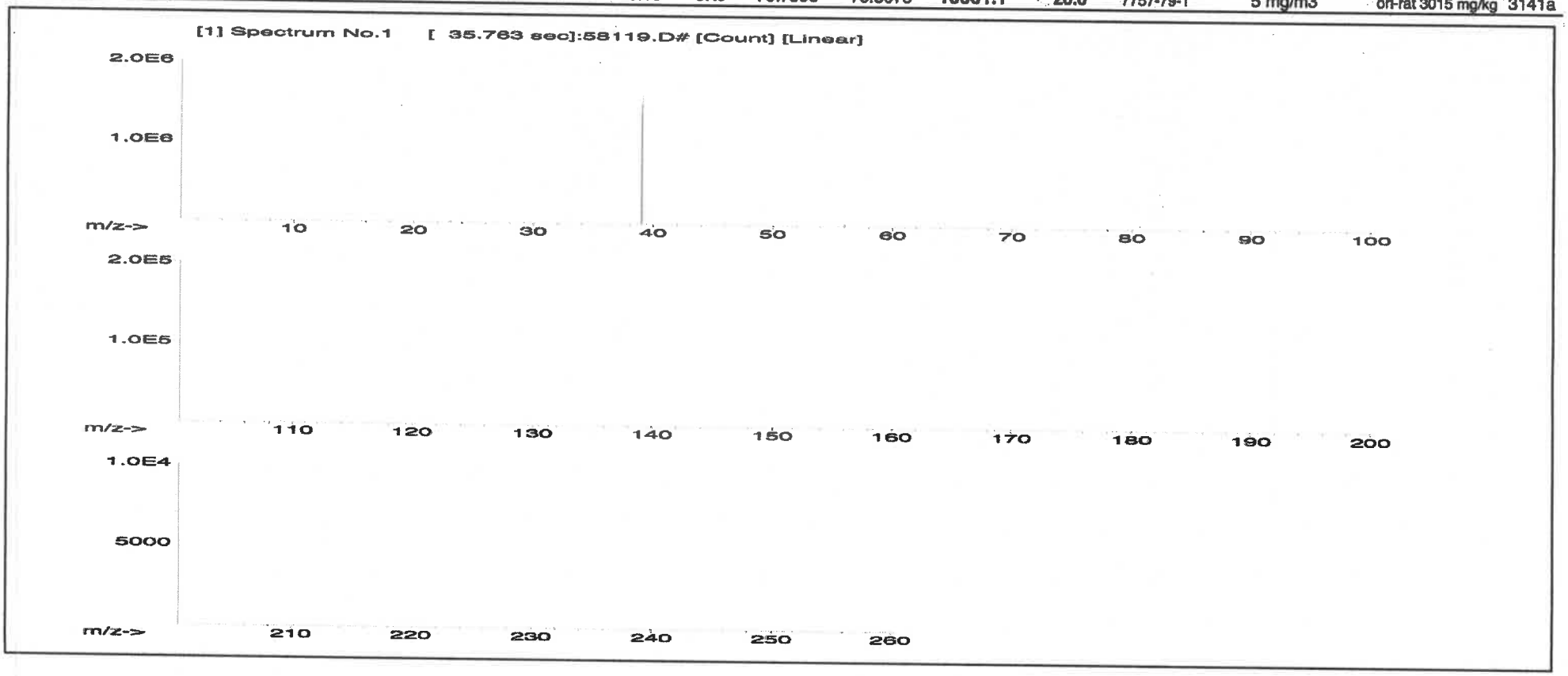
Part Number: 58119
Lot Number: 120822
Description: Potassium (K)

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.
* 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.
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Certified Reference Material CRM

M5519. M5520 (BH) R:03/17/23

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

CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 120822
Description: Potassium (K)

Expiration Date: 120825
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4 ± 0.06 Flask Uncertainty

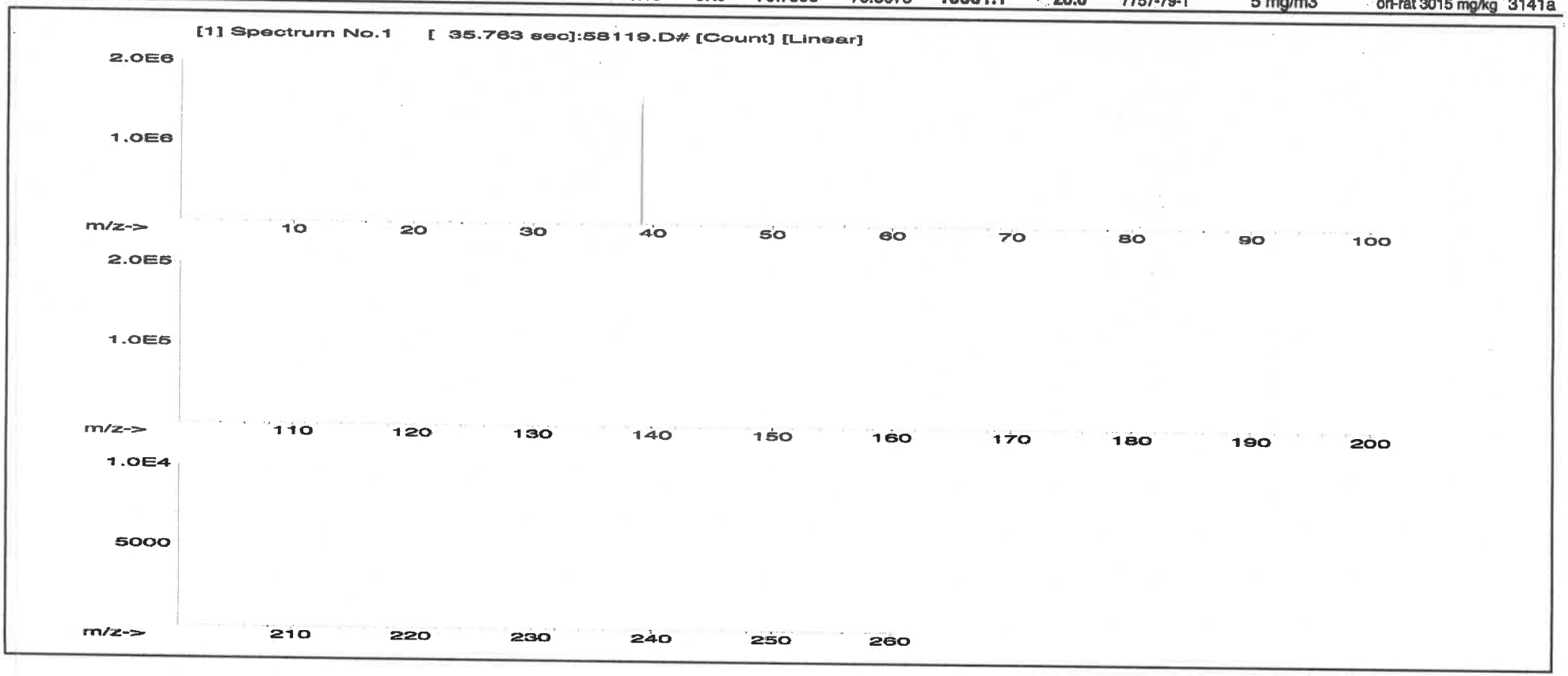
		Lot #	
Solvent:	20510011		Nitric Acid
	2%	60.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	120822
Reviewed By:	Pedro L. Rentas	120822

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	79.7990	79.8075	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



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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.
* 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).

JENSEN INERT PRODUCTS

MATERIAL CERTIFICATE OF COMPLIANCE

DATE: JUNE 12, 2023

CUSTOMER:	PCI SCIENTIFIC SUPPLY, INC
PURCHASE ORDER NO.	6054931
CATALOG NO.	BOI5021-450L
PRODUCT DESCRIPTION:	BOILING STONES, TFE, 454GMS
QUANTITY:	10 EACH
LOT NO.	W126678
SPECIFICATION (S):	Made from Virgin PTFE Resin

We certify that we have complied with the terms and conditions of the above Purchase Order and the Part Specifications in the manufacturing of the above product.

Laura Valencia

Laura Valencia
Quality Assurance Inspector

F:U:J:CF:PCISCI:COC-55114-BOI5021-061223

3773 NW 126th Avenue • Coral Springs, Florida 33065 • Fax (954) 344-2008 • 1-800 446-3781
Email: jensen@jenseninert.com Visit our Web Site at www.jenseninert.com

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M5658 R ! 8/25/23

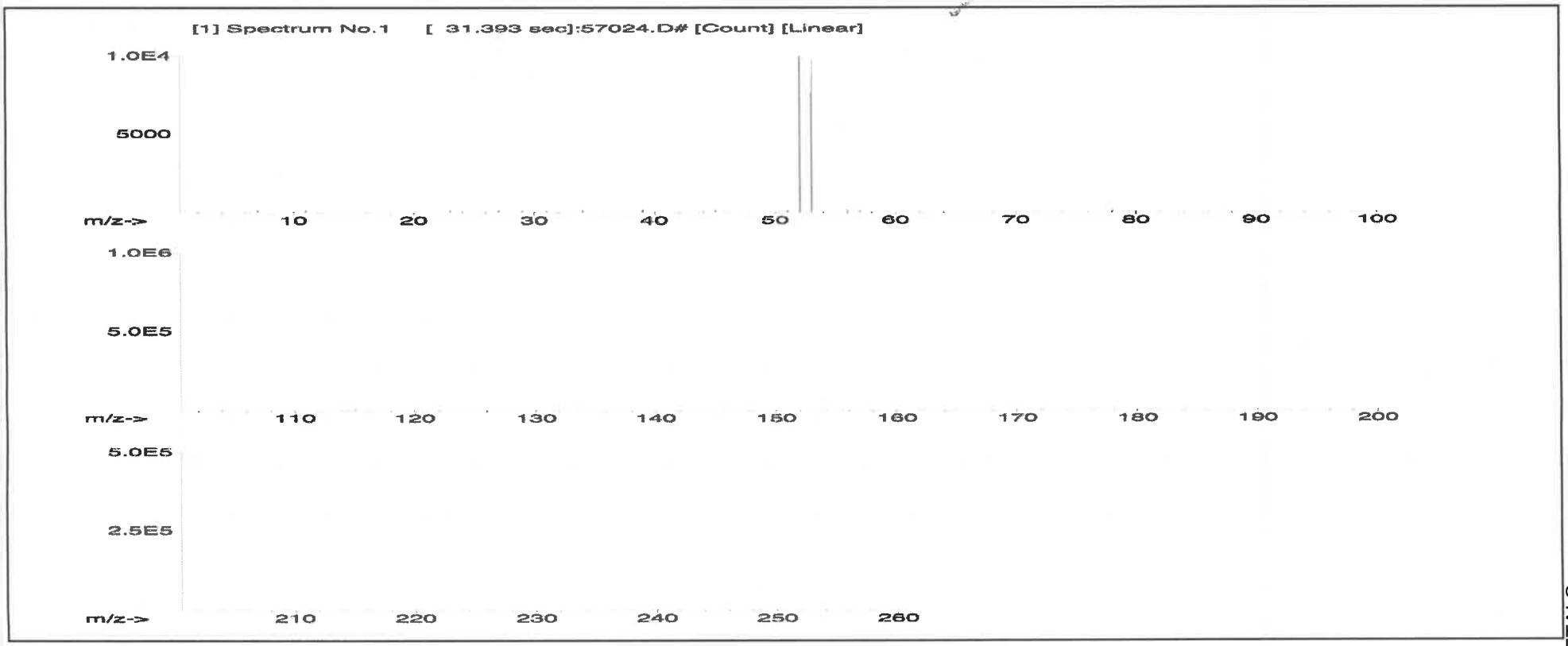
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CERTIFIED WEIGHT REPORT:

		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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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.

