

DATA PACKAGE

METALS

PROJECT NAME : NJ WASTE WATER PT

ALLIANCE TECHNICAL GROUP, LLC - NEWARK

284 Sheffiled Stree

Suite 1

Mountainside, NJ - 07092

Phone No: 908-789-8900

ORDER ID : Q3016

ATTENTION : Mohammad Ahmed



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q3016

Project ID : NJ Waste Water PT

Client : Alliance Technical Group, LLC - Newark

Lab Sample Number

Q3016-01
Q3016-02
Q3016-03
Q3016-04
Q3016-05
Q3016-06
Q3016-07
Q3016-08

Client Sample Number

WP0925-PT-TM1-WP
WP0925-PT-TM1-WP
WP0925-PT-SNTI-WP
WP0925-PT-SNTI-WP
WP0925-PT-MIN2-WP
WP0925-PT-MIN2-WP
WP0925-PT-SIO2-WP
WP0925-PT-HG-WP

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: 10/14/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

Alliance Technical Group, LLC - Newark

Project Name: NJ Waste Water PT

Project # N/A

Order ID # Q3016

Test Name:Metals Group3,Metals Group4,Metals Group5

A. Number of Samples and Date of Receipt:

8 Water samples were received on 09/04/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Metals Group3,Metals Group4,Metals Group5,. This data package contains results for Metals Group3,Metals Group4,Metals Group5..

C. Analytical Techniques:

The analysis and digestion of Metals Group3,Metals Group4,Metals Group5 was based on 200.8 .

D. QA/ QC Samples:

The Holding Times were met for all analysis.

Sample WP0925-PT-TM1-WP was diluted due to high concentrations for Vanadium.

The Blank Spike met requirements for all compounds.

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

The Calibration met the requirements.

E. Additional Comments:

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

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

Signature_____

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: Q3016

MATRIX: Water

METHOD: 200.8

	NA	NO	YES
1. Calibration Summary met criteria.			✓
2. ICP Interference Check Sample Results Summary Submitted.			✓
3. Laboratory Control Sample Summary (if applicable) Submitted.			✓
4. Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
5. Digestion Holding Time Met			✓
If not met, list number of days exceeded for each sample:			
6. Analysis Holding Time Met			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
The Holding Times were met for all analysis.			

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

QA REVIEW

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q3016

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: 10/14/2025

LAB CHRONICLE

OrderID:	Q3016	OrderDate:	9/4/2025 10:18:00 AM
Client:	Alliance Technical Group, LLC - Newark	Project:	NJ Waste Water PT
Contact:	Mohammad Ahmed	Location:	QA Office

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3016-02	WP0925-PT-TM1-WP	Water			09/02/25			09/04/25
			Metals Group3	200.8		09/23/25	09/25/25	
Q3016-03	WP0925-PT-SNTI-WP	Water			09/02/25			09/04/25
			Metals Group4	200.7		09/23/25	09/26/25	
Q3016-04	WP0925-PT-SNTI-WP	Water			09/02/25			09/04/25
			Metals Group4	200.8		09/23/25	09/25/25	
Q3016-05	WP0925-PT-MIN2-WP	Water			09/02/25			09/04/25
			Hardness, Calcium	SM2340B		09/23/25	09/26/25	
			Metals Group5	200.7		09/23/25	09/26/25	
Q3016-06	WP0925-PT-MIN2-WP	Water			09/02/25			09/04/25
			Metals Group5	200.8		09/23/25	09/25/25	
Q3016-07	WP0925-PT-SIO2-WP	Water			09/02/25			09/04/25
			Silica	200.7		09/23/25	09/26/25	
Q3016-08	WP0925-PT-HG-WP	Water			09/02/25			09/04/25
			Mercury	245.1		10/02/25	10/02/25	

Hit Summary Sheet SW-846

SDG No.: Q3016 **Order ID:** Q3016
Client: Alliance Technical Group, LLC - Newark **Project ID:** NJ Waste Water PT

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WP0925-PT-TM1-WP								
Q3016-02	WP0925-PT-TM1-WP	Water	Aluminum	3040		3.80	20.0	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Antimony	618		0.32	2.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Arsenic	228		0.14	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Barium	1600		0.29	10.0	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Beryllium	248		0.26	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Cadmium	403		0.14	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Chromium	881		0.047	2.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Cobalt	317		0.050	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Copper	332		0.65	2.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Iron	2480		1.96	50.0	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Lead	1040		0.27	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Manganese	804		0.19	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Nickel	657		0.15	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Molybdenum	254		0.67	5.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Selenium	541		2.86	5.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Silver	671		0.15	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Thallium	608		0.11	1.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Vanadium	1270	D	0.22	10.0	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Zinc	1140		0.62	5.00	ug/L
Q3016-02	WP0925-PT-TM1-WP	Water	Strontium	145		0.35	1.00	ug/L
Client ID : WP0925-PT-SNTI-WP								
Q3016-04	WP0925-PT-SNTI-WP	Water	Tin	673		0.35	5.00	ug/L
Q3016-04	WP0925-PT-SNTI-WP	Water	Titanium	79.0		0.59	5.00	ug/L
Client ID : WP0925-PT-MIN2-WP								
Q3016-06	WP0925-PT-MIN2-WP	Water	Calcium	78700		91.5	500	ug/L
Q3016-06	WP0925-PT-MIN2-WP	Water	Magnesium	26500		20.0	500	ug/L
Q3016-06	WP0925-PT-MIN2-WP	Water	Potassium	8420		23.8	500	ug/L
Q3016-06	WP0925-PT-MIN2-WP	Water	Sodium	25400		107	500	ug/L



SAMPLE DATA

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Report of Analysis

Client:	Alliance Technical Group, LLC - Newark	Date Collected:	09/02/25
Project:	NJ Waste Water PT	Date Received:	09/04/25
Client Sample ID:	WP0925-PT-TM1-WP	SDG No.:	Q3016
Lab Sample ID:	Q3016-02	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.
7429-90-5	Aluminum	3040		1	3.80	20.0	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-36-0	Antimony	618		1	0.32	2.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-38-2	Arsenic	228		1	0.14	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-39-3	Barium	1600		1	0.29	10.0	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-41-7	Beryllium	248		1	0.26	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-43-9	Cadmium	403		1	0.14	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-47-3	Chromium	881		1	0.047	2.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-48-4	Cobalt	317		1	0.050	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-50-8	Copper	332		1	0.65	2.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7439-89-6	Iron	2480		1	1.96	50.0	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7439-92-1	Lead	1040		1	0.27	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7439-96-5	Manganese	804		1	0.19	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7439-98-7	Molybdenum	254		1	0.67	5.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-02-0	Nickel	657		1	0.15	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7782-49-2	Selenium	541		1	2.86	5.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-22-4	Silver	671		1	0.15	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-24-6	Strontium	145		1	0.35	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-28-0	Thallium	608		1	0.11	1.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	
7440-62-2	Vanadium	1270	D	2	0.22	10.0	ug/L	09/23/25 11:30	09/25/25 17:00	200.8	
7440-66-6	Zinc	1140		1	0.62	5.00	ug/L	09/23/25 11:30	09/25/25 16:54	200.8	

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group3			

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:	Alliance Technical Group, LLC - Newark	Date Collected:	09/02/25
Project:	NJ Waste Water PT	Date Received:	09/04/25
Client Sample ID:	WP0925-PT-SNTI-WP	SDG No.:	Q3016
Lab Sample ID:	Q3016-04	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-31-5	Tin	673		1	0.35	5.00	ug/L	09/23/25 11:30	09/25/25 16:57	200.8	
7440-32-6	Titanium	79.0		1	0.59	5.00	ug/L	09/23/25 11:30	09/25/25 16:57	200.8	

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group4			

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

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

Report of Analysis

Client:	Alliance Technical Group, LLC - Newark	Date Collected:	09/02/25
Project:	NJ Waste Water PT	Date Received:	09/04/25
Client Sample ID:	WP0925-PT-MIN2-WP	SDG No.:	Q3016
Lab Sample ID:	Q3016-06	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.
7440-70-2	Calcium	78700	1	91.5		500	ug/L	09/23/25 11:30	09/25/25 17:07	200.8	
7439-95-4	Magnesium	26500	1	20.0		500	ug/L	09/23/25 11:30	09/25/25 17:07	200.8	
7440-09-7	Potassium	8420	1	23.8		500	ug/L	09/23/25 11:30	09/25/25 17:07	200.8	
7440-23-5	Sodium	25400	1	107		500	ug/L	09/23/25 11:30	09/25/25 17:07	200.8	

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group5			

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

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	1550	1600	97	90 - 110	P	09/25/2025	16:20	LB137409
	Antimony	419	400	105	90 - 110	P	09/25/2025	16:20	LB137409
	Arsenic	416	400	104	90 - 110	P	09/25/2025	16:20	LB137409
	Barium	1610	1600	100	90 - 110	P	09/25/2025	16:20	LB137409
	Beryllium	41.7	40.0	104	90 - 110	P	09/25/2025	16:20	LB137409
	Cadmium	213	200	107	90 - 110	P	09/25/2025	16:20	LB137409
	Calcium	4230	4000	106	90 - 110	P	09/25/2025	16:20	LB137409
	Chromium	162	160	101	90 - 110	P	09/25/2025	16:20	LB137409
	Cobalt	408	400	102	90 - 110	P	09/25/2025	16:20	LB137409
	Copper	191	200	95	90 - 110	P	09/25/2025	16:20	LB137409
	Iron	854	800	107	90 - 110	P	09/25/2025	16:20	LB137409
	Lead	395	400	99	90 - 110	P	09/25/2025	16:20	LB137409
	Magnesium	3700	4000	93	90 - 110	P	09/25/2025	16:20	LB137409
	Manganese	402	400	100	90 - 110	P	09/25/2025	16:20	LB137409
	Molybdenum	5470	5000	110	90 - 110	P	09/25/2025	16:20	LB137409
	Nickel	410	400	102	90 - 110	P	09/25/2025	16:20	LB137409
	Potassium	4040	4000	101	90 - 110	P	09/25/2025	16:20	LB137409
	Selenium	422	400	106	90 - 110	P	09/25/2025	16:20	LB137409
	Silver	180	200	90	90 - 110	P	09/25/2025	16:20	LB137409
	Sodium	4090	4000	102	90 - 110	P	09/25/2025	16:20	LB137409
	Strontium	465	500	93	90 - 110	P	09/25/2025	16:20	LB137409
	Thallium	400	400	100	90 - 110	P	09/25/2025	16:20	LB137409
	Tin	503	500	101	90 - 110	P	09/25/2025	16:20	LB137409
	Titanium	5360	5000	107	90 - 110	P	09/25/2025	16:20	LB137409
	Vanadium	402	400	100	90 - 110	P	09/25/2025	16:20	LB137409
	Zinc	390	400	98	90 - 110	P	09/25/2025	16:20	LB137409

