

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 : Q2059

ATTENTION : John Ynfante



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q2059

Project ID : Former Schlumberger STC PTC Site D3868221

Client : JACOBS Engineering Group, Inc.

Lab Sample Number

Q2059-01
Q2059-02
Q2059-03

Client Sample Number

S-875-K1-SO-1.0-1.5-040925
S-874-K1-SO-1.0-1.5-040925
S-873-K1-SO-1.0-1.5-040925

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: 5/23/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

JACOBS Engineering Group, Inc.

Project Name: Former Schlumberger STC PTC Site D3868221

Project # N/A

Order ID # Q2059

Test Name: SPLP MetalGroup3

A. Number of Samples and Date of Receipt:

3 Solid samples were received on 04/09/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: SPLP Extraction and SPLP MetalGroup3. This data package contains results for SPLP MetalGroup3.

C. Analytical Techniques:

The analysis of SPLP MetalGroup3 was based on method 6020B and digestion based on method 3010 (Water).

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-875-K1-SO-1.0-1.5-040925MS) analysis met criteria for all samples except for Silver due to Chemical Interference during Digestion Process.

The Matrix Spike Duplicate (S-875-K1-SO-1.0-1.5-040925MSD) analysis met criteria for all samples except for Silver due to Chemical Interference during Digestion Process.

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

The Calibration met the requirements.

The Serial Dilution met the acceptable requirements.

E. Additional Comments:

The Post Digest Spike (S-875-K1-SO-1.0-1.5-040925A) analysis met criteria for all samples except for Silver due to unknown chemical interferences of matrix with the addition of spike amount after digestion and before analysis , matrix has suppression effect during addition of spike.

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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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

ORDER ID: Q2059

MATRIX: Water

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-875-K1-SO-1.0-1.5-040925MS) analysis met criteria for all samples except for Silver due to Chemical Interference during Digestion Process. The Matrix Spike Duplicate (S-875-K1-SO-1.0-1.5-040925MSD) analysis met criteria for all samples except for Silver due to Chemical Interference during Digestion Process.			
7. Sample Duplicate Analysis Met QC Criteria			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
8. Digestion Holding Time Met			✓
If not met, list number of days exceeded for each sample:			
9. Analysis Holding Time Met			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			

ADDITIONAL COMMENTS: The Post Digest Spike (S-875-K1-SO-1.0-1.5-040925A) analysis met criteria for all samples except for Silver due to unknown chemical interferences of matrix with the addition of spike amount after digestion and before analysis; matrix has suppression effect during addition of spike.

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q2059

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 Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 05/23/2025

LAB CHRONICLE

OrderID:	Q2059	OrderDate:	5/16/2025 9:52:00 AM
Client:	JACOBS Engineering Group, Inc.	Project:	Former Schlumberger STC PTC Site D3868221
Contact:	John Ynfante	Location:	L51

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2059-01	S-875-K1-SO-1.0-1.5-040925	Water			04/09/25			04/09/25
			SPLP MetalGroup3	6020B		05/20/25	05/20/25	
Q2059-02	S-874-K1-SO-1.0-1.5-040925	Water			04/09/25			04/09/25
			SPLP MetalGroup3	6020B		05/20/25	05/20/25	
Q2059-03	S-873-K1-SO-1.0-1.5-040925	Water			04/09/25			04/09/25
			SPLP MetalGroup3	6020B		05/20/25	05/20/25	

Hit Summary Sheet
SW-846

SDG No.:	Q2059	Order ID:	Q2059
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-K1-SO-1.0-1.5-040925								
Q2059-01	S-875-K1-SO-1.0-1.5-040925	Water	Silver	7.10	D	0.30	5.00	ug/L
Client ID : S-874-K1-SO-1.0-1.5-040925								
Q2059-02	S-874-K1-SO-1.0-1.5-040925	Water	Silver	19.0	D	0.30	5.00	ug/L
Client ID : S-873-K1-SO-1.0-1.5-040925								
Q2059-03	S-873-K1-SO-1.0-1.5-040925	Water	Silver	2.35	JD	0.30	5.00	ug/L



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-K1-SO-1.0-1.5-040925	SDG No.:	Q2059
Lab Sample ID:	Q2059-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-22-4	Silver	7.10	DN	5	0.30	5.00	ug/L	05/20/25 12:10	05/20/25 18:23	6020B	3010A

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	SPLP MetalGroup3			

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

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-K1-SO-1.0-1.5-040925	SDG No.:	Q2059
Lab Sample ID:	Q2059-02	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-22-4	Silver	19.0	DN	5	0.30	5.00	ug/L	05/20/25 12:10	05/20/25 18:16	6020B	3010A

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	SPLP MetalGroup3			

U = Not Detected
 LOQ = Limit of Quantitation
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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-K1-SO-1.0-1.5-040925	SDG No.:	Q2059
Lab Sample ID:	Q2059-03	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-22-4	Silver	2.35	JDN	5	0.30	5.00	ug/L	05/20/25 12:10	05/20/25 18:20	6020B	3010A

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	SPLP MetalGroup3			

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.:** Q2059

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q2059 **SAS No.:** Q2059

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	53.8	50.0	108	90 - 110	P	05/20/2025	17:32	LB135858

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q2059
Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q2059 **SAS No.:** Q2059
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
LLICV01	Silver	1.08	1.0	108	80 - 120	P	05/20/2025	17:42	LB135858

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q2059

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q2059 **SAS No.:** Q2059

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	483	500	97	90 - 110	P	05/20/2025	17:59	LB135858
CCV02	Silver	495	500	99	90 - 110	P	05/20/2025	18:39	LB135858
CCV03	Silver	488	500	98	90 - 110	P	05/20/2025	18:51	LB135858



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

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q2059
Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q2059 **SAS No.:** Q2059
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	1.09	1.0	109	70 - 130	P	05/20/2025	18:07	LB135858



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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:		JACOBS Engineering Group, Inc.			SDG No.:		Q2059												
Contract:		JACO05		Lab Code:		CHEM		Case No.:		Q2059		SAS No.:		Q2059					
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		05/20/2025		17:46		LB135858	

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: Q2059

Contract: JACO05

Lab Code: CHEM

Case No.: Q2059

SAS No.: Q2059

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	05/20/2025	18:03	LB135858
CCB02	Silver	1.00	+/-1.00	U	1.00	P	05/20/2025	18:42	LB135858
CCB03	Silver	1.00	+/-1.00	U	1.00	P	05/20/2025	18:54	LB135858

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: Q2059

Instrument: P8

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168088BL		WATER		Batch Number:	PB168088		Prep Date:	05/20/2025	
	Silver	1.00	<1.00	U	1.00	P	05/20/2025	18:10	LB135858
Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168088TB		WATER		Batch Number:	PB168088		Prep Date:	05/20/2025	
	Silver	1.00	<1.00	U	1.00	P	05/20/2025	18:48	LB135858

Metals
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INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q2059
Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q2059 **SAS No.:** Q2059
ICS Source: EPA **Instrument ID:** P8

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Silver	0.040			-2	2	05/20/2025	17:50	LB135858
ICSAB01	Silver	18.6	18.0	103	15.3	20.7	05/20/2025	17:53	LB135858



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metals
- 5a -
MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc.	level: low	sdg no.: Q2059
contract: JACO05	lab code: CHEM	case no.: Q2059 sas no.: Q2059
matrix: Water	sample id: Q2059-01	client id: S-875-K1-SO-1.0-1.5-040925MS
Percent Solids for Sample: NA	Spiked ID: Q2059-01MS	Percent Solids for Spike Sample: NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	ug/L	75 - 125	91.2	D	7.10	D	500	17	N	P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>JACOBS Engineering Group, Inc.</u>	level: <u>low</u>	sdg no.: <u>Q2059</u>
contract: <u>JACO05</u>	lab code: <u>CHEM</u>	case no.: <u>Q2059</u> sas no.: <u>Q2059</u>
matrix: <u>Water</u>	sample id: <u>Q2059-01</u>	client id: <u>S-875-K1-SO-1.0-1.5-040925MSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q2059-01MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	ug/L	75 - 125	88.8	D	7.10	D	500	16	N	P

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: JACOBS Engineering Group, Inc.	SDG No.: Q2059	
Contract: JACO05	Lab Code: CHEM	Case No.: Q2059 SAS No.: Q2059
Matrix: Water	Level: LOW	Client ID: S-875-K1-SO-1.0-1.5-040925A
Sample ID: Q2059-01	Spiked ID: Q2059-01A	

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	ug/L	75 - 125	88.2	D	7.10	D	500	16	N	P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** Q2059
Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q2059 **SAS No.:** Q2059
Matrix: Water **Sample ID:** Q2059-01 **Client ID:** S-875-K1-SO-1.0-1.5-040925DUP
Percent Solids for Sample: NA **Duplicate ID** Q2059-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Silver	ug/L	20	7.10	D	7.10	D	0		P

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”

Metals

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DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** Q2059
Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q2059 **SAS No.:** Q2059
Matrix: Water **Sample ID:** Q2059-01MS **Client ID:** S-875-K1-SO-1.0-1.5-040925MSD
Percent Solids for Sample: NA **Duplicate ID** Q2059-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Silver	ug/L	20	91.2	D	88.8	D	3		P

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: Q2059

Contract: JACO05

Lab Code: CHEM

Case No.: Q2059

SAS No.: Q2059

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168088BS Silver	ug/L	500	517		103	80 - 120	P

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: Q2059

Sas No.: Q2059 SDG No.: Q2059

Instrument ID: P8

Start Date : 05/20/2025

Run Number: LB135858

End Date : 05/20/2025

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	1619	100		100		100		100		100	
S2	S2	1623	101		100		100		100		100	
S3	S3	1630	104		100		101		101		101	
S4	S4	1713	101		101		101		98		104	
S5	S5	1716	100		98		99		95		102	
S6	S6	1719	99		96		97		92		100	
S7	S7	1722	95		93		95		87		98	
S8	S8	1725	86		86		87		78		93	
ICV01	ICV01	1732	103		101		101		100		103	
LLICV01	LLICV01	1742	101		101		101		100		102	
ICB01	ICB01	1746	103		102		102		101		103	
ICSA01	ICSA01	1750	97		95		99		90		100	
ICSAB01	ICSAB01	1753	98		99		98		91		101	
CCV01	CCV01	1759	90		93		93		84		96	
CCB01	CCB01	1803	102		102		100		100		102	
CRI	CRI	1807	103		100		102		100		103	
PB168088BL	PB168088BL	1810	102		102		102		100		103	
PB168088BS	PB168088BS	1813	98		96		96		92		100	
Q2059-02	S-874-K1-SO	1816	102		101		105		98		104	
Q2059-03	S-873-K1-SO	1820	100		101		109		98		105	
Q2059-01	S-875-K1-SO	1823	100		101		103		100		103	
Q2059-01DUP	S-875-K1-SO	1826	100		101		103		100		103	
Q2059-01L	S-875-K1-SO	1829	99		100		102		100		104	
Q2059-01MS	S-875-K1-SO	1833	99		100		104		99		104	
Q2059-01MSD	S-875-K1-SO	1836	99		101		104		98		103	
CCV02	CCV02	1839	86		93		92		83		95	
CCB02	CCB02	1842	101		102		103		101		105	
Q2059-01A	S-875-K1-SO	1845	101		101		104		99		103	
PB168088TB	PB168088TB	1848	100		101		101		101		103	
CCV03	CCV03	1851	88		92		93		84		95	
CCB03	CCB03	1854	101		102		103		101		103	

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: Q2059

Sas No.: Q2059 SDG No.: Q2059

Instrument ID: P8

Start Date : 05/20/2025

Run Number: LB135858

End Date : 05/20/2025

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	1619	100		100		100		100		100	
S2	S2	1623	100		99		100		100		101	
S3	S3	1630	99		100		99		101		101	
S4	S4	1713	97		96		96		98		101	
S5	S5	1716	94		95		94		97		99	
S6	S6	1719	92		92		91		95		97	
S7	S7	1722	90		91		86		93		95	
S8	S8	1725	84		86		76		87		89	
ICV01	ICV01	1732	97		98		100		98		102	
LLICV01	LLICV01	1742	99		99		100		99		101	
ICB01	ICB01	1746	100		101		101		101		103	
ICSA01	ICSA01	1750	93		94		89		96		99	
ICSAB01	ICSAB01	1753	91		92		88		93		96	
CCV01	CCV01	1759	92		92		84		92		95	
CCB01	CCB01	1803	97		100		100		98		100	
CRI	CRI	1807	98		99		99		100		101	
PB168088BL	PB168088BL	1810	98		100		99		99		101	
PB168088BS	PB168088BS	1813	94		96		92		97		98	
Q2059-02	S-874-K1-SO	1816	95		100		96		98		101	
Q2059-03	S-873-K1-SO	1820	95		102		97		98		99	
Q2059-01	S-875-K1-SO	1823	95		100		99		99		100	
Q2059-01DUP	S-875-K1-SO	1826	96		99		98		98		101	
Q2059-01L	S-875-K1-SO	1829	96		99		98		97		101	
Q2059-01MS	S-875-K1-SO	1833	96		101		98		98		99	
Q2059-01MSD	S-875-K1-SO	1836	97		100		99		99		101	
CCV02	CCV02	1839	88		88		81		88		90	
CCB02	CCB02	1842	97		99		100		98		100	
Q2059-01A	S-875-K1-SO	1845	95		98		97		97		100	
PB168088TB	PB168088TB	1848	97		97		99		98		99	
CCV03	CCV03	1851	92		92		83		92		95	
CCB03	CCB03	1854	98		100		100		99		101	

Internal Standard %RI Limit: 70 - 130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: Q2059

Sas No.: Q2059 SDG No.: Q2059

Instrument ID: P8

Start Date : 05/20/2025

Run Number: LB135858

End Date : 05/20/2025

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	1619	100		100							
S2	S2	1623	99		100							
S3	S3	1630	102		102							
S4	S4	1713	102		101							
S5	S5	1716	102		101							
S6	S6	1719	101		98							
S7	S7	1722	97		95							
S8	S8	1725	92		83							
ICV01	ICV01	1732	103		102							
LLICV01	LLICV01	1742	102		102							
ICB01	ICB01	1746	101		103							
ICSA01	ICSA01	1750	101		94							
ICSAB01	ICSAB01	1753	100		95							
CCV01	CCV01	1759	94		88							
CCB01	CCB01	1803	101		102							
CRI	CRI	1807	101		104							
PB168088BL	PB168088BL	1810	101		101							
PB168088BS	PB168088BS	1813	99		97							
Q2059-02	S-874-K1-SO-	1816	103		102							
Q2059-03	S-873-K1-SO-	1820	102		102							
Q2059-01	S-875-K1-SO-	1823	103		103							
Q2059-01DUP	S-875-K1-SO-	1826	103		103							
Q2059-01L	S-875-K1-SO-	1829	102		103							
Q2059-01MS	S-875-K1-SO-	1833	102		103							
Q2059-01MSD	S-875-K1-SO-	1836	102		103							
CCV02	CCV02	1839	94		88							
CCB02	CCB02	1842	102		104							
Q2059-01A	S-875-K1-SO-	1845	103		103							
PB168088TB	PB168088TB	1848	103		103							
CCV03	CCV03	1851	95		87							
CCB03	CCB03	1854	101		102							

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: Q2059

Sas No.: Q2059 SDG No.: Q2059

Instrument ID: P8

Start Date : 05/20/2025

Run Number: LB135858

End Date : 05/20/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1619	100									
S2	S2	1623	99									
S3	S3	1630	99									
S4	S4	1713	97									
S5	S5	1716	95									
S6	S6	1719	91									
S7	S7	1722	88									
S8	S8	1725	77									
ICV01	ICV01	1732	98									
LLICV01	LLICV01	1742	100									
ICB01	ICB01	1746	100									
ICSA01	ICSA01	1750	89									
ICSAB01	ICSAB01	1753	88									
CCV01	CCV01	1759	84									
CCB01	CCB01	1803	98									
CRI	CRI	1807	98									
PB168088BL	PB168088BL	1810	99									
PB168088BS	PB168088BS	1813	90									
Q2059-02	S-874-K1-SO	1816	96									
Q2059-03	S-873-K1-SO	1820	96									
Q2059-01	S-875-K1-SO	1823	97									
Q2059-01DUP	S-875-K1-SO	1826	97									
Q2059-01L	S-875-K1-SO	1829	98									
Q2059-01MS	S-875-K1-SO	1833	95									
Q2059-01MSD	S-875-K1-SO	1836	97									
CCV02	CCV02	1839	81									
CCB02	CCB02	1842	98									
Q2059-01A	S-875-K1-SO	1845	95									
PB168088TB	PB168088TB	1848	97									
CCV03	CCV03	1851	84									
CCB03	CCB03	1854	99									

Internal Standard %RI Limit: 70 -130

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

S-875-K1-SO-1.0-1.5-040925L

Lab Name: Chemtech Consulting Group **Contract:** JACO05
Lab Code: CHEM **Lb No.:** lb135858 **Lab Sample ID :** Q2059-01L **SDG No.:** Q2059
Matrix (soil/water): Water **Level (low/med):** LOW
Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Silver	7.10 D	7.50 JD	6		P



METAL PREPARATION & INSTRUMENT DATA

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METAL PREPARATION & ANALYICAL SUMMARY

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Metals
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SAMPLE PREPARATION SUMMARY

Client:	<u>JACOBS Engineering Group, Inc.</u>	SDG No.:	<u>Q2059</u>
Contract:	<u>JACO05</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q2059</u>
		SAS No.:	<u>Q2059</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB168088							
PB168088BL	PB168088BL	MB	WATER	05/20/2025	50.0	50.0	
PB168088BS	PB168088BS	LCS	WATER	05/20/2025	50.0	50.0	
PB168088TB	PB168088TB	MB	WATER	05/20/2025	50.0	50.0	
Q2059-01	S-875-K1-SO-1.0-1.5-040925	SAM	WATER	05/20/2025	50.0	50.0	
Q2059-01DUP	S-875-K1-SO-1.0-1.5-040925DUP	DUP	WATER	05/20/2025	50.0	50.0	
Q2059-01MS	S-875-K1-SO-1.0-1.5-040925MS	MS	WATER	05/20/2025	50.0	50.0	
Q2059-01MSD	S-875-K1-SO-1.0-1.5-040925MSD	MSD	WATER	05/20/2025	50.0	50.0	
Q2059-02	S-874-K1-SO-1.0-1.5-040925	SAM	WATER	05/20/2025	50.0	50.0	
Q2059-03	S-873-K1-SO-1.0-1.5-040925	SAM	WATER	05/20/2025	50.0	50.0	

metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab code: CHEM **Case no.:** Q2059 **Sas no.:** Q2059

Sdg no.: Q2059

Instrument id number: **Method:**

Run number: LB135858

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

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1619	Ag
S2	S2	1	1623	Ag
S3	S3	1	1630	Ag
S4	S4	1	1713	Ag
S5	S5	1	1716	Ag
S6	S6	1	1719	Ag
S7	S7	1	1722	Ag
S8	S8	1	1725	,
ICV01	ICV01	1	1732	Ag
LLICV01	LLICV01	1	1742	Ag
ICB01	ICB01	1	1746	Ag
ICSA01	ICSA01	1	1750	Ag
ICSAB01	ICSAB01	1	1753	Ag
CCV01	CCV01	1	1759	Ag
CCB01	CCB01	1	1803	Ag
CRI	CRI	1	1807	Ag
PB168088BL	PB168088BL	1	1810	Ag
PB168088BS	PB168088BS	1	1813	Ag
Q2059-02	S-874-K1-SO-1.0-1.5-040925	5	1816	Ag
Q2059-03	S-873-K1-SO-1.0-1.5-040925	5	1820	Ag
Q2059-01	S-875-K1-SO-1.0-1.5-040925	5	1823	Ag
Q2059-01DUP	S-875-K1-SO-1.0-1.5-040925DU	5	1826	Ag
Q2059-01L	S-875-K1-SO-1.0-1.5-040925L	25	1829	Ag
Q2059-01MS	S-875-K1-SO-1.0-1.5-040925MS	5	1833	Ag
Q2059-01MSD	S-875-K1-SO-1.0-1.5-040925MS	5	1836	Ag
CCV02	CCV02	1	1839	Ag
CCB02	CCB02	1	1842	Ag
Q2059-01A	S-875-K1-SO-1.0-1.5-040925A	5	1845	Ag
PB168088TB	PB168088TB	1	1848	Ag
CCV03	CCV03	1	1851	Ag
CCB03	CCB03	1	1854	Ag



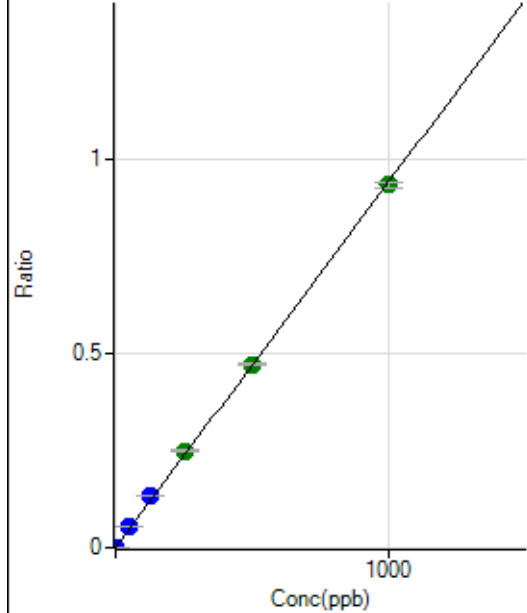
METAL RAW DATA

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Batch Folder: D:\Agilent\ICPMH\1\DATA\P8052025 MS.b\
Analysis File: P8052025 MS.batch.bin
DA Date-Time: 2025-05-20 17:59:24
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	S00	2025-05-20 16:19:59
2	005CALS.d	S02	2025-05-20 16:23:20
3	007CALB.d	S03	2025-05-20 16:30:04
4	013CALS.d	S04	2025-05-20 17:13:56
5	014CALS.d	S05	2025-05-20 17:16:54
6	015CALS.d	S06	2025-05-20 17:19:44
7	016CALS.d	S07	2025-05-20 17:22:29
8	017CALS.d	S08	2025-05-20 17:25:17

9 Be [No Gas] ISTD:6 Li [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	183.73	0.0000	P	9.9
2	☐	1.000	1.283	6520.64	0.0012	P	2.5
3	☐	50.000	56.131	286327.98	0.0528	P	1.7
4	☐	125.000	142.368	703606.02	0.1339	P	2.7
5	☐	250.000	265.197	1300607.45	0.2493	A	0.6
6	☐	500.000	502.209	2434756.34	0.4721	A	1.0
7	☐	1000.000	992.618	4624512.36	0.9331	A	1.5
8	☐			921.17	0.0002	P	10.6

$$y = 9.4001E-004 * x + 3.5274E-005$$

$$R = 0.9998$$

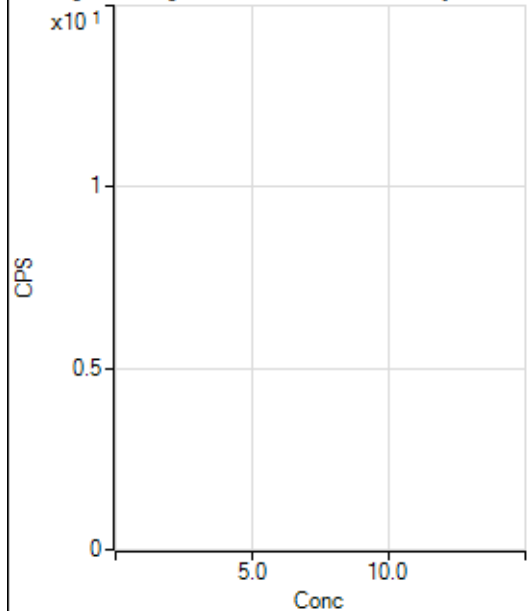
$$DL = 0.01113$$

$$BEC = 0.03753$$

Weight: <None>

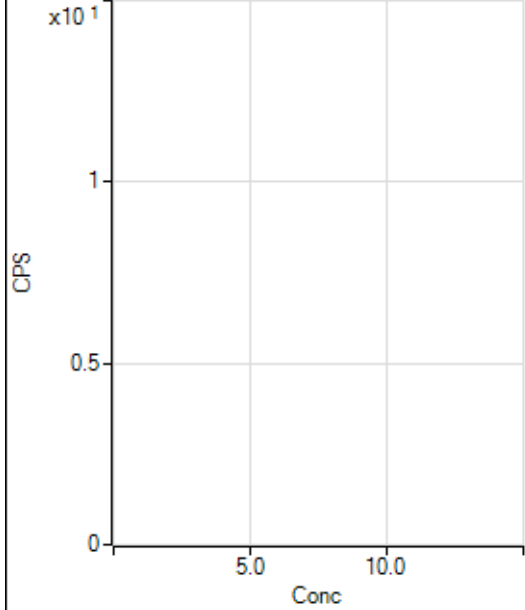
Min Conc: 0

12 C [No Gas] No available calibration points



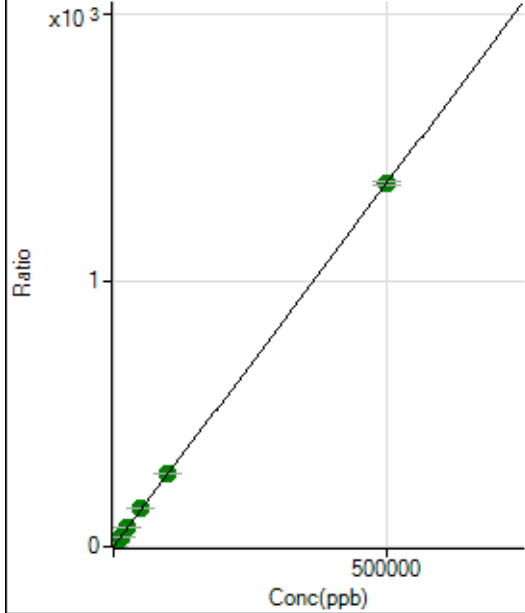
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐			4427203.89		A	0.8
2	☐			4518525.56		A	2.2
3	☐			4489215.60		A	0.9
4	☐			4025873.07		A	1.1
5	☐			3963250.15		A	1.3
6	☐			3996268.59		A	0.4
7	☐			4111248.00		A	1.2
8	☐			3985038.48		A	2.0

12 C [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			30366.89		P	0.9
2	☐			30625.26		P	0.9
3	☐			30631.87		P	0.7
4	☐			27125.02		P	0.3
5	☐			27423.37		P	0.5
6	☐			27943.24		P	0.8
7	☐			29540.77		P	0.8
8	☐			34803.32		P	0.6

23 Na [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	33924.91	0.1778	P	1.5
2	☐	500.000	587.656	341831.96	1.7831	P	1.1
3	☐	5000.000	5377.004	2816244.06	14.8661	A	0.8
4	☐	12500.000	13380.922	6773555.32	36.7303	A	0.3
5	☐	25000.000	26251.533	12921979.11	71.8888	A	1.3
6	☐	50000.000	52107.959	24896474.07	142.5206	A	0.8
7	☐	100000.00	101023.67	47295327.63	276.1431	A	1.6
8	☐	500000.00	499496.01	219368023.4	1,364.646	A	1.1

$$y = 0.0027 * x + 0.1778$$

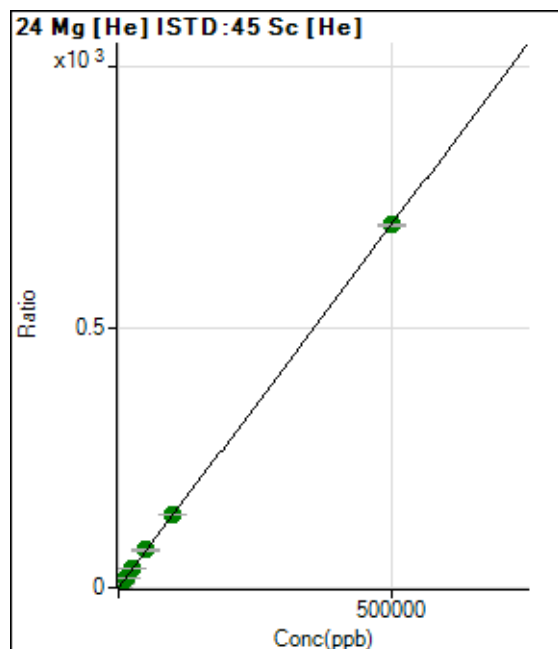
$$R = 1.0000$$

$$DL = 2.838$$

$$BEC = 65.07$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	297.78	0.0016	P	3.1
2	☐	500.000	595.043	159263.25	0.8308	P	1.4
3	☐	5000.000	5400.747	1426137.96	7.5276	A	1.0
4	☐	12500.000	13687.712	3517605.74	19.0756	A	1.4
5	☐	25000.000	26294.502	6587130.11	36.6434	A	0.7
6	☐	50000.000	51948.444	12645460.37	72.3927	A	1.6
7	☐	100000.00	100332.21	23946995.48	139.8163	A	1.2
8	☐	500000.00	499640.19	111926496.1	696.2592	A	0.2

$$y = 0.0014 * x + 0.0016$$

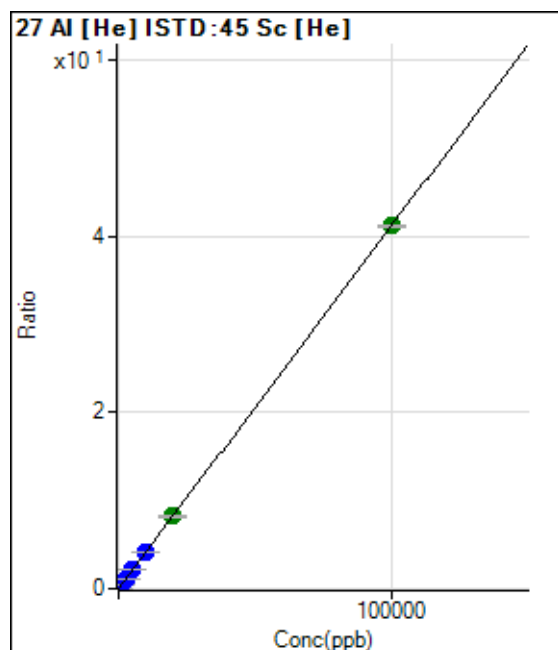
R = 1.0000

DL = 0.1051

BEC = 1.12

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	158.89	0.0008	P	16.1
2	☐	20.000	22.671	1950.15	0.0102	P	8.4
3	☐	1000.000	1104.315	86300.43	0.4555	P	0.6
4	☐	2500.000	2645.869	201069.40	1.0903	P	0.3
5	☐	5000.000	5167.089	382578.02	2.1284	P	1.3
6	☐	10000.000	10196.782	733574.41	4.1995	P	1.4
7	☐	20000.000	19969.157	1408453.97	8.2234	A	1.6
8	☐	100000.00	99973.446	6617536.71	41.1661	A	0.5

$$y = 4.1176E-004 * x + 8.3286E-004$$

R = 1.0000

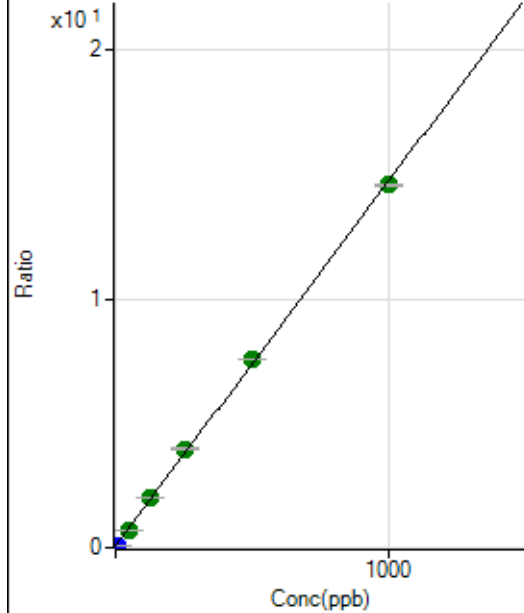
DL = 0.9749

BEC = 2.023

Weight: <None>

Min Conc: 0

28 Si [No Gas] ISTD :45 Sc [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	589879.24	0.0652	P	5.4
2	☐	10.000	0.746	688142.85	0.0761	P	2.2
3	☐	50.000	41.386	6099870.74	0.6716	A	2.8
4	☐	125.000	132.976	18440372.92	2.0138	A	0.7
5	☐	250.000	265.413	34952292.53	3.9545	A	2.1
6	☐	500.000	511.405	65491682.36	7.5593	A	0.6
7	☐	1000.000	989.970	122103983.7	14.5721	A	0.6
8	☐			651287.66	0.0841	P	5.3

$$y = 0.0147 * x + 0.0652$$

$$R = 0.9996$$

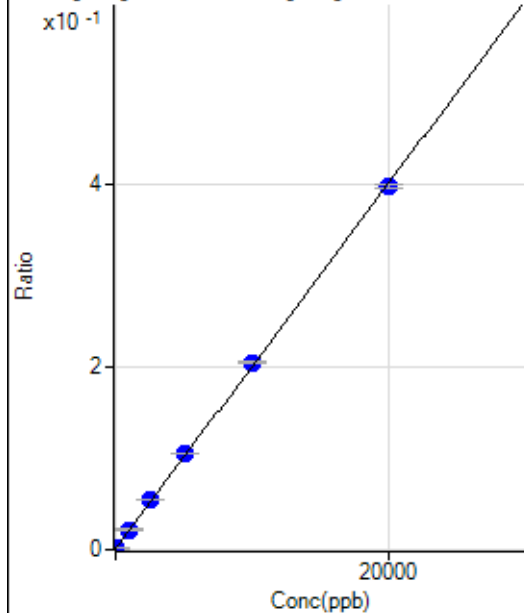
$$DL = 0.721$$

$$BEC = 4.447$$

Weight: <None>

Min Conc: 0

31 P [He] ISTD :45 Sc [He]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-22.066	80.00	0.0004	P	18.3
2	☐	0.000	22.066	250.01	0.0013	P	1.9
3	☐	1000.000	1043.389	4125.08	0.0218	P	5.2
4	☐	2500.000	2674.410	10045.78	0.0545	P	1.1
5	☐	5000.000	5242.129	19044.80	0.1059	P	0.3
6	☐	10000.000	10210.031	35904.36	0.2055	P	0.6
7	☐	20000.000	19810.482	68162.34	0.3980	P	1.1
8	☐			101.11	0.0006	P	7.5

$$y = 2.0045E-005 * x + 8.6158E-004$$

$$R = 0.9998$$

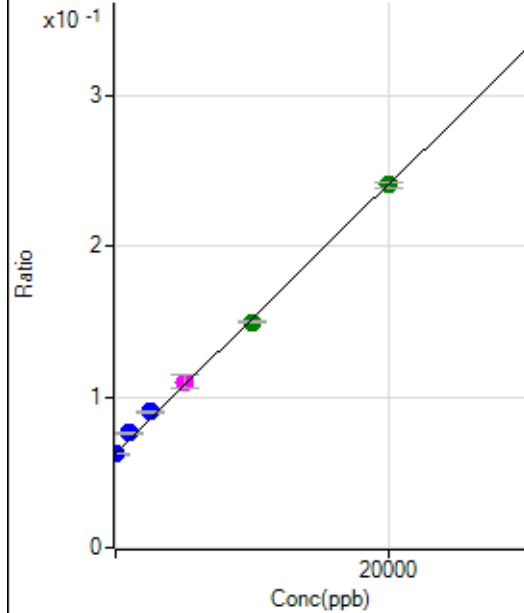
$$DL = 7.64$$

$$BEC = 42.98$$

Weight: <None>

Min Conc: 0

34 S [No Gas] ISTD:45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-55.486	560112.94	0.0619	P	2.3
2	☐	0.000	55.486	568333.58	0.0628	P	0.6
3	☐	1000.000	1574.084	694077.00	0.0764	P	1.8
4	☐	2500.000	3077.523	822762.68	0.0899	P	0.8
5	☐	5000.000	5330.209	971906.14	0.1100	M	7.7
6	☐	10000.000	9769.092	1296474.56	0.1496	A	0.3
7	☐	20000.000	19932.007	2014559.03	0.2405	A	1.9
8	☐			427320.48	0.0552	P	1.7

$$y = 8.9353E-006 * x + 0.0624$$

R = 0.9992

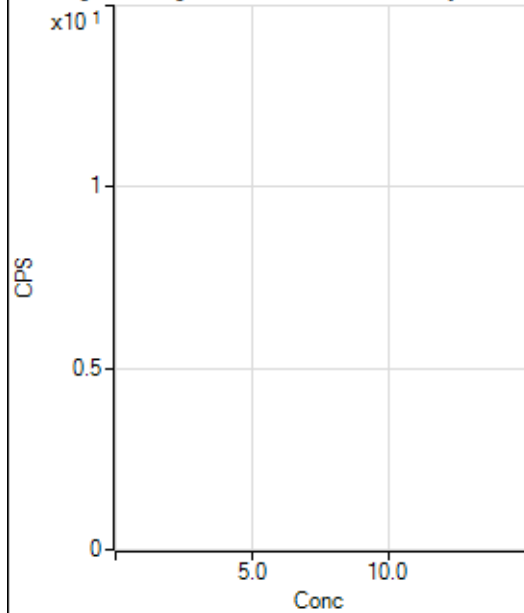
DL = 293.3

BEC = 6978

Weight: <None>

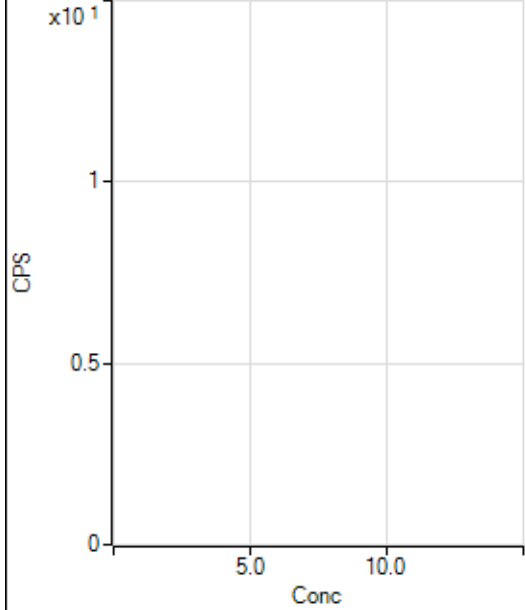
Min Conc: 0

35 Cl [No Gas] No available calibration points



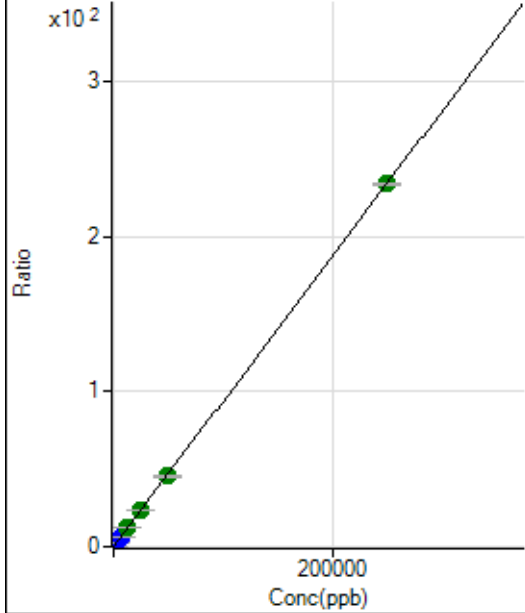
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			93654.73		P	0.2
2	☐			105606.93		P	0.6
3	☐			111804.97		P	1.2
4	☐			101493.55		P	0.2
5	☐			109868.36		P	1.0
6	☐			124205.76		P	0.2
7	☐			158077.68		P	1.4
8	☐			131643.69		P	1.3

35 Cl [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐			394.45		P	4.7
2	☐			426.68		P	1.6
3	☐			466.68		P	6.3
4	☐			414.45		P	2.8
5	☐			438.90		P	19.5
6	☐			526.68		P	8.6
7	☐			661.13		P	13.4
8	☐			540.01		P	6.5

39 K [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	14152.59	0.0742	P	1.1
2	☐	500.000	551.261	112892.70	0.5889	P	1.7
3	☐	2500.000	2576.950	469900.39	2.4804	P	0.1
4	☐	6250.000	6447.814	1123907.93	6.0947	P	1.1
5	☐	12500.000	12935.200	2184633.18	12.1523	A	0.5
6	☐	25000.000	25254.910	4132451.92	23.6557	A	2.2
7	☐	50000.000	48377.981	7749633.36	45.2466	A	0.8
8	☐	250000.00	250271.33	37578060.55	233.7626	A	0.3

$$y = 9.3374\text{E-}004 * x + 0.0742$$

$$R = 1.0000$$

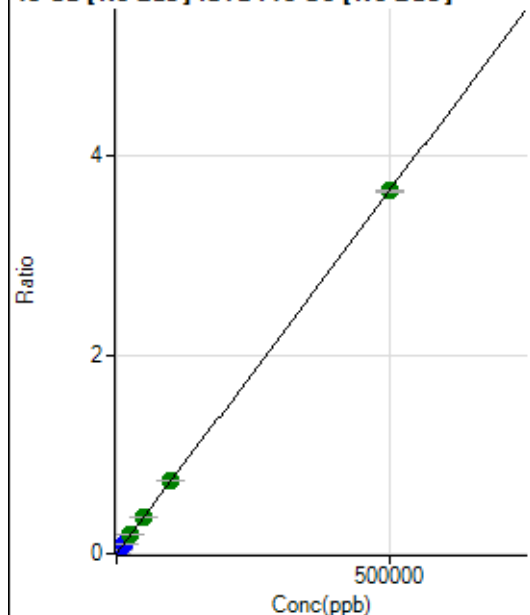
$$DL = 2.685$$

$$BEC = 79.42$$

Weight: <None>

Min Conc: 0

43 Ca [No Gas] ISTD:45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	765.58	0.0001	P	7.4
2	☐	500.000	558.196	37643.61	0.0042	P	0.5
3	☐	5000.000	5143.119	342067.97	0.0377	P	1.7
4	☐	12500.000	12949.256	867017.76	0.0947	P	2.2
5	☐	25000.000	25761.533	1664455.84	0.1883	A	2.1
6	☐	50000.000	50156.453	3175497.73	0.3665	A	1.1
7	☐	100000.00	100337.11	6142937.20	0.7332	A	1.6
8	☐	500000.00	499866.13	28292723.19	3.6522	A	0.4

$$y = 7.3062E-006 * x + 8.4439E-005$$

R = 1.0000

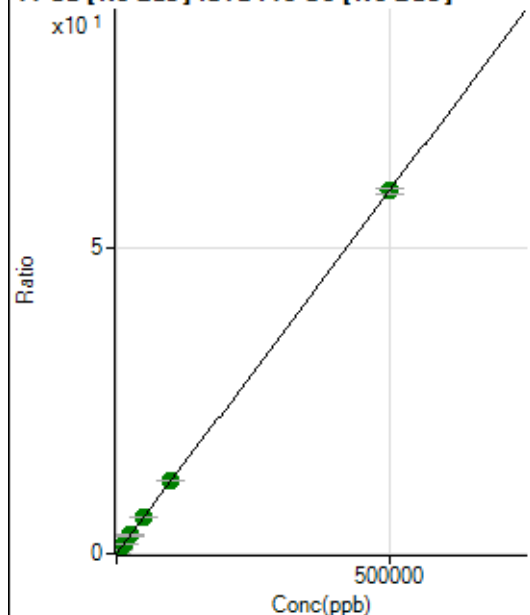
DL = 2.553

BEC = 11.56

Weight: <None>

Min Conc: 0

44 Ca [No Gas] ISTD:45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21581.83	0.0024	P	0.1
2	☐	500.000	561.367	623828.59	0.0690	P	1.2
3	☐	5000.000	5029.960	5441899.36	0.5992	A	2.0
4	☐	12500.000	12965.406	14105767.01	1.5406	A	2.1
5	☐	25000.000	25180.407	26426408.77	2.9899	A	2.0
6	☐	50000.000	50079.172	51494144.79	5.9439	A	1.6
7	☐	100000.00	100445.71	99869720.74	11.9195	A	1.6
8	☐	500000.00	499881.92	459423966.4	59.3098	A	1.4

$$y = 1.1864E-004 * x + 0.0024$$

R = 1.0000

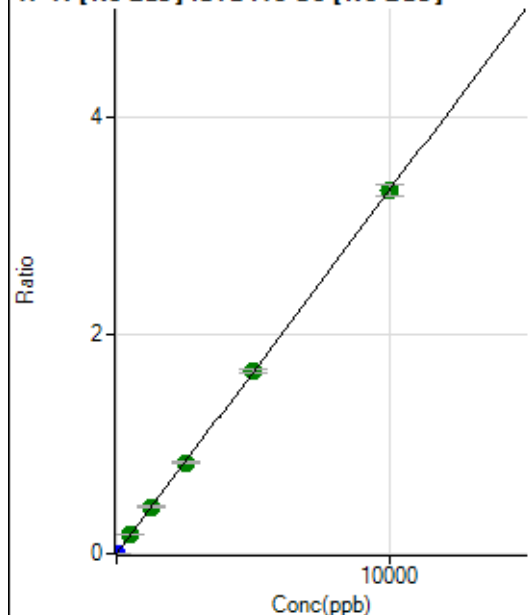
DL = 0.05939

BEC = 20.08

Weight: <None>

Min Conc: 0

47 Ti [No Gas] ISTD :45 Sc [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	270.01	0.0000	P	10.1
2	☐	5.000	5.620	17178.16	0.0019	P	2.1
3	☐	500.000	514.039	1553842.74	0.1711	A	1.1
4	☐	1250.000	1292.579	3937829.59	0.4301	A	2.1
5	☐	2500.000	2511.860	7387306.77	0.8358	A	1.9
6	☐	5000.000	5021.459	14474422.56	1.6708	A	2.0
7	☐	10000.000	9980.281	27819460.42	3.3207	A	3.2
8	☐			2678.06	0.0003	P	13.9

$$y = 3.3272E-004 * x + 2.9843E-005$$

$$R = 1.0000$$

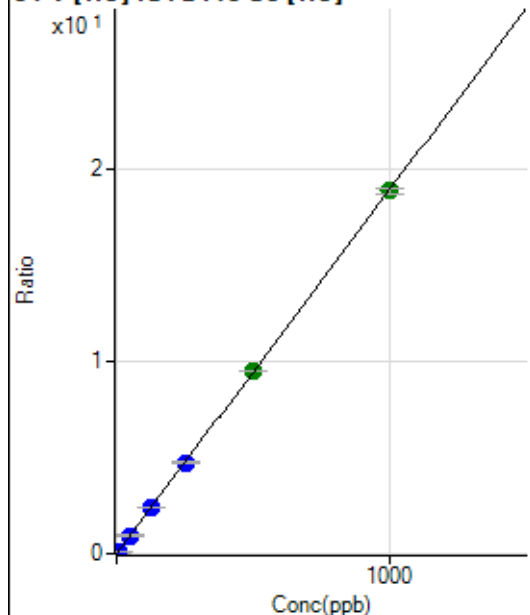
$$DL = 0.02716$$

$$BEC = 0.08969$$

Weight: <None>

Min Conc: 0

51 V [He] ISTD :45 Sc [He]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21.11	0.0001	P	24.2
2	☐	5.000	5.499	19950.69	0.1041	P	1.1
3	☐	50.000	50.166	179667.92	0.9484	P	1.7
4	☐	125.000	126.884	442339.76	2.3987	P	0.7
5	☐	250.000	250.498	851194.12	4.7355	P	1.1
6	☐	500.000	504.050	1664563.57	9.5285	A	0.3
7	☐	1000.000	997.604	3230080.16	18.8586	A	1.8
8	☐			818.92	0.0051	P	3.9

$$y = 0.0189 * x + 1.1063E-004$$

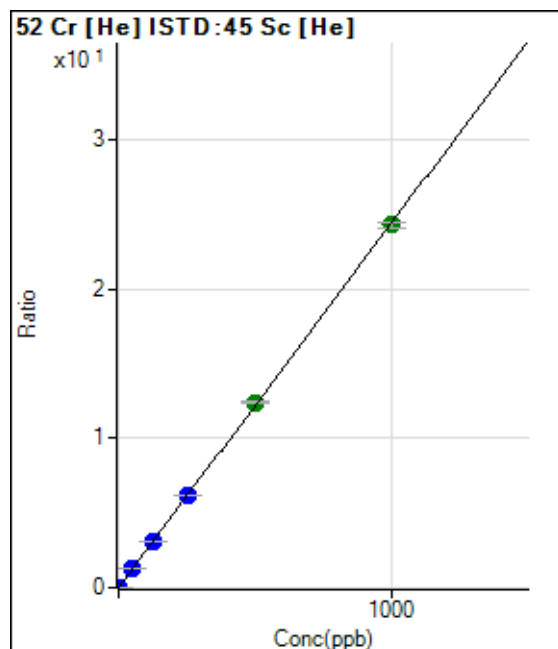
$$R = 1.0000$$

$$DL = 0.004243$$

$$BEC = 0.005852$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	825.59	0.0043	P	1.6
2	☐	2.000	2.194	11092.17	0.0579	P	2.8
3	☐	50.000	50.420	233943.29	1.2349	P	0.7
4	☐	125.000	127.391	574169.22	3.1135	P	0.4
5	☐	250.000	251.661	1104865.02	6.1465	P	0.9
6	☐	500.000	508.542	2168944.97	12.4161	A	0.8
7	☐	1000.000	994.994	4159923.69	24.2888	A	1.9
8	☐			34629.61	0.2154	P	0.5

$$y = 0.0244 * x + 0.0043$$

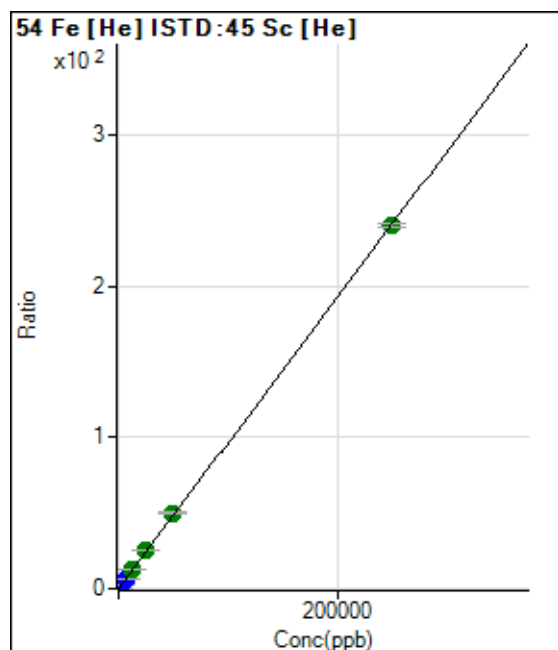
R = 0.9999

DL = 0.0084

BEC = 0.1772

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	446.68	0.0023	P	6.8
2	☐	50.000	58.469	11227.81	0.0586	P	1.4
3	☐	2500.000	2638.787	481172.75	2.5399	P	0.6
4	☐	6250.000	6726.369	1193263.95	6.4706	P	0.4
5	☐	12500.000	13640.697	2358436.30	13.1197	A	0.4
6	☐	25000.000	26434.140	4440866.53	25.4222	A	1.1
7	☐	50000.000	51990.054	8563609.59	49.9976	A	0.9
8	☐	250000.00	249388.24	38553027.48	239.8218	A	1.0

$$y = 9.6163E-004 * x + 0.0023$$

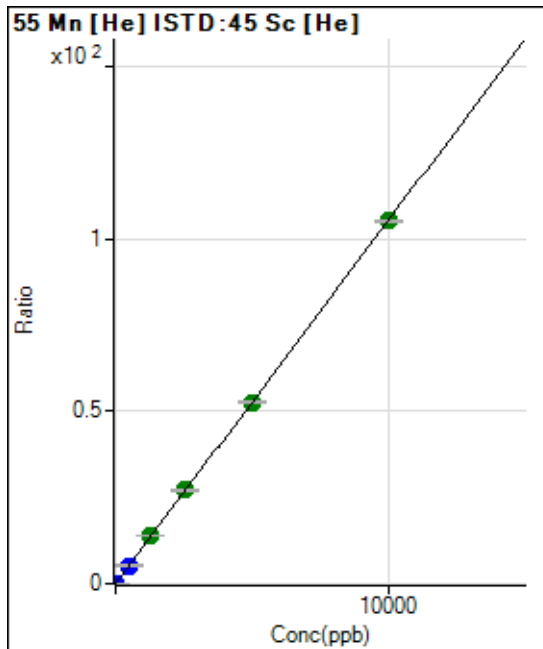
R = 1.0000

DL = 0.5002

BEC = 2.434

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	3603.83	0.0189	P	2.8
2	☐	1.000	1.041	5722.31	0.0299	P	2.2
3	☐	500.000	498.619	998354.01	5.2700	P	1.1
4	☐	1250.000	1308.426	2544663.99	13.7984	A	0.2
5	☐	2500.000	2572.258	4872784.92	27.1083	A	1.6
6	☐	5000.000	4984.837	9173833.82	52.5162	A	0.9
7	☐	10000.000	9982.283	18009152.79	105.1462	A	0.9
8	☐			11942.87	0.0743	P	0.6

$$y = 0.0105 * x + 0.0189$$

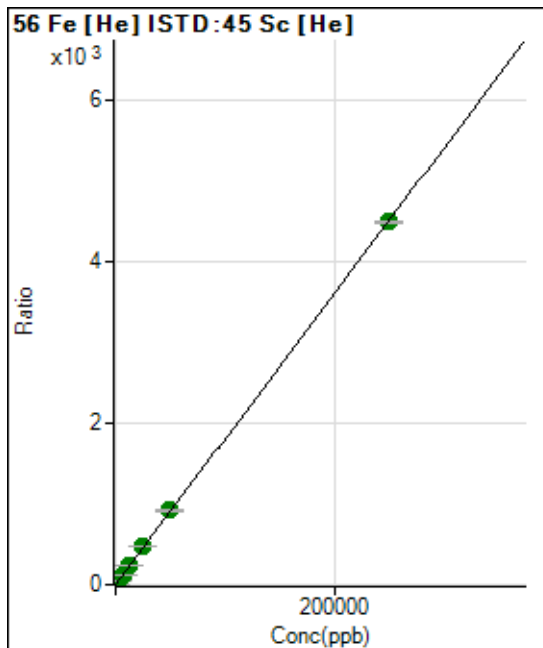
$$R = 1.0000$$

$$DL = 0.1493$$

$$BEC = 1.793$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	5084.29	0.0266	P	2.1
2	☐	50.000	57.230	202142.05	1.0544	P	1.1
3	☐	2500.000	2661.193	9058913.40	47.8186	A	0.7
4	☐	6250.000	6721.884	22266468.83	120.7439	A	0.6
5	☐	12500.000	13269.412	42841590.75	238.3298	A	1.0
6	☐	25000.000	26142.463	82016905.45	469.5148	A	1.1
7	☐	50000.000	50984.908	156827382.1	915.6562	A	1.7
8	☐	250000.00	249636.89	720699073.7	4,483.214	A	0.4

$$y = 0.0180 * x + 0.0266$$

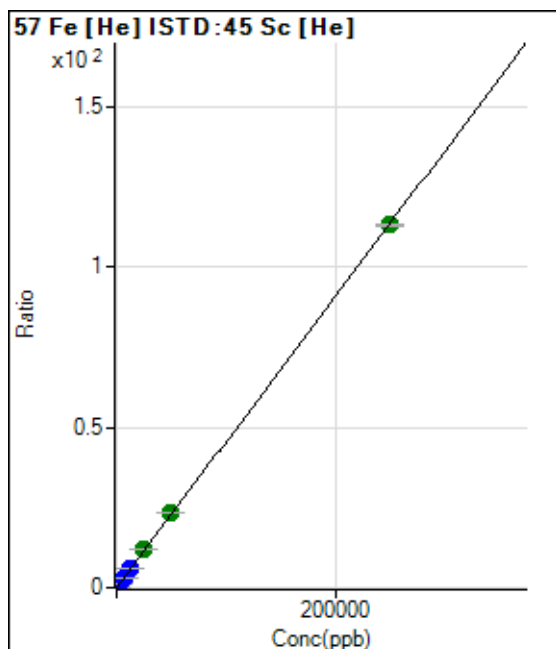
$$R = 1.0000$$

$$DL = 0.09157$$

$$BEC = 1.483$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	108.89	0.0006	P	30.9
2	☐	50.000	57.074	5073.17	0.0265	P	2.1
3	☐	2500.000	2585.695	222337.68	1.1736	P	0.5
4	☐	6250.000	6570.304	549790.69	2.9813	P	1.0
5	☐	12500.000	12907.508	1052609.20	5.8564	P	1.7
6	☐	25000.000	26867.106	2129236.36	12.1895	A	1.7
7	☐	50000.000	51385.901	3992847.75	23.3130	A	1.6
8	☐	250000.00	249506.86	18196462.23	113.1953	A	0.7

$$y = 4.5367E-004 * x + 5.7088E-004$$

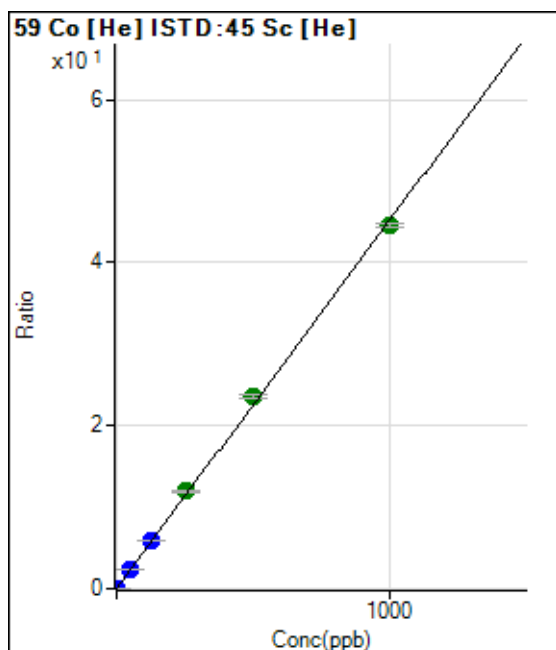
R = 1.0000

DL = 1.168

BEC = 1.258

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	133.34	0.0007	P	24.1
2	☐	1.000	1.177	10323.83	0.0539	P	3.9
3	☐	50.000	51.112	437504.96	2.3095	P	1.3
4	☐	125.000	129.428	1078265.53	5.8471	P	0.7
5	☐	250.000	264.310	2145967.21	11.9399	A	2.9
6	☐	500.000	520.575	4107924.31	23.5157	A	1.7
7	☐	1000.000	985.526	7624882.18	44.5181	A	1.0
8	☐			15680.95	0.0975	P	2.3

$$y = 0.0452 * x + 6.9898E-004$$

R = 0.9996

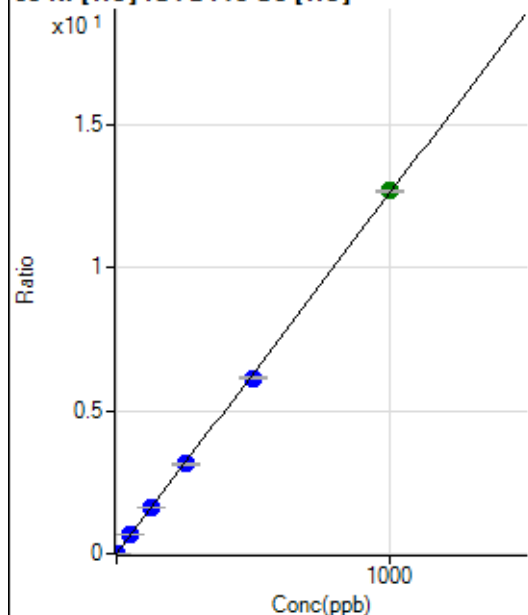
DL = 0.01119

BEC = 0.01547

Weight: <None>

Min Conc: 0

60 Ni [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.00	0.0015	P	20.9
2	☐	1.000	1.180	3134.82	0.0164	P	3.9
3	☐	50.000	50.862	121467.54	0.6412	P	0.9
4	☐	125.000	127.035	294905.40	1.5992	P	0.7
5	☐	250.000	249.242	563692.15	3.1361	P	1.5
6	☐	500.000	486.019	1067998.66	6.1140	P	1.3
7	☐	1000.000	1006.882	2169163.79	12.6646	A	0.5
8	☐			9528.82	0.0593	P	0.4

$$y = 0.0126 * x + 0.0015$$

R = 0.9998

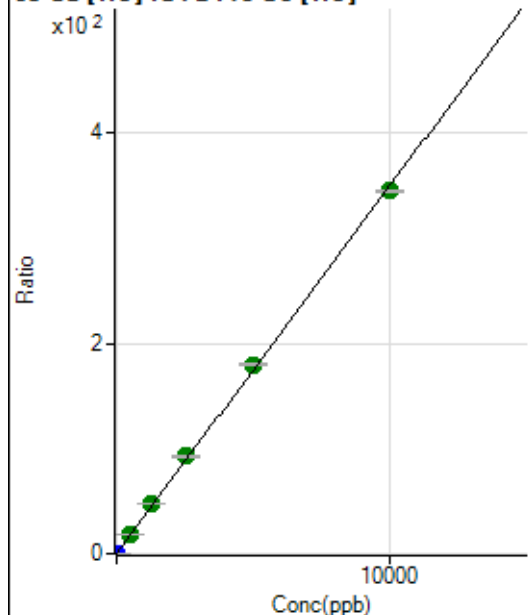
DL = 0.0759

BEC = 0.1208

Weight: <None>

Min Conc: 0

63 Cu [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1207.84	0.0063	P	4.8
2	☐	2.000	2.392	17230.54	0.0899	P	0.6
3	☐	500.000	539.115	3567621.86	18.8322	A	1.2
4	☐	1250.000	1349.316	8690143.14	47.1243	A	0.9
5	☐	2500.000	2650.789	16639722.11	92.5717	A	2.0
6	☐	5000.000	5147.215	31398741.48	179.7467	A	1.2
7	☐	10000.000	9874.325	59058745.23	344.8170	A	0.8
8	☐			15599.75	0.0970	P	1.2

$$y = 0.0349 * x + 0.0063$$

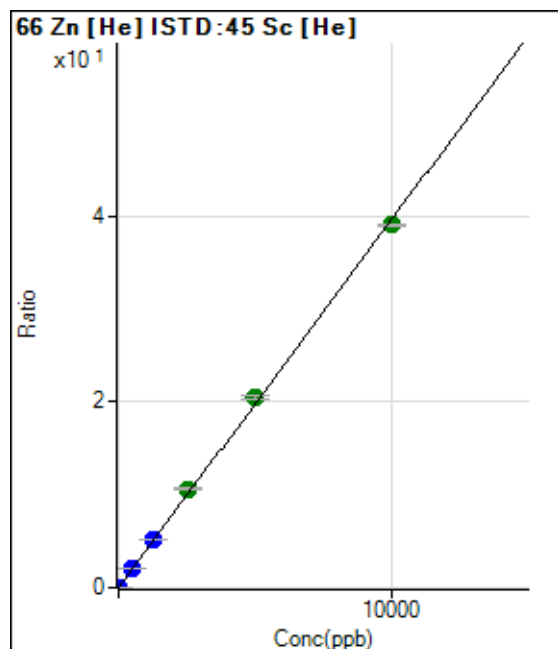
R = 0.9997

DL = 0.02625

BEC = 0.1812

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	327.79	0.0017	P	17.0
2	☐	2.000	5.719	4673.04	0.0244	P	2.7
3	☐	500.000	509.967	383119.87	2.0224	P	0.8
4	☐	1250.000	1293.610	945536.03	5.1274	P	0.9
5	☐	2500.000	2675.130	1905666.01	10.6014	A	1.6
6	☐	5000.000	5175.801	3582685.95	20.5098	A	1.9
7	☐	10000.000	9862.366	6693460.66	39.0793	A	0.3
8	☐			37664.37	0.2343	P	1.6

$$y = 0.0040 * x + 0.0017$$

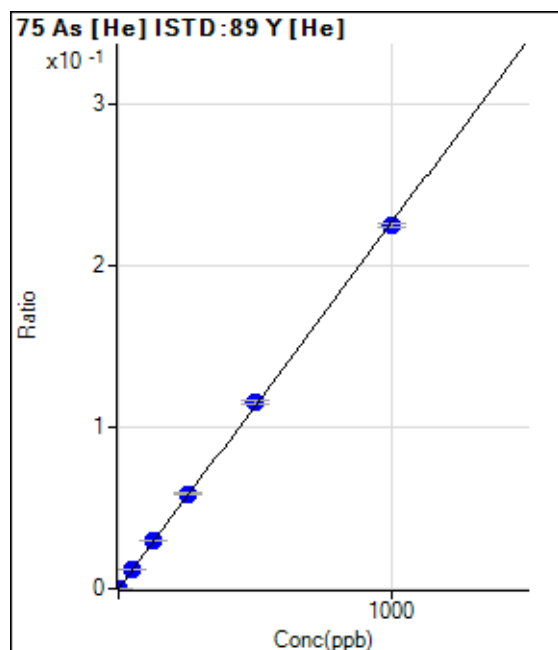
$$R = 0.9996$$

$$DL = 0.2205$$

$$BEC = 0.4333$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	79.9
2	☐	1.000	1.208	580.02	0.0003	P	6.9
3	☐	50.000	51.224	24021.67	0.0116	P	1.2
4	☐	125.000	131.586	59226.99	0.0298	P	0.9
5	☐	250.000	259.533	115292.32	0.0588	P	1.0
6	☐	500.000	510.273	220286.07	0.1157	P	2.3
7	☐	1000.000	991.596	421605.66	0.2247	P	1.1
8	☐			198.89	0.0001	P	8.3

$$y = 2.2663E-004 * x + 8.0620E-006$$

$$R = 0.9999$$

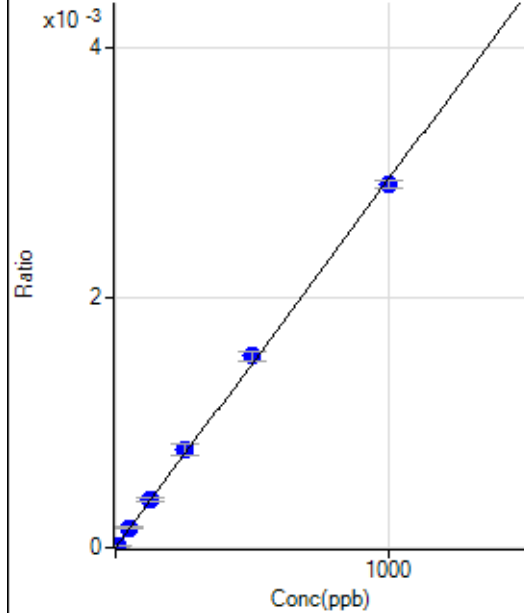
$$DL = 0.08529$$

$$BEC = 0.03557$$

Weight: <None>

Min Conc: 0

77 Se [He] ISTD:89 Y [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.
2	☐	5.000	5.683	35.56	0.0000	P	28.7
3	☐	50.000	52.915	323.34	0.0002	P	11.4
4	☐	125.000	128.907	755.58	0.0004	P	7.7
5	☐	250.000	267.658	1546.77	0.0008	P	11.6
6	☐	500.000	519.504	2917.00	0.0015	P	4.8
7	☐	1000.000	985.196	5447.78	0.0029	P	2.2
8	☐			1.11	0.0000	P	173.

$$y = 2.9471\text{E-}006 * x + 5.3900\text{E-}007$$

$$R = 0.9995$$

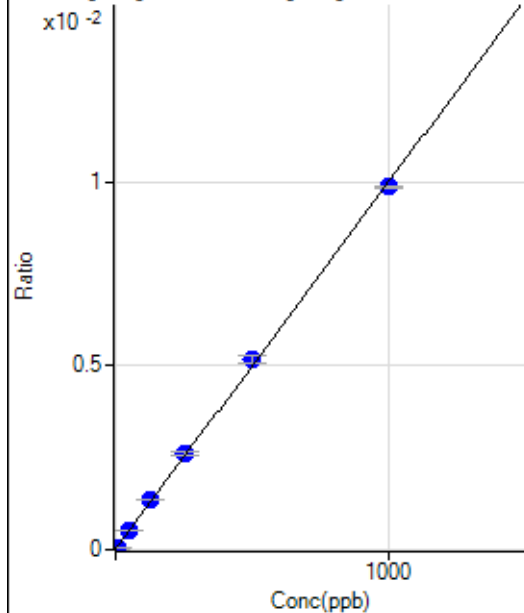
$$DL = 0.9503$$

$$BEC = 0.1829$$

Weight: <None>

Min Conc: 0

78 Se [He] ISTD:89 Y [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25.56	0.0000	P	7.9
2	☐	5.000	6.020	148.89	0.0001	P	11.5
3	☐	50.000	53.335	1125.62	0.0005	P	0.9
4	☐	125.000	134.631	2690.28	0.0014	P	2.4
5	☐	250.000	260.731	5120.98	0.0026	P	2.8
6	☐	500.000	517.202	9846.86	0.0052	P	3.3
7	☐	1000.000	987.340	18496.70	0.0099	P	0.7
8	☐			20.00	0.0000	P	58.4

$$y = 9.9730\text{E-}006 * x + 1.2352\text{E-}005$$

$$R = 0.9997$$

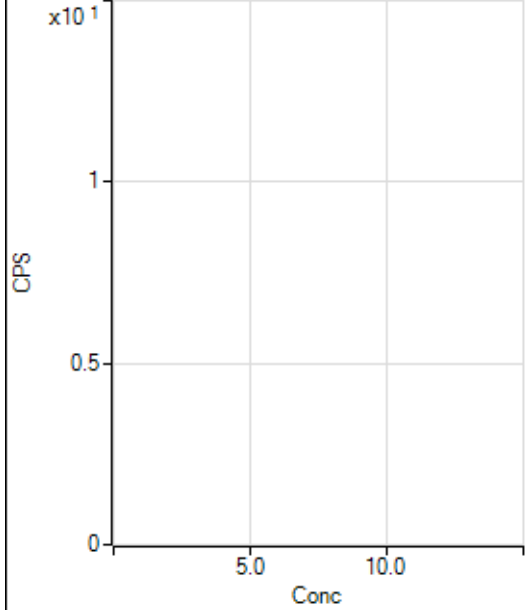
$$DL = 0.2936$$

$$BEC = 1.239$$

Weight: <None>

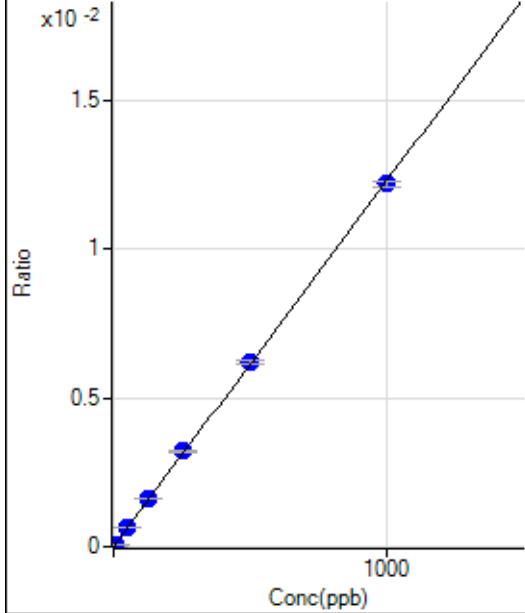
Min Conc: 0

81 Br [No Gas] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐			25107.06		P	1.2
2	☐			25148.24		P	2.5
3	☐			24938.97		P	1.1
4	☐			24349.00		P	1.7
5	☐			24032.95		P	0.5
6	☐			23801.44		P	1.2
7	☐			22900.99		P	1.3
8	☐			21867.11		P	0.9

82 Se [No Gas] ISTD: 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	35.55	0.0000	P	66.4
2	☐	5.000	5.522	1723.49	0.0001	P	8.2
3	☐	50.000	52.967	16435.57	0.0007	P	1.0
4	☐	125.000	132.901	41069.57	0.0016	P	0.1
5	☐	250.000	260.665	79547.63	0.0032	P	2.5
6	☐	500.000	507.144	151692.66	0.0062	P	1.9
7	☐	1000.000	992.623	288403.05	0.0122	P	1.5
8	☐			197.79	0.0000	P	6.6

$$y = 1.2296E-005 * x + 1.4253E-006$$

$$R = 0.9999$$

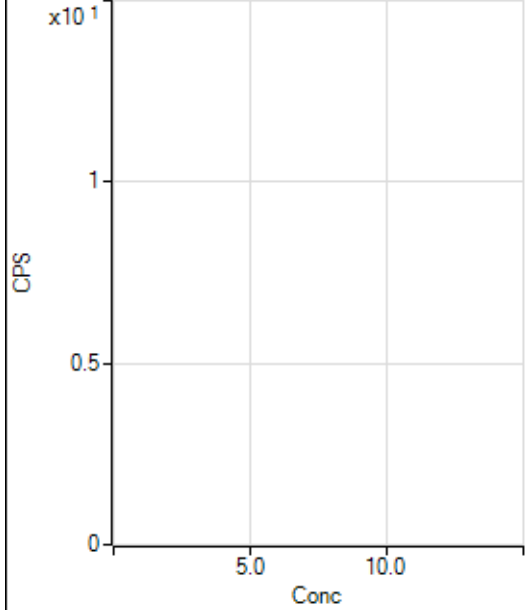
$$DL = 0.231$$

$$BEC = 0.1159$$

Weight: <None>

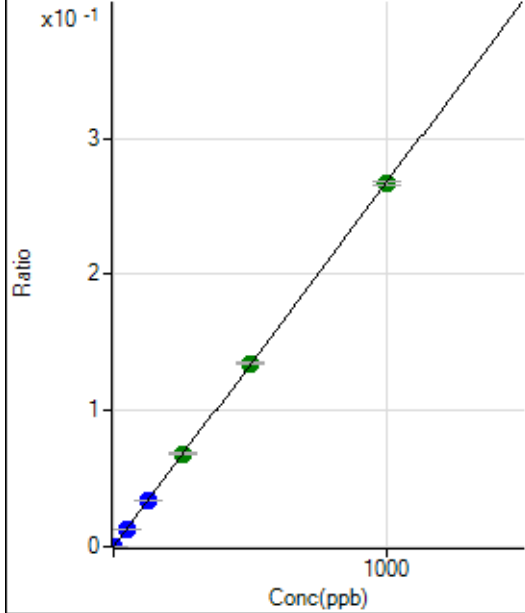
Min Conc: 0

83 Kr [No Gas] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			205.56		P	21.6
2	☐			273.34		P	13.2
3	☐			227.78		P	16.1
4	☐			250.00		P	1.3
5	☐			252.23		P	7.3
6	☐			207.78		P	9.8
7	☐			263.34		P	11.3
8	☐			307.78		P	3.1