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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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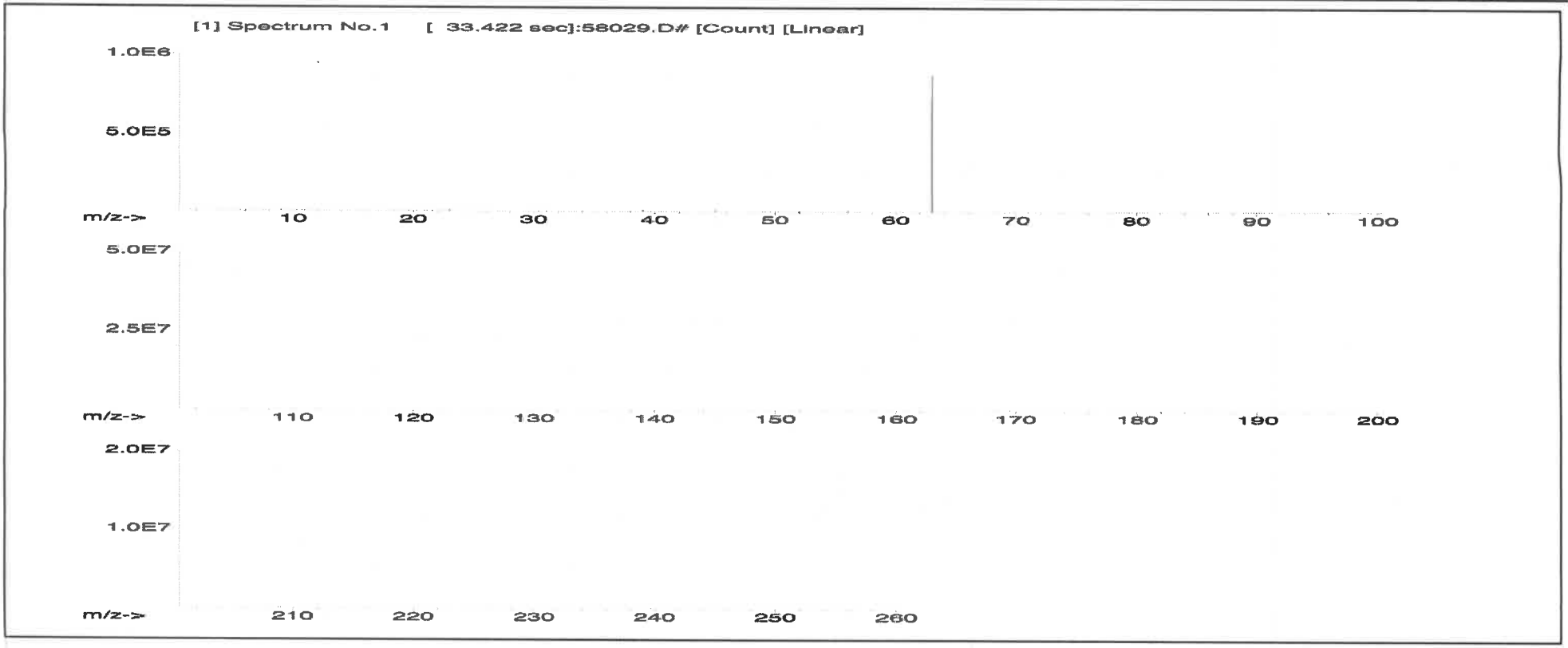
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CERTIFIED WEIGHT REPORT:

		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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* 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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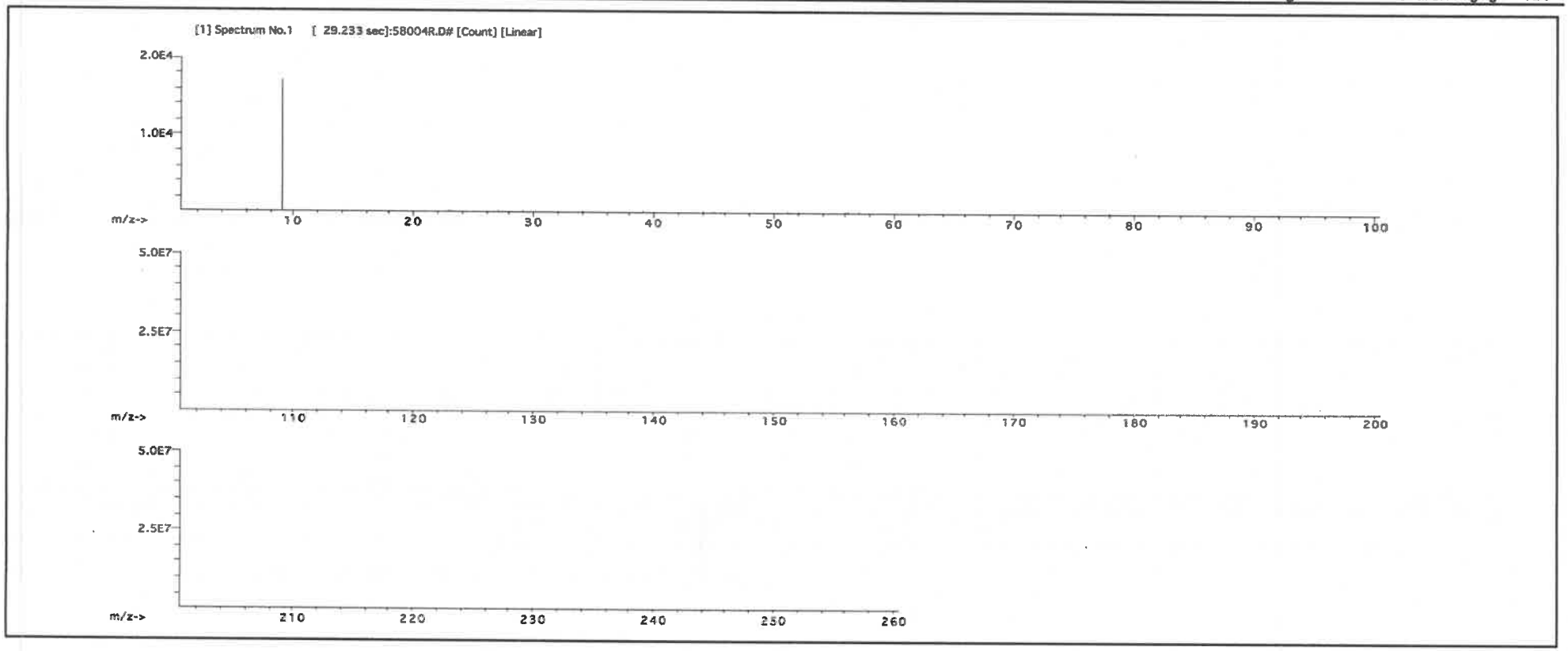
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CERTIFIED WEIGHT REPORT:

		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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CERTIFIED WEIGHT REPORT:

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

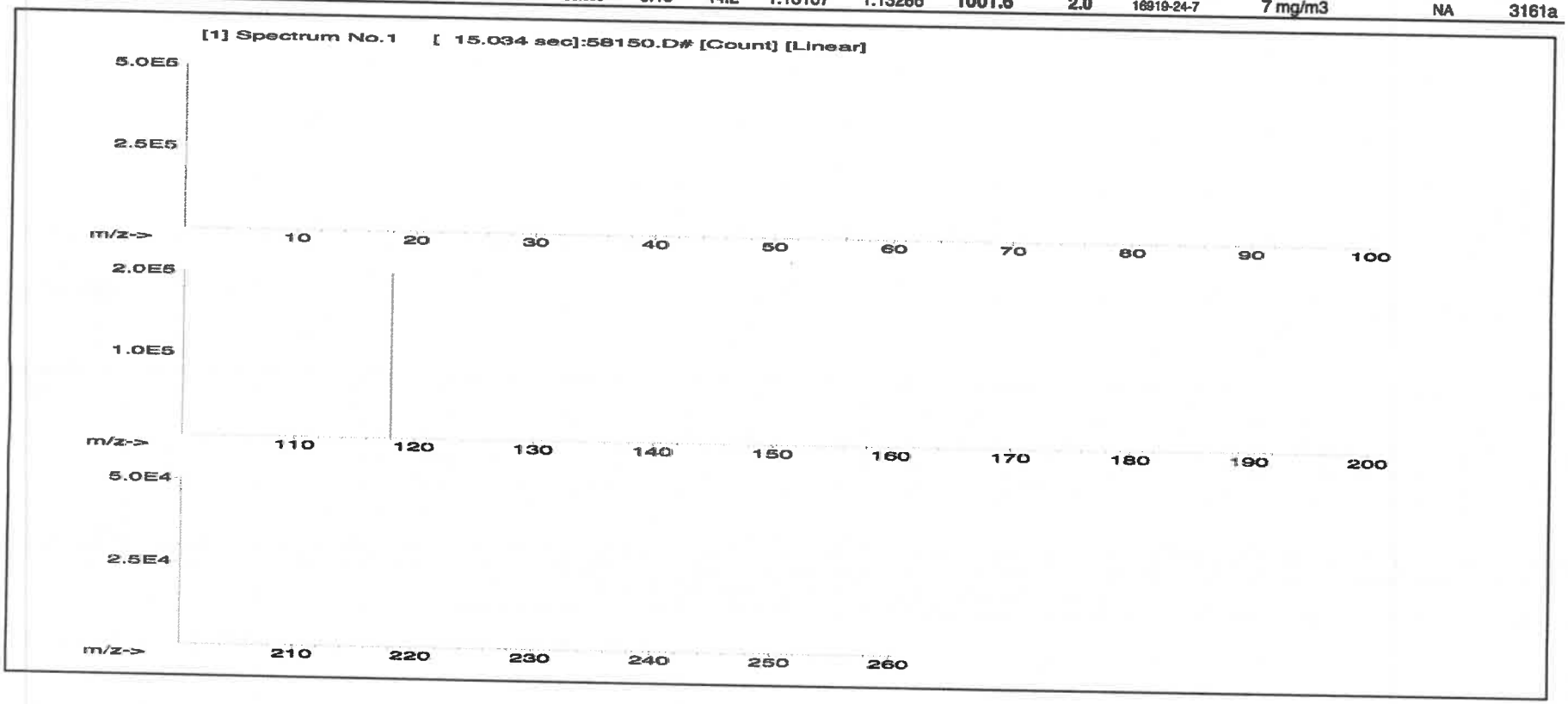
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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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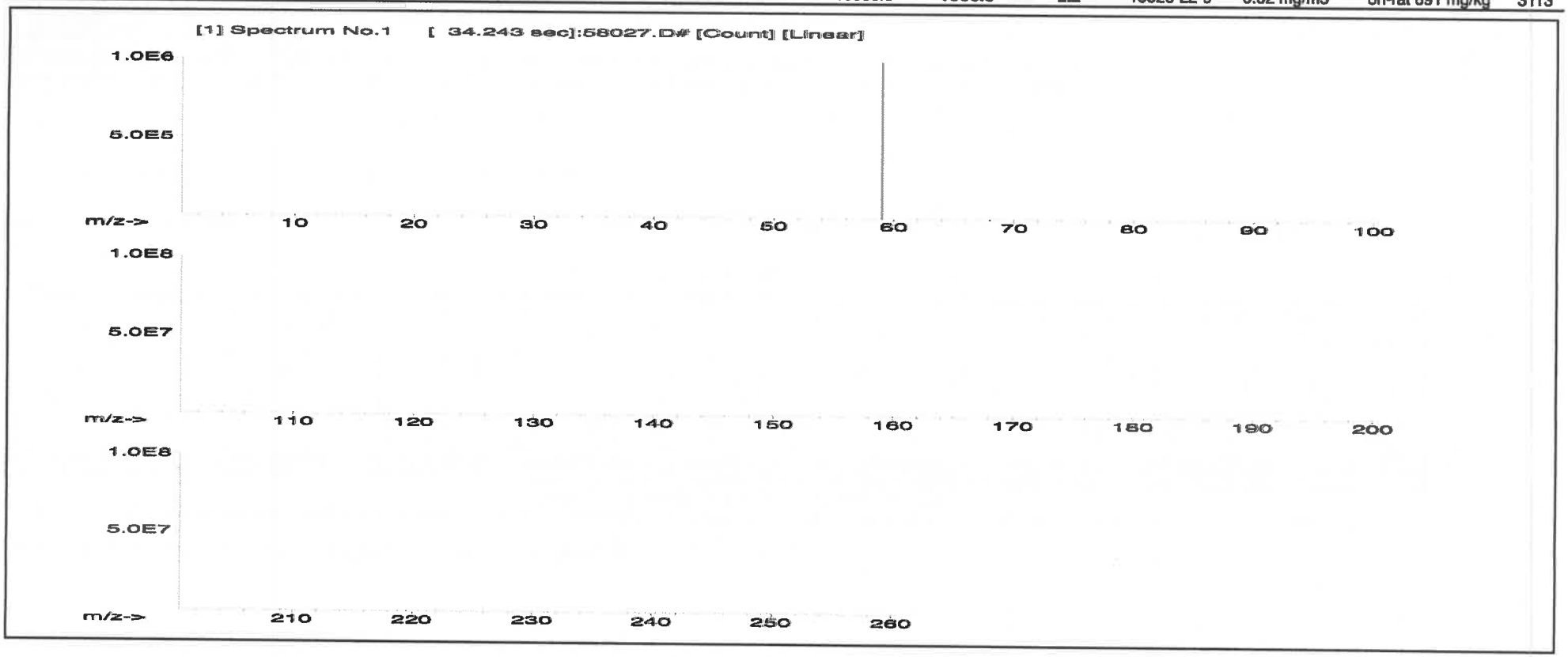
CERTIFIED WEIGHT REPORT:

		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.