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

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	Aluminum	20.5	20.0	102	80 - 120	P	09/25/2025	16:23	LB137409
	Antimony	2.01	2.0	100	80 - 120	P	09/25/2025	16:23	LB137409
	Arsenic	0.94	1.0	94	80 - 120	P	09/25/2025	16:23	LB137409
	Barium	9.51	10.0	95	80 - 120	P	09/25/2025	16:23	LB137409
	Beryllium	1.04	1.0	104	80 - 120	P	09/25/2025	16:23	LB137409
	Cadmium	0.82	1.0	82	80 - 120	P	09/25/2025	16:23	LB137409
	Calcium	491	500	98	80 - 120	P	09/25/2025	16:23	LB137409
	Chromium	1.91	2.0	96	80 - 120	P	09/25/2025	16:23	LB137409
	Cobalt	1.04	1.0	104	80 - 120	P	09/25/2025	16:23	LB137409
	Copper	1.88	2.0	94	80 - 120	P	09/25/2025	16:23	LB137409
	Iron	53.1	50.0	106	80 - 120	P	09/25/2025	16:23	LB137409
	Lead	0.85	1.0	85	80 - 120	P	09/25/2025	16:23	LB137409
	Magnesium	479	500	96	80 - 120	P	09/25/2025	16:23	LB137409
	Manganese	0.92	1.0	92	80 - 120	P	09/25/2025	16:23	LB137409
	Molybdenum	5.13	5.0	103	80 - 120	P	09/25/2025	16:23	LB137409
	Nickel	0.90	1.0	90	80 - 120	P	09/25/2025	16:23	LB137409
	Potassium	513	500	103	80 - 120	P	09/25/2025	16:23	LB137409
	Selenium	4.94	5.0	99	80 - 120	P	09/25/2025	16:23	LB137409
	Silver	1.10	1.0	110	80 - 120	P	09/25/2025	16:23	LB137409
	Sodium	515	500	103	80 - 120	P	09/25/2025	16:23	LB137409
	Strontium	0.94	1.0	94	80 - 120	P	09/25/2025	16:23	LB137409
	Thallium	1.00	1.0	100	80 - 120	P	09/25/2025	16:23	LB137409
	Tin	4.86	5.0	97	80 - 120	P	09/25/2025	16:23	LB137409
	Titanium	4.88	5.0	98	80 - 120	P	09/25/2025	16:23	LB137409
	Vanadium	4.94	5.0	99	80 - 120	P	09/25/2025	16:23	LB137409
	Zinc	4.74	5.0	95	80 - 120	P	09/25/2025	16:23	LB137409

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark
Contract: ALLI03
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

SDG No.: Q3016
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	50400	50000	101	90 - 110	P	09/25/2025	16:35	LB137409
	Antimony	496	500	99	90 - 110	P	09/25/2025	16:35	LB137409
	Arsenic	503	500	101	90 - 110	P	09/25/2025	16:35	LB137409
	Barium	2490	2500	100	90 - 110	P	09/25/2025	16:35	LB137409
	Beryllium	510	500	102	90 - 110	P	09/25/2025	16:35	LB137409
	Cadmium	485	500	97	90 - 110	P	09/25/2025	16:35	LB137409
	Calcium	247000	250000	99	90 - 110	P	09/25/2025	16:35	LB137409
	Chromium	506	500	101	90 - 110	P	09/25/2025	16:35	LB137409
	Cobalt	499	500	100	90 - 110	P	09/25/2025	16:35	LB137409
	Copper	4930	5000	98	90 - 110	P	09/25/2025	16:35	LB137409
	Iron	128000	125000	102	90 - 110	P	09/25/2025	16:35	LB137409
	Lead	2580	2500	103	90 - 110	P	09/25/2025	16:35	LB137409
	Magnesium	250000	250000	100	90 - 110	P	09/25/2025	16:35	LB137409
	Manganese	5060	5000	101	90 - 110	P	09/25/2025	16:35	LB137409
	Molybdenum	5100	5000	102	90 - 110	P	09/25/2025	16:35	LB137409
	Nickel	496	500	99	90 - 110	P	09/25/2025	16:35	LB137409
	Potassium	125000	125000	100	90 - 110	P	09/25/2025	16:35	LB137409
	Selenium	492	500	98	90 - 110	P	09/25/2025	16:35	LB137409
	Silver	492	500	98	90 - 110	P	09/25/2025	16:35	LB137409
	Sodium	253000	250000	101	90 - 110	P	09/25/2025	16:35	LB137409
	Strontium	510	500	102	90 - 110	P	09/25/2025	16:35	LB137409
	Thallium	529	500	106	90 - 110	P	09/25/2025	16:35	LB137409
	Tin	497	500	99	90 - 110	P	09/25/2025	16:35	LB137409
	Titanium	4980	5000	100	90 - 110	P	09/25/2025	16:35	LB137409
	Vanadium	510	500	102	90 - 110	P	09/25/2025	16:35	LB137409
	Zinc	4920	5000	98	90 - 110	P	09/25/2025	16:35	LB137409
CCV02	Aluminum	49300	50000	99	90 - 110	P	09/25/2025	17:13	LB137409
	Antimony	513	500	103	90 - 110	P	09/25/2025	17:13	LB137409
	Arsenic	486	500	97	90 - 110	P	09/25/2025	17:13	LB137409
	Barium	2590	2500	103	90 - 110	P	09/25/2025	17:13	LB137409
	Beryllium	522	500	104	90 - 110	P	09/25/2025	17:13	LB137409
	Cadmium	506	500	101	90 - 110	P	09/25/2025	17:13	LB137409
	Calcium	248000	250000	99	90 - 110	P	09/25/2025	17:13	LB137409
	Chromium	491	500	98	90 - 110	P	09/25/2025	17:13	LB137409

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark
Contract: ALLI03
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

SDG No.: Q3016
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Cobalt	495	500	99	90 - 110	P	09/25/2025	17:13	LB137409
	Copper	4860	5000	97	90 - 110	P	09/25/2025	17:13	LB137409
	Iron	126000	125000	101	90 - 110	P	09/25/2025	17:13	LB137409
	Lead	2650	2500	106	90 - 110	P	09/25/2025	17:13	LB137409
	Magnesium	246000	250000	98	90 - 110	P	09/25/2025	17:13	LB137409
	Manganese	4940	5000	99	90 - 110	P	09/25/2025	17:13	LB137409
	Molybdenum	5180	5000	104	90 - 110	P	09/25/2025	17:13	LB137409
	Nickel	488	500	98	90 - 110	P	09/25/2025	17:13	LB137409
	Potassium	123000	125000	99	90 - 110	P	09/25/2025	17:13	LB137409
	Selenium	496	500	99	90 - 110	P	09/25/2025	17:13	LB137409
	Silver	515	500	103	90 - 110	P	09/25/2025	17:13	LB137409
	Sodium	250000	250000	100	90 - 110	P	09/25/2025	17:13	LB137409
	Strontium	522	500	104	90 - 110	P	09/25/2025	17:13	LB137409
	Thallium	537	500	107	90 - 110	P	09/25/2025	17:13	LB137409
	Tin	516	500	103	90 - 110	P	09/25/2025	17:13	LB137409
	Titanium	5010	5000	100	90 - 110	P	09/25/2025	17:13	LB137409
	Vanadium	499	500	100	90 - 110	P	09/25/2025	17:13	LB137409
	Zinc	4760	5000	95	90 - 110	P	09/25/2025	17:13	LB137409
CCV03	Aluminum	51600	50000	103	90 - 110	P	09/25/2025	17:47	LB137409
	Antimony	512	500	102	90 - 110	P	09/25/2025	17:47	LB137409
	Arsenic	506	500	101	90 - 110	P	09/25/2025	17:47	LB137409
	Barium	2600	2500	104	90 - 110	P	09/25/2025	17:47	LB137409
	Beryllium	516	500	103	90 - 110	P	09/25/2025	17:47	LB137409
	Cadmium	498	500	100	90 - 110	P	09/25/2025	17:47	LB137409
	Calcium	247000	250000	99	90 - 110	P	09/25/2025	17:47	LB137409
	Chromium	510	500	102	90 - 110	P	09/25/2025	17:47	LB137409
	Cobalt	507	500	101	90 - 110	P	09/25/2025	17:47	LB137409
	Copper	4990	5000	100	90 - 110	P	09/25/2025	17:47	LB137409
	Iron	129000	125000	104	90 - 110	P	09/25/2025	17:47	LB137409
	Lead	2600	2500	104	90 - 110	P	09/25/2025	17:47	LB137409
	Magnesium	255000	250000	102	90 - 110	P	09/25/2025	17:47	LB137409
	Manganese	5120	5000	102	90 - 110	P	09/25/2025	17:47	LB137409
	Molybdenum	5130	5000	103	90 - 110	P	09/25/2025	17:47	LB137409
	Nickel	501	500	100	90 - 110	P	09/25/2025	17:47	LB137409