86 Sr [No Gas] ISTD : 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	414.46	0.0000	P	10.2
2	☐	1.000	1.084	7619.90	0.0003	P	2.4
3	☐	50.000	48.781	329056.30	0.0131	P	1.7
4	☐	125.000	125.520	843687.10	0.0336	P	0.2
5	☐	250.000	255.692	1697595.50	0.0684	A	1.6
6	☐	500.000	504.198	3281317.83	0.1349	A	0.7
7	☐	1000.000	996.474	6300554.91	0.2666	A	1.0
8	☐			19479.20	0.0009	P	1.7

$$y = 2.6756E-004 * x + 1.6607E-005$$

$$R = 1.0000$$

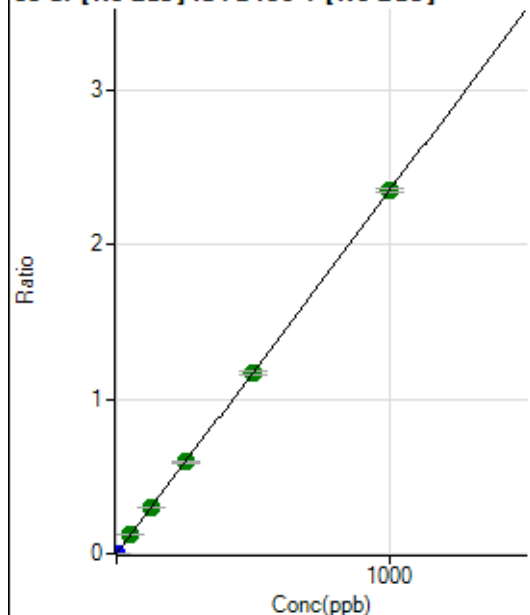
$$DL = 0.01907$$

$$BEC = 0.06207$$

Weight: <None>

Min Conc: 0

88 Sr [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	443.35	0.0000	P	4.4
2	☐	1.000	1.088	63975.58	0.0026	P	1.0
3	☐	50.000	50.750	3001254.88	0.1192	A	1.5
4	☐	125.000	129.531	7638304.33	0.3042	A	0.3
5	☐	250.000	252.774	14726144.64	0.5936	A	2.1
6	☐	500.000	498.114	28448127.35	1.1698	A	2.2
7	☐	1000.000	999.646	55468451.95	2.3475	A	1.2
8	☐			167195.15	0.0077	P	1.2

$$y = 0.0023 * x + 1.7758E-005$$

R = 1.0000

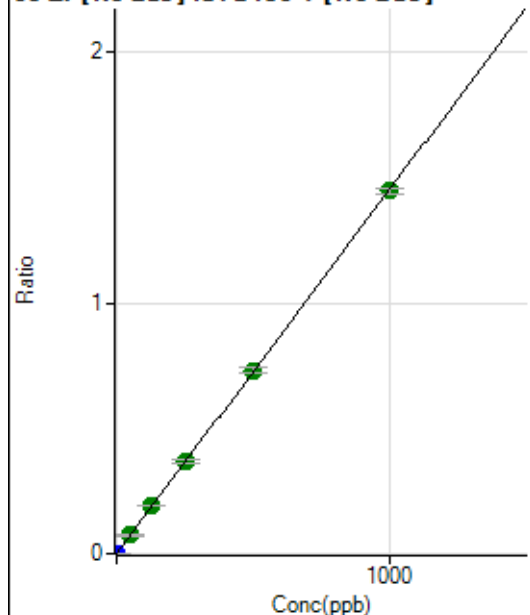
DL = 0.000999

BEC = 0.007562

Weight: <None>

Min Conc: 0

90 Zr [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1086.72	0.0000	P	4.0
2	☐	1.000	1.068	39664.17	0.0016	P	1.3
3	☐	50.000	50.504	1849195.27	0.0734	A	1.6
4	☐	125.000	129.977	4744146.39	0.1889	A	0.8
5	☐	250.000	253.805	9151199.93	0.3689	A	2.4
6	☐	500.000	503.707	17803873.62	0.7321	A	2.7
7	☐	1000.000	996.548	34225136.99	1.4483	A	1.6
8	☐			16993.90	0.0008	P	2.4

$$y = 0.0015 * x + 4.3522E-005$$

R = 1.0000

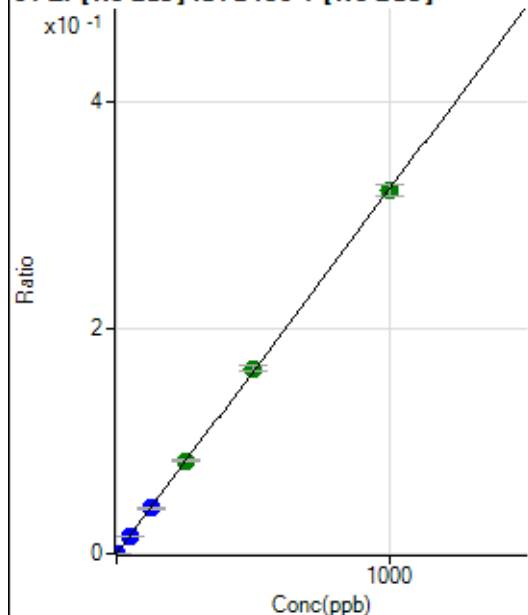
DL = 0.003616

BEC = 0.02995

Weight: <None>

Min Conc: 0

91 Zr [No Gas] ISTD: 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	195.56	0.0000	P	14.5
2	☐	1.000	1.052	8647.19	0.0003	P	3.5
3	☐	50.000	48.389	393979.26	0.0156	P	1.4
4	☐	125.000	124.253	1008541.23	0.0402	P	1.1
5	☐	250.000	255.340	2047289.14	0.0825	A	2.9
6	☐	500.000	507.210	3986722.72	0.1639	A	3.0
7	☐	1000.000	995.234	7599005.23	0.3217	A	3.0
8	☐			3694.97	0.0002	P	2.1

$$y = 3.2319E-004 * x + 7.8248E-006$$

R = 0.9999

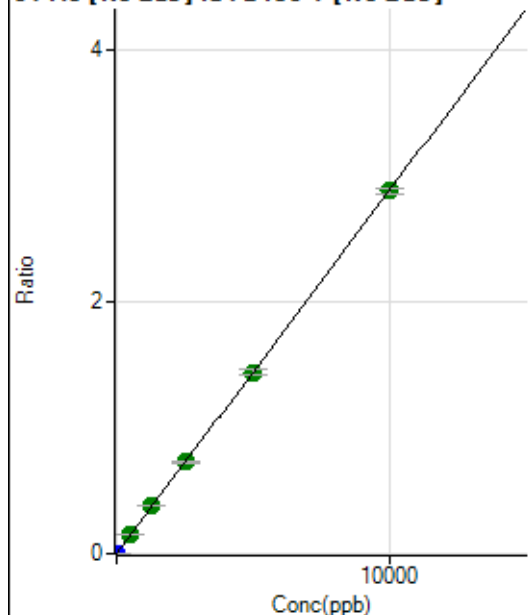
DL = 0.01057

BEC = 0.02421

Weight: <None>

Min Conc: 0

94 Mo [No Gas] ISTD: 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	515.57	0.0000	P	6.7
2	☐	5.000	6.311	45728.29	0.0018	P	2.0
3	☐	500.000	507.754	3685786.27	0.1464	A	1.9
4	☐	1250.000	1308.982	9474005.90	0.3773	A	1.3
5	☐	2500.000	2534.217	18121124.04	0.7305	A	2.1
6	☐	5000.000	5000.482	35053409.76	1.4413	A	2.8
7	☐	10000.000	9983.443	67996007.32	2.8776	A	1.5
8	☐			14434.28	0.0007	P	5.7

$$y = 2.8824E-004 * x + 2.0652E-005$$

R = 1.0000

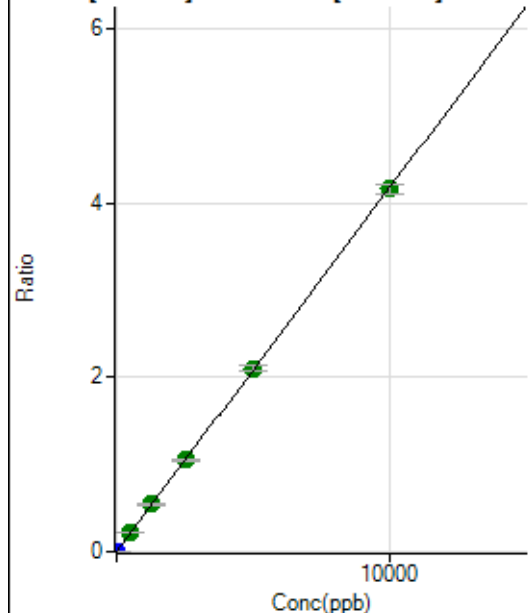
DL = 0.01431

BEC = 0.07165

Weight: <None>

Min Conc: 0

95 Mo [No Gas] ISTD: 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	232.23	0.0000	P	10.0
2	☐	5.000	5.390	56174.02	0.0023	P	0.7
3	☐	500.000	510.491	5366937.77	0.2131	A	1.3
4	☐	1250.000	1300.186	13630517.16	0.5428	A	0.9
5	☐	2500.000	2521.422	26114230.44	1.0527	A	2.9
6	☐	5000.000	5028.810	51058748.13	2.0996	A	3.1
7	☐	10000.000	9973.442	98375580.76	4.1640	A	2.4
8	☐			14840.31	0.0007	P	5.7

$$y = 4.1751\text{E-}004 * x + 9.3017\text{E-}006$$

R = 1.0000

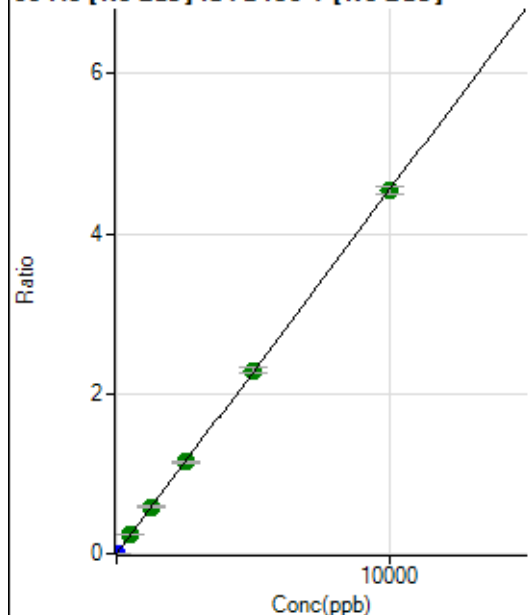
DL = 0.006703

BEC = 0.02228

Weight: <None>

Min Conc: 0

96 Mo [No Gas] ISTD: 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	367.79	0.0000	P	10.2
2	☐	5.000	5.472	62209.59	0.0025	P	1.0
3	☐	500.000	511.072	5851470.33	0.2324	A	1.8
4	☐	1250.000	1294.642	14780052.28	0.5886	A	1.5
5	☐	2500.000	2526.281	28494370.41	1.1486	A	1.9
6	☐	5000.000	5028.045	55593770.28	2.2861	A	3.0
7	☐	10000.000	9973.273	107137411.7	4.5345	A	2.1
8	☐			23891.79	0.0011	P	4.2

$$y = 4.5466\text{E-}004 * x + 1.4725\text{E-}005$$

R = 1.0000

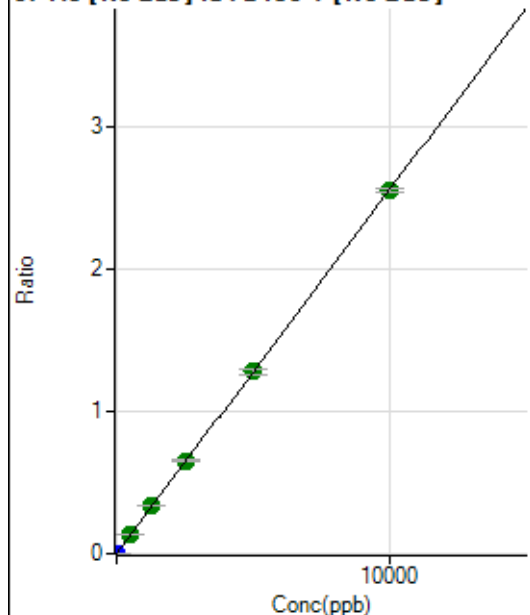
DL = 0.009916

BEC = 0.03239

Weight: <None>

Min Conc: 0

97 Mo [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.00	0.0000	P	11.6
2	☐	5.000	5.442	34757.93	0.0014	P	0.8
3	☐	500.000	515.466	3319137.97	0.1318	A	1.0
4	☐	1250.000	1306.963	8391729.94	0.3342	A	1.3
5	☐	2500.000	2550.944	16182656.56	0.6523	A	1.7
6	☐	5000.000	5009.024	31149202.31	1.2809	A	3.0
7	☐	10000.000	9974.858	60272964.10	2.5507	A	1.0
8	☐			8730.62	0.0004	P	7.1

$$y = 2.5571E-004 * x + 6.8055E-006$$

R = 1.0000

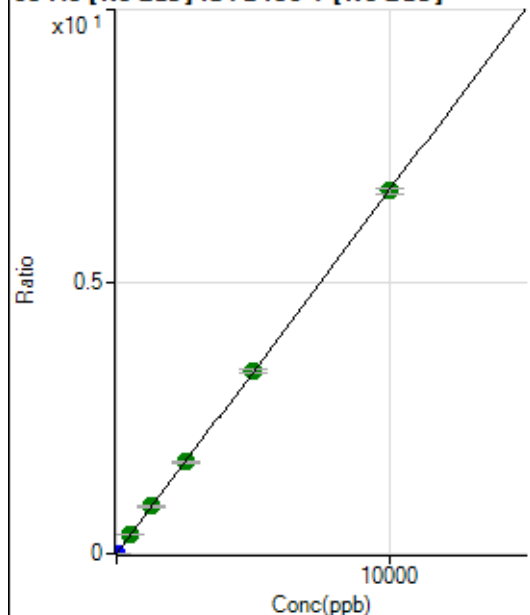
DL = 0.009244

BEC = 0.02661

Weight: <None>

Min Conc: 0

98 Mo [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	362.23	0.0000	P	6.6
2	☐	5.000	5.383	89902.22	0.0036	P	0.5
3	☐	500.000	510.862	8607915.15	0.3419	A	0.9
4	☐	1250.000	1300.117	21844005.23	0.8700	A	0.8
5	☐	2500.000	2531.323	42020493.26	1.6938	A	1.6
6	☐	5000.000	5012.030	81562830.45	3.3537	A	1.8
7	☐	10000.000	9979.346	157790144.3	6.6776	A	1.4
8	☐			21828.51	0.0010	P	7.6

$$y = 6.6914E-004 * x + 1.4508E-005$$

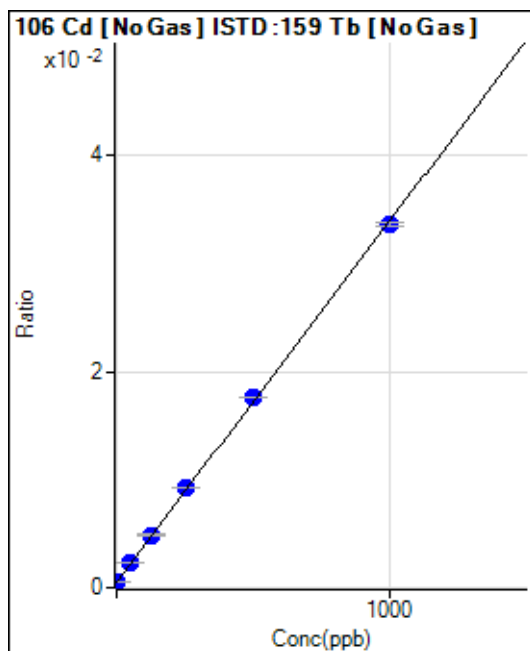
R = 1.0000

DL = 0.004296

BEC = 0.02168

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7884.54	0.0005	P	2.4
2	☐	1.000	1.605	8736.18	0.0005	P	1.6
3	☐	50.000	54.866	37884.17	0.0023	P	3.2
4	☐	125.000	131.346	81683.08	0.0049	P	1.6
5	☐	250.000	262.804	151930.00	0.0093	P	0.8
6	☐	500.000	512.315	282530.51	0.0176	P	0.7
7	☐	1000.000	989.604	530048.43	0.0336	P	1.0
8	☐			7098.54	0.0005	P	3.7

$$y = 3.3425\text{E-}005 * x + 4.9070\text{E-}004$$

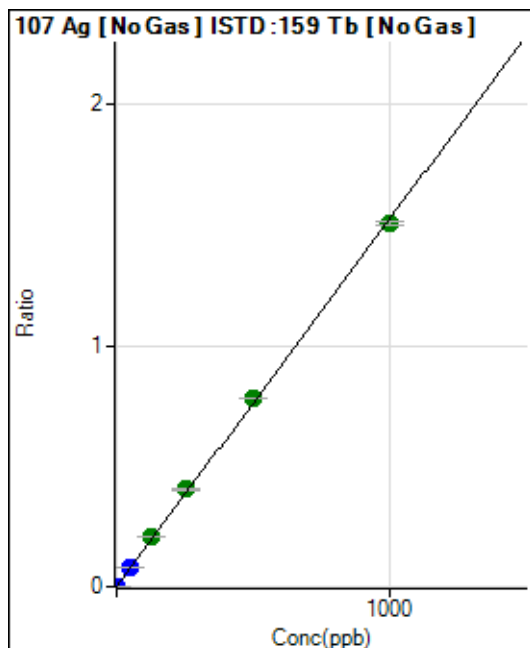
R = 0.9998

DL = 1.051

BEC = 14.68

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	178.89	0.0000	P	6.4
2	☐	1.000	1.085	26729.28	0.0017	P	2.6
3	☐	50.000	51.999	1292254.85	0.0793	P	2.0
4	☐	125.000	137.744	3514638.59	0.2100	A	0.9
5	☐	250.000	266.204	6648242.61	0.4059	A	1.5
6	☐	500.000	513.289	12551146.48	0.7826	A	0.6
7	☐	1000.000	987.611	23774624.92	1.5057	A	1.0
8	☐			2682.52	0.0002	P	17.5

$$y = 0.0015 * x + 1.1129\text{E-}005$$

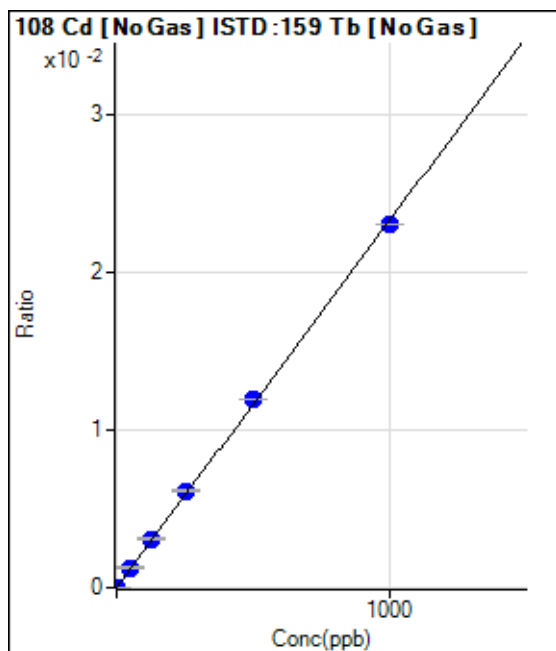
R = 0.9997

DL = 0.001406

BEC = 0.0073

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	62.9
2	☐	1.000	1.165	457.79	0.0000	P	7.5
3	☐	50.000	54.500	20661.08	0.0013	P	2.7
4	☐	125.000	133.387	51889.58	0.0031	P	1.5
5	☐	250.000	263.741	100405.58	0.0061	P	1.3
6	☐	500.000	513.693	191451.71	0.0119	P	0.2
7	☐	1000.000	988.445	362661.25	0.0230	P	0.1
8	☐			186.67	0.0000	P	15.8

$$y = 2.3235E-005 * x + 1.4556E-006$$

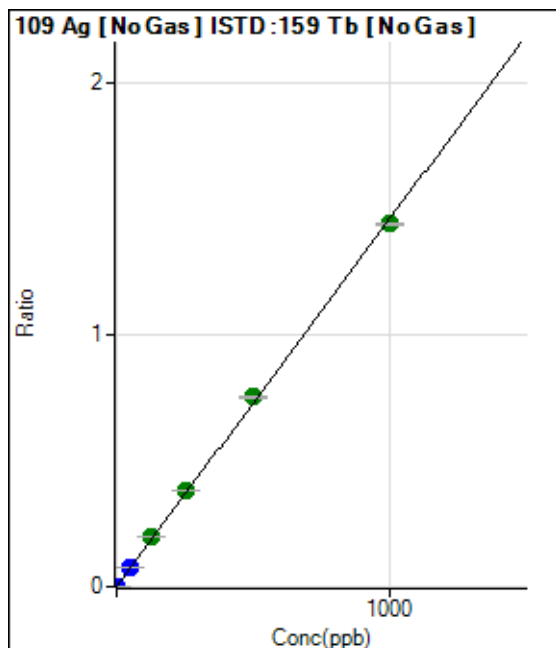
$$R = 0.9997$$

$$DL = 0.1181$$

$$BEC = 0.06265$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	61.11	0.0000	P	7.8
2	☐	1.000	1.100	25815.38	0.0016	P	0.7
3	☐	50.000	51.971	1236163.27	0.0758	P	1.8
4	☐	125.000	136.397	3331094.57	0.1990	A	1.0
5	☐	250.000	263.214	6292008.87	0.3841	A	0.7
6	☐	500.000	515.573	12067607.88	0.7524	A	0.9
7	☐	1000.000	987.387	22752822.72	1.4409	A	0.6
8	☐			2458.02	0.0002	P	15.3

$$y = 0.0015 * x + 3.8020E-006$$

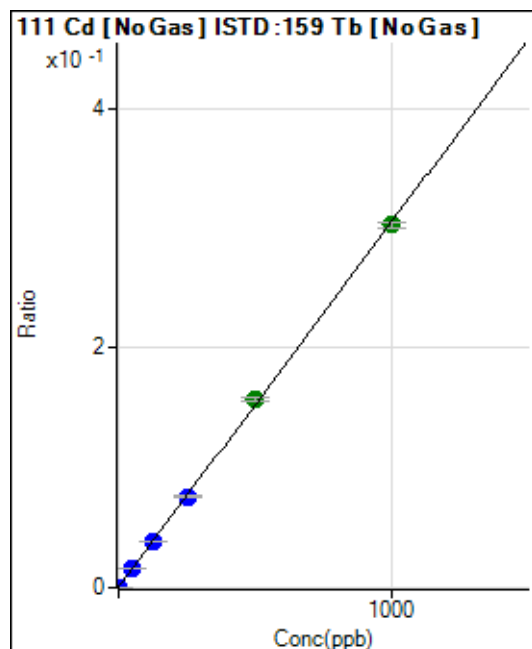
$$R = 0.9997$$

$$DL = 0.0006077$$

$$BEC = 0.002605$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	5540.62	0.0003	P	2.3
2	☐	1.000	1.169	11256.01	0.0007	P	2.8
3	☐	50.000	50.970	258972.05	0.0159	P	1.6
4	☐	125.000	125.760	647631.74	0.0387	P	1.5
5	☐	250.000	247.282	1240959.54	0.0758	P	1.8
6	☐	500.000	516.628	2532622.57	0.1579	A	2.3
7	☐	1000.000	992.222	4783711.20	0.3029	A	1.4
8	☐			5505.00	0.0004	P	4.1

$$y = 3.0497\text{E-}004 * x + 3.4482\text{E-}004$$

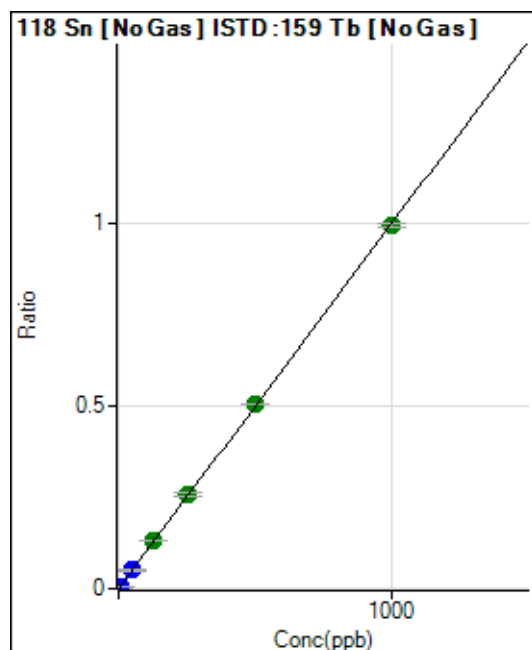
R = 0.9998

DL = 0.07948

BEC = 1.131

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	2757.08	0.0002	P	6.6
2	☐	5.000	5.467	90422.53	0.0056	P	0.1
3	☐	50.000	50.170	819833.22	0.0503	P	1.8
4	☐	125.000	130.808	2190249.87	0.1309	A	1.0
5	☐	250.000	257.773	4221655.32	0.2577	A	3.2
6	☐	500.000	506.354	8117432.17	0.5061	A	0.3
7	☐	1000.000	994.143	15688886.01	0.9935	A	1.2
8	☐			5877.98	0.0004	P	4.0

$$y = 9.9920\text{E-}004 * x + 1.7162\text{E-}004$$

R = 0.9999

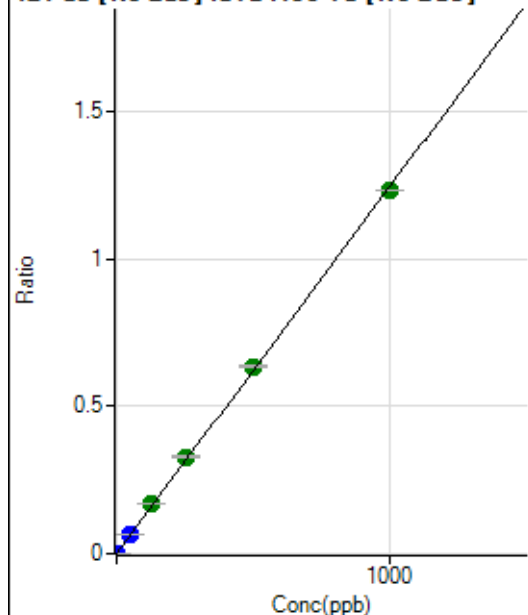
DL = 0.0339

BEC = 0.1718

Weight: <None>

Min Conc: 0

121 Sb [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	38.89	0.0000	P	32.5
2	☐	2.000	2.132	42595.12	0.0027	P	1.0
3	☐	50.000	51.495	1043788.22	0.0640	P	1.2
4	☐	125.000	136.982	2850844.96	0.1704	A	0.8
5	☐	250.000	263.445	5366453.60	0.3276	A	1.8
6	☐	500.000	510.877	10189024.02	0.6353	A	1.2
7	☐	1000.000	989.627	19432864.43	1.2307	A	0.1
8	☐			13829.34	0.0009	P	4.5

$$y = 0.0012 * x + 2.4201E-006$$

R = 0.9998

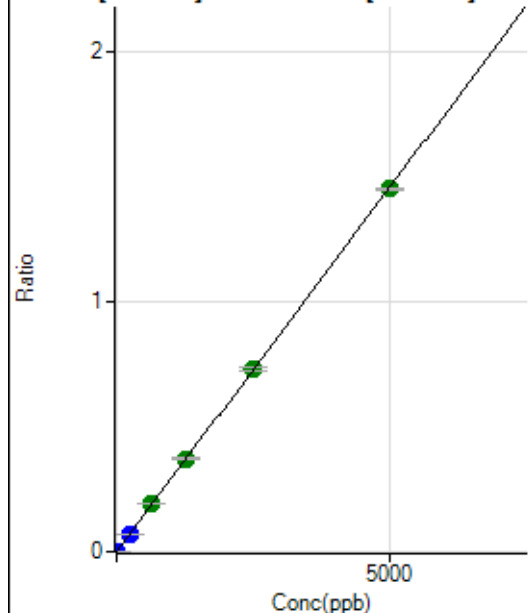
DL = 0.001899

BEC = 0.001946

Weight: <None>

Min Conc: 0

135 Ba [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	114.45	0.0000	P	6.6
2	☐	10.000	10.747	50435.77	0.0031	P	0.1
3	☐	250.000	247.063	1174922.31	0.0721	P	1.7
4	☐	625.000	653.678	3191738.46	0.1907	A	1.7
5	☐	1250.000	1273.678	6086948.38	0.3716	A	2.0
6	☐	2500.000	2513.716	11761662.05	0.7334	A	1.8
7	☐	5000.000	4983.783	22959864.38	1.4540	A	0.7
8	☐			8976.38	0.0006	P	2.1

$$y = 2.9175E-004 * x + 7.1197E-006$$

R = 1.0000

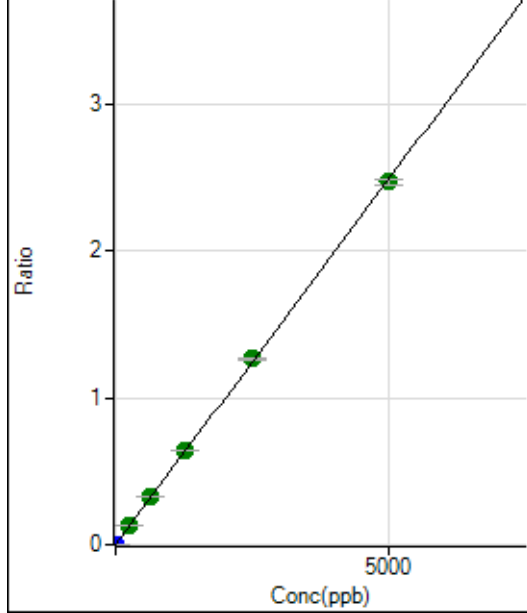
DL = 0.004847

BEC = 0.0244

Weight: <None>

Min Conc: 0

137 Ba [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	172.23	0.0000	P	5.6
2	☐	10.000	10.878	87115.76	0.0054	P	1.2
3	☐	250.000	264.017	2143042.92	0.1315	A	1.5
4	☐	625.000	648.754	5406824.19	0.3231	A	1.1
5	☐	1250.000	1284.654	10479360.82	0.6397	A	1.0
6	☐	2500.000	2542.486	20306009.14	1.2661	A	1.0
7	☐	5000.000	4966.422	39050798.03	2.4732	A	1.6
8	☐			15527.89	0.0010	P	4.7

$$y = 4.9798E-004 * x + 1.0720E-005$$

R = 0.9999

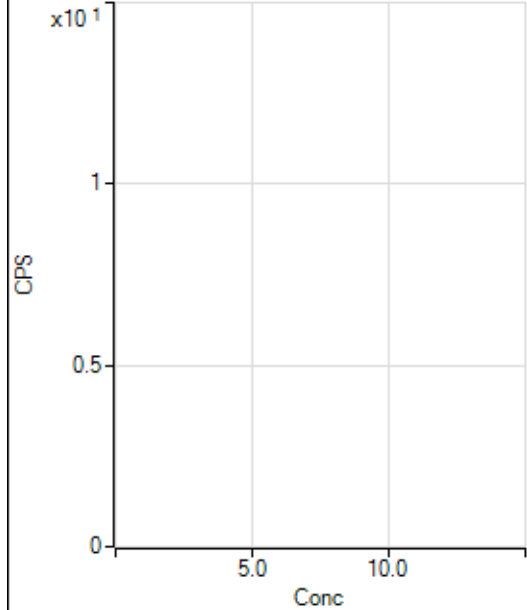
DL = 0.003592

BEC = 0.02153

Weight: <None>

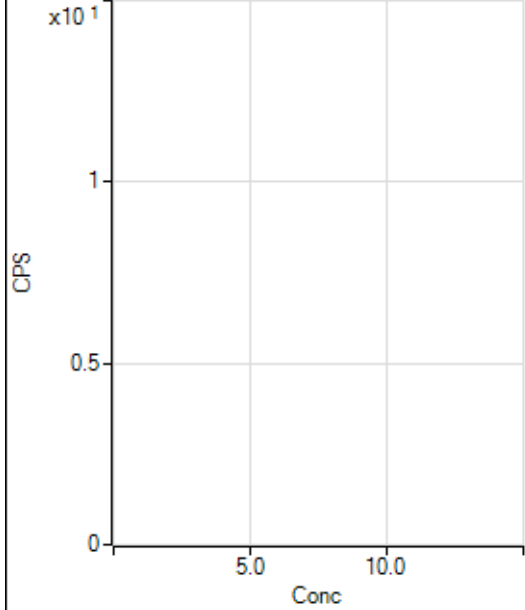
Min Conc: 0

150 Nd [No Gas] No available calibration points



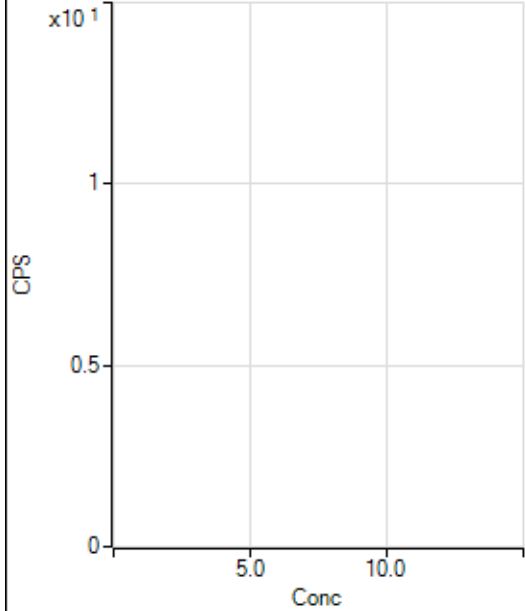
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐			17.78		P	60.3
2	☐			17.78		P	39.0
3	☐			100.00		P	15.3
4	☐			237.78		P	6.9
5	☐			487.80		P	6.2
6	☐			878.93		P	4.8
7	☐			1685.68		P	2.4
8	☐			347.78		P	8.9

150 Nd [He] No available calibration points



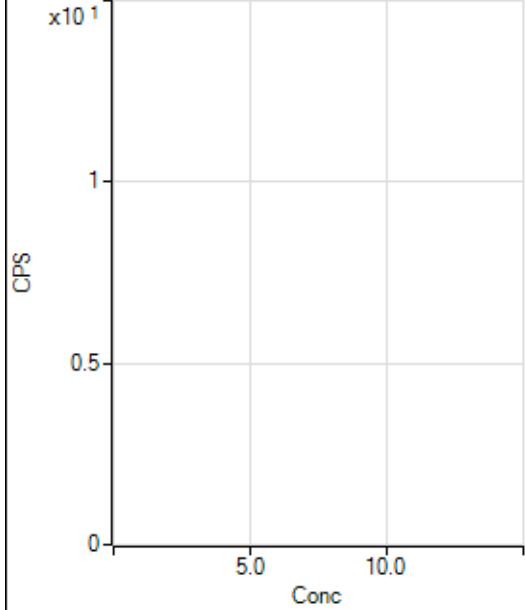
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			2.22		P	173.
2	☐			2.22		P	86.6
3	☐			5.56		P	91.6
4	☐			20.00		P	28.9
5	☐			35.55		P	19.5
6	☐			51.11		P	3.8
7	☐			131.12		P	12.0
8	☐			87.78		P	12.2

156 Dy [No Gas] No available calibration points



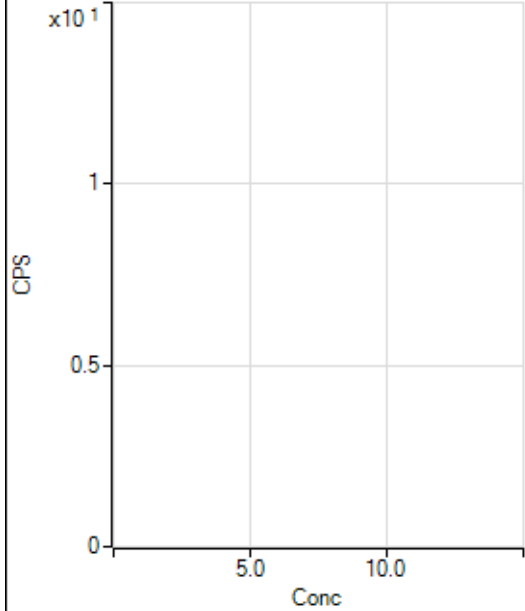
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			15.56		P	65.5
2	☐			23.33		P	62.3
3	☐			58.89		P	19.9
4	☐			86.67		P	11.5
5	☐			168.89		P	2.3
6	☐			297.78		P	6.2
7	☐			532.24		P	5.0
8	☐			744.47		P	6.7

156 Dy [He] No available calibration points



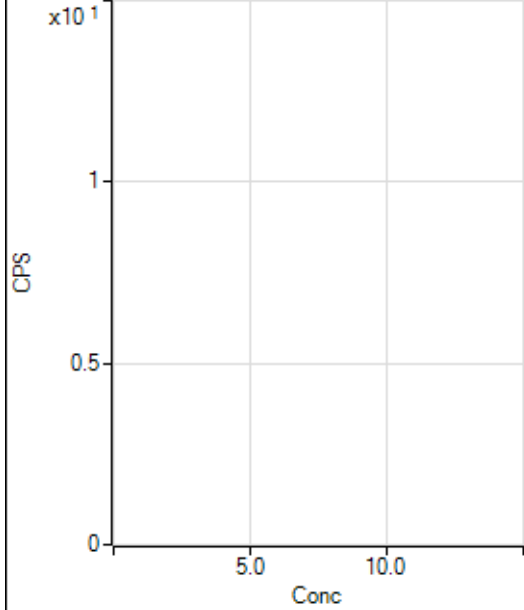
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			8.89		P	57.3
2	☐			8.89		P	21.6
3	☐			8.89		P	57.3
4	☐			21.11		P	24.1
5	☐			33.33		P	10.0
6	☐			61.11		P	11.4
7	☐			96.66		P	6.0
8	☐			223.34		P	9.1

160 Gd [No Gas] No available calibration poin...



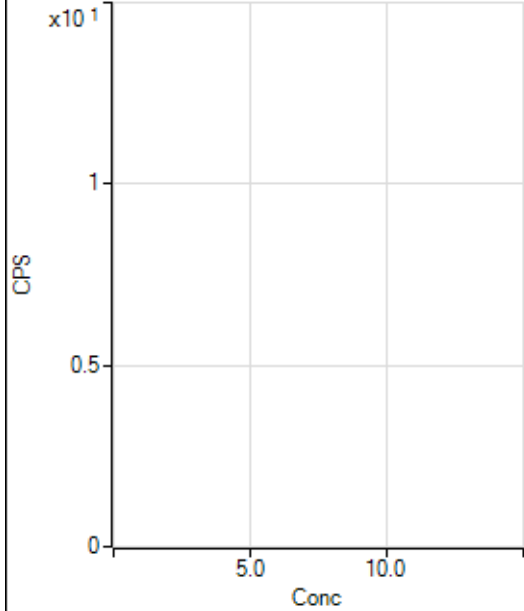
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			122.23		P	4.2
2	☐			118.89		P	28.1
3	☐			124.45		P	6.7
4	☐			177.78		P	14.2
5	☐			191.11		P	9.6
6	☐			252.23		P	14.7
7	☐			360.01		P	12.5
8	☐			618.91		P	9.1

160 Gd [He] No available calibration points



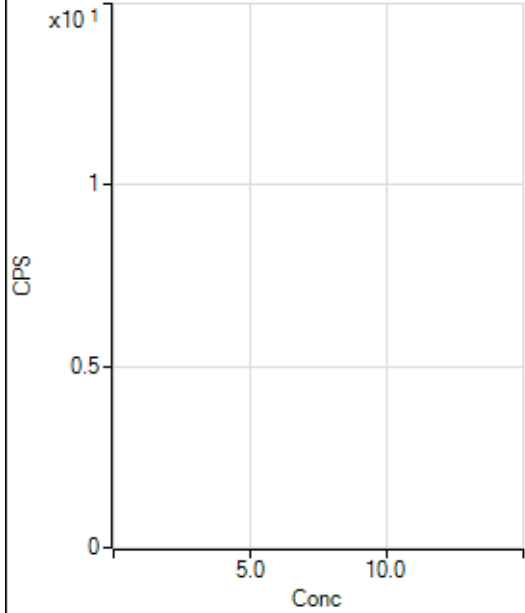
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			31.11		P	43.3
2	☐			33.33		P	20.0
3	☐			30.00		P	19.2
4	☐			54.44		P	17.7
5	☐			65.55		P	5.9
6	☐			72.22		P	30.7
7	☐			121.11		P	8.9
8	☐			304.45		P	4.6

164 Er [No Gas] No available calibration points



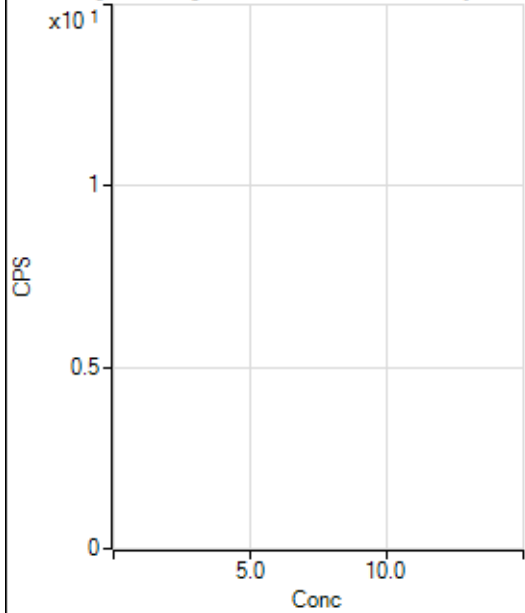
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			117.78		P	3.3
2	☐			112.22		P	26.8
3	☐			140.00		P	9.5
4	☐			180.00		P	12.1
5	☐			208.89		P	7.2
6	☐			300.01		P	8.0
7	☐			468.90		P	2.9
8	☐			777.81		P	7.2

164 Er [He] No available calibration points



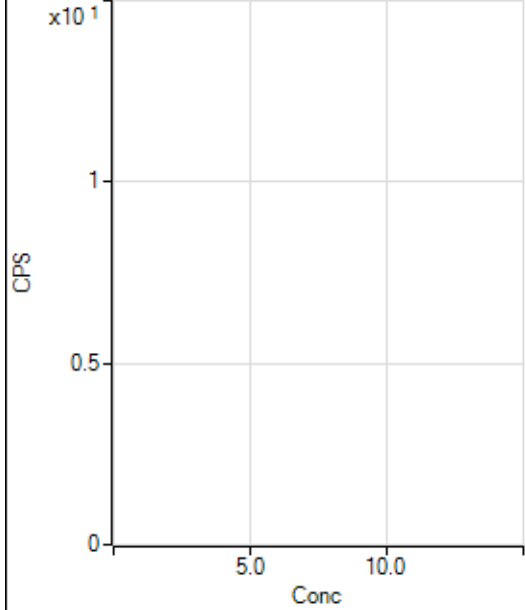
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			40.00		P	22.0
2	☐			35.56		P	23.6
3	☐			42.22		P	25.4
4	☐			60.00		P	25.5
5	☐			71.11		P	11.8
6	☐			92.22		P	31.6
7	☐			155.56		P	4.5
8	☐			296.67		P	1.9

172 Yb [No Gas] No available calibration points



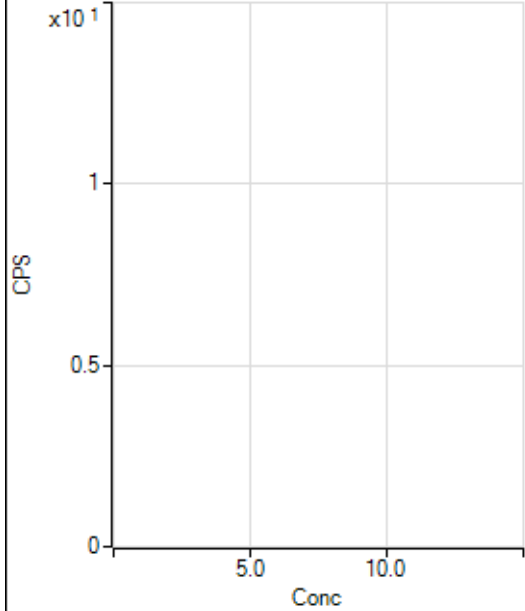
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			92.22		P	8.4
2	☐			103.33		P	20.1
3	☐			122.22		P	14.0
4	☐			128.89		P	3.9
5	☐			190.01		P	12.2
6	☐			292.23		P	6.9
7	☐			520.02		P	9.0
8	☐			1212.29		P	3.1

172 Yb [He] No available calibration points



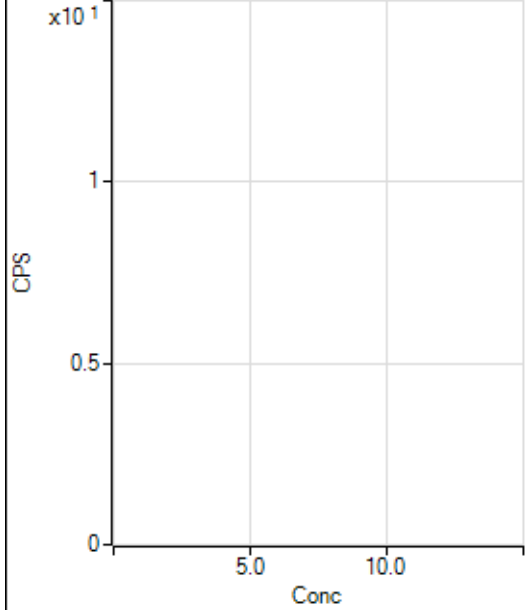
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			42.22		P	51.4
2	☐			47.78		P	22.4
3	☐			55.56		P	15.1
4	☐			72.22		P	25.4
5	☐			78.89		P	2.4
6	☐			130.00		P	16.8
7	☐			214.45		P	4.7
8	☐			524.46		P	15.3

176 Yb [No Gas] No available calibration points



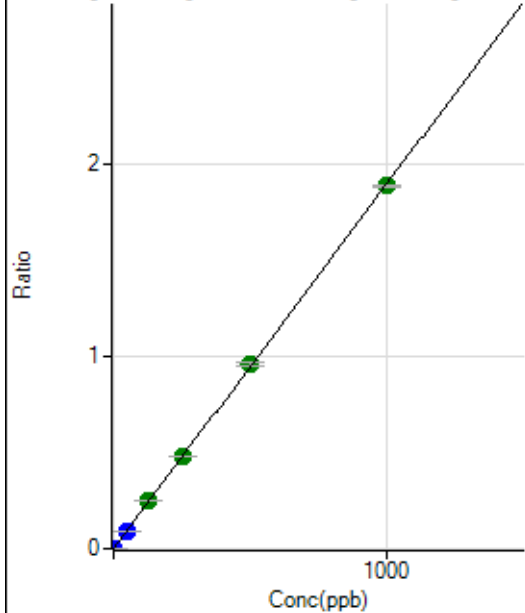
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			1880.15		P	3.0
2	☐			1977.94		P	1.1
3	☐			6154.82		P	1.0
4	☐			12583.85		P	2.2
5	☐			22964.46		P	0.8
6	☐			42891.71		P	1.5
7	☐			81617.79		P	1.9
8	☐			2485.82		P	6.5

176 Yb [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐			654.47		P	7.6
2	☐			625.57		P	7.4
3	☐			2197.99		P	4.7
4	☐			5061.02		P	2.8
5	☐			8660.69		P	1.7
6	☐			16342.41		P	2.9
7	☐			30884.93		P	1.2
8	☐			870.04		P	6.7

203 Tl [No Gas] ISTD : 209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	230.01	0.0000	P	17.1
2	☐	1.000	1.019	18359.76	0.0020	P	3.2
3	☐	50.000	46.950	855267.95	0.0890	P	1.7
4	☐	125.000	129.886	2348631.65	0.2462	A	0.7
5	☐	250.000	254.655	4583944.03	0.4828	A	0.8
6	☐	500.000	504.906	8816947.51	0.9571	A	1.9
7	☐	1000.000	995.925	16780037.39	1.8879	A	0.5
8	☐			1597.89	0.0002	P	13.5

$$y = 0.0019 * x + 2.4485E-005$$

$$R = 0.9999$$

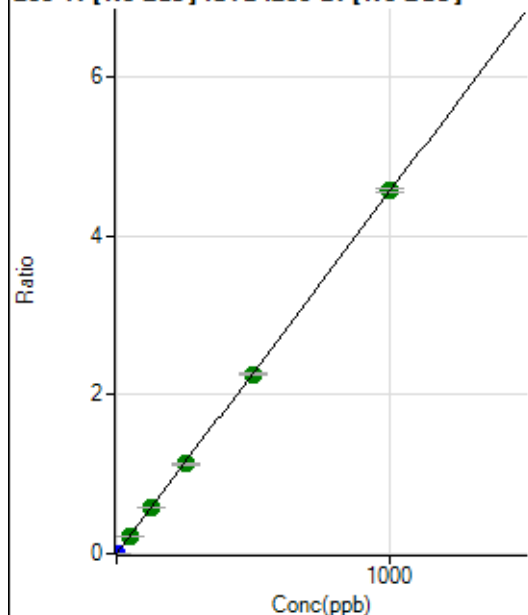
$$DL = 0.006608$$

$$BEC = 0.01292$$

Weight: <None>

Min Conc: 0

205 Tl [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	494.46	0.0001	P	2.8
2	☐	1.000	1.027	44413.48	0.0047	P	2.5
3	☐	50.000	49.456	2166058.44	0.2255	A	1.5
4	☐	125.000	127.700	5552059.91	0.5821	A	0.7
5	☐	250.000	248.291	10745934.98	1.1317	A	2.4
6	☐	500.000	495.621	20808630.11	2.2590	A	0.9
7	☐	1000.000	1002.306	40606235.51	4.5684	A	0.9
8	☐			3832.84	0.0005	P	11.0

$$y = 0.0046 * x + 5.2609E-005$$

$$R = 1.0000$$

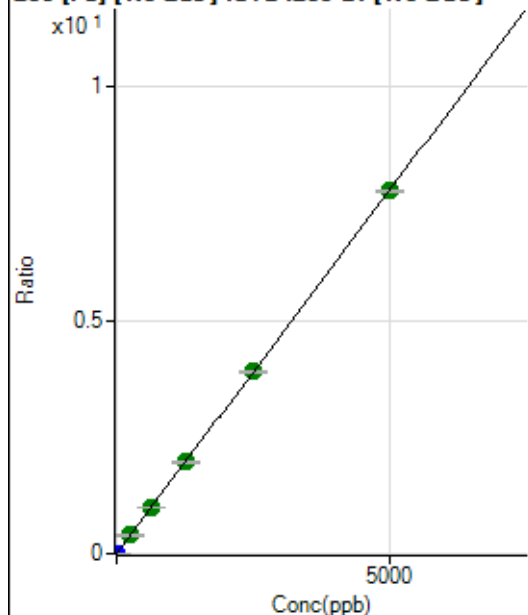
$$DL = 0.0009696$$

$$BEC = 0.01154$$

Weight: <None>

Min Conc: 0

206 [Pb] [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	593.35	0.0001	P	4.1
2	☐	1.000	1.013	15381.47	0.0016	P	2.6
3	☐	250.000	252.014	3768360.95	0.3922	A	1.8
4	☐	625.000	639.234	9488842.01	0.9948	A	0.2
5	☐	1250.000	1258.145	18591521.39	1.9580	A	1.4
6	☐	2500.000	2506.990	35938328.91	3.9014	A	1.5
7	☐	5000.000	4992.589	69058780.64	7.7695	A	0.8
8	☐			70678.96	0.0091	P	0.7

$$y = 0.0016 * x + 6.3120E-005$$

$$R = 1.0000$$

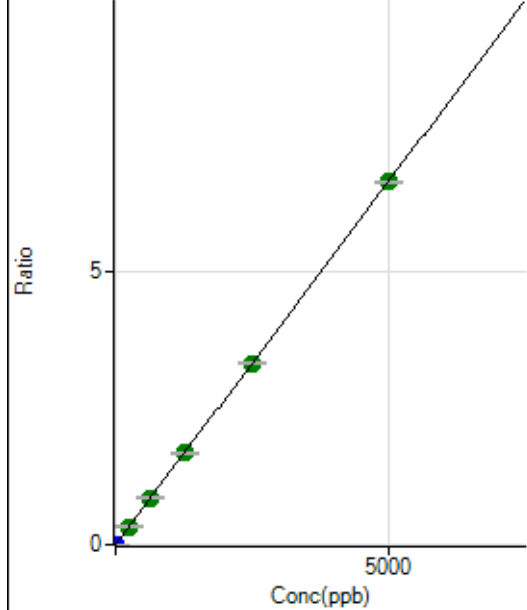
$$DL = 0.004992$$

$$BEC = 0.04056$$

Weight: <None>

Min Conc: 0

207 [Pb] [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	487.79	0.0001	P	10.0
2	☐	1.000	1.037	13453.77	0.0014	P	1.5
3	☐	250.000	251.394	3218755.47	0.3350	A	1.2
4	☐	625.000	648.300	8240367.80	0.8639	A	0.9
5	☐	1250.000	1258.405	15922654.76	1.6769	A	1.2
6	☐	2500.000	2497.538	30656489.54	3.3280	A	0.6
7	☐	5000.000	4996.147	59173576.34	6.6574	A	0.7
8	☐			62135.79	0.0080	P	0.2

$$y = 0.0013 * x + 5.1909E-005$$

$$R = 1.0000$$

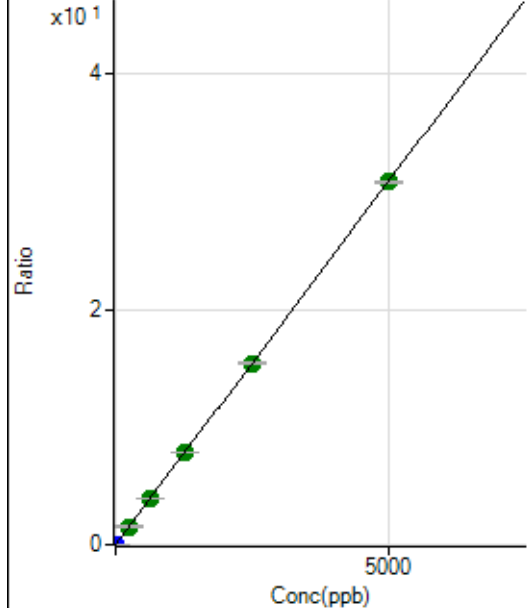
$$DL = 0.0117$$

$$BEC = 0.03896$$

Weight: <None>

Min Conc: 0

208 Pb [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	2251.21	0.0002	P	2.7
2	☐	1.000	1.027	61729.22	0.0066	P	1.6
3	☐	250.000	249.841	14807586.38	1.5413	A	1.6
4	☐	625.000	645.241	37965351.45	3.9803	A	0.6
5	☐	1250.000	1263.913	74029297.51	7.7964	A	1.0
6	☐	2500.000	2500.227	142064182.3	15.4224	A	0.9
7	☐	5000.000	4993.886	273801789.2	30.8040	A	0.8
8	☐			282547.75	0.0363	P	0.4

$$y = 0.0062 * x + 2.3950E-004$$

$$R = 1.0000$$

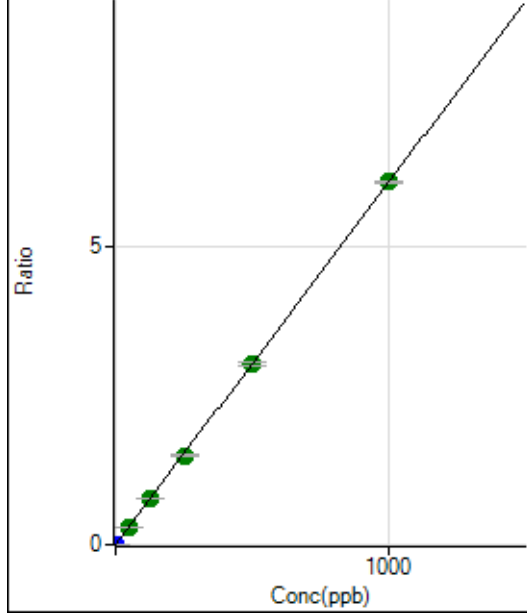
$$DL = 0.003148$$

$$BEC = 0.03883$$

Weight: <None>

Min Conc: 0

238 U [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	427.79	0.0000	P	15.4
2	☐	1.000	1.010	58057.34	0.0062	P	1.9
3	☐	50.000	47.857	2795542.60	0.2910	A	2.9
4	☐	125.000	125.644	7286386.56	0.7639	A	0.5
5	☐	250.000	245.580	14176495.34	1.4931	A	1.2
6	☐	500.000	498.613	27925042.92	3.0314	A	1.7
7	☐	1000.000	1001.825	54136376.97	6.0907	A	0.5
8	☐			3098.21	0.0004	P	18.8

$$y = 0.0061 * x + 4.5483E-005$$

$$R = 1.0000$$

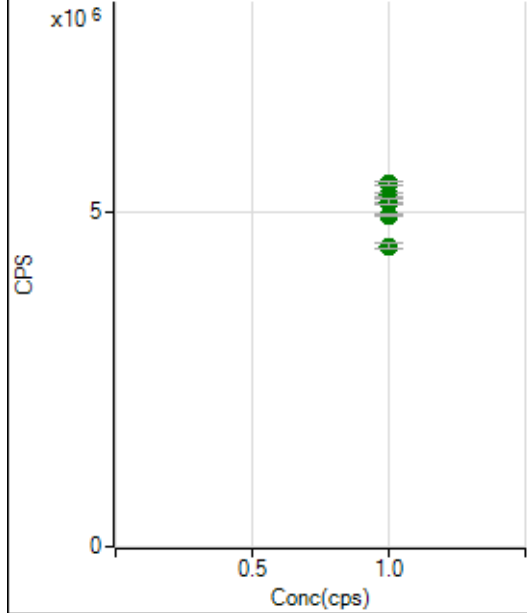
$$DL = 0.00346$$

$$BEC = 0.007481$$

Weight: <None>

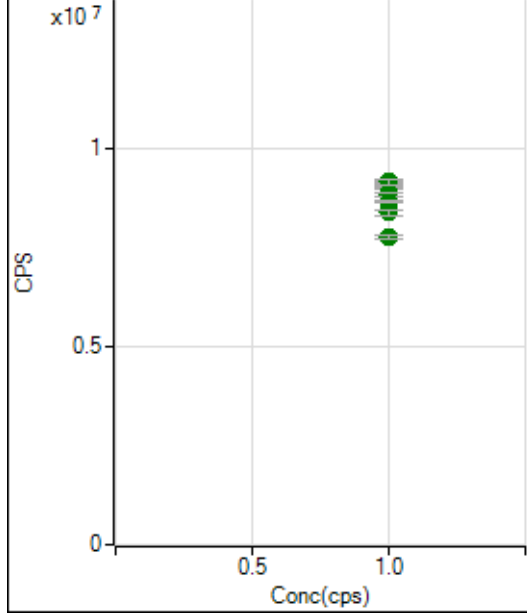
Min Conc: 0

6 Li (ISTD) [No Gas]



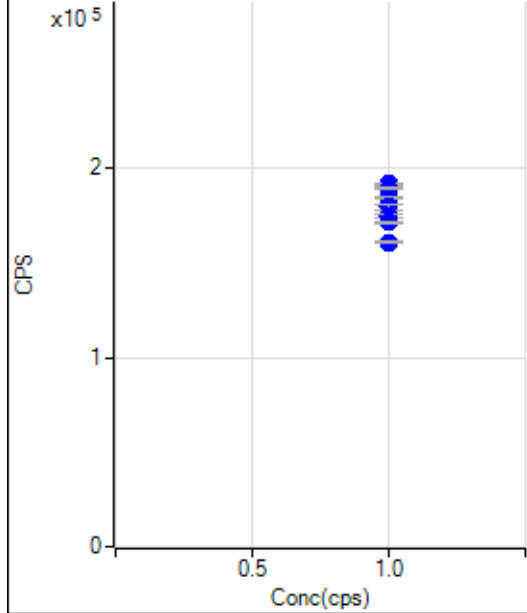
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	1.000		5216511.74		A	2.3
2	☐	1.000		5255891.04		A	1.4
3	☐	1.000		5423515.04		A	1.2
4	☐	1.000		5257497.82		A	1.4
5	☐	1.000		5216459.57		A	0.6
6	☐	1.000		5157367.89		A	1.6
7	☐	1.000		4955967.49		A	0.9
8	☐	1.000		4498519.62		A	1.4

45 Sc (ISTD) [No Gas]



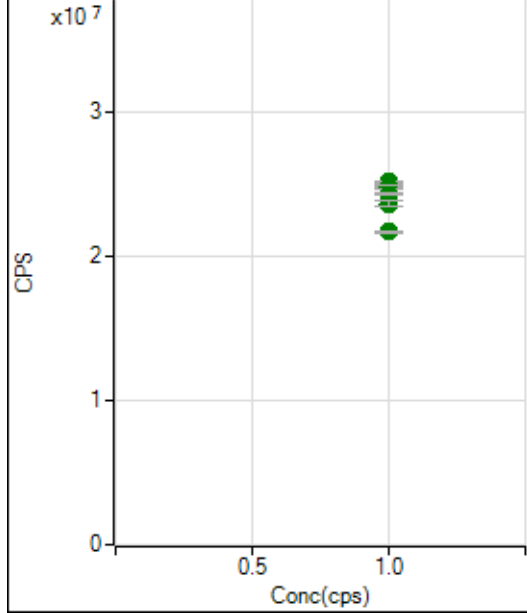
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9057791.81		A	2.1
2	☐	1.000		9042947.71		A	0.1
3	☐	1.000		9084060.21		A	1.3
4	☐	1.000		9157718.96		A	1.7
5	☐	1.000		8839631.54		A	0.8
6	☐	1.000		8663734.59		A	0.5
7	☐	1.000		8379634.60		A	1.4
8	☐	1.000		7746968.56		A	1.2

45 Sc (ISTD) [He]



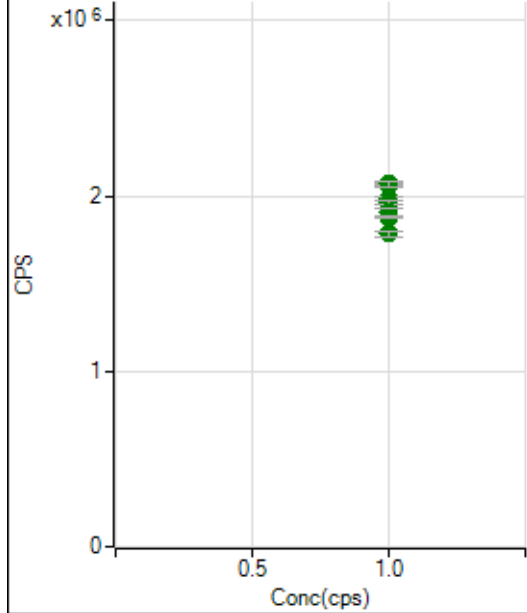
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		190849.84		P	0.4
2	☐	1.000		191720.67		P	0.8
3	☐	1.000		189448.17		P	0.7
4	☐	1.000		184415.51		P	0.7
5	☐	1.000		179771.70		P	1.7
6	☐	1.000		174694.49		P	0.8
7	☐	1.000		171280.15		P	0.5
8	☐	1.000		160753.94		P	0.4

89 Y (ISTD) [No Gas]



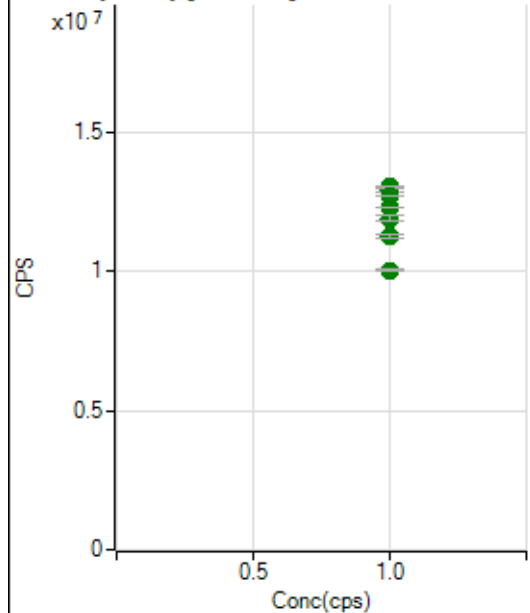
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		24973697.13		A	1.0
2	☐	1.000		24857417.13		A	0.2
3	☐	1.000		25180562.40		A	0.5
4	☐	1.000		25109418.23		A	0.4
5	☐	1.000		24810230.18		A	0.8
6	☐	1.000		24321194.91		A	0.5
7	☐	1.000		23629614.65		A	1.7
8	☐	1.000		21721146.90		A	0.6

89 Y (ISTD) [He]



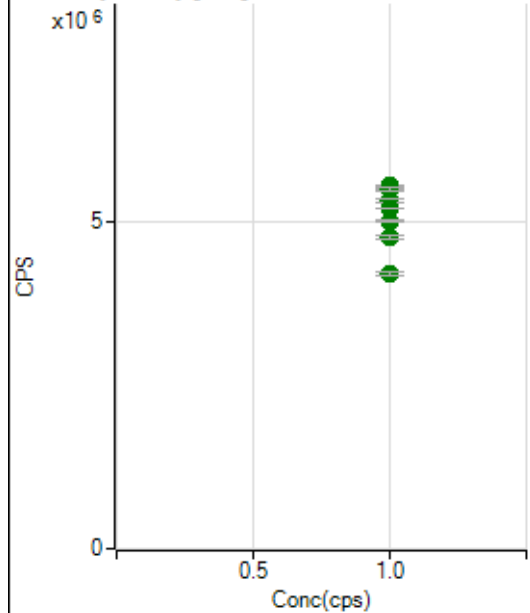
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2069364.64		A	0.5
2	☐	1.000		2056979.74		A	0.6
3	☐	1.000		2068030.58		A	1.4
4	☐	1.000		1985614.76		A	0.7
5	☐	1.000		1960055.06		A	1.2
6	☐	1.000		1905392.96		A	2.3
7	☐	1.000		1876092.65		A	0.5
8	☐	1.000		1782589.35		A	2.0

103 Rh (ISTD) [No Gas]



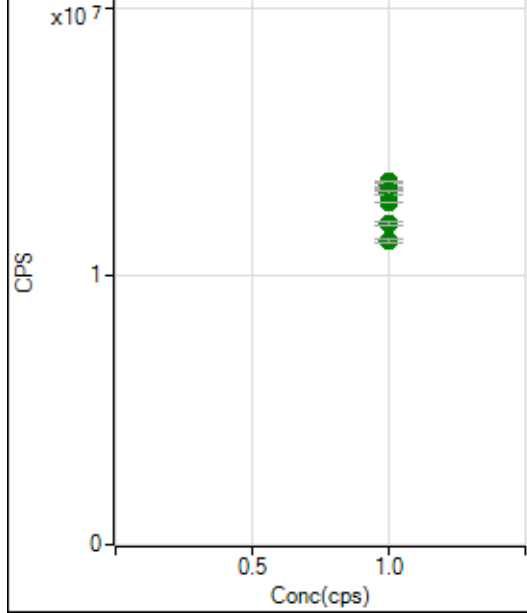
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		12931733.42		A	0.9
2	☐	1.000		12921618.97		A	1.3
3	☐	1.000		13036152.86		A	0.4
4	☐	1.000		12725623.70		A	0.3
5	☐	1.000		12293632.60		A	0.2
6	☐	1.000		11911530.93		A	1.4
7	☐	1.000		11262747.47		A	0.7
8	☐	1.000		10042337.84		A	0.6

103 Rh (ISTD) [He]



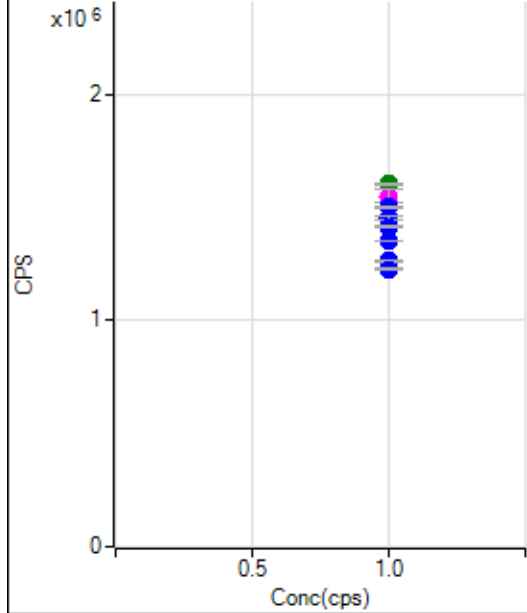
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5524748.81		A	1.3
2	☐	1.000		5551072.97		A	0.2
3	☐	1.000		5494795.40		A	1.3
4	☐	1.000		5325712.63		A	1.0
5	☐	1.000		5212551.17		A	0.3
6	☐	1.000		5012896.73		A	0.8
7	☐	1.000		4774876.07		A	1.3
8	☐	1.000		4208759.52		A	1.3

115 In (ISTD) [No Gas]



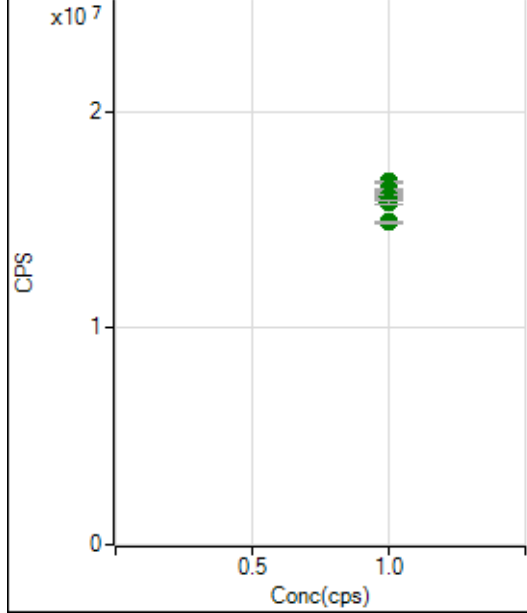
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		13290388.00		A	0.7
2	☐	1.000		13390045.57		A	2.1
3	☐	1.000		13504495.19		A	0.9
4	☐	1.000		13190886.86		A	0.5
5	☐	1.000		13102038.66		A	1.3
6	☐	1.000		12736668.64		A	0.2
7	☐	1.000		11974692.41		A	1.4
8	☐	1.000		11316724.70		A	1.2

115 In (ISTD) [He]



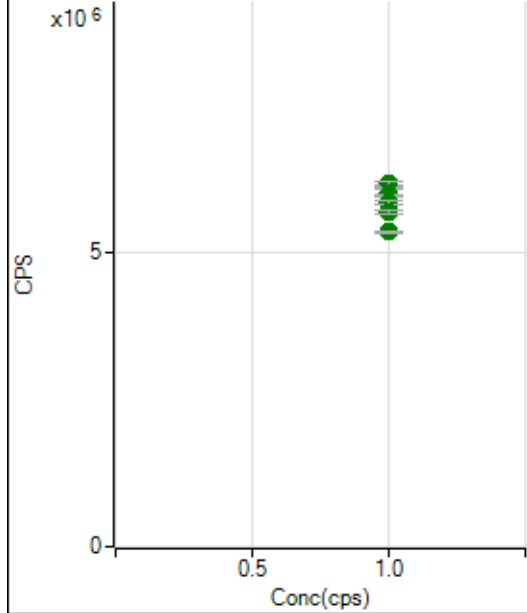
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1605426.99		A	0.7
2	☐	1.000		1551257.45		M	3.8
3	☐	1.000		1502907.33		P	0.6
4	☐	1.000		1455096.31		P	0.6
5	☐	1.000		1415873.49		P	0.5
6	☐	1.000		1351230.80		P	0.4
7	☐	1.000		1264985.43		P	0.8
8	☐	1.000		1229399.68		P	0.1

159 Tb (ISTD) [No Gas]



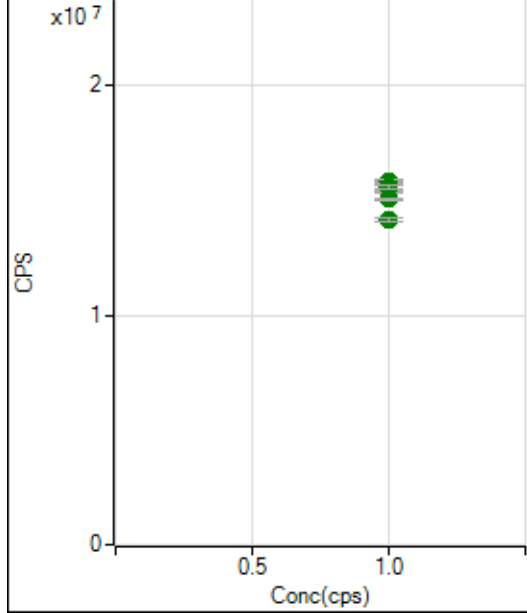
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		16069753.37		A	0.7
2	☐	1.000		16049022.26		A	0.4
3	☐	1.000		16299473.79		A	0.7
4	☐	1.000		16735275.58		A	0.2
5	☐	1.000		16380985.45		A	0.4
6	☐	1.000		16038735.04		A	0.8
7	☐	1.000		15790271.43		A	0.8
8	☐	1.000		14878559.08		A	0.6

159 Tb (ISTD) [He]



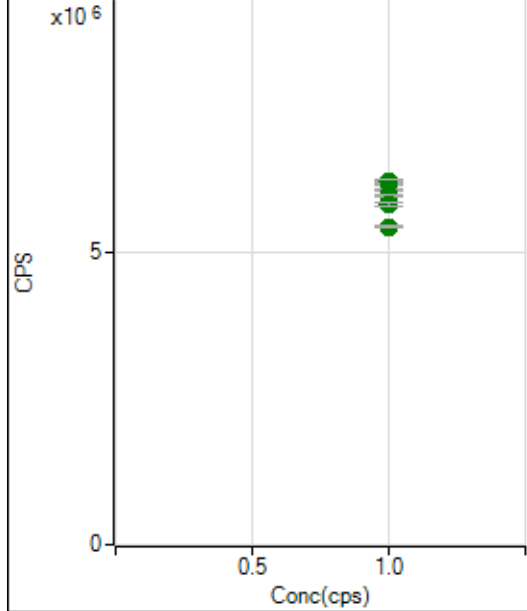
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6145909.21		A	0.4
2	☐	1.000		6138457.62		A	0.9
3	☐	1.000		6178835.74		A	1.7
4	☐	1.000		6040128.31		A	1.3
5	☐	1.000		5992201.64		A	0.6
6	☐	1.000		5850769.08		A	1.1
7	☐	1.000		5699379.08		A	1.4
8	☐	1.000		5362869.44		A	0.7

165 Ho (ISTD) [No Gas]



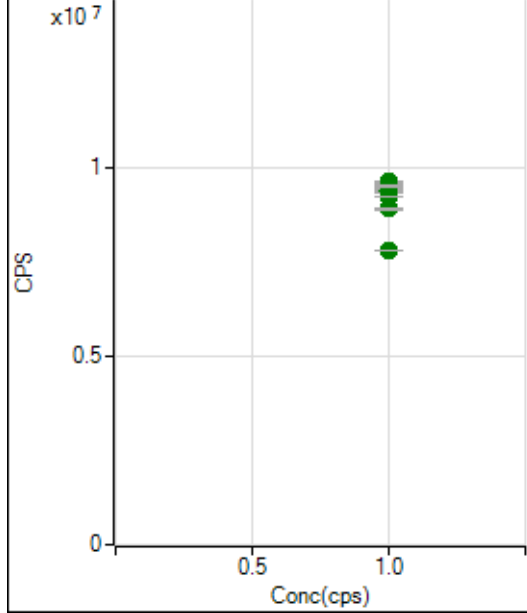
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		15458189.07		A	0.3
2	☐	1.000		15365293.38		A	0.6
3	☐	1.000		15728170.60		A	1.0
4	☐	1.000		15756888.93		A	0.3
5	☐	1.000		15797079.90		A	1.0
6	☐	1.000		15559153.66		A	0.9
7	☐	1.000		15063336.58		A	0.5
8	☐	1.000		14164696.18		A	1.0

165 Ho (ISTD) [He]



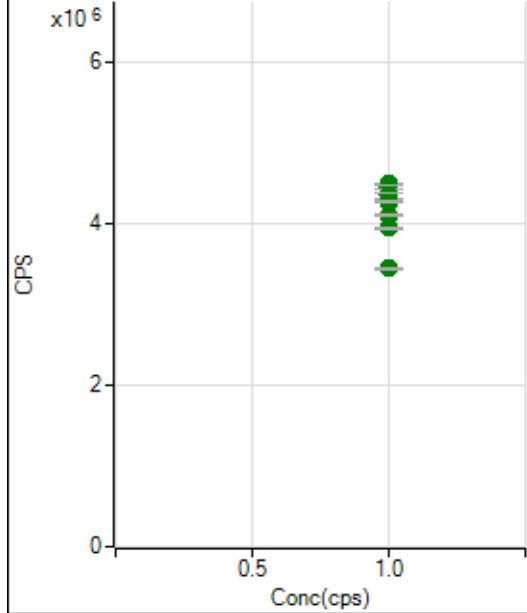
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6120813.80		A	1.2
2	☐	1.000		6165619.91		A	0.7
3	☐	1.000		6185501.43		A	0.2
4	☐	1.000		6190014.63		A	1.9
5	☐	1.000		6060393.17		A	0.3
6	☐	1.000		5961674.77		A	0.8
7	☐	1.000		5819825.12		A	1.1
8	☐	1.000		5426589.23		A	0.7