* 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

R: 02/09/24 M5801 BH

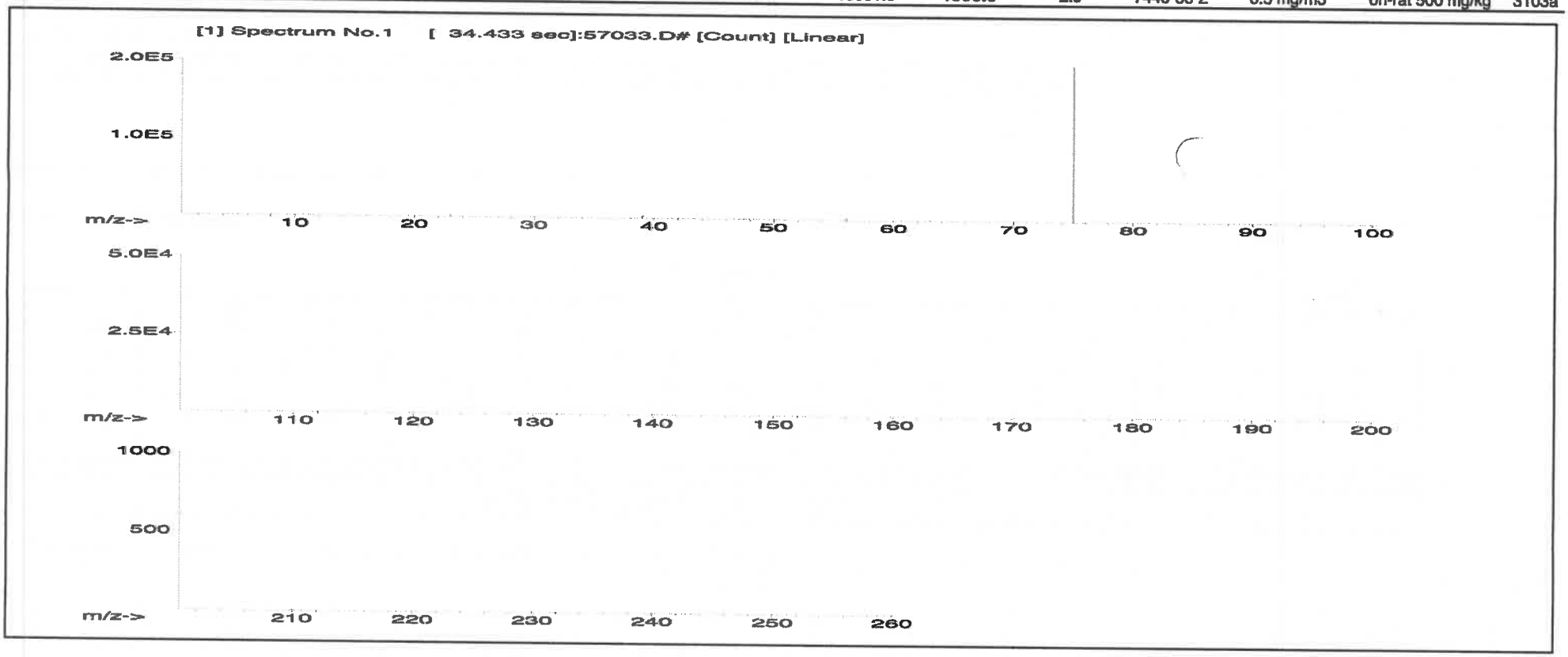
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	**57033**	24002546	Nitric Acid
Lot Number:	**111323**		
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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* 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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R1 02/09/24. M58165

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CERTIFIED WEIGHT REPORT:

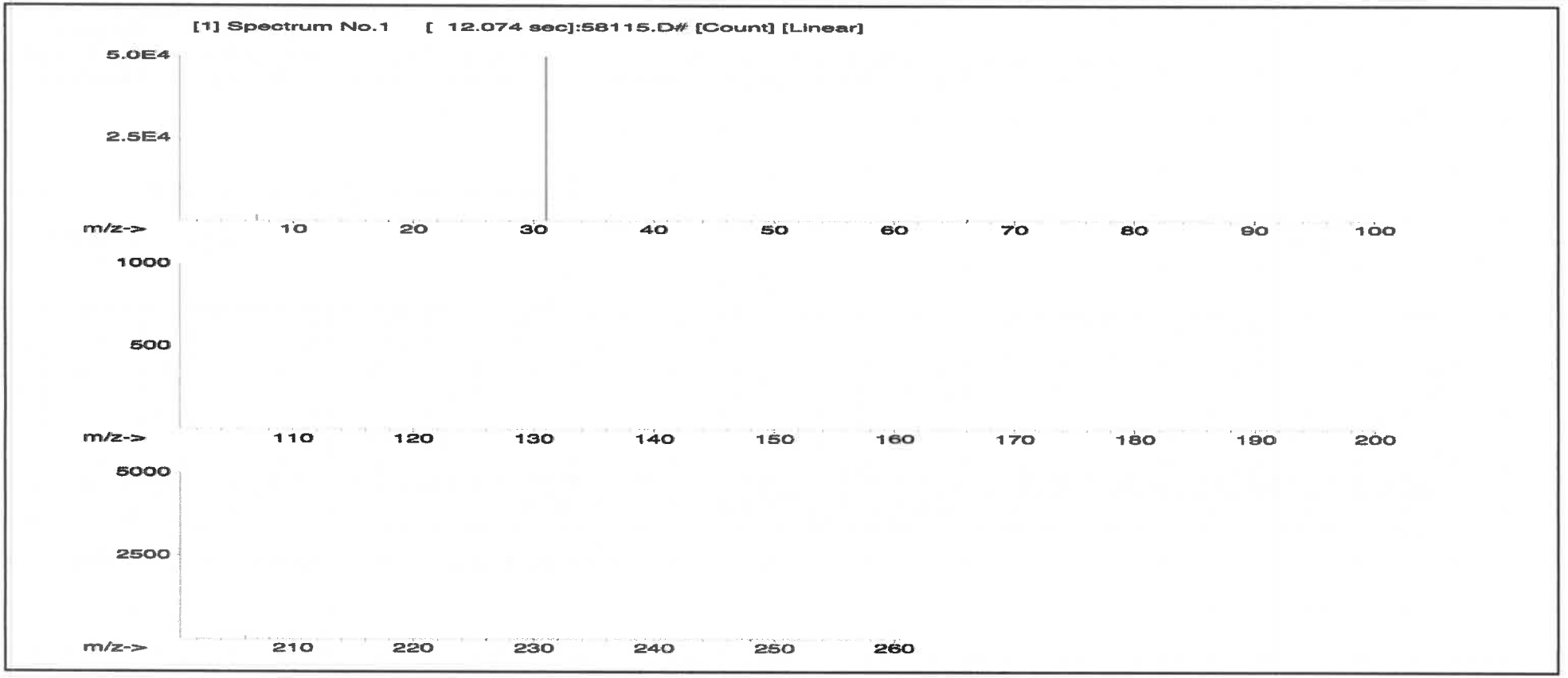
Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

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

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	041723
Reviewed By:	Pedro L. Rentas	041723

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	10000	99.999	0.10	27.5	72.7287	72.7289	**10000.0**	**20.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/kg	3186



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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:

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CERTIFIED WEIGHT REPORT:

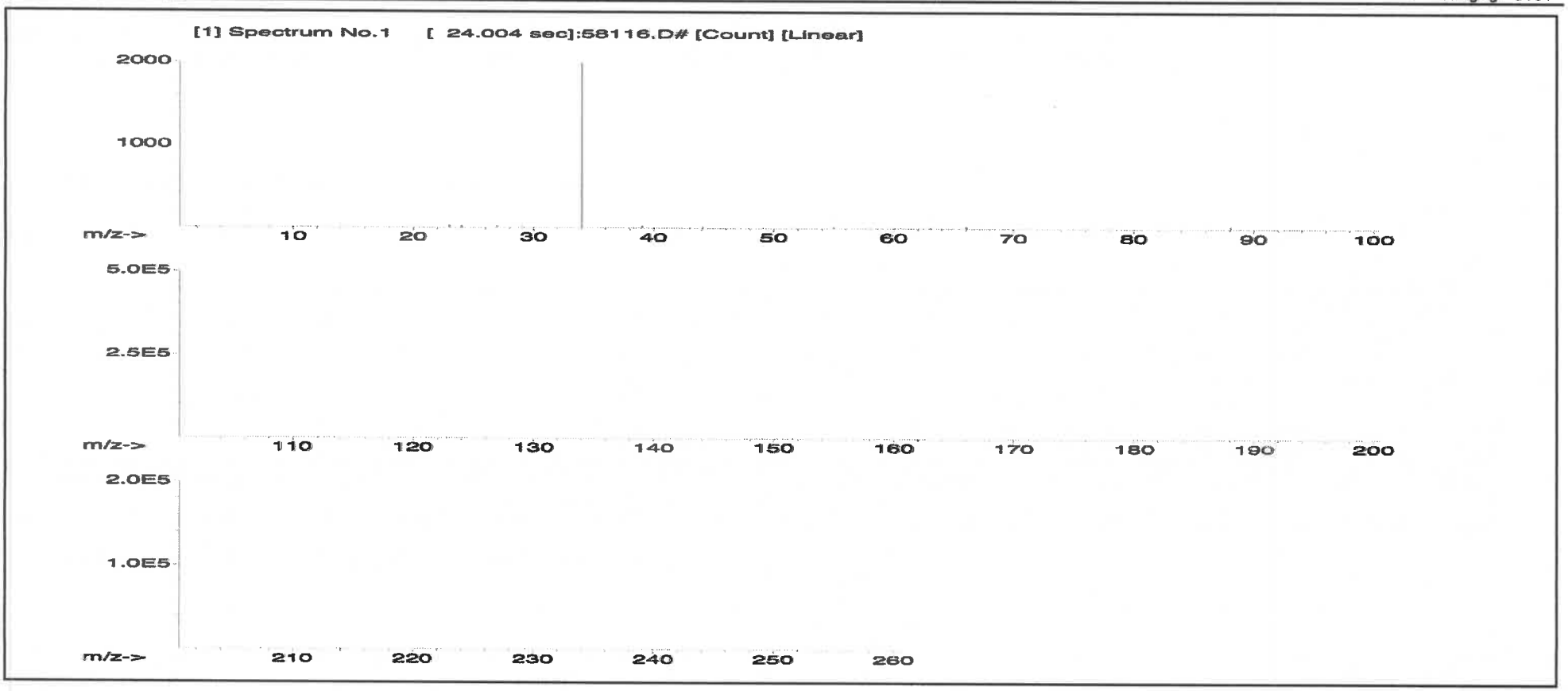
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

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

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

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



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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:

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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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Certificate of Analysis

R: 02/22/24 M5942

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inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

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

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- **June 17, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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