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark
Contract: ALLI03
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

SDG No.: Q3016
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV03	Potassium	128000	125000	102	90 - 110	P	09/25/2025	17:47	LB137409
	Selenium	495	500	99	90 - 110	P	09/25/2025	17:47	LB137409
	Silver	504	500	101	90 - 110	P	09/25/2025	17:47	LB137409
	Sodium	256000	250000	102	90 - 110	P	09/25/2025	17:47	LB137409
	Strontium	511	500	102	90 - 110	P	09/25/2025	17:47	LB137409
	Thallium	532	500	106	90 - 110	P	09/25/2025	17:47	LB137409
	Tin	514	500	103	90 - 110	P	09/25/2025	17:47	LB137409
	Titanium	5090	5000	102	90 - 110	P	09/25/2025	17:47	LB137409
	Vanadium	515	500	103	90 - 110	P	09/25/2025	17:47	LB137409
	Zinc	4920	5000	98	90 - 110	P	09/25/2025	17:47	LB137409

Metals

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CRDL STANDARD FOR AA & ICP

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI	Aluminum	20.2	20.0	101	70 - 130	P	09/25/2025	16:42	LB137409
	Antimony	1.98	2.0	99	70 - 130	P	09/25/2025	16:42	LB137409
	Arsenic	0.94	1.0	94	70 - 130	P	09/25/2025	16:42	LB137409
	Barium	9.46	10.0	95	70 - 130	P	09/25/2025	16:42	LB137409
	Beryllium	1.02	1.0	102	70 - 130	P	09/25/2025	16:42	LB137409
	Cadmium	0.91	1.0	91	70 - 130	P	09/25/2025	16:42	LB137409
	Calcium	483	500	96	70 - 130	P	09/25/2025	16:42	LB137409
	Chromium	1.92	2.0	96	70 - 130	P	09/25/2025	16:42	LB137409
	Cobalt	1.02	1.0	102	50 - 150	P	09/25/2025	16:42	LB137409
	Copper	2.02	2.0	101	70 - 130	P	09/25/2025	16:42	LB137409
	Iron	50.8	50.0	102	70 - 130	P	09/25/2025	16:42	LB137409
	Lead	0.83	1.0	83	70 - 130	P	09/25/2025	16:42	LB137409
	Magnesium	470	500	94	70 - 130	P	09/25/2025	16:42	LB137409
	Manganese	0.85	1.0	85	50 - 150	P	09/25/2025	16:42	LB137409
	Molybdenum	4.84	5.0	97	70 - 130	P	09/25/2025	16:42	LB137409
	Nickel	0.88	1.0	88	70 - 130	P	09/25/2025	16:42	LB137409
	Potassium	502	500	100	70 - 130	P	09/25/2025	16:42	LB137409
	Selenium	4.88	5.0	98	70 - 130	P	09/25/2025	16:42	LB137409
	Silver	1.04	1.0	104	70 - 130	P	09/25/2025	16:42	LB137409
	Sodium	507	500	101	70 - 130	P	09/25/2025	16:42	LB137409
	Strontium	0.93	1.0	93	70 - 130	P	09/25/2025	16:42	LB137409
	Thallium	0.98	1.0	98	70 - 130	P	09/25/2025	16:42	LB137409
	Tin	4.76	5.0	95	70 - 130	P	09/25/2025	16:42	LB137409
	Titanium	4.72	5.0	94	70 - 130	P	09/25/2025	16:42	LB137409
	Vanadium	4.90	5.0	98	70 - 130	P	09/25/2025	16:42	LB137409
	Zinc	4.77	5.0	95	50 - 150	P	09/25/2025	16:42	LB137409

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	1.94	+/-10	U	20.0	P	09/25/2025	16:26	LB137409
	Antimony	0.11	+/-1	U	2.00	P	09/25/2025	16:26	LB137409
	Arsenic	0.089	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Barium	0.21	+/-5	U	10.0	P	09/25/2025	16:26	LB137409
	Beryllium	0.32	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Cadmium	0.34	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Calcium	45.7	+/-250	U	500	P	09/25/2025	16:26	LB137409
	Chromium	0.21	+/-1	U	2.00	P	09/25/2025	16:26	LB137409
	Cobalt	0.070	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Copper	0.30	+/-1	U	2.00	P	09/25/2025	16:26	LB137409
	Iron	7.81	+/-25	U	50.0	P	09/25/2025	16:26	LB137409
	Lead	0.21	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Magnesium	19.5	+/-250	U	500	P	09/25/2025	16:26	LB137409
	Manganese	0.43	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Nickel	0.27	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Potassium	36.4	+/-250	U	500	P	09/25/2025	16:26	LB137409
	Tin	0.31	+/-2.5	U	5.00	P	09/25/2025	16:26	LB137409
	Selenium	2.90	+/-2.5	U	5.00	P	09/25/2025	16:26	LB137409
	Molybdenum	0.27	+/-2.5	U	5.00	P	09/25/2025	16:26	LB137409
	Silver	0.060	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Sodium	128	+/-250	U	500	P	09/25/2025	16:26	LB137409
	Thallium	0.060	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Vanadium	0.077	+/-2.5	U	5.00	P	09/25/2025	16:26	LB137409
	Zinc	1.25	+/-2.5	U	5.00	P	09/25/2025	16:26	LB137409
	Strontium	0.084	+/-0.5	U	1.00	P	09/25/2025	16:26	LB137409
	Titanium	0.20	+/-2.5	U	5.00	P	09/25/2025	16:26	LB137409

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	7.55	+/-10	J	20.0	P	09/25/2025	16:38	LB137409
	Antimony	0.21	+/-1	J	2.00	P	09/25/2025	16:38	LB137409
	Arsenic	0.089	+/-0.5	U	1.00	P	09/25/2025	16:38	LB137409
	Barium	0.42	+/-5	J	10.0	P	09/25/2025	16:38	LB137409
	Beryllium	0.32	+/-0.5	U	1.00	P	09/25/2025	16:38	LB137409
	Cadmium	0.34	+/-0.5	U	1.00	P	09/25/2025	16:38	LB137409
	Calcium	45.7	+/-250	U	500	P	09/25/2025	16:38	LB137409
	Chromium	0.21	+/-1	U	2.00	P	09/25/2025	16:38	LB137409
	Cobalt	0.070	+/-0.5	U	1.00	P	09/25/2025	16:38	LB137409
	Copper	0.76	+/-1	J	2.00	P	09/25/2025	16:38	LB137409
	Iron	14.1	+/-25	J	50.0	P	09/25/2025	16:38	LB137409
	Lead	0.45	+/-0.5	J	1.00	P	09/25/2025	16:38	LB137409
	Magnesium	29.9	+/-250	J	500	P	09/25/2025	16:38	LB137409
	Manganese	0.44	+/-0.5	J	1.00	P	09/25/2025	16:38	LB137409
	Nickel	0.27	+/-0.5	U	1.00	P	09/25/2025	16:38	LB137409
	Potassium	42.8	+/-250	J	500	P	09/25/2025	16:38	LB137409
	Selenium	2.90	+/-2.5	U	5.00	P	09/25/2025	16:38	LB137409
	Tin	0.31	+/-2.5	U	5.00	P	09/25/2025	16:38	LB137409
	Molybdenum	1.08	+/-2.5	J	5.00	P	09/25/2025	16:38	LB137409
	Silver	0.12	+/-0.5	J	1.00	P	09/25/2025	16:38	LB137409
	Sodium	128	+/-250	U	500	P	09/25/2025	16:38	LB137409
	Thallium	0.16	+/-0.5	J	1.00	P	09/25/2025	16:38	LB137409
	Vanadium	0.077	+/-2.5	U	5.00	P	09/25/2025	16:38	LB137409
	Zinc	1.25	+/-2.5	U	5.00	P	09/25/2025	16:38	LB137409
	Strontium	0.090	+/-0.5	J	1.00	P	09/25/2025	16:38	LB137409
	Titanium	0.87	+/-2.5	J	5.00	P	09/25/2025	16:38	LB137409
CCB02	Aluminum	2.67	+/-10	J	20.0	P	09/25/2025	17:21	LB137409
	Antimony	0.11	+/-1	U	2.00	P	09/25/2025	17:21	LB137409
	Arsenic	0.089	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Barium	0.21	+/-5	U	10.0	P	09/25/2025	17:21	LB137409
	Beryllium	0.32	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Cadmium	0.34	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Calcium	45.7	+/-250	U	500	P	09/25/2025	17:21	LB137409
	Chromium	0.21	+/-1	U	2.00	P	09/25/2025	17:21	LB137409
	Cobalt	0.070	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Copper	0.30	+/-1	U	2.00	P	09/25/2025	17:21	LB137409
	Iron	7.81	+/-25	U	50.0	P	09/25/2025	17:21	LB137409
	Lead	0.21	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Magnesium	19.5	+/-250	U	500	P	09/25/2025	17:21	LB137409