209 Bi (ISTD) [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9399609.03		A	0.7
2	☐	1.000		9387745.48		A	1.5
3	☐	1.000		9607381.24		A	0.4
4	☐	1.000		9538147.71		A	0.6
5	☐	1.000		9495006.46		A	0.7
6	☐	1.000		9211537.78		A	0.4
7	☐	1.000		8888042.02		A	1.0
8	☐	1.000		7782566.20		A	0.2

209 Bi (ISTD) [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4500280.59		A	0.8
2	☐	1.000		4457533.16		A	0.9
3	☐	1.000		4451540.97		A	1.2
4	☐	1.000		4358542.57		A	1.6
5	☐	1.000		4280216.12		A	0.6
6	☐	1.000		4112708.72		A	0.6
7	☐	1.000		3951515.57		A	1.0
8	☐	1.000		3449525.68		A	0.7

US EPA Tune Check Report

Reviewed By:MOH
On:5/27/2025 6:03
PM
Inst Id :P8
LB :LB135858

Operator Name Jaswal
Acq/Data Batch D:\Agilent\ICPMH\1\DATA\P8052025 MS.b
Acq. Date-Time 2025-05-20 15:45:18
Report Comment ---
Instrument Name G8403A SG19224459

[No Gas]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9		86295	862948.62			1.139	5.000
24		402251	4022512.59			1.050	5.000
25		53524	535236.20			0.663	5.000
26		61950	619498.20			0.574	5.000
59		332947	3329473.37			0.742	5.000
113		38304	383040.70			0.902	5.000
115		493550	4935498.76			0.487	5.000
206		108768	1087678.36			1.049	5.000
207		94224	942243.64			0.791	5.000
208		229665	2296647.08			1.406	5.000
220		1	5.50			32.141	

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	86172	86367	87806	86062	85067
24	405376	404535	403551	394889	402905
25	53547	53627	53924	52950	53570
26	62203	61779	62443	61620	61704
59	330813	332539	336915	333450	331019
113	38140	38266	38790	37868	38456
115	490690	493676	496773	491819	494793
206	107262	109875	109429	107848	109426
207	93703	94564	94593	93214	95048
208	226959	226606	233857	232214	228688

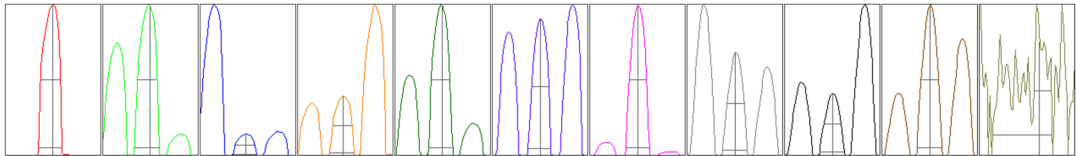
US EPA Tune Check Report

Reviewed By:MOH
On:5/27/2025 6:03
PM
Inst Id :P8
LB :LB135858

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

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	146019.53	9.00	8.90 - 9.10	
24	677543.25	24.00	23.90 - 24.10	
25	92422.32	24.95	24.90 - 25.10	
26	106702.67	25.95	25.90 - 26.10	
59	606300.06	59.00	58.90 - 59.10	
113	75206.48	113.05	112.90 - 113.10	
115	962943.22	115.05	114.90 - 115.10	
206	211665.04	206.05	205.90 - 206.10	
207	180890.46	207.05	206.90 - 207.10	
208	438152.37	208.05	207.90 - 208.10	
220	0.75	220.40	-	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.63	0.741	0.900	
24	0.63	0.785	0.900	
25	0.61	0.739	0.900	
26	0.62	0.780	0.900	
59	0.58	0.771	0.900	
113	0.53	0.713	0.900	
115	0.54	0.728	0.900	
206	0.53	0.772	0.900	
207	0.53	0.778	0.900	
208	0.55	0.777	0.900	
220	0.54	1.863		

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

Tune Parameters

Plasma Parameters

Plasma Mode --- Nebulizer Gas 0.72 L/min Dilution Gas 0.40 L/min

US EPA Tune Check Report

Reviewed By:MOH
On:5/27/2025 6:03 PM
Inst Id :P8
LB :LB135858

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	9.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	-6.0 V	Omega Lens	8.9 V	Deflect	14.2 V
Extract 2	-190.0 V	Cell Entrance	-30 V	Plate Bias	-50 V
Omega Bias	-80 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	4.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	130 V		

QP Parameters

Mass Gain	105	Axis Gain	0.9968	QP Bias	-4.0 V
Mass Offset	126	Axis Offset	0.01		

Hardware Settings

Torch

Torch H	0.9 mm	Torch V	-0.5 mm
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EM

Discriminator	4.7 mV	Analog HV	2174 V	Pulse HV	965 V
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[He]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
59		65029	650288.50			0.639	
89		55197	551969.49			0.986	
205		71120	711196.89			0.282	

Mass	RSD% (Flag)
59	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	65180	65694	64779	64775	64716
89	55642	55772	54437	55216	54917
205	71324	71227	70793	71143	71113

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.72 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	9.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	-6.0 V	Omega Lens	8.9 V	Deflect	2.4 V
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US EPA Tune Check Report

Reviewed By:MOH
On:5/27/2025 6:03 PM
Inst Id :P8
LB :LB135858

Extract 2	-190.0 V	Cell Entrance	-50 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-70 V		
Cell Parameters					
Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	4.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		
QP Parameters					
Mass Gain	105	Axis Gain	0.9968	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.01		
Hardware Settings					
Torch					
Torch H	0.9 mm	Torch V	-0.5 mm		
EM					
Discriminator	4.7 mV	Analog HV	2174 V	Pulse HV	965 V

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:19:59 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.32	-0.33	0.02	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-2	-0.03	0.00	0.03	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	0.00	0.00	0.00	0.00	N/A	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Cadmium	108-1	-0.03	-0.02	0.05	0.00	N/A	ppb
Cadmium	106-1	-0.34	-0.01	0.36	0.00	N/A	ppb
Cadmium	111-1	-0.03	0.00	0.02	0.00	N/A	ppb
Calcium	43-1	0.90	-0.79	-0.11	0.00	N/A	ppb
Calcium	44-1	-0.02	0.02	0.00	0.00	N/A	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.00	0.00	0.00	0.00	N/A	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	N/A	ppb
Copper	63-2	0.01	0.00	-0.01	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	54-2	0.12	-0.19	0.08	0.00	N/A	ppb
Iron	56-2	0.04	-0.01	-0.02	0.00	N/A	ppb
Iron	57-2	0.44	-0.30	-0.14	0.00	N/A	ppb
Krypton	83-1						cps
Lead	206-1	0.00	0.00	0.00	0.00	N/A	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:19:59 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.00	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	0.02	0.02	-0.04	0.00	N/A	ppb
Manganese	55-2	-0.03	-0.03	0.06	0.00	N/A	ppb
Molybdenum	94-1	0.00	0.01	0.00	0.00	N/A	ppb
Molybdenum	95-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	96-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	97-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	98-1	0.00	0.00	0.00	0.00	N/A	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.01	0.02	-0.03	0.00	N/A	ppb
Phosphorus	31-2	-23.76	-24.76	-17.68	-22.07		ppb
Potassium	39-2	0.93	-0.86	-0.07	0.00	N/A	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	-0.07	0.08	-0.01	0.00	N/A	ppb
Selenium	77-2	-0.18	0.37	-0.18	0.00	N/A	ppb
Selenium	78-2	-0.11	0.06	0.05	0.00	N/A	ppb
Silicon	28-1	-0.20	0.27	-0.06	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	1.07	-0.74	-0.32	0.00	N/A	ppb
Strontium	86-1	0.00	0.00	-0.01	0.00	N/A	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	N/A	ppb
Sulfur	34-1	-214.03	97.62	-50.06	-55.49		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	0.00	0.01	0.00	N/A	ppb
Titanium	47-1	-0.01	0.01	0.01	0.00	N/A	ppb
Uranium	238-1	0.00	0.00	0.00	0.00	N/A	ppb

LB Number :LB135858Operator :Jaswal

Lab Sample ID :S0Instrumnet Name :P8

Client Sample ID :S0Dilution Factor :1

Date & Time Acquired :2025-05-20 16:19:59DataFile Name :004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	N/A	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	-0.08	0.07	0.00	0.00	N/A	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	N/A	ppb
Zirconium	91-1	0.00	0.00	0.00	0.00	N/A	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P8
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:23:20 DataFile Name : 005CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	24.55	20.43	23.04	22.67	9.19	ppb
Antimony	121-1	2.13	2.15	2.11	2.13	1.02	ppb
Arsenic	75-2	1.24	1.11	1.27	1.21	7.07	ppb
Barium	135-1	10.74	10.74	10.76	10.75	0.11	ppb
Barium	137-1	10.76	11.01	10.87	10.88	1.17	ppb
Beryllium	9-1	1.31	1.25	1.29	1.28	2.61	ppb
Bismuth	209-1				100		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Cadmium	108-1	1.14	1.09	1.27	1.16	7.86	ppb
Cadmium	106-1	1.70	1.80	1.31	1.61	16.31	ppb
Cadmium	111-1	1.24	1.16	1.11	1.17	5.55	ppb
Calcium	43-1	556.22	561.63	556.74	558.20	0.53	ppb
Calcium	44-1	554.46	560.73	568.91	561.37	1.29	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.23	2.24	2.12	2.19	3.06	ppb
Cobalt	59-2	1.13	1.22	1.18	1.18	3.97	ppb
Copper	63-2	2.38	2.39	2.41	2.39	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				99		%
Holmium	165-2				101		%
Indium	115-1				101		%
Indium	115-2				97		%
Iron	54-2	58.80	59.10	57.51	58.47	1.45	ppb
Iron	56-2	57.03	57.97	56.69	57.23	1.15	ppb
Iron	57-2	57.38	58.10	55.74	57.07	2.12	ppb
Krypton	83-1						cps
Lead	206-1	1.00	0.99	1.04	1.01	2.67	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P8
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:23:20 DataFile Name : 005CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1.03	1.03	1.06	1.04	1.55	ppb
Lead	208-1	1.02	1.02	1.05	1.03	1.68	ppb
Lithium	6-1				101		%
Magnesium	24-2	594.45	603.63	587.06	595.04	1.40	ppb
Manganese	55-2	1.04	1.10	0.98	1.04	5.93	ppb
Molybdenum	94-1	6.16	6.40	6.37	6.31	2.04	ppb
Molybdenum	95-1	5.35	5.40	5.42	5.39	0.69	ppb
Molybdenum	96-1	5.43	5.45	5.53	5.47	1.00	ppb
Molybdenum	97-1	5.40	5.49	5.44	5.44	0.83	ppb
Molybdenum	98-1	5.35	5.41	5.39	5.38	0.51	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.21	1.21	1.12	1.18	4.26	ppb
Phosphorus	31-2	21.89	20.90	23.40	22.07	5.71	ppb
Potassium	39-2	549.04	563.01	541.74	551.26	1.96	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	5.59	5.95	5.03	5.52	8.36	ppb
Selenium	77-2	4.24	7.53	5.28	5.68	29.67	ppb
Selenium	78-2	6.92	5.28	5.86	6.02	13.83	ppb
Silicon	28-1	0.67	0.69	0.88	0.75	15.66	ppb
Silver	107-1	1.08	1.06	1.12	1.09	2.63	ppb
Silver	109-1	1.09	1.11	1.10	1.10	0.72	ppb
Sodium	23-2	589.98	593.55	579.44	587.66	1.25	ppb
Strontium	86-1	1.07	1.07	1.12	1.08	2.56	ppb
Strontium	88-1	1.08	1.09	1.10	1.09	1.05	ppb
Sulfur	34-1	24.56	41.74	100.16	55.49	71.43	ppb
Terbium	159-1				100		%
Terbium	159-2				100		%
Thallium	203-1	0.98	1.03	1.05	1.02	3.29	ppb
Thallium	205-1	1.00	1.04	1.05	1.03	2.57	ppb
Tin	118-1	5.46	5.46	5.47	5.47	0.09	ppb
Titanium	47-1	5.75	5.51	5.60	5.62	2.11	ppb
Uranium	238-1	1.00	1.00	1.03	1.01	1.96	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P8
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:23:20 DataFile Name : 005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	5.55	5.43	5.52	5.50	1.14	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				100		%
Yttrium	89-2				99		%
Zinc	66-2	5.82	5.81	5.53	5.72	2.93	ppb
Zirconium	90-1	1.05	1.08	1.08	1.07	1.37	ppb
Zirconium	91-1	1.02	1.05	1.09	1.05	3.55	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P8
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:30:04 DataFile Name : 007CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1103.97	1097.86	1111.12	1104.32	0.60	ppb
Antimony	121-1	50.79	51.82	51.87	51.50	1.18	ppb
Arsenic	75-2	51.14	50.67	51.86	51.22	1.16	ppb
Barium	135-1	242.19	249.99	249.01	247.06	1.72	ppb
Barium	137-1	259.61	267.13	265.31	264.02	1.49	ppb
Beryllium	9-1	55.66	57.22	55.52	56.13	1.68	ppb
Bismuth	209-1				102		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Cadmium	108-1	53.38	56.14	53.98	54.50	2.67	ppb
Cadmium	106-1	53.19	57.43	53.98	54.87	4.10	ppb
Cadmium	111-1	50.01	51.46	51.44	50.97	1.63	ppb
Calcium	43-1	5044.25	5208.91	5176.20	5143.12	1.69	ppb
Calcium	44-1	4917.06	5072.71	5100.11	5029.96	1.96	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	50.60	50.00	50.66	50.42	0.73	ppb
Cobalt	59-2	51.18	50.42	51.74	51.11	1.30	ppb
Copper	63-2	545.52	532.11	539.72	539.11	1.25	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				101		%
Indium	115-1				102		%
Indium	115-2				94		%
Iron	54-2	2656.44	2625.26	2634.66	2638.79	0.61	ppb
Iron	56-2	2648.16	2653.79	2681.62	2661.19	0.67	ppb
Iron	57-2	2590.65	2570.30	2596.14	2585.69	0.53	ppb
Krypton	83-1						cps
Lead	206-1	250.20	248.71	257.13	252.01	1.78	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P8
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:30:04 DataFile Name : 007CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	251.01	248.49	254.68	251.39	1.24	ppb
Lead	208-1	246.20	249.16	254.16	249.84	1.61	ppb
Lithium	6-1				104		%
Magnesium	24-2	5364.20	5461.85	5376.19	5400.75	0.99	ppb
Manganese	55-2	495.57	495.29	505.00	498.62	1.11	ppb
Molybdenum	94-1	497.47	516.19	509.61	507.75	1.87	ppb
Molybdenum	95-1	503.30	512.65	515.52	510.49	1.25	ppb
Molybdenum	96-1	501.15	519.87	512.20	511.07	1.84	ppb
Molybdenum	97-1	512.31	512.66	521.43	515.47	1.00	ppb
Molybdenum	98-1	505.34	513.58	513.67	510.86	0.94	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	51.24	50.37	50.97	50.86	0.88	ppb
Phosphorus	31-2	985.29	1047.32	1097.56	1043.39	5.39	ppb
Potassium	39-2	2578.05	2577.43	2575.37	2576.95	0.05	ppb
Rhodium	103-1				101		%
Rhodium	103-2				99		%
Scandium	45-1				100		%
Scandium	45-2				99		%
Selenium	82-1	52.59	52.72	53.59	52.97	1.03	ppb
Selenium	77-2	57.93	46.16	54.66	52.92	11.47	ppb
Selenium	78-2	53.68	53.55	52.78	53.33	0.91	ppb
Silicon	28-1	39.94	41.92	42.30	41.39	3.06	ppb
Silver	107-1	51.03	53.12	51.84	52.00	2.03	ppb
Silver	109-1	50.95	52.71	52.26	51.97	1.76	ppb
Sodium	23-2	5362.77	5339.81	5428.43	5377.00	0.86	ppb
Strontium	86-1	47.82	49.19	49.34	48.78	1.71	ppb
Strontium	88-1	50.37	50.28	51.60	50.75	1.45	ppb
Sulfur	34-1	1404.60	1700.17	1617.48	1574.08	9.69	ppb
Terbium	159-1				101		%
Terbium	159-2				101		%
Thallium	203-1	46.07	47.08	47.70	46.95	1.75	ppb
Thallium	205-1	48.87	49.18	50.31	49.46	1.53	ppb
Tin	118-1	49.14	50.90	50.47	50.17	1.83	ppb
Titanium	47-1	508.29	513.92	519.90	514.04	1.13	ppb
Uranium	238-1	46.28	48.83	48.47	47.86	2.89	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P8
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:30:04 DataFile Name : 007CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	50.76	49.19	50.55	50.17	1.71	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				101		%
Yttrium	89-2				100		%
Zinc	66-2	506.96	508.23	514.71	509.97	0.82	ppb
Zirconium	90-1	49.78	50.37	51.36	50.50	1.59	ppb
Zirconium	91-1	47.68	48.45	49.04	48.39	1.42	ppb

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P8
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:13:56 DataFile Name : 013CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2643.11	2640.38	2654.11	2645.87	0.27	ppb
Antimony	121-1	136.01	136.74	138.20	136.98	0.81	ppb
Arsenic	75-2	130.17	132.41	132.18	131.59	0.94	ppb
Barium	135-1	641.22	660.77	659.05	653.68	1.66	ppb
Barium	137-1	640.69	650.83	654.73	648.75	1.12	ppb
Beryllium	9-1	138.36	146.02	142.72	142.37	2.70	ppb
Bismuth	209-1				101		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Cadmium	108-1	131.90	132.62	135.64	133.39	1.49	ppb
Cadmium	106-1	129.54	130.46	134.03	131.35	1.81	ppb
Cadmium	111-1	123.57	126.95	126.76	125.76	1.51	ppb
Calcium	43-1	12634.40	13023.31	13190.06	12949.26	2.20	ppb
Calcium	44-1	12691.03	12972.35	13232.84	12965.41	2.09	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	126.82	127.72	127.64	127.39	0.39	ppb
Cobalt	59-2	128.63	130.49	129.16	129.43	0.74	ppb
Copper	63-2	1343.79	1362.74	1341.42	1349.32	0.87	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				101		%
Indium	115-1				99		%
Indium	115-2				91		%
Iron	54-2	6717.23	6759.03	6702.85	6726.37	0.43	ppb
Iron	56-2	6699.82	6767.42	6698.41	6721.88	0.59	ppb
Iron	57-2	6495.77	6591.23	6623.92	6570.30	1.01	ppb
Krypton	83-1						cps
Lead	206-1	640.02	639.75	637.93	639.23	0.18	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P8
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:13:56 DataFile Name : 013CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	643.09	647.26	654.55	648.30	0.89	ppb
Lead	208-1	641.37	645.86	648.49	645.24	0.56	ppb
Lithium	6-1				101		%
Magnesium	24-2	13523.45	13905.70	13633.99	13687.71	1.44	ppb
Manganese	55-2	1310.77	1306.52	1307.98	1308.43	0.16	ppb
Molybdenum	94-1	1314.86	1289.73	1322.37	1308.98	1.31	ppb
Molybdenum	95-1	1297.07	1290.03	1313.46	1300.19	0.92	ppb
Molybdenum	96-1	1296.35	1274.19	1313.38	1294.64	1.52	ppb
Molybdenum	97-1	1314.17	1288.03	1318.68	1306.96	1.27	ppb
Molybdenum	98-1	1310.96	1290.74	1298.65	1300.12	0.78	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	126.91	127.94	126.25	127.03	0.67	ppb
Phosphorus	31-2	2684.67	2642.05	2696.51	2674.41	1.07	ppb
Potassium	39-2	6392.13	6527.41	6423.90	6447.81	1.10	ppb
Rhodium	103-1				98		%
Rhodium	103-2				96		%
Scandium	45-1				101		%
Scandium	45-2				97		%
Selenium	82-1	132.88	132.76	133.06	132.90	0.11	ppb
Selenium	77-2	138.84	128.81	119.07	128.91	7.67	ppb
Selenium	78-2	130.87	136.17	136.86	134.63	2.44	ppb
Silicon	28-1	132.34	132.50	134.09	132.98	0.73	ppb
Silver	107-1	136.80	137.34	139.10	137.74	0.87	ppb
Silver	109-1	135.42	135.88	137.89	136.40	0.96	ppb
Sodium	23-2	13370.98	13428.98	13342.81	13380.92	0.33	ppb
Strontium	86-1	125.30	125.60	125.66	125.52	0.15	ppb
Strontium	88-1	129.69	129.06	129.84	129.53	0.32	ppb
Sulfur	34-1	3023.85	3043.57	3165.16	3077.52	2.49	ppb
Terbium	159-1				104		%
Terbium	159-2				98		%
Thallium	203-1	130.53	130.33	128.80	129.89	0.73	ppb
Thallium	205-1	127.34	128.78	126.97	127.70	0.75	ppb
Tin	118-1	129.49	132.18	130.75	130.81	1.03	ppb
Titanium	47-1	1274.04	1279.66	1324.04	1292.58	2.12	ppb
Uranium	238-1	124.97	126.13	125.84	125.64	0.48	ppb

LB Number :LB135858Operator :Jaswal

Lab Sample ID :S4Instrumnet Name :P8

Client Sample ID :S4Dilution Factor :1

Date & Time Acquired :2025-05-20 17:13:56DataFile Name :013CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	126.02	127.89	126.74	126.88	0.75	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				101		%
Yttrium	89-2				96		%
Zinc	66-2	1279.93	1300.68	1300.22	1293.61	0.92	ppb
Zirconium	90-1	129.35	129.41	131.17	129.98	0.79	ppb
Zirconium	91-1	122.71	124.60	125.45	124.25	1.13	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P8
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:16:54 DataFile Name : 014CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5090.46	5191.25	5219.56	5167.09	1.31	ppb
Antimony	121-1	259.04	262.92	268.38	263.45	1.78	ppb
Arsenic	75-2	260.97	256.43	261.20	259.53	1.04	ppb
Barium	135-1	1248.08	1274.13	1298.83	1273.68	1.99	ppb
Barium	137-1	1278.62	1275.29	1300.05	1284.65	1.05	ppb
Beryllium	9-1	265.92	266.28	263.39	265.20	0.59	ppb
Bismuth	209-1				101		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Cadmium	108-1	260.34	267.05	263.83	263.74	1.27	ppb
Cadmium	106-1	260.53	263.17	264.71	262.80	0.80	ppb
Cadmium	111-1	243.16	246.83	251.86	247.28	1.77	ppb
Calcium	43-1	25507.85	25381.42	26395.33	25761.53	2.14	ppb
Calcium	44-1	24629.04	25293.75	25618.43	25180.41	2.00	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	249.09	252.69	253.20	251.66	0.89	ppb
Cobalt	59-2	256.30	271.44	265.19	264.31	2.88	ppb
Copper	63-2	2601.85	2705.11	2645.40	2650.79	1.96	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				99		%
Indium	115-1				99		%
Indium	115-2				88		%
Iron	54-2	13576.15	13665.87	13680.07	13640.70	0.41	ppb
Iron	56-2	13206.00	13186.67	13415.57	13269.41	0.96	ppb
Iron	57-2	12649.18	13014.03	13059.32	12907.51	1.74	ppb
Krypton	83-1						cps
Lead	206-1	1237.47	1267.92	1269.05	1258.14	1.42	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P8
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:16:54 DataFile Name : 014CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1244.20	1256.14	1274.88	1258.40	1.23	ppb
Lead	208-1	1250.21	1266.67	1274.86	1263.91	0.99	ppb
Lithium	6-1				100		%
Magnesium	24-2	26114.89	26473.56	26295.06	26294.50	0.68	ppb
Manganese	55-2	2559.30	2539.17	2618.30	2572.26	1.60	ppb
Molybdenum	94-1	2471.94	2572.01	2558.71	2534.22	2.14	ppb
Molybdenum	95-1	2436.51	2560.74	2567.02	2521.42	2.92	ppb
Molybdenum	96-1	2471.38	2563.89	2543.57	2526.28	1.92	ppb
Molybdenum	97-1	2500.32	2572.07	2580.44	2550.94	1.73	ppb
Molybdenum	98-1	2485.51	2552.58	2555.88	2531.32	1.57	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	245.66	249.10	252.97	249.24	1.47	ppb
Phosphorus	31-2	5228.35	5235.23	5262.80	5242.13	0.35	ppb
Potassium	39-2	12963.08	12855.98	12986.54	12935.20	0.54	ppb
Rhodium	103-1				95		%
Rhodium	103-2				94		%
Scandium	45-1				98		%
Scandium	45-2				94		%
Selenium	82-1	253.52	266.24	262.24	260.67	2.50	ppb
Selenium	77-2	242.14	258.72	302.12	267.66	11.57	ppb
Selenium	78-2	253.11	261.44	267.64	260.73	2.80	ppb
Silicon	28-1	258.83	268.14	269.27	265.41	2.16	ppb
Silver	107-1	262.21	266.07	270.33	266.20	1.53	ppb
Silver	109-1	262.57	261.77	265.31	263.21	0.70	ppb
Sodium	23-2	25857.88	26534.78	26361.94	26251.53	1.34	ppb
Strontium	86-1	251.14	256.75	259.19	255.69	1.61	ppb
Strontium	88-1	246.67	256.66	254.99	252.77	2.12	ppb
Sulfur	34-1	4622.29	4965.36	6402.98	5330.21	17.72	ppb
Terbium	159-1				102		%
Terbium	159-2				97		%
Thallium	203-1	252.78	254.56	256.62	254.66	0.75	ppb
Thallium	205-1	241.59	252.66	250.63	248.29	2.37	ppb
Tin	118-1	251.15	255.30	266.87	257.77	3.16	ppb
Titanium	47-1	2460.72	2521.98	2552.88	2511.86	1.87	ppb
Uranium	238-1	242.64	248.61	245.49	245.58	1.21	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P8
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:16:54 DataFile Name : 014CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	247.29	251.43	252.78	250.50	1.14	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				99		%
Yttrium	89-2				95		%
Zinc	66-2	2638.30	2721.22	2665.87	2675.13	1.58	ppb
Zirconium	90-1	246.87	258.78	255.77	253.80	2.44	ppb
Zirconium	91-1	246.77	259.03	260.22	255.34	2.92	ppb

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P8
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:19:44 DataFile Name : 015CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10123.03	10359.67	10107.65	10196.78	1.39	ppb
Antimony	121-1	517.76	507.39	507.48	510.88	1.17	ppb
Arsenic	75-2	500.97	523.23	506.62	510.27	2.27	ppb
Barium	135-1	2552.39	2523.30	2465.46	2513.72	1.76	ppb
Barium	137-1	2570.68	2525.12	2531.66	2542.49	0.97	ppb
Beryllium	9-1	503.79	505.99	496.85	502.21	0.95	ppb
Bismuth	209-1				98		%
Bismuth	209-2				91		%
Bromine	81-1						cps
Cadmium	108-1	513.91	514.78	512.38	513.69	0.24	ppb
Cadmium	106-1	508.16	513.79	515.00	512.32	0.71	ppb
Cadmium	111-1	513.09	529.68	507.11	516.63	2.26	ppb
Calcium	43-1	49548.64	50534.37	50386.35	50156.45	1.06	ppb
Calcium	44-1	49516.12	50989.46	49731.93	50079.17	1.59	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	510.50	511.28	503.84	508.54	0.80	ppb
Cobalt	59-2	510.50	528.23	523.00	520.58	1.75	ppb
Copper	63-2	5164.50	5200.14	5077.00	5147.21	1.23	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				97		%
Indium	115-1				96		%
Indium	115-2				84		%
Iron	54-2	26477.01	26695.27	26130.14	26434.14	1.08	ppb
Iron	56-2	26065.97	26451.32	25910.09	26142.46	1.07	ppb
Iron	57-2	26772.01	27361.11	26468.20	26867.11	1.69	ppb
Krypton	83-1						cps
Lead	206-1	2469.22	2505.06	2546.69	2506.99	1.55	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P8
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:19:44 DataFile Name : 015CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2481.57	2512.26	2498.78	2497.54	0.62	ppb
Lead	208-1	2478.50	2500.18	2522.00	2500.23	0.87	ppb
Lithium	6-1				99		%
Magnesium	24-2	51982.38	52787.26	51075.69	51948.44	1.65	ppb
Manganese	55-2	4985.64	5029.19	4939.68	4984.84	0.90	ppb
Molybdenum	94-1	4839.87	5094.45	5067.12	5000.48	2.79	ppb
Molybdenum	95-1	4883.96	5010.72	5191.76	5028.81	3.08	ppb
Molybdenum	96-1	4899.53	4988.38	5196.23	5028.05	3.03	ppb
Molybdenum	97-1	4870.62	4984.05	5172.41	5009.02	3.04	ppb
Molybdenum	98-1	4912.81	5031.13	5092.15	5012.03	1.82	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	485.02	492.65	480.38	486.02	1.27	ppb
Phosphorus	31-2	10137.61	10238.71	10253.77	10210.03	0.62	ppb
Potassium	39-2	25888.80	25059.47	24816.47	25254.91	2.23	ppb
Rhodium	103-1				92		%
Rhodium	103-2				91		%
Scandium	45-1				96		%
Scandium	45-2				92		%
Selenium	82-1	498.22	505.45	517.76	507.14	1.95	ppb
Selenium	77-2	525.36	540.75	492.40	519.50	4.75	ppb
Selenium	78-2	503.04	535.86	512.70	517.20	3.26	ppb
Silicon	28-1	509.62	509.35	515.25	511.41	0.65	ppb
Silver	107-1	516.21	510.25	513.41	513.29	0.58	ppb
Silver	109-1	512.01	520.50	514.21	515.57	0.85	ppb
Sodium	23-2	52223.85	52472.21	51627.82	52107.96	0.83	ppb
Strontium	86-1	500.07	506.41	506.12	504.20	0.71	ppb
Strontium	88-1	486.49	499.99	507.86	498.11	2.17	ppb
Sulfur	34-1	9827.15	9737.74	9742.38	9769.09	0.52	ppb
Terbium	159-1				100		%
Terbium	159-2				95		%
Thallium	203-1	494.08	507.37	513.27	504.91	1.95	ppb
Thallium	205-1	495.55	491.29	500.03	495.62	0.88	ppb
Tin	118-1	507.85	505.17	506.05	506.35	0.27	ppb
Titanium	47-1	4933.26	5127.10	5004.02	5021.46	1.95	ppb
Uranium	238-1	491.03	507.70	497.12	498.61	1.69	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P8
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:19:44 DataFile Name : 015CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	503.31	505.53	503.31	504.05	0.25	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				97		%
Yttrium	89-2				92		%
Zinc	66-2	5253.05	5210.52	5063.83	5175.80	1.92	ppb
Zirconium	90-1	487.87	510.58	512.67	503.71	2.73	ppb
Zirconium	91-1	490.09	513.29	518.25	507.21	2.96	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P8
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:22:29 DataFile Name : 016CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	20313.40	19891.23	19702.85	19969.16	1.57	ppb
Antimony	121-1	988.24	989.95	990.69	989.63	0.13	ppb
Arsenic	75-2	1003.64	982.26	988.88	991.60	1.10	ppb
Barium	135-1	4944.42	5014.40	4992.53	4983.78	0.72	ppb
Barium	137-1	4953.28	5052.26	4893.73	4966.42	1.61	ppb
Beryllium	9-1	975.40	1000.28	1002.17	992.62	1.50	ppb
Bismuth	209-1				95		%
Bismuth	209-2				88		%
Bromine	81-1						cps
Cadmium	108-1	989.12	989.07	987.15	988.44	0.11	ppb
Cadmium	106-1	983.04	1000.88	984.89	989.60	0.99	ppb
Cadmium	111-1	978.18	1005.35	993.13	992.22	1.37	ppb
Calcium	43-1	99786.90	99058.98	102165.47	100337.12	1.62	ppb
Calcium	44-1	99748.92	99257.42	102330.79	100445.71	1.64	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1015.43	978.49	991.06	994.99	1.89	ppb
Cobalt	59-2	997.18	981.69	977.70	985.53	1.04	ppb
Copper	63-2	9949.50	9797.76	9875.72	9874.33	0.77	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				97		%
Holmium	165-2				95		%
Indium	115-1				90		%
Indium	115-2				79		%
Iron	54-2	52276.43	52255.84	51437.89	51990.05	0.92	ppb
Iron	56-2	51959.81	50673.57	50321.34	50984.91	1.69	ppb
Iron	57-2	51908.74	50421.26	51827.69	51385.90	1.63	ppb
Krypton	83-1						cps
Lead	206-1	4950.67	5024.12	5002.98	4992.59	0.76	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P8
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:22:29 DataFile Name : 016CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	4957.80	5021.69	5008.95	4996.15	0.68	ppb
Lead	208-1	4951.28	5002.66	5027.72	4993.89	0.78	ppb
Lithium	6-1				95		%
Magnesium	24-2	101761.14	99787.02	99448.48	100332.22	1.24	ppb
Manganese	55-2	10074.92	9964.98	9906.95	9982.28	0.85	ppb
Molybdenum	94-1	9859.05	10143.09	9948.19	9983.44	1.46	ppb
Molybdenum	95-1	9925.31	10233.37	9761.64	9973.44	2.40	ppb
Molybdenum	96-1	9858.04	10213.04	9848.74	9973.27	2.08	ppb
Molybdenum	97-1	9880.61	10071.81	9972.16	9974.86	0.96	ppb
Molybdenum	98-1	9842.93	10126.67	9968.44	9979.35	1.42	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1012.58	1004.14	1003.92	1006.88	0.49	ppb
Phosphorus	31-2	19931.97	19555.80	19943.67	19810.48	1.11	ppb
Potassium	39-2	48702.03	47935.99	48495.92	48377.98	0.82	ppb
Rhodium	103-1				87		%
Rhodium	103-2				86		%
Scandium	45-1				93		%
Scandium	45-2				90		%
Selenium	82-1	997.66	1004.60	975.61	992.62	1.52	ppb
Selenium	77-2	989.71	961.97	1003.91	985.20	2.16	ppb
Selenium	78-2	991.34	991.42	979.26	987.34	0.71	ppb
Silicon	28-1	986.64	985.93	997.34	989.97	0.65	ppb
Silver	107-1	996.37	989.14	977.32	987.61	0.97	ppb
Silver	109-1	984.26	983.76	994.15	987.39	0.59	ppb
Sodium	23-2	102811.38	99648.03	100611.61	101023.67	1.61	ppb
Strontium	86-1	985.45	1005.88	998.10	996.47	1.03	ppb
Strontium	88-1	992.60	1013.64	992.69	999.65	1.21	ppb
Sulfur	34-1	19961.72	19406.74	20427.56	19932.01	2.56	ppb
Terbium	159-1				98		%
Terbium	159-2				93		%
Thallium	203-1	995.03	1001.49	991.25	995.92	0.52	ppb
Thallium	205-1	992.30	1010.75	1003.86	1002.31	0.93	ppb
Tin	118-1	983.35	992.36	1006.72	994.14	1.19	ppb
Titanium	47-1	9886.20	9719.71	10334.93	9980.28	3.19	ppb
Uranium	238-1	996.65	1001.94	1006.89	1001.83	0.51	ppb

LB Number :LB135858Operator :Jaswal

Lab Sample ID :S7Instrumnet Name :P8

Client Sample ID :S7Dilution Factor :1

Date & Time Acquired :2025-05-20 17:22:29DataFile Name :016CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	1011.36	1004.69	976.76	997.60	1.84	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				95		%
Yttrium	89-2				91		%
Zinc	66-2	9892.54	9849.06	9845.50	9862.37	0.27	ppb
Zirconium	90-1	979.42	1010.51	999.71	996.55	1.58	ppb
Zirconium	91-1	986.72	1028.57	970.42	995.23	3.01	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P8
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:25:17 DataFile Name : 017CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	99794.00	99633.56	100492.77	99973.45	0.46	ppb
Antimony	121-1	0.78	0.75	0.71	0.75	4.51	ppb
Arsenic	75-2	0.41	0.47	0.49	0.46	8.93	ppb
Barium	135-1	2.05	2.08	2.00	2.04	2.09	ppb
Barium	137-1	2.18	2.05	1.99	2.07	4.73	ppb
Beryllium	9-1	0.20	0.18	0.16	0.18	12.84	ppb
Bismuth	209-1				83		%
Bismuth	209-2				77		%
Bromine	81-1						cps
Cadmium	108-1	0.57	0.47	0.40	0.48	17.82	ppb
Cadmium	106-1	-0.01	-0.19	-1.01	-0.40		ppb
Cadmium	111-1	0.12	0.10	0.03	0.08	59.68	ppb
Calcium	43-1	500718.26	497532.26	501347.88	499866.13	0.41	ppb
Calcium	44-1	501527.48	492028.05	506090.25	499881.92	1.44	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	8.62	8.63	8.70	8.65	0.48	ppb
Cobalt	59-2	2.14	2.20	2.10	2.14	2.35	ppb
Copper	63-2	2.64	2.58	2.57	2.60	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				92		%
Holmium	165-2				89		%
Indium	115-1				85		%
Indium	115-2				77		%
Iron	54-2	248982.01	252148.10	247034.62	249388.24	1.03	ppb
Iron	56-2	250867.00	248848.85	249194.83	249636.89	0.43	ppb
Iron	57-2	250405.07	247548.76	250566.78	249506.87	0.68	ppb
Krypton	83-1						cps
Lead	206-1	5.84	5.77	5.77	5.80	0.66	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P8
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:25:17 DataFile Name : 017CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	5.94	5.96	5.96	5.95	0.22	ppb
Lead	208-1	5.87	5.84	5.83	5.85	0.36	ppb
Lithium	6-1				86		%
Magnesium	24-2	498850.94	500819.24	499250.39	499640.19	0.21	ppb
Manganese	55-2	5.23	5.25	5.31	5.26	0.85	ppb
Molybdenum	94-1	2.39	2.17	2.14	2.23	5.92	ppb
Molybdenum	95-1	1.72	1.58	1.54	1.61	5.75	ppb
Molybdenum	96-1	2.50	2.30	2.36	2.39	4.27	ppb
Molybdenum	97-1	1.65	1.56	1.43	1.54	7.27	ppb
Molybdenum	98-1	1.61	1.45	1.38	1.48	7.73	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	4.60	4.57	4.61	4.59	0.45	ppb
Phosphorus	31-2	-13.08	-8.90	-12.84	-11.60		ppb
Potassium	39-2	250443.42	249432.24	250938.35	250271.34	0.31	ppb
Rhodium	103-1				78		%
Rhodium	103-2				76		%
Scandium	45-1				86		%
Scandium	45-2				84		%
Selenium	82-1	0.66	0.57	0.65	0.62	7.85	ppb
Selenium	77-2	-0.18	0.47	-0.18	0.03	1125.06	ppb
Selenium	78-2	-0.87	0.30	0.25	-0.11		ppb
Silicon	28-1	1.64	1.07	1.16	1.29	23.42	ppb
Silver	107-1	0.13	0.11	0.09	0.11	18.69	ppb
Silver	109-1	0.13	0.11	0.10	0.11	15.67	ppb
Sodium	23-2	493036.79	503088.07	502363.18	499496.01	1.12	ppb
Strontium	86-1	3.24	3.29	3.35	3.29	1.70	ppb
Strontium	88-1	3.25	3.24	3.31	3.27	1.16	ppb
Sulfur	34-1	-725.99	-920.01	-766.61	-804.20		ppb
Terbium	159-1				93		%
Terbium	159-2				87		%
Thallium	203-1	0.11	0.09	0.09	0.10	15.29	ppb
Thallium	205-1	0.11	0.10	0.09	0.10	12.35	ppb
Tin	118-1	0.24	0.22	0.21	0.22	7.01	ppb
Titanium	47-1	1.11	0.89	0.84	0.95	15.25	ppb
Uranium	238-1	0.07	0.06	0.05	0.06	21.22	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P8
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:25:17 DataFile Name : 017CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.25	0.27	0.27	0.26	4.00	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				87		%
Yttrium	89-2				86		%
Zinc	66-2	59.18	57.58	59.34	58.70	1.66	ppb
Zirconium	90-1	0.52	0.50	0.50	0.51	2.57	ppb
Zirconium	91-1	0.50	0.51	0.49	0.50	2.18	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P8
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:32:16 DataFile Name : 018ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	497.09	506.04	492.17	498.43	1.41	ppb
Antimony	121-1	205.63	211.41	205.81	207.62	1.58	ppb
Arsenic	75-2	209.79	208.12	210.30	209.40	0.55	ppb
Barium	135-1	97.26	101.60	101.64	100.17	2.51	ppb
Barium	137-1	98.82	103.26	103.16	101.75	2.49	ppb
Beryllium	9-1	111.47	114.51	113.50	113.16	1.37	ppb
Bismuth	209-1				102		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Cadmium	108-1	86.41	90.55	90.31	89.09	2.61	ppb
Cadmium	106-1	83.29	86.58	84.21	84.70	2.00	ppb
Cadmium	111-1	100.06	103.82	103.63	102.50	2.07	ppb
Calcium	43-1	1929.25	2017.56	2050.19	1999.00	3.13	ppb
Calcium	44-1	1949.93	2026.14	2059.86	2011.98	2.80	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	102.41	105.24	102.40	103.35	1.58	ppb
Cobalt	59-2	106.17	108.52	105.64	106.78	1.43	ppb
Copper	63-2	106.49	109.67	106.96	107.71	1.59	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				102		%
Indium	115-1				102		%
Indium	115-2				93		%
Iron	54-2	2150.88	2207.17	2185.66	2181.24	1.30	ppb
Iron	56-2	2150.68	2160.75	2135.96	2149.13	0.58	ppb
Iron	57-2	2061.65	2101.83	2052.54	2072.01	1.27	ppb
Krypton	83-1						cps
Lead	206-1	206.92	218.20	217.13	214.08	2.91	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P8
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:32:16 DataFile Name : 018ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	202.58	214.08	209.85	208.84	2.79	ppb
Lead	208-1	200.93	212.99	211.49	208.47	3.15	ppb
Lithium	6-1				103		%
Magnesium	24-2	1222.20	1228.86	1220.59	1223.88	0.36	ppb
Manganese	55-2	101.67	102.43	101.75	101.95	0.41	ppb
Molybdenum	94-1	0.12	0.11	0.12	0.12	1.88	ppb
Molybdenum	95-1	0.09	0.08	0.07	0.08	13.45	ppb
Molybdenum	96-1	0.09	0.07	0.08	0.08	12.08	ppb
Molybdenum	97-1	0.06	0.04	0.07	0.06	19.80	ppb
Molybdenum	98-1	0.06	0.07	0.06	0.07	13.03	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	105.66	107.70	104.82	106.06	1.40	ppb
Phosphorus	31-2	-26.11	-19.43	-26.92	-24.15		ppb
Potassium	39-2	1984.21	2027.83	1982.13	1998.05	1.29	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				101		%
Scandium	45-2				97		%
Selenium	82-1	211.38	224.14	219.98	218.50	2.98	ppb
Selenium	77-2	235.81	229.73	233.16	232.90	1.31	ppb
Selenium	78-2	229.63	214.28	214.90	219.60	3.96	ppb
Silicon	28-1	-0.64	-0.35	-0.40	-0.46		ppb
Silver	107-1	52.39	54.02	54.84	53.75	2.32	ppb
Silver	109-1	52.01	53.39	53.96	53.12	1.89	ppb
Sodium	23-2	2131.32	2130.47	2114.04	2125.28	0.46	ppb
Strontium	86-1	0.23	0.22	0.26	0.24	9.75	ppb
Strontium	88-1	0.24	0.26	0.25	0.25	3.83	ppb
Sulfur	34-1	-913.70	-672.31	-707.07	-764.36		ppb
Terbium	159-1				103		%
Terbium	159-2				98		%
Thallium	203-1	202.76	217.75	208.72	209.75	3.60	ppb
Thallium	205-1	202.01	210.02	208.92	206.98	2.10	ppb
Tin	118-1	0.00	0.00	0.00	0.00	1174.13	ppb
Titanium	47-1	0.06	0.05	0.05	0.05	18.49	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P8
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:32:16 DataFile Name : 018ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	100.88	102.72	100.17	101.26	1.30	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				101		%
Yttrium	89-2				98		%
Zinc	66-2	203.57	211.71	205.37	206.88	2.07	ppb
Zirconium	90-1	0.03	0.04	0.03	0.03	20.15	ppb
Zirconium	91-1	0.10	0.11	0.10	0.10	4.69	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P8
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:42:08 DataFile Name : 020LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	21.82	21.59	22.11	21.84	1.20	ppb
Antimony	121-1	2.11	2.14	2.13	2.12	0.68	ppb
Arsenic	75-2	1.11	1.22	1.00	1.11	10.36	ppb
Barium	135-1	10.50	10.67	10.67	10.62	0.91	ppb
Barium	137-1	10.48	10.80	10.73	10.67	1.56	ppb
Beryllium	9-1	1.22	1.24	1.23	1.23	1.07	ppb
Bismuth	209-1				102		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Cadmium	108-1	1.06	1.13	1.21	1.13	6.40	ppb
Cadmium	106-1	0.84	1.54	0.16	0.85	81.43	ppb
Cadmium	111-1	1.11	1.18	1.05	1.11	5.55	ppb
Calcium	43-1	552.79	542.62	555.24	550.22	1.22	ppb
Calcium	44-1	539.19	543.49	541.25	541.31	0.40	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.25	2.20	2.22	2.22	1.07	ppb
Cobalt	59-2	1.16	1.16	1.13	1.15	1.36	ppb
Copper	63-2	2.29	2.31	2.29	2.30	0.54	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				102		%
Holmium	165-2				101		%
Indium	115-1				102		%
Indium	115-2				96		%
Iron	54-2	57.04	58.70	58.18	57.97	1.47	ppb
Iron	56-2	56.50	57.78	56.46	56.91	1.32	ppb
Iron	57-2	56.14	56.93	57.16	56.74	0.95	ppb
Krypton	83-1						cps
Lead	206-1	1.05	1.02	1.06	1.04	2.18	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P8
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:42:08 DataFile Name : 020LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1.04	1.04	1.08	1.05	2.30	ppb
Lead	208-1	1.04	1.05	1.06	1.05	1.05	ppb
Lithium	6-1				101		%
Magnesium	24-2	573.90	583.68	574.21	577.26	0.96	ppb
Manganese	55-2	0.97	1.04	1.12	1.04	7.05	ppb
Molybdenum	94-1	6.33	6.24	6.16	6.24	1.37	ppb
Molybdenum	95-1	5.28	5.16	5.19	5.21	1.28	ppb
Molybdenum	96-1	5.33	5.32	5.24	5.29	0.90	ppb
Molybdenum	97-1	5.33	5.18	5.27	5.26	1.49	ppb
Molybdenum	98-1	5.33	5.09	5.26	5.23	2.32	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.17	1.06	1.07	1.10	5.65	ppb
Phosphorus	31-2	27.22	-0.73	3.60	10.03	150.00	ppb
Potassium	39-2	544.65	538.63	545.88	543.05	0.71	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				101		%
Scandium	45-2				99		%
Selenium	82-1	5.38	5.75	5.46	5.53	3.54	ppb
Selenium	77-2	8.54	7.10	5.32	6.99	23.05	ppb
Selenium	78-2	6.33	5.05	6.08	5.82	11.64	ppb
Silicon	28-1	0.06	0.04	0.20	0.10	87.86	ppb
Silver	107-1	1.07	1.08	1.11	1.08	1.86	ppb
Silver	109-1	1.07	1.09	1.09	1.08	0.99	ppb
Sodium	23-2	584.46	583.55	579.98	582.66	0.41	ppb
Strontium	86-1	1.08	1.01	1.03	1.04	3.44	ppb
Strontium	88-1	1.06	1.05	1.06	1.06	0.61	ppb
Sulfur	34-1	-555.38	-512.16	-418.64	-495.39		ppb
Terbium	159-1				102		%
Terbium	159-2				99		%
Thallium	203-1	0.99	0.99	0.99	0.99	0.16	ppb
Thallium	205-1	0.99	1.02	1.03	1.01	1.98	ppb
Tin	118-1	5.24	5.41	5.29	5.31	1.69	ppb
Titanium	47-1	5.31	5.42	5.39	5.37	1.05	ppb
Uranium	238-1	0.96	0.97	1.00	0.98	2.31	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P8
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:42:08 DataFile Name : 020LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	5.36	5.46	5.28	5.37	1.67	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				101		%
Yttrium	89-2				99		%
Zinc	66-2	5.61	5.56	5.64	5.60	0.74	ppb
Zirconium	90-1	1.06	1.05	1.04	1.05	0.91	ppb
Zirconium	91-1	1.03	1.07	1.05	1.05	2.03	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P8
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:46:45 DataFile Name : 021CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.13	0.41	0.04	0.19	100.58	ppb
Antimony	121-1	0.01	0.01	0.01	0.01	9.30	ppb
Arsenic	75-2	-0.01	-0.04	-0.01	-0.02		ppb
Barium	135-1	0.00	0.00	-0.01	-0.01		ppb
Barium	137-1	0.00	0.00	-0.01	0.00		ppb
Beryllium	9-1	0.01	0.00	0.00	0.00	187.85	ppb
Bismuth	209-1				103		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Cadmium	108-1	-0.04	0.01	-0.02	-0.02		ppb
Cadmium	106-1	-0.10	-0.38	-1.25	-0.58		ppb
Cadmium	111-1	-0.01	-0.03	-0.10	-0.05		ppb
Calcium	43-1	0.00	-1.62	-0.30	-0.64		ppb
Calcium	44-1	-1.63	-2.22	-1.78	-1.88		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.01	0.00	0.01	0.00	119.76	ppb
Cobalt	59-2	-0.01	0.00	0.00	0.00		ppb
Copper	63-2	-0.04	0.00	0.01	-0.01		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				101		%
Holmium	165-2				103		%
Indium	115-1				102		%
Indium	115-2				99		%
Iron	54-2	0.72	0.51	0.39	0.54	30.46	ppb
Iron	56-2	0.18	0.23	0.14	0.18	22.11	ppb
Iron	57-2	0.62	0.21	0.14	0.33	79.33	ppb
Krypton	83-1						cps
Lead	206-1	0.03	0.03	0.03	0.03	9.81	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P8
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:46:45 DataFile Name : 021CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.03	0.02	0.03	0.03	24.30	ppb
Lead	208-1	0.03	0.02	0.03	0.03	10.82	ppb
Lithium	6-1				103		%
Magnesium	24-2	0.39	0.61	0.53	0.51	21.42	ppb
Manganese	55-2	-0.05	0.00	-0.08	-0.04		ppb
Molybdenum	94-1	0.01	0.00	0.00	0.01	112.03	ppb
Molybdenum	95-1	0.00	0.01	0.01	0.00	59.89	ppb
Molybdenum	96-1	0.00	0.00	-0.01	0.00		ppb
Molybdenum	97-1	0.00	-0.01	0.00	0.00		ppb
Molybdenum	98-1	0.00	0.00	0.00	0.00		ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.01	-0.02	-0.02	-0.01		ppb
Phosphorus	31-2	-28.21	-23.68	-27.13	-26.34		ppb
Potassium	39-2	3.64	5.94	8.22	5.94	38.53	ppb
Rhodium	103-1				101		%
Rhodium	103-2				101		%
Scandium	45-1				102		%
Scandium	45-2				100		%
Selenium	82-1	-0.15	0.06	-0.25	-0.12		ppb
Selenium	77-2	-0.18	-0.18	-0.18	-0.18		ppb
Selenium	78-2	-0.76	-0.92	-0.27	-0.65		ppb
Silicon	28-1	-0.55	-0.68	-0.53	-0.59		ppb
Silver	107-1	0.01	0.01	0.01	0.01	10.50	ppb
Silver	109-1	0.01	0.01	0.01	0.01	11.05	ppb
Sodium	23-2	12.16	15.31	15.06	14.18	12.36	ppb
Strontium	86-1	0.00	0.00	0.00	0.00		ppb
Strontium	88-1	0.00	0.00	0.00	0.00		ppb
Sulfur	34-1	-329.00	-505.95	-283.42	-372.79		ppb
Terbium	159-1				103		%
Terbium	159-2				101		%
Thallium	203-1	0.01	0.00	0.01	0.01	26.41	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	3.79	ppb
Tin	118-1	-0.02	-0.01	-0.01	-0.01		ppb
Titanium	47-1	-0.02	-0.02	-0.01	-0.02		ppb
Uranium	238-1	-0.01	-0.01	-0.01	-0.01		ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P8
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:46:45 DataFile Name : 021CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	288.05	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				101		%
Zinc	66-2	0.16	0.06	0.06	0.09	57.56	ppb
Zirconium	90-1	0.01	0.00	0.01	0.01	36.90	ppb
Zirconium	91-1	0.01	0.01	0.00	0.01	45.08	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P8
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:50:06 DataFile Name : 022ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	91949.72	92425.71	91260.17	91878.53	0.64	ppb
Antimony	121-1	1.05	1.05	1.09	1.06	2.16	ppb
Arsenic	75-2	0.19	0.33	0.27	0.26	25.98	ppb
Barium	135-1	1.35	1.36	1.38	1.36	0.94	ppb
Barium	137-1	1.41	1.37	1.41	1.40	1.72	ppb
Beryllium	9-1	0.31	0.29	0.31	0.30	3.97	ppb
Bismuth	209-1				94		%
Bismuth	209-2				89		%
Bromine	81-1						cps
Cadmium	108-1	14.19	13.66	13.67	13.84	2.22	ppb
Cadmium	106-1	-0.52	-0.79	-0.70	-0.67		ppb
Cadmium	111-1	0.49	0.45	0.47	0.47	4.88	ppb
Calcium	43-1	99347.54	100173.08	102003.02	100507.88	1.35	ppb
Calcium	44-1	98507.14	100088.26	99997.00	99530.80	0.89	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	19.27	19.48	19.37	19.38	0.54	ppb
Cobalt	59-2	1.13	1.12	1.14	1.13	0.64	ppb
Copper	63-2	7.32	7.44	7.39	7.38	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				101		%
Holmium	165-2				99		%
Indium	115-1				94		%
Indium	115-2				85		%
Iron	54-2	101984.06	103265.23	101827.19	102358.83	0.77	ppb
Iron	56-2	102325.66	102285.77	100801.62	101804.35	0.85	ppb
Iron	57-2	101882.07	102056.37	101934.21	101957.55	0.09	ppb
Krypton	83-1						cps
Lead	206-1	4.45	4.41	4.53	4.46	1.28	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P8
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:50:06 DataFile Name : 022ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	4.07	4.18	4.19	4.15	1.65	ppb
Lead	208-1	4.14	4.22	4.26	4.21	1.52	ppb
Lithium	6-1				97		%
Magnesium	24-2	96127.70	95837.47	96119.84	96028.34	0.17	ppb
Manganese	55-2	7.47	7.36	7.09	7.30	2.62	ppb
Molybdenum	94-1	1575.15	1592.07	1539.58	1568.94	1.71	ppb
Molybdenum	95-1	1950.29	1920.53	1907.31	1926.05	1.14	ppb
Molybdenum	96-1	1912.04	1903.96	1883.57	1899.86	0.77	ppb
Molybdenum	97-1	1968.93	1972.90	1942.45	1961.43	0.84	ppb
Molybdenum	98-1	1962.65	1974.39	1942.45	1959.83	0.82	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	4.97	5.07	5.15	5.06	1.78	ppb
Phosphorus	31-2	103678.34	105421.92	104048.13	104382.79	0.88	ppb
Potassium	39-2	98616.72	100317.04	98107.03	99013.60	1.17	ppb
Rhodium	103-1				90		%
Rhodium	103-2				89		%
Scandium	45-1				95		%
Scandium	45-2				93		%
Selenium	82-1	-0.02	-0.17	0.31	0.04	595.94	ppb
Selenium	77-2	-0.18	-0.18	-0.18	-0.18		ppb
Selenium	78-2	-0.89	0.14	0.32	-0.14		ppb
Silicon	28-1	2.31	2.07	2.34	2.24	6.57	ppb
Silver	107-1	0.05	0.04	0.04	0.04	22.45	ppb
Silver	109-1	0.06	0.04	0.04	0.05	21.44	ppb
Sodium	23-2	102738.77	102689.17	101206.28	102211.41	0.85	ppb
Strontium	86-1	32.44	32.39	32.35	32.39	0.14	ppb
Strontium	88-1	34.29	34.52	34.62	34.48	0.49	ppb
Sulfur	34-1	102472.48	103618.91	104799.26	103630.22	1.12	ppb
Terbium	159-1				100		%
Terbium	159-2				96		%
Thallium	203-1	0.06	0.13	0.15	0.11	38.46	ppb
Thallium	205-1	0.07	0.12	0.16	0.11	38.62	ppb
Tin	118-1	0.23	0.20	0.18	0.20	11.25	ppb
Titanium	47-1	2012.79	2051.08	2064.27	2042.71	1.31	ppb
Uranium	238-1	0.01	0.01	0.01	0.01	9.92	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P8
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:50:06 DataFile Name : 022ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.14	0.18	0.13	0.15	16.78	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				99		%
Yttrium	89-2				94		%
Zinc	66-2	11.08	10.95	10.80	10.94	1.27	ppb
Zirconium	90-1	0.04	0.03	0.04	0.04	6.07	ppb
Zirconium	91-1	0.03	0.05	0.05	0.04	24.03	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P8
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:53:15 DataFile Name : 023ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	83951.09	90340.86	91752.22	88681.39	4.69	ppb
Antimony	121-1	20.11	20.65	20.76	20.51	1.71	ppb
Arsenic	75-2	21.13	22.09	21.93	21.72	2.38	ppb
Barium	135-1	20.66	21.13	21.26	21.02	1.49	ppb
Barium	137-1	21.04	21.31	21.58	21.31	1.28	ppb
Beryllium	9-1	22.78	23.20	23.11	23.03	0.96	ppb
Bismuth	209-1				95		%
Bismuth	209-2				88		%
Bromine	81-1						cps
Cadmium	108-1	28.67	30.69	29.66	29.68	3.40	ppb
Cadmium	106-1	14.99	15.53	15.09	15.20	1.89	ppb
Cadmium	111-1	19.57	19.79	19.84	19.73	0.73	ppb
Calcium	43-1	91874.26	90874.61	91911.60	91553.49	0.64	ppb
Calcium	44-1	91773.82	91804.15	92949.88	92175.95	0.73	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	37.60	39.42	40.33	39.12	3.56	ppb
Cobalt	59-2	21.02	22.21	22.37	21.87	3.37	ppb
Copper	63-2	26.73	27.75	28.83	27.77	3.78	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				100		%
Holmium	165-2				96		%
Indium	115-1				96		%
Indium	115-2				84		%
Iron	54-2	94708.56	97959.10	101796.72	98154.79	3.61	ppb
Iron	56-2	94400.73	99067.72	101002.66	98157.04	3.46	ppb
Iron	57-2	92939.27	96494.13	99585.65	96339.68	3.45	ppb
Krypton	83-1						cps
Lead	206-1	23.66	24.37	23.99	24.01	1.48	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P8
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:53:15 DataFile Name : 023ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	23.12	23.43	23.21	23.25	0.68	ppb
Lead	208-1	23.21	23.67	23.43	23.43	0.97	ppb
Lithium	6-1				98		%
Magnesium	24-2	88028.97	93609.11	95154.78	92264.29	4.06	ppb
Manganese	55-2	25.94	27.41	27.77	27.04	3.59	ppb
Molybdenum	94-1	1460.42	1491.70	1489.69	1480.60	1.18	ppb
Molybdenum	95-1	1806.83	1839.67	1836.97	1827.82	1.00	ppb
Molybdenum	96-1	1772.67	1810.95	1772.97	1785.53	1.23	ppb
Molybdenum	97-1	1785.80	1817.61	1780.64	1794.68	1.12	ppb
Molybdenum	98-1	1783.25	1806.90	1791.65	1793.94	0.67	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	23.87	25.53	25.84	25.08	4.22	ppb
Phosphorus	31-2	95896.69	101498.72	103060.12	100151.84	3.76	ppb
Potassium	39-2	90131.75	94056.52	95677.82	93288.70	3.06	ppb
Rhodium	103-1				91		%
Rhodium	103-2				88		%
Scandium	45-1				99		%
Scandium	45-2				91		%
Selenium	82-1	21.85	22.83	21.01	21.90	4.16	ppb
Selenium	77-2	19.03	23.31	20.59	20.97	10.33	ppb
Selenium	78-2	18.89	20.65	19.10	19.55	4.93	ppb
Silicon	28-1	1.76	1.76	1.83	1.78	2.04	ppb
Silver	107-1	18.27	18.87	18.74	18.62	1.69	ppb
Silver	109-1	18.38	18.72	18.83	18.65	1.27	ppb
Sodium	23-2	94033.38	99048.14	101048.51	98043.34	3.69	ppb
Strontium	86-1	30.37	30.61	30.70	30.56	0.55	ppb
Strontium	88-1	31.54	31.41	32.21	31.72	1.35	ppb
Sulfur	34-1	94348.45	91811.92	92960.80	93040.39	1.37	ppb
Terbium	159-1				101		%
Terbium	159-2				93		%
Thallium	203-1	19.75	20.47	20.13	20.12	1.81	ppb
Thallium	205-1	19.97	20.61	20.59	20.39	1.78	ppb
Tin	118-1	0.21	0.19	0.19	0.20	5.63	ppb
Titanium	47-1	1868.44	1870.88	1891.04	1876.78	0.66	ppb
Uranium	238-1	0.02	0.02	0.02	0.02	6.45	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P8
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:53:15 DataFile Name : 023ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	19.95	20.76	21.29	20.67	3.25	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				98		%
Yttrium	89-2				92		%
Zinc	66-2	29.82	31.23	31.75	30.93	3.23	ppb
Zirconium	90-1	0.02	0.02	0.02	0.02	0.94	ppb
Zirconium	91-1	0.03	0.04	0.04	0.03	14.69	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P8
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:59:31 DataFile Name : 025CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	51006.06	49678.23	49869.72	50184.67	1.43	ppb
Antimony	121-1	492.68	494.37	487.93	491.66	0.68	ppb
Arsenic	75-2	499.25	502.09	487.26	496.20	1.59	ppb
Barium	135-1	2471.41	2533.09	2418.37	2474.29	2.32	ppb
Barium	137-1	2470.85	2519.73	2480.80	2490.46	1.04	ppb
Beryllium	9-1	535.10	535.81	527.30	532.74	0.89	ppb
Bismuth	209-1				88		%
Bismuth	209-2				84		%
Bromine	81-1						cps
Cadmium	108-1	484.50	499.90	492.08	492.16	1.56	ppb
Cadmium	106-1	486.64	501.66	481.60	489.96	2.13	ppb
Cadmium	111-1	486.50	494.55	480.80	487.28	1.42	ppb
Calcium	43-1	238123.34	240809.28	245939.91	241624.18	1.64	ppb
Calcium	44-1	240157.34	240577.66	241593.67	240776.22	0.31	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	503.02	495.87	507.16	502.02	1.14	ppb
Cobalt	59-2	492.49	483.85	487.07	487.80	0.90	ppb
Copper	63-2	4740.98	4655.51	4779.86	4725.45	1.35	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				94		%
Holmium	165-2				95		%
Indium	115-1				88		%
Indium	115-2				81		%
Iron	54-2	130137.91	128290.21	127356.38	128594.83	1.10	ppb
Iron	56-2	129823.60	128933.69	129518.06	129425.12	0.35	ppb
Iron	57-2	127955.33	125152.79	130392.57	127833.56	2.05	ppb
Krypton	83-1						cps
Lead	206-1	2561.84	2578.38	2575.14	2571.79	0.34	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P8
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:59:31 DataFile Name : 025CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2549.55	2616.16	2569.31	2578.34	1.33	ppb
Lead	208-1	2548.09	2603.22	2572.54	2574.62	1.07	ppb
Lithium	6-1				90		%
Magnesium	24-2	248044.51	245259.66	249817.87	247707.35	0.93	ppb
Manganese	55-2	4934.76	4874.23	4892.03	4900.34	0.63	ppb
Molybdenum	94-1	5013.18	4989.50	5048.09	5016.92	0.59	ppb
Molybdenum	95-1	5057.82	4954.89	5029.61	5014.11	1.06	ppb
Molybdenum	96-1	5024.37	5027.04	5031.27	5027.56	0.07	ppb
Molybdenum	97-1	5103.56	5057.94	5072.12	5077.87	0.46	ppb
Molybdenum	98-1	5022.00	5025.62	4998.71	5015.45	0.29	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	450.60	442.16	454.21	448.99	1.38	ppb
Phosphorus	31-2	10472.59	9997.75	10118.47	10196.27	2.42	ppb
Potassium	39-2	128356.51	125547.37	128440.46	127448.12	1.29	ppb
Rhodium	103-1				84		%
Rhodium	103-2				84		%
Scandium	45-1				93		%
Scandium	45-2				92		%
Selenium	82-1	500.15	487.40	487.47	491.67	1.49	ppb
Selenium	77-2	505.34	483.72	460.14	483.07	4.68	ppb
Selenium	78-2	470.43	493.86	486.92	483.74	2.49	ppb
Silicon	28-1	477.87	476.70	473.48	476.01	0.48	ppb
Silver	107-1	480.91	490.51	477.16	482.86	1.43	ppb
Silver	109-1	479.17	475.13	469.66	474.65	1.01	ppb
Sodium	23-2	238979.84	235168.80	235829.17	236659.27	0.86	ppb
Strontium	86-1	506.88	515.28	505.77	509.31	1.02	ppb
Strontium	88-1	515.85	493.74	496.47	502.02	2.40	ppb
Sulfur	34-1	10101.85	10077.05	9976.63	10051.84	0.66	ppb
Terbium	159-1				96		%
Terbium	159-2				92		%
Thallium	203-1	503.47	519.92	519.02	514.14	1.80	ppb
Thallium	205-1	511.80	505.00	508.09	508.30	0.67	ppb
Tin	118-1	488.65	496.70	483.69	489.68	1.34	ppb
Titanium	47-1	5036.82	5052.45	5069.21	5052.83	0.32	ppb
Uranium	238-1	516.50	525.99	525.46	522.65	1.02	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P8
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:59:31 DataFile Name : 025CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	508.48	504.80	502.80	505.36	0.57	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				93		%
Yttrium	89-2				92		%
Zinc	66-2	4878.89	4798.64	4812.72	4830.08	0.89	ppb
Zirconium	90-1	511.55	502.42	506.52	506.83	0.90	ppb
Zirconium	91-1	508.75	494.35	509.99	504.36	1.72	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P8
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:03:48 DataFile Name : 026CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.48	1.17	1.35	1.00	45.91	ppb
Antimony	121-1	0.08	0.07	0.06	0.07	14.52	ppb
Arsenic	75-2	-0.02	-0.02	-0.01	-0.02		ppb
Barium	135-1	0.03	0.02	0.02	0.02	39.48	ppb
Barium	137-1	0.04	0.03	0.02	0.03	27.43	ppb
Beryllium	9-1	0.06	0.05	0.05	0.06	15.03	ppb
Bismuth	209-1				102		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Cadmium	108-1	0.04	0.01	0.01	0.02	104.30	ppb
Cadmium	106-1	-0.15	-0.24	-0.07	-0.15		ppb
Cadmium	111-1	0.00	-0.01	0.01	0.00		ppb
Calcium	43-1	4.19	1.76	1.13	2.36	68.41	ppb
Calcium	44-1	2.59	1.44	1.54	1.86	34.43	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.00	0.02	0.00	0.01	188.30	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00		ppb
Copper	63-2	0.08	0.07	0.08	0.07	7.89	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				100		%
Indium	115-1				101		%
Indium	115-2				95		%
Iron	54-2	1.87	2.94	1.91	2.24	27.13	ppb
Iron	56-2	1.78	2.05	1.81	1.88	7.92	ppb
Iron	57-2	2.30	2.61	1.72	2.21	20.42	ppb
Krypton	83-1						cps
Lead	206-1	0.12	0.11	0.11	0.11	7.02	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P8
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:03:48 DataFile Name : 026CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.12	0.10	0.10	0.11	12.21	ppb
Lead	208-1	0.12	0.11	0.10	0.11	9.61	ppb
Lithium	6-1				102		%
Magnesium	24-2	3.05	3.16	2.98	3.06	2.90	ppb
Manganese	55-2	-0.05	0.08	0.05	0.03	225.10	ppb
Molybdenum	94-1	0.18	0.13	0.12	0.15	23.85	ppb
Molybdenum	95-1	0.15	0.11	0.09	0.12	23.65	ppb
Molybdenum	96-1	0.14	0.11	0.09	0.11	20.64	ppb
Molybdenum	97-1	0.13	0.10	0.09	0.11	20.07	ppb
Molybdenum	98-1	0.12	0.10	0.09	0.10	18.55	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.00	0.00	0.00	0.00	128.67	ppb
Phosphorus	31-2	-23.49	-30.22	-23.21	-25.64		ppb
Potassium	39-2	23.30	24.85	23.70	23.95	3.35	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				102		%
Scandium	45-2				97		%
Selenium	82-1	-0.18	-0.13	-0.16	-0.16		ppb
Selenium	77-2	-0.18	-0.18	0.37	0.00	24629.64	ppb
Selenium	78-2	-0.76	-0.43	-0.09	-0.43		ppb
Silicon	28-1	-0.71	-0.46	-0.49	-0.56		ppb
Silver	107-1	0.03	0.03	0.03	0.03	2.94	ppb
Silver	109-1	0.03	0.03	0.03	0.03	10.08	ppb
Sodium	23-2	36.71	38.68	34.84	36.74	5.23	ppb
Strontium	86-1	0.01	0.00	0.00	0.00	145.32	ppb
Strontium	88-1	0.01	0.01	0.01	0.01	27.56	ppb
Sulfur	34-1	-643.73	-506.04	-556.01	-568.59		ppb
Terbium	159-1				102		%
Terbium	159-2				98		%
Thallium	203-1	0.03	0.03	0.03	0.03	13.30	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	6.46	ppb
Tin	118-1	0.00	-0.01	0.00	0.00		ppb
Titanium	47-1	0.07	0.05	0.05	0.06	20.91	ppb
Uranium	238-1	0.00	0.00	0.00	0.00	290.75	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P8
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:03:48 DataFile Name : 026CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.01	0.00	0.00	214.18	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	0.52	0.57	0.38	0.49	20.37	ppb
Zirconium	90-1	0.04	0.04	0.04	0.04	3.63	ppb
Zirconium	91-1	0.04	0.04	0.03	0.04	3.14	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P8
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:07:12 DataFile Name : 027LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	21.35	21.95	20.69	21.33	2.96	ppb
Antimony	121-1	2.08	2.15	2.16	2.13	2.03	ppb
Arsenic	75-2	1.21	1.00	0.97	1.06	12.41	ppb
Barium	135-1	10.40	10.65	10.52	10.52	1.20	ppb
Barium	137-1	10.53	10.72	10.76	10.67	1.17	ppb
Beryllium	9-1	1.20	1.23	1.21	1.21	1.13	ppb
Bismuth	209-1				104		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Cadmium	108-1	1.27	1.17	1.23	1.22	3.88	ppb
Cadmium	106-1	1.22	0.93	1.44	1.19	21.41	ppb
Cadmium	111-1	1.10	1.11	1.12	1.11	1.01	ppb
Calcium	43-1	543.58	547.88	560.22	550.56	1.57	ppb
Calcium	44-1	531.16	550.93	560.91	547.67	2.76	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.14	2.15	2.13	2.14	0.30	ppb
Cobalt	59-2	1.14	1.16	1.18	1.16	1.76	ppb
Copper	63-2	2.33	2.42	2.33	2.36	2.40	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				101		%
Indium	115-1				102		%
Indium	115-2				93		%
Iron	54-2	58.37	59.51	59.18	59.02	1.00	ppb
Iron	56-2	57.72	57.37	56.74	57.28	0.87	ppb
Iron	57-2	58.73	60.00	56.42	58.38	3.11	ppb
Krypton	83-1						cps
Lead	206-1	1.04	1.05	1.04	1.05	0.76	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P8
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:07:12 DataFile Name : 027LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1.09	1.04	1.09	1.08	2.55	ppb
Lead	208-1	1.05	1.05	1.07	1.06	1.06	ppb
Lithium	6-1				103		%
Magnesium	24-2	573.24	582.56	580.31	578.70	0.84	ppb
Manganese	55-2	1.11	0.90	0.95	0.99	11.18	ppb
Molybdenum	94-1	6.17	6.18	6.28	6.21	1.01	ppb
Molybdenum	95-1	5.28	5.24	5.35	5.29	1.09	ppb
Molybdenum	96-1	5.31	5.36	5.34	5.33	0.43	ppb
Molybdenum	97-1	5.24	5.23	5.18	5.22	0.59	ppb
Molybdenum	98-1	5.21	5.14	5.24	5.20	1.05	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.08	1.15	1.11	1.11	3.12	ppb
Phosphorus	31-2	22.83	24.94	10.44	19.40	40.39	ppb
Potassium	39-2	553.44	556.23	550.14	553.27	0.55	ppb
Rhodium	103-1				100		%
Rhodium	103-2				99		%
Scandium	45-1				100		%
Scandium	45-2				98		%
Selenium	82-1	5.45	5.37	5.62	5.48	2.34	ppb
Selenium	77-2	3.71	4.21	5.25	4.39	17.90	ppb
Selenium	78-2	5.00	6.23	5.18	5.47	12.09	ppb
Silicon	28-1	0.06	0.19	0.37	0.21	76.18	ppb
Silver	107-1	1.05	1.09	1.11	1.09	2.86	ppb
Silver	109-1	1.03	1.07	1.14	1.08	4.86	ppb
Sodium	23-2	595.87	600.44	591.43	595.91	0.76	ppb
Strontium	86-1	1.03	1.01	1.08	1.04	3.44	ppb
Strontium	88-1	1.05	1.05	1.07	1.06	1.14	ppb
Sulfur	34-1	-417.54	-370.88	-323.87	-370.76		ppb
Terbium	159-1				103		%
Terbium	159-2				100		%
Thallium	203-1	0.99	1.04	1.01	1.01	2.50	ppb
Thallium	205-1	0.98	1.01	1.02	1.00	2.01	ppb
Tin	118-1	5.34	5.40	5.37	5.37	0.55	ppb
Titanium	47-1	5.53	5.39	5.51	5.48	1.41	ppb
Uranium	238-1	0.95	0.98	0.98	0.97	1.78	ppb