Certified Reference Material CRM

M5961 R: 6/11/24

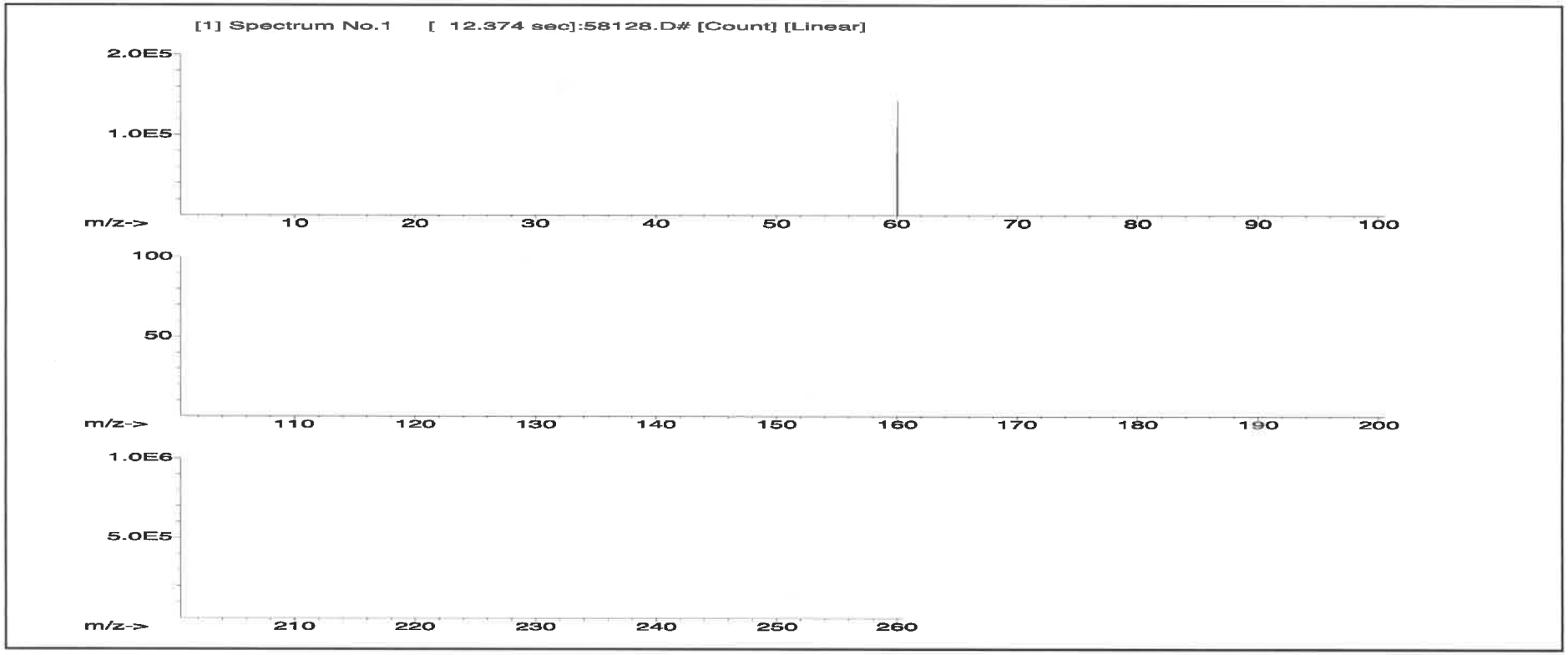
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57028**		**Lot #**		
Lot Number:	**041124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Nickel (Ni)**				
		2%	5.0 (mL)	Nitric Acid	
Expiration Date:	041127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	249.85	0.002	Flask Uncertainty		

Formulated By:	Brian Geddes	041124
Reviewed By:	Pedro L. Rentas	041124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	IN033	NIM052023A1	1000	99.999	0.10	20.2	1.2369	1.2369	**1000.0**	**2.0**	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

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Certified Reference Material CRM

M5962 R! 06/14/24.

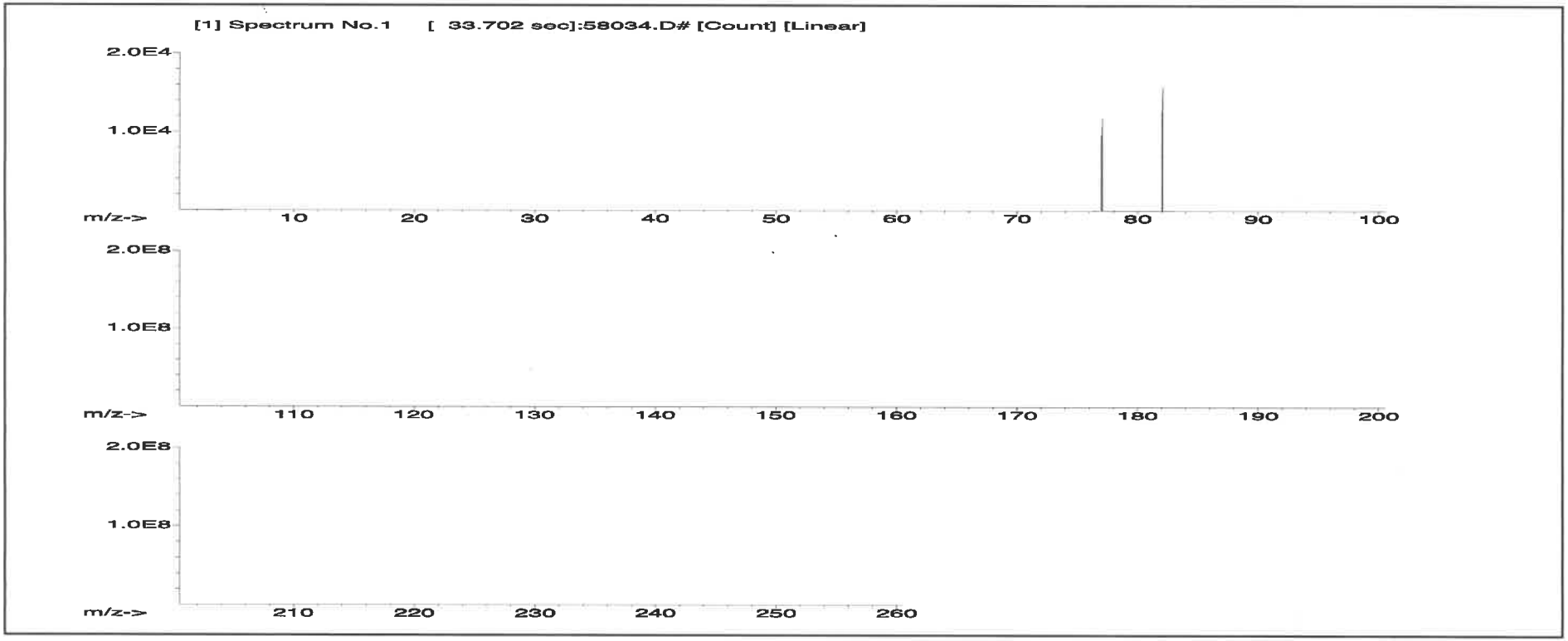
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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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ANAB ISO 17034 Accredited
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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

(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 prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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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).

INORGANIC VENTURES
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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
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO1
Lot Number:	T2-MO720876
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	1 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 7 µg/mL

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

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.000879	M	Se	<	0.008000	M	Zn		0.000598
M	Al		0.000563	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.000175				
M	Ba		0.001689	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.006334	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Tl	<	0.032000				
M	Ce	<	0.008300	M	K		0.130213	M	Rb		0.004575	M	Tl		0.001266				
M	Co		0.000598	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.000527	O	Li		0.000059	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.000527	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.002252	M	Mg		0.000563	i	S	<		M	W		0.087982				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.001513	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

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

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br1 6O,190Os2+,190Pt 2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 17, 2022

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

11.2 Lot Expiration Date

- July 17, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Technical



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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

Certified Reference Material CRM

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		

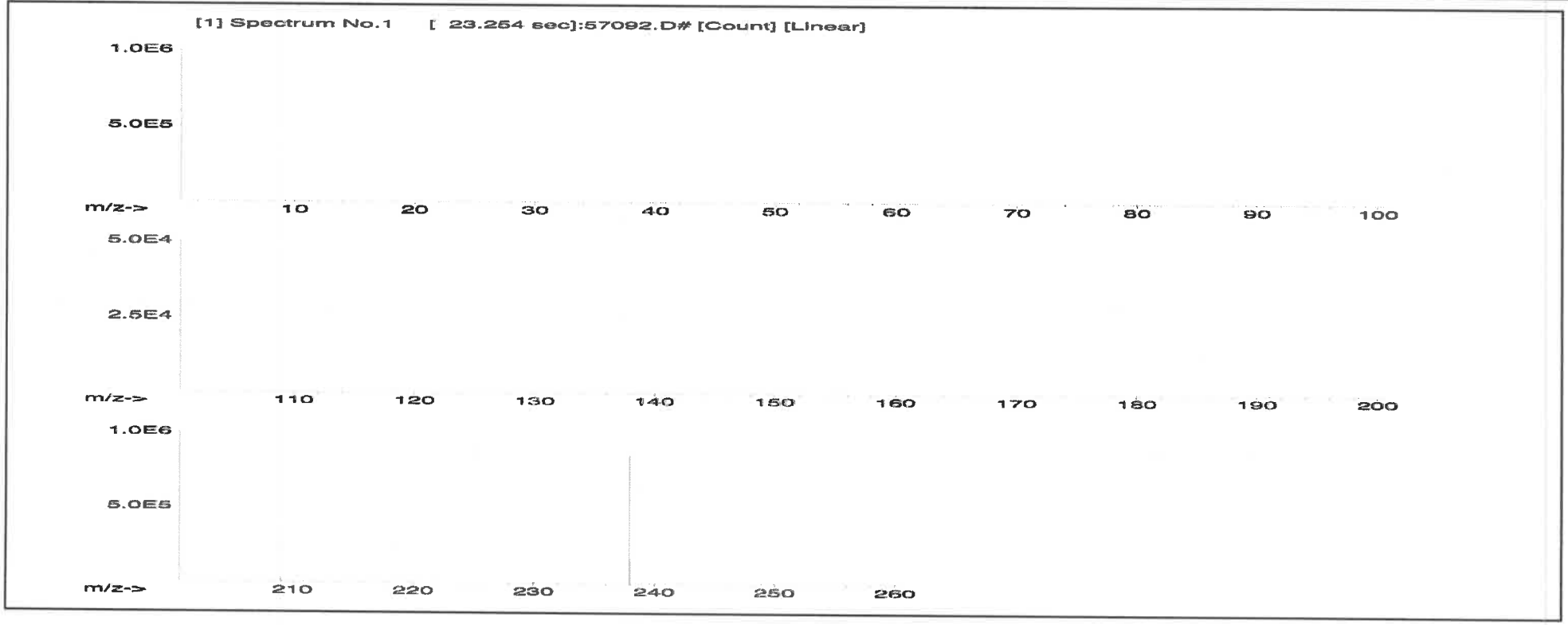
Giovanni Esposito

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



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Certified Reference Material CRM

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

Part # **57092** Lot # **060724**

Printed: 6/7/2024, 3:58:45 PM

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

Certified Reference Material CRM

M5983 R: 6/11/24

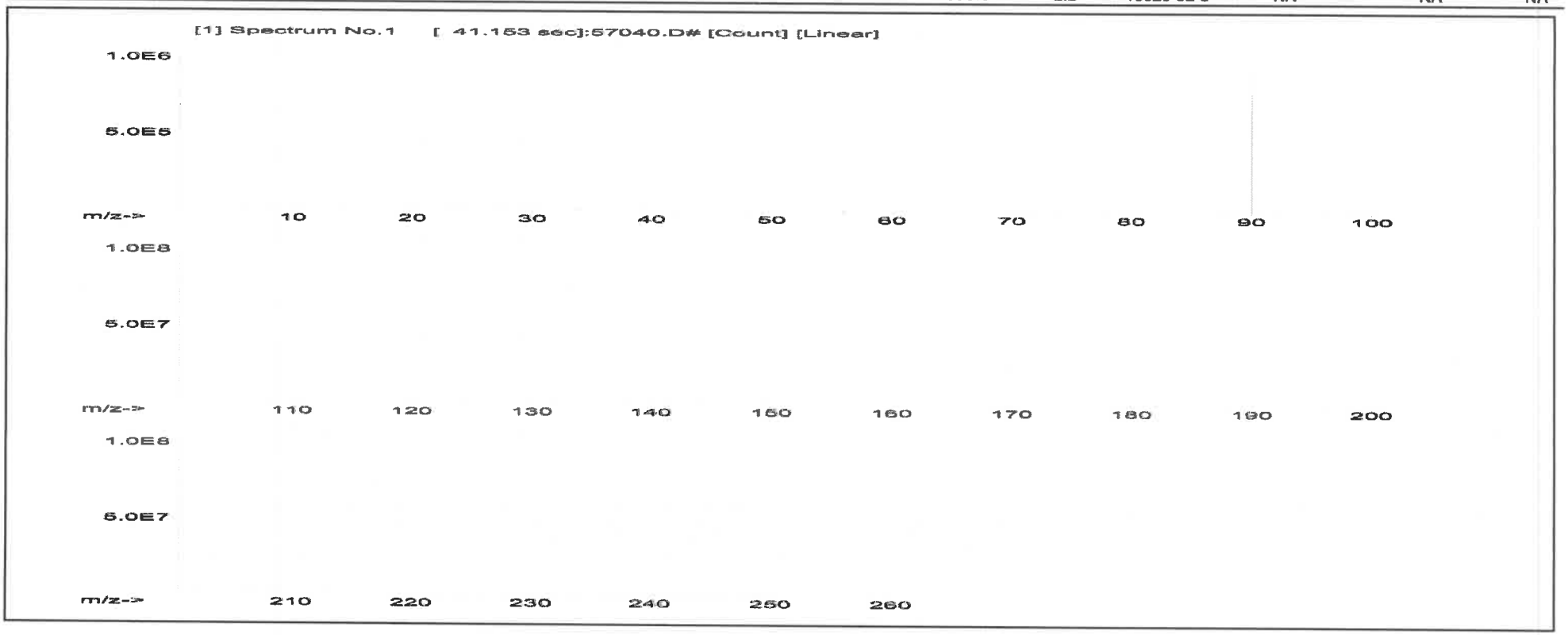
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57040**	21110221	Nitric Acid		
Lot Number:	**071423**				
Description:	**Zirconium (Zr)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	071426				
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	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



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).