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Manganese	0.43	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Nickel	0.27	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Potassium	36.4	+/-250	U	500	P	09/25/2025	17:21	LB137409
	Selenium	2.90	+/-2.5	U	5.00	P	09/25/2025	17:21	LB137409
	Molybdenum	0.27	+/-2.5	U	5.00	P	09/25/2025	17:21	LB137409
	Tin	0.31	+/-2.5	U	5.00	P	09/25/2025	17:21	LB137409
	Silver	0.060	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Sodium	128	+/-250	U	500	P	09/25/2025	17:21	LB137409
	Thallium	0.060	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Vanadium	0.077	+/-2.5	U	5.00	P	09/25/2025	17:21	LB137409
	Zinc	1.25	+/-2.5	U	5.00	P	09/25/2025	17:21	LB137409
	Strontium	0.084	+/-0.5	U	1.00	P	09/25/2025	17:21	LB137409
	Titanium	0.20	+/-2.5	U	5.00	P	09/25/2025	17:21	LB137409
CCB03	Aluminum	2.27	+/-10	J	20.0	P	09/25/2025	17:54	LB137409
	Antimony	0.11	+/-1	U	2.00	P	09/25/2025	17:54	LB137409
	Arsenic	0.089	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Barium	0.21	+/-5	U	10.0	P	09/25/2025	17:54	LB137409
	Beryllium	0.32	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Cadmium	0.34	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Calcium	45.7	+/-250	U	500	P	09/25/2025	17:54	LB137409
	Chromium	0.21	+/-1	U	2.00	P	09/25/2025	17:54	LB137409
	Cobalt	0.070	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Copper	0.30	+/-1	U	2.00	P	09/25/2025	17:54	LB137409
	Iron	7.81	+/-25	U	50.0	P	09/25/2025	17:54	LB137409
	Lead	0.21	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Magnesium	19.5	+/-250	U	500	P	09/25/2025	17:54	LB137409
	Manganese	0.43	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Nickel	0.27	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Potassium	36.4	+/-250	U	500	P	09/25/2025	17:54	LB137409
	Selenium	2.90	+/-2.5	U	5.00	P	09/25/2025	17:54	LB137409
	Tin	0.31	+/-2.5	U	5.00	P	09/25/2025	17:54	LB137409
	Molybdenum	0.27	+/-2.5	U	5.00	P	09/25/2025	17:54	LB137409
	Silver	0.060	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Sodium	128	+/-250	U	500	P	09/25/2025	17:54	LB137409
	Thallium	0.060	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Vanadium	0.077	+/-2.5	U	5.00	P	09/25/2025	17:54	LB137409
	Zinc	1.25	+/-2.5	U	5.00	P	09/25/2025	17:54	LB137409
	Strontium	0.084	+/-0.5	U	1.00	P	09/25/2025	17:54	LB137409
	Titanium	0.20	+/-2.5	U	5.00	P	09/25/2025	17:54	LB137409

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Instrument: P7

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB169562BL	WATER			Batch Number:	PB169562		Prep Date:	09/23/2025	
	Aluminum	3.80	<10	U	20.0	P	09/25/2025	17:35	LB137409
	Antimony	0.32	<1	U	2.00	P	09/25/2025	17:35	LB137409
	Arsenic	0.14	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Barium	0.29	<5	U	10.0	P	09/25/2025	17:35	LB137409
	Beryllium	0.26	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Cadmium	0.14	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Calcium	91.5	<250	U	500	P	09/25/2025	17:35	LB137409
	Chromium	0.047	<1	U	2.00	P	09/25/2025	17:35	LB137409
	Cobalt	0.050	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Copper	0.65	<1	U	2.00	P	09/25/2025	17:35	LB137409
	Iron	1.96	<25	U	50.0	P	09/25/2025	17:35	LB137409
	Lead	0.27	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Magnesium	20.0	<250	U	500	P	09/25/2025	17:35	LB137409
	Manganese	0.19	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Nickel	0.15	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Potassium	23.8	<250	U	500	P	09/25/2025	17:35	LB137409
	Molybdenum	0.67	<2.5	U	5.00	P	09/25/2025	17:35	LB137409
	Tin	0.35	<2.5	U	5.00	P	09/25/2025	17:35	LB137409
	Selenium	2.86	<2.5	U	5.00	P	09/25/2025	17:35	LB137409
	Silver	0.15	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Sodium	107	<250	U	500	P	09/25/2025	17:35	LB137409
	Thallium	0.11	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Vanadium	0.11	<2.5	U	5.00	P	09/25/2025	17:35	LB137409
	Zinc	0.62	<2.5	U	5.00	P	09/25/2025	17:35	LB137409
	Strontium	0.35	<0.5	U	1.00	P	09/25/2025	17:35	LB137409
	Titanium	0.59	<2.5	U	5.00	P	09/25/2025	17:35	LB137409

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

ICS Source: EPA

Instrument ID: P7

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Aluminum	88600	100000	89	0	0	09/25/2025	16:29	LB137409
	Antimony	1.13	1.5	75	-2.5	5.5	09/25/2025	16:29	LB137409
	Arsenic	0.41	0.1	410	-1.9	2.1	09/25/2025	16:29	LB137409
	Barium	1.40	1.2	117	-18.8	21.2	09/25/2025	16:29	LB137409
	Beryllium	0.27			-2	2	09/25/2025	16:29	LB137409
	Cadmium	0.29	0.7	41	-1.3	2.7	09/25/2025	16:29	LB137409
	Calcium	95400	100000	95	0	0	09/25/2025	16:29	LB137409
	Chromium	19.3	21.0	92	17	25	09/25/2025	16:29	LB137409
	Cobalt	1.32	1.0	132	-1	3	09/25/2025	16:29	LB137409
	Copper	7.24	8.0	90	4	12	09/25/2025	16:29	LB137409
	Iron	96500	100000	96	0	0	09/25/2025	16:29	LB137409
	Lead	4.15	4.0	104	2	6	09/25/2025	16:29	LB137409
	Magnesium	88400	100000	88	0	0	09/25/2025	16:29	LB137409
	Manganese	6.86	7.0	98	5	9	09/25/2025	16:29	LB137409
	Nickel	5.30	6.0	88	4	8	09/25/2025	16:29	LB137409
	Potassium	96300	100000	96	0	0	09/25/2025	16:29	LB137409
	Tin	0.55			0	0	09/25/2025	16:29	LB137409
	Selenium	0.99	0.3	330	-9.7	10	09/25/2025	16:29	LB137409
	Molybdenum	1890	2000	94	1600	2400	09/25/2025	16:29	LB137409
	Silver	0.050			-2	2	09/25/2025	16:29	LB137409
	Sodium	97000	100000	97	0	0	09/25/2025	16:29	LB137409
	Thallium	0.060			-2	2	09/25/2025	16:29	LB137409
	Vanadium	0.24	0.5	48	-9.5	10.5	09/25/2025	16:29	LB137409
	Zinc	10.6	11.0	97	1	21	09/25/2025	16:29	LB137409
	Strontium	31.9			0	0	09/25/2025	16:29	LB137409
	Titanium	1940	2000	97	1600	2400	09/25/2025	16:29	LB137409
ICSAB01	Aluminum	88000	100000	88	0	0	09/25/2025	16:32	LB137409
	Antimony	20.1	22.0	91	18	26	09/25/2025	16:32	LB137409
	Arsenic	19.8	19.0	104	16.2	21.9	09/25/2025	16:32	LB137409
	Barium	20.6	22.0	94	2	42	09/25/2025	16:32	LB137409
	Beryllium	20.9	19.0	110	16.2	21.9	09/25/2025	16:32	LB137409
	Cadmium	19.8	20.0	99	17	23	09/25/2025	16:32	LB137409
	Calcium	93900	100000	94	0	0	09/25/2025	16:32	LB137409
	Chromium	39.2	40.0	98	34	46	09/25/2025	16:32	LB137409
	Cobalt	21.1	20.0	106	17	23	09/25/2025	16:32	LB137409
	Copper	25.8	25.0	103	21	29	09/25/2025	16:32	LB137409
	Iron	95000	100000	95	0	0	09/25/2025	16:32	LB137409
	Lead	23.0	25.0	92	21.3	28.8	09/25/2025	16:32	LB137409
	Magnesium	88700	100000	89	0	0	09/25/2025	16:32	LB137409
	Manganese	24.5	27.0	91	23	31.1	09/25/2025	16:32	LB137409
	Nickel	25.0	24.0	104	20.4	27.6	09/25/2025	16:32	LB137409
	Potassium	96100	100000	96	0	0	09/25/2025	16:32	LB137409

Metals
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INTERFERENCE CHECK SAMPLE

Client: <u>Alliance Technical Group, LLC - Newark</u>	SDG No.: <u>Q3016</u>
Contract: <u>ALLI03</u>	Lab Code: <u>ACE</u>
ICS Source: <u>EPA</u>	Instrument ID: <u>P7</u>

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSAB01	Molybdenum	1930	2000	96	1600	2400	09/25/2025	16:32	LB137409
	Selenium	20.5	19.0	108	9	29	09/25/2025	16:32	LB137409
	Tin	45.1			0	0	09/25/2025	16:32	LB137409
	Silver	19.0	18.0	106	15.3	20.7	09/25/2025	16:32	LB137409
	Sodium	97200	100000	97	0	0	09/25/2025	16:32	LB137409
	Thallium	19.5	21.0	93	17.9	24.2	09/25/2025	16:32	LB137409
	Vanadium	19.9	19.0	105	9	29	09/25/2025	16:32	LB137409
	Zinc	29.2	29.0	101	19	39	09/25/2025	16:32	LB137409
	Strontium	75.7			0	0	09/25/2025	16:32	LB137409
	Titanium	1980	2000	99	1600	2400	09/25/2025	16:32	LB137409