LB Number :LB135858Operator :Jaswal

Lab Sample ID :CRIInstrumnet Name :P8

Client Sample ID :CRIDilution Factor :1

Date & Time Acquired :2025-05-20 18:07:12DataFile Name :027LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	5.30	5.34	5.43	5.36	1.27	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				99		%
Zinc	66-2	5.58	5.48	5.57	5.54	1.05	ppb
Zirconium	90-1	1.05	1.09	1.10	1.08	2.33	ppb
Zirconium	91-1	1.06	1.04	1.05	1.05	1.11	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BL Instrumnet Name : P8
Client Sample ID : PB168088BL Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:10:33 DataFile Name : 028CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.06	0.10	0.09	0.08	25.20	ppb
Antimony	121-1	0.02	0.02	0.01	0.02	12.73	ppb
Arsenic	75-2	-0.03	-0.04	-0.02	-0.03		ppb
Barium	135-1	0.00	-0.01	0.00	0.00		ppb
Barium	137-1	0.00	0.00	0.00	0.00		ppb
Beryllium	9-1	0.01	0.01	0.02	0.01	12.95	ppb
Bismuth	209-1				101		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Cadmium	108-1	0.02	-0.04	0.02	0.00	3431.18	ppb
Cadmium	106-1	0.08	0.01	-0.35	-0.09		ppb
Cadmium	111-1	0.00	0.00	-0.03	-0.01		ppb
Calcium	43-1	-1.92	-0.04	-1.44	-1.13		ppb
Calcium	44-1	-1.44	-2.10	-2.42	-1.99		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.02	-0.01	0.00	-0.01		ppb
Cobalt	59-2	-0.01	-0.01	-0.01	-0.01		ppb
Copper	63-2	0.00	0.01	-0.01	0.00		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				101		%
Holmium	165-2				101		%
Indium	115-1				102		%
Indium	115-2				93		%
Iron	54-2	0.93	0.46	0.35	0.58	53.01	ppb
Iron	56-2	0.42	0.39	0.39	0.40	4.00	ppb
Iron	57-2	0.83	0.71	0.70	0.74	9.91	ppb
Krypton	83-1						cps
Lead	206-1	0.03	0.03	0.03	0.03	3.89	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BL Instrumnet Name : P8
Client Sample ID : PB168088BL Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:10:33 DataFile Name : 028CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.04	0.03	0.04	0.04	11.54	ppb
Lead	208-1	0.04	0.04	0.04	0.04	4.53	ppb
Lithium	6-1				102		%
Magnesium	24-2	1.00	0.87	1.02	0.96	8.51	ppb
Manganese	55-2	-0.03	0.03	0.07	0.02	192.81	ppb
Molybdenum	94-1	0.02	0.02	0.04	0.03	43.98	ppb
Molybdenum	95-1	0.02	0.01	0.02	0.01	30.18	ppb
Molybdenum	96-1	0.01	0.01	0.01	0.01	35.80	ppb
Molybdenum	97-1	0.00	0.01	0.00	0.00	56.43	ppb
Molybdenum	98-1	0.01	0.01	0.01	0.01	13.13	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.03	-0.01	-0.01	-0.02		ppb
Phosphorus	31-2	-22.47	-30.51	-9.38	-20.79		ppb
Potassium	39-2	12.91	13.31	14.39	13.54	5.66	ppb
Rhodium	103-1				100		%
Rhodium	103-2				99		%
Scandium	45-1				102		%
Scandium	45-2				98		%
Selenium	82-1	-0.08	-0.31	-0.28	-0.22		ppb
Selenium	77-2	-0.18	-0.18	-0.18	-0.18		ppb
Selenium	78-2	-0.59	-0.44	-0.43	-0.48		ppb
Silicon	28-1	-0.64	-0.42	-0.46	-0.50		ppb
Silver	107-1	0.02	0.02	0.01	0.01	26.36	ppb
Silver	109-1	0.02	0.01	0.01	0.02	11.81	ppb
Sodium	23-2	22.03	24.11	21.65	22.60	5.88	ppb
Strontium	86-1	0.00	-0.01	-0.01	-0.01		ppb
Strontium	88-1	0.00	0.00	0.00	0.00		ppb
Sulfur	34-1	-390.84	-453.50	-420.02	-421.45		ppb
Terbium	159-1				103		%
Terbium	159-2				99		%
Thallium	203-1	0.01	0.01	0.01	0.01	21.87	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	22.39	ppb
Tin	118-1	-0.02	0.00	0.01	0.00		ppb
Titanium	47-1	0.01	0.01	0.00	0.01	83.32	ppb
Uranium	238-1	0.00	-0.01	-0.01	-0.01		ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BL Instrumnet Name : P8
Client Sample ID : PB168088BL Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:10:33 DataFile Name : 028CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00		ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				100		%
Zinc	66-2	0.08	0.11	0.13	0.11	23.18	ppb
Zirconium	90-1	0.02	0.01	0.01	0.01	11.72	ppb
Zirconium	91-1	0.01	0.02	0.02	0.02	12.75	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BS Instrumnet Name : P8
Client Sample ID : PB168088BS Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:13:58 DataFile Name : 029LCS6.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10013.87	10067.42	10104.99	10062.09	0.46	ppb
Antimony	121-1	504.86	505.52	513.32	507.90	0.93	ppb
Arsenic	75-2	493.68	502.85	503.65	500.06	1.11	ppb
Barium	135-1	2479.31	2544.76	2565.36	2529.81	1.78	ppb
Barium	137-1	2496.86	2571.19	2532.66	2533.57	1.47	ppb
Beryllium	9-1	511.31	506.25	522.45	513.34	1.61	ppb
Bismuth	209-1				97		%
Bismuth	209-2				90		%
Bromine	81-1						cps
Cadmium	108-1	502.50	522.08	512.94	512.51	1.91	ppb
Cadmium	106-1	510.88	518.15	509.74	512.92	0.89	ppb
Cadmium	111-1	504.40	512.41	516.97	511.26	1.24	ppb
Calcium	43-1	51751.03	50479.86	50150.27	50793.72	1.66	ppb
Calcium	44-1	50980.27	50435.76	49998.66	50471.56	0.97	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	510.16	520.27	510.54	513.66	1.12	ppb
Cobalt	59-2	510.26	515.50	509.94	511.90	0.61	ppb
Copper	63-2	5154.13	5093.07	5113.46	5120.22	0.61	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				98		%
Indium	115-1				95		%
Indium	115-2				86		%
Iron	54-2	26326.66	26778.96	26280.65	26462.09	1.04	ppb
Iron	56-2	26023.80	26291.86	25870.64	26062.10	0.82	ppb
Iron	57-2	26323.95	26287.13	26462.45	26357.84	0.35	ppb
Krypton	83-1						cps
Lead	206-1	2579.48	2473.32	2479.03	2510.61	2.38	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BS Instrumnet Name : P8
Client Sample ID : PB168088BS Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:13:58 DataFile Name : 029LCS6.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2542.37	2492.88	2494.05	2509.77	1.13	ppb
Lead	208-1	2518.17	2467.89	2514.55	2500.21	1.12	ppb
Lithium	6-1				98		%
Magnesium	24-2	50693.36	51353.26	51548.85	51198.49	0.88	ppb
Manganese	55-2	4995.83	5096.38	4993.81	5028.67	1.17	ppb
Molybdenum	94-1	5072.85	5064.29	5054.91	5064.01	0.18	ppb
Molybdenum	95-1	5067.01	4980.21	5151.36	5066.20	1.69	ppb
Molybdenum	96-1	5107.89	5048.47	5154.92	5103.76	1.05	ppb
Molybdenum	97-1	5087.03	5036.45	5094.83	5072.77	0.62	ppb
Molybdenum	98-1	5107.86	5037.28	5104.58	5083.24	0.78	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	475.71	473.19	476.01	474.97	0.33	ppb
Phosphorus	31-2	10187.57	10377.09	10259.77	10274.81	0.93	ppb
Potassium	39-2	25355.42	25174.54	25450.03	25326.66	0.55	ppb
Rhodium	103-1				92		%
Rhodium	103-2				92		%
Scandium	45-1				96		%
Scandium	45-2				94		%
Selenium	82-1	521.94	507.94	524.54	518.14	1.72	ppb
Selenium	77-2	502.84	513.53	484.61	500.33	2.92	ppb
Selenium	78-2	492.92	507.72	507.36	502.67	1.68	ppb
Silicon	28-1	402.19	388.37	403.34	397.97	2.09	ppb
Silver	107-1	510.39	523.04	517.14	516.85	1.22	ppb
Silver	109-1	502.74	512.25	513.45	509.48	1.15	ppb
Sodium	23-2	51091.26	51730.05	51477.99	51433.10	0.63	ppb
Strontium	86-1	515.62	498.35	519.78	511.25	2.22	ppb
Strontium	88-1	497.85	493.94	510.02	500.60	1.68	ppb
Sulfur	34-1	10432.96	9888.89	10318.60	10213.48	2.81	ppb
Terbium	159-1				100		%
Terbium	159-2				97		%
Thallium	203-1	520.89	493.57	494.05	502.84	3.11	ppb
Thallium	205-1	507.52	495.09	502.10	501.57	1.24	ppb
Tin	118-1	494.89	511.90	512.54	506.45	1.98	ppb
Titanium	47-1	5112.54	5015.25	4985.33	5037.71	1.32	ppb
Uranium	238-1	482.77	485.24	494.67	487.56	1.29	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BS Instrumnet Name : P8
Client Sample ID : PB168088BS Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:13:58 DataFile Name : 029LCS6.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	508.10	504.19	502.31	504.87	0.58	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				96		%
Yttrium	89-2				96		%
Zinc	66-2	5108.35	5040.45	5033.16	5060.65	0.82	ppb
Zirconium	90-1	499.08	505.11	503.35	502.51	0.62	ppb
Zirconium	91-1	505.74	494.35	509.19	503.09	1.54	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-02DLX5 Instrumnet Name : P8
Client Sample ID : S-874-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:16:42 DataFile Name : 030AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	14835.68	14694.69	14400.29	14643.56	1.52	ppb
Antimony	121-1	0.22	0.19	0.18	0.19	9.13	ppb
Arsenic	75-2	3.65	3.95	3.97	3.86	4.59	ppb
Barium	135-1	25.51	25.19	25.48	25.39	0.69	ppb
Barium	137-1	26.13	26.01	26.04	26.06	0.26	ppb
Beryllium	9-1	2.70	2.67	2.66	2.68	0.84	ppb
Bismuth	209-1				102		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Cadmium	108-1	2.29	2.21	1.86	2.12	10.74	ppb
Cadmium	106-1	1.91	1.80	1.91	1.87	3.42	ppb
Cadmium	111-1	2.08	2.12	2.15	2.12	1.59	ppb
Calcium	43-1	25230.35	25985.94	25268.49	25494.93	1.67	ppb
Calcium	44-1	25100.88	25581.11	25097.92	25259.97	1.10	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	6.76	6.67	6.58	6.67	1.35	ppb
Cobalt	59-2	11.39	11.03	10.92	11.11	2.23	ppb
Copper	63-2	9.74	9.85	9.64	9.74	1.09	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				101		%
Indium	115-1				102		%
Indium	115-2				91		%
Iron	54-2	3806.35	3764.10	3740.56	3770.34	0.88	ppb
Iron	56-2	3914.42	3822.51	3758.98	3831.97	2.04	ppb
Iron	57-2	3798.92	3722.46	3657.43	3726.27	1.90	ppb
Krypton	83-1						cps
Lead	206-1	11.59	11.65	11.69	11.65	0.44	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-02DLX5 Instrumnet Name : P8
Client Sample ID : S-874-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:16:42 DataFile Name : 030AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	11.46	11.37	11.25	11.36	0.90	ppb
Lead	208-1	11.48	11.48	11.41	11.46	0.32	ppb
Lithium	6-1				102		%
Magnesium	24-2	3937.81	3859.80	3775.19	3857.60	2.11	ppb
Manganese	55-2	2477.70	2387.99	2389.33	2418.34	2.13	ppb
Molybdenum	94-1	3.19	3.23	3.21	3.21	0.64	ppb
Molybdenum	95-1	0.30	0.24	0.20	0.24	20.44	ppb
Molybdenum	96-1	0.57	0.54	0.50	0.54	6.70	ppb
Molybdenum	97-1	0.26	0.18	0.16	0.20	26.29	ppb
Molybdenum	98-1	0.27	0.22	0.17	0.22	23.39	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	15.17	14.72	15.06	14.99	1.56	ppb
Phosphorus	31-2	13.71	17.21	11.55	14.16	20.15	ppb
Potassium	39-2	1946.51	1895.70	1908.54	1916.92	1.38	ppb
Rhodium	103-1				98		%
Rhodium	103-2				96		%
Scandium	45-1				101		%
Scandium	45-2				95		%
Selenium	82-1	0.05	0.27	0.44	0.25	77.50	ppb
Selenium	77-2	14.98	17.00	11.77	14.58	18.11	ppb
Selenium	78-2	2.60	2.53	2.93	2.69	8.04	ppb
Silicon	28-1	213.47	216.41	212.15	214.01	1.02	ppb
Silver	107-1	3.76	3.78	3.87	3.80	1.50	ppb
Silver	109-1	3.79	3.83	3.85	3.82	0.76	ppb
Sodium	23-2	6596.81	6355.99	6173.40	6375.40	3.33	ppb
Strontium	86-1	157.84	159.20	157.14	158.06	0.66	ppb
Strontium	88-1	162.38	166.11	165.23	164.57	1.19	ppb
Sulfur	34-1	81299.69	82902.55	81347.97	81850.07	1.11	ppb
Terbium	159-1				104		%
Terbium	159-2				98		%
Thallium	203-1	0.07	0.07	0.07	0.07	4.72	ppb
Thallium	205-1	0.08	0.08	0.07	0.07	8.34	ppb
Tin	118-1	0.10	0.09	0.09	0.10	7.95	ppb
Titanium	47-1	2.34	2.38	2.27	2.33	2.40	ppb
Uranium	238-1	1.20	1.21	1.21	1.21	0.17	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-02DLX5 Instrumnet Name : P8
Client Sample ID : S-874-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:16:42 DataFile Name : 030AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	26.77	25.87	25.68	26.10	2.23	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				105		%
Yttrium	89-2				100		%
Zinc	66-2	601.86	595.26	584.12	593.74	1.51	ppb
Zirconium	90-1	1.67	1.70	1.64	1.67	1.90	ppb
Zirconium	91-1	1.64	1.67	1.66	1.66	1.00	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-03DLX5 Instrumnet Name : P8
Client Sample ID : S-873-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:20:01 DataFile Name : 031AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	7849.23	8133.04	7786.59	7922.95	2.33	ppb
Antimony	121-1	0.06	0.06	0.06	0.06	3.77	ppb
Arsenic	75-2	3.53	3.31	3.35	3.40	3.58	ppb
Barium	135-1	22.51	22.59	22.21	22.43	0.88	ppb
Barium	137-1	22.67	23.09	22.33	22.70	1.68	ppb
Beryllium	9-1	3.86	3.97	3.94	3.92	1.43	ppb
Bismuth	209-1				102		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Cadmium	108-1	1.91	1.68	1.79	1.79	6.42	ppb
Cadmium	106-1	1.02	1.48	1.94	1.48	30.95	ppb
Cadmium	111-1	1.73	1.85	1.85	1.81	3.83	ppb
Calcium	43-1	17574.69	18112.44	17572.30	17753.14	1.75	ppb
Calcium	44-1	17541.28	17758.65	17469.66	17589.86	0.86	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	3.84	3.85	3.77	3.82	1.13	ppb
Cobalt	59-2	8.26	8.58	8.22	8.35	2.39	ppb
Copper	63-2	8.19	8.36	8.20	8.25	1.16	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				99		%
Indium	115-1				101		%
Indium	115-2				90		%
Iron	54-2	9564.56	10316.23	9748.79	9876.53	3.97	ppb
Iron	56-2	9724.16	9830.96	9580.54	9711.89	1.29	ppb
Iron	57-2	9232.97	9600.59	9190.33	9341.30	2.41	ppb
Krypton	83-1						cps
Lead	206-1	5.53	5.47	5.38	5.46	1.41	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-03DLX5 Instrumnet Name : P8
Client Sample ID : S-873-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:20:01 DataFile Name : 031AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	5.24	5.34	5.15	5.24	1.82	ppb
Lead	208-1	5.32	5.34	5.26	5.31	0.76	ppb
Lithium	6-1				100		%
Magnesium	24-2	2940.31	3027.36	2935.28	2967.65	1.74	ppb
Manganese	55-2	926.60	940.32	932.80	933.24	0.74	ppb
Molybdenum	94-1	1.56	1.61	1.59	1.59	1.44	ppb
Molybdenum	95-1	0.08	0.08	0.07	0.07	5.78	ppb
Molybdenum	96-1	0.26	0.25	0.24	0.25	4.71	ppb
Molybdenum	97-1	0.06	0.05	0.04	0.05	23.05	ppb
Molybdenum	98-1	0.06	0.06	0.06	0.06	1.22	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	11.64	11.75	11.47	11.62	1.20	ppb
Phosphorus	31-2	10.94	8.51	2.71	7.39	57.29	ppb
Potassium	39-2	1711.06	1759.57	1718.11	1729.58	1.52	ppb
Rhodium	103-1				98		%
Rhodium	103-2				97		%
Scandium	45-1				101		%
Scandium	45-2				95		%
Selenium	82-1	0.26	0.11	0.26	0.21	40.04	ppb
Selenium	77-2	20.07	12.94	24.51	19.17	30.44	ppb
Selenium	78-2	2.86	5.55	1.56	3.32	61.33	ppb
Silicon	28-1	164.63	169.19	161.36	165.06	2.39	ppb
Silver	107-1	0.46	0.48	0.47	0.47	2.08	ppb
Silver	109-1	0.47	0.47	0.47	0.47	0.44	ppb
Sodium	23-2	5256.39	5303.75	5146.58	5235.57	1.54	ppb
Strontium	86-1	111.82	114.64	114.72	113.73	1.45	ppb
Strontium	88-1	116.30	118.15	119.06	117.83	1.19	ppb
Sulfur	34-1	71392.87	74575.78	71779.00	72582.55	2.39	ppb
Terbium	159-1				105		%
Terbium	159-2				98		%
Thallium	203-1	0.04	0.05	0.04	0.04	5.39	ppb
Thallium	205-1	0.05	0.05	0.05	0.05	2.60	ppb
Tin	118-1	0.24	0.21	0.22	0.22	6.71	ppb
Titanium	47-1	1.69	1.84	1.73	1.75	4.44	ppb
Uranium	238-1	1.14	1.16	1.14	1.15	1.28	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-03DLX5 Instrumnet Name : P8
Client Sample ID : S-873-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:20:01 DataFile Name : 031AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	32.20	33.41	31.90	32.50	2.44	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				109		%
Yttrium	89-2				102		%
Zinc	66-2	535.89	558.01	541.07	544.99	2.12	ppb
Zirconium	90-1	0.81	0.84	0.84	0.83	2.50	ppb
Zirconium	91-1	0.82	0.85	0.83	0.83	2.18	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:23:15 DataFile Name : 032AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	6594.96	6651.89	6543.60	6596.82	0.82	ppb
Antimony	121-1	0.07	0.07	0.07	0.07	5.23	ppb
Arsenic	75-2	3.62	3.95	3.56	3.71	5.69	ppb
Barium	135-1	19.63	19.92	20.04	19.86	1.07	ppb
Barium	137-1	20.25	20.33	20.16	20.24	0.43	ppb
Beryllium	9-1	0.92	0.97	0.96	0.95	2.51	ppb
Bismuth	209-1				103		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Cadmium	108-1	0.79	0.83	0.96	0.86	10.70	ppb
Cadmium	106-1	0.40	0.19	-0.35	0.08	485.14	ppb
Cadmium	111-1	0.77	0.82	0.76	0.78	3.91	ppb
Calcium	43-1	8100.13	8116.04	8115.64	8110.60	0.11	ppb
Calcium	44-1	8059.09	8125.28	8305.96	8163.44	1.57	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4.52	4.53	4.40	4.48	1.58	ppb
Cobalt	59-2	2.81	2.86	2.80	2.83	1.10	ppb
Copper	63-2	7.90	7.85	7.82	7.86	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				103		%
Holmium	165-2				100		%
Indium	115-1				101		%
Indium	115-2				91		%
Iron	54-2	2346.47	2361.75	2333.47	2347.23	0.60	ppb
Iron	56-2	2445.22	2453.87	2407.05	2435.38	1.02	ppb
Iron	57-2	2316.81	2331.10	2303.29	2317.07	0.60	ppb
Krypton	83-1						cps
Lead	206-1	9.92	10.00	9.86	9.93	0.68	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:23:15 DataFile Name : 032AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	9.56	9.75	9.48	9.60	1.45	ppb
Lead	208-1	9.61	9.79	9.59	9.66	1.13	ppb
Lithium	6-1				100		%
Magnesium	24-2	1431.39	1449.03	1417.44	1432.62	1.11	ppb
Manganese	55-2	281.42	279.42	277.91	279.58	0.63	ppb
Molybdenum	94-1	1.57	1.63	1.64	1.61	2.15	ppb
Molybdenum	95-1	0.05	0.05	0.04	0.05	10.94	ppb
Molybdenum	96-1	0.22	0.22	0.22	0.22	0.64	ppb
Molybdenum	97-1	0.03	0.04	0.04	0.04	8.42	ppb
Molybdenum	98-1	0.05	0.04	0.05	0.05	6.04	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	11.50	11.38	11.41	11.43	0.54	ppb
Phosphorus	31-2	38.18	52.24	37.28	42.57	19.72	ppb
Potassium	39-2	995.89	1002.12	992.39	996.80	0.49	ppb
Rhodium	103-1				100		%
Rhodium	103-2				99		%
Scandium	45-1				101		%
Scandium	45-2				95		%
Selenium	82-1	0.23	0.04	0.04	0.11	104.81	ppb
Selenium	77-2	7.02	5.85	5.26	6.04	14.88	ppb
Selenium	78-2	0.24	1.68	1.65	1.19	69.46	ppb
Silicon	28-1	135.59	134.79	136.33	135.57	0.57	ppb
Silver	107-1	1.41	1.44	1.42	1.42	1.32	ppb
Silver	109-1	1.40	1.43	1.42	1.42	1.02	ppb
Sodium	23-2	3165.01	3231.18	3188.74	3194.98	1.05	ppb
Strontium	86-1	53.81	54.39	53.55	53.92	0.79	ppb
Strontium	88-1	57.11	56.36	56.60	56.69	0.68	ppb
Sulfur	34-1	80475.72	79087.65	80096.54	79886.64	0.90	ppb
Terbium	159-1				103		%
Terbium	159-2				99		%
Thallium	203-1	0.03	0.04	0.04	0.04	6.20	ppb
Thallium	205-1	0.04	0.04	0.04	0.04	5.09	ppb
Tin	118-1	0.16	0.16	0.15	0.16	3.19	ppb
Titanium	47-1	2.47	2.17	2.22	2.29	6.84	ppb
Uranium	238-1	0.69	0.70	0.68	0.69	1.54	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:23:15 DataFile Name : 032AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	15.77	16.16	15.97	15.97	1.22	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				103		%
Yttrium	89-2				100		%
Zinc	66-2	256.95	257.41	253.33	255.90	0.87	ppb
Zirconium	90-1	0.86	0.89	0.87	0.87	1.61	ppb
Zirconium	91-1	0.86	0.87	0.88	0.87	1.31	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DUPDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:26:35 DataFile Name : 033AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	6606.61	6681.69	6460.79	6583.03	1.71	ppb
Antimony	121-1	0.07	0.06	0.06	0.07	4.51	ppb
Arsenic	75-2	3.47	3.70	3.54	3.57	3.33	ppb
Barium	135-1	20.32	20.24	20.46	20.34	0.54	ppb
Barium	137-1	20.55	20.77	20.57	20.63	0.60	ppb
Beryllium	9-1	0.91	0.93	0.93	0.92	0.80	ppb
Bismuth	209-1				103		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Cadmium	108-1	0.92	0.88	0.92	0.90	2.53	ppb
Cadmium	106-1	0.20	0.44	0.06	0.23	82.71	ppb
Cadmium	111-1	0.79	0.81	0.76	0.79	2.95	ppb
Calcium	43-1	7995.24	8159.22	8177.31	8110.59	1.24	ppb
Calcium	44-1	8130.90	8103.04	8169.55	8134.50	0.41	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4.45	4.44	4.31	4.40	1.74	ppb
Cobalt	59-2	2.85	2.91	2.74	2.84	3.08	ppb
Copper	63-2	7.83	7.80	7.81	7.81	0.22	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				101		%
Indium	115-1				102		%
Indium	115-2				91		%
Iron	54-2	2330.77	2358.01	2300.70	2329.83	1.23	ppb
Iron	56-2	2377.54	2431.71	2327.09	2378.78	2.20	ppb
Iron	57-2	2309.00	2335.12	2262.22	2302.12	1.60	ppb
Krypton	83-1						cps
Lead	206-1	9.78	9.97	9.97	9.91	1.09	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DUPDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:26:35 DataFile Name : 033AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	9.46	9.86	9.70	9.67	2.10	ppb
Lead	208-1	9.51	9.76	9.81	9.69	1.63	ppb
Lithium	6-1				100		%
Magnesium	24-2	1420.21	1433.29	1410.18	1421.22	0.82	ppb
Manganese	55-2	277.87	280.75	275.89	278.17	0.88	ppb
Molybdenum	94-1	1.63	1.65	1.59	1.62	1.88	ppb
Molybdenum	95-1	0.03	0.05	0.04	0.04	17.85	ppb
Molybdenum	96-1	0.20	0.21	0.23	0.21	6.08	ppb
Molybdenum	97-1	0.03	0.04	0.04	0.04	18.46	ppb
Molybdenum	98-1	0.04	0.04	0.04	0.04	7.34	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	11.60	11.99	11.53	11.71	2.12	ppb
Phosphorus	31-2	35.58	25.72	40.41	33.90	22.08	ppb
Potassium	39-2	994.22	997.13	974.29	988.55	1.26	ppb
Rhodium	103-1				100		%
Rhodium	103-2				98		%
Scandium	45-1				101		%
Scandium	45-2				96		%
Selenium	82-1	-0.02	0.26	0.05	0.10	150.19	ppb
Selenium	77-2	5.96	8.57	9.78	8.10	24.06	ppb
Selenium	78-2	1.90	1.83	1.71	1.81	5.40	ppb
Silicon	28-1	131.73	134.31	135.19	133.74	1.34	ppb
Silver	107-1	1.41	1.42	1.44	1.42	0.98	ppb
Silver	109-1	1.42	1.42	1.45	1.43	1.21	ppb
Sodium	23-2	3143.91	3108.20	3168.22	3140.11	0.96	ppb
Strontium	86-1	53.72	54.87	53.01	53.87	1.74	ppb
Strontium	88-1	56.07	56.45	56.22	56.25	0.34	ppb
Sulfur	34-1	77774.42	78905.92	80433.66	79038.00	1.69	ppb
Terbium	159-1				103		%
Terbium	159-2				98		%
Thallium	203-1	0.03	0.04	0.04	0.04	9.79	ppb
Thallium	205-1	0.04	0.04	0.04	0.04	2.36	ppb
Tin	118-1	0.18	0.22	0.17	0.19	14.99	ppb
Titanium	47-1	2.18	2.15	2.18	2.17	0.77	ppb
Uranium	238-1	0.68	0.68	0.71	0.69	2.80	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DUPDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:26:35 DataFile Name : 033AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	15.89	16.22	15.79	15.97	1.41	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				103		%
Yttrium	89-2				99		%
Zinc	66-2	252.55	256.33	248.89	252.59	1.47	ppb
Zirconium	90-1	0.87	0.88	0.86	0.87	1.06	ppb
Zirconium	91-1	0.83	0.92	0.86	0.87	5.20	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01LDLX25 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 25
Date & Time Acquired : 2025-05-20 18:29:53 DataFile Name : 034AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1381.64	1398.21	1397.89	1392.58	0.68	ppb
Antimony	121-1	0.05	0.05	0.05	0.05	4.11	ppb
Arsenic	75-2	0.81	0.69	0.88	0.79	11.87	ppb
Barium	135-1	3.98	3.99	4.11	4.03	1.87	ppb
Barium	137-1	4.15	4.11	4.12	4.13	0.56	ppb
Beryllium	9-1	0.21	0.20	0.20	0.20	4.12	ppb
Bismuth	209-1				103		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Cadmium	108-1	0.26	0.13	0.14	0.18	37.75	ppb
Cadmium	106-1	-0.49	-1.31	-0.61	-0.80		ppb
Cadmium	111-1	0.10	0.08	0.11	0.10	14.22	ppb
Calcium	43-1	1687.17	1695.10	1700.95	1694.41	0.41	ppb
Calcium	44-1	1736.23	1757.58	1685.97	1726.59	2.13	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.97	0.89	0.94	0.93	4.14	ppb
Cobalt	59-2	0.59	0.59	0.58	0.59	0.77	ppb
Copper	63-2	1.61	1.69	1.60	1.63	2.96	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				101		%
Indium	115-1				101		%
Indium	115-2				91		%
Iron	54-2	493.89	490.33	496.96	493.73	0.67	ppb
Iron	56-2	515.87	521.65	507.66	515.06	1.37	ppb
Iron	57-2	486.02	491.23	490.13	489.13	0.56	ppb
Krypton	83-1						cps
Lead	206-1	2.04	2.11	2.10	2.09	1.86	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01LDLX25 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 25
Date & Time Acquired : 2025-05-20 18:29:53 DataFile Name : 034AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1.96	1.98	2.04	1.99	1.99	ppb
Lead	208-1	1.98	2.02	2.05	2.02	1.64	ppb
Lithium	6-1				99		%
Magnesium	24-2	302.86	303.51	299.04	301.80	0.80	ppb
Manganese	55-2	58.24	57.07	58.41	57.91	1.26	ppb
Molybdenum	94-1	0.36	0.38	0.34	0.36	5.49	ppb
Molybdenum	95-1	0.00	0.01	0.00	0.00	59.66	ppb
Molybdenum	96-1	0.04	0.04	0.04	0.04	4.62	ppb
Molybdenum	97-1	0.00	0.00	0.01	0.00	102.98	ppb
Molybdenum	98-1	0.01	0.01	0.00	0.01	56.19	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	2.45	2.37	2.45	2.42	1.77	ppb
Phosphorus	31-2	-13.15	0.43	-5.60	-6.11		ppb
Potassium	39-2	214.76	222.90	218.36	218.67	1.87	ppb
Rhodium	103-1				100		%
Rhodium	103-2				98		%
Scandium	45-1				100		%
Scandium	45-2				96		%
Selenium	82-1	-0.03	-0.06	-0.07	-0.06		ppb
Selenium	77-2	-0.18	0.37	0.36	0.18	173.00	ppb
Selenium	78-2	-0.08	0.23	0.06	0.07	232.30	ppb
Silicon	28-1	27.55	27.44	27.70	27.56	0.48	ppb
Silver	107-1	0.30	0.30	0.30	0.30	0.40	ppb
Silver	109-1	0.31	0.30	0.31	0.31	1.31	ppb
Sodium	23-2	680.51	683.52	681.42	681.82	0.23	ppb
Strontium	86-1	11.13	11.43	11.31	11.29	1.33	ppb
Strontium	88-1	11.04	11.25	11.29	11.19	1.22	ppb
Sulfur	34-1	16637.89	16003.47	16421.60	16354.32	1.97	ppb
Terbium	159-1				104		%
Terbium	159-2				97		%
Thallium	203-1	0.01	0.02	0.01	0.01	22.48	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	3.11	ppb
Tin	118-1	0.02	0.01	0.02	0.02	35.65	ppb
Titanium	47-1	0.48	0.47	0.44	0.46	3.86	ppb
Uranium	238-1	0.13	0.14	0.14	0.14	1.23	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01LDLX25 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 25
Date & Time Acquired : 2025-05-20 18:29:53 DataFile Name : 034AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	3.34	3.49	3.28	3.37	3.24	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				99		%
Zinc	66-2	52.15	51.29	52.45	51.96	1.16	ppb
Zirconium	90-1	0.18	0.20	0.19	0.19	3.07	ppb
Zirconium	91-1	0.19	0.20	0.18	0.19	5.37	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:33:14 DataFile Name : 035AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	8216.35	8140.78	8199.20	8185.44	0.48	ppb
Antimony	121-1	102.14	103.98	106.31	104.14	2.01	ppb
Arsenic	75-2	3.24	3.89	3.40	3.51	9.62	ppb
Barium	135-1	482.39	484.82	494.39	487.20	1.30	ppb
Barium	137-1	477.88	486.05	498.10	487.34	2.09	ppb
Beryllium	9-1	109.08	108.61	111.26	109.65	1.29	ppb
Bismuth	209-1				103		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Cadmium	108-1	97.92	99.63	101.34	99.63	1.71	ppb
Cadmium	106-1	101.98	103.18	105.03	103.40	1.49	ppb
Cadmium	111-1	98.11	100.85	100.78	99.92	1.56	ppb
Calcium	43-1	17617.00	17474.40	18157.73	17749.71	2.03	ppb
Calcium	44-1	17389.16	17705.55	17924.67	17673.13	1.52	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	100.19	99.83	100.12	100.05	0.19	ppb
Cobalt	59-2	104.83	104.95	104.47	104.75	0.24	ppb
Copper	63-2	1089.82	1104.63	1081.73	1092.06	1.06	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				99		%
Indium	115-1				102		%
Indium	115-2				90		%
Iron	54-2	6917.55	6900.46	6934.79	6917.60	0.25	ppb
Iron	56-2	7129.55	6945.08	6956.99	7010.54	1.47	ppb
Iron	57-2	6771.99	6648.40	6778.57	6732.99	1.09	ppb
Krypton	83-1						cps
Lead	206-1	508.04	519.72	511.54	513.10	1.17	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:33:14 DataFile Name : 035AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	517.45	525.39	517.95	520.26	0.85	ppb
Lead	208-1	513.76	519.04	515.83	516.21	0.51	ppb
Lithium	6-1				99		%
Magnesium	24-2	11493.53	11287.84	11590.41	11457.26	1.35	ppb
Manganese	55-2	1332.49	1302.67	1300.12	1311.76	1.37	ppb
Molybdenum	94-1	475.37	474.52	469.35	473.08	0.69	ppb
Molybdenum	95-1	361.56	357.56	364.21	361.11	0.93	ppb
Molybdenum	96-1	373.94	365.68	373.72	371.11	1.27	ppb
Molybdenum	97-1	362.62	355.82	360.13	359.52	0.96	ppb
Molybdenum	98-1	359.28	349.11	355.21	354.54	1.44	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	109.99	109.88	109.93	109.94	0.05	ppb
Phosphorus	31-2	17.84	29.33	35.36	27.51	32.36	ppb
Potassium	39-2	5413.80	5365.09	5439.68	5406.19	0.70	ppb
Rhodium	103-1				99		%
Rhodium	103-2				98		%
Scandium	45-1				100		%
Scandium	45-2				96		%
Selenium	82-1	99.71	101.06	99.59	100.12	0.81	ppb
Selenium	77-2	115.92	94.11	93.59	101.21	12.59	ppb
Selenium	78-2	102.17	100.99	92.79	98.65	5.18	ppb
Silicon	28-1	132.11	127.57	137.27	132.32	3.67	ppb
Silver	107-1	17.79	18.23	18.69	18.24	2.46	ppb
Silver	109-1	17.72	18.03	18.45	18.07	2.05	ppb
Sodium	23-2	13018.82	12824.44	13030.01	12957.75	0.89	ppb
Strontium	86-1	166.45	163.03	163.88	164.45	1.09	ppb
Strontium	88-1	169.27	170.12	170.32	169.90	0.33	ppb
Sulfur	34-1	79612.46	79365.29	81043.23	80006.99	1.13	ppb
Terbium	159-1				104		%
Terbium	159-2				98		%
Thallium	203-1	101.37	101.63	100.24	101.08	0.73	ppb
Thallium	205-1	98.36	102.16	100.17	100.23	1.90	ppb
Tin	118-1	86.58	87.70	88.78	87.69	1.26	ppb
Titanium	47-1	2.35	2.38	2.49	2.41	3.01	ppb
Uranium	238-1	95.80	95.78	97.73	96.44	1.16	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:33:14 DataFile Name : 035AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	116.62	114.33	115.55	115.50	0.99	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				104		%
Yttrium	89-2				101		%
Zinc	66-2	1279.94	1278.76	1299.75	1286.15	0.92	ppb
Zirconium	90-1	98.88	98.84	99.09	98.93	0.13	ppb
Zirconium	91-1	93.73	93.26	94.14	93.71	0.47	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:36:14 DataFile Name : 036AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	7681.28	7537.55	7890.87	7703.23	2.31	ppb
Antimony	121-1	100.35	99.55	100.95	100.28	0.70	ppb
Arsenic	75-2	3.47	3.38	3.09	3.32	6.02	ppb
Barium	135-1	487.84	490.16	474.74	484.25	1.72	ppb
Barium	137-1	492.91	471.46	482.93	482.43	2.22	ppb
Beryllium	9-1	106.63	104.38	107.67	106.23	1.58	ppb
Bismuth	209-1				103		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Cadmium	108-1	98.93	94.34	98.68	97.32	2.65	ppb
Cadmium	106-1	98.25	100.14	101.62	100.00	1.69	ppb
Cadmium	111-1	97.07	96.37	97.24	96.89	0.48	ppb
Calcium	43-1	16702.26	17013.44	16888.53	16868.08	0.93	ppb
Calcium	44-1	16443.67	17103.52	16527.20	16691.46	2.15	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	94.73	92.83	97.18	94.91	2.30	ppb
Cobalt	59-2	99.94	97.43	101.47	99.61	2.05	ppb
Copper	63-2	1003.95	1006.17	1029.36	1013.16	1.39	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				101		%
Indium	115-1				101		%
Indium	115-2				93		%
Iron	54-2	6588.52	6469.03	6794.80	6617.45	2.49	ppb
Iron	56-2	6682.25	6504.75	6777.26	6654.75	2.08	ppb
Iron	57-2	6445.78	6376.74	6589.51	6470.67	1.68	ppb
Krypton	83-1						cps
Lead	206-1	486.31	480.07	486.10	484.16	0.73	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:36:14 DataFile Name : 036AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	495.79	483.12	485.30	488.07	1.39	ppb
Lead	208-1	489.11	483.53	482.14	484.93	0.76	ppb
Lithium	6-1				99		%
Magnesium	24-2	10791.02	10774.97	11209.47	10925.16	2.25	ppb
Manganese	55-2	1226.40	1196.73	1261.23	1228.12	2.63	ppb
Molybdenum	94-1	447.51	464.41	449.86	453.93	2.02	ppb
Molybdenum	95-1	336.71	349.68	347.76	344.72	2.03	ppb
Molybdenum	96-1	352.21	357.51	355.97	355.23	0.77	ppb
Molybdenum	97-1	354.51	351.68	349.21	351.80	0.75	ppb
Molybdenum	98-1	342.29	350.34	341.99	344.88	1.37	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	105.19	102.22	107.57	104.99	2.55	ppb
Phosphorus	31-2	43.76	32.67	43.05	39.83	15.58	ppb
Potassium	39-2	5121.93	5035.13	5264.53	5140.53	2.25	ppb
Rhodium	103-1				98		%
Rhodium	103-2				99		%
Scandium	45-1				101		%
Scandium	45-2				97		%
Selenium	82-1	96.46	99.66	96.32	97.48	1.94	ppb
Selenium	77-2	109.56	89.41	103.89	100.95	10.29	ppb
Selenium	78-2	101.90	89.58	100.07	97.19	6.84	ppb
Silicon	28-1	123.44	126.19	125.16	124.93	1.11	ppb
Silver	107-1	17.59	17.58	18.07	17.75	1.59	ppb
Silver	109-1	17.83	17.58	18.03	17.82	1.27	ppb
Sodium	23-2	12203.85	12168.66	12790.64	12387.72	2.82	ppb
Strontium	86-1	156.80	160.23	159.05	158.69	1.10	ppb
Strontium	88-1	162.76	167.10	163.59	164.49	1.40	ppb
Sulfur	34-1	74795.23	76252.86	74507.87	75185.32	1.24	ppb
Terbium	159-1				103		%
Terbium	159-2				99		%
Thallium	203-1	98.83	97.46	97.51	97.93	0.79	ppb
Thallium	205-1	96.98	95.38	96.58	96.32	0.87	ppb
Tin	118-1	85.72	85.04	86.11	85.62	0.63	ppb
Titanium	47-1	2.29	2.31	2.33	2.31	0.93	ppb
Uranium	238-1	94.09	94.14	92.85	93.69	0.78	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:36:14 DataFile Name : 036AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	109.99	107.05	112.86	109.97	2.64	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				104		%
Yttrium	89-2				100		%
Zinc	66-2	1181.76	1167.44	1221.05	1190.08	2.33	ppb
Zirconium	90-1	95.75	97.83	94.38	95.99	1.81	ppb
Zirconium	91-1	90.01	92.99	89.74	90.92	1.98	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P8
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:39:17 DataFile Name : 037CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	54426.07	53173.12	49667.08	52422.09	4.71	ppb
Antimony	121-1	494.79	513.54	507.74	505.36	1.90	ppb
Arsenic	75-2	538.97	534.75	500.44	524.72	4.03	ppb
Barium	135-1	2529.31	2570.81	2619.15	2573.09	1.75	ppb
Barium	137-1	2531.67	2586.53	2555.12	2557.77	1.08	ppb
Beryllium	9-1	537.13	533.68	540.18	536.99	0.61	ppb
Bismuth	209-1				88		%
Bismuth	209-2				81		%
Bromine	81-1						cps
Cadmium	108-1	492.22	506.32	498.77	499.10	1.41	ppb
Cadmium	106-1	490.87	501.89	506.08	499.61	1.57	ppb
Cadmium	111-1	491.60	500.40	502.03	498.01	1.13	ppb
Calcium	43-1	238743.10	243409.86	251326.88	244493.28	2.60	ppb
Calcium	44-1	236554.37	243158.17	247382.56	242365.03	2.25	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	551.85	543.57	509.76	535.06	4.17	ppb
Cobalt	59-2	534.96	530.80	499.36	521.70	3.73	ppb
Copper	63-2	5180.74	5085.92	4845.31	5037.33	3.43	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				94		%
Holmium	165-2				90		%
Indium	115-1				88		%
Indium	115-2				77		%
Iron	54-2	141402.54	138546.59	131291.09	137080.07	3.80	ppb
Iron	56-2	140999.36	136721.31	130136.97	135952.54	4.02	ppb
Iron	57-2	140339.30	137259.49	128962.76	135520.52	4.34	ppb
Krypton	83-1						cps
Lead	206-1	2577.03	2549.71	2673.54	2600.09	2.50	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P8
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:39:17 DataFile Name : 037CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2565.69	2559.51	2682.80	2602.67	2.67	ppb
Lead	208-1	2569.49	2560.25	2672.36	2600.70	2.39	ppb
Lithium	6-1				86		%
Magnesium	24-2	265804.94	263831.91	250849.36	260162.07	3.12	ppb
Manganese	55-2	5399.53	5275.15	4997.01	5223.90	3.95	ppb
Molybdenum	94-1	4977.56	5167.23	5369.29	5171.36	3.79	ppb
Molybdenum	95-1	4994.38	5158.15	5400.18	5184.24	3.94	ppb
Molybdenum	96-1	4973.26	5128.78	5328.97	5143.67	3.47	ppb
Molybdenum	97-1	4953.26	5183.42	5375.43	5170.70	4.09	ppb
Molybdenum	98-1	4992.97	5200.27	5302.54	5165.26	3.05	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	485.85	483.44	452.77	474.02	3.89	ppb
Phosphorus	31-2	11083.61	10952.49	10161.13	10732.41	4.65	ppb
Potassium	39-2	136541.82	138516.83	130163.55	135074.07	3.23	ppb
Rhodium	103-1				83		%
Rhodium	103-2				81		%
Scandium	45-1				93		%
Scandium	45-2				88		%
Selenium	82-1	484.97	498.16	526.65	503.26	4.23	ppb
Selenium	77-2	544.24	508.74	478.71	510.56	6.42	ppb
Selenium	78-2	529.93	514.13	481.91	508.66	4.81	ppb
Silicon	28-1	479.52	493.52	504.57	492.54	2.55	ppb
Silver	107-1	491.98	499.89	493.19	495.02	0.86	ppb
Silver	109-1	489.76	492.26	497.97	493.33	0.85	ppb
Sodium	23-2	252752.27	249160.26	236853.17	246255.23	3.39	ppb
Strontium	86-1	510.06	512.66	531.25	517.99	2.23	ppb
Strontium	88-1	503.54	510.25	531.80	515.20	2.87	ppb
Sulfur	34-1	9512.60	10143.70	10317.96	9991.42	4.24	ppb
Terbium	159-1				95		%
Terbium	159-2				88		%
Thallium	203-1	527.03	515.37	532.48	524.96	1.67	ppb
Thallium	205-1	525.21	505.89	527.73	519.61	2.30	ppb
Tin	118-1	492.25	513.66	499.37	501.76	2.17	ppb
Titanium	47-1	4862.66	5075.41	5123.19	5020.42	2.76	ppb
Uranium	238-1	526.49	515.02	542.23	527.92	2.59	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P8
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:39:17 DataFile Name : 037CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	548.18	531.34	508.00	529.17	3.81	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				92		%
Yttrium	89-2				88		%
Zinc	66-2	5265.84	5241.24	4910.00	5139.02	3.87	ppb
Zirconium	90-1	504.02	516.45	529.04	516.50	2.42	ppb
Zirconium	91-1	504.71	515.77	539.90	520.13	3.46	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P8
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:42:00 DataFile Name : 038CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.51	1.17	0.71	1.13	35.67	ppb
Antimony	121-1	0.13	0.12	0.10	0.12	13.58	ppb
Arsenic	75-2	-0.01	-0.01	-0.01	-0.01		ppb
Barium	135-1	0.05	0.05	0.03	0.04	27.81	ppb
Barium	137-1	0.08	0.05	0.04	0.06	34.72	ppb
Beryllium	9-1	0.09	0.07	0.06	0.07	21.71	ppb
Bismuth	209-1				104		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Cadmium	108-1	0.00	0.00	-0.02	-0.01		ppb
Cadmium	106-1	-0.84	-0.11	-1.02	-0.66		ppb
Cadmium	111-1	-0.05	0.01	-0.06	-0.03		ppb
Calcium	43-1	7.18	4.23	4.36	5.26	31.77	ppb
Calcium	44-1	5.26	3.54	1.82	3.54	48.66	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.01	0.02	0.01	0.01	65.18	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	97.36	ppb
Copper	63-2	0.09	0.09	0.06	0.08	17.36	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				102		%
Holmium	165-2				100		%
Indium	115-1				104		%
Indium	115-2				92		%
Iron	54-2	2.20	1.84	2.15	2.06	9.53	ppb
Iron	56-2	2.12	2.18	1.76	2.02	11.27	ppb
Iron	57-2	2.11	2.12	2.24	2.16	3.51	ppb
Krypton	83-1						cps
Lead	206-1	0.15	0.13	0.13	0.13	8.53	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P8
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:42:00 DataFile Name : 038CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.18	0.14	0.12	0.14	21.25	ppb
Lead	208-1	0.16	0.13	0.12	0.14	15.08	ppb
Lithium	6-1				101		%
Magnesium	24-2	4.54	4.39	3.11	4.01	19.62	ppb
Manganese	55-2	0.03	-0.01	-0.06	-0.01		ppb
Molybdenum	94-1	0.31	0.25	0.19	0.25	23.68	ppb
Molybdenum	95-1	0.23	0.17	0.15	0.18	23.44	ppb
Molybdenum	96-1	0.24	0.18	0.15	0.19	26.05	ppb
Molybdenum	97-1	0.19	0.18	0.15	0.17	11.77	ppb
Molybdenum	98-1	0.22	0.17	0.13	0.17	25.63	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.00	-0.01	0.03	0.01	277.28	ppb
Phosphorus	31-2	-29.53	-20.51	-14.48	-21.51		ppb
Potassium	39-2	23.60	19.53	21.63	21.59	9.44	ppb
Rhodium	103-1				101		%
Rhodium	103-2				100		%
Scandium	45-1				102		%
Scandium	45-2				97		%
Selenium	82-1	-0.24	-0.22	0.07	-0.13		ppb
Selenium	77-2	-0.18	0.36	-0.18	0.00		ppb
Selenium	78-2	0.23	-0.27	-0.59	-0.21		ppb
Silicon	28-1	-0.41	-0.29	-0.47	-0.39		ppb
Silver	107-1	0.06	0.05	0.04	0.05	21.69	ppb
Silver	109-1	0.06	0.05	0.04	0.05	18.59	ppb
Sodium	23-2	40.68	40.65	37.95	39.76	3.94	ppb
Strontium	86-1	0.01	0.01	0.01	0.01	27.91	ppb
Strontium	88-1	0.02	0.01	0.01	0.01	21.60	ppb
Sulfur	34-1	-606.66	-605.98	-613.78	-608.81		ppb
Terbium	159-1				105		%
Terbium	159-2				98		%
Thallium	203-1	0.04	0.04	0.03	0.04	16.69	ppb
Thallium	205-1	0.04	0.03	0.03	0.04	13.17	ppb
Tin	118-1	0.02	0.01	0.00	0.01	110.96	ppb
Titanium	47-1	0.13	0.12	0.11	0.12	10.47	ppb
Uranium	238-1	0.01	0.01	0.00	0.01	48.92	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P8
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:42:00 DataFile Name : 038CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.01	0.00	0.00	0.00	115.38	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				103		%
Yttrium	89-2				99		%
Zinc	66-2	0.34	0.30	0.50	0.38	27.19	ppb
Zirconium	90-1	0.06	0.04	0.04	0.05	13.96	ppb
Zirconium	91-1	0.06	0.05	0.04	0.05	15.98	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01ADLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:45:23 DataFile Name : 039AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	7832.58	7797.74	7913.79	7848.04	0.76	ppb
Antimony	121-1	101.57	99.80	98.38	99.92	1.60	ppb
Arsenic	75-2	3.52	3.27	3.17	3.32	5.54	ppb
Barium	135-1	470.29	474.21	467.19	470.56	0.75	ppb
Barium	137-1	463.49	479.36	464.47	469.11	1.90	ppb
Beryllium	9-1	102.43	105.43	104.74	104.20	1.51	ppb
Bismuth	209-1				103		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Cadmium	108-1	93.93	99.51	97.84	97.09	2.95	ppb
Cadmium	106-1	99.35	101.42	100.64	100.47	1.04	ppb
Cadmium	111-1	94.97	96.34	95.51	95.61	0.72	ppb
Calcium	43-1	16867.22	16839.72	16907.07	16871.34	0.20	ppb
Calcium	44-1	16919.43	16815.69	16924.08	16886.40	0.36	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	95.17	96.37	95.99	95.84	0.64	ppb
Cobalt	59-2	99.11	100.63	101.48	100.41	1.20	ppb
Copper	63-2	1046.94	1016.65	1053.16	1038.92	1.88	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				100		%
Indium	115-1				102		%
Indium	115-2				89		%
Iron	54-2	6582.35	6667.16	6676.73	6642.08	0.78	ppb
Iron	56-2	6608.23	6742.89	6809.84	6720.32	1.53	ppb
Iron	57-2	6425.86	6422.03	6560.38	6469.42	1.22	ppb
Krypton	83-1						cps
Lead	206-1	480.25	481.35	491.64	484.41	1.30	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01ADLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:45:23 DataFile Name : 039AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	491.53	490.37	497.24	493.05	0.75	ppb
Lead	208-1	489.19	487.08	496.42	490.90	1.00	ppb
Lithium	6-1				101		%
Magnesium	24-2	11276.15	11184.75	11156.05	11205.65	0.56	ppb
Manganese	55-2	1229.49	1238.01	1254.79	1240.76	1.04	ppb
Molybdenum	94-1	448.63	447.67	463.86	453.39	2.00	ppb
Molybdenum	95-1	342.97	348.69	348.96	346.87	0.97	ppb
Molybdenum	96-1	352.40	362.05	358.75	357.73	1.37	ppb
Molybdenum	97-1	345.28	343.90	351.27	346.82	1.13	ppb
Molybdenum	98-1	339.45	337.99	344.53	340.66	1.01	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	105.19	105.06	107.16	105.80	1.11	ppb
Phosphorus	31-2	36.66	37.28	26.16	33.37	18.74	ppb
Potassium	39-2	5180.00	5211.54	5242.82	5211.45	0.60	ppb
Rhodium	103-1				99		%
Rhodium	103-2				97		%
Scandium	45-1				101		%
Scandium	45-2				95		%
Selenium	82-1	95.88	97.55	97.78	97.07	1.07	ppb
Selenium	77-2	91.63	120.11	111.17	107.64	13.53	ppb
Selenium	78-2	99.89	91.38	98.99	96.75	4.83	ppb
Silicon	28-1	125.46	124.54	123.27	124.42	0.89	ppb
Silver	107-1	17.32	17.84	17.74	17.64	1.57	ppb
Silver	109-1	17.33	17.51	17.62	17.48	0.85	ppb
Sodium	23-2	12405.51	12615.85	12645.50	12555.62	1.04	ppb
Strontium	86-1	157.03	157.60	159.16	157.93	0.70	ppb
Strontium	88-1	164.25	164.75	163.79	164.26	0.29	ppb
Sulfur	34-1	76318.25	74317.10	74708.47	75114.60	1.41	ppb
Terbium	159-1				103		%
Terbium	159-2				97		%
Thallium	203-1	93.25	95.98	95.20	94.81	1.48	ppb
Thallium	205-1	94.12	96.82	97.34	96.09	1.80	ppb
Tin	118-1	84.57	85.92	84.83	85.11	0.84	ppb
Titanium	47-1	2.23	2.32	2.29	2.28	2.07	ppb
Uranium	238-1	92.39	92.34	94.45	93.06	1.29	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01ADLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:45:23 DataFile Name : 039AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	110.69	110.33	112.38	111.13	0.98	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				104		%
Yttrium	89-2				98		%
Zinc	66-2	1219.47	1224.01	1229.78	1224.42	0.42	ppb
Zirconium	90-1	94.90	95.48	94.28	94.89	0.63	ppb
Zirconium	91-1	89.35	89.78	90.94	90.02	0.92	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088TB Instrumnet Name : P8
Client Sample ID : PB168088TB Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:48:22 DataFile Name : 040AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.04	-0.27	0.40	0.06	570.94	ppb
Antimony	121-1	0.02	0.02	0.02	0.02	17.47	ppb
Arsenic	75-2	-0.03	-0.04	-0.04	-0.03		ppb
Barium	135-1	0.02	0.01	0.00	0.01	111.67	ppb
Barium	137-1	0.02	0.01	0.01	0.02	48.46	ppb
Beryllium	9-1	0.03	0.04	0.02	0.03	22.06	ppb
Bismuth	209-1				103		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Cadmium	108-1	-0.03	0.00	-0.02	-0.02		ppb
Cadmium	106-1	-0.48	0.70	-0.56	-0.12		ppb
Cadmium	111-1	-0.03	0.06	-0.04	-0.01		ppb
Calcium	43-1	0.27	-0.98	-1.26	-0.66		ppb
Calcium	44-1	-1.20	-1.79	-1.45	-1.48		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.00	0.01	0.03	0.01	97.74	ppb
Cobalt	59-2	0.00	-0.01	0.00	0.00		ppb
Copper	63-2	0.03	0.03	0.02	0.03	23.31	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				99		%
Indium	115-1				103		%
Indium	115-2				91		%
Iron	54-2	0.63	0.24	0.47	0.45	44.45	ppb
Iron	56-2	0.48	0.60	0.46	0.51	14.97	ppb
Iron	57-2	0.94	0.90	0.94	0.92	2.58	ppb
Krypton	83-1						cps
Lead	206-1	0.07	0.05	0.05	0.06	23.65	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088TB Instrumnet Name : P8
Client Sample ID : PB168088TB Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:48:22 DataFile Name : 040AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.06	0.06	0.05	0.06	5.72	ppb
Lead	208-1	0.06	0.06	0.05	0.06	9.12	ppb
Lithium	6-1				100		%
Magnesium	24-2	0.92	1.23	0.77	0.97	24.16	ppb
Manganese	55-2	0.08	0.04	-0.01	0.04	134.15	ppb
Molybdenum	94-1	0.12	0.09	0.08	0.10	22.74	ppb
Molybdenum	95-1	0.04	0.03	0.03	0.04	14.96	ppb
Molybdenum	96-1	0.05	0.03	0.02	0.03	37.06	ppb
Molybdenum	97-1	0.04	0.02	0.02	0.03	34.68	ppb
Molybdenum	98-1	0.04	0.03	0.03	0.03	29.39	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.02	0.00	-0.02	-0.01		ppb
Phosphorus	31-2	-21.32	-27.64	-23.46	-24.14		ppb
Potassium	39-2	14.95	16.37	14.39	15.24	6.71	ppb
Rhodium	103-1				101		%
Rhodium	103-2				99		%
Scandium	45-1				101		%
Scandium	45-2				97		%
Selenium	82-1	-0.17	-0.08	0.03	-0.07		ppb
Selenium	77-2	-0.18	0.38	-0.18	0.01	5206.53	ppb
Selenium	78-2	-0.91	-0.73	-0.41	-0.69		ppb
Silicon	28-1	-0.67	-0.76	-0.66	-0.70		ppb
Silver	107-1	0.03	0.02	0.02	0.02	17.54	ppb
Silver	109-1	0.03	0.02	0.02	0.02	11.08	ppb
Sodium	23-2	28.99	28.25	27.06	28.10	3.46	ppb
Strontium	86-1	0.01	0.00	0.01	0.01	137.70	ppb
Strontium	88-1	0.01	0.00	0.00	0.00	50.31	ppb
Sulfur	34-1	-643.03	-658.56	-548.87	-616.82		ppb
Terbium	159-1				103		%
Terbium	159-2				98		%
Thallium	203-1	0.03	0.02	0.02	0.03	12.84	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	7.72	ppb
Tin	118-1	-0.01	-0.01	-0.01	-0.01		ppb
Titanium	47-1	0.02	0.01	0.01	0.01	43.76	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088TB Instrumnet Name : P8
Client Sample ID : PB168088TB Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:48:22 DataFile Name : 040AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00		ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				101		%
Yttrium	89-2				97		%
Zinc	66-2	0.09	-0.01	0.03	0.03	146.70	ppb
Zirconium	90-1	0.05	0.04	0.05	0.05	7.55	ppb
Zirconium	91-1	0.05	0.05	0.04	0.05	10.52	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P8
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:51:46 DataFile Name : 041CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	49558.56	50860.75	50111.07	50176.79	1.30	ppb
Antimony	121-1	503.89	496.54	504.67	501.70	0.89	ppb
Arsenic	75-2	511.68	496.82	506.46	504.99	1.49	ppb
Barium	135-1	2495.14	2457.65	2480.83	2477.87	0.76	ppb
Barium	137-1	2489.36	2522.07	2526.68	2512.70	0.81	ppb
Beryllium	9-1	526.08	547.41	537.36	536.95	1.99	ppb
Bismuth	209-1				87		%
Bismuth	209-2				84		%
Bromine	81-1						cps
Cadmium	108-1	493.94	494.89	496.05	494.96	0.21	ppb
Cadmium	106-1	494.47	496.84	494.20	495.17	0.29	ppb
Cadmium	111-1	494.41	497.16	486.01	492.53	1.18	ppb
Calcium	43-1	242716.30	242217.78	242528.46	242487.52	0.10	ppb
Calcium	44-1	245204.89	242400.83	240169.05	242591.59	1.04	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	503.49	518.29	500.41	507.40	1.88	ppb
Cobalt	59-2	492.07	497.57	487.60	492.41	1.01	ppb
Copper	63-2	4830.61	4851.17	4763.99	4815.26	0.95	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				95		%
Holmium	165-2				95		%
Indium	115-1				89		%
Indium	115-2				80		%
Iron	54-2	130721.88	130870.54	128739.95	130110.79	0.91	ppb
Iron	56-2	127649.50	131912.99	128402.18	129321.56	1.76	ppb
Iron	57-2	127544.95	132046.53	128483.29	129358.26	1.84	ppb
Krypton	83-1						cps
Lead	206-1	2620.71	2622.45	2550.06	2597.74	1.59	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P8
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:51:46 DataFile Name : 041CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2598.81	2611.93	2559.01	2589.92	1.06	ppb
Lead	208-1	2591.10	2614.38	2555.93	2587.14	1.14	ppb
Lithium	6-1				88		%
Magnesium	24-2	246761.66	253289.96	246215.72	248755.78	1.58	ppb
Manganese	55-2	4950.89	5051.40	4897.95	4966.74	1.57	ppb
Molybdenum	94-1	4922.55	5124.88	5092.97	5046.80	2.16	ppb
Molybdenum	95-1	4955.61	5204.31	5076.06	5078.66	2.45	ppb
Molybdenum	96-1	4998.69	5177.15	5097.44	5091.09	1.76	ppb
Molybdenum	97-1	5027.07	5178.48	5095.37	5100.31	1.49	ppb
Molybdenum	98-1	5075.01	5116.27	5016.41	5069.23	0.99	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	452.35	458.19	448.17	452.90	1.11	ppb
Phosphorus	31-2	10479.32	10362.44	9988.30	10276.69	2.50	ppb
Potassium	39-2	131005.78	131221.92	129540.43	130589.38	0.70	ppb
Rhodium	103-1				84		%
Rhodium	103-2				83		%
Scandium	45-1				92		%
Scandium	45-2				92		%
Selenium	82-1	490.74	496.30	493.51	493.52	0.56	ppb
Selenium	77-2	533.23	490.42	512.21	511.95	4.18	ppb
Selenium	78-2	502.45	496.23	488.16	495.61	1.45	ppb
Silicon	28-1	512.55	501.02	499.44	504.34	1.42	ppb
Silver	107-1	487.02	488.54	488.08	487.88	0.16	ppb
Silver	109-1	482.59	497.37	481.63	487.20	1.81	ppb
Sodium	23-2	237135.80	241016.78	234088.98	237413.86	1.46	ppb
Strontium	86-1	519.52	518.06	514.96	517.51	0.45	ppb
Strontium	88-1	498.74	507.45	509.53	505.24	1.13	ppb
Sulfur	34-1	11168.60	10759.11	10217.81	10715.18	4.45	ppb
Terbium	159-1				95		%
Terbium	159-2				92		%
Thallium	203-1	532.50	528.28	506.89	522.56	2.63	ppb
Thallium	205-1	521.16	526.23	508.70	518.70	1.74	ppb
Tin	118-1	492.47	508.42	499.30	500.06	1.60	ppb
Titanium	47-1	5097.36	4987.11	5074.40	5052.96	1.15	ppb
Uranium	238-1	518.09	523.94	514.18	518.74	0.95	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P8
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:51:46 DataFile Name : 041CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	511.67	506.37	498.95	505.66	1.26	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				93		%
Yttrium	89-2				92		%
Zinc	66-2	4830.03	5022.12	4799.46	4883.87	2.47	ppb
Zirconium	90-1	503.43	518.56	510.30	510.76	1.48	ppb
Zirconium	91-1	503.84	517.23	518.46	513.17	1.58	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P8
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:54:31 DataFile Name : 042CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.77	1.06	0.76	1.19	43.39	ppb
Antimony	121-1	0.14	0.11	0.10	0.12	17.96	ppb
Arsenic	75-2	-0.01	-0.01	-0.03	-0.02		ppb
Barium	135-1	0.10	0.06	0.05	0.07	39.14	ppb
Barium	137-1	0.09	0.05	0.05	0.07	34.45	ppb
Beryllium	9-1	0.09	0.09	0.07	0.08	13.78	ppb
Bismuth	209-1				102		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Cadmium	108-1	0.03	0.07	0.00	0.03	107.69	ppb
Cadmium	106-1	-0.58	-0.28	-0.19	-0.35		ppb
Cadmium	111-1	-0.03	-0.01	0.00	-0.01		ppb
Calcium	43-1	9.10	5.30	6.35	6.92	28.43	ppb
Calcium	44-1	7.51	4.77	2.61	4.96	49.50	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.01	0.01	0.02	0.01	40.09	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	94.69	ppb
Copper	63-2	0.10	0.10	0.10	0.10	3.87	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				101		%
Indium	115-1				102		%
Indium	115-2				94		%
Iron	54-2	2.71	2.67	2.00	2.46	16.36	ppb
Iron	56-2	2.62	2.57	2.04	2.41	13.46	ppb
Iron	57-2	2.46	2.46	2.82	2.58	8.05	ppb
Krypton	83-1						cps
Lead	206-1	0.17	0.14	0.12	0.15	16.56	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P8
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:54:31 DataFile Name : 042CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.17	0.15	0.12	0.15	18.58	ppb
Lead	208-1	0.17	0.15	0.12	0.15	17.71	ppb
Lithium	6-1				101		%
Magnesium	24-2	4.65	4.29	4.16	4.37	5.73	ppb
Manganese	55-2	0.04	0.10	-0.05	0.03	262.30	ppb
Molybdenum	94-1	0.31	0.27	0.21	0.26	19.18	ppb
Molybdenum	95-1	0.26	0.21	0.17	0.21	23.05	ppb
Molybdenum	96-1	0.27	0.20	0.16	0.21	25.39	ppb
Molybdenum	97-1	0.27	0.19	0.15	0.20	30.02	ppb
Molybdenum	98-1	0.25	0.20	0.16	0.20	24.07	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.04	-0.01	0.01	0.01	220.13	ppb
Phosphorus	31-2	-25.98	-27.61	-23.66	-25.75		ppb
Potassium	39-2	26.74	27.64	23.63	26.00	8.09	ppb
Rhodium	103-1				101		%
Rhodium	103-2				100		%
Scandium	45-1				102		%
Scandium	45-2				98		%
Selenium	82-1	0.24	-0.23	0.31	0.11	278.60	ppb
Selenium	77-2	0.36	-0.18	-0.18	0.00		ppb
Selenium	78-2	-0.75	-0.26	-0.59	-0.54		ppb
Silicon	28-1	-0.64	-0.13	-0.39	-0.39		ppb
Silver	107-1	0.06	0.05	0.04	0.05	15.86	ppb
Silver	109-1	0.06	0.05	0.04	0.05	16.46	ppb
Sodium	23-2	41.68	44.32	38.46	41.49	7.08	ppb
Strontium	86-1	0.01	0.00	0.00	0.00	106.49	ppb
Strontium	88-1	0.02	0.01	0.01	0.01	29.95	ppb
Sulfur	34-1	-387.75	-209.46	-392.85	-330.02		ppb
Terbium	159-1				103		%
Terbium	159-2				99		%
Thallium	203-1	0.04	0.03	0.03	0.04	21.99	ppb
Thallium	205-1	0.04	0.03	0.03	0.03	14.82	ppb
Tin	118-1	0.02	0.01	0.02	0.02	31.43	ppb
Titanium	47-1	0.22	0.13	0.10	0.15	41.45	ppb
Uranium	238-1	0.01	0.01	0.01	0.01	45.46	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P8
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:54:31 DataFile Name : 042CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.01	0.01	0.00	0.01	33.14	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				103		%
Yttrium	89-2				100		%
Zinc	66-2	0.35	0.63	0.35	0.44	36.42	ppb
Zirconium	90-1	0.06	0.05	0.05	0.05	10.26	ppb
Zirconium	91-1	0.05	0.05	0.04	0.05	9.63	ppb