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Certificate of Analysis

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300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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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:	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



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R! 08/22/24 M6058, M6059

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:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746172
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 12, 2024

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

11.2 Lot Expiration Date

- August 12, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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

Certified Reference Material CRM

M6079 R: 9/30/24

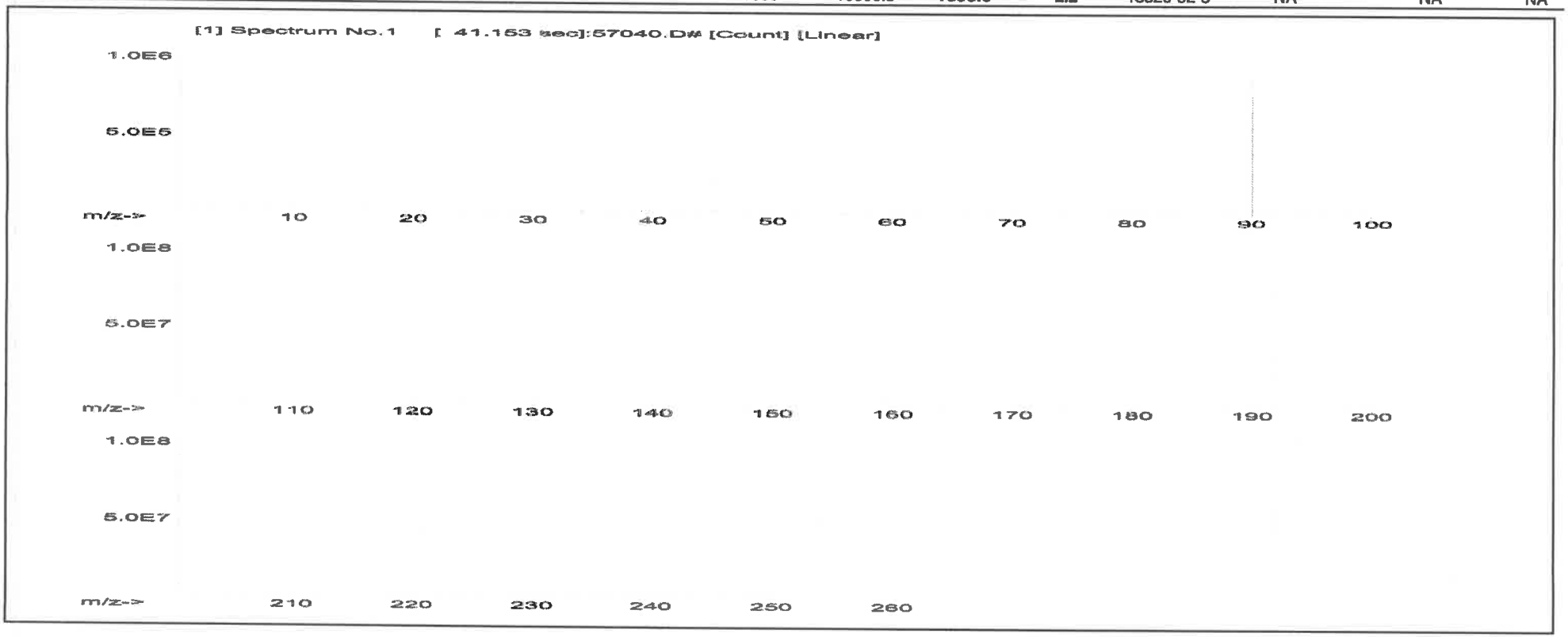
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57040**	21110221	Nitric Acid		
Lot Number:	**071423**				
Description:	**Zirconium (Zr)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	071426				
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	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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Certified Reference Material CRM

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

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

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

M6125 Receive -> 11/22/24

CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

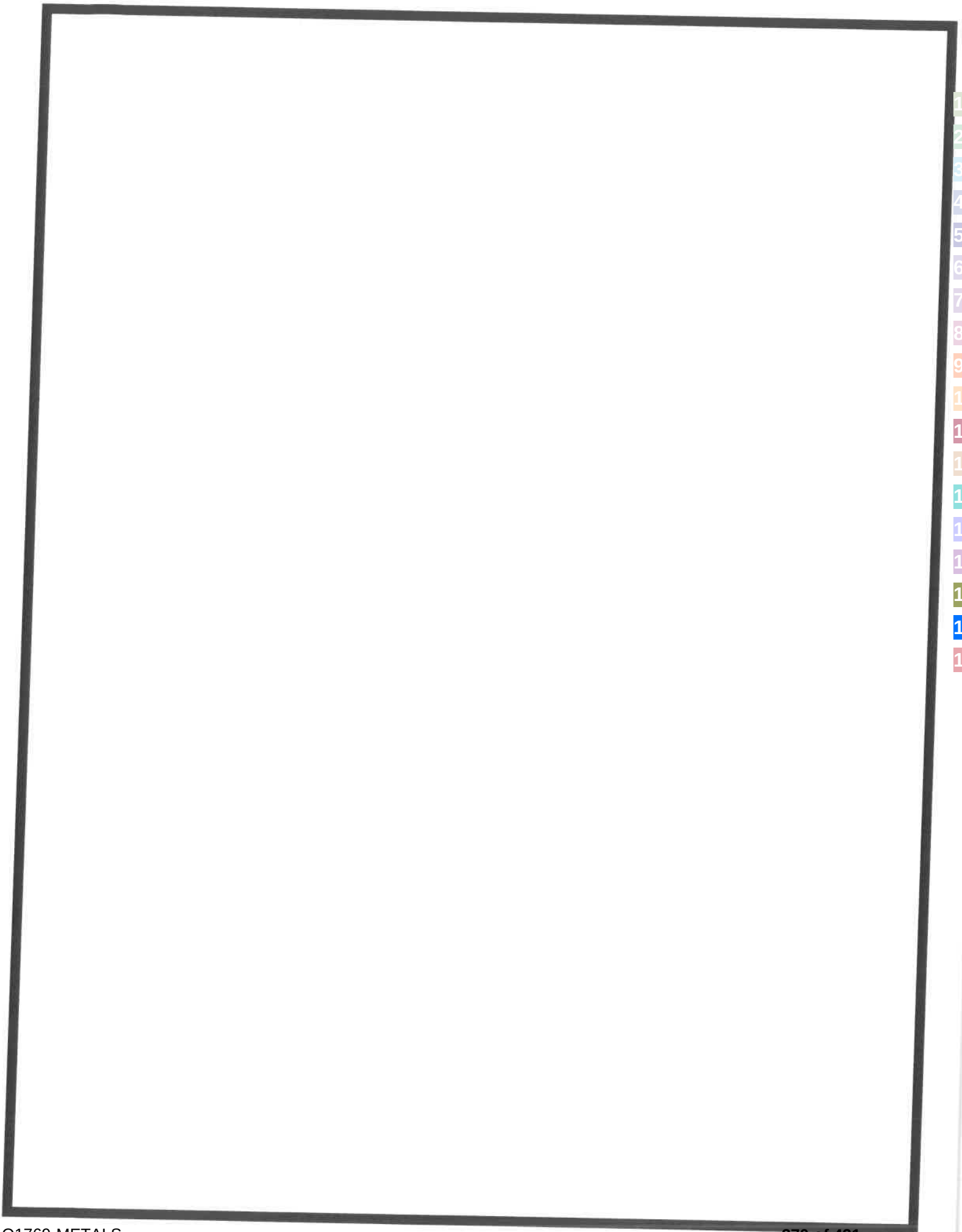
Office and Plant
299 Cedar Lane
Fairless Hills, PA 19030

Phone: 215-295-5006
Fax: 215-295-0781

Hydrogen Peroxide 30%, ACS

Reagent Grade

SPECIFICATION	MAXIMUM LIMITS
Appearance	Colorless and free from suspended matter or sediment
Assay	29-32%
Color (APHA)	10
Residue after Evaporation	0.002%
Titratable Acid	0.0006 meq/g
Chloride (Cl)	3 ppm
Nitrate (NO_3)	2 ppm
Phosphate	2 ppm
Sulfate (SO_4)	5 ppm
Ammonium (NH_4)	5 ppm
Heavy Metals (as Pb)	1 ppm
Iron (Fe)	0.5 ppm



Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

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

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

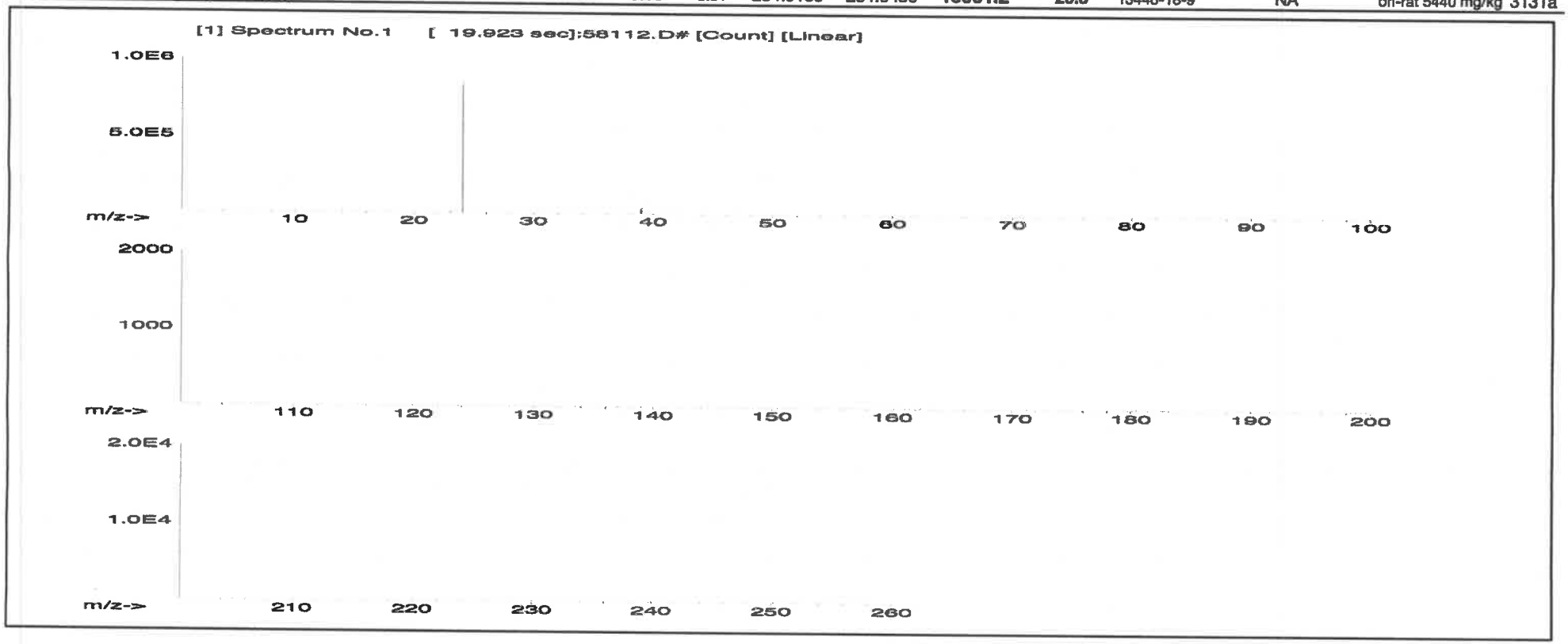
R -> 1/13/25
M 6127

Part Number:	**58112**		**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
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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	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.