METAL QC DATA

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3016

Contract: ALLI03

Lab Code: ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB169562BS							
Aluminum	ug/L	10000	10300		103	85 - 115	P
Antimony	ug/L	500	499		100	85 - 115	P
Arsenic	ug/L	500	501		100	85 - 115	P
Barium	ug/L	2500	2480		99	85 - 115	P
Beryllium	ug/L	500	495		99	85 - 115	P
Cadmium	ug/L	500	505		101	85 - 115	P
Calcium	ug/L	50000	49000		98	85 - 115	P
Chromium	ug/L	500	501		100	85 - 115	P
Cobalt	ug/L	500	500		100	85 - 115	P
Copper	ug/L	5000	5010		100	85 - 115	P
Iron	ug/L	25000	26300		105	85 - 115	P
Lead	ug/L	2500	2480		99	85 - 115	P
Magnesium	ug/L	50000	49700		99	85 - 115	P
Manganese	ug/L	5000	4930		99	85 - 115	P
Nickel	ug/L	500	497		99	85 - 115	P
Potassium	ug/L	25000	25300		101	85 - 115	P
Tin	ug/L	500	499		100	85 - 115	P
Molybdenum	ug/L	5000	4940		99	85 - 115	P
Selenium	ug/L	500	509		102	85 - 115	P
Silver	ug/L	500	503		101	85 - 115	P
Sodium	ug/L	50000	51300		103	85 - 115	P
Thallium	ug/L	500	504		101	85 - 115	P
Vanadium	ug/L	500	500		100	85 - 115	P
Zinc	ug/L	5000	5130		103	85 - 115	P
Strontium	ug/L	500	499		100	85 - 115	P
Titanium	ug/L	5000	4830		97	85 - 115	P

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Alliance Technical Group, LLC -

Contract: ALLI03

Lab Code: ACE

SDG No.: Q3016

Instrument ID: P7

Start Date : 09/25/2025

Run Number: LB137409

End Date : 09/25/2025

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	1551	100		100		100		100		100	
S2	S2	1554	98		100		99		99		100	
S3	S3	1558	97		99		97		96		98	
S4	S4	1601	97		96		96		95		97	
S5	S5	1604	96		94		93		91		95	
S6	S6	1607	93		89		90		87		92	
S7	S7	1609	86		82		83		81		87	
S8	S8	1612	99		97		95		89		99	
ICV01	ICV01	1620	103		100		101		99		102	
LLICV01	LLICV01	1623	101		99		98		97		101	
ICB01	ICB01	1626	100		96		95		96		98	
ICSA01	ICSA01	1629	98		97		96		93		100	
ICSAB01	ICSAB01	1632	98		97		97		94		101	
CCV01	CCV01	1635	91		91		90		86		95	
CCB01	CCB01	1638	99		97		97		97		102	
CRI	CRI	1642	101		99		98		98		102	
ZZZZZZ	ZZZZZZ	1645										
ZZZZZZ	ZZZZZZ	1648										
ZZZZZZ	ZZZZZZ	1651										
Q3016-02	WP0925-PT-T	1654	103		100		100		99		104	
Q3016-04	WP0925-PT-S	1657	103		100		99		99		104	
Q3016-02	WP0925-PT-T	1700	105		98		100		100		104	
ZZZZZZ	ZZZZZZ	1703										
Q3016-06	WP0925-PT-M	1707	98		95		93		94		96	
ZZZZZZ	ZZZZZZ	1710										
CCV02	CCV02	1713	94		93		91		87		93	
CCB02	CCB02	1721	101		99		99		99		102	
Q3016-06	WP0925-PT-M	1724	126		122		122		122		126	
PB169562BL	PB169562BL	1735	98		99		100		98		99	
ZZZZZZ	ZZZZZZ	1738										
PB169562BS	PB169562BS	1741	93		92		91		90		93	
ZZZZZZ	ZZZZZZ	1744										
CCV03	CCV03	1747	93		91		90		87		92	
CCB03	CCB03	1754	102		99		96		97		100	

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Alliance Technical Group, LLC -

Contract: ALLI03

Lab Code: ACE

SDG No.: Q3016

Instrument ID: P7

Start Date : 09/25/2025

Run Number: LB137409

End Date : 09/25/2025

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	1551	100		100		100		100		100	
S2	S2	1554	100		99		100		98		101	
S3	S3	1558	99		98		98		99		99	
S4	S4	1601	97		96		98		97		99	
S5	S5	1604	95		93		93		95		96	
S6	S6	1607	91		89		89		92		94	
S7	S7	1609	85		84		84		87		89	
S8	S8	1612	100		98		91		99		99	
ICV01	ICV01	1620	100		99		98		101		102	
LLICV01	LLICV01	1623	98		97		98		100		100	
ICB01	ICB01	1626	97		97		98		99		99	
ICSA01	ICSA01	1629	97		97		96		99		101	
ICSAB01	ICSAB01	1632	96		96		94		98		99	
CCV01	CCV01	1635	91		90		86		93		94	
CCB01	CCB01	1638	97		97		99		99		100	
CRI	CRI	1642	100		99		100		102		102	
ZZZZZZ	ZZZZZZ	1645										
ZZZZZZ	ZZZZZZ	1648										
ZZZZZZ	ZZZZZZ	1651										
Q3016-02	WP0925-PT-T	1654	99		99		99		102		103	
Q3016-04	WP0925-PT-S	1657	99		100		100		102		101	
Q3016-02	WP0925-PT-T	1700	98		97		99		101		101	
ZZZZZZ	ZZZZZZ	1703										
Q3016-06	WP0925-PT-M	1707	98		96		95		97		97	
ZZZZZZ	ZZZZZZ	1710										
CCV02	CCV02	1713	95		94		90		96		97	
CCB02	CCB02	1721	98		98		99		100		100	
Q3016-06	WP0925-PT-M	1724	122		121		121		120		122	
PB169562BL	PB169562BL	1735	102		102		102		101		102	
ZZZZZZ	ZZZZZZ	1738										
PB169562BS	PB169562BS	1741	91		90		90		92		93	
ZZZZZZ	ZZZZZZ	1744										
CCV03	CCV03	1747	92		91		88		93		93	
CCB03	CCB03	1754	97		97		98		99		99	

Internal Standard %RI Limit: 70 - 130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Alliance Technical Group, LLC -

Contract: ALLI03

Lab Code: ACE

SDG No.: Q3016

Instrument ID: P7

Start Date : 09/25/2025

Run Number: LB137409

End Date : 09/25/2025

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	1551	100		100							
S2	S2	1554	100		97							
S3	S3	1558	98		96							
S4	S4	1601	97		96							
S5	S5	1604	95		94							
S6	S6	1607	92		91							
S7	S7	1609	87		86							
S8	S8	1612	101		91							
ICV01	ICV01	1620	103		101							
LLICV01	LLICV01	1623	101		100							
ICB01	ICB01	1626	99		97							
ICSA01	ICSA01	1629	100		96							
ICSAB01	ICSAB01	1632	103		97							
CCV01	CCV01	1635	96		90							
CCB01	CCB01	1638	101		99							
CRI	CRI	1642	102		102							
ZZZZZZ	ZZZZZZ	1645										
ZZZZZZ	ZZZZZZ	1648										
ZZZZZZ	ZZZZZZ	1651										
Q3016-02	WP0925-PT-TM	1654	104		105							
Q3016-04	WP0925-PT-SM	1657	103		101							
Q3016-02	WP0925-PT-TM	1700	104		105							
ZZZZZZ	ZZZZZZ	1703										
Q3016-06	WP0925-PT-MI	1707	97		93							
ZZZZZZ	ZZZZZZ	1710										
CCV02	CCV02	1713	95		89							
CCB02	CCB02	1721	102		101							
Q3016-06	WP0925-PT-MI	1724	126		121							
PB169562BL	PB169562BL	1735	100		98							
ZZZZZZ	ZZZZZZ	1738										
PB169562BS	PB169562BS	1741	95		91							
ZZZZZZ	ZZZZZZ	1744										
CCV03	CCV03	1747	94		88							
CCB03	CCB03	1754	101		99							

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Alliance Technical Group, LLC -
Lab Code: ACE
Instrument ID: P7
Run Number: LB137409

Contract: ALLI03
SDG No.: Q3016
Start Date : 09/25/2025
End Date : 09/25/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1551	100									
S2	S2	1554	100									
S3	S3	1558	98									
S4	S4	1601	98									
S5	S5	1604	96									
S6	S6	1607	92									
S7	S7	1609	86									
S8	S8	1612	92									
ICV01	ICV01	1620	101									
LLICV01	LLICV01	1623	100									
ICB01	ICB01	1626	99									
ICSA01	ICSA01	1629	97									
ICSAB01	ICSAB01	1632	98									
CCV01	CCV01	1635	89									
CCB01	CCB01	1638	100									
CRI	CRI	1642	103									
ZZZZZZ	ZZZZZZ	1645										
ZZZZZZ	ZZZZZZ	1648										
ZZZZZZ	ZZZZZZ	1651										
Q3016-02	WP0925-PT-TM	1654	104									
Q3016-04	WP0925-PT-SM	1657	103									
Q3016-02	WP0925-PT-TM	1700	103									
ZZZZZZ	ZZZZZZ	1703										
Q3016-06	WP0925-PT-MI	1707	96									
ZZZZZZ	ZZZZZZ	1710										
CCV02	CCV02	1713	91									
CCB02	CCB02	1721	101									
Q3016-06	WP0925-PT-MI	1724	121									
PB169562BL	PB169562BL	1735	102									
ZZZZZZ	ZZZZZZ	1738										
PB169562BS	PB169562BS	1741	91									
ZZZZZZ	ZZZZZZ	1744										
CCV03	CCV03	1747	90									
CCB03	CCB03	1754	99									

Internal Standard %RI Limit: 70 -130



METAL PREPARATION & INSTRUMENT DATA

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METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: Alliance Technical Group, LLC - Newark **SDG No.:** Q3016
Contract: ALLI03 **Lab Code:** ACE **Method:** _____

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB169562							
PB169562BL	PB169562BL	MB	WATER	09/23/2025	50.0	50.0	
PB169562BS	PB169562BS	LCS	WATER	09/23/2025	50.0	50.0	
Q3016-02	WP0925-PT-TM1-WP	SAM	WATER	09/23/2025	50.0	50.0	
Q3016-04	WP0925-PT-SNTI-WP	SAM	WATER	09/23/2025	50.0	50.0	
Q3016-06	WP0925-PT-MIN2-WP	SAM	WATER	09/23/2025	50.0	50.0	

metals
- 14 -
ANALYSIS RUN LOG

Client: Alliance Technical Group, LLC - Newark

Contract: ALLI03

Lab code: ACE

Sdg no.: Q3016

Instrument id number:

Method:

Run number: LB137409

Start date: 09/25/2025

End date: 09/25/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1551	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
S2	S2	1	1554	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
S3	S3	1	1558	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
S4	S4	1	1601	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
S5	S5	1	1604	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
S6	S6	1	1607	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
S7	S7	1	1609	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
S8	S8	1	1612	Al,Fe,Ca,K,Mg,Na
ICV01	ICV01	1	1620	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
LLICV01	LLICV01	1	1623	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
ICB01	ICB01	1	1626	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
ICSA01	ICSA01	1	1629	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
ICSAB01	ICSAB01	1	1632	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
CCV01	CCV01	1	1635	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
CCB01	CCB01	1	1638	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
CRI	CRI	1	1642	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
Q3016-02	WP0925-PT-TM1-WP	1	1654	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Sr,Tl,Zn
Q3016-04	WP0925-PT-SNTI-WP	1	1657	Sn,Ti
Q3016-02	WP0925-PT-TM1-WP	2	1700	V
Q3016-06	WP0925-PT-MIN2-WP	1	1707	Ca,K,Mg,Na
CCV02	CCV02	1	1713	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
CCB02	CCB02	1	1721	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
PB169562BL	PB169562BL	1	1735	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V
PB169562BS	PB169562BS	1	1741	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V
CCV03	CCV03	1	1747	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni
CCB03	CCB03	1	1754	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn,Sn,Ti,Ca,K,Mg,Ni



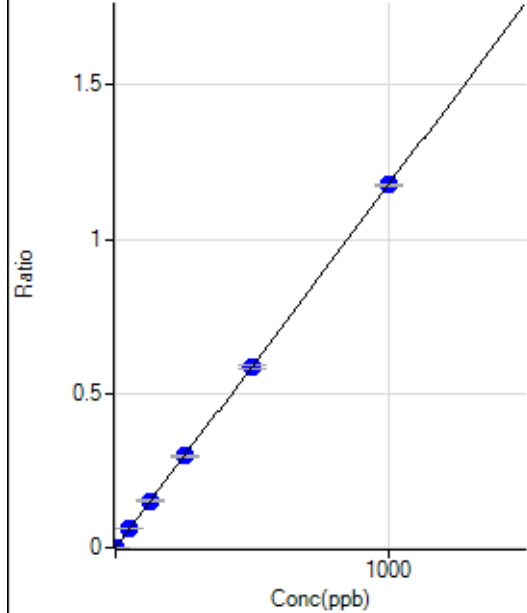
METAL RAW DATA

- 1
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Batch Folder: D:\Agilent\ICPMH\1\DATA\P7092525MS.b\
Analysis File: P7092525MS.batch.bin
DA Date-Time: 2025-09-26 09:59:31
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	S00	2025-09-25 15:51:29
2	005CALS.d	S02	2025-09-25 15:54:45
3	006CALS.d	S03	2025-09-25 15:58:04
4	007CALS.d	S04	2025-09-25 16:01:11
5	008CALS.d	S05	2025-09-25 16:04:11
6	009CALS.d	S06	2025-09-25 16:07:03
7	010CALS.d	S07	2025-09-25 16:09:50
8	011CALS.d	S08	2025-09-25 16:12:34

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	12.22	0.0000	P	14.2
2	☐	1.000	1.224	1023.38	0.0015	P	7.8
3	☐	50.000	51.955	42585.09	0.0611	P	1.6
4	☐	125.000	129.233	106433.87	0.1520	P	1.5
5	☐	250.000	251.871	204878.81	0.2963	P	1.4
6	☐	500.000	498.172	392245.36	0.5859	P	2.1
7	☐	1000.000	999.819	727467.08	1.1760	P	0.7
8	☐			343.34	0.0005	P	23.6

$y = 0.0012 * x + 1.6970E-005$

R = 1.0000

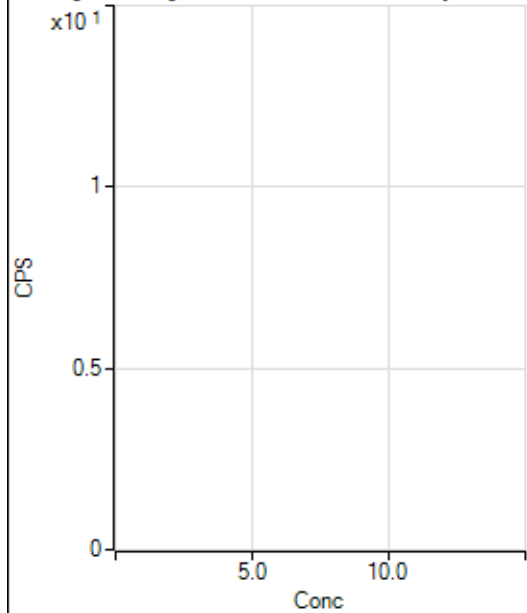
DL = 0.006164

BEC = 0.01443

Weight: <None>

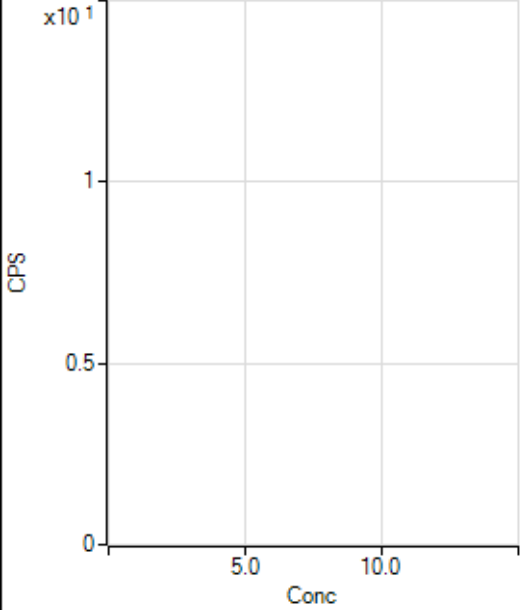
Min Conc: <None>

12 C [No Gas] No available calibration points



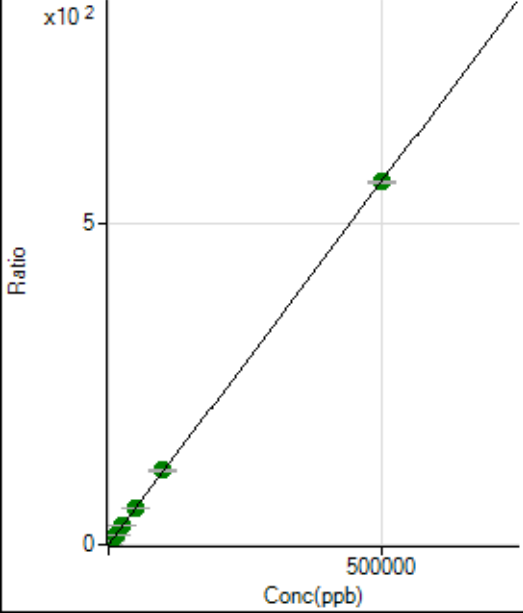
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

12 C [He] No available calibration points



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

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	27250.82	0.0739	P	1.3
2	☐	500.000	496.674	235092.69	0.6363	P	0.1
3	☐	5000.000	4963.782	2088186.74	5.6946	A	1.6
4	☐	12500.000	12233.375	4968236.77	13.9262	A	1.1
5	☐	25000.000	25268.437	9993579.64	28.6861	A	0.8
6	☐	50000.000	50390.124	19133252.77	57.1322	A	1.4
7	☐	100000.00	101969.98	36389861.40	115.5376	A	0.3
8	☐	500000.00	499560.60	207662799.1	565.7416	A	0.9

$y = 0.0011 * x + 0.0739$

$R = 1.0000$

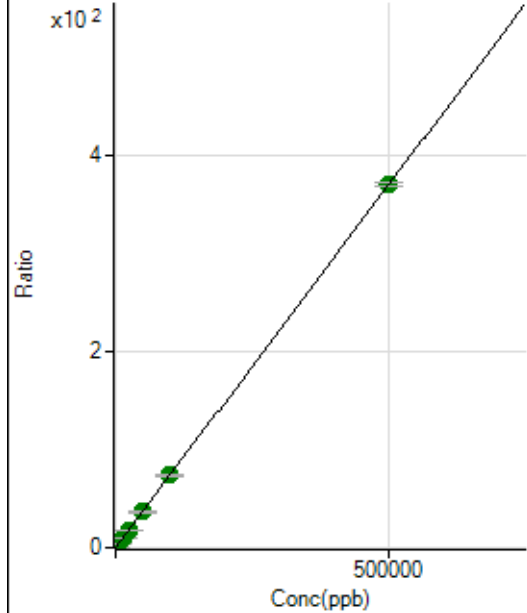
$DL = 2.637$

$BEC = 65.29$

Weight: <None>

Min Conc: <None>

24 Mg [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	370.01	0.0010	P	4.4
2	☐	500.000	495.220	135811.49	0.3676	P	0.2
3	☐	5000.000	4895.219	1329235.47	3.6248	A	1.6
4	☐	12500.000	12118.364	3200759.85	8.9719	A	0.5
5	☐	25000.000	24767.364	6387543.79	18.3356	A	0.6
6	☐	50000.000	49231.756	12205330.51	36.4459	A	1.4
7	☐	100000.00	99450.872	23187921.32	73.6218	A	0.2
8	☐	500000.00	500208.87	135926642.4	370.2919	A	0.9