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:19:59 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	183	133	160	159	15.75	cps
Antimony	121-1	33	53	30	39	32.45	cps
Arsenic	75-2	3	17	30	17	80.01	cps
Barium	135-1	123	113	107	114	7.33	cps
Barium	137-1	163	173	180	172	4.87	cps
Beryllium	9-1	190	167	194	184	7.73	cps
Bismuth	209-1	9391830	9335464	9471533	9399609	0.73	cps
Bismuth	209-2	4539966	4469163	4491713	4500281	0.80	cps
Bromine	81-1	25380	24795	25146	25107	1.17	cps
Cadmium	108-1	13	17	40	23	62.27	cps
Cadmium	106-1	7759	7869	8026	7885	1.70	cps
Cadmium	111-1	5445	5550	5627	5541	1.64	cps
Calcium	43-1	840	697	760	766	9.38	cps
Calcium	44-1	21970	21126	21650	21582	1.98	cps
Carbon	12-1	4466720	4398959	4415933	4427204	0.80	cps
Carbon	12-2	30087	30408	30605	30367	0.86	cps
Chlorine	35-1	93868	93439	93657	93655	0.23	cps
Chlorine	35-2	373	407	403	394	4.65	cps
Chromium	52-2	820	843	813	826	1.91	cps
Cobalt	59-2	137	100	163	133	23.85	cps
Copper	63-2	1270	1193	1160	1208	4.67	cps
Dysprosium	156-1	7	27	13	16	65.47	cps
Dysprosium	156-2	13	3	10	9	57.30	cps
Erbium	164-1	113	120	120	118	3.27	cps
Erbium	164-2	33	50	37	40	22.05	cps
Gadolinium	160-1	123	117	127	122	4.17	cps
Gadolinium	160-2	33	43	17	31	43.29	cps
Holmium	165-1	15455465	15505531	15413572	15458189	0.30	cps
Holmium	165-2	6206516	6069364	6086561	6120814	1.22	cps
Indium	115-1	13221831	13399456	13249878	13290388	0.72	cps
Indium	115-2	1596319	1617592	1602370	1605427	0.68	cps
Iron	54-2	467	413	460	447	6.51	cps
Iron	56-2	5191	5054	5008	5084	1.87	cps
Iron	57-2	147	83	97	109	30.67	cps
Krypton	83-1	217	157	243	206	21.59	cps
Lead	206-1	567	593	620	593	4.49	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:19:59 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	443	537	483	488	9.60	cps
Lead	208-1	2180	2280	2293	2251	2.75	cps
Lithium	6-1	5141085	5356609	5151842	5216512	2.33	cps
Magnesium	24-2	303	303	287	298	3.23	cps
Manganese	55-2	3530	3567	3714	3604	2.69	cps
Molybdenum	94-1	503	550	493	516	5.87	cps
Molybdenum	95-1	213	257	227	232	9.56	cps
Molybdenum	96-1	323	390	390	368	10.47	cps
Molybdenum	97-1	147	180	183	170	11.93	cps
Molybdenum	98-1	343	387	357	362	6.13	cps
Neodymium	150-1	13	30	10	18	60.28	cps
Neodymium	150-2	7	0	0	2	173.21	cps
Nickel	60-2	317	333	220	290	21.10	cps
Phosphorus	31-2	73	70	97	80	18.17	cps
Potassium	39-2	14280	14057	14120	14153	0.81	cps
Rhodium	103-1	12835459	12898337	13061404	12931733	0.90	cps
Rhodium	103-2	5603191	5512508	5458547	5524749	1.32	cps
Scandium	45-1	9229689	8857390	9086296	9057792	2.07	cps
Scandium	45-2	190347	191626	190577	190850	0.36	cps
Selenium	82-1	13	60	33	36	65.86	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	23	27	27	26	7.55	cps
Silicon	28-1	574084	611709	583845	589879	3.31	cps
Silver	107-1	193	170	173	179	7.06	cps
Silver	109-1	67	57	60	61	8.33	cps
Sodium	23-2	34390	33675	33709	33925	1.19	cps
Strontium	86-1	433	440	370	414	9.32	cps
Strontium	88-1	447	457	427	443	3.45	cps
Sulfur	34-1	557843	560006	562489	560113	0.42	cps
Terbium	159-1	16192256	16048067	15968937	16069753	0.70	cps
Terbium	159-2	6155733	6161098	6120897	6145909	0.36	cps
Thallium	203-1	203	273	213	230	16.46	cps
Thallium	205-1	507	493	483	494	2.37	cps
Tin	118-1	2637	2690	2944	2757	5.95	cps
Titanium	47-1	243	280	287	270	8.64	cps
Uranium	238-1	380	397	507	428	16.09	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:19:59 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	17	20	27	21	24.12	cps
Ytterbium	172-1	97	97	83	92	8.35	cps
Ytterbium	172-2	63	20	43	42	51.37	cps
Ytterbium	176-1	1817	1897	1927	1880	3.02	cps
Ytterbium	176-2	703	657	603	654	7.65	cps
Yttrium	89-1	24877560	24789962	25253570	24973697	0.99	cps
Yttrium	89-2	2078164	2059372	2070558	2069365	0.46	cps
Zinc	66-2	270	383	330	328	17.30	cps
Zirconium	90-1	1130	1070	1060	1087	3.48	cps
Zirconium	91-1	167	193	227	196	15.37	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P8
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:23:20 DataFile Name : 005CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2104	1757	1990	1950	9.07	cps
Antimony	121-1	42442	43101	42242	42595	1.06	cps
Arsenic	75-2	593	533	613	580	7.18	cps
Barium	135-1	50203	50494	50611	50436	0.42	cps
Barium	137-1	85783	88336	87229	87116	1.47	cps
Beryllium	9-1	6646	6441	6476	6521	1.68	cps
Bismuth	209-1	9448236	9485429	9229571	9387745	1.47	cps
Bismuth	209-2	4473223	4488717	4410660	4457533	0.93	cps
Bromine	81-1	24415	25450	25580	25148	2.54	cps
Cadmium	108-1	447	430	497	458	7.58	cps
Cadmium	106-1	8753	8860	8596	8736	1.52	cps
Cadmium	111-1	11539	11252	10977	11256	2.49	cps
Calcium	43-1	37472	37923	37536	37644	0.65	cps
Calcium	44-1	615748	624017	631721	623829	1.28	cps
Carbon	12-1	4442313	4484147	4629116	4518526	2.17	cps
Carbon	12-2	30909	30639	30328	30625	0.95	cps
Chlorine	35-1	105719	104916	106185	105607	0.61	cps
Chlorine	35-2	427	420	433	427	1.56	cps
Chromium	52-2	11278	11201	10798	11092	2.33	cps
Cobalt	59-2	9920	10601	10451	10324	3.46	cps
Copper	63-2	17204	17030	17458	17231	1.25	cps
Dysprosium	156-1	17	40	13	23	62.27	cps
Dysprosium	156-2	7	10	10	9	21.63	cps
Erbium	164-1	143	110	83	112	26.79	cps
Erbium	164-2	43	37	27	36	23.58	cps
Gadolinium	160-1	87	153	117	119	28.08	cps
Gadolinium	160-2	40	27	33	33	20.00	cps
Holmium	165-1	15286331	15339263	15470286	15365293	0.62	cps
Holmium	165-2	6126109	6216454	6154297	6165620	0.75	cps
Indium	115-1	13627328	13088374	13454435	13390046	2.06	cps
Indium	115-2	1519805	1515364	1618603	1551257	3.76	cps
Iron	54-2	11321	11244	11118	11228	0.92	cps
Iron	56-2	202040	202877	201508	202142	0.34	cps
Iron	57-2	5114	5118	4988	5073	1.46	cps
Krypton	83-1	263	243	313	273	13.19	cps
Lead	206-1	15292	15279	15573	15381	1.08	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P8
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:23:20 DataFile Name : 005CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	13417	13487	13457	13454	0.26	cps
Lead	208-1	61585	61772	61831	61729	0.21	cps
Lithium	6-1	5238199	5337442	5192031	5255891	1.41	cps
Magnesium	24-2	159556	160140	158094	159263	0.66	cps
Manganese	55-2	5735	5798	5634	5722	1.44	cps
Molybdenum	94-1	44745	46347	46093	45728	1.88	cps
Molybdenum	95-1	55855	56250	56417	56174	0.51	cps
Molybdenum	96-1	61867	61964	62798	62210	0.82	cps
Molybdenum	97-1	34540	35061	34673	34758	0.78	cps
Molybdenum	98-1	89553	90328	89825	89902	0.44	cps
Neodymium	150-1	20	23	10	18	39.03	cps
Neodymium	150-2	3	0	3	2	86.60	cps
Nickel	60-2	3214	3177	3014	3135	3.40	cps
Phosphorus	31-2	250	243	257	250	2.67	cps
Potassium	39-2	112816	113989	111873	112893	0.94	cps
Rhodium	103-1	12724981	13003915	13035961	12921619	1.32	cps
Rhodium	103-2	5544871	5560746	5547602	5551073	0.15	cps
Scandium	45-1	9033147	9055630	9040066	9042948	0.13	cps
Scandium	45-2	192252	190026	192884	191721	0.78	cps
Selenium	82-1	1747	1854	1570	1723	8.30	cps
Selenium	77-2	27	47	33	36	28.64	cps
Selenium	78-2	167	133	147	149	11.27	cps
Silicon	28-1	677281	681420	705727	688143	2.23	cps
Silver	107-1	26445	26185	27558	26729	2.73	cps
Silver	109-1	25587	26078	25781	25815	0.96	cps
Sodium	23-2	344015	341886	339595	341832	0.65	cps
Strontium	86-1	7525	7515	7819	7620	2.26	cps
Strontium	88-1	63490	63855	64582	63976	0.87	cps
Sulfur	34-1	565221	568019	571761	568334	0.58	cps
Terbium	159-1	15983044	16079545	16084477	16049022	0.36	cps
Terbium	159-2	6205406	6099637	6110330	6138458	0.95	cps
Thallium	203-1	17806	18760	18513	18360	2.70	cps
Thallium	205-1	43412	45329	44499	44413	2.16	cps
Tin	118-1	90006	90544	90718	90423	0.41	cps
Titanium	47-1	17537	16870	17127	17178	1.96	cps
Uranium	238-1	57894	57911	58367	58057	0.46	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P8
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:23:20 DataFile Name : 005CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	20184	19520	20148	19951	1.87	cps
Ytterbium	172-1	80	110	120	103	20.15	cps
Ytterbium	172-2	60	40	43	48	22.43	cps
Ytterbium	176-1	1954	1987	1994	1978	1.08	cps
Ytterbium	176-2	573	660	643	626	7.35	cps
Yttrium	89-1	24899072	24862082	24811097	24857417	0.18	cps
Yttrium	89-2	2048296	2052070	2070574	2056980	0.58	cps
Zinc	66-2	4761	4704	4554	4673	2.29	cps
Zirconium	90-1	39121	40007	39864	39664	1.20	cps
Zirconium	91-1	8379	8616	8946	8647	3.29	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P8
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:30:04 DataFile Name : 007CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	86327	86354	86220	86300	0.08	cps
Antimony	121-1	1035074	1042273	1054018	1043788	0.92	cps
Arsenic	75-2	23930	24121	24014	24022	0.40	cps
Barium	135-1	1158008	1179625	1187134	1174922	1.29	cps
Barium	137-1	2118653	2151554	2158921	2143043	1.00	cps
Beryllium	9-1	282703	289270	287011	286328	1.17	cps
Bismuth	209-1	9647513	9597830	9576800	9607381	0.38	cps
Bismuth	209-2	4484360	4479965	4390298	4451541	1.19	cps
Bromine	81-1	25233	24668	24916	24939	1.13	cps
Cadmium	108-1	20348	21120	20515	20661	1.96	cps
Cadmium	106-1	37177	38978	37498	37884	2.54	cps
Cadmium	111-1	255587	259367	261963	258972	1.24	cps
Calcium	43-1	340289	343000	342914	342068	0.45	cps
Calcium	44-1	5396127	5433630	5495941	5441899	0.93	cps
Carbon	12-1	4463755	4533183	4470709	4489216	0.85	cps
Carbon	12-2	30769	30395	30732	30632	0.67	cps
Chlorine	35-1	110585	111572	113258	111805	1.21	cps
Chlorine	35-2	477	490	433	467	6.35	cps
Chromium	52-2	234916	233496	233417	233943	0.36	cps
Cobalt	59-2	438337	434364	439814	437505	0.64	cps
Copper	63-2	3612225	3544130	3546511	3567622	1.08	cps
Dysprosium	156-1	70	60	47	59	19.88	cps
Dysprosium	156-2	13	10	3	9	57.30	cps
Erbium	164-1	140	153	127	140	9.52	cps
Erbium	164-2	50	47	30	42	25.38	cps
Gadolinium	160-1	133	117	123	124	6.74	cps
Gadolinium	160-2	37	27	27	30	19.24	cps
Holmium	165-1	15879501	15733711	15571300	15728171	0.98	cps
Holmium	165-2	6188691	6173138	6194676	6185501	0.18	cps
Indium	115-1	13540803	13599696	13372987	13504495	0.87	cps
Indium	115-2	1512719	1501558	1494446	1502907	0.61	cps
Iron	54-2	484677	481809	477032	481173	0.80	cps
Iron	56-2	9020145	9092414	9064182	9058913	0.40	cps
Iron	57-2	222900	222449	221664	222338	0.28	cps
Krypton	83-1	270	203	210	228	16.12	cps
Lead	206-1	3757003	3715395	3832684	3768361	1.58	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P8
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:30:04 DataFile Name : 007CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	3227360	3178458	3250449	3218755	1.14	cps
Lead	208-1	14653168	14753223	15016368	14807586	1.27	cps
Lithium	6-1	5399814	5374930	5495801	5423515	1.18	cps
Magnesium	24-2	1417281	1451551	1409582	1426138	1.57	cps
Manganese	55-2	992901	998174	1003986	998354	0.56	cps
Molybdenum	94-1	3617860	3763067	3676432	3685786	1.98	cps
Molybdenum	95-1	5301335	5412883	5386595	5366938	1.09	cps
Molybdenum	96-1	5748535	5977676	5828200	5851470	1.99	cps
Molybdenum	97-1	3305085	3315357	3336972	3319138	0.49	cps
Molybdenum	98-1	8530767	8690908	8602071	8607915	0.93	cps
Neodymium	150-1	97	87	117	100	15.27	cps
Neodymium	150-2	7	0	10	6	91.64	cps
Nickel	60-2	122451	121073	120878	121468	0.71	cps
Phosphorus	31-2	3907	4167	4301	4125	4.85	cps
Potassium	39-2	470373	473025	466303	469900	0.72	cps
Rhodium	103-1	13073170	12976699	13058589	13036153	0.40	cps
Rhodium	103-2	5507887	5417556	5558943	5494795	1.30	cps
Scandium	45-1	9212230	8992755	9047196	9084060	1.26	cps
Scandium	45-2	189560	190674	188110	189448	0.68	cps
Selenium	82-1	16350	16430	16527	16436	0.54	cps
Selenium	77-2	353	287	330	323	10.46	cps
Selenium	78-2	1130	1147	1100	1126	2.10	cps
Silicon	28-1	5991968	6109689	6197955	6099871	1.69	cps
Silver	107-1	1275096	1310054	1291614	1292255	1.35	cps
Silver	109-1	1218414	1243952	1246124	1236163	1.25	cps
Sodium	23-2	2810647	2815198	2822887	2816244	0.22	cps
Strontium	86-1	323204	333213	330751	329056	1.58	cps
Strontium	88-1	2984567	2986286	3032911	3001255	0.91	cps
Sulfur	34-1	690024	697335	694872	694077	0.54	cps
Terbium	159-1	16386836	16172420	16339166	16299474	0.69	cps
Terbium	159-2	6241538	6239622	6055348	6178836	1.73	cps
Thallium	203-1	842808	856838	866158	855268	1.37	cps
Thallium	205-1	2149579	2152078	2196518	2166058	1.22	cps
Tin	118-1	807403	825338	826758	819833	1.32	cps
Titanium	47-1	1558264	1537970	1565295	1553843	0.91	cps
Uranium	238-1	2714604	2849650	2822374	2795543	2.55	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P8
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 16:30:04 DataFile Name : 007CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	181924	177306	179774	179668	1.29	cps
Ytterbium	172-1	127	103	137	122	14.00	cps
Ytterbium	172-2	57	63	47	56	15.09	cps
Ytterbium	176-1	6138	6222	6105	6155	0.98	cps
Ytterbium	176-2	2164	2117	2314	2198	4.68	cps
Yttrium	89-1	25227502	25288669	25025516	25180562	0.55	cps
Yttrium	89-2	2063250	2098841	2042000	2068031	1.39	cps
Zinc	66-2	381103	384295	383962	383120	0.46	cps
Zirconium	90-1	1826021	1852419	1869145	1849195	1.18	cps
Zirconium	91-1	388911	396175	396852	393979	1.12	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P8
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:13:56 DataFile Name : 013CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	202127	199123	201958	201069	0.84	cps
Antimony	121-1	2828443	2852912	2871180	2850845	0.75	cps
Arsenic	75-2	59060	59220	59401	59227	0.29	cps
Barium	135-1	3128457	3234369	3212390	3191738	1.75	cps
Barium	137-1	5335548	5437684	5447240	5406824	1.15	cps
Beryllium	9-1	693257	711694	705868	703606	1.34	cps
Bismuth	209-1	9471025	9552350	9591068	9538148	0.64	cps
Bismuth	209-2	4424615	4282930	4368083	4358543	1.64	cps
Bromine	81-1	24585	24602	23860	24349	1.74	cps
Cadmium	108-1	51272	51720	52677	51890	1.38	cps
Cadmium	106-1	80614	81391	83044	81683	1.52	cps
Cadmium	111-1	635983	655333	651579	647632	1.58	cps
Calcium	43-1	855578	879045	866430	867018	1.35	cps
Calcium	44-1	13964976	14228016	14124309	14105767	0.94	cps
Carbon	12-1	4068541	3981462	4027616	4025873	1.08	cps
Carbon	12-2	27021	27202	27152	27125	0.34	cps
Chlorine	35-1	101436	101670	101375	101494	0.15	cps
Chlorine	35-2	413	427	403	414	2.83	cps
Chromium	52-2	575208	571254	576045	574169	0.45	cps
Cobalt	59-2	1078450	1078835	1077512	1078266	0.06	cps
Copper	63-2	8709505	8710044	8650880	8690143	0.39	cps
Dysprosium	156-1	87	77	97	87	11.54	cps
Dysprosium	156-2	27	20	17	21	24.12	cps
Erbium	164-1	160	177	203	180	12.15	cps
Erbium	164-2	47	57	77	60	25.46	cps
Gadolinium	160-1	207	167	160	178	14.20	cps
Gadolinium	160-2	43	60	60	54	17.68	cps
Holmium	165-1	15736301	15817001	15717365	15756889	0.34	cps
Holmium	165-2	6325233	6137192	6107619	6190015	1.91	cps
Indium	115-1	13177251	13269098	13126312	13190887	0.55	cps
Indium	115-2	1465580	1449540	1450169	1455096	0.62	cps
Iron	54-2	1199184	1189940	1190668	1193264	0.43	cps
Iron	56-2	22334059	22247053	22218295	22266469	0.27	cps
Iron	57-2	547001	547355	555016	549791	0.82	cps
Krypton	83-1	253	250	247	250	1.33	cps
Lead	206-1	9433732	9510731	9522063	9488842	0.51	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P8
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:13:56 DataFile Name : 013CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	8116338	8239136	8365630	8240368	1.51	cps
Lead	208-1	37471079	38057418	38367557	37965351	1.20	cps
Lithium	6-1	5328772	5183632	5260089	5257498	1.38	cps
Magnesium	24-2	3497567	3546633	3508617	3517606	0.73	cps
Manganese	55-2	2565292	2521593	2547108	2544664	0.86	cps
Molybdenum	94-1	9475629	9367642	9578747	9474006	1.11	cps
Molybdenum	95-1	13539210	13571599	13780742	13630517	0.96	cps
Molybdenum	96-1	14735957	14597946	15006254	14780052	1.41	cps
Molybdenum	97-1	8401790	8299418	8473981	8391730	1.05	cps
Molybdenum	98-1	21931474	21763201	21837341	21844005	0.39	cps
Neodymium	150-1	227	230	257	238	6.92	cps
Neodymium	150-2	17	27	17	20	28.86	cps
Nickel	60-2	296483	294749	293484	294905	0.51	cps
Phosphorus	31-2	10147	9850	10140	10046	1.69	cps
Potassium	39-2	1121410	1129003	1121311	1123908	0.39	cps
Rhodium	103-1	12767681	12727709	12681481	12725624	0.34	cps
Rhodium	103-2	5354441	5266191	5356506	5325713	0.97	cps
Scandium	45-1	9260088	9230222	8982847	9157719	1.66	cps
Scandium	45-2	185580	183010	184657	184416	0.71	cps
Selenium	82-1	40887	41171	41151	41070	0.39	cps
Selenium	77-2	820	750	697	756	8.19	cps
Selenium	78-2	2637	2704	2730	2690	1.79	cps
Silicon	28-1	18561569	18523058	18236491	18440373	0.96	cps
Silver	107-1	3487819	3512987	3543110	3514639	0.79	cps
Silver	109-1	3304655	3326870	3361758	3331095	0.86	cps
Sodium	23-2	6811351	6746051	6763263	6773555	0.50	cps
Strontium	86-1	838556	847219	845287	843687	0.54	cps
Strontium	88-1	7614803	7637398	7662713	7638304	0.31	cps
Sulfur	34-1	827589	826546	814153	822763	0.91	cps
Terbium	159-1	16722414	16777047	16706366	16735276	0.22	cps
Terbium	159-2	5969926	6126718	6023741	6040128	1.32	cps
Thallium	203-1	2343776	2360210	2341909	2348632	0.43	cps
Thallium	205-1	5497589	5607445	5551146	5552060	0.99	cps
Tin	118-1	2166586	2218628	2185536	2190250	1.20	cps
Titanium	47-1	3925670	3930249	3957569	3937830	0.44	cps
Uranium	238-1	7195908	7325092	7338160	7286387	1.08	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P8
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:13:56 DataFile Name : 013CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	442111	442478	442430	442340	0.05	cps
Ytterbium	172-1	123	133	130	129	3.95	cps
Ytterbium	172-2	90	73	53	72	25.42	cps
Ytterbium	176-1	12312	12583	12856	12584	2.16	cps
Ytterbium	176-2	4904	5181	5098	5061	2.81	cps
Yttrium	89-1	25001011	25197667	25129576	25109418	0.40	cps
Yttrium	89-2	2001492	1972913	1982439	1985615	0.73	cps
Zinc	66-2	941481	943489	951638	945536	0.57	cps
Zirconium	90-1	4700872	4740094	4791473	4744146	0.96	cps
Zirconium	91-1	991681	1014906	1019037	1008541	1.46	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P8
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:16:54 DataFile Name : 014CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	383851	383248	380636	382578	0.45	cps
Antimony	121-1	5285700	5373893	5439768	5366454	1.44	cps
Arsenic	75-2	115139	115542	115196	115292	0.19	cps
Barium	135-1	5974690	6109805	6176349	6086948	1.69	cps
Barium	137-1	10447589	10438246	10552247	10479361	0.60	cps
Beryllium	9-1	1303357	1314125	1284340	1300607	1.16	cps
Bismuth	209-1	9469149	9443585	9572286	9495006	0.72	cps
Bismuth	209-2	4305144	4280072	4255432	4280216	0.58	cps
Bromine	81-1	24004	23931	24164	24033	0.50	cps
Cadmium	108-1	99274	102007	99936	100406	1.42	cps
Cadmium	106-1	150938	152644	152208	151930	0.58	cps
Cadmium	111-1	1222408	1242916	1257554	1240960	1.42	cps
Calcium	43-1	1664314	1631942	1697112	1664456	1.96	cps
Calcium	44-1	26104494	26417885	26756848	26426409	1.23	cps
Carbon	12-1	3984436	4001995	3903320	3963250	1.33	cps
Carbon	12-2	27285	27436	27549	27423	0.48	cps
Chlorine	35-1	110655	108613	110336	109868	1.00	cps
Chlorine	35-2	533	417	367	439	19.49	cps
Chromium	52-2	1113677	1106093	1094824	1104865	0.86	cps
Cobalt	59-2	2119455	2197588	2120859	2145967	2.08	cps
Copper	63-2	16633079	16930896	16355191	16639722	1.73	cps
Dysprosium	156-1	173	167	167	169	2.28	cps
Dysprosium	156-2	33	37	30	33	10.01	cps
Erbium	164-1	193	210	223	209	7.20	cps
Erbium	164-2	63	70	80	71	11.80	cps
Gadolinium	160-1	170	203	200	191	9.61	cps
Gadolinium	160-2	63	63	70	66	5.87	cps
Holmium	165-1	15679384	15729174	15982681	15797080	1.03	cps
Holmium	165-2	6068995	6038904	6073280	6060393	0.31	cps
Indium	115-1	12918025	13124897	13263194	13102039	1.33	cps
Indium	115-2	1410399	1423778	1413443	1415873	0.50	cps
Iron	54-2	2390285	2355674	2329351	2358436	1.30	cps
Iron	56-2	43419491	42447687	42657594	42841591	1.19	cps
Iron	57-2	1050596	1058253	1048979	1052609	0.47	cps
Krypton	83-1	233	253	270	252	7.28	cps
Lead	206-1	18235733	18633988	18904843	18591521	1.81	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P8
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:16:54 DataFile Name : 014CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	15699272	15807131	16261561	15922655	1.87	cps
Lead	208-1	73025039	73786760	75276093	74029298	1.55	cps
Lithium	6-1	5213305	5249415	5186658	5216460	0.60	cps
Magnesium	24-2	6662021	6612037	6487333	6587130	1.37	cps
Manganese	55-2	4937397	4795966	4884992	4872785	1.47	cps
Molybdenum	94-1	17840783	18283762	18238827	18121124	1.35	cps
Molybdenum	95-1	25471315	26367350	26504025	26114230	2.15	cps
Molybdenum	96-1	28135047	28749025	28599039	28494370	1.12	cps
Molybdenum	97-1	16009183	16220833	16317954	16182657	0.98	cps
Molybdenum	98-1	41643840	42124067	42293573	42020493	0.80	cps
Neodymium	150-1	500	453	510	488	6.20	cps
Neodymium	150-2	30	33	43	36	19.51	cps
Nickel	60-2	565845	561735	563496	563692	0.37	cps
Phosphorus	31-2	19343	18962	18829	19045	1.40	cps
Potassium	39-2	2229325	2164701	2159874	2184633	1.78	cps
Rhodium	103-1	12312524	12300324	12268051	12293633	0.19	cps
Rhodium	103-2	5218724	5192960	5225970	5212551	0.33	cps
Scandium	45-1	8926315	8796269	8796311	8839632	0.85	cps
Scandium	45-2	183057	179222	177036	179772	1.70	cps
Selenium	82-1	78090	80775	79777	79548	1.71	cps
Selenium	77-2	1390	1517	1733	1547	11.23	cps
Selenium	78-2	4938	5208	5218	5121	3.10	cps
Silicon	28-1	34438214	35136304	35282359	34952293	1.29	cps
Silver	107-1	6559448	6667471	6717809	6648243	1.22	cps
Silver	109-1	6287105	6278528	6310394	6292009	0.26	cps
Sodium	23-2	12962905	13022750	12780282	12921979	0.98	cps
Strontium	86-1	1682885	1694566	1715336	1697596	0.97	cps
Strontium	88-1	14504494	14865147	14808793	14726145	1.32	cps
Sulfur	34-1	925250	938735	1051734	971906	7.15	cps
Terbium	159-1	16407942	16435994	16299021	16380985	0.44	cps
Terbium	159-2	5974397	6031314	5970893	5992202	0.57	cps
Thallium	203-1	4537724	4557270	4656837	4583944	1.39	cps
Thallium	205-1	10427047	10875595	10935163	10745935	2.58	cps
Tin	118-1	4120296	4195597	4349074	4221655	2.76	cps
Titanium	47-1	7308605	7381434	7471881	7387307	1.11	cps
Uranium	238-1	13969065	14273781	14286640	14176495	1.27	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P8
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:16:54 DataFile Name : 014CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	855750	851861	845972	851194	0.58	cps
Ytterbium	172-1	163	203	203	190	12.15	cps
Ytterbium	172-2	80	80	77	79	2.44	cps
Ytterbium	176-1	22763	23117	23013	22964	0.79	cps
Ytterbium	176-2	8826	8539	8616	8661	1.71	cps
Yttrium	89-1	25038920	24662267	24729503	24810230	0.81	cps
Yttrium	89-2	1946528	1987883	1945754	1960055	1.23	cps
Zinc	66-2	1913940	1932733	1870325	1905666	1.68	cps
Zirconium	90-1	8984342	9275974	9193284	9151200	1.64	cps
Zirconium	91-1	1997131	2064774	2079962	2047289	2.15	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P8
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:19:44 DataFile Name : 015CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	728928	738907	732888	733574	0.69	cps
Antimony	121-1	10230050	10164531	10172492	10189024	0.35	cps
Arsenic	75-2	220200	220217	220441	220286	0.06	cps
Barium	135-1	11831404	11859190	11594392	11761662	1.24	cps
Barium	137-1	20339492	20256878	20321658	20306009	0.21	cps
Beryllium	9-1	2398001	2467934	2438334	2434756	1.44	cps
Bismuth	209-1	9186514	9252184	9195915	9211538	0.39	cps
Bismuth	209-2	4140554	4096125	4101447	4112709	0.59	cps
Bromine	81-1	23824	24081	23500	23801	1.22	cps
Cadmium	108-1	189737	192701	191918	191452	0.80	cps
Cadmium	106-1	277662	284553	285377	282531	1.50	cps
Cadmium	111-1	2491644	2607797	2498427	2532623	2.57	cps
Calcium	43-1	3151048	3184209	3191235	3175498	0.68	cps
Calcium	44-1	51143894	52181421	51157119	51494145	1.16	cps
Carbon	12-1	4008437	3977440	4002928	3996269	0.41	cps
Carbon	12-2	27856	28184	27790	27943	0.75	cps
Chlorine	35-1	124082	124093	124442	124206	0.16	cps
Chlorine	35-2	523	573	483	527	8.56	cps
Chromium	52-2	2179202	2161874	2165759	2168945	0.42	cps
Cobalt	59-2	4031918	4132449	4159407	4107924	1.64	cps
Copper	63-2	31532459	31449715	31214051	31398741	0.53	cps
Dysprosium	156-1	310	277	307	298	6.17	cps
Dysprosium	156-2	67	53	63	61	11.36	cps
Erbium	164-1	293	327	280	300	8.01	cps
Erbium	164-2	60	117	100	92	31.58	cps
Gadolinium	160-1	267	210	280	252	14.74	cps
Gadolinium	160-2	83	47	87	72	30.73	cps
Holmium	165-1	15403617	15669614	15604230	15559154	0.89	cps
Holmium	165-2	6011289	5923254	5950481	5961675	0.76	cps
Indium	115-1	12753773	12740345	12715888	12736669	0.15	cps
Indium	115-2	1351106	1346351	1356236	1351231	0.37	cps
Iron	54-2	4452034	4446265	4424301	4440867	0.33	cps
Iron	56-2	81849855	82274052	81926809	82016905	0.28	cps
Iron	57-2	2123665	2149860	2114183	2129236	0.87	cps
Krypton	83-1	203	230	190	208	9.80	cps
Lead	206-1	35300662	36068924	36445401	35938329	1.62	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P8
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:19:44 DataFile Name : 015CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	30377351	30972825	30619292	30656490	0.98	cps
Lead	208-1	140446884	142687851	143057812	142064182	0.99	cps
Lithium	6-1	5063345	5188307	5220452	5157368	1.61	cps
Magnesium	24-2	12665409	12739837	12531134	12645460	0.84	cps
Manganese	55-2	9183408	9175967	9162127	9173834	0.12	cps
Molybdenum	94-1	34049985	35811842	35298402	35053410	2.58	cps
Molybdenum	95-1	49769776	51019958	52386511	51058748	2.56	cps
Molybdenum	96-1	54371463	55312426	57097422	55593770	2.49	cps
Molybdenum	97-1	30399553	31082170	31965885	31149202	2.52	cps
Molybdenum	98-1	80237140	82102609	82348742	81562830	1.42	cps
Neodymium	150-1	830	907	900	879	4.83	cps
Neodymium	150-2	53	50	50	51	3.76	cps
Nickel	60-2	1066770	1073298	1063928	1067999	0.45	cps
Phosphorus	31-2	35680	35694	36339	35904	1.05	cps
Potassium	39-2	4239447	4065230	4092679	4132452	2.27	cps
Rhodium	103-1	11788197	11848121	12098275	11911531	1.38	cps
Rhodium	103-2	5058031	5005960	4974700	5012897	0.84	cps
Scandium	45-1	8702208	8622295	8666701	8663735	0.46	cps
Scandium	45-2	174840	173186	176057	174694	0.82	cps
Selenium	82-1	149563	151612	153903	151693	1.43	cps
Selenium	77-2	3004	2960	2787	2917	3.93	cps
Selenium	78-2	9753	9947	9840	9847	0.98	cps
Silicon	28-1	65554776	64918186	66002086	65491682	0.83	cps
Silver	107-1	12504446	12531790	12617203	12551146	0.47	cps
Silver	109-1	11871438	12235961	12095425	12067608	1.52	cps
Sodium	23-2	24973657	24854900	24860865	24896474	0.27	cps
Strontium	86-1	3266072	3304768	3273114	3281318	0.63	cps
Strontium	88-1	27885210	28635300	28823873	28448127	1.75	cps
Sulfur	34-1	1306736	1287848	1294839	1296475	0.74	cps
Terbium	159-1	15888193	16109119	16118893	16038735	0.81	cps
Terbium	159-2	5787860	5912042	5852405	5850769	1.06	cps
Thallium	203-1	8604255	8898969	8947618	8816948	2.11	cps
Thallium	205-1	20749549	20718014	20958328	20808630	0.63	cps
Tin	118-1	8065054	8134038	8153204	8117432	0.57	cps
Titanium	47-1	14284195	14709122	14429951	14474423	1.49	cps
Uranium	238-1	27424280	28557990	27792858	27925043	2.07	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P8
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:19:44 DataFile Name : 015CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1663532	1655051	1675108	1664564	0.60	cps
Ytterbium	172-1	290	313	273	292	6.88	cps
Ytterbium	172-2	110	153	127	130	16.82	cps
Ytterbium	176-1	42421	42615	43639	42892	1.52	cps
Ytterbium	176-2	16073	16067	16888	16342	2.89	cps
Yttrium	89-1	24407766	24387899	24167920	24321195	0.55	cps
Yttrium	89-2	1939361	1856991	1919827	1905393	2.26	cps
Zinc	66-2	3639445	3575833	3532780	3582686	1.50	cps
Zirconium	90-1	17306751	18097446	18007423	17803874	2.43	cps
Zirconium	91-1	3866152	4045918	4048099	3986723	2.62	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P8
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:22:29 DataFile Name : 016CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1425696	1410573	1389093	1408454	1.31	cps
Antimony	121-1	19280152	19402395	19616046	19432864	0.87	cps
Arsenic	75-2	424771	420117	419929	421606	0.65	cps
Barium	135-1	22630954	23056950	23191689	22959864	1.27	cps
Barium	137-1	38697594	39652638	38802163	39050798	1.34	cps
Beryllium	9-1	4537410	4621175	4714953	4624512	1.92	cps
Bismuth	209-1	8786964	8913378	8963784	8888042	1.02	cps
Bismuth	209-2	3980695	3908532	3965320	3951516	0.96	cps
Bromine	81-1	22702	23249	22752	22901	1.32	cps
Cadmium	108-1	360566	362208	365210	362661	0.65	cps
Cadmium	106-1	523187	534991	531967	530048	1.16	cps
Cadmium	111-1	4685516	4837684	4827933	4783711	1.78	cps
Calcium	43-1	6081718	6158950	6188143	6142937	0.90	cps
Calcium	44-1	98729545	100221752	100657865	99869721	1.01	cps
Carbon	12-1	4064098	4104395	4165251	4111248	1.24	cps
Carbon	12-2	29536	29296	29790	29541	0.84	cps
Chlorine	35-1	156007	157728	160498	158078	1.43	cps
Chlorine	35-2	610	763	610	661	13.39	cps
Chromium	52-2	4224630	4113250	4141891	4159924	1.39	cps
Cobalt	59-2	7677108	7636407	7561132	7624882	0.77	cps
Copper	63-2	59215722	58918472	59042041	59058745	0.25	cps
Dysprosium	156-1	507	560	530	532	5.02	cps
Dysprosium	156-2	93	93	103	97	5.97	cps
Erbium	164-1	457	467	483	469	2.87	cps
Erbium	164-2	163	150	153	156	4.46	cps
Gadolinium	160-1	317	407	357	360	12.53	cps
Gadolinium	160-2	113	117	133	121	8.85	cps
Holmium	165-1	15090219	15127244	14972547	15063337	0.54	cps
Holmium	165-2	5813625	5888250	5757601	5819825	1.13	cps
Indium	115-1	11868504	11882526	12173047	11974692	1.44	cps
Indium	115-2	1271202	1270164	1253590	1264985	0.78	cps
Iron	54-2	8568195	8653803	8468831	8563610	1.08	cps
Iron	56-2	159042374	156716928	154722844	156827382	1.38	cps
Iron	57-2	4013741	3939233	4025569	3992848	1.17	cps
Krypton	83-1	230	287	273	263	11.25	cps
Lead	206-1	67697192	69689959	69789191	69058781	1.71	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P8
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:22:29 DataFile Name : 016CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	58049249	59643179	59828301	59173576	1.65	cps
Lead	208-1	268364193	275050193	277990983	273801789	1.80	cps
Lithium	6-1	4948525	4914533	5004845	4955967	0.92	cps
Magnesium	24-2	24168744	23946113	23726130	23946995	0.92	cps
Manganese	55-2	18086704	18075233	17865521	18009153	0.69	cps
Molybdenum	94-1	66336107	68574326	69077589	67996007	2.15	cps
Molybdenum	95-1	96732489	100212872	98181382	98375581	1.78	cps
Molybdenum	96-1	104626365	108913688	107872182	107137412	2.09	cps
Molybdenum	97-1	58979432	60408912	61430547	60272964	2.04	cps
Molybdenum	98-1	153745991	158936011	160688431	157790144	2.29	cps
Neodymium	150-1	1640	1713	1703	1686	2.36	cps
Neodymium	150-2	137	143	113	131	12.01	cps
Nickel	60-2	2170686	2174960	2161845	2169164	0.31	cps
Phosphorus	31-2	68243	67653	68591	68162	0.70	cps
Potassium	39-2	7763106	7720585	7765209	7749633	0.32	cps
Rhodium	103-1	11199534	11241765	11346943	11262747	0.67	cps
Rhodium	103-2	4845809	4754042	4724777	4774876	1.32	cps
Scandium	45-1	8340843	8508824	8289237	8379635	1.37	cps
Scandium	45-2	170433	172204	171203	171280	0.52	cps
Selenium	82-1	286400	289775	289033	288403	0.61	cps
Selenium	77-2	5448	5351	5544	5448	1.77	cps
Selenium	78-2	18486	18683	18322	18497	0.98	cps
Silicon	28-1	121137068	123488245	121686638	122103984	1.01	cps
Silver	107-1	23831737	23767783	23724355	23774625	0.23	cps
Silver	109-1	22533479	22625797	23099192	22752823	1.33	cps
Sodium	23-2	47896316	46905863	47083804	47295328	1.12	cps
Strontium	86-1	6155182	6312856	6433627	6300555	2.22	cps
Strontium	88-1	54413276	55832659	56159421	55468452	1.67	cps
Sulfur	34-1	2007785	2006026	2029866	2014559	0.66	cps
Terbium	159-1	15688246	15760504	15922064	15790271	0.76	cps
Terbium	159-2	5703406	5775634	5619098	5699379	1.37	cps
Thallium	203-1	16574401	16922064	16843646	16780037	1.09	cps
Thallium	205-1	39741865	41062979	41013862	40606236	1.84	cps
Tin	118-1	15417349	15630350	16018959	15688886	1.94	cps
Titanium	47-1	27436445	27517636	28504300	27819460	2.14	cps
Uranium	238-1	53242449	54294818	54871864	54136377	1.53	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P8
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:22:29 DataFile Name : 016CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	3258465	3270602	3161174	3230080	1.86	cps
Ytterbium	172-1	477	513	570	520	9.04	cps
Ytterbium	172-2	217	203	223	214	4.75	cps
Ytterbium	176-1	80010	81707	83136	81618	1.92	cps
Ytterbium	176-2	30509	30883	31264	30885	1.22	cps
Yttrium	89-1	23343349	23455238	24090257	23629615	1.70	cps
Yttrium	89-2	1867419	1887160	1873698	1876093	0.54	cps
Zinc	66-2	6680794	6720535	6679052	6693461	0.35	cps
Zirconium	90-1	33227455	34446722	35001234	34225137	2.65	cps
Zirconium	91-1	7444251	7797191	7555574	7599005	2.37	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P8
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:25:17 DataFile Name : 017CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	6626858	6605216	6620536	6617537	0.17	cps
Antimony	121-1	14371	13837	13280	13829	3.95	cps
Arsenic	75-2	183	200	213	199	7.56	cps
Barium	135-1	8983	9106	8840	8976	1.49	cps
Barium	137-1	16260	15325	14998	15528	4.22	cps
Beryllium	9-1	1041	897	825	921	11.95	cps
Bismuth	209-1	7800469	7778501	7768729	7782566	0.21	cps
Bismuth	209-2	3465183	3461694	3421700	3449526	0.70	cps
Bromine	81-1	22057	21891	21653	21867	0.93	cps
Cadmium	108-1	217	183	160	187	15.26	cps
Cadmium	106-1	7269	7179	6848	7099	3.12	cps
Cadmium	111-1	5670	5550	5295	5505	3.47	cps
Calcium	43-1	28138276	28535648	28204245	28292723	0.75	cps
Calcium	44-1	457672873	458261113	462337913	459423966	0.55	cps
Carbon	12-1	3903039	3990630	4061446	3985038	1.99	cps
Carbon	12-2	35028	34641	34741	34803	0.58	cps
Chlorine	35-1	129674	132449	132809	131644	1.30	cps
Chlorine	35-2	500	567	553	540	6.53	cps
Chromium	52-2	34645	34588	34655	34630	0.10	cps
Cobalt	59-2	15689	16089	15265	15681	2.63	cps
Copper	63-2	15862	15539	15398	15600	1.52	cps
Dysprosium	156-1	693	747	793	744	6.72	cps
Dysprosium	156-2	200	233	237	223	9.08	cps
Erbium	164-1	813	807	713	778	7.19	cps
Erbium	164-2	293	293	303	297	1.95	cps
Gadolinium	160-1	557	667	633	619	9.11	cps
Gadolinium	160-2	300	320	293	304	4.56	cps
Holmium	165-1	14021202	14305803	14167084	14164696	1.00	cps
Holmium	165-2	5440572	5384474	5454721	5426589	0.68	cps
Indium	115-1	11467445	11229787	11252942	11316725	1.16	cps
Indium	115-2	1227400	1230388	1230411	1229400	0.14	cps
Iron	54-2	38612567	39038626	38007889	38553027	1.34	cps
Iron	56-2	726561323	719519483	716016416	720699074	0.75	cps
Iron	57-2	18320482	18081428	18187477	18196462	0.66	cps
Krypton	83-1	297	313	313	308	3.13	cps
Lead	206-1	71375	70356	70306	70679	0.85	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P8
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:25:17 DataFile Name : 017CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	62121	62198	62088	62136	0.09	cps
Lead	208-1	284363	281905	281376	282548	0.56	cps
Lithium	6-1	4569415	4462326	4463818	4498520	1.36	cps
Magnesium	24-2	112106905	112362328	111310255	111926496	0.49	cps
Manganese	55-2	11922	11935	11972	11943	0.22	cps
Molybdenum	94-1	15435	14091	13777	14434	6.10	cps
Molybdenum	95-1	15843	14588	14091	14840	6.08	cps
Molybdenum	96-1	25093	23133	23450	23892	4.40	cps
Molybdenum	97-1	9333	8850	8009	8731	7.67	cps
Molybdenum	98-1	23741	21467	20278	21829	8.06	cps
Neodymium	150-1	383	333	327	348	8.91	cps
Neodymium	150-2	80	100	83	88	12.21	cps
Nickel	60-2	9573	9497	9517	9529	0.42	cps
Phosphorus	31-2	97	110	97	101	7.61	cps
Potassium	39-2	37724316	37509654	37500212	37578061	0.34	cps
Rhodium	103-1	10033277	10108894	9984842	10042338	0.62	cps
Rhodium	103-2	4268409	4158947	4198923	4208760	1.32	cps
Scandium	45-1	7691330	7849895	7699681	7746969	1.15	cps
Scandium	45-2	161268	161000	159994	160754	0.42	cps
Selenium	82-1	207	183	203	198	6.38	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	7	27	27	20	57.73	cps
Silicon	28-1	685682	635021	633160	651288	4.58	cps
Silver	107-1	3177	2597	2274	2683	17.07	cps
Silver	109-1	2867	2344	2164	2458	14.87	cps
Sodium	23-2	217228117	221287937	219588017	219368023	0.93	cps
Strontium	86-1	19233	19524	19681	19479	1.16	cps
Strontium	88-1	166863	166472	168250	167195	0.56	cps
Sulfur	34-1	429680	424930	427352	427320	0.56	cps
Terbium	159-1	14823255	14824996	14987426	14878559	0.63	cps
Terbium	159-2	5408053	5341537	5339019	5362869	0.73	cps
Thallium	203-1	1850	1480	1463	1598	13.68	cps
Thallium	205-1	4287	3781	3430	3833	11.24	cps
Tin	118-1	6125	5731	5778	5878	3.66	cps
Titanium	47-1	3080	2570	2384	2678	13.47	cps
Uranium	238-1	3741	2970	2584	3098	19.01	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P8
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:25:17 DataFile Name : 017CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	787	827	843	819	3.56	cps
Ytterbium	172-1	1170	1243	1223	1212	3.13	cps
Ytterbium	172-2	617	470	487	524	15.31	cps
Ytterbium	176-1	2557	2600	2300	2486	6.52	cps
Ytterbium	176-2	867	930	813	870	6.71	cps
Yttrium	89-1	21794862	21796935	21571644	21721147	0.60	cps
Yttrium	89-2	1811241	1742329	1794198	1782589	2.01	cps
Zinc	66-2	38095	37008	37890	37664	1.53	cps
Zirconium	90-1	17521	16740	16720	16994	2.69	cps
Zirconium	91-1	3694	3791	3600	3695	2.57	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P8
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:32:16 DataFile Name : 018ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	38477	38401	37933	38270	0.77	cps
Antimony	121-1	4294704	4331542	4226999	4284415	1.24	cps
Arsenic	75-2	95504	95853	96360	95905	0.45	cps
Barium	135-1	476670	488473	489856	485000	1.49	cps
Barium	137-1	826677	847361	848644	840894	1.47	cps
Beryllium	9-1	566746	572990	569126	569620	0.55	cps
Bismuth	209-1	9918186	9413290	9558311	9629929	2.70	cps
Bismuth	209-2	4403504	4404766	4399660	4402643	0.06	cps
Bromine	81-1	24498	24508	24702	24569	0.47	cps
Cadmium	108-1	33741	34687	34680	34369	1.58	cps
Cadmium	106-1	54999	55762	54594	55118	1.08	cps
Cadmium	111-1	518277	527306	527666	524416	1.01	cps
Calcium	43-1	131918	132971	136292	133727	1.71	cps
Calcium	44-1	2174408	2177469	2232728	2194868	1.50	cps
Carbon	12-1	4118750	4184016	4148203	4150323	0.79	cps
Carbon	12-2	28648	28938	28835	28807	0.51	cps
Chlorine	35-1	119014	122455	123144	121538	1.82	cps
Chlorine	35-2	517	473	533	508	6.10	cps
Chromium	52-2	468778	472266	466703	469249	0.60	cps
Cobalt	59-2	898026	899935	889708	895890	0.61	cps
Copper	63-2	697396	704121	697460	699659	0.55	cps
Dysprosium	156-1	40	27	27	31	24.74	cps
Dysprosium	156-2	10	3	7	7	50.03	cps
Erbium	164-1	137	93	130	120	19.44	cps
Erbium	164-2	33	50	43	42	19.87	cps
Gadolinium	160-1	123	147	100	123	18.92	cps
Gadolinium	160-2	23	33	27	28	18.33	cps
Holmium	165-1	16375330	15695161	15671597	15914029	2.51	cps
Holmium	165-2	6232044	6248871	6243847	6241587	0.14	cps
Indium	115-1	13758255	13460774	13384816	13534615	1.46	cps
Indium	115-2	1498987	1496185	1502323	1499165	0.20	cps
Iron	54-2	387680	390027	392237	389981	0.58	cps
Iron	56-2	7236229	7127746	7155596	7173190	0.79	cps
Iron	57-2	175219	175135	173690	174682	0.49	cps
Krypton	83-1	237	230	263	243	7.25	cps
Lead	206-1	3194323	3197038	3230265	3207209	0.62	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P8
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:32:16 DataFile Name : 018ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	2677773	2685767	2673221	2678920	0.24	cps
Lead	208-1	12294965	12369543	12471598	12378702	0.72	cps
Lithium	6-1	5406742	5321510	5332580	5353611	0.87	cps
Magnesium	24-2	319162	314617	317361	317047	0.72	cps
Manganese	55-2	203998	201475	203264	202912	0.64	cps
Molybdenum	94-1	1403	1330	1370	1368	2.68	cps
Molybdenum	95-1	1190	1083	960	1078	10.68	cps
Molybdenum	96-1	1463	1200	1293	1319	10.12	cps
Molybdenum	97-1	587	450	597	544	15.05	cps
Molybdenum	98-1	1357	1593	1460	1470	8.07	cps
Neodymium	150-1	60	53	63	59	8.65	cps
Neodymium	150-2	0	7	3	3	100.05	cps
Nickel	60-2	249066	248905	246022	247998	0.69	cps
Phosphorus	31-2	63	87	60	70	20.76	cps
Potassium	39-2	360757	361171	358833	360254	0.35	cps
Rhodium	103-1	13084849	12996268	12547992	12876370	2.24	cps
Rhodium	103-2	5553080	5514469	5520175	5529241	0.38	cps
Scandium	45-1	9303161	8969261	9047813	9106745	1.92	cps
Scandium	45-2	187223	183557	186412	185731	1.04	cps
Selenium	82-1	66535	68303	68856	67898	1.79	cps
Selenium	77-2	1397	1377	1390	1388	0.73	cps
Selenium	78-2	4624	4367	4357	4450	3.40	cps
Silicon	28-1	519555	538023	536067	531215	1.91	cps
Silver	107-1	1341685	1357047	1381119	1359950	1.46	cps
Silver	109-1	1274662	1283649	1300690	1286334	1.03	cps
Sodium	23-2	1123313	1100895	1109649	1111285	1.02	cps
Strontium	86-1	2030	1857	2220	2036	8.93	cps
Strontium	88-1	14871	15492	15542	15302	2.44	cps
Sulfur	34-1	504122	505375	506990	505496	0.28	cps
Terbium	159-1	16794436	16475449	16515722	16595202	1.05	cps
Terbium	159-2	6081224	6015183	6061424	6052610	0.56	cps
Thallium	203-1	3812473	3885829	3782079	3826793	1.39	cps
Thallium	205-1	9132625	9011291	9101965	9081960	0.69	cps
Tin	118-1	2827	2837	2894	2853	1.26	cps
Titanium	47-1	473	407	410	430	8.74	cps
Uranium	238-1	303	317	187	269	26.60	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P8
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:32:16 DataFile Name : 018ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	357071	356457	353022	355516	0.61	cps
Ytterbium	172-1	103	107	120	110	8.01	cps
Ytterbium	172-2	47	53	47	49	7.86	cps
Ytterbium	176-1	1970	1843	1717	1843	6.87	cps
Ytterbium	176-2	673	650	650	658	2.05	cps
Yttrium	89-1	25584321	24769995	25442497	25265605	1.72	cps
Yttrium	89-2	2008338	2031916	2021461	2020572	0.58	cps
Zinc	66-2	151334	154296	152013	152548	1.02	cps
Zirconium	90-1	2217	2544	2170	2310	8.81	cps
Zirconium	91-1	1020	1057	1020	1032	2.05	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P8
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:42:08 DataFile Name : 020LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1860	1837	1880	1859	1.17	cps
Antimony	121-1	43175	42900	43676	43250	0.91	cps
Arsenic	75-2	537	577	480	531	9.15	cps
Barium	135-1	50514	50330	51444	50762	1.18	cps
Barium	137-1	86018	86907	88242	87055	1.29	cps
Beryllium	9-1	6192	6324	6263	6260	1.06	cps
Bismuth	209-1	9699267	9635903	9541698	9625623	0.82	cps
Bismuth	209-2	4534605	4430075	4512922	4492534	1.23	cps
Bromine	81-1	25664	25199	24779	25214	1.76	cps
Cadmium	108-1	430	447	487	454	6.41	cps
Cadmium	106-1	8533	8743	8179	8485	3.36	cps
Cadmium	111-1	11220	11349	10986	11185	1.64	cps
Calcium	43-1	38044	37318	37806	37723	0.98	cps
Calcium	44-1	612225	616265	608010	612167	0.67	cps
Carbon	12-1	3860346	3888957	3971617	3906973	1.48	cps
Carbon	12-2	26374	26430	26217	26340	0.42	cps
Chlorine	35-1	90229	88884	89122	89412	0.80	cps
Chlorine	35-2	387	310	400	366	13.29	cps
Chromium	52-2	11224	10978	11058	11087	1.14	cps
Cobalt	59-2	10080	10007	9813	9967	1.38	cps
Copper	63-2	16383	16450	16313	16382	0.42	cps
Dysprosium	156-1	40	17	27	28	42.13	cps
Dysprosium	156-2	7	7	10	8	24.71	cps
Erbium	164-1	153	103	73	110	36.75	cps
Erbium	164-2	33	33	53	40	28.87	cps
Gadolinium	160-1	137	130	130	132	2.91	cps
Gadolinium	160-2	43	43	37	41	9.35	cps
Holmium	165-1	15827855	15775034	15771361	15791417	0.20	cps
Holmium	165-2	6198906	6151397	6201085	6183796	0.45	cps
Indium	115-1	13487528	13407786	13664865	13520060	0.97	cps
Indium	115-2	1622014	1510227	1513608	1548617	4.11	cps
Iron	54-2	10838	11108	11028	10991	1.26	cps
Iron	56-2	197329	201092	196858	198426	1.17	cps
Iron	57-2	4934	4988	5014	4979	0.82	cps
Krypton	83-1	193	220	230	214	8.84	cps
Lead	206-1	16531	15880	16347	16253	2.06	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P8
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:42:08 DataFile Name : 020LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	13901	13841	14221	13988	1.46	cps
Lead	208-1	64456	64658	64710	64608	0.21	cps
Lithium	6-1	5245753	5248716	5238784	5244418	0.10	cps
Magnesium	24-2	151845	153971	151680	152498	0.84	cps
Manganese	55-2	5518	5631	5801	5650	2.52	cps
Molybdenum	94-1	45802	46360	45671	45944	0.80	cps
Molybdenum	95-1	55008	55072	55329	55136	0.31	cps
Molybdenum	96-1	60524	61951	60990	61155	1.19	cps
Molybdenum	97-1	34045	33915	34486	34149	0.88	cps
Molybdenum	98-1	88909	87205	89949	88688	1.56	cps
Neodymium	150-1	17	27	23	22	22.91	cps
Neodymium	150-2	0	3	3	2	86.60	cps
Nickel	60-2	3080	2800	2837	2906	5.24	cps
Phosphorus	31-2	267	160	177	201	28.53	cps
Potassium	39-2	110425	109035	110462	109974	0.74	cps
Rhodium	103-1	13023709	13007843	12789978	12940510	1.01	cps
Rhodium	103-2	5454067	5456429	5581942	5497479	1.33	cps
Scandium	45-1	9226629	9216777	9129509	9190972	0.58	cps
Scandium	45-2	189499	188936	189191	189209	0.15	cps
Selenium	82-1	1677	1837	1743	1752	4.59	cps
Selenium	77-2	53	43	33	43	23.08	cps
Selenium	78-2	157	127	150	144	10.91	cps
Silicon	28-1	608836	606229	621283	612116	1.31	cps
Silver	107-1	26980	26676	28022	27226	2.59	cps
Silver	109-1	25691	25637	26192	25840	1.18	cps
Sodium	23-2	336232	334765	333370	334789	0.43	cps
Strontium	86-1	7579	7302	7429	7436	1.86	cps
Strontium	88-1	62127	63312	63992	63144	1.49	cps
Sulfur	34-1	529516	532510	535097	532374	0.52	cps
Terbium	159-1	16445077	16125493	16488867	16353146	1.21	cps
Terbium	159-2	6080586	6164675	6059983	6101748	0.91	cps
Thallium	203-1	18460	18383	18213	18352	0.69	cps
Thallium	205-1	44359	45215	45355	44977	1.20	cps
Tin	118-1	88896	89990	89980	89622	0.70	cps
Titanium	47-1	16573	16890	16640	16701	1.00	cps
Uranium	238-1	56900	57466	58564	57643	1.47	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P8
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:42:08 DataFile Name : 020LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	19236	19533	18919	19230	1.60	cps
Ytterbium	172-1	83	113	97	98	15.37	cps
Ytterbium	172-2	20	37	43	33	36.05	cps
Ytterbium	176-1	1950	1870	1693	1838	7.15	cps
Ytterbium	176-2	637	690	657	661	4.08	cps
Yttrium	89-1	24833235	25477596	25443401	25251411	1.44	cps
Yttrium	89-2	2075519	2018893	2054777	2049730	1.40	cps
Zinc	66-2	4541	4484	4551	4525	0.79	cps
Zirconium	90-1	39482	40158	39743	39794	0.86	cps
Zirconium	91-1	8463	9033	8870	8788	3.34	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P8
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:46:45 DataFile Name : 021CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	170	190	160	173	8.81	cps
Antimony	121-1	247	233	217	232	6.47	cps
Arsenic	75-2	10	0	13	8	89.21	cps
Barium	135-1	97	107	70	91	20.80	cps
Barium	137-1	157	170	127	151	14.69	cps
Beryllium	9-1	224	200	179	201	11.21	cps
Bismuth	209-1	9660725	9673624	9589309	9641219	0.47	cps
Bismuth	209-2	4502593	4531825	4494315	4509578	0.44	cps
Bromine	81-1	24545	25483	25473	25167	2.14	cps
Cadmium	108-1	10	27	17	18	47.19	cps
Cadmium	106-1	8016	7839	7559	7804	2.95	cps
Cadmium	111-1	5617	5495	5313	5475	2.80	cps
Calcium	43-1	773	683	750	736	6.35	cps
Calcium	44-1	20047	19951	19804	19934	0.62	cps
Carbon	12-1	3880425	4038617	3956841	3958628	2.00	cps
Carbon	12-2	26881	26584	26754	26740	0.56	cps
Chlorine	35-1	99794	100126	99227	99716	0.46	cps
Chlorine	35-2	377	390	380	382	1.82	cps
Chromium	52-2	870	813	843	842	3.37	cps
Cobalt	59-2	67	117	93	92	27.13	cps
Copper	63-2	947	1210	1237	1131	14.17	cps
Dysprosium	156-1	20	27	30	26	19.92	cps
Dysprosium	156-2	0	13	0	4	173.21	cps
Erbium	164-1	103	113	120	112	7.48	cps
Erbium	164-2	47	47	50	48	4.02	cps
Gadolinium	160-1	87	110	87	94	14.26	cps
Gadolinium	160-2	17	43	27	29	46.62	cps
Holmium	165-1	15715033	16010947	15321576	15682519	2.21	cps
Holmium	165-2	6279220	6340195	6213683	6277699	1.01	cps
Indium	115-1	13623816	13603339	13474308	13567154	0.60	cps
Indium	115-2	1630507	1515784	1607814	1584702	3.83	cps
Iron	54-2	580	537	513	543	6.23	cps
Iron	56-2	5718	5818	5521	5686	2.66	cps
Iron	57-2	163	127	120	137	17.08	cps
Krypton	83-1	253	197	267	239	15.56	cps
Lead	206-1	1030	1100	1110	1080	4.04	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P8
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:46:45 DataFile Name : 021CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	910	750	840	833	9.63	cps
Lead	208-1	4094	3767	4014	3958	4.30	cps
Lithium	6-1	5312726	5419282	5313539	5348516	1.15	cps
Magnesium	24-2	403	457	433	431	6.20	cps
Manganese	55-2	3520	3574	3397	3497	2.59	cps
Molybdenum	94-1	607	553	527	562	7.25	cps
Molybdenum	95-1	250	300	300	283	10.19	cps
Molybdenum	96-1	340	343	303	329	6.75	cps
Molybdenum	97-1	147	123	173	148	16.93	cps
Molybdenum	98-1	400	317	333	350	12.60	cps
Neodymium	150-1	13	13	3	10	57.75	cps
Neodymium	150-2	0	3	3	2	86.60	cps
Nickel	60-2	273	240	250	254	6.72	cps
Phosphorus	31-2	57	73	60	63	13.92	cps
Potassium	39-2	14841	15108	15452	15134	2.02	cps
Rhodium	103-1	12840795	13353564	12831393	13008584	2.30	cps
Rhodium	103-2	5600005	5593302	5513278	5568862	0.87	cps
Scandium	45-1	9157508	9411410	9119152	9229357	1.72	cps
Scandium	45-2	191348	189542	188824	189905	0.68	cps
Selenium	82-1	-10	53	-43	0	0.00	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	10	7	20	12	56.76	cps
Silicon	28-1	522729	519472	523876	522026	0.44	cps
Silver	107-1	383	393	363	380	4.02	cps
Silver	109-1	213	250	237	233	7.95	cps
Sodium	23-2	40369	41619	41335	41108	1.59	cps
Strontium	86-1	433	387	400	407	5.91	cps
Strontium	88-1	400	407	463	423	8.22	cps
Sulfur	34-1	544073	544277	545508	544619	0.14	cps
Terbium	159-1	16444824	16397697	16838045	16560189	1.46	cps
Terbium	159-2	6151828	6290042	6110440	6184103	1.52	cps
Thallium	203-1	347	323	380	350	8.14	cps
Thallium	205-1	823	823	797	814	1.89	cps
Tin	118-1	2504	2667	2804	2658	5.65	cps
Titanium	47-1	220	213	247	227	7.78	cps
Uranium	238-1	93	80	127	100	24.04	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P8
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:46:45 DataFile Name : 021CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	17	30	23	23	28.56	cps
Ytterbium	172-1	87	87	73	82	9.37	cps
Ytterbium	172-2	47	50	30	42	25.38	cps
Ytterbium	176-1	1867	1830	1747	1815	3.39	cps
Ytterbium	176-2	547	643	573	588	8.49	cps
Yttrium	89-1	25303850	25244048	25558038	25368645	0.66	cps
Yttrium	89-2	2089958	2080346	2074869	2081724	0.37	cps
Zinc	66-2	447	373	370	397	10.92	cps
Zirconium	90-1	1473	1267	1437	1392	7.92	cps
Zirconium	91-1	303	300	240	281	12.68	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P8
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:50:06 DataFile Name : 022ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	6711166	6687493	6687076	6695245	0.21	cps
Antimony	121-1	20986	21186	21727	21300	1.80	cps
Arsenic	75-2	100	160	133	131	22.93	cps
Barium	135-1	6452	6542	6552	6515	0.85	cps
Barium	137-1	11438	11235	11448	11374	1.06	cps
Beryllium	9-1	1659	1551	1645	1618	3.62	cps
Bismuth	209-1	8963706	8849330	8788527	8867188	1.00	cps
Bismuth	209-2	4019684	4050710	3974604	4014999	0.95	cps
Bromine	81-1	26432	26732	27354	26839	1.75	cps
Cadmium	108-1	5318	5168	5111	5199	2.05	cps
Cadmium	106-1	7599	7525	7485	7537	0.76	cps
Cadmium	111-1	7952	7805	7810	7856	1.06	cps
Calcium	43-1	6295909	6324335	6385865	6335370	0.73	cps
Calcium	44-1	101380875	102620228	101667172	101889425	0.64	cps
Carbon	12-1	44254466	43765444	44926064	44315325	1.31	cps
Carbon	12-2	304081	303765	302516	303454	0.27	cps
Chlorine	35-1	90649245	97954282	100295249	96299592	5.22	cps
Chlorine	35-2	434019	445062	449204	442762	1.77	cps
Chromium	52-2	84149	84320	84917	84462	0.48	cps
Cobalt	59-2	9193	9033	9260	9162	1.27	cps
Copper	63-2	46426	46787	47048	46753	0.67	cps
Dysprosium	156-1	113	87	87	96	16.11	cps
Dysprosium	156-2	30	20	20	23	24.74	cps
Erbium	164-1	160	170	223	184	18.46	cps
Erbium	164-2	37	53	47	46	18.41	cps
Gadolinium	160-1	173	217	147	179	19.75	cps
Gadolinium	160-2	87	53	57	66	28.01	cps
Holmium	165-1	15661826	15363818	15725373	15583672	1.24	cps
Holmium	165-2	6077806	6028653	6046884	6051114	0.41	cps
Indium	115-1	12558606	12504038	12610944	12557863	0.43	cps
Indium	115-2	1366218	1373092	1361722	1367011	0.42	cps
Iron	54-2	17383722	17449680	17425354	17419585	0.19	cps
Iron	56-2	325732155	322785749	322144742	323554215	0.59	cps
Iron	57-2	8192913	8135865	8229395	8186058	0.58	cps
Krypton	83-1	227	277	220	241	12.85	cps
Lead	206-1	62677	61341	62463	62160	1.15	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P8
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:50:06 DataFile Name : 022ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	49056	49748	49548	49450	0.72	cps
Lead	208-1	230899	232549	233175	232208	0.51	cps
Lithium	6-1	5069720	5067404	5085162	5074095	0.19	cps
Magnesium	24-2	23744215	23467545	23835797	23682519	0.81	cps
Manganese	55-2	17284	16930	16653	16956	1.86	cps
Molybdenum	94-1	11114862	11367717	11002848	11161809	1.67	cps
Molybdenum	95-1	19933421	19862457	19743548	19846475	0.48	cps
Molybdenum	96-1	21281518	21443398	21232911	21319275	0.52	cps
Molybdenum	97-1	12325443	12496998	12315252	12379231	0.82	cps
Molybdenum	98-1	32149609	32726226	32225864	32367233	0.97	cps
Neodymium	150-1	77	120	83	93	25.00	cps
Neodymium	150-2	27	47	17	30	50.91	cps
Nickel	60-2	11345	11465	11792	11534	2.01	cps
Phosphorus	31-2	368532	371483	371303	370439	0.45	cps
Potassium	39-2	16334952	16472485	16314606	16374014	0.52	cps
Rhodium	103-1	11602850	11569152	11728483	11633495	0.72	cps
Rhodium	103-2	4971847	4897250	4929858	4932985	0.76	cps
Scandium	45-1	8672778	8640147	8567714	8626880	0.62	cps
Scandium	45-2	177252	175717	177950	176973	0.65	cps
Selenium	82-1	30	-17	130	48	156.82	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	7	27	30	21	59.77	cps
Silicon	28-1	858335	825214	852171	845240	2.08	cps
Silver	107-1	1523	1150	1080	1251	19.05	cps
Silver	109-1	1380	1043	950	1125	20.12	cps
Sodium	23-2	49777418	49322586	49228544	49442849	0.59	cps
Strontium	86-1	212862	215050	214991	214301	0.58	cps
Strontium	88-1	1971737	2008299	2016034	1998690	1.18	cps
Sulfur	34-1	8481796	8538391	8557173	8525786	0.46	cps
Terbium	159-1	16052655	16213435	16019001	16095030	0.65	cps
Terbium	159-2	5868263	5926057	5872734	5889018	0.55	cps
Thallium	203-1	1307	2354	2664	2108	33.73	cps
Thallium	205-1	3234	5268	6678	5060	34.22	cps
Tin	118-1	6398	5955	5678	6010	6.05	cps
Titanium	47-1	5808452	5896665	5884841	5863319	0.82	cps
Uranium	238-1	997	887	970	951	6.03	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P8
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:50:06 DataFile Name : 022ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	483	603	453	513	15.46	cps
Ytterbium	172-1	130	83	113	109	21.72	cps
Ytterbium	172-2	37	40	60	46	27.70	cps
Ytterbium	176-1	1863	1890	1760	1838	3.74	cps
Ytterbium	176-2	483	553	530	522	6.82	cps
Yttrium	89-1	24480100	24770933	24793284	24681439	0.71	cps
Yttrium	89-2	1943297	1943545	1924249	1937030	0.57	cps
Zinc	66-2	8086	7922	7922	7977	1.18	cps
Zirconium	90-1	2407	2280	2370	2352	2.77	cps
Zirconium	91-1	420	560	557	512	15.60	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P8
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:53:15 DataFile Name : 023ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	6226165	6413343	6372037	6337182	1.55	cps
Antimony	121-1	408988	416585	416291	413955	1.04	cps
Arsenic	75-2	9320	9417	9490	9409	0.91	cps
Barium	135-1	98710	100069	100113	99631	0.80	cps
Barium	137-1	171515	172253	173450	172406	0.57	cps
Beryllium	9-1	110787	110569	110726	110694	0.10	cps
Bismuth	209-1	9052360	8884843	8992475	8976560	0.95	cps
Bismuth	209-2	4016609	3932461	3912533	3953868	1.40	cps
Bromine	81-1	27009	27457	27771	27412	1.40	cps
Cadmium	108-1	10918	11588	11135	11214	3.05	cps
Cadmium	106-1	16220	16376	16039	16212	1.04	cps
Cadmium	111-1	103234	103466	103094	103265	0.18	cps
Calcium	43-1	5960697	5975699	5982320	5972905	0.19	cps
Calcium	44-1	96696645	98038629	98250862	97662045	0.86	cps
Carbon	12-1	41393274	42675479	42535264	42201339	1.67	cps
Carbon	12-2	288253	292285	289756	290098	0.70	cps
Chlorine	35-1	90972235	96249945	97452032	94891404	3.63	cps
Chlorine	35-2	420860	425611	425207	423893	0.62	cps
Chromium	52-2	166068	166602	166760	166476	0.22	cps
Cobalt	59-2	171160	173099	170542	171600	0.78	cps
Copper	63-2	169278	168129	170874	169427	0.81	cps
Dysprosium	156-1	77	93	120	97	22.61	cps
Dysprosium	156-2	27	37	17	27	37.50	cps
Erbium	164-1	177	180	167	174	3.98	cps
Erbium	164-2	83	53	83	73	23.62	cps
Gadolinium	160-1	210	157	223	197	17.94	cps
Gadolinium	160-2	77	60	57	64	16.63	cps
Holmium	165-1	15515871	15446336	15365342	15442516	0.49	cps
Holmium	165-2	5971982	5900663	5807732	5893459	1.40	cps
Indium	115-1	12721372	12591098	12822894	12711788	0.91	cps
Indium	115-2	1379331	1346078	1329289	1351566	1.88	cps
Iron	54-2	16403869	16240829	16510428	16385042	0.83	cps
Iron	56-2	305349902	306733349	305930715	306004655	0.23	cps
Iron	57-2	7594272	7547347	7619940	7587186	0.49	cps
Krypton	83-1	267	310	270	282	8.54	cps
Lead	206-1	333892	337522	336229	335881	0.55	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P8
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:53:15 DataFile Name : 023ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	279311	277804	278585	278566	0.27	cps
Lead	208-1	1298271	1299080	1301632	1299661	0.13	cps
Lithium	6-1	5164299	5061144	5087906	5104450	1.05	cps
Magnesium	24-2	22094346	22489513	22364234	22316031	0.90	cps
Manganese	55-2	52603	53015	52516	52711	0.51	cps
Molybdenum	94-1	10335078	10447464	10527549	10436697	0.93	cps
Molybdenum	95-1	18520507	18662466	18803280	18662084	0.76	cps
Molybdenum	96-1	19787346	20006026	19763215	19852196	0.67	cps
Molybdenum	97-1	11211336	11293295	11163425	11222685	0.59	cps
Molybdenum	98-1	29295420	29377479	29392518	29355139	0.18	cps
Neodymium	150-1	113	87	80	93	18.90	cps
Neodymium	150-2	30	20	30	27	21.65	cps
Nickel	60-2	54350	55618	55066	55011	1.16	cps
Phosphorus	31-2	346379	350917	348573	348623	0.65	cps
Potassium	39-2	15171335	15153944	15080070	15135116	0.32	cps
Rhodium	103-1	11784808	11819740	11817168	11807239	0.16	cps
Rhodium	103-2	4963953	4804713	4756545	4841737	2.24	cps
Scandium	45-1	8878835	8999085	8907424	8928448	0.70	cps
Scandium	45-2	180110	172403	168658	173723	3.36	cps
Selenium	82-1	6632	6855	6368	6618	3.68	cps
Selenium	77-2	110	130	117	119	8.57	cps
Selenium	78-2	390	410	387	396	3.19	cps
Silicon	28-1	807987	818939	818819	815248	0.77	cps
Silver	107-1	455636	466646	460725	461002	1.20	cps
Silver	109-1	438706	443087	443157	441650	0.58	cps
Sodium	23-2	46296834	46677446	46585053	46519778	0.43	cps
Strontium	86-1	199918	199387	201768	200358	0.62	cps
Strontium	88-1	1819034	1792767	1854778	1822193	1.71	cps
Sulfur	34-1	8038792	7943702	7954231	7978909	0.65	cps
Terbium	159-1	16353128	16217660	16121105	16230631	0.72	cps
Terbium	159-2	5898447	5676599	5625886	5733644	2.53	cps
Thallium	203-1	339071	345045	343350	342489	0.90	cps
Thallium	205-1	824401	834994	844330	834575	1.19	cps
Tin	118-1	6225	5848	5845	5972	3.66	cps
Titanium	47-1	5520011	5602068	5604776	5575618	0.86	cps
Uranium	238-1	1507	1553	1647	1569	4.54	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P8
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:53:15 DataFile Name : 023ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	67954	67692	67887	67844	0.20	cps
Ytterbium	172-1	110	113	150	124	17.83	cps
Ytterbium	172-2	63	37	30	43	40.70	cps
Ytterbium	176-1	1877	2047	1960	1961	4.34	cps
Ytterbium	176-2	520	587	480	529	10.19	cps
Yttrium	89-1	24550856	24297407	24516711	24454992	0.56	cps
Yttrium	89-2	1943224	1878031	1906144	1909133	1.71	cps
Zinc	66-2	21590	21627	21506	21574	0.29	cps
Zirconium	90-1	1810	1783	1813	1802	0.91	cps
Zirconium	91-1	413	467	487	456	8.32	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P8
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:59:31 DataFile Name : 025CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3668430	3613175	3615677	3632427	0.86	cps
Antimony	121-1	9418339	9401883	9547298	9455840	0.84	cps
Arsenic	75-2	216487	214410	214666	215188	0.53	cps
Barium	135-1	11083906	11302059	11101636	11162534	1.09	cps
Barium	137-1	18914571	19189590	19438374	19180845	1.37	cps
Beryllium	9-1	2348083	2325561	2359443	2344363	0.74	cps
Bismuth	209-1	8240262	8191596	8257051	8229636	0.41	cps
Bismuth	209-2	3735190	3762293	3776643	3758042	0.56	cps
Bromine	81-1	26138	25737	26221	26032	0.99	cps
Cadmium	108-1	173068	177649	179919	176878	1.97	cps
Cadmium	106-1	257583	263936	261003	260840	1.22	cps
Cadmium	111-1	2286028	2311807	2312581	2303472	0.66	cps
Calcium	43-1	14627076	14757484	15115772	14833444	1.71	cps
Calcium	44-1	239560750	239419116	241130183	240036683	0.40	cps
Carbon	12-1	4350667	4394871	4380037	4375192	0.51	cps
Carbon	12-2	33515	32663	34414	33530	2.61	cps
Chlorine	35-1	1758881	1668601	1662410	1696630	3.18	cps
Chlorine	35-2	6388	6438	6105	6310	2.85	cps
Chromium	52-2	2145059	2138408	2180181	2154549	1.04	cps
Cobalt	59-2	3885714	3860490	3873953	3873386	0.33	cps
Copper	63-2	28916948	28715493	29389599	29007347	1.19	cps
Dysprosium	156-1	507	673	550	577	15.00	cps
Dysprosium	156-2	147	167	123	146	14.90	cps
Erbium	164-1	543	557	557	552	1.39	cps
Erbium	164-2	203	217	203	208	3.70	cps
Gadolinium	160-1	440	503	403	449	11.27	cps
Gadolinium	160-2	193	230	220	214	8.84	cps
Holmium	165-1	14269989	14532404	14582781	14461725	1.16	cps
Holmium	165-2	5788707	5804352	5788725	5793928	0.16	cps
Indium	115-1	11542543	11722582	11690154	11651759	0.82	cps
Indium	115-2	1289482	1301172	1302879	1297844	0.56	cps
Iron	54-2	21858244	21790591	21563844	21737559	0.71	cps
Iron	56-2	407222367	408985914	409545541	408584607	0.30	cps
Iron	57-2	10139139	10028761	10415721	10194540	1.96	cps
Krypton	83-1	287	313	377	326	14.20	cps
Lead	206-1	32852171	32869052	33089977	32937067	0.40	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P8
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:59:31 DataFile Name : 025CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	27994758	28556444	28269201	28273468	0.99	cps
Lead	208-1	129517088	131537888	131026519	130693832	0.80	cps
Lithium	6-1	4667865	4616939	4759846	4681550	1.55	cps
Magnesium	24-2	60372479	60366984	61295239	60678234	0.88	cps
Manganese	55-2	9080384	9070068	9074507	9074986	0.06	cps
Molybdenum	94-1	33073824	33779609	34315161	33722864	1.85	cps
Molybdenum	95-1	48333276	48589603	49522731	48815203	1.28	cps
Molybdenum	96-1	52286259	53683871	53947374	53305835	1.67	cps
Molybdenum	97-1	29870684	30378883	30587798	30279121	1.22	cps
Molybdenum	98-1	76914876	78985980	78882280	78261046	1.49	cps
Neodymium	150-1	943	1043	1093	1027	7.44	cps
Neodymium	150-2	93	73	103	90	16.97	cps
Nickel	60-2	990072	982459	1006065	992865	1.21	cps
Phosphorus	31-2	36817	35550	35864	36077	1.83	cps
Potassium	39-2	20946306	20718920	21129299	20931508	0.98	cps
Rhodium	103-1	10923781	10848286	10863006	10878358	0.37	cps
Rhodium	103-2	4678255	4625939	4649218	4651137	0.56	cps
Scandium	45-1	8407016	8387368	8411788	8402057	0.15	cps
Scandium	45-2	174661	176628	176071	175787	0.58	cps
Selenium	82-1	140798	140802	141395	140998	0.24	cps
Selenium	77-2	2850	2687	2637	2725	4.10	cps
Selenium	78-2	9000	9303	9463	9255	2.54	cps
Silicon	28-1	59419579	59136372	58911524	59155825	0.43	cps
Silver	107-1	11270831	11436757	11446683	11384757	0.87	cps
Silver	109-1	10749025	10603609	10783968	10712200	0.89	cps
Sodium	23-2	114052745	113498475	113458605	113669942	0.29	cps
Strontium	86-1	3104512	3238553	3191719	3178261	2.14	cps
Strontium	88-1	27727176	27233940	27496005	27485707	0.90	cps
Sulfur	34-1	1283045	1278188	1274361	1278531	0.34	cps
Terbium	159-1	15372071	15292995	15734394	15466486	1.52	cps
Terbium	159-2	5663898	5658423	5724337	5682219	0.64	cps
Thallium	203-1	7864696	8073759	8124129	8020861	1.72	cps
Thallium	205-1	19222575	18855286	19122057	19066639	1.00	cps
Tin	118-1	7508238	7592591	7607179	7569336	0.71	cps
Titanium	47-1	14089341	14100021	14187997	14125786	0.38	cps
Uranium	238-1	25875684	26195501	26378195	26149793	0.97	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P8
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 17:59:31 DataFile Name : 025CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1678881	1685494	1673551	1679309	0.36	cps
Ytterbium	172-1	807	687	770	754	8.15	cps
Ytterbium	172-2	347	333	297	326	7.95	cps
Ytterbium	176-1	40963	42277	40646	41296	2.09	cps
Ytterbium	176-2	15893	15906	15976	15925	0.28	cps
Yttrium	89-1	22888474	23487835	23583278	23319862	1.62	cps
Yttrium	89-2	1913217	1884129	1943791	1913712	1.56	cps
Zinc	66-2	3376766	3358638	3357879	3364427	0.32	cps
Zirconium	90-1	17017034	17150877	17361299	17176403	1.01	cps
Zirconium	91-1	3763553	3752792	3887221	3801188	1.97	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P8
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:03:48 DataFile Name : 026CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	193	240	257	230	14.27	cps
Antimony	121-1	1703	1420	1277	1467	14.81	cps
Arsenic	75-2	7	7	10	8	24.71	cps
Barium	135-1	270	193	200	221	19.21	cps
Barium	137-1	473	427	340	413	16.37	cps
Beryllium	9-1	504	431	447	461	8.26	cps
Bismuth	209-1	9651813	9627577	9593746	9624379	0.30	cps
Bismuth	209-2	4428321	4338811	4407387	4391507	1.07	cps
Bromine	81-1	25260	25099	25527	25295	0.85	cps
Cadmium	108-1	40	27	27	31	24.74	cps
Cadmium	106-1	8029	7926	7969	7975	0.65	cps
Cadmium	111-1	5696	5603	5660	5653	0.83	cps
Calcium	43-1	1070	890	850	937	12.51	cps
Calcium	44-1	25025	23362	23519	23969	3.83	cps
Carbon	12-1	4155141	4164276	4160262	4159893	0.11	cps
Carbon	12-2	28210	27917	28114	28080	0.53	cps
Chlorine	35-1	824244	793339	765744	794442	3.68	cps
Chlorine	35-2	3087	3177	2900	3055	4.62	cps
Chromium	52-2	807	887	800	831	5.80	cps
Cobalt	59-2	103	110	117	110	6.06	cps
Copper	63-2	1683	1577	1667	1642	3.49	cps
Dysprosium	156-1	23	20	7	17	52.90	cps
Dysprosium	156-2	3	0	3	2	86.60	cps
Erbium	164-1	107	93	87	96	10.66	cps
Erbium	164-2	40	47	43	43	7.70	cps
Gadolinium	160-1	103	83	93	93	10.71	cps
Gadolinium	160-2	13	17	27	19	36.75	cps
Holmium	165-1	15747118	15738027	15583054	15689400	0.59	cps
Holmium	165-2	6165915	6109928	6141570	6139138	0.46	cps
Indium	115-1	13239719	13734796	13488925	13487813	1.84	cps
Indium	115-2	1583217	1488031	1482947	1518065	3.72	cps
Iron	54-2	777	943	773	831	11.70	cps
Iron	56-2	10984	11575	10951	11170	3.14	cps
Iron	57-2	303	320	250	291	12.56	cps
Krypton	83-1	210	210	247	222	9.53	cps
Lead	206-1	2437	2230	2214	2294	5.43	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P8
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:03:48 DataFile Name : 026CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	2107	1797	1807	1903	9.26	cps
Lead	208-1	9465	8568	8214	8749	7.37	cps
Lithium	6-1	5285494	5399751	5206555	5297267	1.83	cps
Magnesium	24-2	1090	1087	1057	1078	1.70	cps
Manganese	55-2	3454	3607	3594	3552	2.39	cps
Molybdenum	94-1	1860	1443	1397	1567	16.28	cps
Molybdenum	95-1	1817	1420	1227	1488	20.22	cps
Molybdenum	96-1	1927	1593	1400	1640	16.25	cps
Molybdenum	97-1	1013	813	743	857	16.36	cps
Molybdenum	98-1	2420	1984	1793	2066	15.56	cps
Neodymium	150-1	13	17	17	16	12.40	cps
Neodymium	150-2	0	7	0	2	173.21	cps
Nickel	60-2	283	287	287	286	0.67	cps
Phosphorus	31-2	73	47	73	64	23.88	cps
Potassium	39-2	18001	17761	17814	17859	0.71	cps
Rhodium	103-1	12983025	12771452	13061909	12938795	1.16	cps
Rhodium	103-2	5509603	5474125	5537030	5506919	0.57	cps
Scandium	45-1	9302684	9150603	9167922	9207070	0.90	cps
Scandium	45-2	187681	182428	185018	185043	1.42	cps
Selenium	82-1	-20	-3	-13	-12	-68.66	cps
Selenium	77-2	0	0	3	1	173.21	cps
Selenium	78-2	10	17	23	17	39.99	cps
Silicon	28-1	509395	534287	531352	525011	2.59	cps
Silver	107-1	1000	1037	990	1009	2.43	cps
Silver	109-1	893	737	800	810	9.73	cps
Sodium	23-2	52183	51704	50497	51461	1.69	cps
Strontium	86-1	497	443	403	448	10.46	cps
Strontium	88-1	1197	883	973	1018	15.85	cps
Sulfur	34-1	526537	529187	526095	527273	0.32	cps
Terbium	159-1	16535976	16419783	16314669	16423476	0.67	cps
Terbium	159-2	5967663	6063961	6076206	6035943	0.98	cps
Thallium	203-1	810	837	697	781	9.52	cps
Thallium	205-1	2024	1897	1833	1918	5.04	cps
Tin	118-1	2830	2730	2754	2771	1.89	cps
Titanium	47-1	493	417	433	448	9.01	cps
Uranium	238-1	580	503	350	478	24.51	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P8
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:03:48 DataFile Name : 026CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	17	53	20	30	67.58	cps
Ytterbium	172-1	93	67	117	92	27.13	cps
Ytterbium	172-2	43	40	43	42	4.55	cps
Ytterbium	176-1	1823	1837	1817	1826	0.56	cps
Ytterbium	176-2	507	557	610	558	9.26	cps
Yttrium	89-1	25149824	24980106	25055335	25061755	0.34	cps
Yttrium	89-2	2074678	2078607	2044889	2066058	0.89	cps
Zinc	66-2	707	723	593	674	10.49	cps
Zirconium	90-1	2477	2477	2564	2506	2.00	cps
Zirconium	91-1	487	493	477	486	1.73	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P8
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:07:12 DataFile Name : 027LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1823	1837	1747	1802	2.70	cps
Antimony	121-1	42967	44034	44007	43669	1.39	cps
Arsenic	75-2	577	483	477	512	10.91	cps
Barium	135-1	50467	51310	50323	50700	1.05	cps
Barium	137-1	87159	88111	87826	87698	0.56	cps
Beryllium	9-1	6262	6334	6284	6293	0.59	cps
Bismuth	209-1	9825506	9722740	9743770	9764005	0.56	cps
Bismuth	209-2	4416198	4384266	4497606	4432690	1.32	cps
Bromine	81-1	25730	26178	24922	25610	2.48	cps
Cadmium	108-1	513	473	490	492	4.08	cps
Cadmium	106-1	8820	8593	8813	8742	1.48	cps
Cadmium	111-1	11289	11248	11240	11259	0.23	cps
Calcium	43-1	37088	37175	37696	37319	0.88	cps
Calcium	44-1	598029	616158	621993	612060	2.04	cps
Carbon	12-1	4065394	4068013	4111135	4081514	0.63	cps
Carbon	12-2	27773	27148	27713	27545	1.25	cps
Chlorine	35-1	554684	537622	524641	538982	2.80	cps
Chlorine	35-2	2167	2090	2140	2132	1.83	cps
Chromium	52-2	10707	10551	10534	10597	0.90	cps
Cobalt	59-2	9884	9843	10084	9937	1.29	cps
Copper	63-2	16603	16934	16353	16630	1.75	cps
Dysprosium	156-1	27	20	33	27	24.99	cps
Dysprosium	156-2	10	3	17	10	66.70	cps
Erbium	164-1	107	113	100	107	6.25	cps
Erbium	164-2	60	33	70	54	34.82	cps
Gadolinium	160-1	110	120	90	107	14.32	cps
Gadolinium	160-2	17	17	27	20	28.86	cps
Holmium	165-1	15612146	15781812	15649943	15681300	0.57	cps
Holmium	165-2	6206682	6187527	6121140	6171783	0.73	cps
Indium	115-1	13568590	13555011	13620031	13581211	0.25	cps
Indium	115-2	1504180	1492755	1492075	1496337	0.45	cps
Iron	54-2	11081	11084	11068	11078	0.08	cps
Iron	56-2	201499	196670	195309	197826	1.64	cps
Iron	57-2	5158	5171	4888	5072	3.15	cps
Krypton	83-1	203	217	247	222	9.99	cps
Lead	206-1	16504	16571	16457	16511	0.35	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P8
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:07:12 DataFile Name : 027LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	14822	14024	14638	14495	2.88	cps
Lead	208-1	65868	65582	66638	66029	0.83	cps
Lithium	6-1	5367992	5321949	5373271	5354404	0.53	cps
Magnesium	24-2	151679	151346	151339	151455	0.13	cps
Manganese	55-2	5801	5284	5394	5493	4.96	cps
Molybdenum	94-1	45417	46126	46317	45953	1.03	cps
Molybdenum	95-1	55835	56216	56718	56257	0.79	cps
Molybdenum	96-1	61304	62707	61716	61909	1.16	cps
Molybdenum	97-1	33978	34403	33671	34017	1.08	cps
Molybdenum	98-1	88389	88342	89037	88589	0.44	cps
Neodymium	150-1	17	20	20	19	10.18	cps
Neodymium	150-2	7	10	10	9	21.63	cps
Nickel	60-2	2854	2964	2884	2900	1.96	cps
Phosphorus	31-2	250	253	200	234	12.75	cps
Potassium	39-2	111987	110442	109800	110743	1.01	cps
Rhodium	103-1	12853777	12921277	12948788	12907948	0.38	cps
Rhodium	103-2	5439732	5483244	5554515	5492497	1.06	cps
Scandium	45-1	9144035	9095026	9023505	9087522	0.67	cps
Scandium	45-2	189509	186075	186783	187456	0.97	cps
Selenium	82-1	1727	1727	1784	1746	1.87	cps
Selenium	77-2	23	27	33	28	18.33	cps
Selenium	78-2	127	153	133	138	10.07	cps
Silicon	28-1	603813	618055	637418	619762	2.72	cps
Silver	107-1	26813	27538	27975	27442	2.14	cps
Silver	109-1	25050	25764	27167	25993	4.14	cps
Sodium	23-2	342155	338282	334971	338469	1.06	cps
Strontium	86-1	7345	7365	7729	7480	2.89	cps
Strontium	88-1	62710	63440	63976	63375	1.00	cps
Sulfur	34-1	536038	536957	536525	536507	0.09	cps
Terbium	159-1	16593800	16472186	16360272	16475419	0.71	cps
Terbium	159-2	6190825	6081790	6117046	6129887	0.91	cps
Thallium	203-1	18623	19358	18864	18948	1.98	cps
Thallium	205-1	44396	45262	45724	45127	1.49	cps
Tin	118-1	91340	91634	90516	91163	0.64	cps
Titanium	47-1	17104	16580	16813	16832	1.56	cps
Uranium	238-1	57379	58477	58752	58202	1.25	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P8
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:07:12 DataFile Name : 027LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	19019	18799	19210	19009	1.08	cps
Ytterbium	172-1	90	93	97	93	3.57	cps
Ytterbium	172-2	37	53	27	39	34.63	cps
Ytterbium	176-1	1897	2087	1960	1981	4.88	cps
Ytterbium	176-2	563	550	607	573	5.17	cps
Yttrium	89-1	25234951	25593548	25279260	25369253	0.77	cps
Yttrium	89-2	2035033	2059372	2082287	2058897	1.15	cps
Zinc	66-2	4517	4357	4444	4440	1.80	cps
Zirconium	90-1	39663	41806	41378	40949	2.77	cps
Zirconium	91-1	8836	8773	8793	8801	0.37	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BL Instrumnet Name : P8
Client Sample ID : PB168088BL Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:10:33 DataFile Name : 028CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	160	163	163	162	1.19	cps
Antimony	121-1	413	410	337	387	11.21	cps
Arsenic	75-2	3	0	7	3	100.05	cps
Barium	135-1	117	80	100	99	18.57	cps
Barium	137-1	207	163	157	176	15.46	cps
Beryllium	9-1	250	250	262	254	2.84	cps
Bismuth	209-1	9657520	9554402	9401954	9537959	1.35	cps
Bismuth	209-2	4451541	4478053	4374312	4434635	1.22	cps
Bromine	81-1	25770	24739	25630	25380	2.20	cps
Cadmium	108-1	33	10	30	24	51.62	cps
Cadmium	106-1	8223	7972	7909	8035	2.06	cps
Cadmium	111-1	5752	5597	5552	5634	1.87	cps
Calcium	43-1	647	777	680	701	9.63	cps
Calcium	44-1	20301	19700	19270	19757	2.62	cps
Carbon	12-1	4138812	4128339	4145412	4137521	0.21	cps
Carbon	12-2	27693	27973	27876	27848	0.51	cps
Chlorine	35-1	428879	419477	409406	419254	2.32	cps
Chlorine	35-2	1670	1597	1560	1609	3.48	cps
Chromium	52-2	707	777	797	760	6.22	cps
Cobalt	59-2	67	70	60	66	7.77	cps
Copper	63-2	1173	1220	1097	1163	5.35	cps
Dysprosium	156-1	7	20	13	13	49.99	cps
Dysprosium	156-2	7	7	10	8	24.71	cps
Erbium	164-1	103	110	107	107	3.13	cps
Erbium	164-2	40	37	57	44	24.11	cps
Gadolinium	160-1	100	110	150	120	22.05	cps
Gadolinium	160-2	30	20	27	26	19.92	cps
Holmium	165-1	15764272	15640246	15633469	15679329	0.47	cps
Holmium	165-2	6222826	6145652	6092860	6153779	1.06	cps
Indium	115-1	13602117	13547976	13583920	13578004	0.20	cps
Indium	115-2	1493950	1489586	1495577	1493038	0.21	cps
Iron	54-2	603	520	503	542	9.88	cps
Iron	56-2	6371	6278	6338	6329	0.75	cps
Iron	57-2	177	167	167	170	3.40	cps
Krypton	83-1	227	283	267	259	11.25	cps
Lead	206-1	1103	1093	1043	1080	2.98	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BL Instrumnet Name : P8
Client Sample ID : PB168088BL Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:10:33 DataFile Name : 028CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	963	917	1007	962	4.68	cps
Lead	208-1	4454	4607	4444	4501	2.03	cps
Lithium	6-1	5389182	5262269	5293142	5314865	1.25	cps
Magnesium	24-2	550	517	560	542	4.18	cps
Manganese	55-2	3470	3587	3687	3582	3.03	cps
Molybdenum	94-1	657	707	807	723	10.56	cps
Molybdenum	95-1	427	340	413	393	11.86	cps
Molybdenum	96-1	470	527	447	481	8.55	cps
Molybdenum	97-1	203	220	183	202	9.08	cps
Molybdenum	98-1	530	507	537	524	3.00	cps
Neodymium	150-1	13	13	17	14	13.35	cps
Neodymium	150-2	0	3	0	1	173.21	cps
Nickel	60-2	203	260	257	240	13.25	cps
Phosphorus	31-2	77	47	127	83	48.50	cps
Potassium	39-2	16079	16163	16473	16238	1.28	cps
Rhodium	103-1	12935389	13035736	12941941	12971022	0.43	cps
Rhodium	103-2	5473075	5511318	5366465	5450286	1.38	cps
Scandium	45-1	9179824	9233759	9197774	9203786	0.30	cps
Scandium	45-2	186497	186662	188050	187070	0.46	cps
Selenium	82-1	10	-60	-50	-33	-113.58	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	13	17	17	16	12.40	cps
Silicon	28-1	512707	545375	537216	531766	3.20	cps
Silver	107-1	597	610	440	549	17.22	cps
Silver	109-1	483	407	397	429	11.06	cps
Sodium	23-2	44374	45477	44548	44800	1.32	cps
Strontium	86-1	433	327	360	373	14.62	cps
Strontium	88-1	373	480	420	424	12.60	cps
Sulfur	34-1	540326	538331	538985	539214	0.19	cps
Terbium	159-1	16669503	16240036	16507417	16472319	1.32	cps
Terbium	159-2	6140952	6137192	6043559	6107234	0.90	cps
Thallium	203-1	460	377	403	413	10.30	cps
Thallium	205-1	897	1107	1040	1014	10.58	cps
Tin	118-1	2574	2800	2987	2787	7.44	cps
Titanium	47-1	290	303	277	290	4.60	cps
Uranium	238-1	147	137	80	121	29.69	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BL Instrumnet Name : P8
Client Sample ID : PB168088BL Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:10:33 DataFile Name : 028CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	3	13	20	12	68.66	cps
Ytterbium	172-1	100	97	117	104	10.26	cps
Ytterbium	172-2	50	53	37	47	18.89	cps
Ytterbium	176-1	1974	1967	1867	1936	3.09	cps
Ytterbium	176-2	563	557	523	548	3.91	cps
Yttrium	89-1	25744695	25517923	25004860	25422492	1.49	cps
Yttrium	89-2	2065564	2083145	2058694	2069134	0.61	cps
Zinc	66-2	380	403	420	401	5.01	cps
Zirconium	90-1	1720	1580	1613	1638	4.47	cps
Zirconium	91-1	317	343	337	332	4.18	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BS Instrumnet Name : P8
Client Sample ID : PB168088BS Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:13:58 DataFile Name : 029LCS6.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	741943	743089	747486	744173	0.39	cps
Antimony	121-1	10131300	9978902	10232378	10114193	1.26	cps
Arsenic	75-2	223945	225363	224006	224438	0.36	cps
Barium	135-1	11672661	11785170	11997119	11818317	1.39	cps
Barium	137-1	20064899	20324802	20216645	20202115	0.65	cps
Beryllium	9-1	2438821	2451457	2482345	2457541	0.91	cps
Bismuth	209-1	8952428	9136558	9147796	9078928	1.21	cps
Bismuth	209-2	4116033	4060132	4022858	4066341	1.15	cps
Bromine	81-1	25046	25303	24355	24901	1.97	cps
Cadmium	108-1	188429	192575	191059	190688	1.10	cps
Cadmium	106-1	283475	282707	280975	282386	0.45	cps
Cadmium	111-1	2487917	2486048	2532714	2502226	1.06	cps
Calcium	43-1	3226869	3242904	3230403	3233392	0.26	cps
Calcium	44-1	51628263	52623178	52307643	52186361	0.97	cps
Carbon	12-1	4439546	4358554	4461409	4419836	1.23	cps
Carbon	12-2	30789	30836	30335	30653	0.90	cps
Chlorine	35-1	374789	373031	373148	373656	0.26	cps
Chlorine	35-2	1403	1500	1510	1471	4.00	cps
Chromium	52-2	2240805	2276533	2238816	2252051	0.94	cps
Cobalt	59-2	4146654	4173464	4137388	4152502	0.45	cps
Copper	63-2	32380145	31875537	32072840	32109507	0.79	cps
Dysprosium	156-1	227	313	287	276	16.11	cps
Dysprosium	156-2	37	70	67	58	31.77	cps
Erbium	164-1	263	260	263	262	0.74	cps
Erbium	164-2	133	113	153	133	15.00	cps
Gadolinium	160-1	290	287	223	267	14.09	cps
Gadolinium	160-2	73	57	83	71	18.94	cps
Holmium	165-1	15592255	15125739	15114976	15277656	1.78	cps
Holmium	165-2	5950444	6007318	6013949	5990570	0.58	cps
Indium	115-1	12682732	12638364	12640514	12653870	0.20	cps
Indium	115-2	1378556	1386009	1376326	1380297	0.37	cps
Iron	54-2	4554900	4615628	4539607	4570045	0.88	cps
Iron	56-2	84082987	84627795	83453345	84054709	0.70	cps
Iron	57-2	2148572	2137453	2156392	2147472	0.44	cps
Krypton	83-1	290	257	273	273	6.10	cps
Lead	206-1	35937233	35166927	35291454	35465204	1.17	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BS Instrumnet Name : P8
Client Sample ID : PB168088BS Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:13:58 DataFile Name : 029LCS6.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	30328587	30349809	30401395	30359930	0.12	cps
Lead	208-1	139058684	139085208	141889112	140011001	1.16	cps
Lithium	6-1	5073820	5151007	5054247	5093025	1.00	cps
Magnesium	24-2	12708894	12825645	12902519	12812353	0.76	cps
Manganese	55-2	9468560	9622534	9449475	9513523	1.00	cps
Molybdenum	94-1	34611009	35678283	34953655	35080983	1.55	cps
Molybdenum	95-1	50075553	50821196	51595563	50830770	1.50	cps
Molybdenum	96-1	54971574	56102163	56225749	55766495	1.24	cps
Molybdenum	97-1	30791261	31478230	31254280	31174590	1.12	cps
Molybdenum	98-1	80902854	82384260	81941009	81742708	0.93	cps
Neodymium	150-1	833	883	923	880	5.12	cps
Neodymium	150-2	50	33	70	51	35.92	cps
Nickel	60-2	1076580	1066842	1075524	1072982	0.50	cps
Phosphorus	31-2	36893	37435	37094	37141	0.74	cps
Potassium	39-2	4272573	4226148	4281550	4260090	0.70	cps
Rhodium	103-1	11825475	11987466	11926256	11913066	0.69	cps
Rhodium	103-2	5069635	5016846	5107511	5064664	0.90	cps
Scandium	45-1	8532431	8790711	8814360	8712501	1.80	cps
Scandium	45-2	179901	179221	179611	179578	0.19	cps
Selenium	82-1	151950	152694	154766	153137	0.95	cps
Selenium	77-2	2967	2994	2804	2921	3.52	cps
Selenium	78-2	9864	10037	9954	9951	0.87	cps
Silicon	28-1	50842891	50602404	52671508	51372268	2.20	cps
Silver	107-1	12556959	12658054	12638223	12617746	0.42	cps
Silver	109-1	11838953	11865994	12010335	11905094	0.77	cps
Sodium	23-2	25140000	25357673	25289202	25262292	0.44	cps
Strontium	86-1	3265922	3259396	3336638	3287319	1.30	cps
Strontium	88-1	27674296	28351378	28732909	28252861	1.90	cps
Sulfur	34-1	1327429	1324875	1362283	1338196	1.56	cps
Terbium	159-1	16137025	15873542	16029264	16013277	0.83	cps
Terbium	159-2	5979507	5930582	5900965	5937018	0.67	cps
Thallium	203-1	8839999	8548666	8567509	8652058	1.88	cps
Thallium	205-1	20709026	20617651	20935275	20753984	0.79	cps
Tin	118-1	7982495	8121952	8211894	8105447	1.43	cps
Titanium	47-1	14514479	14669266	14621007	14601584	0.54	cps
Uranium	238-1	26276096	26953720	27511335	26913717	2.30	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088BS Instrumnet Name : P8
Client Sample ID : PB168088BS Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:13:58 DataFile Name : 029LCS6.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1727956	1708191	1705534	1713894	0.71	cps
Ytterbium	172-1	273	240	303	272	11.64	cps
Ytterbium	172-2	117	147	127	130	11.75	cps
Ytterbium	176-1	40860	41458	42846	41721	2.44	cps
Ytterbium	176-2	16507	15793	16554	16285	2.62	cps
Yttrium	89-1	23670530	24441680	23989684	24033965	1.61	cps
Yttrium	89-2	2001438	1977393	1962368	1980400	1.00	cps
Zinc	66-2	3641653	3579662	3582266	3601194	0.97	cps
Zirconium	90-1	17169451	17943034	17549899	17554128	2.20	cps
Zirconium	91-1	3869076	3905155	3948037	3907423	1.01	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-02DLX5 Instrumnet Name : P8
Client Sample ID : S-874-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:16:42 DataFile Name : 030AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1093140	1103468	1084981	1093863	0.85	cps
Antimony	121-1	4524	3914	3824	4087	9.32	cps
Arsenic	75-2	1747	1843	1890	1827	4.00	cps
Barium	135-1	124809	123329	123544	123894	0.65	cps
Barium	137-1	218196	217271	215499	216989	0.63	cps
Beryllium	9-1	13822	13560	13502	13628	1.25	cps
Bismuth	209-1	9553015	9539939	9610632	9567862	0.39	cps
Bismuth	209-2	4289040	4358681	4324639	4324120	0.81	cps
Bromine	81-1	25707	26458	26672	26279	1.93	cps
Cadmium	108-1	917	887	743	849	10.91	cps
Cadmium	106-1	9290	9233	9206	9243	0.46	cps
Cadmium	111-1	16415	16644	16608	16556	0.74	cps
Calcium	43-1	1702293	1708314	1697816	1702808	0.31	cps
Calcium	44-1	27510427	27317778	27393464	27407223	0.35	cps
Carbon	12-1	5155630	5185868	5296923	5212807	1.43	cps
Carbon	12-2	36221	35847	35880	35983	0.58	cps
Chlorine	35-1	378726	387067	388881	384891	1.41	cps
Chlorine	35-2	1530	1653	1680	1621	4.94	cps
Chromium	52-2	30289	30463	30165	30305	0.49	cps
Cobalt	59-2	92173	90965	90334	91157	1.02	cps
Copper	63-2	62011	63879	62741	62877	1.50	cps
Dysprosium	156-1	62231	62425	63600	62752	1.18	cps
Dysprosium	156-2	21818	22426	21708	21984	1.76	cps
Erbium	164-1	63966	64998	64841	64601	0.86	cps
Erbium	164-2	23982	23958	23618	23853	0.85	cps
Gadolinium	160-1	59726	58544	59753	59341	1.16	cps
Gadolinium	160-2	26313	26450	25969	26244	0.94	cps
Holmium	165-1	15749781	15771912	16141732	15887809	1.39	cps
Holmium	165-2	6153835	6198185	6172953	6174991	0.36	cps
Indium	115-1	13567142	13491283	13477697	13512041	0.36	cps
Indium	115-2	1453314	1456107	1462173	1457198	0.31	cps
Iron	54-2	655327	660456	658523	658102	0.39	cps
Iron	56-2	12582656	12522416	12355558	12486877	0.94	cps
Iron	57-2	308468	308045	303677	306730	0.86	cps
Krypton	83-1	383	277	363	341	16.62	cps
Lead	206-1	172920	173589	175489	173999	0.77	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-02DLX5 Instrumnet Name : P8
Client Sample ID : S-874-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:16:42 DataFile Name : 030AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	146323	145014	144593	145310	0.62	cps
Lead	208-1	678499	677668	678883	678350	0.09	cps
Lithium	6-1	5366865	5333248	5323816	5341310	0.42	cps
Magnesium	24-2	982094	981061	962773	975309	1.11	cps
Manganese	55-2	4672088	4589208	4607139	4622812	0.94	cps
Molybdenum	94-1	24742	24952	25059	24918	0.65	cps
Molybdenum	95-1	3514	2854	2437	2935	18.50	cps
Molybdenum	96-1	7255	6808	6435	6833	6.01	cps
Molybdenum	97-1	1917	1397	1250	1521	23.03	cps
Molybdenum	98-1	5114	4277	3334	4242	21.00	cps
Neodymium	150-1	69596	70387	69894	69959	0.57	cps
Neodymium	150-2	18456	19307	19117	18960	2.36	cps
Nickel	60-2	34412	34041	34940	34464	1.31	cps
Phosphorus	31-2	203	220	200	208	5.16	cps
Potassium	39-2	338465	336289	339608	338121	0.50	cps
Rhodium	103-1	12743837	12556561	12731202	12677200	0.83	cps
Rhodium	103-2	5277411	5324791	5355193	5319132	0.74	cps
Scandium	45-1	9230377	8993808	9192216	9138800	1.39	cps
Scandium	45-2	178922	182345	182955	181407	1.20	cps
Selenium	82-1	53	123	180	119	53.37	cps
Selenium	77-2	93	103	73	90	16.97	cps
Selenium	78-2	80	77	87	81	6.28	cps
Silicon	28-1	29475410	29107370	29176463	29253081	0.67	cps
Silver	107-1	96289	96823	98146	97086	0.98	cps
Silver	109-1	92769	93649	93356	93258	0.48	cps
Sodium	23-2	3256053	3198393	3117836	3190760	2.18	cps
Strontium	86-1	1111419	1116494	1113744	1113886	0.23	cps
Strontium	88-1	10031756	10221612	10275429	10176266	1.26	cps
Sulfur	34-1	7280857	7223063	7254721	7252880	0.40	cps
Terbium	159-1	16751607	16763066	16604825	16706499	0.53	cps
Terbium	159-2	5995401	6026369	6085604	6035791	0.76	cps
Thallium	203-1	1587	1503	1477	1522	3.77	cps
Thallium	205-1	3827	3854	3404	3695	6.83	cps
Tin	118-1	4624	4407	4364	4465	3.12	cps
Titanium	47-1	7475	7395	7222	7364	1.76	cps
Uranium	238-1	70353	70498	70926	70592	0.42	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-02DLX5 Instrumnet Name : P8
Client Sample ID : S-874-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:16:42 DataFile Name : 030AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	90554	89182	88833	89523	1.02	cps
Ytterbium	172-1	16060	16003	15933	15999	0.40	cps
Ytterbium	172-2	6892	7295	6955	7048	3.08	cps
Ytterbium	176-1	12036	12109	11932	12026	0.74	cps
Ytterbium	176-2	5044	5378	5101	5174	3.45	cps
Yttrium	89-1	26307002	26202151	26480287	26329814	0.53	cps
Yttrium	89-2	2089152	2040390	2082508	2070683	1.28	cps
Zinc	66-2	426987	430388	423753	427043	0.78	cps
Zirconium	90-1	64947	66018	64274	65080	1.35	cps
Zirconium	91-1	14164	14384	14434	14327	1.00	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-03DLX5 Instrumnet Name : P8
Client Sample ID : S-873-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:20:01 DataFile Name : 031AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	588193	595001	583641	588945	0.97	cps
Antimony	121-1	1323	1333	1253	1303	3.34	cps
Arsenic	75-2	1717	1567	1650	1645	4.57	cps
Barium	135-1	111484	110913	109992	110796	0.68	cps
Barium	137-1	191626	193529	188753	191303	1.26	cps
Beryllium	9-1	19290	19545	19288	19374	0.76	cps
Bismuth	209-1	9569080	9603420	9680426	9617642	0.59	cps
Bismuth	209-2	4337727	4287207	4326038	4316991	0.61	cps
Bromine	81-1	25670	25563	26008	25747	0.90	cps
Cadmium	108-1	777	680	730	729	6.63	cps
Cadmium	106-1	8903	9080	9420	9134	2.88	cps
Cadmium	111-1	14808	15286	15436	15177	2.16	cps
Calcium	43-1	1181228	1180823	1192023	1184691	0.54	cps
Calcium	44-1	19154366	18809648	19253193	19072402	1.22	cps
Carbon	12-1	4447740	4488359	4532770	4489623	0.95	cps
Carbon	12-2	31424	30735	31574	31244	1.43	cps
Chlorine	35-1	334487	337783	341262	337844	1.00	cps
Chlorine	35-2	1313	1370	1403	1362	3.34	cps
Chromium	52-2	17835	17441	17524	17600	1.18	cps
Cobalt	59-2	68005	69003	67703	68237	1.00	cps
Copper	63-2	53156	52958	53239	53118	0.27	cps
Dysprosium	156-1	92783	93534	93954	93424	0.64	cps
Dysprosium	156-2	33408	33255	33953	33539	1.09	cps
Erbium	164-1	91261	90602	92865	91576	1.27	cps
Erbium	164-2	34264	33719	32991	33658	1.90	cps
Gadolinium	160-1	90075	91219	91501	90931	0.83	cps
Gadolinium	160-2	39589	40200	39619	39803	0.87	cps
Holmium	165-1	15822125	15763115	15764786	15783342	0.21	cps
Holmium	165-2	6090237	6073280	6095927	6086481	0.19	cps
Indium	115-1	13450491	13369958	13643659	13488036	1.04	cps
Indium	115-2	1441428	1436265	1459140	1445611	0.83	cps
Iron	54-2	1673859	1762554	1706502	1714305	2.62	cps
Iron	56-2	31778351	31365341	31316601	31486765	0.81	cps
Iron	57-2	762218	773765	758880	764954	1.02	cps
Krypton	83-1	367	433	330	377	13.91	cps
Lead	206-1	82943	82423	81625	82330	0.81	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-03DLX5 Instrumnet Name : P8
Client Sample ID : S-873-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:20:01 DataFile Name : 031AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	67263	68885	66985	67711	1.52	cps
Lead	208-1	316270	318523	316436	317077	0.40	cps
Lithium	6-1	5264231	5189423	5160376	5204677	1.03	cps
Magnesium	24-2	745773	749632	744675	746693	0.35	cps
Manganese	55-2	1778911	1762376	1791212	1777500	0.81	cps
Molybdenum	94-1	12863	13083	13053	13000	0.92	cps
Molybdenum	95-1	1113	1100	1023	1079	4.50	cps
Molybdenum	96-1	3634	3490	3327	3484	4.41	cps
Molybdenum	97-1	630	557	460	549	15.53	cps
Molybdenum	98-1	1550	1547	1570	1556	0.81	cps
Neodymium	150-1	105034	106656	106139	105943	0.78	cps
Neodymium	150-2	28761	29269	29175	29068	0.93	cps
Nickel	60-2	26919	26515	26531	26655	0.86	cps
Phosphorus	31-2	197	183	167	182	8.25	cps
Potassium	39-2	304180	305012	305451	304881	0.21	cps
Rhodium	103-1	12573053	12662416	12906766	12714078	1.36	cps
Rhodium	103-2	5344674	5307936	5391144	5347918	0.78	cps
Scandium	45-1	9193227	8917403	9278502	9129710	2.07	cps
Scandium	45-2	181943	177628	181986	180519	1.39	cps
Selenium	82-1	127	77	127	110	26.24	cps
Selenium	77-2	127	80	157	121	31.90	cps
Selenium	78-2	87	140	60	96	42.63	cps
Silicon	28-1	22777024	22690521	22543597	22670380	0.52	cps
Silver	107-1	12202	12579	12316	12366	1.56	cps
Silver	109-1	11685	11498	11592	11592	0.81	cps
Sodium	23-2	2644826	2605079	2590872	2613592	1.07	cps
Strontium	86-1	817739	830459	834485	827561	1.06	cps
Strontium	88-1	7461159	7508452	7597614	7522409	0.92	cps
Sulfur	34-1	6437761	6498223	6529489	6488491	0.72	cps
Terbium	159-1	16960004	16813366	16955598	16909656	0.49	cps
Terbium	159-2	5948046	5961441	6084819	5998102	1.26	cps
Thallium	203-1	1030	1103	1030	1054	4.02	cps
Thallium	205-1	2704	2697	2827	2743	2.67	cps
Tin	118-1	6895	6338	6668	6634	4.22	cps
Titanium	47-1	5451	5731	5614	5599	2.51	cps
Uranium	238-1	66543	68306	67411	67420	1.31	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-03DLX5 Instrumnet Name : P8
Client Sample ID : S-873-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:20:01 DataFile Name : 031AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	110785	112189	109777	110917	1.09	cps
Ytterbium	172-1	23875	24186	24446	24169	1.18	cps
Ytterbium	172-2	10704	10648	10458	10603	1.22	cps
Ytterbium	176-1	16540	16687	17098	16775	1.72	cps
Ytterbium	176-2	7586	7486	7282	7451	2.08	cps
Yttrium	89-1	27317624	27060457	27172426	27183502	0.47	cps
Yttrium	89-2	2122445	2068793	2153312	2114850	2.02	cps
Zinc	66-2	386639	393043	390471	390051	0.83	cps
Zirconium	90-1	33183	34302	34406	33964	2.00	cps
Zirconium	91-1	7422	7666	7495	7528	1.66	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:23:15 DataFile Name : 032AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	495336	497588	491435	494786	0.63	cps
Antimony	121-1	1563	1507	1410	1493	5.19	cps
Arsenic	75-2	1690	1863	1693	1749	5.67	cps
Barium	135-1	94842	96752	96699	96098	1.13	cps
Barium	137-1	166973	168484	165957	167138	0.76	cps
Beryllium	9-1	4815	4885	4851	4851	0.72	cps
Bismuth	209-1	9682654	9585302	9861272	9709743	1.44	cps
Bismuth	209-2	4388819	4395383	4330217	4371473	0.82	cps
Bromine	81-1	25834	25243	26251	25776	1.97	cps
Cadmium	108-1	327	343	393	354	9.79	cps
Cadmium	106-1	8339	8266	7909	8171	2.82	cps
Cadmium	111-1	9599	9880	9522	9667	1.95	cps
Calcium	43-1	542359	544231	545618	544069	0.30	cps
Calcium	44-1	8771862	8856882	9076862	8901869	1.77	cps
Carbon	12-1	4700808	4716658	4858332	4758599	1.82	cps
Carbon	12-2	33074	33278	32820	33057	0.69	cps
Chlorine	35-1	289727	286807	289380	288638	0.55	cps
Chlorine	35-2	1133	1027	1150	1103	6.07	cps
Chromium	52-2	20895	20852	20371	20706	1.40	cps
Cobalt	59-2	23286	23603	23229	23373	0.86	cps
Copper	63-2	51463	50948	50914	51108	0.60	cps
Dysprosium	156-1	29252	28761	29095	29036	0.86	cps
Dysprosium	156-2	10341	10624	10531	10499	1.38	cps
Erbium	164-1	29797	29737	30011	29848	0.48	cps
Erbium	164-2	10938	10868	10548	10784	1.93	cps
Gadolinium	160-1	28561	28417	28480	28486	0.25	cps
Gadolinium	160-2	12319	12753	12319	12464	2.01	cps
Holmium	165-1	15961175	16234903	15751250	15982443	1.52	cps
Holmium	165-2	6079210	6091419	6235812	6135480	1.42	cps
Indium	115-1	13513536	13456214	13393436	13454395	0.45	cps
Indium	115-2	1455435	1467416	1462539	1461797	0.41	cps
Iron	54-2	411891	412891	409574	411452	0.41	cps
Iron	56-2	8012495	8008257	7886790	7969181	0.90	cps
Iron	57-2	191769	192170	190634	191524	0.42	cps
Krypton	83-1	250	220	253	241	7.62	cps
Lead	206-1	150105	149720	151952	150592	0.79	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:23:15 DataFile Name : 032AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	123878	125053	125080	124671	0.55	cps
Lead	208-1	576068	580944	585760	580924	0.83	cps
Lithium	6-1	5322658	5157194	5169954	5216602	1.76	cps
Magnesium	24-2	364013	367006	360438	363819	0.90	cps
Manganese	55-2	543882	537866	537092	539613	0.69	cps
Molybdenum	94-1	12155	12522	12853	12510	2.79	cps
Molybdenum	95-1	807	750	707	754	6.65	cps
Molybdenum	96-1	2934	2904	2997	2945	1.62	cps
Molybdenum	97-1	403	443	440	429	5.18	cps
Molybdenum	98-1	1220	1123	1173	1172	4.12	cps
Neodymium	150-1	33478	34651	33702	33944	1.83	cps
Neodymium	150-2	9657	9503	9167	9442	2.66	cps
Nickel	60-2	26648	26268	26445	26454	0.72	cps
Phosphorus	31-2	297	347	293	312	9.57	cps
Potassium	39-2	183092	183406	182479	182992	0.26	cps
Rhodium	103-1	12984016	12804160	12826457	12871544	0.76	cps
Rhodium	103-2	5458250	5507888	5388099	5451412	1.10	cps
Scandium	45-1	9151305	9164919	9188736	9168320	0.21	cps
Scandium	45-2	182351	181613	182335	182099	0.23	cps
Selenium	82-1	110	50	50	70	49.49	cps
Selenium	77-2	43	37	33	38	13.48	cps
Selenium	78-2	30	60	60	50	34.64	cps
Silicon	28-1	18779206	18699356	18956336	18811633	0.70	cps
Silver	107-1	35636	36762	35933	36111	1.62	cps
Silver	109-1	33875	34747	34236	34286	1.28	cps
Sodium	23-2	1608991	1635305	1620663	1621653	0.81	cps
Strontium	86-1	369313	372093	374023	371810	0.64	cps
Strontium	88-1	3437019	3380782	3466239	3428013	1.27	cps
Sulfur	34-1	7151109	7048076	7149227	7116137	0.83	cps
Terbium	159-1	16541179	16625604	16516646	16561143	0.35	cps
Terbium	159-2	6143142	5971021	6076662	6063608	1.43	cps
Thallium	203-1	863	937	923	908	4.30	cps
Thallium	205-1	2154	2220	2114	2162	2.49	cps
Tin	118-1	5525	5538	5364	5476	1.76	cps
Titanium	47-1	7784	6902	7075	7254	6.44	cps
Uranium	238-1	41273	41457	41374	41368	0.22	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:23:15 DataFile Name : 032AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	54393	55510	55065	54989	1.02	cps
Ytterbium	172-1	7809	8029	8193	8010	2.40	cps
Ytterbium	172-2	3567	3667	3390	3542	3.96	cps
Ytterbium	176-1	6952	6645	6962	6853	2.63	cps
Ytterbium	176-2	2670	2947	3004	2874	6.21	cps
Yttrium	89-1	25622345	25541197	26073339	25745627	1.11	cps
Yttrium	89-2	2040578	2063000	2079364	2060981	0.94	cps
Zinc	66-2	185969	185548	183333	184950	0.77	cps
Zirconium	90-1	33143	34075	34138	33785	1.65	cps
Zirconium	91-1	7309	7375	7629	7438	2.27	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DUPDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:26:35 DataFile Name : 033AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	495333	499608	488228	494390	1.16	cps
Antimony	121-1	1450	1357	1350	1386	4.04	cps
Arsenic	75-2	1607	1750	1653	1670	4.38	cps
Barium	135-1	97934	98216	99012	98388	0.57	cps
Barium	137-1	168958	172053	169919	170310	0.93	cps
Beryllium	9-1	4681	4708	4736	4709	0.58	cps
Bismuth	209-1	9751432	9687697	9494225	9644451	1.39	cps
Bismuth	209-2	4362781	4386217	4355882	4368293	0.36	cps
Bromine	81-1	26078	26499	26315	26297	0.80	cps
Cadmium	108-1	377	363	377	372	2.07	cps
Cadmium	106-1	8203	8399	8166	8256	1.52	cps
Cadmium	111-1	9679	9836	9576	9697	1.35	cps
Calcium	43-1	540720	550889	541594	544401	1.04	cps
Calcium	44-1	8938657	8893510	8795571	8875913	0.82	cps
Carbon	12-1	4722506	4741527	4889528	4784520	1.91	cps
Carbon	12-2	32850	32807	31901	32519	1.65	cps
Chlorine	35-1	268022	271532	271542	270365	0.75	cps
Chlorine	35-2	963	1120	1117	1067	8.39	cps
Chromium	52-2	20548	20461	20101	20370	1.16	cps
Cobalt	59-2	23596	24010	22842	23483	2.52	cps
Copper	63-2	50938	50590	51188	50905	0.59	cps
Dysprosium	156-1	28754	29045	28444	28748	1.05	cps
Dysprosium	156-2	10744	10704	10337	10595	2.12	cps
Erbium	164-1	29580	29486	29610	29558	0.22	cps
Erbium	164-2	10621	10891	10724	10746	1.27	cps
Gadolinium	160-1	27842	27879	27749	27823	0.24	cps
Gadolinium	160-2	12289	12476	12406	12390	0.76	cps
Holmium	165-1	15863504	15738651	16076110	15892755	1.07	cps
Holmium	165-2	6195692	6178975	6158416	6177694	0.30	cps
Indium	115-1	13377543	13781301	13529697	13562847	1.50	cps
Indium	115-2	1455623	1461136	1454559	1457106	0.24	cps
Iron	54-2	408415	412067	406333	408938	0.71	cps
Iron	56-2	7777080	7932691	7672246	7794006	1.68	cps
Iron	57-2	190785	192421	188397	190534	1.06	cps
Krypton	83-1	337	230	270	279	19.32	cps
Lead	206-1	149070	150866	147934	149290	0.99	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DUPDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:26:35 DataFile Name : 033AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	123391	127792	123148	124777	2.09	cps
Lead	208-1	574642	585730	576591	578988	1.02	cps
Lithium	6-1	5235894	5191051	5233004	5219983	0.48	cps
Magnesium	24-2	360533	362871	360816	361407	0.35	cps
Manganese	55-2	536119	540168	536532	537606	0.41	cps
Molybdenum	94-1	12639	12552	12322	12505	1.31	cps
Molybdenum	95-1	603	750	690	681	10.83	cps
Molybdenum	96-1	2737	2800	3037	2858	5.53	cps
Molybdenum	97-1	360	437	417	404	9.83	cps
Molybdenum	98-1	1017	987	1093	1032	5.33	cps
Neodymium	150-1	34284	34284	33769	34112	0.87	cps
Neodymium	150-2	9413	9417	9000	9277	2.58	cps
Nickel	60-2	26832	27647	26875	27118	1.69	cps
Phosphorus	31-2	287	250	307	281	10.22	cps
Potassium	39-2	182484	182485	180510	181826	0.63	cps
Rhodium	103-1	12880836	12931027	12826179	12879347	0.41	cps
Rhodium	103-2	5386576	5457777	5416926	5420426	0.66	cps
Scandium	45-1	9243162	9228019	9052276	9174486	1.16	cps
Scandium	45-2	182028	181537	183465	182344	0.55	cps
Selenium	82-1	30	117	53	67	67.28	cps
Selenium	77-2	37	53	60	50	24.03	cps
Selenium	78-2	63	63	60	62	3.09	cps
Silicon	28-1	18444740	18763125	18522868	18576911	0.89	cps
Silver	107-1	35603	36084	36455	36047	1.19	cps
Silver	109-1	34156	34490	35071	34572	1.34	cps
Sodium	23-2	1595654	1573638	1620434	1596575	1.47	cps
Strontium	86-1	370781	372624	365949	369784	0.93	cps
Strontium	88-1	3392747	3361391	3402793	3385644	0.64	cps
Sulfur	34-1	6999787	7081617	7070323	7050576	0.63	cps
Terbium	159-1	16496465	16616302	16571098	16561288	0.37	cps
Terbium	159-2	6002755	6057538	5954232	6004842	0.86	cps
Thallium	203-1	870	910	977	919	5.86	cps
Thallium	205-1	2174	2167	2187	2176	0.47	cps
Tin	118-1	5858	6583	5645	6029	8.16	cps
Titanium	47-1	6988	6878	6822	6896	1.23	cps
Uranium	238-1	40508	40645	41538	40897	1.37	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01DUPDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:26:35 DataFile Name : 033AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	54704	55688	54784	55059	0.99	cps
Ytterbium	172-1	7952	8149	7706	7936	2.80	cps
Ytterbium	172-2	3547	3677	3420	3548	3.62	cps
Ytterbium	176-1	6562	6652	6872	6695	2.38	cps
Ytterbium	176-2	2780	2787	2697	2755	1.82	cps
Yttrium	89-1	25764711	25353552	25769959	25629407	0.93	cps
Yttrium	89-2	2024112	2068194	2043183	2045163	1.08	cps
Zinc	66-2	182462	184693	181243	182800	0.96	cps
Zirconium	90-1	33530	33467	33347	33448	0.28	cps
Zirconium	91-1	7089	7712	7392	7398	4.22	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01LDLX25 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 25
Date & Time Acquired : 2025-05-20 18:29:53 DataFile Name : 034AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	104811	106023	105146	105327	0.59	cps
Antimony	121-1	1170	1167	1083	1140	4.31	cps
Arsenic	75-2	387	337	427	383	11.76	cps
Barium	135-1	19454	19581	20022	19686	1.51	cps
Barium	137-1	34614	34420	34196	34410	0.61	cps
Beryllium	9-1	1204	1135	1192	1177	3.13	cps
Bismuth	209-1	9778481	9673664	9558956	9670367	1.14	cps
Bismuth	209-2	4428143	4424063	4348766	4400324	1.02	cps
Bromine	81-1	25497	25390	25396	25428	0.24	cps
Cadmium	108-1	123	77	80	93	27.90	cps
Cadmium	106-1	7899	7479	7799	7726	2.84	cps
Cadmium	111-1	6230	6185	6267	6227	0.66	cps
Calcium	43-1	112029	113775	114111	113305	0.99	cps
Calcium	44-1	1880860	1924414	1846023	1883766	2.08	cps
Carbon	12-1	4190186	4130974	4154927	4158696	0.72	cps
Carbon	12-2	27733	28942	27990	28222	2.26	cps
Chlorine	35-1	212382	209402	208232	210005	1.02	cps
Chlorine	35-2	807	833	773	804	3.74	cps
Chromium	52-2	5148	4801	4964	4971	3.49	cps
Cobalt	59-2	5028	4994	4911	4978	1.21	cps
Copper	63-2	11478	12009	11375	11620	2.93	cps
Dysprosium	156-1	6125	6302	6105	6177	1.75	cps
Dysprosium	156-2	2200	1913	2204	2106	7.91	cps
Erbium	164-1	5881	6385	6298	6188	4.35	cps
Erbium	164-2	2284	2244	2367	2298	2.74	cps
Gadolinium	160-1	5755	5968	6078	5934	2.77	cps
Gadolinium	160-2	2577	2610	2570	2586	0.83	cps
Holmium	165-1	15881026	15837516	15526780	15748440	1.23	cps
Holmium	165-2	6170810	6113844	6235904	6173519	0.99	cps
Indium	115-1	13451805	13277337	13552431	13427191	1.04	cps
Indium	115-2	1462031	1464057	1463604	1463231	0.07	cps
Iron	54-2	87801	87137	87599	87513	0.39	cps
Iron	56-2	1709194	1727597	1667875	1701556	1.80	cps
Iron	57-2	40668	41086	40665	40806	0.59	cps
Krypton	83-1	300	227	260	262	14.00	cps
Lead	206-1	31682	32400	31913	31998	1.15	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01LDLX25 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 25
Date & Time Acquired : 2025-05-20 18:29:53 DataFile Name : 034AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	26093	25989	26457	26180	0.94	cps
Lead	208-1	121892	123091	122996	122660	0.54	cps
Lithium	6-1	5121460	5176663	5264012	5187378	1.39	cps
Magnesium	24-2	77927	78061	76298	77428	1.27	cps
Manganese	55-2	116312	113994	115657	115321	1.04	cps
Molybdenum	94-1	3190	3310	3024	3175	4.54	cps
Molybdenum	95-1	253	297	287	279	8.13	cps
Molybdenum	96-1	897	880	843	873	3.12	cps
Molybdenum	97-1	193	177	227	199	12.80	cps
Molybdenum	98-1	563	467	430	487	14.15	cps
Neodymium	150-1	6912	7165	6892	6990	2.18	cps
Neodymium	150-2	1984	1910	1837	1910	3.84	cps
Nickel	60-2	5938	5771	5901	5870	1.49	cps
Phosphorus	31-2	110	160	137	136	18.46	cps
Potassium	39-2	50531	51910	50719	51053	1.46	cps
Rhodium	103-1	12961371	12841803	12830402	12877859	0.56	cps
Rhodium	103-2	5419323	5329552	5528016	5425630	1.83	cps
Scandium	45-1	9026354	9124485	9120176	9090338	0.61	cps
Scandium	45-2	183962	183887	182409	183419	0.48	cps
Selenium	82-1	27	17	13	19	36.72	cps
Selenium	77-2	0	3	3	2	86.60	cps
Selenium	78-2	23	30	27	27	12.51	cps
Silicon	28-1	4231930	4263068	4296266	4263755	0.75	cps
Silver	107-1	7776	7762	7746	7761	0.19	cps
Silver	109-1	7569	7422	7505	7499	0.98	cps
Sodium	23-2	374676	376035	371966	374226	0.55	cps
Strontium	86-1	77175	78157	77372	77568	0.67	cps
Strontium	88-1	668500	672300	674994	671931	0.49	cps
Sulfur	34-1	1904721	1873703	1906893	1895106	0.98	cps
Terbium	159-1	16651153	16734146	16585514	16656937	0.45	cps
Terbium	159-2	5988156	5952316	6009854	5983442	0.49	cps
Thallium	203-1	447	520	420	462	11.20	cps
Thallium	205-1	1087	1107	1063	1086	2.00	cps
Tin	118-1	3227	3054	3217	3166	3.07	cps
Titanium	47-1	1710	1687	1620	1672	2.79	cps
Uranium	238-1	8443	8540	8399	8461	0.85	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01LDLX25 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 25
Date & Time Acquired : 2025-05-20 18:29:53 DataFile Name : 034AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	11645	12165	11335	11715	3.58	cps
Ytterbium	172-1	1857	1760	1783	1800	2.80	cps
Ytterbium	172-2	817	817	760	798	4.10	cps
Ytterbium	176-1	3017	2764	3064	2948	5.48	cps
Ytterbium	176-2	987	977	1053	1006	4.14	cps
Yttrium	89-1	25771126	25421117	25436890	25543044	0.77	cps
Yttrium	89-2	2024631	2047527	2066280	2046146	1.02	cps
Zinc	66-2	38325	37687	38221	38078	0.90	cps
Zirconium	90-1	7999	8316	8059	8125	2.07	cps
Zirconium	91-1	1787	1867	1700	1785	4.67	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:33:14 DataFile Name : 035AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	619945	616804	616452	617734	0.31	cps
Antimony	121-1	2134041	2168025	2184802	2162289	1.20	cps
Arsenic	75-2	1557	1837	1627	1673	8.71	cps
Barium	135-1	2364610	2371548	2383774	2373310	0.41	cps
Barium	137-1	3998411	4058182	4099303	4051965	1.25	cps
Beryllium	9-1	533101	534456	536855	534804	0.36	cps
Bismuth	209-1	9695299	9657989	9679508	9677599	0.19	cps
Bismuth	209-2	4313049	4264973	4300433	4292818	0.58	cps
Bromine	81-1	26084	26348	26836	26423	1.44	cps
Cadmium	108-1	38250	38834	38935	38673	0.96	cps
Cadmium	106-1	65511	66050	66124	65895	0.51	cps
Cadmium	111-1	508499	521454	513639	514531	1.27	cps
Calcium	43-1	1169365	1174494	1167025	1170294	0.33	cps
Calcium	44-1	18752626	19333571	18716674	18934290	1.83	cps
Carbon	12-1	4710653	4723720	4783518	4739297	0.82	cps
Carbon	12-2	31951	33117	33685	32918	2.69	cps
Chlorine	35-1	13326511	14675648	15199199	14400453	6.71	cps
Chlorine	35-2	69285	69657	71582	70175	1.76	cps
Chromium	52-2	448781	449026	446842	448216	0.27	cps
Cobalt	59-2	867659	872258	861607	867174	0.62	cps
Copper	63-2	6973008	7097191	6896677	6988959	1.45	cps
Dysprosium	156-1	27725	27715	28253	27898	1.10	cps
Dysprosium	156-2	10187	9844	10221	10084	2.07	cps
Erbium	164-1	28661	28370	28751	28594	0.70	cps
Erbium	164-2	10831	10658	10544	10678	1.35	cps
Gadolinium	160-1	27288	27174	27148	27203	0.27	cps
Gadolinium	160-2	11682	11832	11869	11794	0.84	cps
Holmium	165-1	15923965	15757550	15718761	15800092	0.69	cps
Holmium	165-2	6074462	6081426	6070472	6075454	0.09	cps
Indium	115-1	13712189	13595834	13288318	13532114	1.62	cps
Indium	115-2	1446405	1453847	1458022	1452758	0.41	cps
Iron	54-2	1219087	1221142	1217779	1219336	0.14	cps
Iron	56-2	23461280	22949585	22812137	23074334	1.48	cps
Iron	57-2	562939	554970	561483	559798	0.76	cps
Krypton	83-1	297	247	280	274	9.28	cps
Lead	206-1	7665782	7811793	7706032	7727869	0.98	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:33:14 DataFile Name : 035AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	6685396	6761802	6680942	6709380	0.68	cps
Lead	208-1	30727240	30923192	30800694	30817042	0.32	cps
Lithium	6-1	5197436	5233264	5131590	5187430	0.99	cps
Magnesium	24-2	2934468	2893966	2948678	2925704	0.97	cps
Manganese	55-2	2574266	2527233	2502887	2534795	1.43	cps
Molybdenum	94-1	3510326	3561651	3521649	3531209	0.76	cps
Molybdenum	95-1	3866911	3886999	3958011	3903974	1.23	cps
Molybdenum	96-1	4355330	4329208	4422855	4369131	1.11	cps
Molybdenum	97-1	2375374	2369166	2397087	2380542	0.62	cps
Molybdenum	98-1	6158533	6082512	6186820	6142622	0.88	cps
Neodymium	150-1	33087	33361	33027	33159	0.54	cps
Neodymium	150-2	8713	9103	9016	8944	2.29	cps
Nickel	60-2	253705	254493	252665	253621	0.36	cps
Phosphorus	31-2	223	267	287	259	12.50	cps
Potassium	39-2	939667	935216	940737	938540	0.31	cps
Rhodium	103-1	12822339	12743681	12729517	12765179	0.39	cps
Rhodium	103-2	5399983	5360707	5400806	5387165	0.43	cps
Scandium	45-1	9079054	9193241	8791231	9021175	2.30	cps
Scandium	45-2	183198	183961	182547	183235	0.39	cps
Selenium	82-1	31443	32391	31910	31915	1.49	cps
Selenium	77-2	717	573	577	622	13.15	cps
Selenium	78-2	2160	2104	1957	2074	5.06	cps
Silicon	28-1	18167725	17785136	18257106	18069989	1.39	cps
Silver	107-1	455930	466111	471100	464380	1.66	cps
Silver	109-1	434424	441208	445112	440248	1.23	cps
Sodium	23-2	6547712	6477306	6530005	6518341	0.56	cps
Strontium	86-1	1141221	1136102	1141662	1139662	0.27	cps
Strontium	88-1	10182529	10402039	10410933	10331834	1.25	cps
Sulfur	34-1	7024619	7092663	6914316	7010533	1.28	cps
Terbium	159-1	16800873	16765460	16525803	16697379	0.90	cps
Terbium	159-2	6014434	6068213	5972554	6018400	0.80	cps
Thallium	203-1	1863269	1860881	1839553	1854568	0.70	cps
Thallium	205-1	4347184	4497621	4419630	4421478	1.70	cps
Tin	118-1	1456287	1472105	1468858	1465750	0.57	cps
Titanium	47-1	7379	7555	7545	7493	1.33	cps
Uranium	238-1	5646951	5624575	5751822	5674449	1.20	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:33:14 DataFile Name : 035AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	403882	397620	398746	400083	0.83	cps
Ytterbium	172-1	7799	7666	7512	7659	1.87	cps
Ytterbium	172-2	3457	3454	3337	3416	2.00	cps
Ytterbium	176-1	14758	14942	14915	14872	0.67	cps
Ytterbium	176-2	5728	5911	5651	5764	2.32	cps
Yttrium	89-1	25615258	26036317	26027650	25893075	0.93	cps
Yttrium	89-2	2094611	2063184	2086805	2081533	0.79	cps
Zinc	66-2	929405	932418	940429	934084	0.61	cps
Zirconium	90-1	3681939	3741069	3749110	3724039	0.98	cps
Zirconium	91-1	776136	784944	792101	784394	1.02	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:36:14 DataFile Name : 036AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	588310	586864	590533	588569	0.31	cps
Antimony	121-1	2045297	2089049	2072843	2069063	1.07	cps
Arsenic	75-2	1680	1613	1440	1578	7.85	cps
Barium	135-1	2332844	2413221	2287058	2344374	2.72	cps
Barium	137-1	4023207	3961944	3971021	3985391	0.83	cps
Beryllium	9-1	509837	516566	519536	515313	0.96	cps
Bismuth	209-1	9566676	9837545	9780338	9728186	1.47	cps
Bismuth	209-2	4408393	4418603	4270177	4365724	1.90	cps
Bromine	81-1	26148	26549	26926	26541	1.47	cps
Cadmium	108-1	37698	37013	37882	37531	1.22	cps
Cadmium	106-1	61864	64761	64188	63605	2.41	cps
Cadmium	111-1	490829	501764	495364	495985	1.11	cps
Calcium	43-1	1119772	1131771	1137239	1129594	0.79	cps
Calcium	44-1	17911488	18484832	18081668	18159329	1.62	cps
Carbon	12-1	4666259	4725958	4726883	4706367	0.74	cps
Carbon	12-2	32633	32579	32245	32486	0.65	cps
Chlorine	35-1	13890282	15321718	16015953	15075984	7.19	cps
Chlorine	35-2	70001	70367	71609	70659	1.19	cps
Chromium	52-2	430746	429090	431762	430532	0.31	cps
Cobalt	59-2	839608	832084	832974	834888	0.49	cps
Copper	63-2	6520427	6643046	6532468	6565313	1.03	cps
Dysprosium	156-1	26470	26440	26286	26398	0.37	cps
Dysprosium	156-2	9450	9584	9647	9560	1.05	cps
Erbium	164-1	26193	27605	27058	26952	2.64	cps
Erbium	164-2	9747	9890	10294	9977	2.84	cps
Gadolinium	160-1	25157	26403	26219	25926	2.59	cps
Gadolinium	160-2	11295	11085	11385	11255	1.37	cps
Holmium	165-1	15838875	15745484	15933901	15839420	0.59	cps
Holmium	165-2	6169942	6317438	6092546	6193309	1.84	cps
Indium	115-1	13586688	13641513	13144762	13457654	2.02	cps
Indium	115-2	1547266	1485648	1439556	1490823	3.62	cps
Iron	54-2	1178606	1176402	1187689	1180899	0.51	cps
Iron	56-2	22320755	22087794	22120216	22176255	0.57	cps
Iron	57-2	543895	546981	543302	544726	0.36	cps
Krypton	83-1	247	210	290	249	16.09	cps
Lead	206-1	7240575	7350073	7399196	7329948	1.11	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:36:14 DataFile Name : 036AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	6320581	6333535	6325035	6326384	0.10	cps
Lead	208-1	28864812	29343146	29088854	29098937	0.82	cps
Lithium	6-1	5084515	5262770	5131246	5159510	1.79	cps
Magnesium	24-2	2796611	2838693	2838591	2824632	0.86	cps
Manganese	55-2	2405282	2386039	2416910	2402744	0.65	cps
Molybdenum	94-1	3344285	3421280	3395723	3387096	1.16	cps
Molybdenum	95-1	3644485	3731086	3801951	3725841	2.12	cps
Molybdenum	96-1	4151553	4154103	4238094	4181250	1.18	cps
Molybdenum	97-1	2350151	2298242	2338368	2328921	1.17	cps
Molybdenum	98-1	5937827	5990987	5992356	5973723	0.52	cps
Neodymium	150-1	30842	32209	31397	31482	2.18	cps
Neodymium	150-2	8306	8620	8539	8488	1.92	cps
Nickel	60-2	246294	243315	246085	245231	0.68	cps
Phosphorus	31-2	323	287	313	308	6.16	cps
Potassium	39-2	903137	902773	906673	904194	0.24	cps
Rhodium	103-1	12737772	12723955	12619994	12693907	0.51	cps
Rhodium	103-2	5531726	5565787	5332790	5476768	2.30	cps
Scandium	45-1	9169831	9098689	9210223	9159581	0.62	cps
Scandium	45-2	185957	189036	181703	185565	1.98	cps
Selenium	82-1	30784	31352	31048	31062	0.91	cps
Selenium	77-2	683	550	623	619	10.79	cps
Selenium	78-2	2174	1887	2054	2038	7.07	cps
Silicon	28-1	17184354	17418377	17493237	17365323	0.93	cps
Silver	107-1	439670	452484	455146	449100	1.84	cps
Silver	109-1	426601	432987	434574	431388	0.98	cps
Sodium	23-2	6232316	6317351	6381010	6310226	1.18	cps
Strontium	86-1	1087998	1095956	1114661	1099538	1.24	cps
Strontium	88-1	9908969	10028486	10059391	9998949	0.79	cps
Sulfur	34-1	6700152	6766675	6706016	6724281	0.55	cps
Terbium	159-1	16389756	16874491	16511569	16591938	1.52	cps
Terbium	159-2	6216154	6139200	5983083	6112812	1.94	cps
Thallium	203-1	1792570	1817789	1808049	1806136	0.70	cps
Thallium	205-1	4229371	4277325	4306000	4270899	0.91	cps
Tin	118-1	1406687	1436676	1423448	1422270	1.06	cps
Titanium	47-1	7259	7279	7422	7320	1.22	cps
Uranium	238-1	5472749	5631033	5521148	5541643	1.46	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01MSDDLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-04(Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:36:14 DataFile Name : 036AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	386666	382568	387693	385642	0.70	cps
Ytterbium	172-1	7262	7365	7639	7422	2.62	cps
Ytterbium	172-2	3324	3430	3124	3293	4.73	cps
Ytterbium	176-1	14074	15002	14411	14496	3.24	cps
Ytterbium	176-2	5545	5685	5625	5618	1.25	cps
Yttrium	89-1	25923129	25554566	26183962	25887219	1.22	cps
Yttrium	89-2	2113006	2083119	2032477	2076201	1.96	cps
Zinc	66-2	871058	874758	879417	875078	0.48	cps
Zirconium	90-1	3608560	3634242	3592753	3611852	0.58	cps
Zirconium	91-1	754335	768231	759629	760732	0.92	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P8
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:39:17 DataFile Name : 037CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3636646	3597613	3572258	3602173	0.90	cps
Antimony	121-1	9487803	9738719	9613954	9613492	1.31	cps
Arsenic	75-2	214220	216856	216477	215851	0.66	cps
Barium	135-1	11378517	11437657	11634871	11483682	1.17	cps
Barium	137-1	19439901	19642094	19373913	19485303	0.72	cps
Beryllium	9-1	2284346	2255756	2266094	2268732	0.64	cps
Bismuth	209-1	8248314	8391908	8100909	8247044	1.76	cps
Bismuth	209-2	3544206	3617532	3767043	3642927	3.12	cps
Bromine	81-1	25517	25470	25079	25355	0.95	cps
Cadmium	108-1	176366	179419	176471	177419	0.98	cps
Cadmium	106-1	260558	263302	265030	262963	0.86	cps
Cadmium	111-1	2317085	2332431	2336463	2328659	0.44	cps
Calcium	43-1	14991146	14949046	15130593	15023595	0.63	cps
Calcium	44-1	241212523	242509323	241852383	241858076	0.27	cps
Carbon	12-1	4140770	4198668	4173618	4171019	0.70	cps
Carbon	12-2	32179	31898	31604	31893	0.90	cps
Chlorine	35-1	1291402	1209440	1142596	1214480	6.14	cps
Chlorine	35-2	4321	4007	4031	4120	4.24	cps
Chromium	52-2	2186242	2180538	2173856	2180212	0.28	cps
Cobalt	59-2	3921245	3939696	3940043	3933661	0.27	cps
Copper	63-2	29357018	29182170	29554370	29364519	0.63	cps
Dysprosium	156-1	577	617	593	596	3.37	cps
Dysprosium	156-2	143	137	147	142	3.58	cps
Erbium	164-1	497	563	517	526	6.51	cps
Erbium	164-2	223	220	197	213	6.81	cps
Gadolinium	160-1	383	423	440	416	7.01	cps
Gadolinium	160-2	163	143	187	164	13.19	cps
Holmium	165-1	14905235	14685907	14079955	14557033	2.94	cps
Holmium	165-2	5272444	5440295	5812387	5508375	5.02	cps
Indium	115-1	11807671	11879741	11524951	11737454	1.60	cps
Indium	115-2	1194016	1235697	1293826	1241180	4.04	cps
Iron	54-2	22065038	21891286	22052709	22003011	0.44	cps
Iron	56-2	410895527	403439501	408219727	407518252	0.93	cps
Iron	57-2	10331380	10231735	10219328	10260814	0.60	cps
Krypton	83-1	300	300	253	284	9.47	cps
Lead	206-1	33079235	33298369	33704830	33360811	0.95	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P8
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:39:17 DataFile Name : 037CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	28199506	28621257	28959715	28593493	1.33	cps
Lead	208-1	130732468	132530371	133536596	132266478	1.07	cps
Lithium	6-1	4523998	4496277	4462503	4494259	0.69	cps
Magnesium	24-2	60104779	60408922	61057316	60523672	0.80	cps
Manganese	55-2	9230330	9131193	9195225	9185583	0.55	cps
Molybdenum	94-1	33655188	34469671	34250169	34125009	1.23	cps
Molybdenum	95-1	48913461	49840788	49896049	49550099	1.11	cps
Molybdenum	96-1	53040829	53966899	53619656	53542461	0.87	cps
Molybdenum	97-1	29711625	30675819	30420047	30269163	1.65	cps
Molybdenum	98-1	78371136	80531832	78522209	79141725	1.52	cps
Neodymium	150-1	863	1057	1057	992	11.25	cps
Neodymium	150-2	107	120	73	100	24.04	cps
Nickel	60-2	991748	999241	994861	995284	0.38	cps
Phosphorus	31-2	36192	36215	35727	36045	0.76	cps
Potassium	39-2	20700261	21263604	21241761	21068542	1.51	cps
Rhodium	103-1	10969783	10703866	10582352	10752000	1.84	cps
Rhodium	103-2	4249296	4407451	4740740	4465829	5.62	cps
Scandium	45-1	8593902	8405472	8239568	8412981	2.11	cps
Scandium	45-2	162267	164308	174667	167081	3.98	cps
Selenium	82-1	139919	141798	143347	141688	1.21	cps
Selenium	77-2	2814	2684	2694	2730	2.65	cps
Selenium	78-2	9290	9196	9196	9228	0.58	cps
Silicon	28-1	60948424	61336282	61459936	61248214	0.44	cps
Silver	107-1	11565855	11622188	11448912	11545652	0.77	cps
Silver	109-1	11020519	10954603	11064548	11013223	0.50	cps
Sodium	23-2	112064948	111862085	113042062	112323032	0.56	cps
Strontium	86-1	3201651	3174862	3145982	3174165	0.88	cps
Strontium	88-1	27738693	27731935	27638230	27702952	0.20	cps
Sulfur	34-1	1266318	1285952	1273401	1275224	0.78	cps
Terbium	159-1	15419433	15249368	15226050	15298284	0.69	cps
Terbium	159-2	5275331	5433017	5502033	5403460	2.15	cps
Thallium	203-1	8240721	8198716	8177196	8205544	0.39	cps
Thallium	205-1	19745437	19350056	19485630	19527041	1.03	cps
Tin	118-1	7586858	7829408	7600044	7672104	1.78	cps
Titanium	47-1	13904553	14194670	14045479	14048234	1.03	cps
Uranium	238-1	26402109	26276401	26705343	26461284	0.83	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P8
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:39:17 DataFile Name : 037CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1681530	1650380	1677367	1669759	1.01	cps
Ytterbium	172-1	793	720	797	770	5.63	cps
Ytterbium	172-2	290	320	350	320	9.37	cps
Ytterbium	176-1	41010	42217	41792	41673	1.47	cps
Ytterbium	176-2	15583	16026	15940	15850	1.48	cps
Yttrium	89-1	23457441	23143271	22130530	22910414	3.03	cps
Yttrium	89-2	1753662	1789272	1908594	1817176	4.47	cps
Zinc	66-2	3385960	3412522	3398413	3398965	0.39	cps
Zirconium	90-1	17183410	17371237	17015924	17190190	1.03	cps
Zirconium	91-1	3826485	3857944	3861724	3848718	0.50	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P8
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:42:00 DataFile Name : 038CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	270	243	210	241	12.47	cps
Antimony	121-1	2800	2577	2130	2502	13.63	cps
Arsenic	75-2	10	13	10	11	17.30	cps
Barium	135-1	360	357	260	326	17.45	cps
Barium	137-1	863	603	530	666	26.32	cps
Beryllium	9-1	610	524	457	530	14.42	cps
Bismuth	209-1	9861194	9707828	9788957	9785993	0.78	cps
Bismuth	209-2	4438847	4385468	4365501	4396605	0.86	cps
Bromine	81-1	24889	25867	25256	25337	1.95	cps
Cadmium	108-1	23	23	17	21	18.21	cps
Cadmium	106-1	7866	8062	7682	7870	2.42	cps
Cadmium	111-1	5606	5757	5509	5624	2.22	cps
Calcium	43-1	1263	1067	1083	1138	9.58	cps
Calcium	44-1	27747	25927	24207	25960	6.82	cps
Carbon	12-1	4031258	4002920	3967611	4000596	0.80	cps
Carbon	12-2	26661	26177	26277	26371	0.97	cps
Chlorine	35-1	607291	576039	548531	577287	5.09	cps
Chlorine	35-2	2227	2110	1900	2079	7.96	cps
Chromium	52-2	850	910	840	867	4.37	cps
Cobalt	59-2	133	167	143	148	11.58	cps
Copper	63-2	1763	1727	1603	1698	4.94	cps
Dysprosium	156-1	17	23	17	19	20.36	cps
Dysprosium	156-2	10	3	3	6	69.34	cps
Erbium	164-1	137	137	103	126	15.33	cps
Erbium	164-2	53	57	37	49	21.91	cps
Gadolinium	160-1	123	93	83	100	20.82	cps
Gadolinium	160-2	47	30	27	34	31.11	cps
Holmium	165-1	15820803	15744712	15960532	15842016	0.69	cps
Holmium	165-2	6025309	6236311	6058318	6106646	1.86	cps
Indium	115-1	13908496	13822363	13591872	13774244	1.19	cps
Indium	115-2	1468055	1471872	1474665	1471531	0.23	cps
Iron	54-2	827	760	823	803	4.68	cps
Iron	56-2	12015	12155	10868	11679	6.05	cps
Iron	57-2	283	283	297	288	2.67	cps
Krypton	83-1	290	237	220	249	14.69	cps
Lead	206-1	2860	2517	2544	2640	7.24	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P8
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:42:00 DataFile Name : 038CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	2840	2297	2030	2389	17.28	cps
Lead	208-1	11879	10395	9325	10533	12.18	cps
Lithium	6-1	5262322	5237146	5234224	5244564	0.29	cps
Magnesium	24-2	1463	1420	1100	1328	14.95	cps
Manganese	55-2	3560	3474	3410	3482	2.16	cps
Molybdenum	94-1	2830	2360	1973	2388	17.97	cps
Molybdenum	95-1	2724	2064	1843	2210	20.72	cps
Molybdenum	96-1	3207	2400	2114	2574	22.03	cps
Molybdenum	97-1	1433	1313	1183	1310	9.54	cps
Molybdenum	98-1	4194	3184	2710	3363	22.54	cps
Neodymium	150-1	17	20	17	18	10.81	cps
Neodymium	150-2	0	3	3	2	86.60	cps
Nickel	60-2	287	260	347	298	14.91	cps
Phosphorus	31-2	50	83	107	80	35.60	cps
Potassium	39-2	17844	17094	17618	17518	2.20	cps
Rhodium	103-1	13171814	12947884	12917801	13012500	1.07	cps
Rhodium	103-2	5442935	5520577	5546814	5503442	0.98	cps
Scandium	45-1	9226980	9249422	9316536	9264313	0.50	cps
Scandium	45-2	185497	185007	186716	185740	0.47	cps
Selenium	82-1	-40	-33	60	-4	-1259.34	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	30	20	13	21	39.75	cps
Silicon	28-1	545386	563911	542621	550639	2.10	cps
Silver	107-1	1680	1430	1133	1415	19.35	cps
Silver	109-1	1460	1237	1010	1236	18.21	cps
Sodium	23-2	53588	53431	52547	53189	1.05	cps
Strontium	86-1	487	520	503	503	3.31	cps
Strontium	88-1	1480	1217	1147	1281	13.72	cps
Sulfur	34-1	525308	526642	529814	527255	0.44	cps
Terbium	159-1	16998444	16559240	16822396	16793360	1.32	cps
Terbium	159-2	6040530	6027099	6005858	6024495	0.29	cps
Thallium	203-1	997	967	787	917	12.39	cps
Thallium	205-1	2470	2047	2074	2197	10.79	cps
Tin	118-1	3190	3080	2844	3038	5.83	cps
Titanium	47-1	680	637	610	642	5.50	cps
Uranium	238-1	1040	820	650	837	23.37	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P8
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:42:00 DataFile Name : 038CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	57	33	20	37	50.62	cps
Ytterbium	172-1	93	100	107	100	6.67	cps
Ytterbium	172-2	53	40	67	53	25.00	cps
Ytterbium	176-1	1843	1890	1790	1841	2.72	cps
Ytterbium	176-2	553	490	443	496	11.14	cps
Yttrium	89-1	25680847	25280955	26006975	25656259	1.42	cps
Yttrium	89-2	2049669	2073863	2046620	2056717	0.73	cps
Zinc	66-2	570	540	690	600	13.23	cps
Zirconium	90-1	3184	2744	2760	2896	8.61	cps
Zirconium	91-1	660	603	540	601	9.99	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01ADLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:45:23 DataFile Name : 039AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	592750	585540	587991	588760	0.62	cps
Antimony	121-1	2103014	2049634	2045435	2066028	1.55	cps
Arsenic	75-2	1640	1533	1453	1542	6.07	cps
Barium	135-1	2284611	2284959	2278866	2282812	0.15	cps
Barium	137-1	3843147	3942494	3867074	3884238	1.33	cps
Beryllium	9-1	511316	520155	519753	517074	0.97	cps
Bismuth	209-1	9648432	9698309	9614600	9653780	0.44	cps
Bismuth	209-2	4306130	4284960	4273725	4288272	0.38	cps
Bromine	81-1	25654	26579	26572	26268	2.03	cps
Cadmium	108-1	36361	38209	38029	37533	2.71	cps
Cadmium	106-1	63461	64088	64443	63997	0.78	cps
Cadmium	111-1	488003	490927	492736	490555	0.49	cps
Calcium	43-1	1122050	1136017	1138702	1132256	0.79	cps
Calcium	44-1	18286106	18430376	18518851	18411778	0.64	cps
Carbon	12-1	4576099	4614225	4686866	4625730	1.22	cps
Carbon	12-2	31594	31821	32142	31852	0.86	cps
Chlorine	35-1	12984428	14312907	15339953	14212429	8.31	cps
Chlorine	35-2	68096	67520	68755	68124	0.91	cps
Chromium	52-2	427571	429627	423429	426876	0.74	cps
Cobalt	59-2	822695	828906	827083	826228	0.39	cps
Copper	63-2	6718595	6473704	6635470	6609256	1.88	cps
Dysprosium	156-1	25818	26677	26667	26387	1.87	cps
Dysprosium	156-2	9914	9577	9290	9594	3.25	cps
Erbium	164-1	26450	27308	26967	26908	1.61	cps
Erbium	164-2	9930	10171	9877	9993	1.57	cps
Gadolinium	160-1	25314	25972	26640	25975	2.55	cps
Gadolinium	160-2	11415	11238	11148	11267	1.20	cps
Holmium	165-1	15716098	16159859	16016420	15964126	1.42	cps
Holmium	165-2	6111553	6149143	6029632	6096776	1.00	cps
Indium	115-1	13528015	13580807	13571946	13560256	0.21	cps
Indium	115-2	1445337	1429180	1429712	1434743	0.64	cps
Iron	54-2	1163477	1169329	1158668	1163825	0.46	cps
Iron	56-2	21810652	22082521	22066747	21986640	0.69	cps
Iron	57-2	535757	531288	537012	534686	0.56	cps
Krypton	83-1	283	203	323	270	22.63	cps
Lead	206-1	7211479	7265422	7356664	7277855	1.01	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01ADLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:45:23 DataFile Name : 039AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	6319900	6337465	6370844	6342736	0.41	cps
Lead	208-1	29116089	29140666	29442953	29233236	0.62	cps
Lithium	6-1	5308302	5246744	5277033	5277360	0.58	cps
Magnesium	24-2	2887517	2841918	2804755	2844730	1.46	cps
Manganese	55-2	2382611	2380494	2387287	2383464	0.15	cps
Molybdenum	94-1	3340613	3361108	3458451	3386724	1.86	cps
Molybdenum	95-1	3698893	3791776	3768269	3752979	1.29	cps
Molybdenum	96-1	4138838	4287459	4218832	4215043	1.76	cps
Molybdenum	97-1	2280755	2290506	2323303	2298188	0.97	cps
Molybdenum	98-1	5867348	5890472	5962832	5906884	0.84	cps
Neodymium	150-1	31106	31196	31687	31330	1.00	cps
Neodymium	150-2	8650	8566	8296	8504	2.17	cps
Nickel	60-2	243364	241178	243388	242643	0.52	cps
Phosphorus	31-2	293	293	250	279	8.97	cps
Potassium	39-2	902344	900719	896497	899853	0.34	cps
Rhodium	103-1	12866081	12598079	12770271	12744810	1.07	cps
Rhodium	103-2	5424224	5335888	5245521	5335211	1.67	cps
Scandium	45-1	9098689	9226980	9211963	9179211	0.76	cps
Scandium	45-2	183742	182318	180397	182152	0.92	cps
Selenium	82-1	30490	31279	31132	30967	1.35	cps
Selenium	77-2	550	727	657	644	13.80	cps
Selenium	78-2	2050	1893	2000	1981	4.04	cps
Silicon	28-1	17320822	17440642	17240303	17333923	0.58	cps
Silver	107-1	439861	449441	452449	447250	1.47	cps
Silver	109-1	421035	422023	429928	424329	1.15	cps
Sodium	23-2	6259305	6315553	6263614	6279491	0.50	cps
Strontium	86-1	1085672	1098629	1101767	1095356	0.78	cps
Strontium	88-1	9963554	10076863	9948085	9996167	0.70	cps
Sulfur	34-1	6771991	6702489	6723795	6732759	0.53	cps
Terbium	159-1	16649938	16514815	16718352	16627702	0.62	cps
Terbium	159-2	5999981	5952955	5884486	5945808	0.98	cps
Thallium	203-1	1705787	1764803	1735358	1735316	1.70	cps
Thallium	205-1	4139358	4280379	4266333	4228690	1.84	cps
Tin	118-1	1409831	1420645	1419978	1416818	0.43	cps
Titanium	47-1	7012	7395	7289	7232	2.74	cps
Uranium	238-1	5419810	5444978	5521357	5462048	0.97	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : Q2059-01ADLX5 Instrumnet Name : P8
Client Sample ID : S-875-K1-SO-1.0-1.5-040 Dilution Factor : 5
Date & Time Acquired : 2025-05-20 18:45:23 DataFile Name : 039AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	384481	380277	383243	382667	0.56	cps
Ytterbium	172-1	7139	7646	7542	7442	3.60	cps
Ytterbium	172-2	3117	3220	3440	3259	5.07	cps
Ytterbium	176-1	14328	14551	14695	14525	1.27	cps
Ytterbium	176-2	5675	5545	5511	5577	1.55	cps
Yttrium	89-1	25829580	26044115	25863048	25912247	0.45	cps
Yttrium	89-2	2032790	2049828	2001093	2027904	1.22	cps
Zinc	66-2	888139	884530	879339	884003	0.50	cps
Zirconium	90-1	3563308	3614896	3544943	3574383	1.01	cps
Zirconium	91-1	746049	755893	760354	754098	0.97	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088TB Instrumnet Name : P8
Client Sample ID : PB168088TB Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:48:22 DataFile Name : 040AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	157	133	187	159	16.83	cps
Antimony	121-1	520	397	397	438	16.27	cps
Arsenic	75-2	3	0	0	1	173.21	cps
Barium	135-1	200	157	113	157	27.66	cps
Barium	137-1	370	247	290	302	20.70	cps
Beryllium	9-1	339	364	302	335	9.19	cps
Bismuth	209-1	9685527	9765953	9691078	9714186	0.46	cps
Bismuth	209-2	4370507	4376519	4330848	4359292	0.57	cps
Bromine	81-1	25901	25483	25563	25649	0.86	cps
Cadmium	108-1	13	23	17	18	28.64	cps
Cadmium	106-1	7889	8379	7889	8052	3.52	cps
Cadmium	111-1	5573	5896	5544	5671	3.44	cps
Calcium	43-1	790	717	687	731	7.27	cps
Calcium	44-1	20481	20121	20178	20260	0.96	cps
Carbon	12-1	3994058	3993628	3945203	3977630	0.71	cps
Carbon	12-2	26654	26457	27108	26740	1.25	cps
Chlorine	35-1	1169684	1043808	940852	1051448	10.90	cps
Chlorine	35-2	3457	3184	2817	3153	10.19	cps
Chromium	52-2	817	830	940	862	7.85	cps
Cobalt	59-2	120	70	97	96	26.18	cps
Copper	63-2	1380	1330	1323	1345	2.30	cps
Dysprosium	156-1	10	13	27	17	52.93	cps
Dysprosium	156-2	7	0	3	3	100.05	cps
Erbium	164-1	103	113	133	117	13.10	cps
Erbium	164-2	70	33	37	47	43.45	cps
Gadolinium	160-1	103	100	97	100	3.33	cps
Gadolinium	160-2	20	37	20	26	37.66	cps
Holmium	165-1	15889162	15848591	15831565	15856439	0.19	cps
Holmium	165-2	5997048	6088796	6086303	6057382	0.86	cps
Indium	115-1	13898856	13679317	13459970	13679381	1.60	cps
Indium	115-2	1452857	1476499	1457559	1462305	0.86	cps
Iron	54-2	543	473	523	513	7.02	cps
Iron	56-2	6492	6902	6545	6646	3.36	cps
Iron	57-2	183	180	187	183	1.82	cps
Krypton	83-1	240	223	190	218	11.69	cps
Lead	206-1	1687	1347	1347	1460	13.45	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088TB Instrumnet Name : P8
Client Sample ID : PB168088TB Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:48:22 DataFile Name : 040AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1250	1290	1197	1246	3.76	cps
Lead	208-1	6084	5747	5467	5766	5.36	cps
Lithium	6-1	5200754	5197478	5274195	5224142	0.83	cps
Magnesium	24-2	523	603	493	540	10.53	cps
Manganese	55-2	3644	3557	3510	3570	1.90	cps
Molybdenum	94-1	1417	1207	1110	1245	12.60	cps
Molybdenum	95-1	663	587	567	606	8.43	cps
Molybdenum	96-1	930	743	647	773	18.62	cps
Molybdenum	97-1	413	307	323	348	16.50	cps
Molybdenum	98-1	1117	930	787	944	17.52	cps
Neodymium	150-1	10	17	23	17	39.99	cps
Neodymium	150-2	0	17	7	8	107.84	cps
Nickel	60-2	243	290	233	256	11.84	cps
Phosphorus	31-2	80	57	73	70	17.17	cps
Potassium	39-2	16236	16480	16413	16376	0.77	cps
Rhodium	103-1	13013334	12917297	13147309	13025980	0.89	cps
Rhodium	103-2	5531394	5445053	5389779	5455409	1.31	cps
Scandium	45-1	9141369	9272902	9128428	9180900	0.87	cps
Scandium	45-2	184248	184245	187382	185292	0.98	cps
Selenium	82-1	-17	10	47	13	238.41	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	7	10	17	11	45.82	cps
Silicon	28-1	506527	500563	506094	504395	0.66	cps
Silver	107-1	840	703	653	732	13.20	cps
Silver	109-1	700	597	583	627	10.19	cps
Sodium	23-2	47343	46969	47163	47158	0.40	cps
Strontium	86-1	460	410	493	454	9.23	cps
Strontium	88-1	873	707	603	728	18.72	cps
Sulfur	34-1	517463	523622	524412	521832	0.73	cps
Terbium	159-1	16622740	16299365	16720401	16547502	1.33	cps
Terbium	159-2	5956678	6060694	6100823	6039398	1.23	cps
Thallium	203-1	790	697	677	721	8.39	cps
Thallium	205-1	1920	1747	1767	1811	5.24	cps
Tin	118-1	2654	2570	2640	2621	1.71	cps
Titanium	47-1	330	300	310	313	4.87	cps
Uranium	238-1	397	283	193	291	35.00	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : PB168088TB Instrumnet Name : P8
Client Sample ID : PB168088TB Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:48:22 DataFile Name : 040AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	10	33	7	17	87.16	cps
Ytterbium	172-1	130	83	107	107	21.88	cps
Ytterbium	172-2	40	43	23	36	30.14	cps
Ytterbium	176-1	1967	1977	1937	1960	1.06	cps
Ytterbium	176-2	460	540	573	524	11.11	cps
Yttrium	89-1	25085185	25727525	25162865	25325192	1.38	cps
Yttrium	89-2	2032671	1990863	2025663	2016399	1.11	cps
Zinc	66-2	380	307	343	343	10.68	cps
Zirconium	90-1	2870	2690	2797	2786	3.25	cps
Zirconium	91-1	587	630	537	584	7.99	cps