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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		

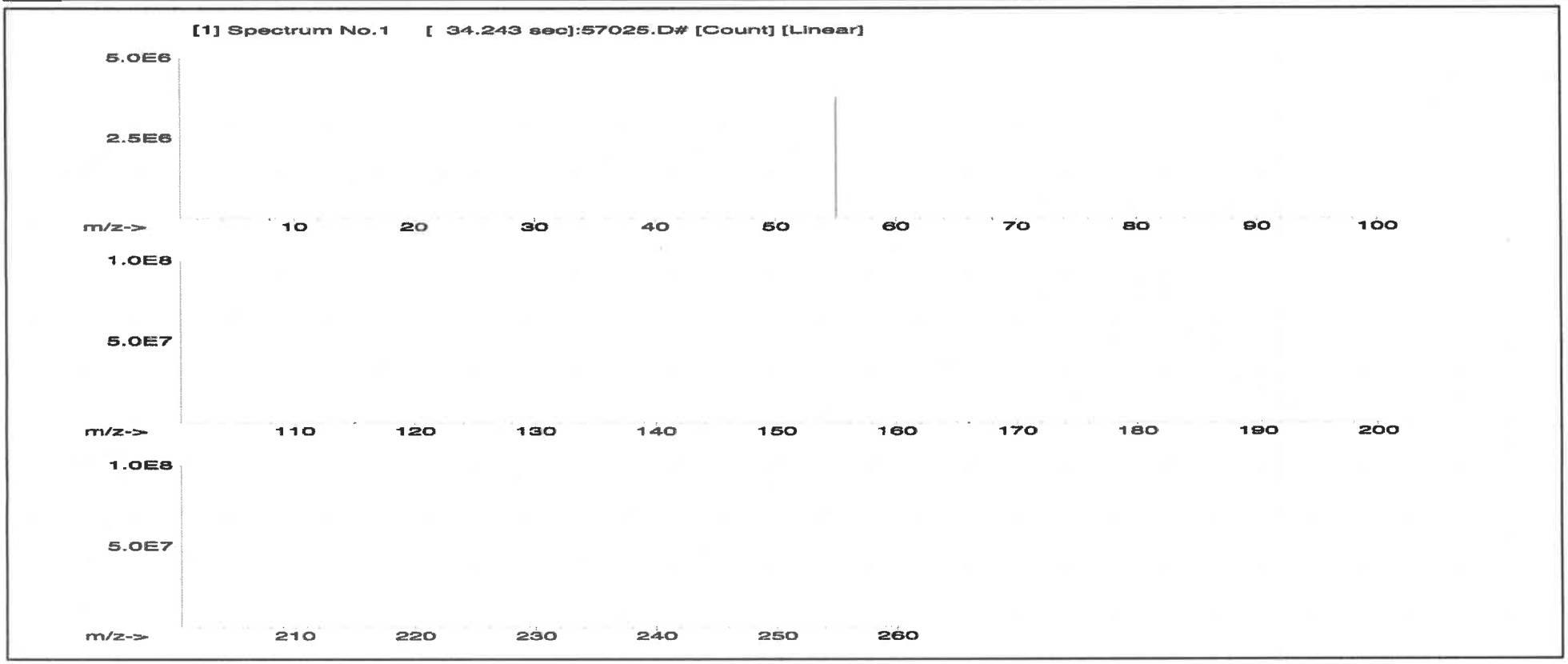
Giovanni Esposito

Formulated By:	Giovanni Esposito	101124

Pedro Rentas

Reviewed By:	Pedro L. Rentas	101124

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



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Certified Reference Material CRM

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	T	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M6137
R→10/3/24

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI1
Lot Number:	V2-SI744713
Matrix:	tr. HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Silicon
Starting Material:	Silica
Starting Material Lot#:	1771
Starting Material Purity:	99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 5 µg/mL**
ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546

Assay Method #2 **1000 ± 7 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na		0.001656	M	Se	<	0.022000	M	Zn	<	0.002500
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

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

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

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

11.2 Lot Expiration Date

- **July 10, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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

Certified Reference Material CRM

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

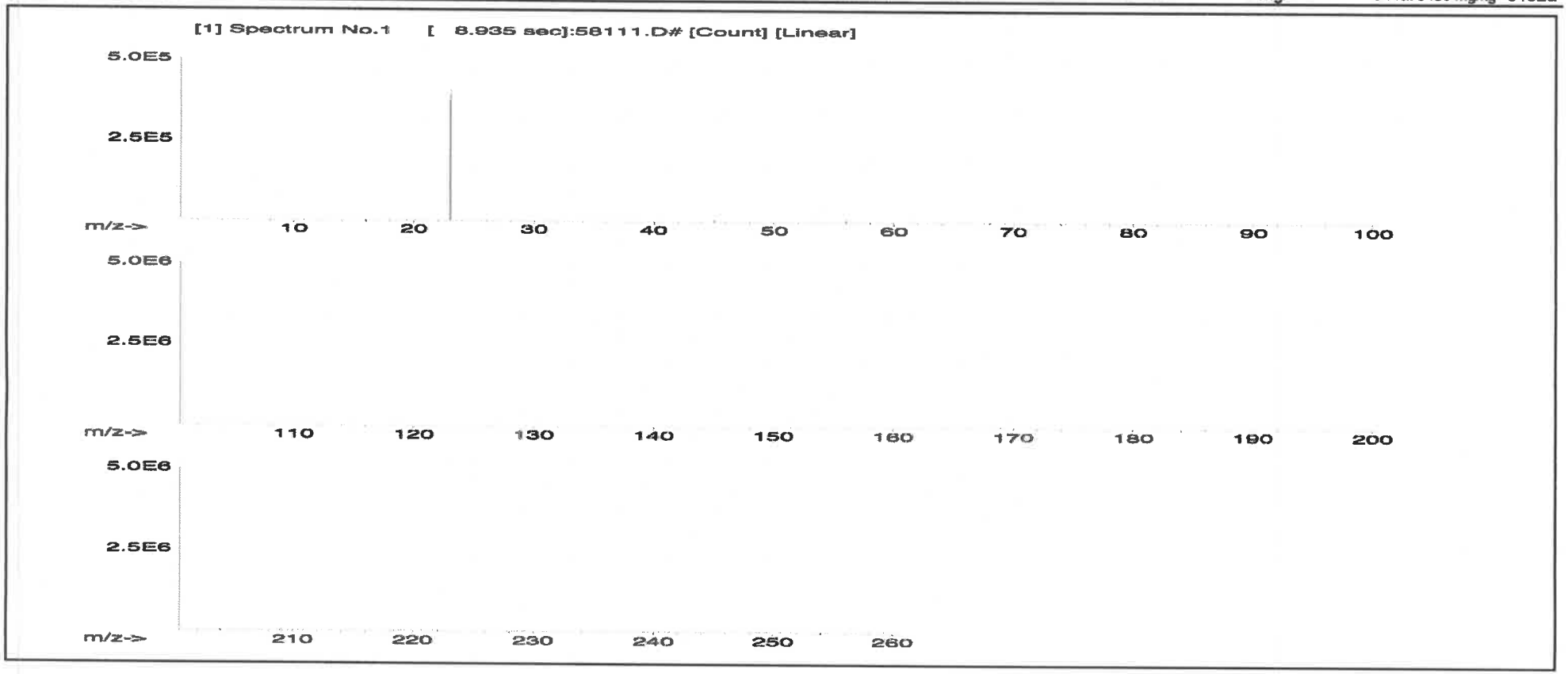
CERTIFIED WEIGHT REPORT:

R->1/13/25

Part Number:	**58111**			**Lot #**	
Lot Number:	**072424**	**Solvent:**	24002546	Nitric Acid	
Description:	**Sodium (Na)**				
		MG144 2%	80.0 (mL)	Nitric Acid	
Expiration Date:	072427				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.2	0.10	Flask Uncertainty		

Formulated By:	Benson Chan 072424
Reviewed By:	Pedro L. Rentas 072424

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



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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).

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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

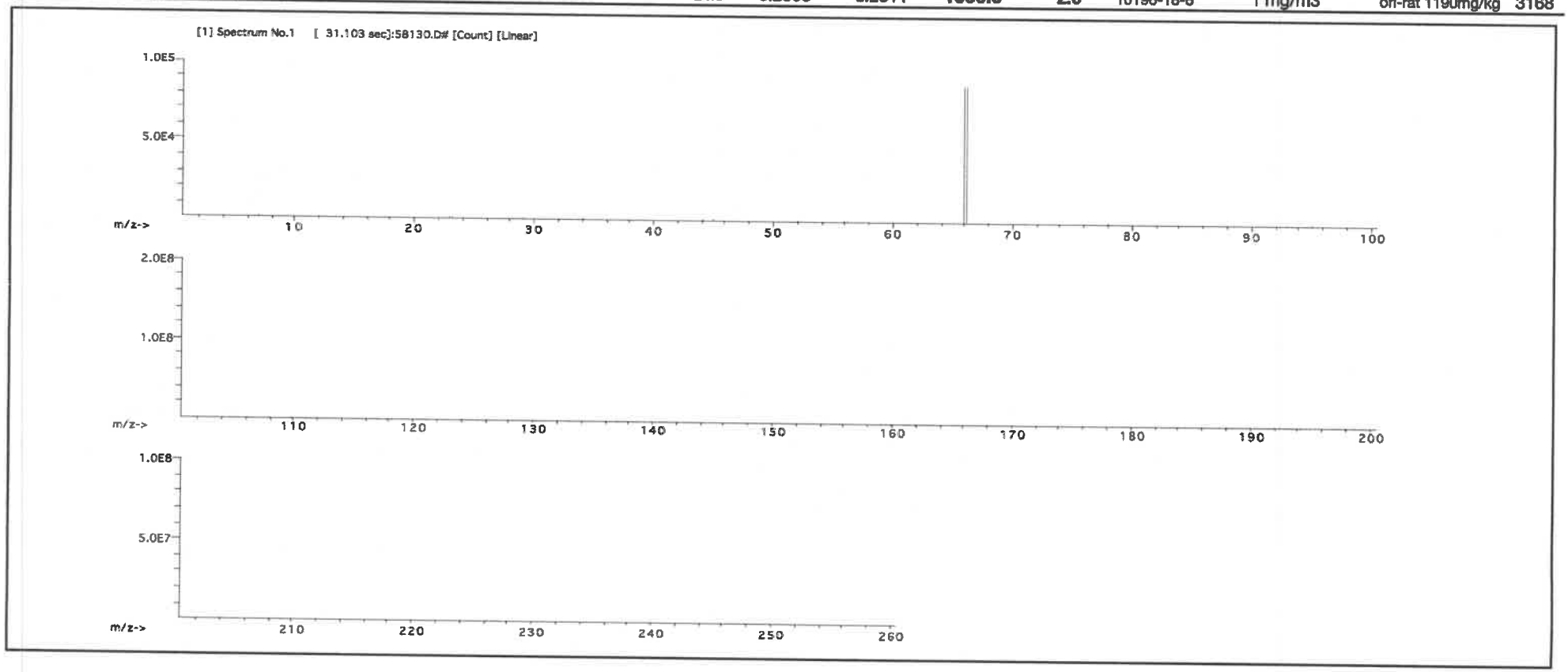
Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

				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



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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	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

R : 4/20/21

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

M6150

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

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

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

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

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

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

(B) *BREAKAGE OR MISSING ITEMS*

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

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

(C) *ANALYSIS OF SAMPLES*

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

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

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

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

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

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

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

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

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

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

avantor™ | J.T.Baker®

M6151

R-> 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

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

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

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

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

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

James T Ethier

Jamie Ethier
Vice President Global Quality

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

R→1/7/23
M6153

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:	CGSR10
Lot Number:	V2-SR745329
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Strontium
Starting Material:	Strontium Carbonate
Starting Material Lot#:	2647
Starting Material Purity:	99.9960%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10081 ± 39 µg/mL

Density: 1.030 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **10059 ± 50 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **10087 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM/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	<	0.000960	M	Eu	<	0.000480	O	Na		0.002964	M	Se	<	0.042000	M	Zn	0.004560
M	Al		0.003420	O	Fe		0.013225	M	Nb	<	0.000480	O	Si		0.012997	M	Zr	0.001847
M	As	<	0.007200	M	Ga	<	0.002900	M	Nd	<	0.000480	M	Sm	<	0.000480			
M	Au	<	0.003900	M	Gd	<	0.000480	O	Ni		0.001482	M	Sn	<	0.000480			
O	B	<	0.003200	M	Ge	<	0.004800	M	Os	<	0.001500	s	Sr	<				
M	Ba		0.638494	M	Hf	<	0.000480	O	P	<	0.017000	M	Ta	<	0.000480			
O	Be	<	0.000450	M	Hg	<	0.000960	M	Pb		0.010717	M	Tb	<	0.000480			
M	Bi	<	0.002000	M	Ho	<	0.000480	M	Pd	<	0.002000	M	Te	<	0.016000			
O	Ca		0.025083	M	In	<	0.008600	M	Pr		0.000547	M	Th	<	0.000480			
M	Cd	<	0.000960	M	Ir	<	0.000480	M	Pt	<	0.000480	M	Ti		0.004560			
M	Ce		0.000661	O	K		0.025083	M	Rb	<	0.003400	M	Tl	<	0.000480			
M	Co		0.001527	M	La	<	0.000480	M	Re	<	0.000480	M	Tm		0.004332			
O	Cr	<	0.004700	O	Li	<	0.005600	O	Rh	<	0.013000	M	U	<	0.000480			
M	Cs	<	0.000480	M	Lu	<	0.000480	M	Ru	<	0.000960	M	V	<	0.000960			
O	Cu	<	0.003800	O	Mg		0.001048	O	S	<	0.045000	M	W	<	0.002400			
M	Dy	<	0.000960	O	Mn		0.000319	M	Sb	<	0.009600	O	Y	<	0.001200			
M	Er	<	0.000480	M	Mo	<	0.002900	M	Sc	<	0.001500	M	Yb	<	0.000480			

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

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 26, 2024

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

11.2 Lot Expiration Date

- August 26, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R-02102/2025

M-6158

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

Test	Specification	Result

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

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:

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

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:

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

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.