$$y = 7.4027E-004 * x + 0.0010$$

$$R = 1.0000$$

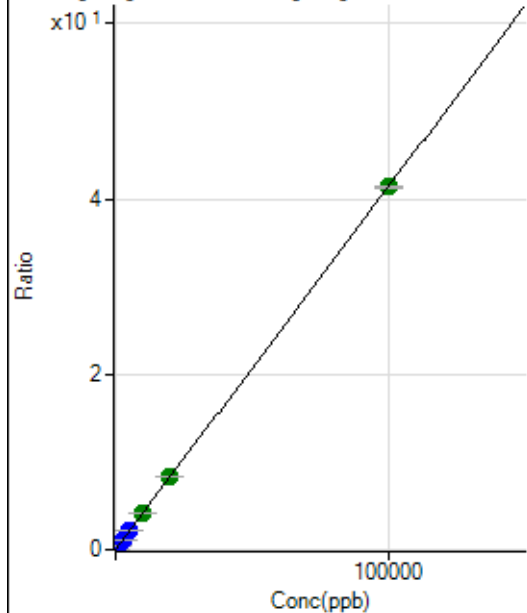
$$DL = 0.1796$$

$$BEC = 1.356$$

Weight: <None>

Min Conc: <None>

27 Al [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1195.61	0.0032	P	4.8
2	☐	20.000	21.174	4437.35	0.0120	P	2.0
3	☐	1000.000	1009.352	154453.05	0.4212	P	0.7
4	☐	2500.000	2510.814	372032.35	1.0429	P	1.6
5	☐	5000.000	5048.406	729340.19	2.0936	P	0.4
6	☐	10000.000	10130.249	1405854.06	4.1978	A	2.1
7	☐	20000.000	20315.496	2650412.30	8.4151	A	0.5
8	☐	100000.00	99921.091	15188028.11	41.3769	A	0.5

$$y = 4.1406E-004 * x + 0.0032$$

$$R = 1.0000$$

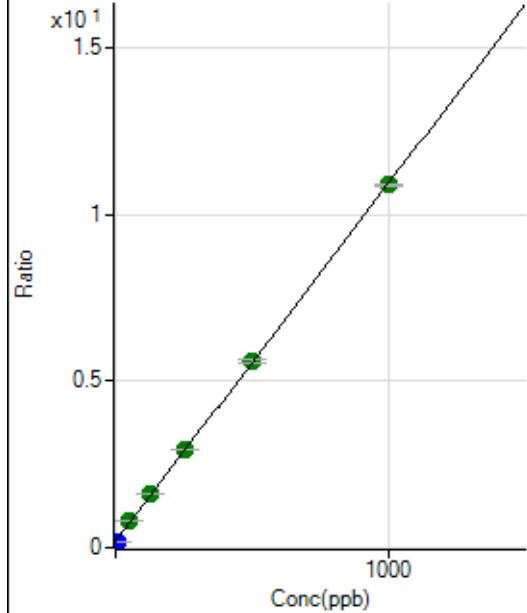
$$DL = 1.12$$

$$BEC = 7.834$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	773857.02	0.1896	P	1.3
2	☐	10.000	0.480	791791.78	0.1948	P	2.3
3	☐	50.000	56.720	3215940.61	0.7992	A	1.8
4	☐	125.000	132.862	6343249.90	1.6176	A	0.6
5	☐	250.000	254.617	11183330.39	2.9263	A	0.6
6	☐	500.000	503.717	20390116.22	5.6036	A	2.0
7	☐	1000.000	995.764	36640720.84	10.8921	A	0.6
8	☐			841169.47	0.2134	P	0.3

$$y = 0.0107 * x + 0.1896$$

$$R = 0.9999$$

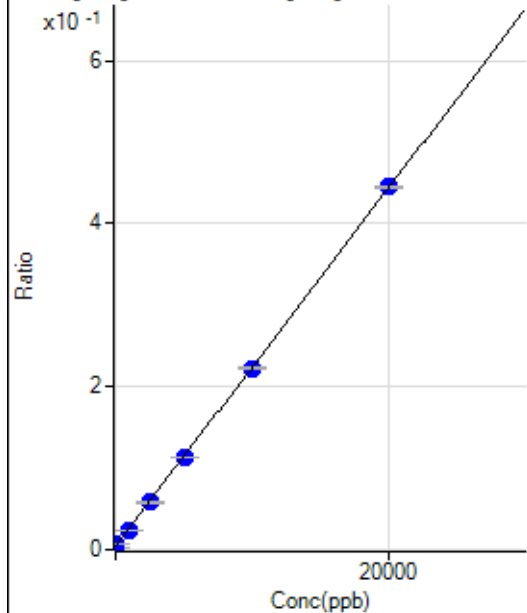
$$DL = 0.6858$$

$$BEC = 17.64$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-130.928	488.90	0.0013	P	9.8
2	☐	0.000	130.928	2615.80	0.0071	P	3.7
3	☐	1000.000	894.811	8752.57	0.0239	P	1.5
4	☐	2500.000	2456.862	20761.96	0.0582	P	3.0
5	☐	5000.000	4942.188	39299.38	0.1128	P	0.1
6	☐	10000.000	9918.412	74398.91	0.2222	P	0.9
7	☐	20000.000	20065.899	140203.70	0.4452	P	0.7
8	☐			465.57	0.0013	P	7.0

$$y = 2.1975E-005 * x + 0.0042$$

$$R = 0.9999$$

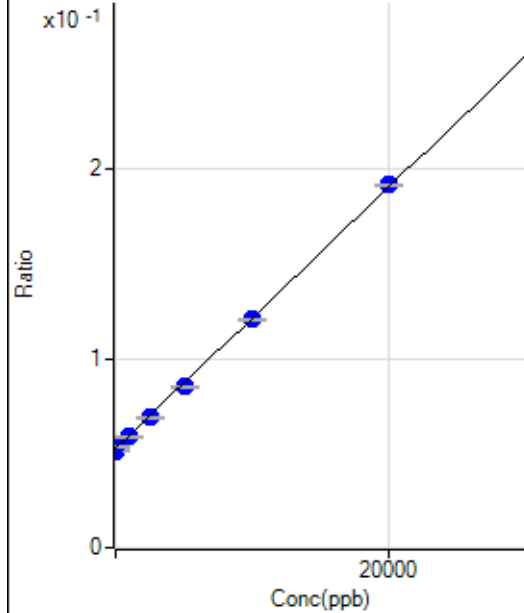
$$DL = 26.67$$

$$BEC = 191.3$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	-169.876	209344.66	0.0513	P	3.5
2	☐	0.000	169.876	218125.81	0.0537	P	2.5
3	☐	1000.000	893.076	235994.57	0.0587	P	2.7
4	☐	2500.000	2399.376	270840.77	0.0691	P	1.3
5	☐	5000.000	4709.442	324986.47	0.0850	P	0.8
6	☐	10000.000	9850.603	438784.06	0.1206	P	0.9
7	☐	20000.000	20165.262	645458.41	0.1919	P	0.6
8	☐			202854.33	0.0515	P	1.7

$$y = 6.9121\text{E-}006 * x + 0.0525$$

R = 0.9998

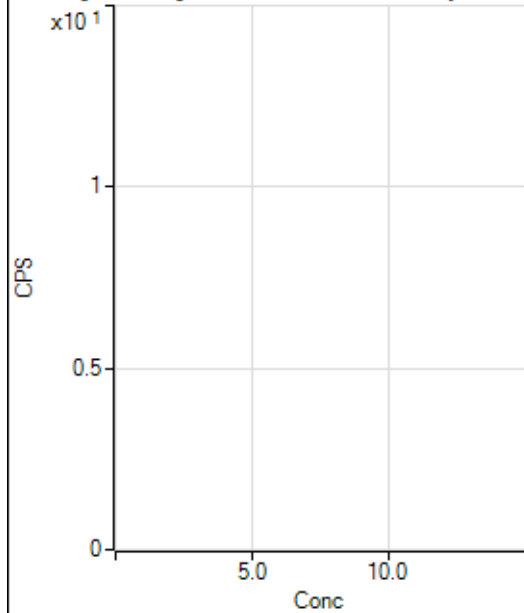
DL = 681.6

BEC = 7593

Weight: <None>

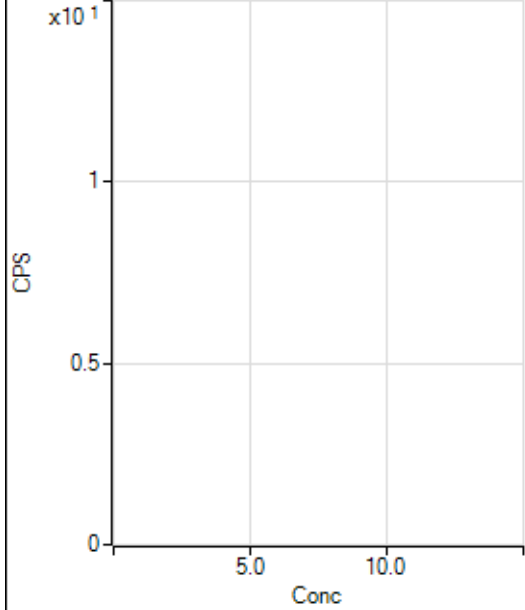
Min Conc: <None>

35 Cl [No Gas] No available calibration points



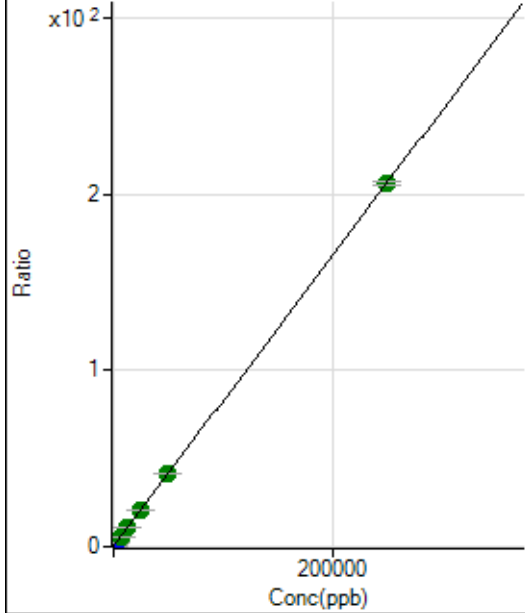
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