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LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P8
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:51:46 DataFile Name : 041CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3580813	3622227	3635409	3612817	0.79	cps
Antimony	121-1	9537630	9507368	9660441	9568480	0.85	cps
Arsenic	75-2	215935	217053	217933	216974	0.46	cps
Barium	135-1	11080142	11039967	11141165	11087091	0.46	cps
Barium	137-1	18868690	19337891	19368123	19191568	1.46	cps
Beryllium	9-1	2264319	2340553	2345043	2316638	1.96	cps
Bismuth	209-1	8051871	8213388	8343457	8202906	1.78	cps
Bismuth	209-2	3745932	3808260	3756695	3770296	0.88	cps
Bromine	81-1	25787	26462	26308	26186	1.35	cps
Cadmium	108-1	174702	177065	177434	176400	0.84	cps
Cadmium	106-1	259032	263248	261822	261368	0.82	cps
Cadmium	111-1	2300239	2339792	2286853	2308961	1.19	cps
Calcium	43-1	14486568	14893424	14973309	14784434	1.77	cps
Calcium	44-1	237661923	242039863	240789056	240163614	0.94	cps
Carbon	12-1	4162294	4253123	4227940	4214452	1.11	cps
Carbon	12-2	32225	31728	32513	32155	1.24	cps
Chlorine	35-1	556620	543602	535725	545316	1.94	cps
Chlorine	35-2	2147	1957	2137	2080	5.14	cps
Chromium	52-2	2156994	2188542	2152519	2166018	0.91	cps
Cobalt	59-2	3900299	3887415	3880593	3889436	0.26	cps
Copper	63-2	29599930	29299870	29310034	29403278	0.58	cps
Dysprosium	156-1	530	580	497	536	7.83	cps
Dysprosium	156-2	113	137	117	122	10.32	cps
Erbium	164-1	530	450	503	494	8.24	cps
Erbium	164-2	207	257	220	228	11.37	cps
Gadolinium	160-1	323	433	427	394	15.64	cps
Gadolinium	160-2	177	173	140	163	12.42	cps
Holmium	165-1	14500667	14811494	14637991	14650051	1.06	cps
Holmium	165-2	5813791	5863812	5771011	5816205	0.80	cps
Indium	115-1	11772661	11841993	11736530	11783728	0.45	cps
Indium	115-2	1289936	1291310	1295097	1292115	0.21	cps
Iron	54-2	22057875	21766455	21811509	21878613	0.72	cps
Iron	56-2	402254754	409731981	406266741	406084492	0.92	cps
Iron	57-2	10153365	10361055	10269521	10261313	1.01	cps
Krypton	83-1	333	227	307	289	19.22	cps
Lead	206-1	32838835	33519767	33110689	33156430	1.03	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P8
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:51:46 DataFile Name : 041CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	27883242	28586166	28450491	28306633	1.32	cps
Lead	208-1	128692459	132453232	131542419	130896037	1.50	cps
Lithium	6-1	4578482	4548225	4642230	4589645	1.05	cps
Magnesium	24-2	60338024	61046636	60448569	60611076	0.63	cps
Manganese	55-2	9152189	9204088	9091064	9149114	0.62	cps
Molybdenum	94-1	33030639	34147921	34542799	33907120	2.31	cps
Molybdenum	95-1	48165409	50229039	49868239	49420896	2.23	cps
Molybdenum	96-1	52907489	54413313	54534606	53951803	1.68	cps
Molybdenum	97-1	29925549	30611352	30659275	30398725	1.35	cps
Molybdenum	98-1	79054409	79139972	78984385	79059589	0.10	cps
Neodymium	150-1	973	1053	990	1006	4.20	cps
Neodymium	150-2	87	113	90	97	15.03	cps
Nickel	60-2	998495	996894	993294	996228	0.27	cps
Phosphorus	31-2	37011	36075	35426	36171	2.20	cps
Potassium	39-2	21477244	21204326	21323242	21334937	0.64	cps
Rhodium	103-1	10875762	10862641	11016480	10918295	0.78	cps
Rhodium	103-2	4603220	4610764	4602608	4605531	0.10	cps
Scandium	45-1	8168707	8415409	8449710	8344609	1.84	cps
Scandium	45-2	175468	172953	176180	174867	0.97	cps
Selenium	82-1	140509	141108	142826	141481	0.85	cps
Selenium	77-2	2927	2787	2867	2860	2.46	cps
Selenium	78-2	9353	9563	9266	9394	1.62	cps
Silicon	28-1	61886312	62333896	62392266	62204158	0.44	cps
Silver	107-1	11301611	11468305	11454414	11408110	0.81	cps
Silver	109-1	10719235	11175258	10818819	10904438	2.20	cps
Sodium	23-2	113696348	113900378	112690875	113429201	0.57	cps
Strontium	86-1	3236261	3204607	3242439	3227769	0.63	cps
Strontium	88-1	27265682	27547719	28155998	27656466	1.65	cps
Sulfur	34-1	1324537	1333748	1298316	1318867	1.39	cps
Terbium	159-1	15220719	15396912	15392850	15336827	0.66	cps
Terbium	159-2	5627109	5616123	5695559	5646264	0.76	cps
Thallium	203-1	8128038	8225377	8017213	8123543	1.28	cps
Thallium	205-1	19126511	19700012	19345348	19390624	1.49	cps
Tin	118-1	7492391	7824492	7682143	7666342	2.17	cps
Titanium	47-1	13854493	13964204	14266536	14028411	1.52	cps
Uranium	238-1	25361950	26162944	26082045	25868980	1.70	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P8
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:51:46 DataFile Name : 041CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1697249	1655568	1661755	1671524	1.35	cps
Ytterbium	172-1	663	730	753	716	6.53	cps
Ytterbium	172-2	417	263	380	353	22.66	cps
Ytterbium	176-1	39897	41080	41398	40792	1.94	cps
Ytterbium	176-2	16447	15453	15806	15902	3.17	cps
Yttrium	89-1	23279419	23116691	23530516	23308875	0.89	cps
Yttrium	89-2	1861976	1927591	1898580	1896049	1.73	cps
Zinc	66-2	3358413	3441914	3350686	3383671	1.50	cps
Zirconium	90-1	17032939	17422214	17451723	17302292	1.35	cps
Zirconium	91-1	3790858	3864407	3942947	3866071	1.97	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P8
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:54:31 DataFile Name : 042CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	290	233	217	247	15.59	cps
Antimony	121-1	2924	2387	2024	2445	18.52	cps
Arsenic	75-2	13	10	3	9	57.30	cps
Barium	135-1	607	397	353	452	29.96	cps
Barium	137-1	967	613	627	736	27.23	cps
Beryllium	9-1	624	609	534	589	8.19	cps
Bismuth	209-1	9711346	9506342	9673800	9630496	1.13	cps
Bismuth	209-2	4402302	4559993	4369404	4443899	2.29	cps
Bromine	81-1	25463	26164	26101	25910	1.50	cps
Cadmium	108-1	37	50	23	37	36.37	cps
Cadmium	106-1	7902	7909	8006	7939	0.73	cps
Cadmium	111-1	5653	5605	5704	5654	0.88	cps
Calcium	43-1	1407	1113	1213	1245	11.98	cps
Calcium	44-1	30506	26658	24972	27379	10.36	cps
Carbon	12-1	4044870	3989342	4015301	4016504	0.69	cps
Carbon	12-2	27289	26661	26982	26977	1.16	cps
Chlorine	35-1	373076	358413	348695	360061	3.41	cps
Chlorine	35-2	1433	1320	1330	1361	4.61	cps
Chromium	52-2	870	837	917	874	4.60	cps
Cobalt	59-2	143	167	137	149	10.58	cps
Copper	63-2	1857	1787	1867	1837	2.37	cps
Dysprosium	156-1	17	27	20	21	24.12	cps
Dysprosium	156-2	0	0	3	1	173.21	cps
Erbium	164-1	130	120	97	116	14.80	cps
Erbium	164-2	37	27	37	33	17.32	cps
Gadolinium	160-1	113	103	90	102	11.45	cps
Gadolinium	160-2	33	27	13	24	41.66	cps
Holmium	165-1	15749708	15555156	15584817	15629893	0.67	cps
Holmium	165-2	6209490	6148589	6106271	6154783	0.84	cps
Indium	115-1	13660280	13486681	13671567	13606176	0.76	cps
Indium	115-2	1480269	1586927	1480231	1515809	4.06	cps
Iron	54-2	920	903	807	877	6.98	cps
Iron	56-2	13710	13378	11965	13018	7.12	cps
Iron	57-2	313	310	350	324	6.84	cps
Krypton	83-1	197	293	193	228	24.94	cps
Lead	206-1	3230	2724	2490	2815	13.44	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P8
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:54:31 DataFile Name : 042CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	2704	2390	2004	2366	14.82	cps
Lead	208-1	12753	11019	9571	11114	14.33	cps
Lithium	6-1	5188161	5220650	5322450	5243754	1.34	cps
Magnesium	24-2	1493	1387	1393	1425	4.19	cps
Manganese	55-2	3584	3664	3474	3574	2.67	cps
Molybdenum	94-1	2870	2544	2057	2490	16.44	cps
Molybdenum	95-1	3107	2440	1994	2514	22.29	cps
Molybdenum	96-1	3567	2690	2260	2839	23.46	cps
Molybdenum	97-1	1997	1400	1170	1522	28.03	cps
Molybdenum	98-1	4761	3741	2994	3832	23.15	cps
Neodymium	150-1	17	27	17	20	28.86	cps
Neodymium	150-2	3	3	3	3	0.00	cps
Nickel	60-2	377	253	303	311	19.94	cps
Phosphorus	31-2	63	57	73	64	13.01	cps
Potassium	39-2	18425	18382	18215	18341	0.61	cps
Rhodium	103-1	12999326	13151063	13006243	13052211	0.66	cps
Rhodium	103-2	5502007	5563109	5543838	5536318	0.56	cps
Scandium	45-1	9318992	9041442	9275821	9212085	1.62	cps
Scandium	45-2	185876	183887	189304	186356	1.47	cps
Selenium	82-1	113	-37	133	70	132.74	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	10	20	13	14	35.26	cps
Silicon	28-1	519995	571673	551282	547650	4.75	cps
Silver	107-1	1713	1403	1293	1470	14.82	cps
Silver	109-1	1547	1353	1110	1337	16.37	cps
Sodium	23-2	54207	54953	53538	54233	1.31	cps
Strontium	86-1	503	433	437	458	8.63	cps
Strontium	88-1	1673	1260	1120	1351	21.29	cps
Sulfur	34-1	548775	546834	545810	547140	0.28	cps
Terbium	159-1	16770211	16431097	16532295	16577868	1.05	cps
Terbium	159-2	6123615	6031223	6090622	6081820	0.77	cps
Thallium	203-1	1050	837	767	884	16.69	cps
Thallium	205-1	2227	1867	1803	1966	11.62	cps
Tin	118-1	3284	3034	3117	3145	4.05	cps
Titanium	47-1	957	657	587	733	26.80	cps
Uranium	238-1	1270	867	803	980	25.83	cps