Absolute Standards, Inc.
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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

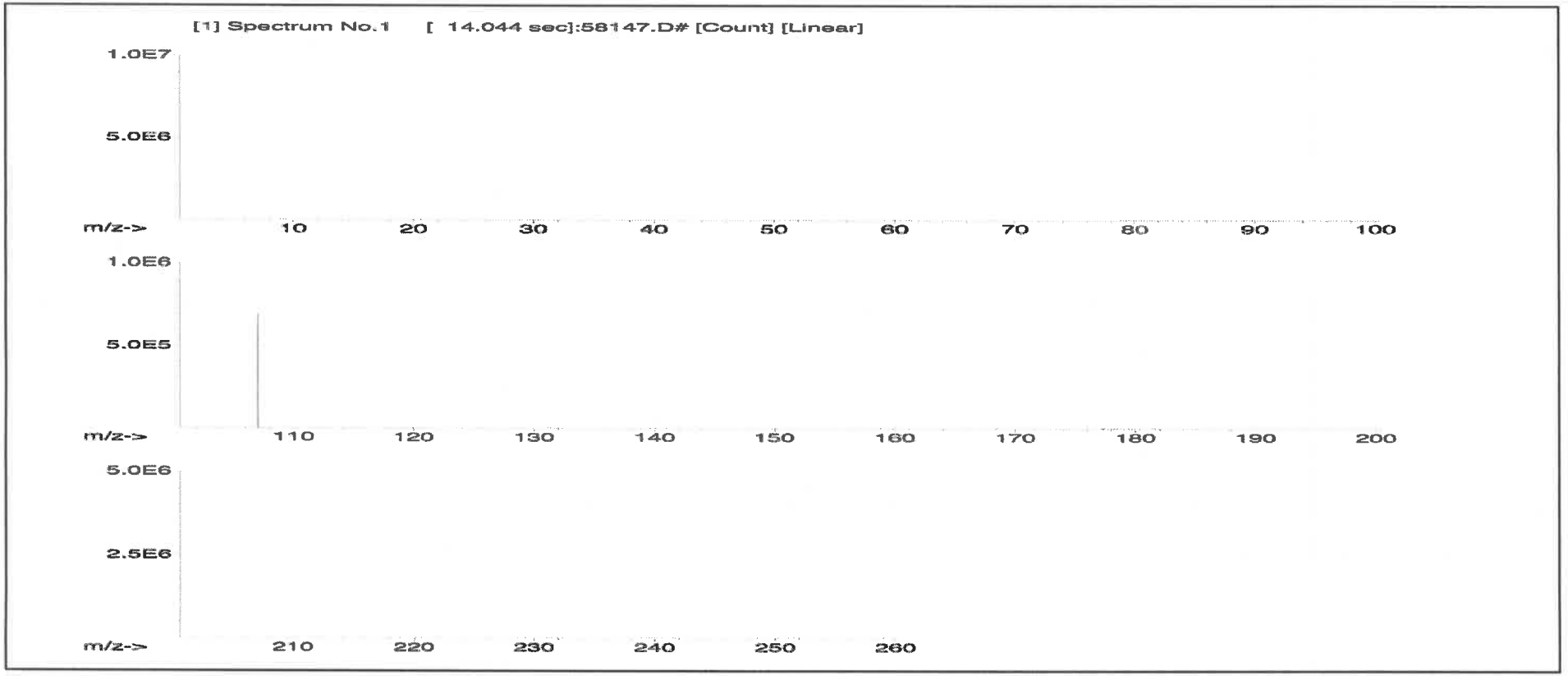
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

	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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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	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 ± 0.058 Flask Uncertainty

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

5E-05 Balance Uncertainty

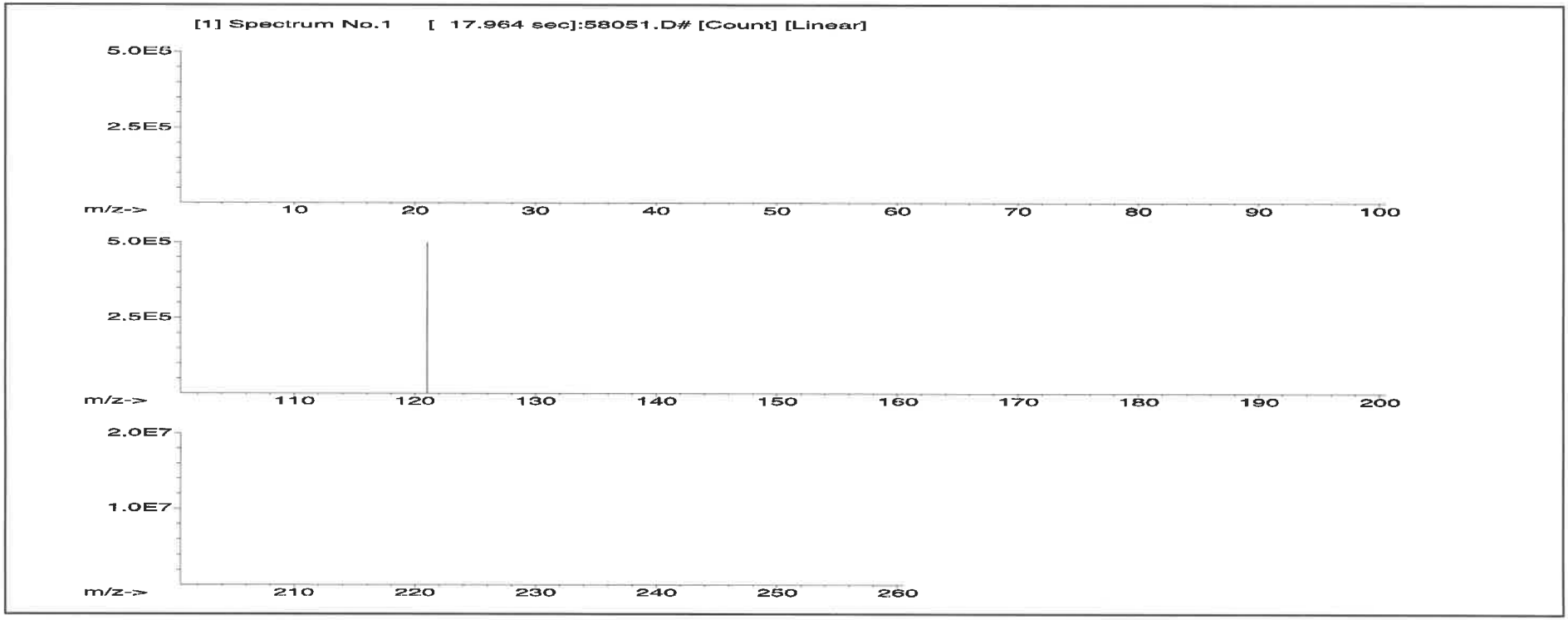
Giovanni Esposito

Formulated By:	Giovanni Esposito	071724

Pedro Rentas

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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Certified Reference Material CRM

ANAB ISO 17034 Accredited
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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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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 888.01
ACCREDITED Reference Material Producer Certificate 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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Christiansburg, VA 24073 USA
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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 888.01 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



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

Certified Reference Material CRM

M6023

R ! 8/5/24

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

CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
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		

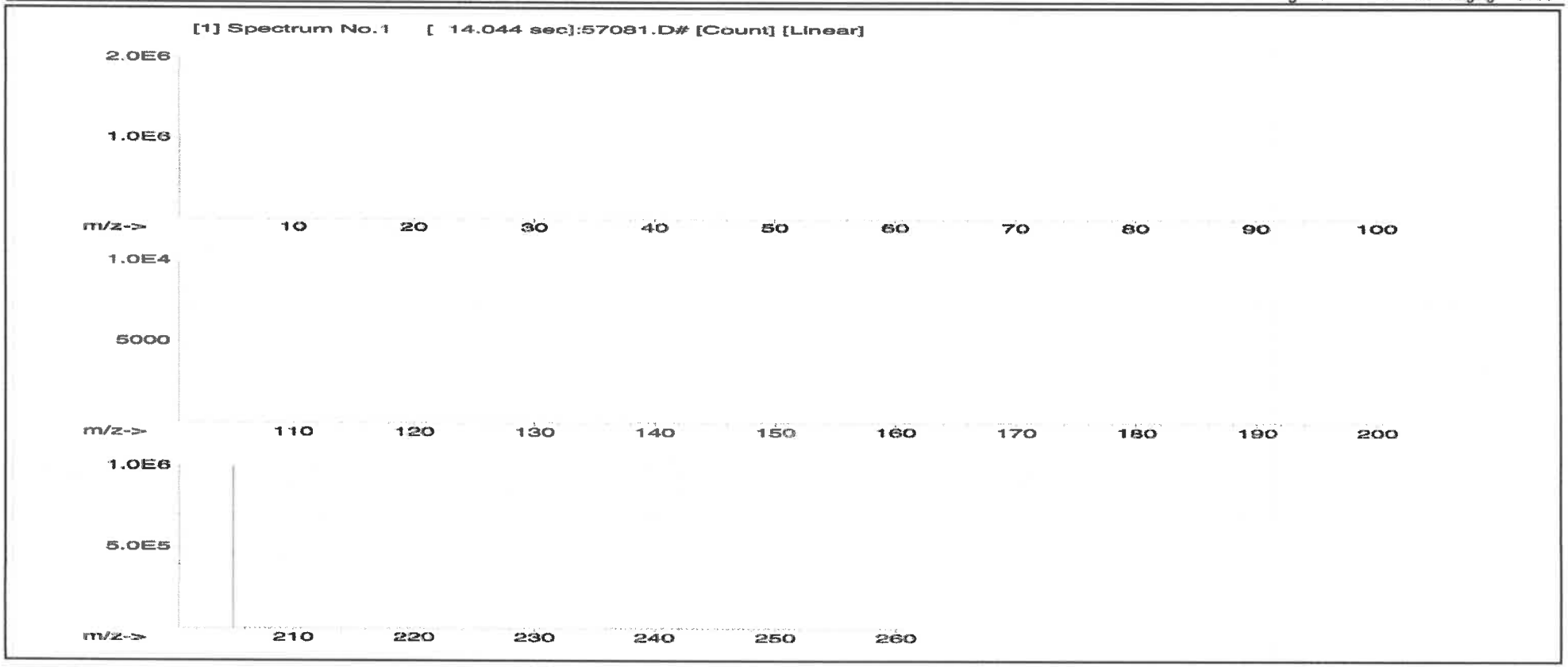
Aleah O'Brady

Formulated By:	Aleah O'Brady	062724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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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	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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Certified Reference Material CRM
M5545,M5546,M5547,M5548 RD:05/08/2023