LB Number : LB135858 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P8
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-05-20 18:54:31 DataFile Name : 042CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	50	40	37	42	16.43	cps
Ytterbium	172-1	87	57	107	83	30.20	cps
Ytterbium	172-2	40	23	37	33	26.47	cps
Ytterbium	176-1	1907	1954	1823	1895	3.48	cps
Ytterbium	176-2	547	530	457	511	9.37	cps
Yttrium	89-1	26040823	25610075	25315083	25655327	1.42	cps
Yttrium	89-2	2069472	2055793	2064349	2063205	0.33	cps
Zinc	66-2	573	773	590	646	17.19	cps
Zirconium	90-1	3297	2987	2824	3036	7.92	cps
Zirconium	91-1	650	617	557	608	7.78	cps

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SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pipette ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

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

Start Digest Date: 05/20/2025 Time : 12:10 Temp : 96 °C

End Digest Date: 05/20/2025 Time : 14:20 Temp : 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: *S/23*

Supervisor Signature: *JPP*

Temp : 1. 96°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
Spike Sol 1	0.50	MP85581
Spike Sol 2	1.00	MP85582
Spike Sol 3	1.00	MP85583
Spike Sol 4	1.00	MP85584
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HCL	5.00	MP85156
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 CELL#50 96C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
05/20/25 15:20	<i>S/23. met. dig</i>	<i>JPP Met Lab</i>
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB168088BL	PBW088	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	29
PB168088BS	LCS088	<2	50	50	Colorless	Colorless	Clear	Clear	MP85581,MP85582,MP85583,M	30
PB168088TB	LEB088	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	37
Q2059-01	S-875-KI-SO-1.0-1.5-04092	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	31
Q2059-01MS	S-875-KI-SO-1.0-1.5-04092	<2	50	50	Colorless	Colorless	Clear	Clear	MP85581,MP85582,MP85583,M	33
Q2059-01MSD	S-875-KI-SO-1.0-1.5-04092	<2	50	50	Colorless	Colorless	Clear	Clear	MP85581,MP85582,MP85583,M	34
Q2059-01DUP	S-875-KI-SO-1.0-1.5-04092	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	32
Q2059-02	S-874-K1-SO-1.0-1.5-0409	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	35
Q2059-03	S-873-K1-SO-1.0-1.5-0409	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	36

SPLP EXTRACTION LOGPAGE

PB168058

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Pre Po
PB168058TB	LEB058	14	N/A	2000	N/A	N/A	N/A	4.23	1.5	T-2
Q2059-01	S-875-KI-SO-1.0-1.5-040925	11	100.02	2000	N/A	N/A	N/A	2.5	1.0	T-2
Q2059-02	S-874-K1-SO-1.0-1.5-040925	12	100.03	2000	N/A	N/A	N/A	3.0	1.5	T-2
Q2059-03	S-873-K1-SO-1.0-1.5-040925	13	100.02	2000	N/A	N/A	N/A	2.5	1.0	T-2

Instrument ID: P8

Daily Analysis Runlog For Sequence/QC Batch ID # LB135858

Review By	Janvi	Review On	5/27/2025 5:38:47 PM
Supervise By	MOHAN	Supervise On	5/27/2025 6:03:34 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85577,MP85606,MP85605,MP85602,MP85595,MP85594,MP85592,MP85580,MP85579		
ICV Standard	MP85607		
CCV Standard	MP85608		
ICSA Standard	MP85641,MP85642		
CRI Standard	MP85605		
LCS Standard			
Chk Standard	MP85644,MP85645		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	TUNE	TUNE	TUNE	05/20/25 15:48		Jaswal	OK
2	S0	S0	CAL1	05/20/25 16:19		Jaswal	OK
3	S2	S2	CAL3	05/20/25 16:23		Jaswal	OK
4	S3	S3	CAL4	05/20/25 16:30		Jaswal	OK
5	S4	S4	CAL5	05/20/25 17:13		Jaswal	OK
6	S5	S5	CAL6	05/20/25 17:16		Jaswal	OK
7	S6	S6	CAL7	05/20/25 17:19		Jaswal	OK
8	S7	S7	CAL8	05/20/25 17:22		Jaswal	OK
9	S8	S8	CAL9	05/20/25 17:25		Jaswal	OK
10	ICV01	ICV01	ICV	05/20/25 17:32		Jaswal	OK
11	LLICV01	LLICV01	LLICV	05/20/25 17:42		Jaswal	OK
12	ICB01	ICB01	ICB	05/20/25 17:46		Jaswal	OK
13	ICSA01	ICSA01	ICSA	05/20/25 17:50		Jaswal	OK
14	ICSAB01	ICSAB01	ICSAB	05/20/25 17:53		Jaswal	OK
15	CCV01	CCV01	CCV	05/20/25 17:59		Jaswal	OK
16	CCB01	CCB01	CCB	05/20/25 18:03		Jaswal	OK
17	CRI	CRI	CRDL	05/20/25 18:07		Jaswal	OK
18	PB168088BL	PB168088BL	MB	05/20/25 18:10		Jaswal	OK

Instrument ID: P8

Daily Analysis Runlog For Sequence/QC Batch ID # LB135858

Review By	Janvi	Review On	5/27/2025 5:38:47 PM
Supervise By	MOHAN	Supervise On	5/27/2025 6:03:34 PM

STD. NAME	STD REF.#
ICAL Standard	MP85577,MP85606,MP85605,MP85602,MP85595,MP85594,MP85592,MP85580,MP85579
ICV Standard	MP85607
CCV Standard	MP85608
ICSA Standard	MP85641,MP85642
CRI Standard	MP85605
LCS Standard	
Chk Standard	MP85644,MP85645

19	PB168088BS	PB168088BS	LCS	05/20/25 18:13		Jaswal	OK
20	Q2059-02DL	S-874-K1-SO-1.0-1.5	SAM	05/20/25 18:16		Jaswal	OK
21	Q2059-03DL	S-873-K1-SO-1.0-1.5	SAM	05/20/25 18:20		Jaswal	OK
22	Q2059-01DL	S-875-K1-SO-1.0-1.5	SAM	05/20/25 18:23		Jaswal	OK
23	Q2059-01DUPDL	S-875-K1-SO-1.0-1.5	DUP	05/20/25 18:26		Jaswal	OK
24	Q2059-01LDL	S-875-K1-SO-1.0-1.5	SD	05/20/25 18:29		Jaswal	OK
25	Q2059-01MSDL	S-875-K1-SO-1.0-1.5	MS	05/20/25 18:33		Jaswal	OK
26	Q2059-01MSDDL	S-875-K1-SO-1.0-1.5	MSD	05/20/25 18:36		Jaswal	OK
27	CCV02	CCV02	CCV	05/20/25 18:39		Jaswal	OK
28	CCB02	CCB02	CCB	05/20/25 18:42		Jaswal	OK
29	Q2059-01ADL	S-875-K1-SO-1.0-1.5	PS	05/20/25 18:45		Jaswal	OK
30	PB168088TB	PB168088TB	MB	05/20/25 18:48		Jaswal	OK
31	CCV03	CCV03	CCV	05/20/25 18:51		Jaswal	OK
32	CCB03	CCB03	CCB	05/20/25 18:54		Jaswal	OK

SOP ID :	M1311-TCLP-15	Start Prep Date :	05/19/2025	Time :	14:00
SDG No :	N/A	End Prep Date :	05/20/2025	Time :	07:15
Welgh By :	JP	Combination Ratio :	20		
Balance ID :	WC SC-7	ZHE Cleaning Batch :	18 N/A		
pH Meter ID :	WC PH METER-1	Initial Room Temperature:	23 °C		
Extraction By :	JP	Final Room Temperature:	22 °C		
Filter By :	JP	TCLP Technician Signature :	JP		
Pippete ID :	WC	Supervisor By :	12		
Tumbler ID :	T-2				
TCLP Filter ID :	115525				

Standarded Name	MLS USED	STD REF. # FROM LOG
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

Chemical Used	ML/SAMPLE U	Lot Number
SPLP FLUID	WP112802	N/A
N/A	N/A	N/A
HNO3-TCLP,1N	N/A	WP112799
pH Strips	N/A	W1931,W1934,W3171,W3172
pH Strips	W1940,W1941,W1942	W3166,W1938,W1939,
N/A	N/A	N/A
120ml Plastic bottle	N/A	2738
1:1 HNO3	N/A	MP84041

Extraction Conformance/Non-Conformance Comments:

Matrix spikes are added after filtration and before preservation. TUMBLER T-2 checked,30 rpm. q2059-01 is used for MS-MSD.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
05/20/25 09:30	JP / TCLP Room	5129. / Net Day
	Preparation Group	Analysis Group

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
PB168058TB	LEB058	14	N/A	2000	N/A	N/A	N/A	4.23	1.5	T-2
Q2059-01	S-875-KI-SO-1.0-1.5-040925	11	100.02	2000	N/A	N/A	N/A	2.5	1.0	T-2
Q2059-02	S-874-K1-SO-1.0-1.5-040925	12	100.03	2000	N/A	N/A	N/A	3.0	1.5	T-2
Q2059-03	S-873-K1-SO-1.0-1.5-040925	13	100.02	2000	N/A	N/A	N/A	2.5	1.0	T-2

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
PB168058TB	LEB058	N/A	N/A	N/A	N/A	N/A	N/A
Q2059-01	S-875-KI-SO-1.0-1.5-040925	N/A	N/A	N/A	N/A	100	N/A
Q2059-02	S-874-K1-SO-1.0-1.5-040925	N/A	N/A	N/A	N/A	100	N/A
Q2059-03	S-873-K1-SO-1.0-1.5-040925	N/A	N/A	N/A	N/A	100	N/A

Hot Block ID : WC S-1 / WC S-2

Thermometer ID : FLASHPOINT

SampleID	ClientID	Sample Weight (g)	Volume DI Water (mL)	PH after 5 min stir	PH after 10 min stir	Extraction Fluid 1 or 2	pH Extraction Fluid
PB168058TB	LEB058	N/A	N/A	N/A	N/A	#1	4.23
Q2059-01	S-875-KI-SO-1.0-1.5-040925	N/A	N/A	N/A	N/A	#1	4.23
Q2059-02	S-874-K1-SO-1.0-1.5-040925	N/A	N/A	N/A	N/A	#1	4.23
Q2059-03	S-873-K1-SO-1.0-1.5-040925	N/A	N/A	N/A	N/A	#1	4.23

Prep Standard - Chemical Standard Summary

Order ID : Q2059
Test : SPLP MetalGroup3
Prepbatch ID : PB168088,
Sequence ID/Qc Batch ID: LB135858,

Standard ID :
MP85156,MP85577,MP85579,MP85580,MP85581,MP85582,MP85583,MP85584,MP85592,MP85594,MP85595,MP85602,MP85604,MP85605,MP85606,MP85607,MP85608,MP85641,MP85642,MP85643,MP85644,MP85645,

Chemical ID :
M5305,M5470,M5520,M5658,M5697,M5739,M5751,M5798,M5799,M5800,M5801,M5811,M5815,M5817,M5873,M5874,M5942,M5961,M5962,M5977,M5981,M6021,M6023,M6025,M6026,M6028,M6030,M6032,M6055,M6079,M6086,M6127,M6128,M6137,M6142,M6144,M6145,M6146,M6150,M6151,M6153,M6158,M6159,W3112,

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
170	1:1HCL	MP85156	04/07/2025	08/18/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 1250.00000ml of M6151 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP85577	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
								05/07/2025

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

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2902	S8 ICPMS	MP85579	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025
FROM 1.00000ml of M6159 + 2.50000ml of M5520 + 2.50000ml of M5811 + 2.50000ml of M6142 + 5.00000ml of M6086 + 5.00000ml of M6127 + 5.00000ml of M6144 + 76.50000ml of MP85577 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3947	S7(SFAM,6020,200.8)	MP85580	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025
FROM 0.10000ml of M6153 + 1.00000ml of M5799 + 1.00000ml of M5981 + 1.00000ml of M6079 + 1.00000ml of M6137 + 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 M5520 + 4.90000ml of M5811 + 5.00000ml of M6151 + 50.00000ml of M5305 + 830.50000ml 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								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3880	M&B SPIKE-1	MP85581	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 5.00000ml of M5470 + 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 MP85577 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3881	M&B SPIKE-2	MP85582	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 10.00000ml of M5942 + 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 MP85577 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3882	M&B SPIKE-3	MP85583	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 0.62500ml of M6026 + 12.50000ml of M5697 + 12.50000ml of M6128 + 12.50000ml of M6145 + 11.87500ml of MP85577 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3900	M&B SPIKE-4	MP85584	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 6.25000ml of M6086 + 6.25000ml of M6127 + 6.25000ml of M6144 + 6.25000ml of MP85577 = Final Quantity: 25.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3948	S6(SFAM,6020,200.8)	MP85592	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 48.50000ml of W3112 + 50.00000ml of MP85580 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3949	S5(SFAM,6020,200.8)	MP85594	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 73.50000ml of W3112 + 25.00000ml of MP85580 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3954	S4(SFAM,6020,200.8)	MP85595	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 86.00000ml of W3112 + 12.50000ml of MP85580 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3951	S3(SFAM, 6020,200.8)	MP85602	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 88.50000ml of W3112 + 10.00000ml of MP85592 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3955	S2CONC(SFAM,6020,200.8)	MP85604	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
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 M5697 + 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								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3956	S2(SFAM,6020,200.8)	MP85605	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 98.00000ml of W3112 + 0.50000ml of MP85604 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3957	S1(SFAM,6020,200.8)	MP85606	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6158 + 88.50000ml of W3112 + 10.00000ml of MP85605 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3958	ICV(SFAM)	MP85607	05/05/2025	05/26/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025
FROM 2.00000ml of M6150 + 98.00000ml of MP85577 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3961	CCV	MP85608	05/05/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/09/2025

FROM 0.20000ml of M6026 + 0.50000ml of M5470 + 0.50000ml of M5799 + 0.50000ml of M5981 + 0.50000ml of M6079 + 0.50000ml of M6137 + 1.00000ml of M5815 + 1.00000ml of M5817 + 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 M5697 + 4.50000ml of M6128 + 4.50000ml of M6145 + 4.95000ml of M6159 + 5.00000ml of M6151 + 5.50000ml of M5942 + 5.50000ml of M5977 + 824.10000ml of W3112 = Final Quantity: 1000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1142	ICSA ICPMS	MP85641	05/05/2025	05/26/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 05/13/2025

FROM 10.00000ml of M5873 + 90.00000ml of MP85577 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1143	ICSAB ICPMS	MP85642	05/05/2025	05/26/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 05/13/2025

FROM 10.00000ml of M5873 + 10.00000ml of M5874 + 80.00000ml of MP85577 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3962	MG 10PPM FOR TUNE	MP85643	05/05/2025	05/26/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 05/13/2025

FROM 0.01000ml of M6127 + 9.99000ml of MP85577 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3894	TUNE 200PPB	MP85644	05/05/2025	05/26/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 05/13/2025

FROM 2.00000ml of M6055 + 2.00000ml of MP85643 + 96.00000ml of MP85577 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3903	ISS 3PPM	MP85645	05/05/2025	05/26/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 05/13/2025

FROM 5.00000ml of M6158 + 75.00000ml of M5739 + 170.00000ml of MP85577 = Final Quantity: 250.000 ml

CHEMICAL RECEIPT LOG BOOK

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	04/14/2025 / jaswal	03/16/2023 / jaswal	M5470

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	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	05/31/2025	04/17/2024 / jaswal	07/14/2022 / jaswal	M5873

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSB (ICPMS) STOCK SOLUTION	CP-MS ICSB-0803	05/31/2025	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	CGT11-1 / 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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / TI, 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

CHEMICAL RECEIPT LOG BOOK

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 #
Absolute Standards, Inc.	57040 / Zr, 1000 PPM, 125 ml	071423	07/14/2026	01/15/2025 / Jaswal	09/30/2024 / Jaswal	M6079

CHEMICAL RECEIPT LOG BOOK

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 #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	112124	11/21/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6127

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	103024	10/30/2027	05/06/2025 / JANVI	01/13/2025 / Jaswal	M6142

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

CHEMICAL RECEIPT LOG BOOK

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

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

CHEMICAL RECEIPT LOG BOOK

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 / lwona	07/03/2024 / lwona	W3112



M6032

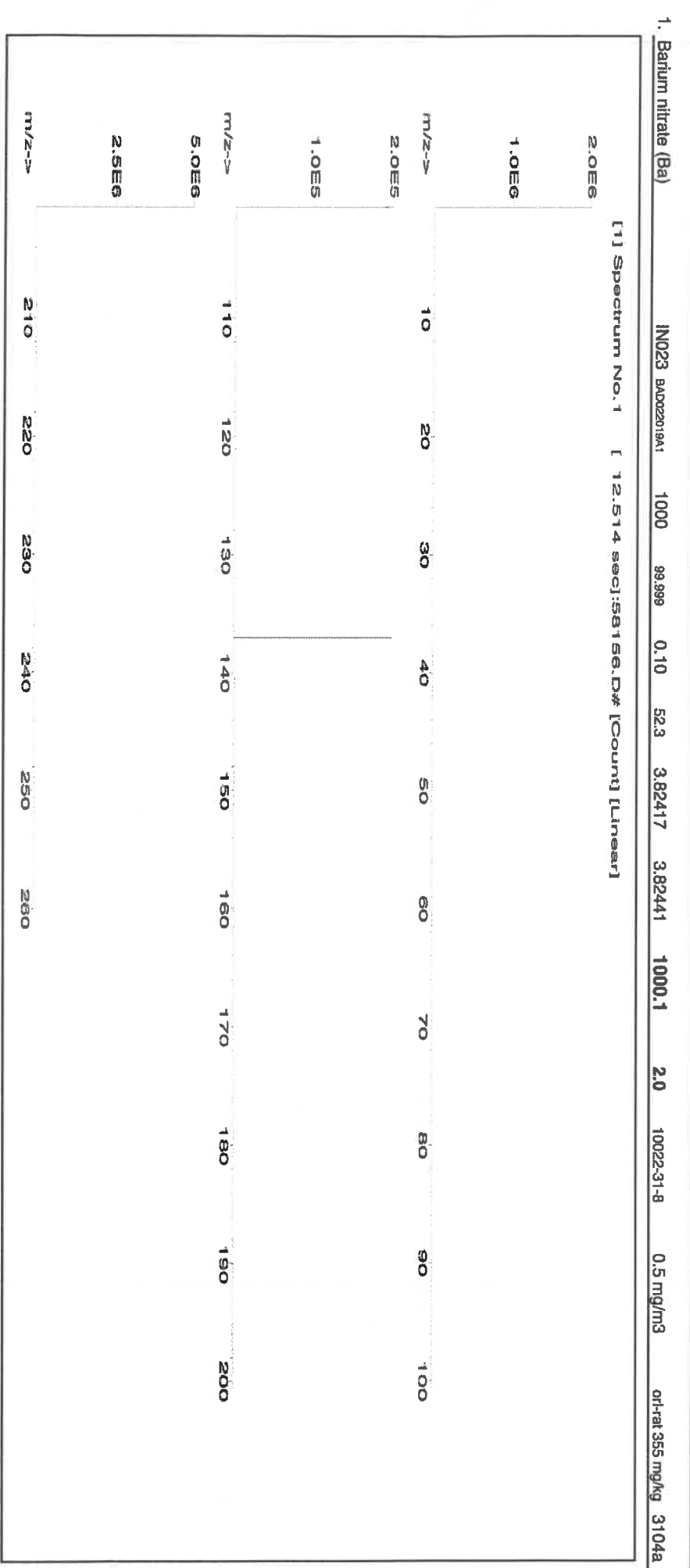


CERTIFIED WEIGHT REPORT:

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

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
010924	
<i>Pedro L. Renteria</i>	
Reviewed By:	Pedro L. Renteria
010924	

SDS Information									
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
1. Barium nitrate (Ba)	IN023	BA0022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	1000.1





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 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).



Certified Reference Material CRM



Rev'd 2/10/14/2021 M6085 / M6086 / M6087

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 082324
Description: Calcium (Ca)

Solvent: 24002546 Nitric Acid

Lot #

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

082324

Expiration Date: 082327

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

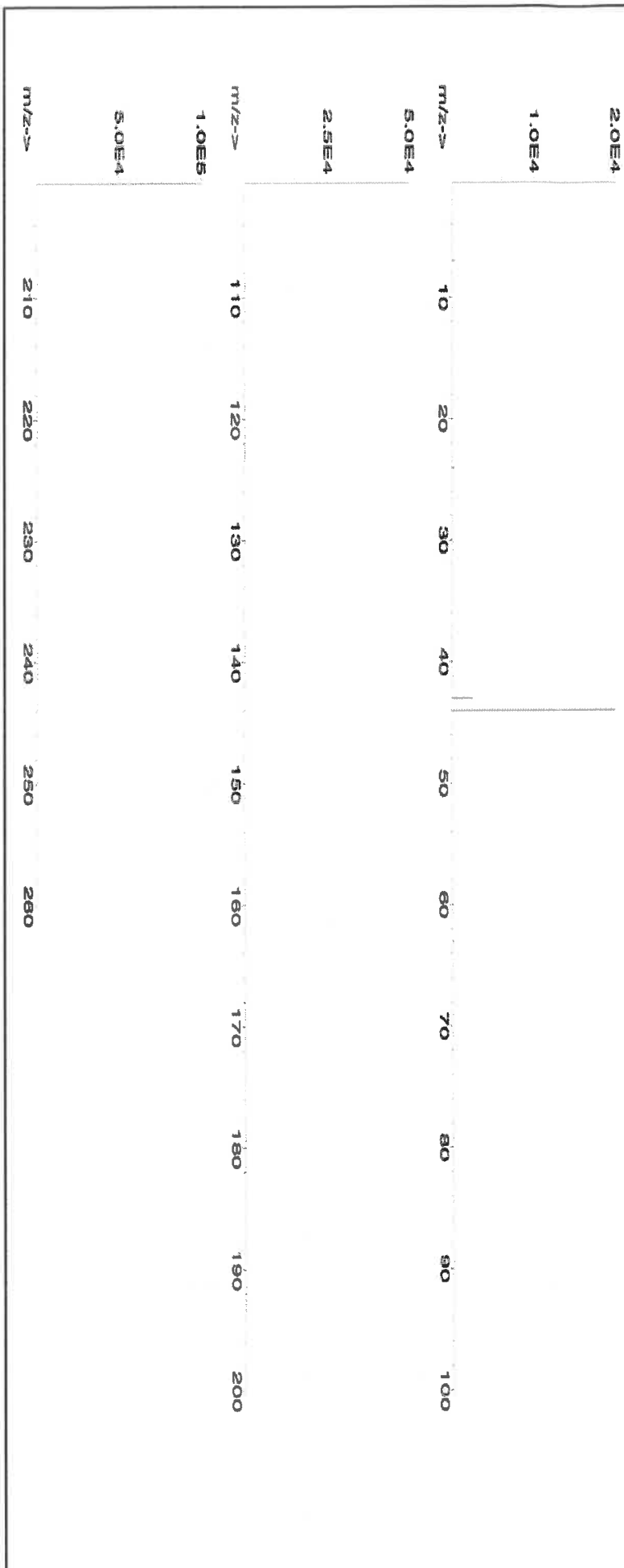
5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 4000.1 0.15 Flask Uncertainty

SDS Information

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD03202383	10000	99.999	0.10	39.9	100.2537	100.2656	10001.2	20.0	471-34-1	5 mg/m3	ort-rat >2000mg/kg	3109a

[1] Spectrum No. 1 [12.514 sec]: 58120.D* [Count] [Linear]





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	Pt	<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	Su	<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 certified (+/-) 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).



M6028



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57048
070124
Cadmium (Cd)

Lot #
Solvent: 24002546 Nitric Acid

2% 40.0 Nitric Acid (mL)

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

SE-05 Balance Uncertainty
0.100 Flask Uncertainty

<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

Compound

Lot
Number

Nominal
Conc. (µg/mL)

Purity
Uncertainty
Assay
(%)

Target
Weight (g)

Actual
Weight (g)

Actual
Conc. (µg/mL)

Expanded
Uncertainty
+/- (µg/mL)

CAS#

OSHA PEL (TWA)

LD50

NIST
SRM

SDS Information

1. Cadmium nitrate tetrahydrate (Cd)

IN024 CDM09221A1

1000

99.999 0.10 36.5

5.4797

5.4804

1000.1

2.0

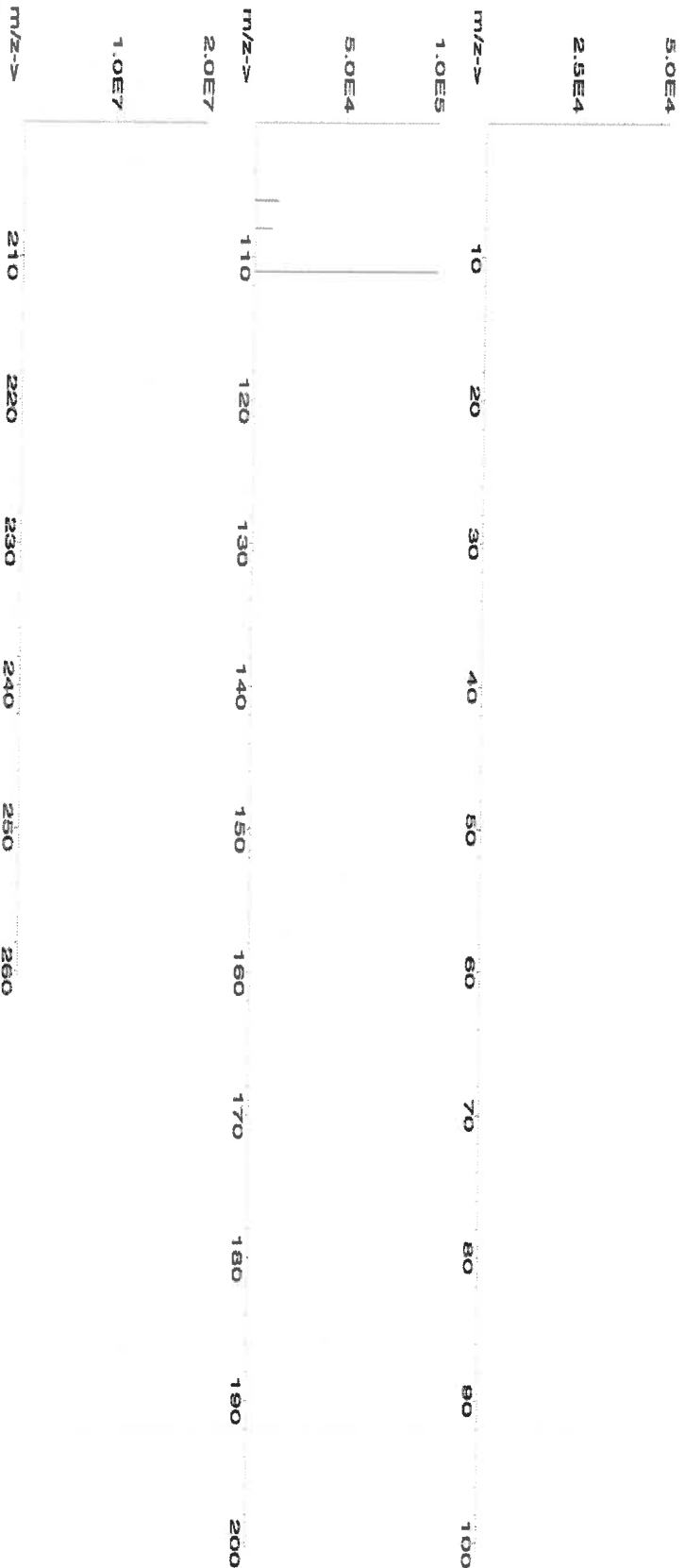
10022-68-1

0.01 mg/m3

or-rat 60.2mg/kg

3108

[1] Spectrum No.1 [12.514 sec]:\$8148.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.2	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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	Ba	<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	Cd	<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	Pr	<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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 051523
Description: Iron (Fe)

Solvent: 21110221 Nitric Acid

Lot #

Expiration Date: 051526

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 5000.1

SE-05 Balance Uncertainty

0.12 Flask Uncertainty

Giovanni Esposito

Formulated By: Giovanni Esposito 051523

Pedro L. Renias

Reviewed By: Pedro L. Renias 051523

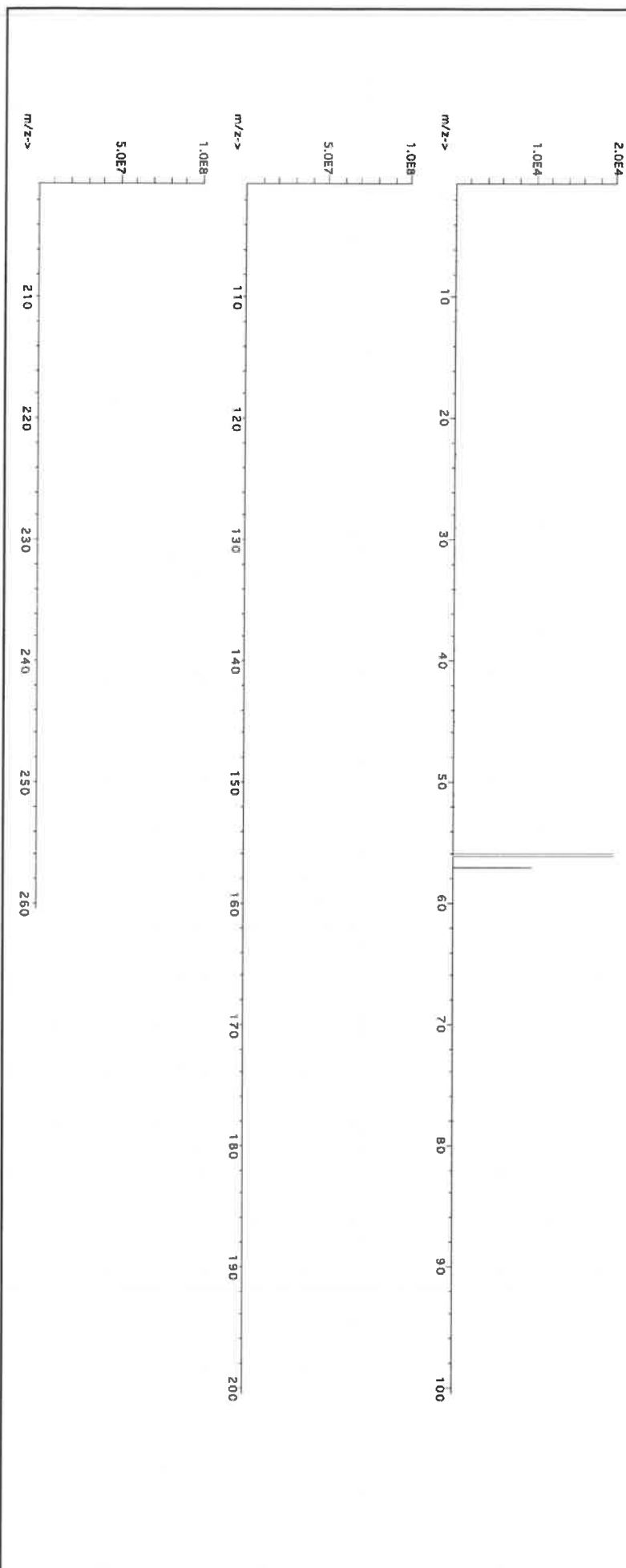
SDS Information

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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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 or-rel 7500mg/kg 3126a

[1] Spectrum No. 1 [30.763 sec]:58126.D# [Count] [Linear]





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	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ce	<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	Rb	<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	Tl	<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 certified (+/-) 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).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: **57182**
Lot Number: **110923**
Description: **Lead (Pb)**
Solvent: **24002546 Nitric Acid**
Lot #: **M6025**

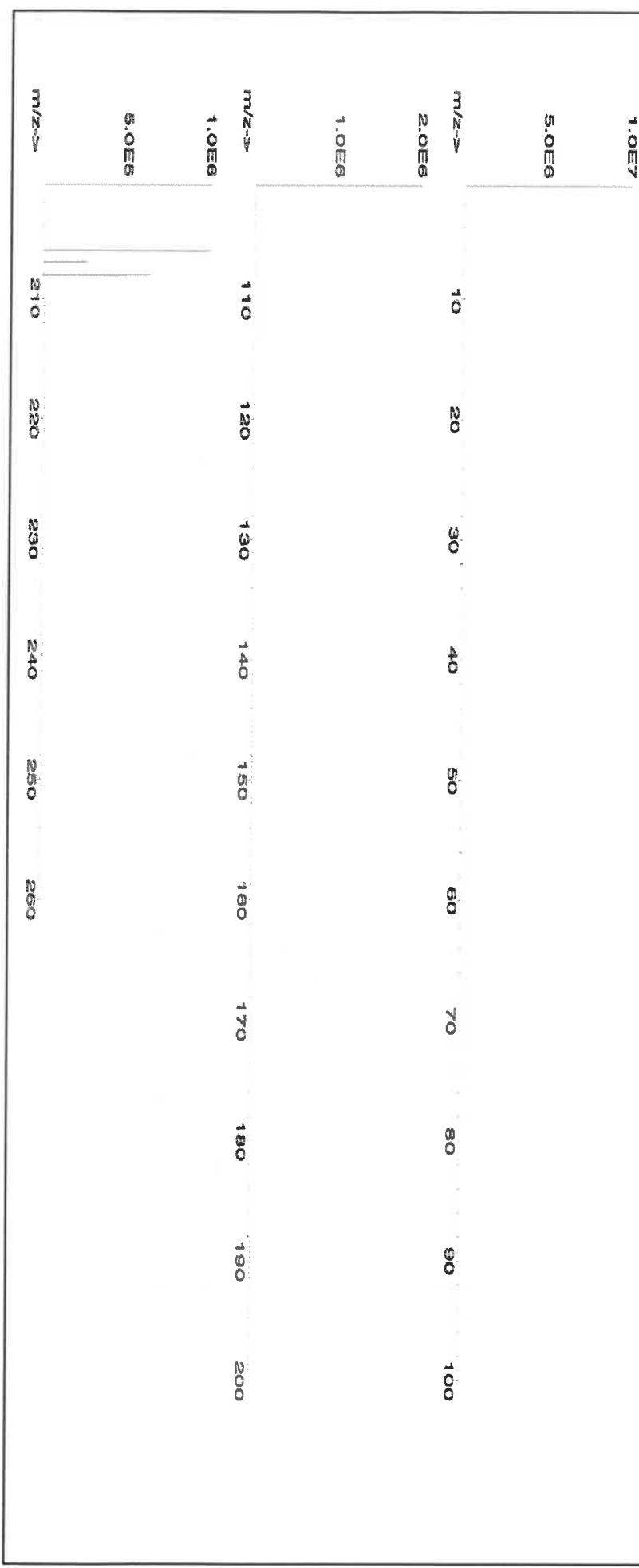
Expiration Date: **110926**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **10000**
NIST Test Number: **6UTB**
Weight shown below was diluted to (mL): **2000.02**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas
110923	

Compound	SDS Information									
	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)

1. Lead(II) nitrate (Pb) IN029 PED12016A1 10000 99.999 0.10 62.5 32.0006 32.0040 10001.1 20.0 10099-74-8 0.05 mg/m3 Inverse rat 83 mg/kg 3128

[1] Spectrum No.1 [17.284 sec]:58182.D# [Count] [Linear]





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

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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

Physical Characterization:

(T)= Target analyte

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 certified (+/-) 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).



MC026



CERTIFIED WEIGHT REPORT:

Part Number: **57182**
Lot Number: **110923**
Description: **Lead (Pb)**

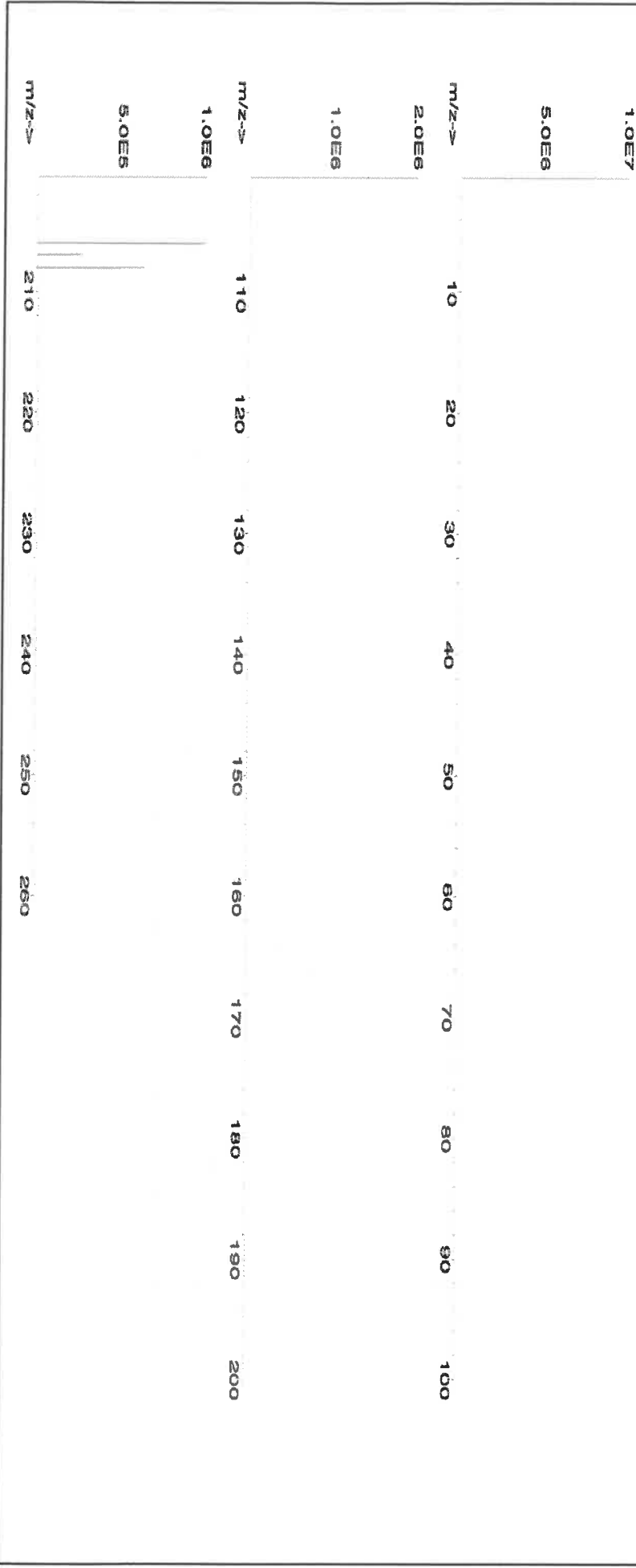
Lot #
Solvent: **24002546 Nitric Acid**

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**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)
1. Lead(II) nitrate (Pb)	IN029	PED12016A1	10000	99.999	0.10	62.5	32.0006	32.0040	10001.1
									20.0
									10099-74-8
									0.05 mg/m3
									intrinsic 83 mg/kg
									3128

[1] Spectrum No.1 [17.284 sec]:58182.D# [Count] [Linear]





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

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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	Bu	<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

Physical Characterization:

(T)= Target analyte

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 certified (+/-) 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).



Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



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 °C)

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

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

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

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

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

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k(u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum(w_i)^2(u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k(u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 20, 2021

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

11.2 Lot Expiration Date

- **October 20, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

Part Number: **58119**
Lot Number: **120822**
Description: **Potassium (K)**

Solvent: 20510011 Nitric Acid

Lot #

Expiration Date:

2% 60.0 Nitric Acid (mL)

Recommended Storage:

120825 Ambient (20 °C)

Nominal Concentration (µg/mL):

10000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

3000.4

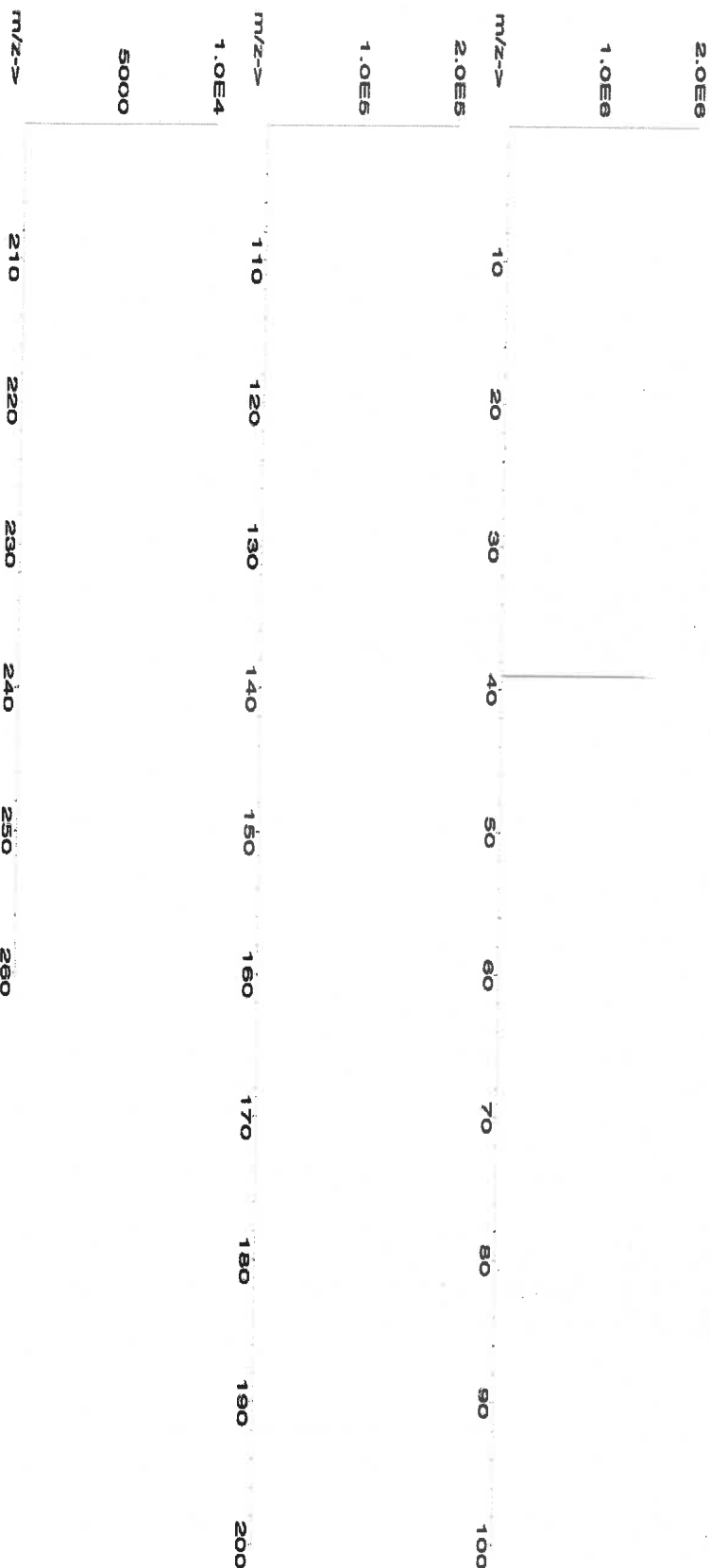
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Compound

Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Uncertainty	(Solvent Safety Info. On Attached pg.)					NIST
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM	

1. Potassium nitrate (K) IN034 KD022021A1 10000 99.989 0.10 37.6 79.7990 79.8075 10001.1 20.0 7757-79-1 5 mg/m3 or/air 3015 mg/kg 3141a

[1] Spectrum No.1 [35.763 sec]:58119.D# [Count] [Linear]





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	Pt	<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	<0.02	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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: 58024
Lot Number: 060523
Description: Chromium (Cr)

Lot # 21110221
Solvent: Nitric Acid

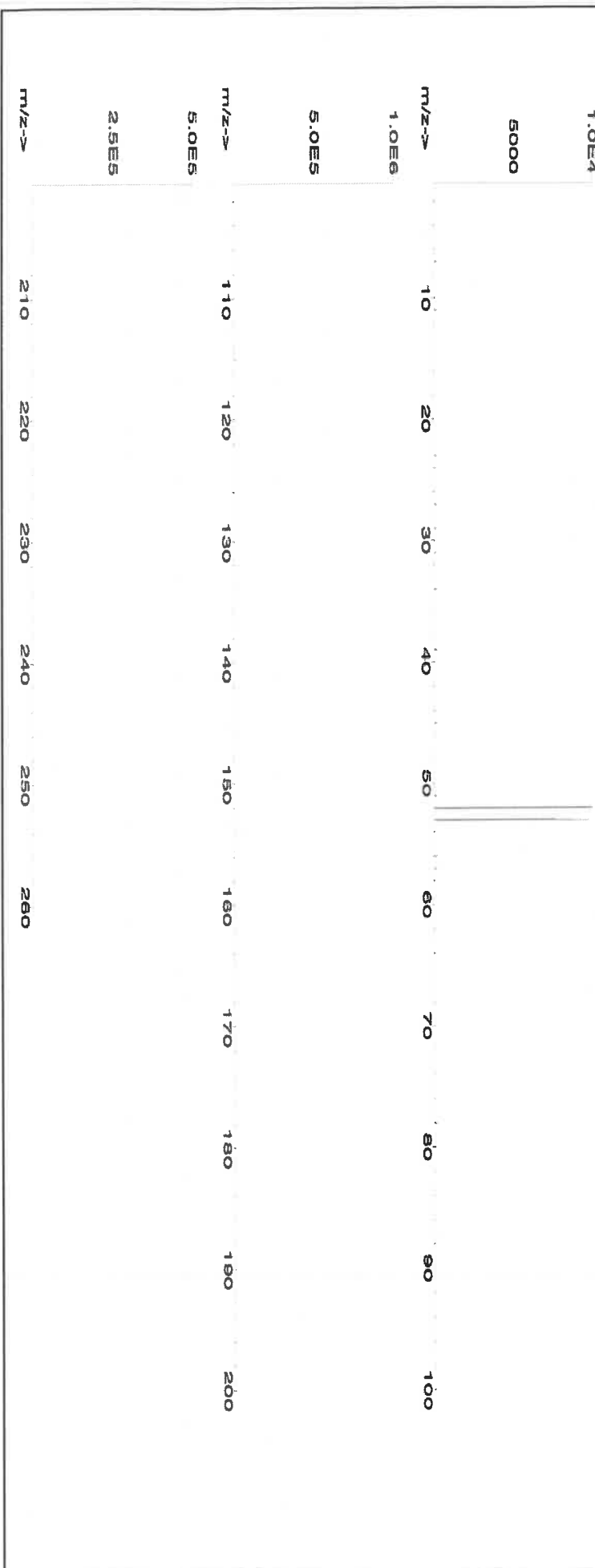
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

Expiration Date: 060526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	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 or rat 3250 mg/kg 3112a

[1] Spectrum No.1 [31.393 sec]:57024.D# [Count] [Linear]





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:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



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

CERTIFIED WEIGHT REPORT:

Part Number: **58029**
Lot Number: **102523**
Description: **Copper (Cu)**

Lot # **24002546** Solvent: **Nitric Acid**

Expiration Date: **102526**

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage: **Ambient (20 °C)**

Nominal Concentration (µg/mL): **1000**

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

NIST Test Number: **6UTB**

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): **2000.02**

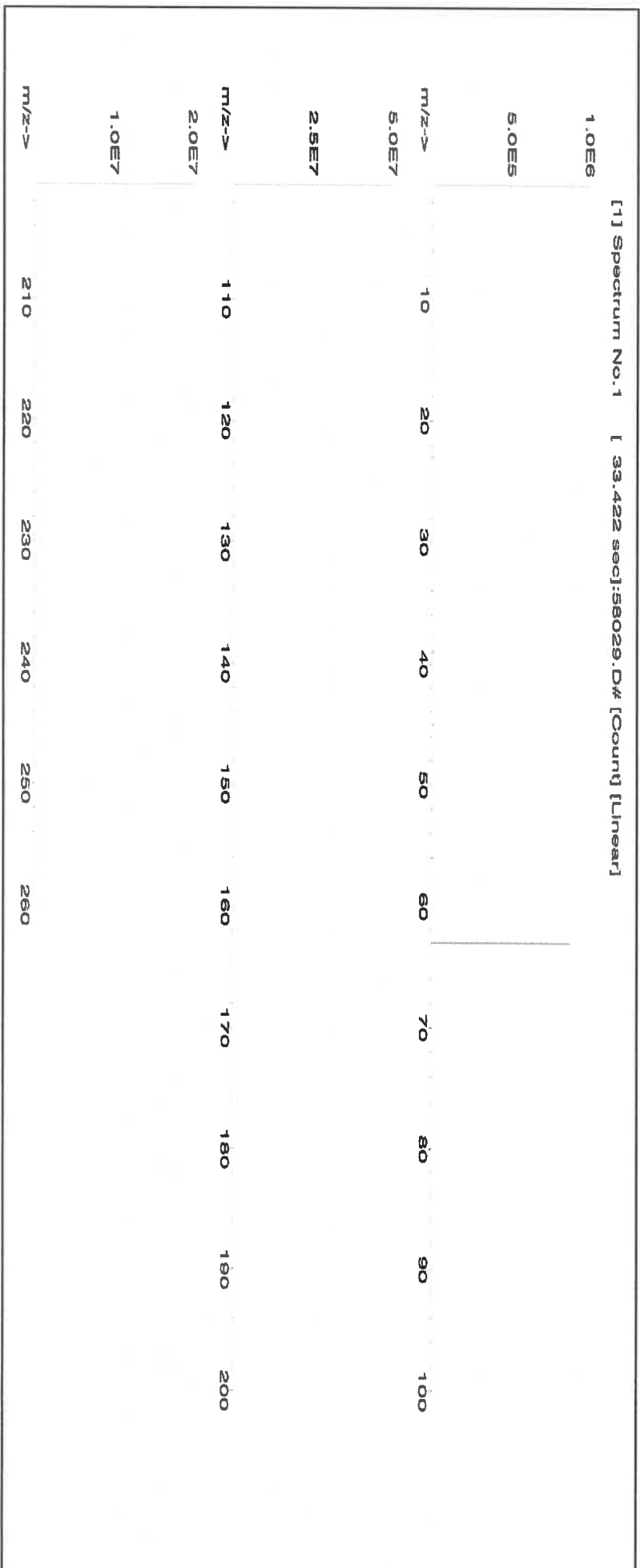
0.058 Flask Uncertainty

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Copper(II) nitrate trihydrate (Cu) 58129 100223 0.1000 200.0 0.084 1000 10000.1 1000.0 2.2 10031-43-3 1 mg/m3 or-rat 794 mg/kg 3114

[1] Spectrum No. 1 [33.422 sec]:58029.D# [Count] [Linear]





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	Bu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 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).



Certified Reference Material CRM

R: 8/25/23 M5751



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58029
071723
Copper (Cu)

Lot #
21110221

Solvent:
Nitric Acid

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):

071726
Ambient (20 °C)
1000

2.0%
40.0 (mL)
Nitric Acid

NIST Test Number:
Volume shown below was diluted to (mL):

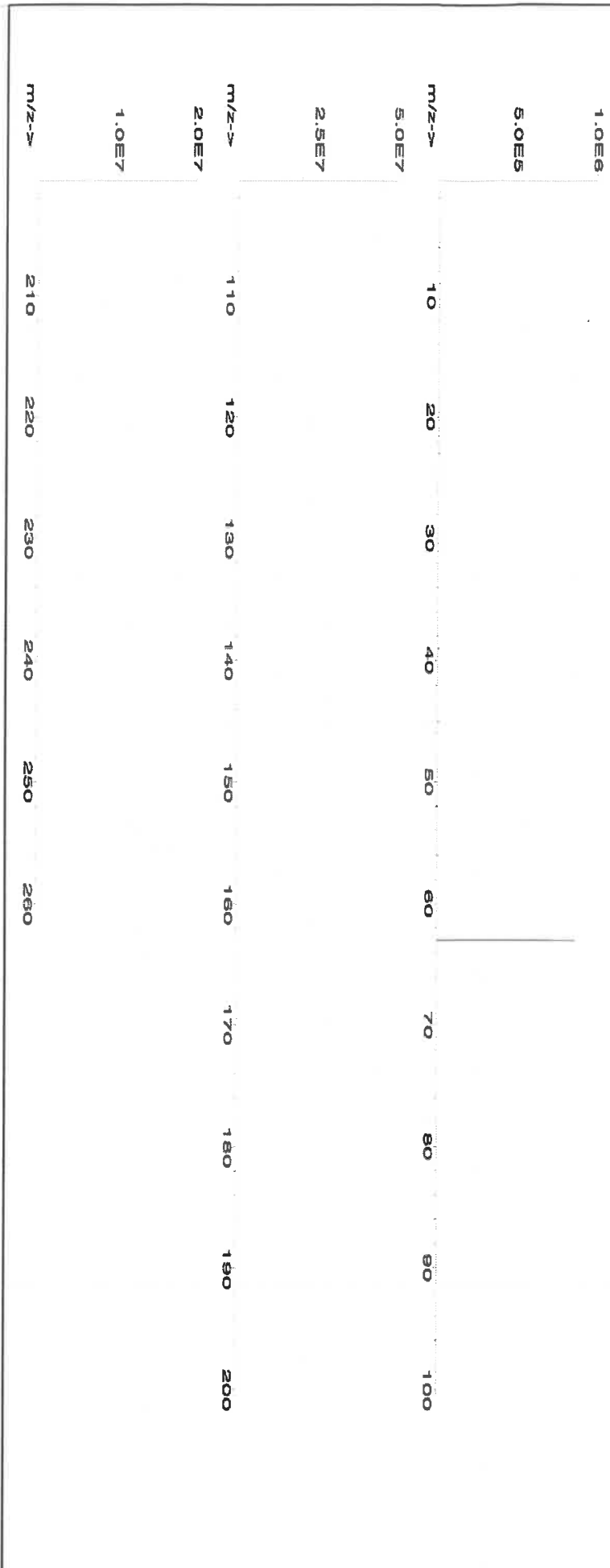
6UTB
2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (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.)	OSHA PEL (TWA)	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	or rat 794 mg/kg	3114
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[1] Spectrum No. 1 [33.422 sec]: 58029.D# [Count] [Linear]



Absolute Standards, Inc.

800-368-1131
www.absolutestandards.com



Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://AbsoluteStandards.com>

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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Bu	<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	Ru	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Co	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Sr	<0.02	S	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Cu	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	Ta	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	T		Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: 57004
Lot Number: 102523
Description: Beryllium (Be)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date:

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.02

2.0%

40.0 (mL)

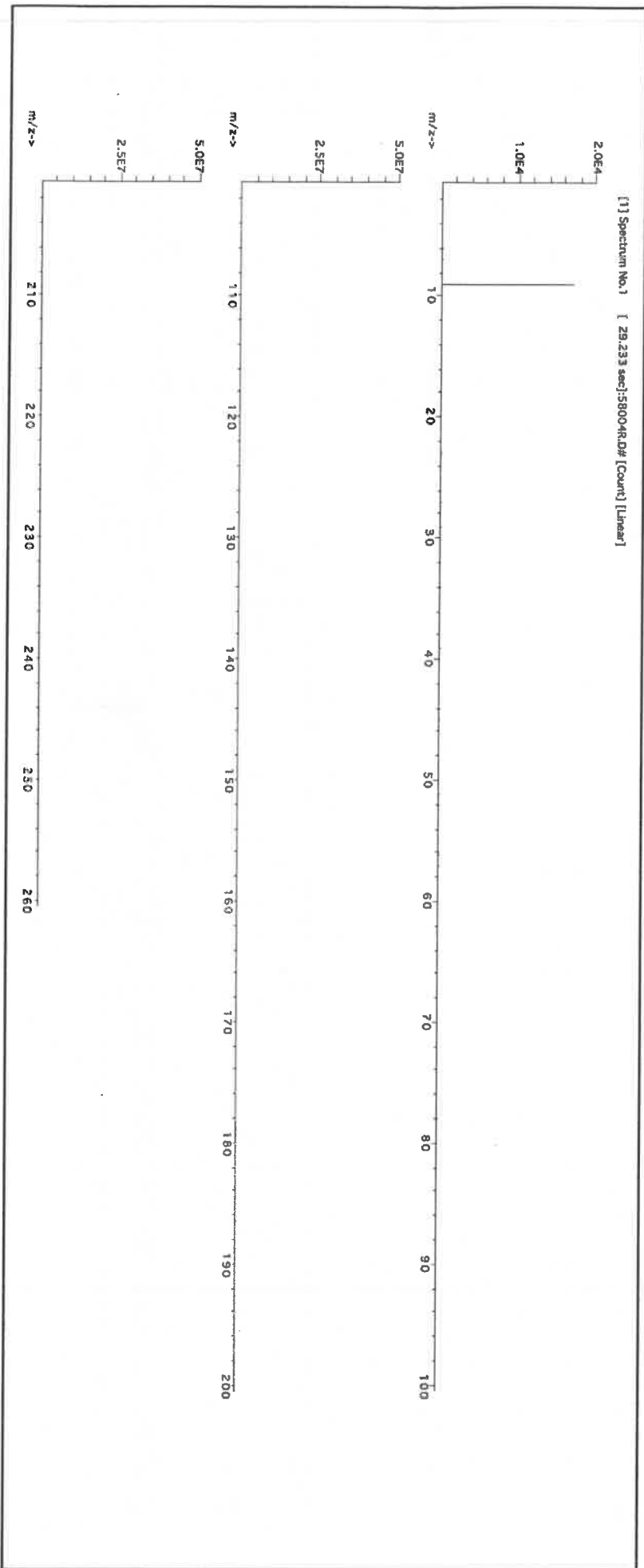
Nitric Acid

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

SDS Information

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-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 ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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	Tc	<0.02	U	<0.02
As	<0.02	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<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	Ta	<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	Tl	<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 certified (+/-) 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).