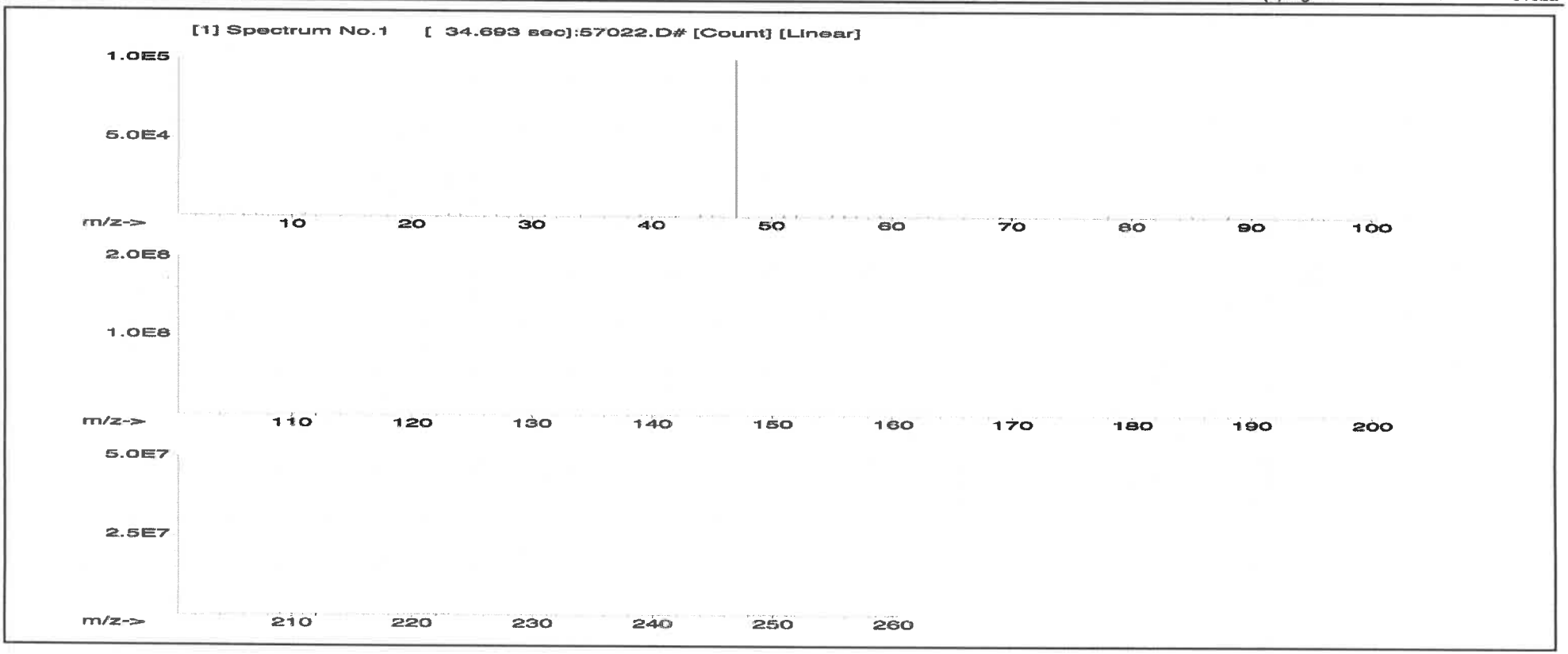
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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57022**			
Lot Number:	**050223**	21110221	Nitric Acid	
Description:	**Titanium (Ti)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	050226			
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	050223
Reviewed By:	Pedro L. Rentas	050223

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 hexafluorotitanate (Ti)	58122	071122	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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Certified Reference Material CRM

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

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

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

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

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

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

B: 8/13/24 M6020

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGU1
Lot Number:	U2-U735194
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Uranium
Starting Material:	Uranyl Nitrate Hexahydrate
Starting Material Lot#:	2504
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL

Density: 1.010 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1001 ± 4 µg/mL**
ICP Assay NIST SRM traceable to 3164 Lot Number: R2-U689597

Assay Method #2 **1000 ± 5 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

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)

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	<	0.001400	M	Eu	<	0.000270	M	Na		0.001811	M	Se	<	0.004800	M	Zn		0.002126
M	Al		0.000322	M	Fe		0.007481	M	Nb	<	0.000790	i	Si	<		M	Zr	<	0.000270
M	As	<	0.007300	M	Ga	<	0.000270	M	Nd	<	0.000270	M	Sm	<	0.000270				
M	Au	<	0.001400	M	Gd	<	0.000270	M	Ni		0.000905	M	Sn	<	0.120000				
M	B	<	0.017000	M	Ge	<	0.000800	M	Os	<	0.000270	M	Sr	<	0.000270				
M	Ba	<	0.003100	M	Hf	<	0.000270	i	P	<		M	Ta	<	0.000270				
M	Be	<	0.003200	M	Hg	<	0.000270	M	Pb		0.000511	M	Tb	<	0.000270				
M	Bi	<	0.003000	M	Ho	<	0.000270	M	Pd	<	0.000270	M	Te	<	0.001100				
M	Ca	<	0.048000	M	In	<	0.001400	M	Pr	<	0.000270	M	Th		0.000200				
M	Cd	<	0.000270	M	Ir	<	0.000270	M	Pt	<	0.000270	M	Ti	<	0.000530				
M	Ce	<	0.000270	O	K	<	0.047000	M	Rb	<	0.000660	M	Tl	<	0.000270				
M	Co	<	0.000270	M	La		0.000322	M	Re	<	0.000270	M	Tm	<	0.000270				
M	Cr		0.001732	M	Li	<	0.001100	M	Rh	<	0.000270	s	U	<					
M	Cs	<	0.003500	M	Lu	<	0.000270	M	Ru	<	0.000270	M	V	<	0.003500				
M	Cu	<	0.005600	M	Mg		0.000240	i	S	<		M	W	<	0.000270				
M	Dy	<	0.000270	M	Mn	<	0.006500	M	Sb	<	0.000270	M	Y	<	0.000270				
M	Er	<	0.000270	M	Mo		0.000433	M	Sc	<	0.000800	M	Yb	<	0.000270				

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 - 238.03 +6 8 UO22+(uranyl)
Chemical Compatibility - Soluble in HCl and HNO3. Avoid H3PO4. H2SO4 and HF matrices should not be a problem depending upon [U]. Although the UO22+ ion is distinctly basic, any U+4 will precipitate in basic media. UO22+salts are generally soluble in water and UO22+ is stable with most metals and inorganic anions. The uranyl phosphate is insoluble in water. UF4 and UF6 are water soluble.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
U Containing Samples (Preparation and Solution) -Metal (Dissolves rapidly in HCl and HNO3); Oxide (Soluble in HNO3); Ores (Digest for 1-2 hours with 1 gram of ore to 30 mL 1:1 HNO3. Silica insolubles are removed by filtration after bringing the sample to fumes with conc. H2SO4.)
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 238 amu	2 ppt	N/A	206Pb16O2
ICP-OES 263.553 nm	0.3 / 0.01 µg/mL	1	Ce, Ir, Th, Rh, W, Zr, Ta, Ti, V, Hf, Fe, Re, Ru
ICP-OES 367.007 nm	0.3 / 0.02 µg/mL	1	Th, Ce
ICP-OES 385.958 nm	0.3 / 0.01 µg/mL	1	Th, Fe

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 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

- August 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 Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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

Certified Reference Material CRM

M6021

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

Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
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	

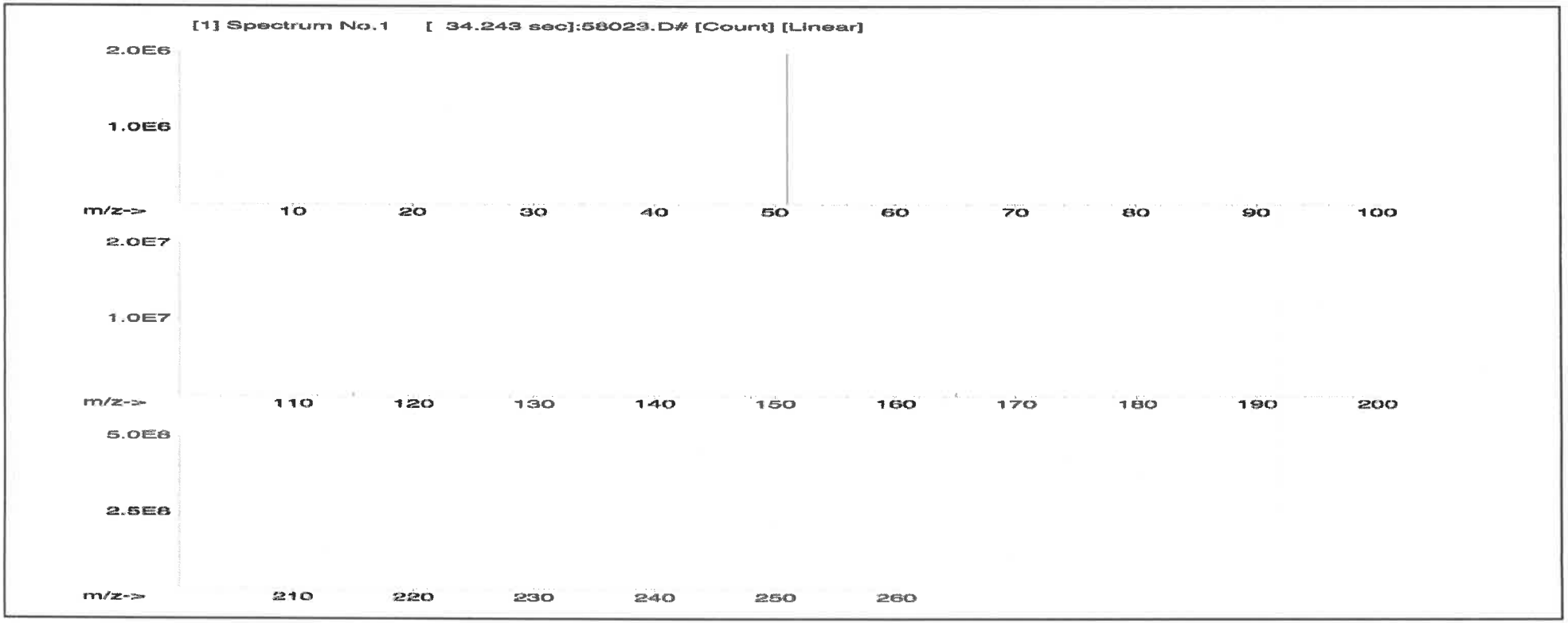
Aleah O'Brady

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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Certified Reference Material CRM

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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	T
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 · Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO. Q1769
QUOTE NO.
COC Number 2046604

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Jacobs
ADDRESS: 412 Mt Kemble Ave Suite 100
CITY Morristown STATE: NJ ZIP: 07960
ATTENTION: John Yntante John.Yntante@Jacobs.com
PHONE: FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PTC
PROJECT NO.: D3868221 LOCATION: Princeton Junction
PROJECT MANAGER: Mary Murphy
e-mail: Mary.Murphy@Jacobs.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Mary Murphy PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) Standard DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

- ☐ Level 1 (Results Only)
- ☐ Level 2 (Results + QC)
- ☒ Level 3 (Results + QC + Raw Data)
- ☐ Level 4 (QC + Full Raw Data)
- ☐ NJ Reduced ☐ US EPA CLP
- ☐ NYS ASP A ☐ NYS ASP B
- ☐ Other
- ☐ EDD FORMAT

ANALYSIS

1: As (6020B) 2: SPLP As (6020B/1312) 3: As (6020B) 4 5 6 7 8 9

PRESERVATIVES

E E B/E

COMMENTS

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
1.	S-878-KI-SO-1.0-1.5-040925	SO	X		4/9/25	1005	1	✓	✓								HOLD!!
2.	S-875-KI-SO-1.0-1.5-040925	SO	X		4/9/25	1030	1	✓	✓								HOLD SPLP!
3.	S-874-KI-SO-1.0-1.5-040925	SO	X		4/9/25	1100	1	✓	✓								HOLD SPLP!
4.	S-874-KI-SO-1.0-1.5-040925-FD	SO	X		4/9/25	1105	1	✓	✓								HOLD SPLP!
5.	S-877-KI-SO-1.0-1.5-040925	SO	X		4/9/25	1235	1	✓	✓								HOLD!!
6.	S-873-KI-SO-1.0-1.5-040925	SO	X		4/9/25	1255	(TM) 3	✓	✓								MS/MSD · HOLD SPLP!
7.	S-876-KI-SO-1.0-1.5-040925	SO	X		4/9/25	1350	1	✓	✓								HOLD!!
8.	EB01-040925	DI	(TM) 2	X	4/9/25	1420	1			✓							
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	4-9-25 1637	1. 1637 4-9-25
2.		2.
3.	4-9-25 1800	3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.3 °C
Comments: Hold all SPLP analysis
Hold entire sample for S-876, S-877, S-878
Temp 3.3°C Adjustment factor + 1 IR Gun #1.

Page 1 of 1
CLIENT: ☐ Hand Delivered ☐ Other
Shipment Complete ☐ YES ☐ NO

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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