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

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

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

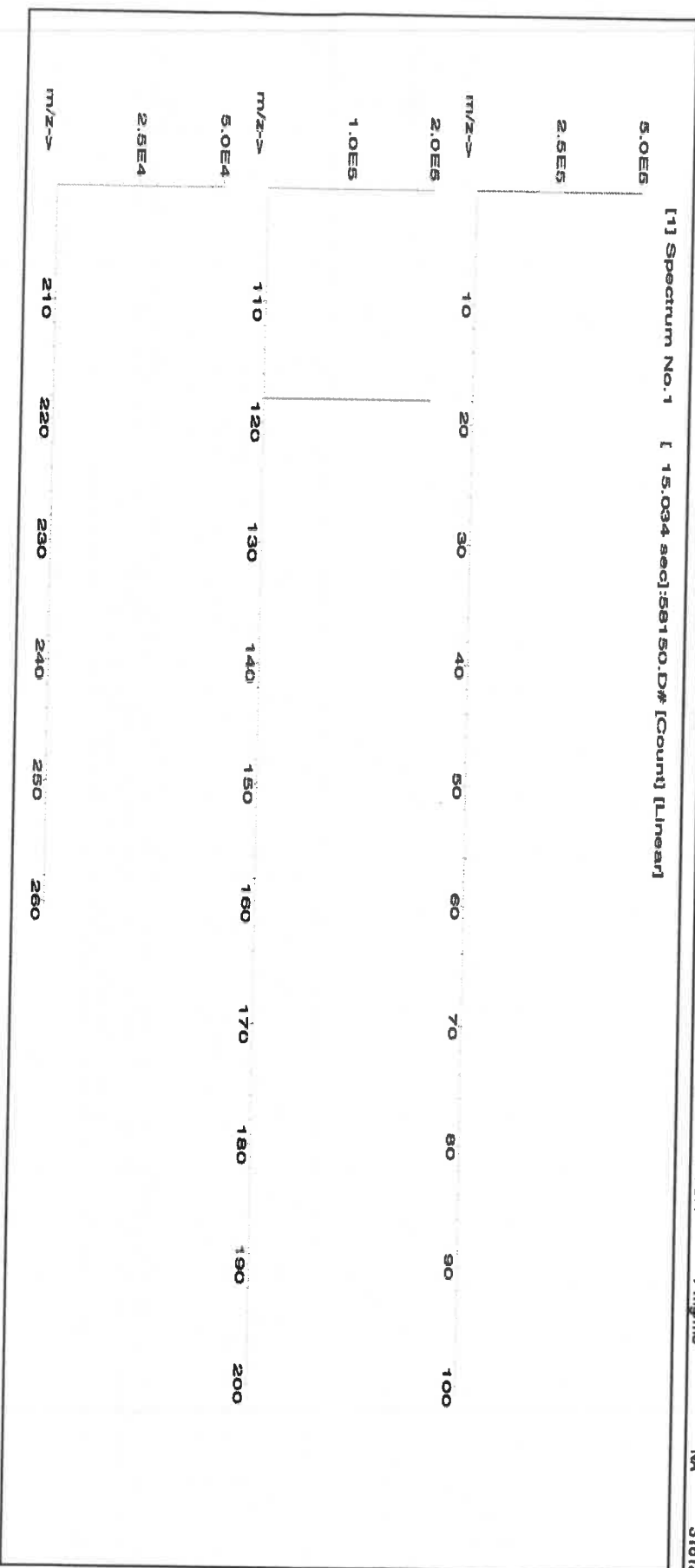
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.0058 Flask Uncertainty

Formulated By: Benson Chan		071123
Reviewed By: Pedro L. Rientas		071123

SDS Information														NIST			
Compound		Lot		Nominal		Purity		Uncertainty		Assay		Target			Actual		Expanded
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)

1. Ammonium hexafluoroantimonate(V) (Sn) IN010 SMD042023A1 1000 99.999 0.10 44.2 1.13107 1.13286 1001.6 2.0 16919-24-7 7 mg/m3 NA 3161a

[1] Spectrum No. 1 [15.034 sec] :56150.D# [Count] [Linear]





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	Ti	<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	Ta	<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).



R: 02/09/24 115800 (54)

CERTIFIED WEIGHT REPORT:

Part Number: 57027
Lot Number: 091923
Description: Cobalt (Co)

Expiration Date: 091926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lot # 24002546
Solvent: Nitric Acid

2.0% Nitric Acid
40.0 (mL)

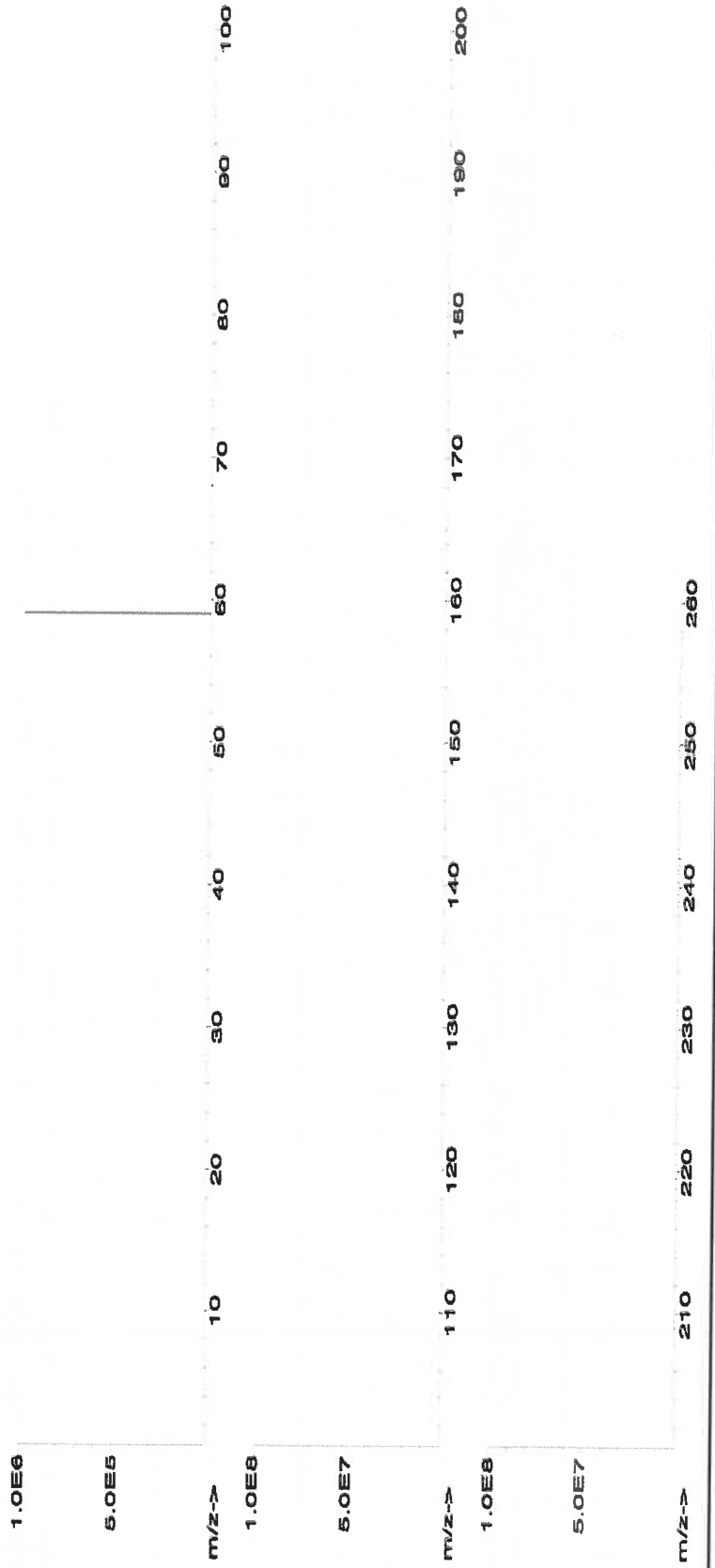
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

SDS Information

Expanded Uncertainty
(Solvent Safety Info. On Attached pg.)
NIST SRM
CAS# OSHA PEL (TWA) LD50

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

[1] Spectrum No.1 [34.243 sec]:58027.D# [Count] [Linear]





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	<0.02	Os	<0.01	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	<0.2	Na	<0.02	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	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	<0.2	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).
- * Standards are certified (+/-) 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).



Certified Reference Material CRM

AR: 02/09/24

M5801

BA



CERTIFIED WEIGHT REPORT:

Part Number: 57033
Lot Number: 111323
Description: Arsenic (As)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 111326

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6LUTB

Volume shown below was diluted to (mL): 4000.0

Balance Uncertainty: 5E-05
Flask Uncertainty: 0.06

2.0%

80.0 (mL)

Nitric Acid

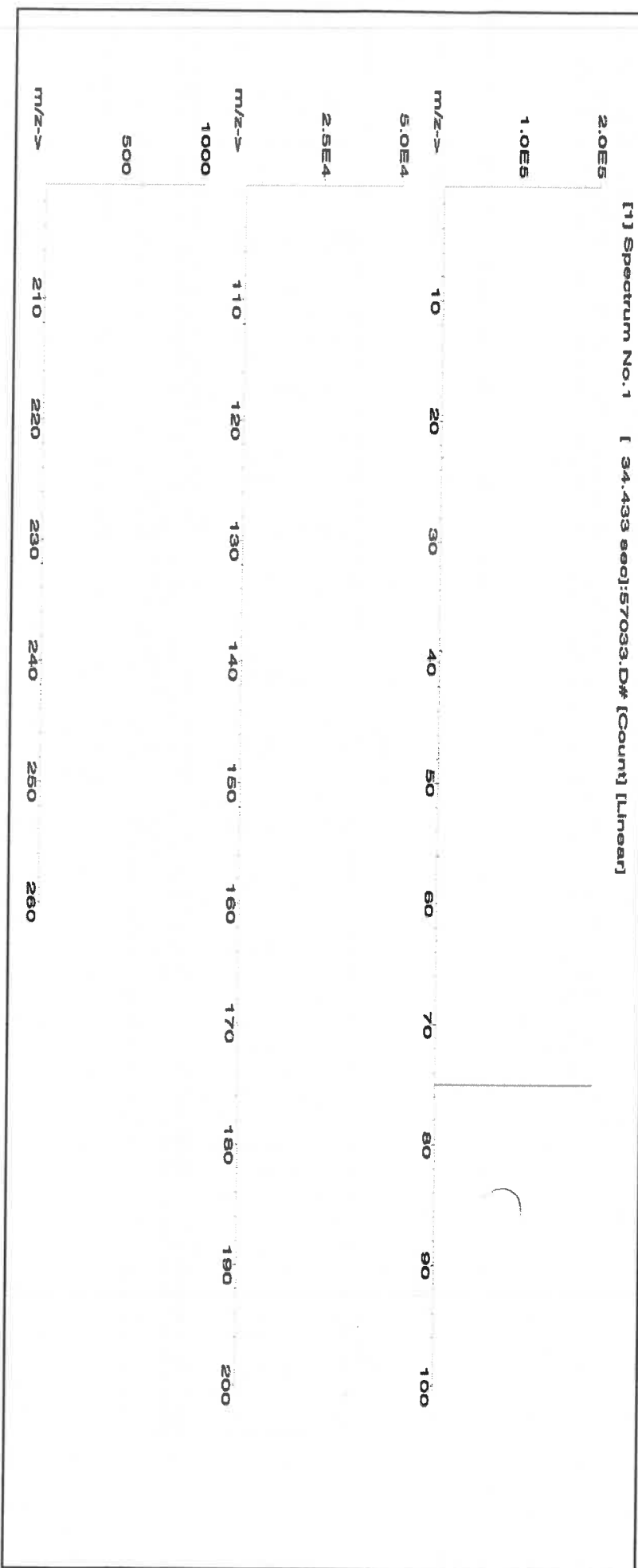
Formulated By:	Lawrence Barry
Reviewed By:	
	Pedro L. Rendas
	111323

SDS Information

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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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	or rat 500 mg/kg	3103a
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[1] Spectrum No. 1 [34.433 sec]:57033.D# [Count] [Linear]





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	Tl _h	<0.02	Yb	<0.02
Bc	<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	Sa	<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.
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- * Standards are certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

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

Solvent: 21110221 Nitric Acid

Lot #

R102109124 M5815

Expiration Date: 041726
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

2% 40.0 (mL) Nitric Acid

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

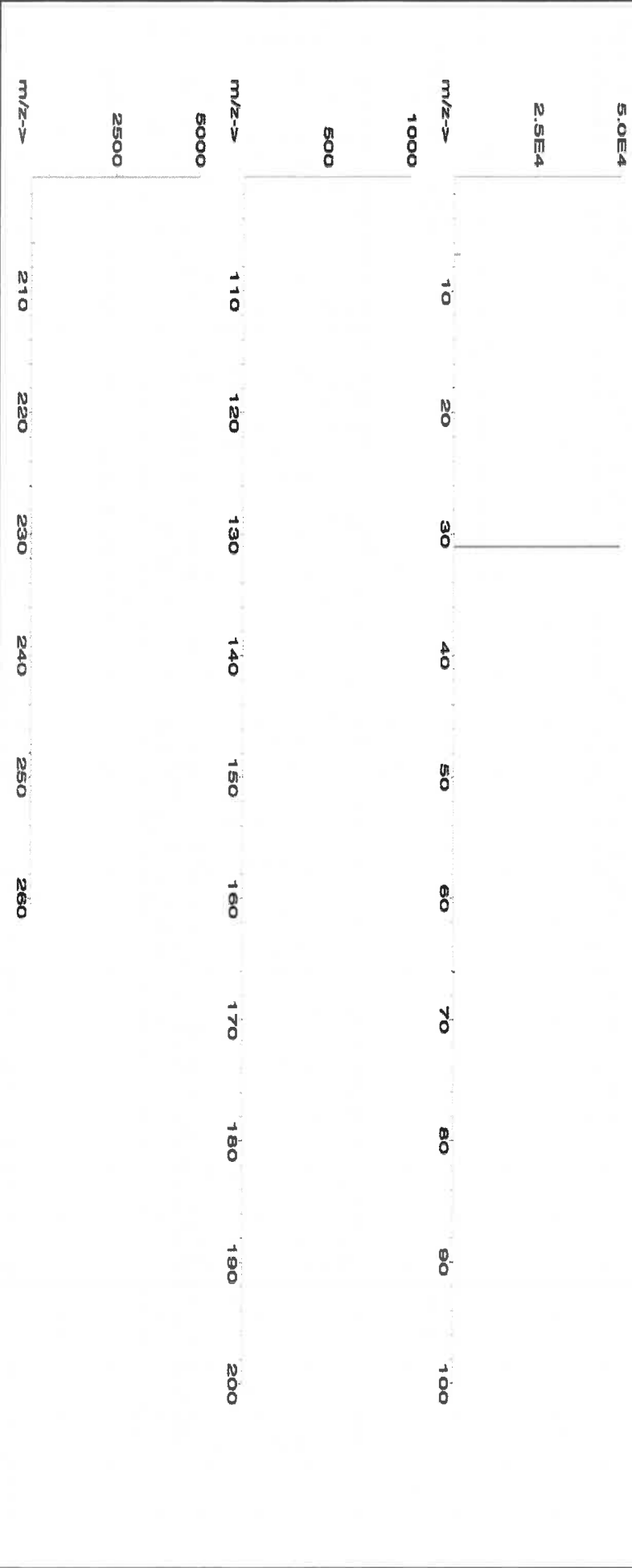
Formulated By:	Lawrence Barry
	041723
Reviewed By:	Pedro L. Rentas
	041723

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium dihydrogen phosphate (P) IN008 PVR2019A1 10000 99.999 0.10 27.5 72.7287 72.7289 10000.0 20.0 7722-76-1 5 mg/m3 or-hal->2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.D# [Count] [Linear]





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	Pt	<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:

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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

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

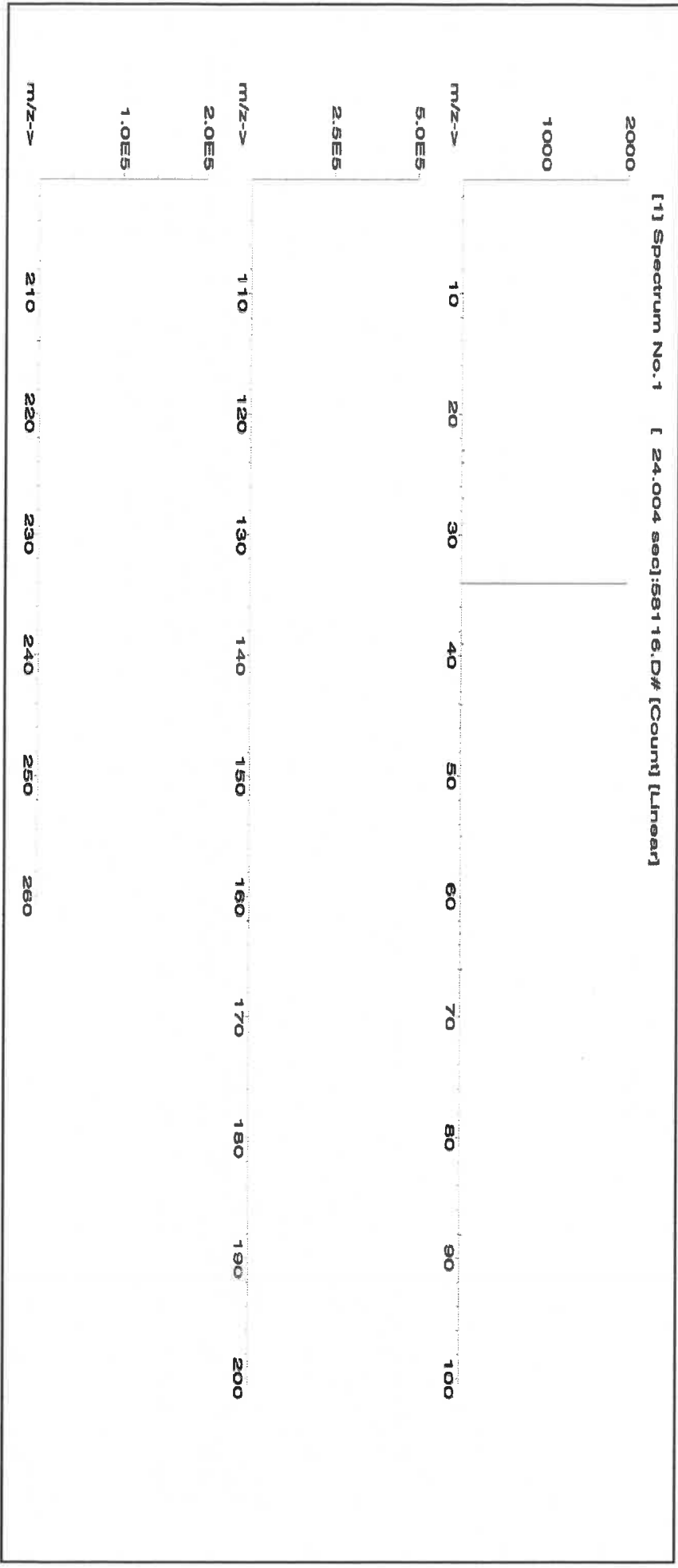
Solvent: **071123** Lot #
ASTM Type 1 Water

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

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

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)
									CAS# OSHA PEL (TWA) LD50 SRM

1. Ammonium sulfate (S)	IN117	SLBR725V	10000	99.9	0.10	24.3	82.4675	82.4692	10000.1	20.0	7783-20-2	NA	oral 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	Pt	<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	Tm	<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	Sn	<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	Ti	<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			Zr	<0.02

Physical Characterization:

(T)= Target analyte

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 certified (+/-) 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).

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

R: 02/22/24 M.5942

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).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGT11
Lot Number: T2-TI719972
Matrix: 2% (v/v) HNO₃
tr. HF
Value / Analyte(s): 1 000 µg/mL ea:
Titanium
Starting Material: Ti Metal
Starting Material Lot#: 2094
Starting Material Purity: 99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL
Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 1002 ± 4 µg/mL
ICP Assay NIST SRM 3162a Lot Number: 130925

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char i}^2)]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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	<	0.000536	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



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

CERTIFIED WEIGHT REPORT:

Lot #

MS961 R-611124

Part Number:

Solvent: 24002546 Nitric Acid

Lot Number:

041124

Description:

Nickel (NI)

Expiration Date:

041127

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

249.85

5E-05 Balance Uncertainty
0.002 Flask Uncertainty

2%

5.0 (mL)

Nitric Acid

Formulated By:

Brian Geddes

041124

Reviewed By:

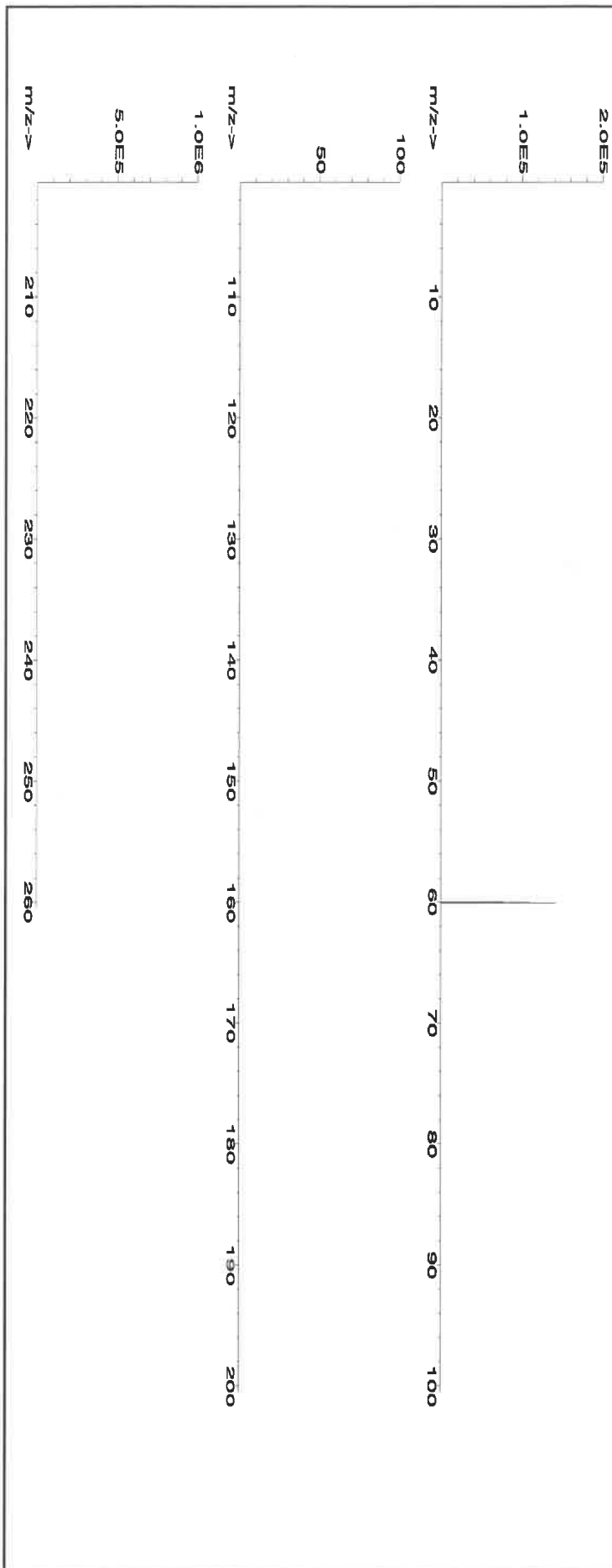
Pedro L. Rentas

041124

SDS Information

Compound	Lot	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (NI)	INO33 NIM052023A1	1000	99.999	0.10	20.2	1.2369	1.2369	1000.0	2.0	13478-00-7	1 mg/m3	rat 1620 mg/kg	3136

[1] Spectrum No. 1 [12.374 sec]:58128.D# [Count] [Linear]





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	Ba	<0.02	Eu	<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
Bc	<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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.

800-368-1131
www.absolutestandards.com



Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://AbsoluteStandards.com>

CERTIFIED WEIGHT REPORT:

Part Number:

57034

Lot Number:

060624

Description:

Selenium (Se)

Lot #

24002546

Solvent:

Nitric Acid

2.0%

40.0

(mL)

Nitric Acid

(mL)

Formulated By:

Benson Chan

060624

Expiration Date:

060627

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

2000.07

SE-05

Balance Uncertainty

0.100

Flask Uncertainty

Expanded

SDS Information

Uncertainty

(Solvent Safety Info. On Attached pg.)

NIST

+/- (µg/mL)

CAS#

OSHA PEL (TWA)

LDSO

SRM

Part Lot

Dilution Factor

Initial Vol. (mL)

Pipette (mL)

Nominal Conc. (µg/mL)

Initial Conc. (µg/mL)

Final Conc. (µg/mL)

Expanded

Uncertainty

(Solvent Safety Info. On Attached pg.)

NIST

1. Selenium (Se)

58134 071223

0.1000

200.0

0.084

1000

10002.5

1000.0

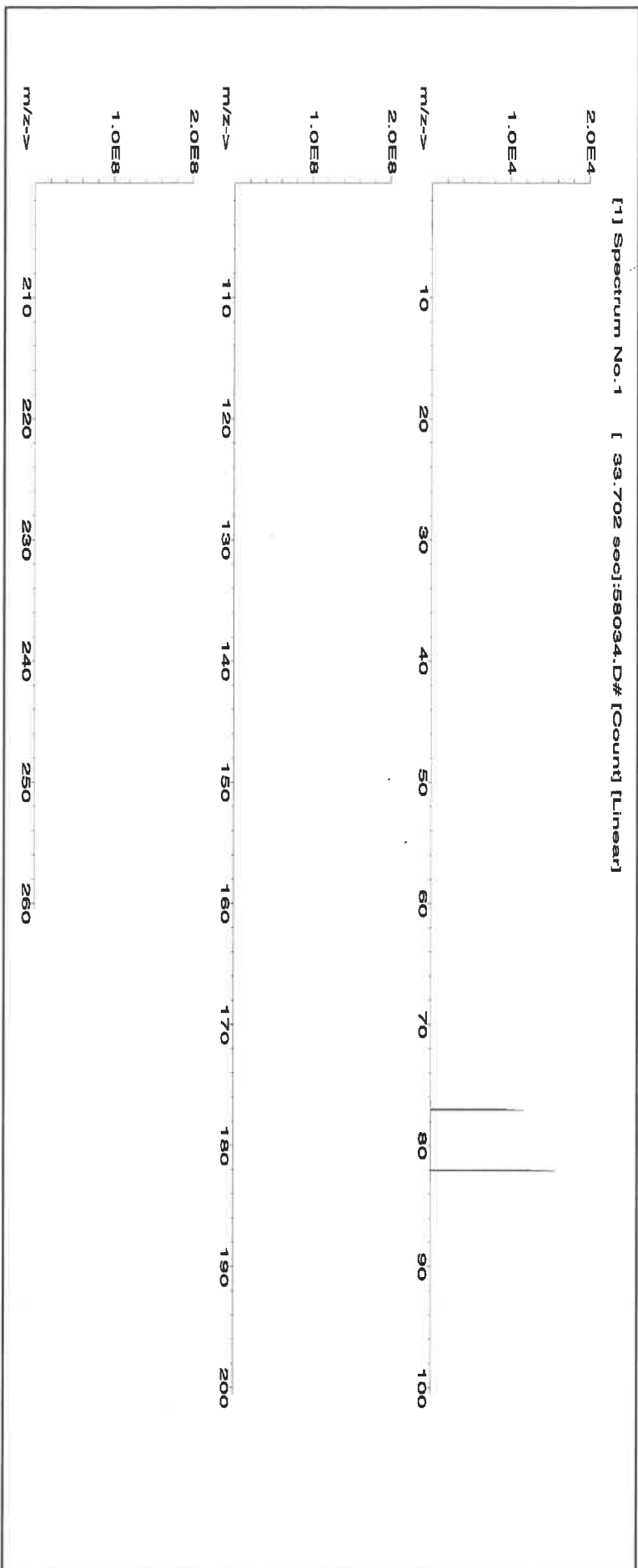
2.2

7782-49-2

0.2 mg/m3

or-tral 6700 mg/kg

[1] Spectrum No.1 [33.702 sec]:58034.D# [Count] [Linear]





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	Pt	<0.02	Se	T	Tb	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	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	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	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	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	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	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 certified (+/-) 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).

M5976, M5977

R: 02/22/24

1.0 ACCREDITATION / REGISTRATION

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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:

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

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.

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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i^2 (u_{char i}^2))]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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	<	0.000590	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,79Br16O,190Os2+,190Pt2+
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: 800.669.6798; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com; 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





MS981

R: 6/11/24



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57092
060724
Uranium (U)

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:

060727
Ambient (20 °C)
1000
6UTB

Volume shown below was diluted to (mL): 2000.07

5E-05 Balance Uncertainty
0.100 Flask Uncertainty

Lot # Solvent:
24002546 Nitric Acid

2.0% Nitric Acid
40.0 (mL)

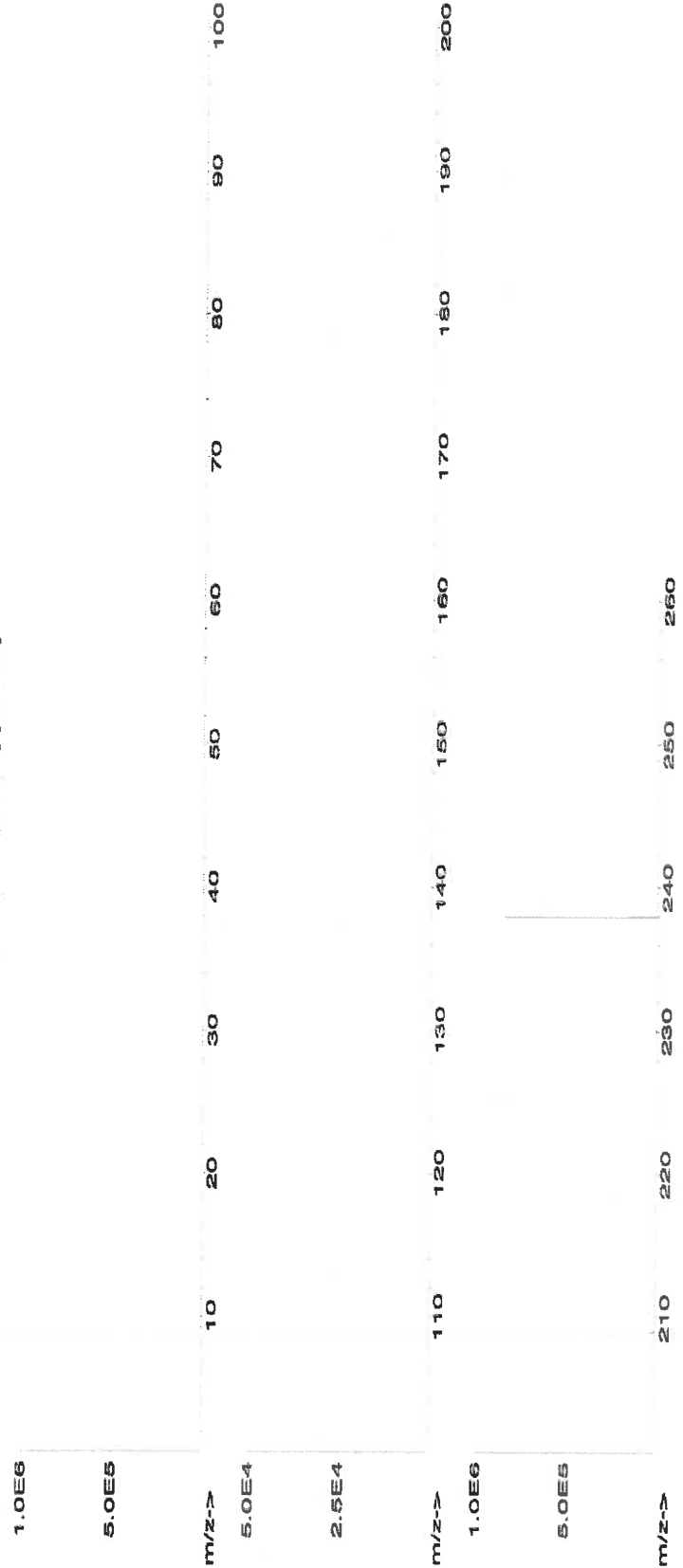
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas

SDS Information

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)	Solvent Safety Info. On Attached pg.)		
										CAS#	OSHA PEL (TWA)	LD50

1. Uranyl nitrate hexahydrate (U)	58192	041524	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13620-83-7	0.05 mg/m3	orl-rat 1040 mg/kg
												3164

[1] Spectrum No.1 [23.264 sec]:57092.D# [Count] [Linear]





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

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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	<0.02	Os	<0.01	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	<0.02	Hg	<0.2	P	<0.2	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	<0.2	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 certified (+/-) 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).

18/19/24, M6055

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).



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:

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{ts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

u_{char} = $[\sum (w_i)^2 (u_{char i}^2)]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = 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

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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{ts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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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





Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: **57040**
Lot Number: **071423**
Description: **Zirconium (Zr)**

Lot # **21110221**
Solvent: **Nitric Acid**

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

2.0%
40.0 (mL)
Nitric Acid

Formulated By:	Benson Chan	071423
Reviewed By:	Pedro L. Renteria	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		CAS#	OSHA PEL (TWA)	LD50	NIST SRM
									+/-	(µg/mL)				

1. **Zirconium chloride octahydrate (Zr)** 58140 070621 0.1000 200.0 0.084 1000 10000.3 1000.0 2.2 13520-82-8 NA NA NA

[1] Spectrum No. 1 [41.163 sec]: 57040.DW [Count] [Linear]

m/z	1.0E6	10	20	30	40	50	60	70	80	90	100
m/z	1.0E8	110	120	130	140	150	160	170	180	190	200
m/z	5.0E7	210	220	230	240	250	260				



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

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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	Tc	<0.02	X	<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	Ti	<0.02	Y	<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	Tl	<0.02	Zr	T

(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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot # 24012496
Description: Magnesium (Mg)
Solvent: Nitric Acid

Expiration Date: 11/21/27
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6LUB
Weight shown below was diluted to (mL): 2000.07
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

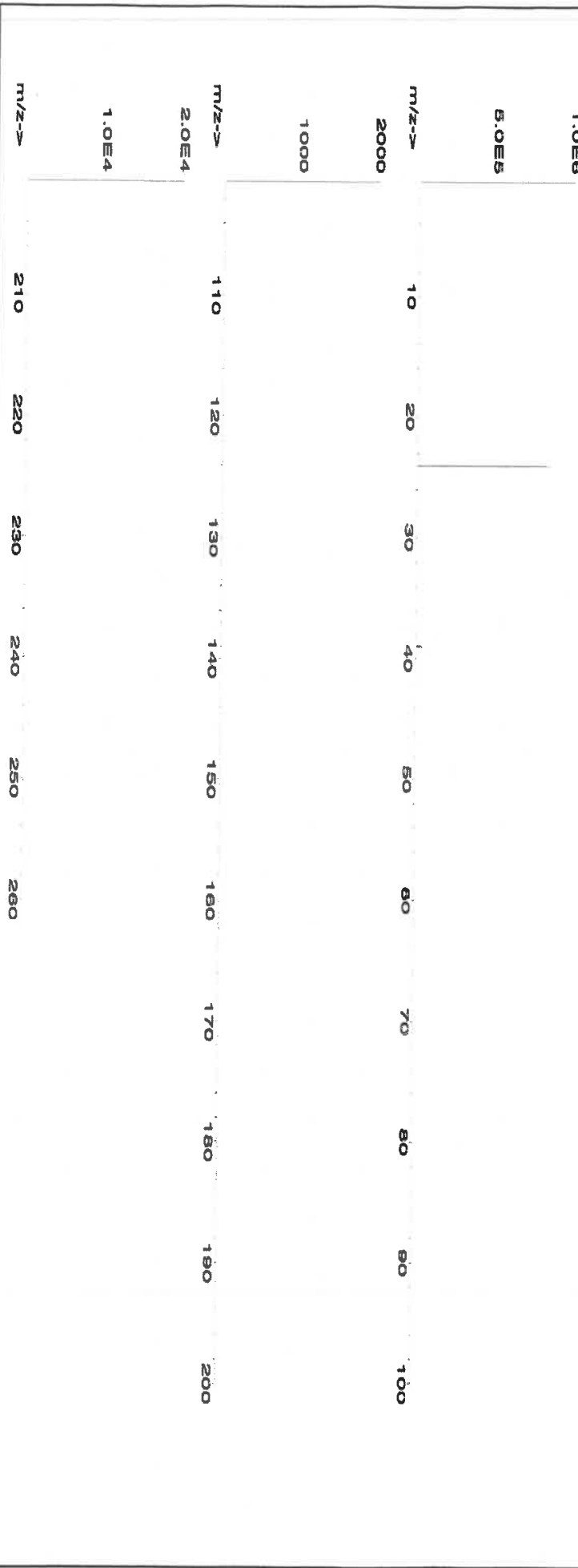
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Rentas
	112124

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Magnesium nitrate hexahydrate (Mg) IN030 MG000023A1 10000 99.999 0.10 8.51 234.9183 234.9459 10001.2 20.0 13446-18-9 NA off-rat 5440 mg/kg 3131a

[1] Spectrum No. 1 [19.823 sec]:58112.D# [Count] [Linear]





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	Pt	<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	Rc	<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	Rb	<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	Ru	<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	Sm	<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	Sc	<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			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 certified (+/-) 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).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58025
101124
Manganese (Mn)

Lot #
Solvent: Nitric Acid

24002546
2%
80.0 (mL)
Nitric Acid

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
	101124
Reviewed By:	<i>Pedro L. Renteria</i>
	Pedro L. Renteria
	101124

Expiration Date: 101127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.2
5E-05 Balance Uncertainty
0.10 Flask Uncertainty

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-----	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Manganese(II) nitrate hydrate (Mn) IN031 MMN032020A1 1000 99.999 0.10 20.8 19.2322 19.2344 1000.1 2.0 15710-66-4 5 mg/m3 or-rel >300mg/kg 3132

[1] Spectrum No.1 [34.243 sec]:57025.D# [Count] [Linear]

5.0E6													
2.5E6													
m/z->	10	20	30	40	50	60	70	80	90	100			
1.0E6													
5.0E7													
m/z->	110	120	130	140	150	160	170	180	190	200			
1.0E6													
5.0E7													
m/z->	210	220	230	240	250	260							



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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-71013124

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).



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:

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char\ i})^2]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char\ a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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, amorphous (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





CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57119
103024
Potassium (K)

R-21113125

Lot #
Solvent: 24002546
Nitric Acid

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Renteria
	103024

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):

103027
Ambient (20 °C)
10000

M6141
M6142
M6143

2%
80.0
(mL)
Nitric Acid

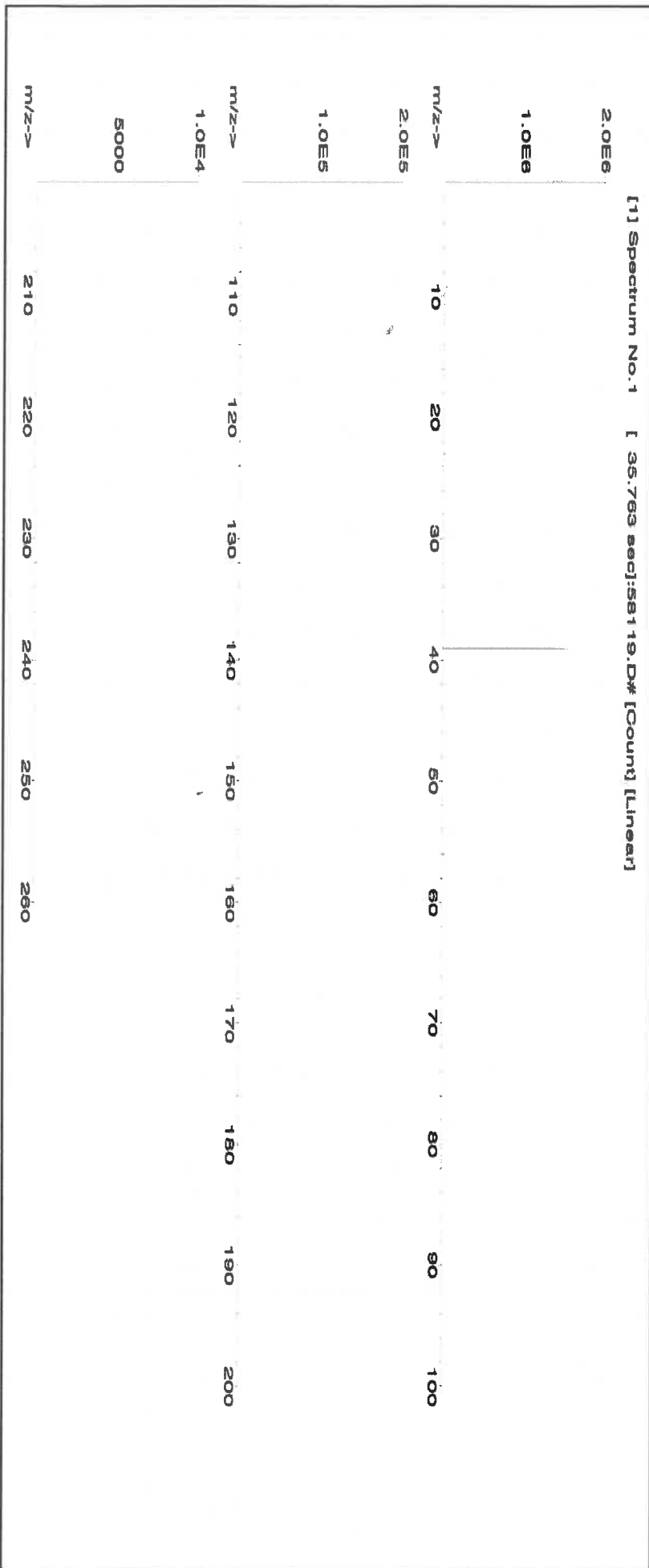
Weight shown below was diluted to (mL):

4000.1
0.15
Flask Uncertainty

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM

1. Potassium nitrate (K) IN034 KD062022A1 10000 99.999 0.10 37.7 106.1040 ##### 10001.1 20.0 7757-79-1 5 mg/m3 orl-rat 3750 mg/kg 3141a

[1] Spectrum No. 1 [35.763 sec]:58119.D# [Count] [Linear]





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	Pt	<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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: 58111 **Lot #** R-1113/25
Lot Number: 072424 **Solvent:** Nitric Acid
Description: Sodium (Na)

Expiration Date: 072427 **2%** **80.0** **Nitric Acid**
Recommended Storage: Ambient (20 °C) (mL)

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**

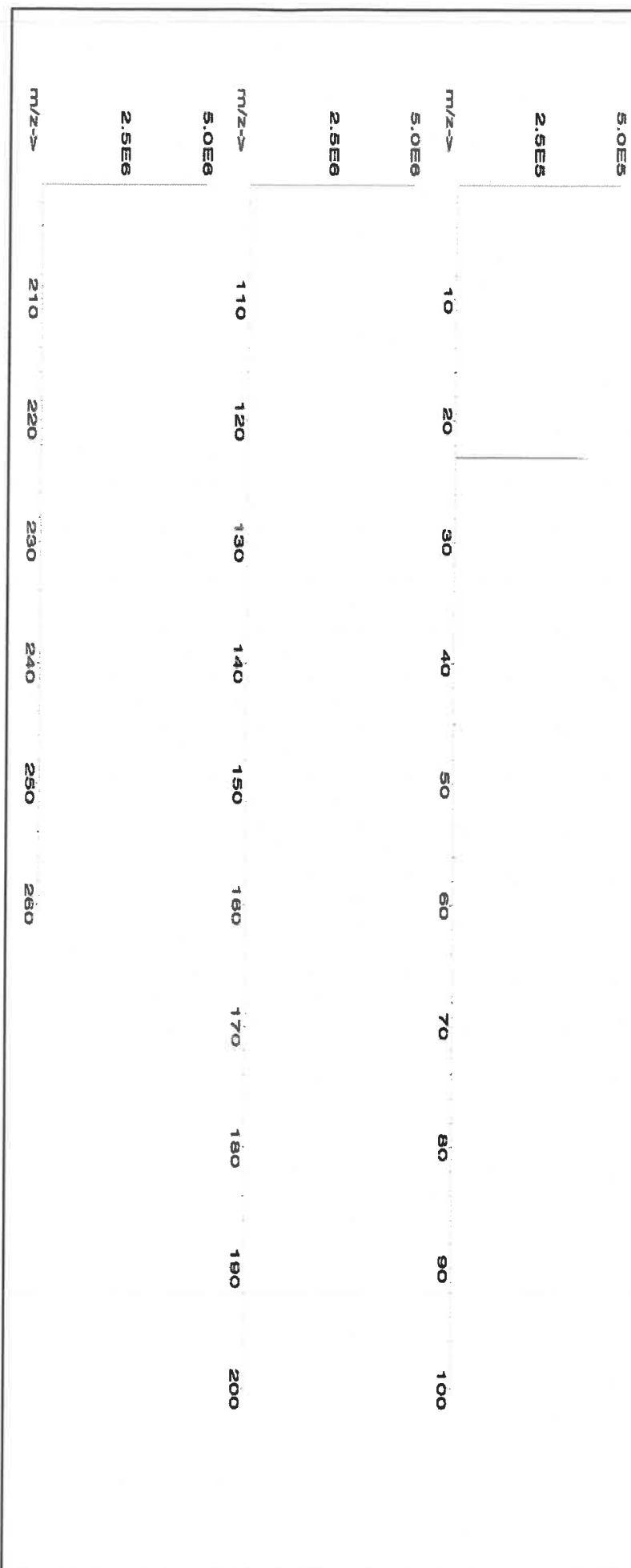
Formulated By:	Benson Chan	072424
Reviewed By:	Pedro L. Renteria	072424

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Sodium nitrate (Na) IN036 NAV01201511 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

[1] Spectrum No. 1 [8.935 sec]:58111.D# [Count] [Linear]





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	Pt	<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	Rb	<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	<0.02	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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

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

Lot #

Nitric Acid

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

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

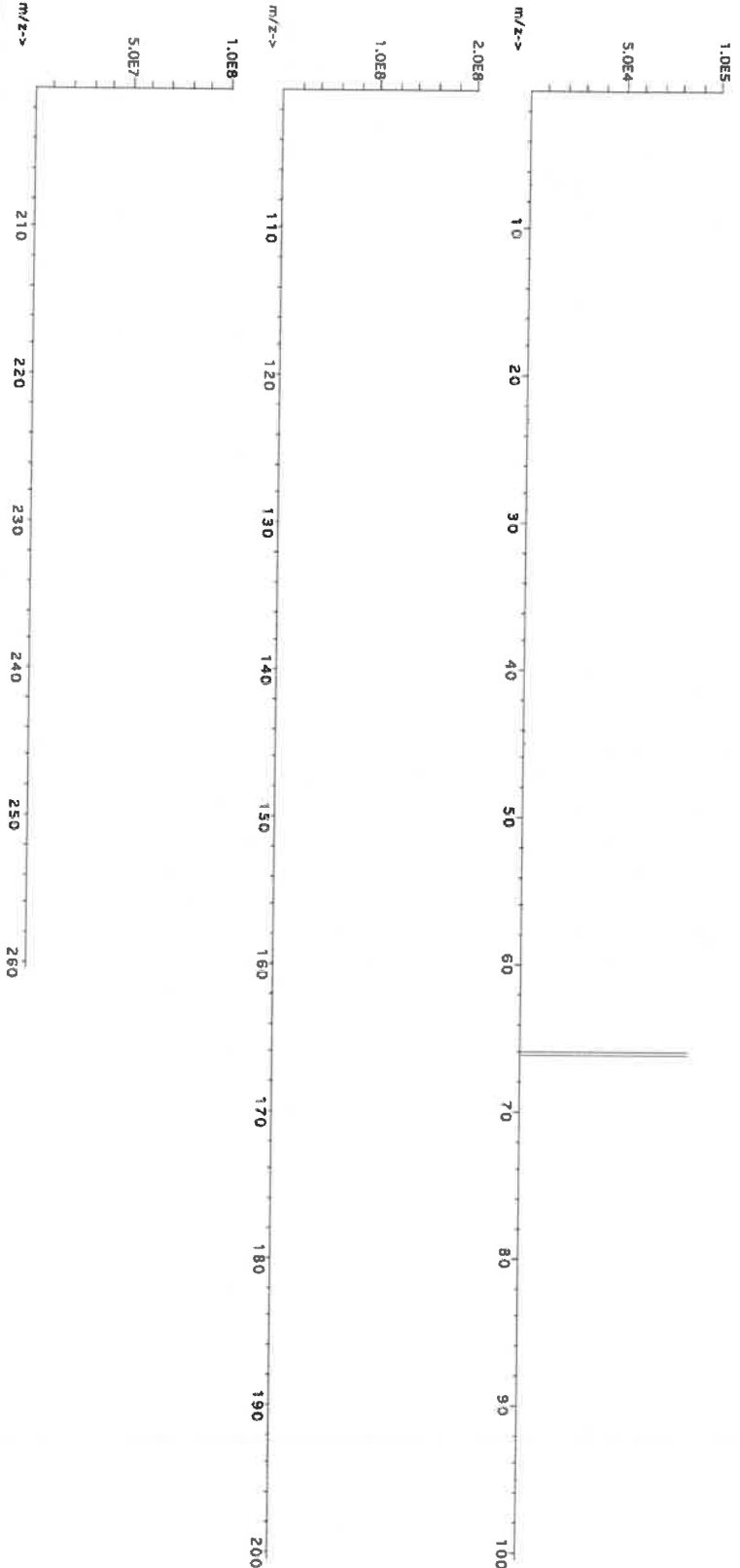
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	<i>Pedro L. Rentes</i>
	Pedro L. Rentes
	121724

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)	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 or-rat 1190mg/kg 3168

[1] Spectrum No.1 [31.103 sec;58130.D# [Count] [Lines]





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	Pt	<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	Bu	<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 certified (+/-) 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).



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

R: 4/20/21

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

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

MG150

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.





QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

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

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) K₂Cr₂O₇ 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 K₃Fe(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™



M6151

R → 11/15/25

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™



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**™

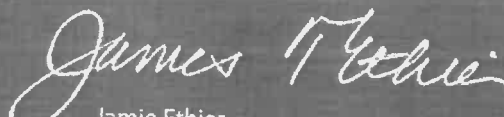


Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
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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


Jamie Ethier
Vice President Global Quality

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).



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:

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char i}^2)]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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	<	0.000960	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). <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(H₂O)₆+2

Chemical Compatibility - Soluble in HCl, and HNO₃. Avoid H₂SO₄, 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% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO₃ / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO₃); Ores (Carbonate fusion in PtO 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

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™



R- 0210212025

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™



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 >>>

A: 4/11/22

Certificate of Analysis

M5738 M5739 M5740 M5741 M5742

M5743

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).



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:

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k(u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2(u_{char\ i})^2]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k(u_{char\ a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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

Certified Abundance:

IV's Certified Abundance

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

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 03, 2021

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

11.2 Lot Expiration Date

- **September 03, 2026**

- The date after which this CRM/RM should not be used.
- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-MS (ICSA WITH ICSB)

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

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

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

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
 Available Upon Request

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more bottles of an Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-0803" and for the ICSAB mixture use "ICSA-0803+ICSB-0803".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to the Contracting Officer, Ross Miller at miller.ross@epa.gov. If directed by Ross Miller, return the chain of custody record with appropriate annotations and signatures to the address provided below.

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

(C) ANALYSIS OF SAMPLES

This interference check sample set is to be used to verify elemental isobaric correction factors of inductively coupled plasma-mass spectrometers (ICP-MS). This reference material set consists of two (2) concentrated solutions. The ICSA solution contains several interferent elements and species; for a complete listing refer to the CLP SOW. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for the ICP-MS ICS Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-0803, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO₃. 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 HNO₃. 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							
Element	CRQL	Part A (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)	Part A +Part B (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)
Al	20.0	[100000]			[100000]		
Sb	2.0	(1.5)	-2.5	5.5	(22.0)	18.0	26.0
As	1.0	(0.1)	-1.9	2.1	19.0	16.2	21.9
Ba	10.0	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1.0	(0)	-2.0	2.0	19.0	16.2	21.9
Cd	1.0	(0.7)	-1.3	2.7	20.0	17.0	23.0
Ca	500	[100000]			[100000]		
C		[200000]			[200000]		
Cl		[1000000]			[1000000]		
Cr	2.0	(21.0)	17.0	25.0	40.0	34.0	46.0
Co	1.0	(1.0)	-1.0	3.0	20.0	17.0	23.0
Cu	2.0	(8.0)	4.0	12.0	(25.0)	21.0	29.0
Fe	200	[100000]			[100000]		
Pb	1.0	(4.0)	2.0	6.0	25.0	21.3	28.8
Mg	500	[100000]			[100000]		
Mn	1.0	(7.0)	5.0	9.0	27.0	23.0	31.1
Mo		[2000]			[2000]		
Ni	1.0	(6.0)	4.0	8.0	24.0	20.4	27.6
P		[100000]			[100000]		
K	500	[100000]			[100000]		
Se	5.0	(0.3)	-9.7	10.3	(19.0)	9.0	29.0
Ag	1.0	(0)	-2.0	2.0	18.0	15.3	20.7
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1.0	(0)	-2.0	2.0	21.0	17.9	24.2
Ti		[2000]			[2000]		
V	5.0	(0.5)	-9.5	10.5	(19.0)	9.0	29.0
Zn	5.0	(11.0)	1.0	21.0	(29.0)	19.0	39.0

[] Indicates analytes that do not require ICP-MS determination in the ICS.

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 2 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.



QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-MS (ICSA WITH ICSB)

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

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

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

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
 Available Upon Request

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more bottles of an Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-0803" and for the ICSAB mixture use "ICSA-0803+ICSB-0803".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to the Contracting Officer, Ross Miller at miller.ross@epa.gov. If directed by Ross Miller, return the chain of custody record with appropriate annotations and signatures to the address provided below.

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

(C) ANALYSIS OF SAMPLES

This interference check sample set is to be used to verify elemental isobaric correction factors of inductively coupled plasma-mass spectrometers (ICP-MS). This reference material set consists of two (2) concentrated solutions. The ICSA solution contains several interferent elements and species; for a complete listing refer to the CLP SOW. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for the ICP-MS ICS Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-0803, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO₃. 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 HNO₃. 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							
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 $\pm$ 2 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value $\pm$ 15 percent of the listed certified value.



Certified Reference Material CRM

M6030



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://absolutestandards.com>

CERTIFIED WEIGHT REPORT:

Part Number: **57047**
Lot Number: **122823**
Description: **Silver (Ag)**

Lot #
Solvent: 24002546 Nitric Acid

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
	122823

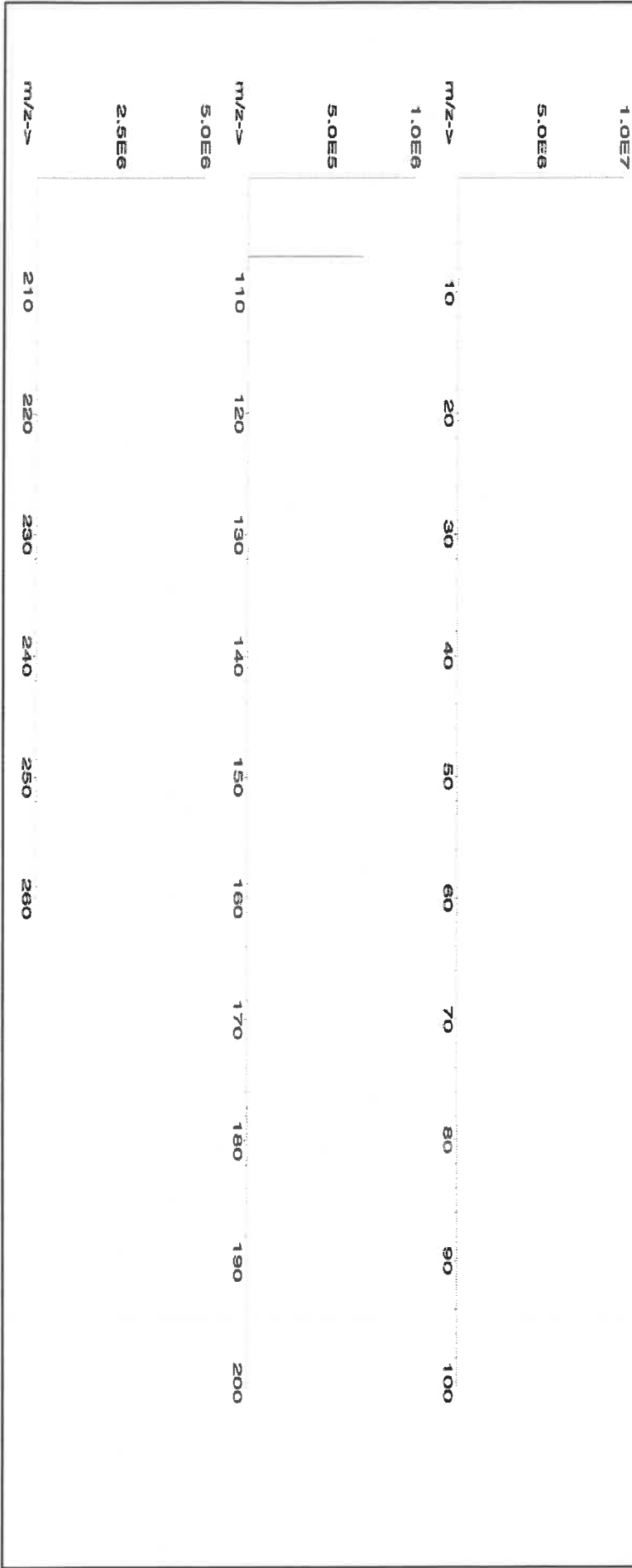
2% 80.0 (mL) Nitric Acid

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
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty		CAS#	SDS Information		NIST SRM
										+/- (µg/mL)	(µg/mL)		(Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	

1. Silver nitrate (Ag) IN035 J0612AGA1 1000.0 99.999 0.10 63.7 6.27992 6.27998 1000.0 2.0 7761-88-8 10 µg/m³ NA 3151

[1] Spectrum No. 1 [14.044 sec]:58147.D# [Count] [Linear]





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	Pt	<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

Physical Characterization:

(T)= Target analyte

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 meghom 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 certified (+/-) 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: 10/18/24
Certified Reference Material CRM



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

CERTIFIED WEIGHT REPORT:

Part Number:

57051

Lot #
24002546

Solvent:
Nitric Acid

Lot Number:

071724

Description:

Antimony (Sb)

Expiration Date:

071727

Recommended Storage:
Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UJB

Volume shown below was diluted to (mL):

2000.26

Balance Uncertainty
0.058

F flask Uncertainty

2.0%

40.0 (mL)

Nitric Acid

Formulated By:

Giovanni Esposito

071724

Reviewed By:

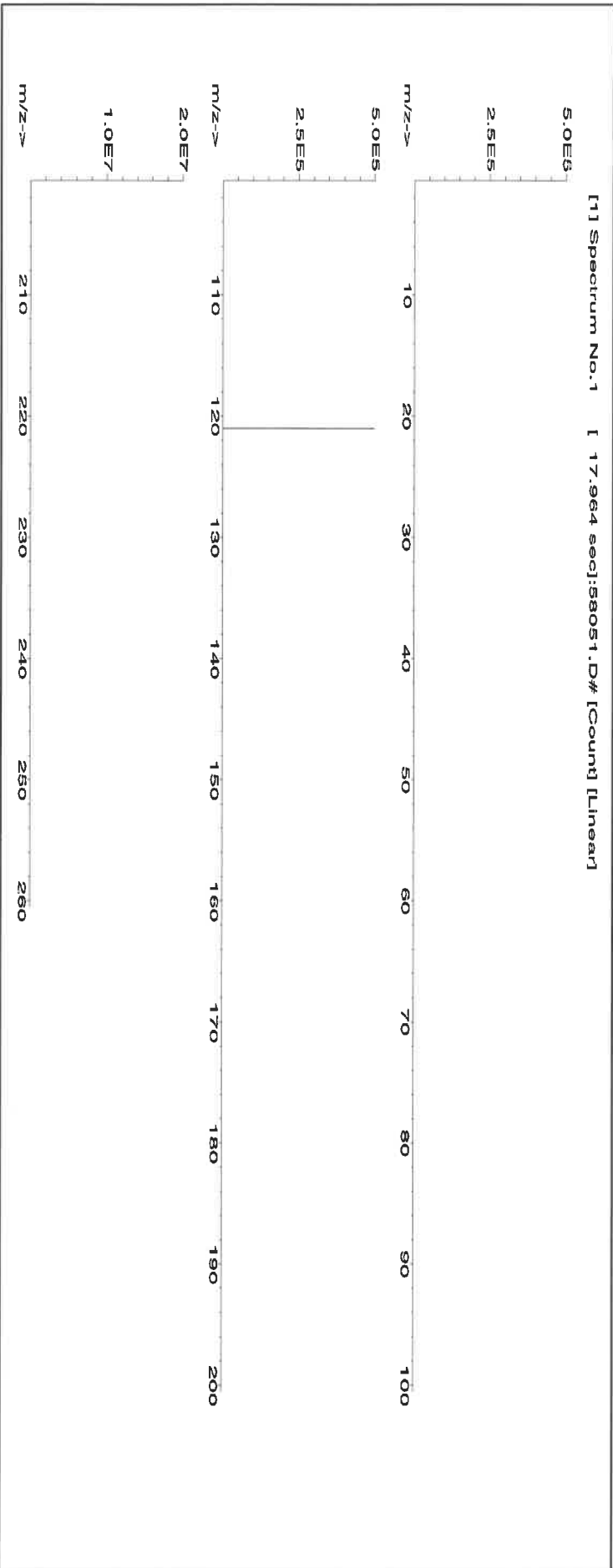
Pedro L. Rentas

071724

SDS Information

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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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





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	Pt	<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	Bu	<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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 8/5/24

M6019

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).



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:

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char i}^2)]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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	<	0.001980	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(H₂O)₆+2

Chemical Compatibility - Soluble in HCl, and HNO₃. Avoid H₂SO₄, 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% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO₃ / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO₃); Ores (Carbonate fusion in PtO 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





Certified Reference Material CRM

M6023



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

CERTIFIED WEIGHT REPORT:

Part Number: 57081
Lot Number: 062724
Description: Thallium (TI)

Solvent: 24002546 Nitric Acid
Lot #

Expiration Date:

062727

2% 40.0 Nitric Acid (mL)

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

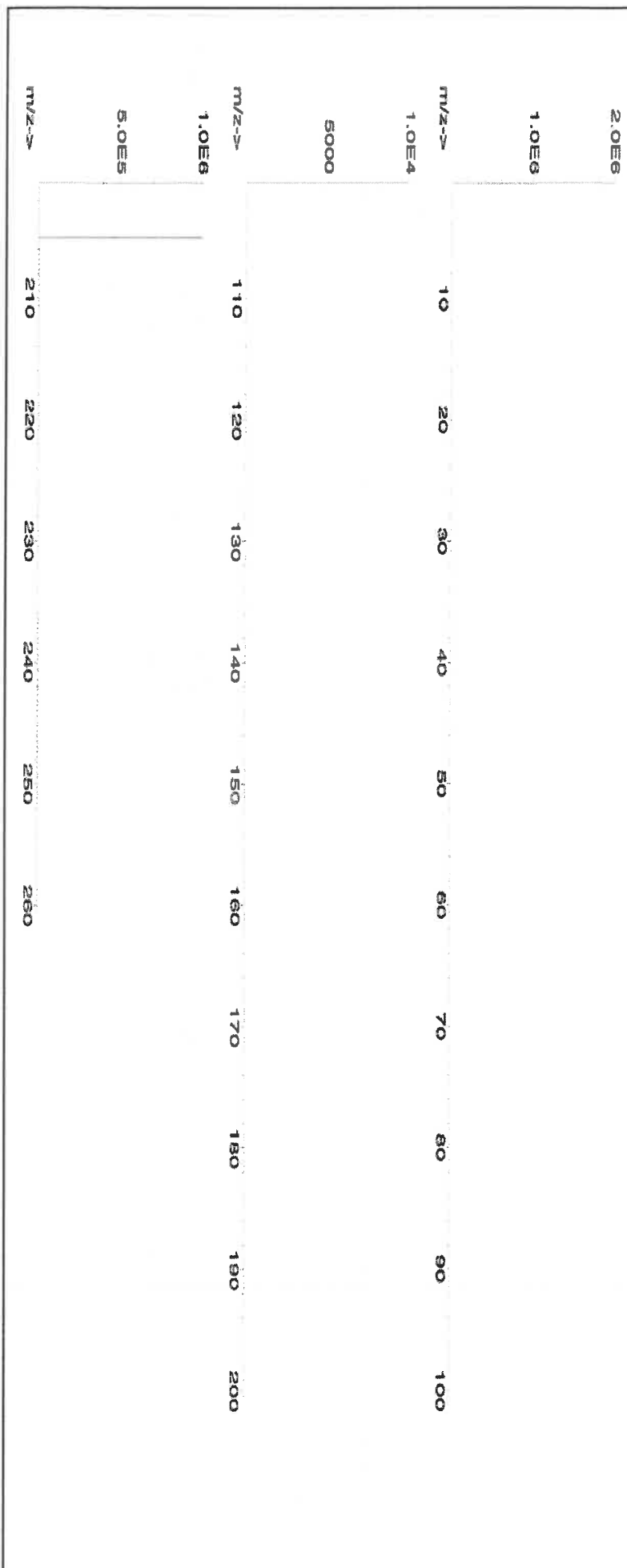
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Rendas</i>
	Pedro L. Rendas
	062724

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Thallium nitrate (TI) IN037 BCCF4399 1000 99.999 0.10 77.0 2.5975 2.5977 1000.1 2.0 10102-45-1 0.1 mg/m3 or-mus 15mg/kg 3158

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





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	Pt	<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	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	Tm	<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	Sn	<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	Ti	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Se	<0.02	Ta	<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 certified (+/-) 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).



Certified Reference Material CRM

M6021



CERTIFIED WEIGHT REPORT:

Part Number: 57023
Lot Number: 062424
Description: Vanadium (V)

Lot # 24002546
Solvent: Nitric Acid

Aleah O'Brady	
Formulated By:	Aleah O'Brady
Reviewed By:	Pedro L. Rantas
	062424

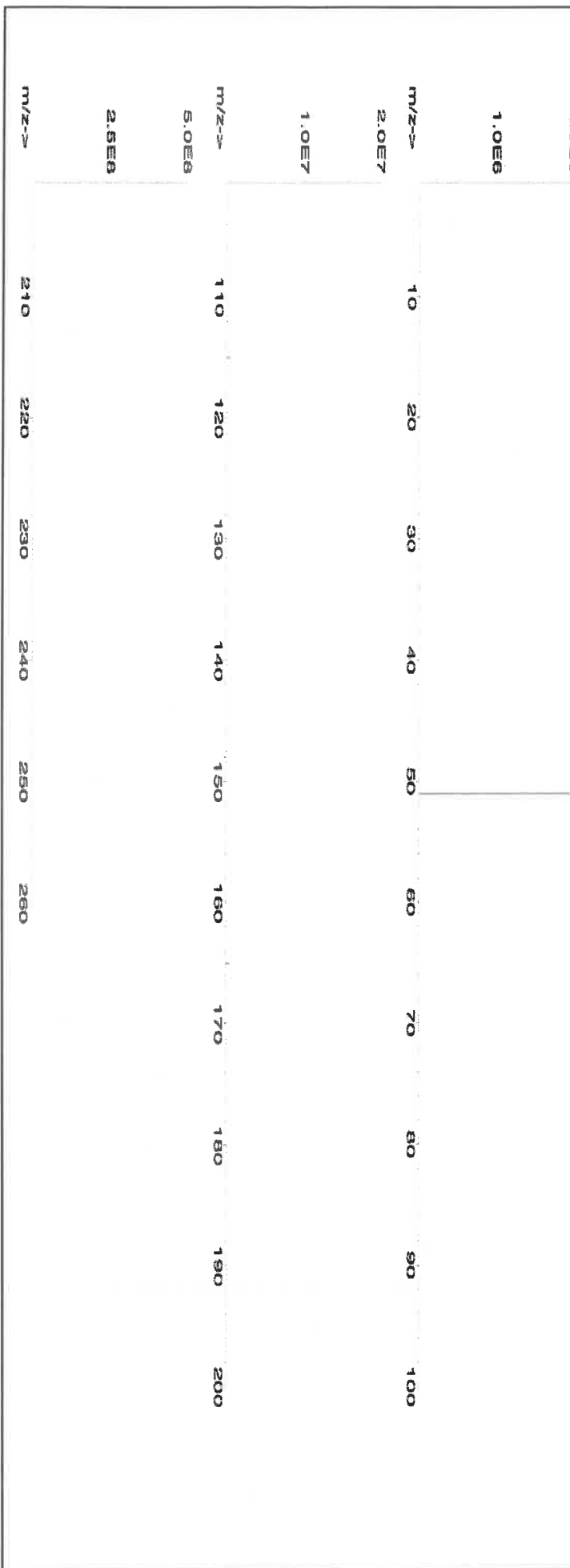
Expiration Date: 062427
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.3
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

2.0% 40.0 (mL) Nitric Acid

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)	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	or-rat 58.1mg/kg	3165

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]





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	Pt	<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	Ru	<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	Sr	<0.02	S	<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	Ta	<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			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 certified (+/-) 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

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CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Jacobs
ADDRESS: 412 Mt Kemble Ave Suite 100
CITY Morrisstown STATE: NJ ZIP: 07960
ATTENTION: John Yufante John.Yufante@Jacobs.com
PHONE: FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PTC
PROJECT NO.: 03868221 LOCATION: Pinebar 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:

ANALYSIS

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 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☒ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other
☐ EDD FORMAT

1. 2. 3. 4. 5. 6. 7. 8. 9.
Ag (60208) SPLP Ag (60208/1302) (HOLD)
Ag (60208)

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS
			COMP	GRAB	DATE	TIME		E	E	B/E							
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	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	X	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: 1. <u>[Signature]</u>	DATE/TIME: <u>4-9-25 1637</u>	RECEIVED BY: 1. <u>[Signature]</u> <u>4-9-25 1637</u>	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>3.3</u> °C
RELINQUISHED BY SAMPLER: 2. <u>[Signature]</u>	DATE/TIME:	RECEIVED BY: 2. <u>[Signature]</u>	Comments: <u>Hold all SPLP analysis</u>
RELINQUISHED BY SAMPLER: 3. <u>[Signature]</u>	DATE/TIME: <u>1800 4-9-25</u>	RECEIVED BY: 3. <u>[Signature]</u>	<u>Hold entire sample for S-876, S-877, S-878</u>
Page <u>1</u> of <u>1</u>			CLIENT: ☐ Hand Delivered ☐ Other
			Shipment Complete ☐ YES ☐ NO

From: Ynfante, John <John.Ynfante@jacobs.com>
Sent: Thursday, May 15, 2025 4:37 PM
To: yazmeen
Subject: RE: [EXTERNAL] Login Summary Details For Project Former Schlumberger STC PTC Site D3868221-Q1769.

Importance: High

Caution: The sender of this email could not be verified, which may indicate an impersonation attempt. Verify the email's authenticity with the sender using your organization's trusted contact list before replying or taking further action.

Secured by Check Point

Yazmeen, I see I inadvertently listed 1311 as the method for the SPLP Extraction – it should of course be 1312/6020 for SPLP silver NOT 1311 – hopefully I didn't confuse things with that = please confirm you are proceeding with the SPLP 1312 extraction for the silver on those samples.

Also, can we change that TAT to a 1-week rush TAT?

From: Ynfante, John
Sent: Wednesday, May 14, 2025 12:41 PM
To: 'yazmeen@chemtech.net' <yazmeen@chemtech.net>
Subject: RE: [EXTERNAL] Login Summary Details For Project Former Schlumberger STC PTC Site D3868221-Q1769.

Yazmeen,

I got word back on those SPLP Silver analyses on hold – please analyze the following Princeton soil samples for SPLP Silver (1311/6020A).

Q1769-02 (S-875-KI-SO-1.0-1.5-040925)
Q1769-03 (S-874-K1-SO-1.0-1.5-040925)
Q1769-09 (S-873-K1-SO-1.0-1.5-040925)

Make sure they are analyzed by ICP-MS, not ICP-AES. As far as I know standard TAT should be fine – I'll let you know if that is not the case. Let me know if you have any questions. Thanks!

- John Y.

From: Ynfante, John
Sent: Tuesday, May 6, 2025 3:27 PM
To: yazmeen@chemtech.net
Subject: RE: [EXTERNAL] Login Summary Details For Project Former Schlumberger STC PTC Site D3868221-Q1769.

OK thanks. Still waiting on word for which samples will need the SPLP silver – I will check in with the team again.

I'm pretty sure we won't need anything analyzed from Q1790 but yes please continue to hold that one too per your usual policy. Can you tell me how long you normally hold samples before disposing? 30 days after reporting?

From: Yazmeen Gomez <yazmeen@chemtech.net>

Sent: Friday, May 2, 2025 2:47 PM

To: Ynfante, John <John.Ynfante@jacobs.com>

Subject: RE: [EXTERNAL] Login Summary Details For Project Former Schlumberger STC PTC Site D3868221-Q1769.

John,

Sorry for the delayed response.

I have forwarded this over to Mohammad and QA/QC to revise the report, to-report Sample 08 by 6020B.

Confirming we are still holding onto Q1769 samples. We also have samples in q1790 on hold.

Best Regards,



Yazmeen Gomez

Sr. Project Manager

An Alliance Technical Group Company

Main: 908-789-8900

Direct: 908-728-3147

Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092

www.alliancetg.com     

From: Ynfante, John <John.Ynfante@jacobs.com>

Sent: Thursday, May 1, 2025 5:25 PM

To: YAZMEEN@CHEMTECH.NET

Subject: RE: [EXTERNAL] Login Summary Details For Project Former Schlumberger STC PTC Site D3868221-Q1769.

Importance: High

Yazmeen,

I was reviewing this silver data in Q1769 and noticed that the equipment blank EB01-040925 (lab ID Q1769-08) was still analyzed by 6010 instead of 6020 as requested. I'd still like to get that one sample Q1769-08 reanalyzed by 6020 ICP-MS to match the methodology used on the associated soil samples so please have your analyst do that analysis and send out a revised pdf and EDD when available. I'm not sure if this job has been invoiced yet but please just make sure we don't get charged twice for the analysis since we didn't actually want it analyzed by 6010.

Also, I just heard from the project team that we will need to run SPLP Silver on some of the soil samples, but I don't know which ones yet so please confirm that the lab is continuing to hold the soil material for all the soil samples in Q1769 and I will forward you the list of samples we need SPLP Ag on as soon as I get it. Thanks.

- John Y.

From: Ynfante, John

Sent: Thursday, April 10, 2025 6:49 PM

To: YAZMEEN@CHEMTECH.NET; Data-EWR@alliancetg.com

Cc: Ongjoco, Alec <Alec.Ongjoco@jacobs.com>; Dillon, Alexa <Alexa.Dillon@jacobs.com>; Lader, Chelsea <Chelsea.Lader@jacobs.com>; Holmes, Daniel <Daniel.Holmes@jacobs.com>; Reamer, David

<David.Reamer@jacobs.com>; Murphy, Mary <mary.murphy@jacobs.com>; Warren, Melissa <MELISSA.WARREN@jacobs.com>; Asher, Sarah <Sarah.Asher@jacobs.com>

Subject: RE: [EXTERNAL] Login Summary Details For Project Former Schlumberger STC PTC Site D3868221-Q1769.
Importance: High

Yazmeen,

A few corrections need to be made to this login for Q1769:

1. I noticed EB01-040925 (Q1769-08) was logged in for silver by 6010D for some reason, but it should be run by the same method 6020B being used for the soils as listed on the chain.
2. The login person misinterpreted the "K1" in the soil sample IDs as "KI". Please change that letter I to a number 1 in the soil sample IDs.
3. The associated chain was not included – I need to get a copy of the chain of custody included with all of these login emails to be able to properly review them.

Please send the revised login (and chain) once the corrections are made. Thanks.

- John Y.

From: Data-EWR@alliantcetg.com <Data-EWR@alliantcetg.com>

Sent: Thursday, April 10, 2025 9:06 AM

To: Ongjoco, Alec <Alec.Ongjoco@jacobs.com>; Dillon, Alexa <Alexa.Dillon@jacobs.com>; Lader, Chelsea <Chelsea.Lader@jacobs.com>; Holmes, Daniel <Daniel.Holmes@jacobs.com>; Reamer, David <David.Reamer@jacobs.com>; Ynfante, John <John.Ynfante@jacobs.com>; Murphy, Mary <Mary.Murphy@jacobs.com>; Warren, Melissa <Melissa.Warren@jacobs.com>; Asher, Sarah <Sarah.Asher@jacobs.com>

Cc: YAZMEEN@CHEMTECH.NET

Subject: [EXTERNAL] Login Summary Details For Project Former Schlumberger STC PTC Site D3868221-Q1769.

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