35 Cl [He] No available calibration points



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

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	66357.14	0.1800	P	1.5
2	☐	500.000	536.341	229693.10	0.6217	P	0.4
3	☐	2500.000	2651.511	866782.82	2.3637	P	0.6
4	☐	6250.000	6366.285	1934731.93	5.4230	A	1.6
5	☐	12500.000	12608.027	3680033.42	10.5633	A	0.6
6	☐	25000.000	25112.452	6985880.66	20.8613	A	0.5
7	☐	50000.000	50654.646	13195854.80	41.8965	A	0.5
8	☐	250000.00	249847.92	75596432.76	205.9417	A	1.0

$$y = 8.2355E-004 * x + 0.1800$$

$$R = 1.0000$$

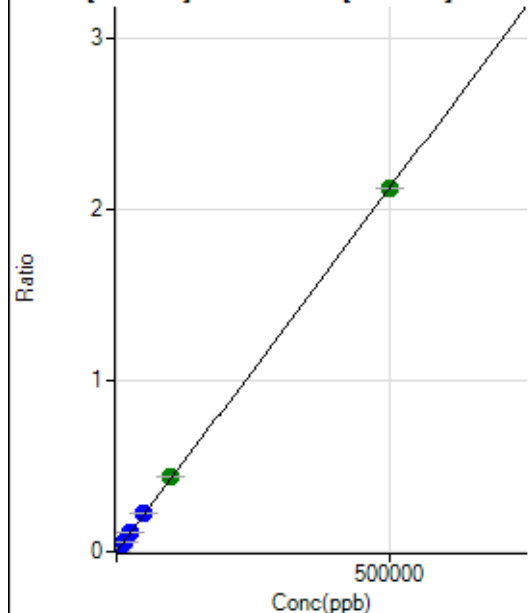
$$DL = 9.882$$

$$BEC = 218.6$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	260.01	0.0001	P	17.8
2	☐	500.000	530.991	9417.46	0.0023	P	2.0
3	☐	5000.000	5205.196	89104.28	0.0221	P	2.3
4	☐	12500.000	13164.306	219257.36	0.0559	P	0.1
5	☐	25000.000	26242.023	425709.44	0.1114	P	0.8
6	☐	50000.000	52754.547	814714.85	0.2239	P	0.6
7	☐	100000.00	102964.08	1469708.75	0.4369	A	2.0
8	☐	500000.00	499050.93	8345381.75	2.1172	A	0.2

$$y = 4.2424\text{E-}006 * x + 6.3829\text{E-}005$$

R = 1.0000

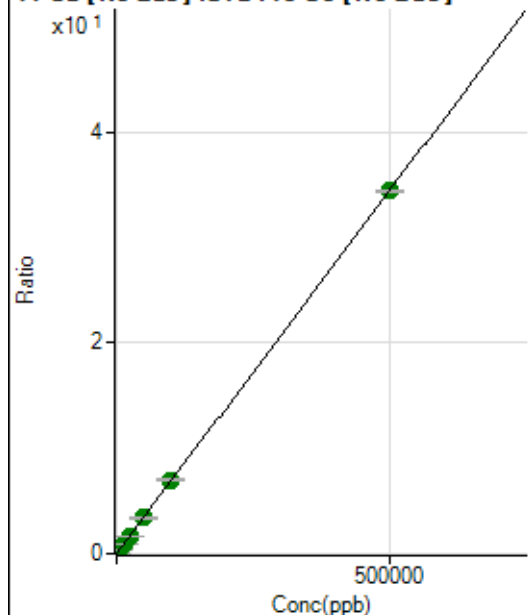
DL = 8.04

BEC = 15.05

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16124.25	0.0040	P	1.1
2	☐	500.000	526.809	163686.24	0.0403	P	1.9
3	☐	5000.000	4961.853	1392020.26	0.3460	A	2.6
4	☐	12500.000	12374.646	3360515.65	0.8569	A	0.9
5	☐	25000.000	24643.644	6506776.43	1.7026	A	1.0
6	☐	50000.000	49185.471	12352156.21	3.3943	A	0.9
7	☐	100000.00	101256.28	23493370.76	6.9835	A	1.5
8	☐	500000.00	499851.50	135819336.8	34.4583	A	0.5

$$y = 6.8929\text{E-}005 * x + 0.0040$$

R = 1.0000

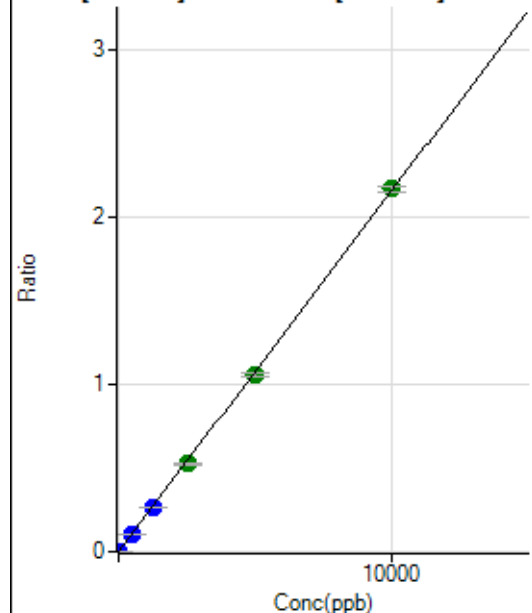
DL = 1.851

BEC = 57.31

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0000	P	9.9
2	☐	5.000	5.133	4589.63	0.0011	P	2.3
3	☐	500.000	488.586	423882.92	0.1053	P	1.8
4	☐	1250.000	1234.346	1043510.39	0.2661	P	1.1
5	☐	2500.000	2441.218	2011157.00	0.5263	A	1.9
6	☐	5000.000	4915.892	3855972.24	1.0597	A	2.5
7	☐	10000.000	10059.277	7295098.36	2.1685	A	1.9
8	☐			1350.07	0.0003	P	16.0

$$y = 2.1557E-004 * x + 2.2053E-005$$

R = 0.9999

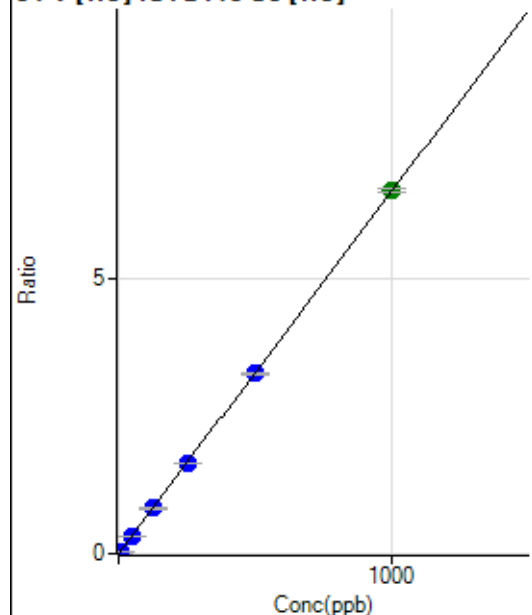
DL = 0.03045

BEC = 0.1023

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18.89	0.0001	P	54.3
2	☐	5.000	5.229	12741.02	0.0345	P	2.1
3	☐	50.000	49.906	120528.99	0.3287	P	0.7
4	☐	125.000	124.856	293317.17	0.8222	P	1.4
5	☐	250.000	248.649	570415.28	1.6374	P	0.5
6	☐	500.000	496.760	1095471.22	3.2712	P	0.7
7	☐	1000.000	1001.979	2078088.23	6.5980	A	1.0
8	☐			4252.86	0.0116	P	3.7

$$y = 0.0066 * x + 5.1347E-005$$

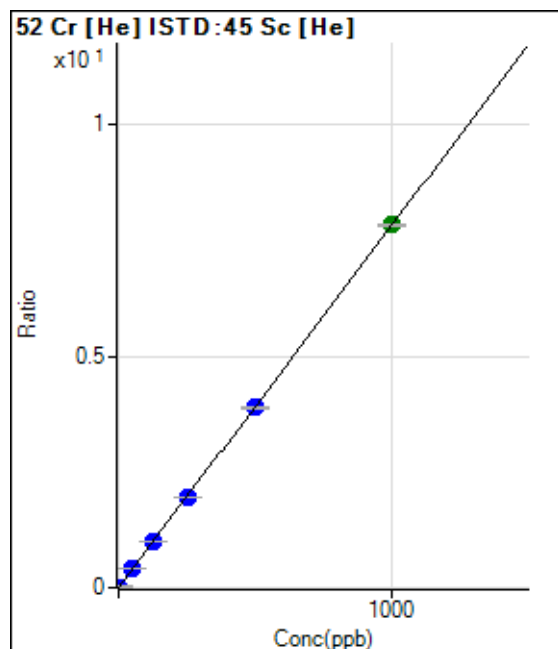
R = 1.0000

DL = 0.01271

BEC = 0.007798

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1494.53	0.0041	P	5.4
2	☐	2.000	2.137	7675.35	0.0208	P	1.3
3	☐	50.000	50.402	146084.10	0.3983	P	0.3
4	☐	125.000	126.568	354683.74	0.9942	P	0.7
5	☐	250.000	247.823	676810.00	1.9428	P	0.6
6	☐	500.000	496.661	1302500.32	3.8894	P	0.4
7	☐	1000.000	1001.997	2470119.46	7.8427	A	0.4
8	☐			28029.51	0.0764	P	0.3

$$y = 0.0078 * x + 0.0041$$

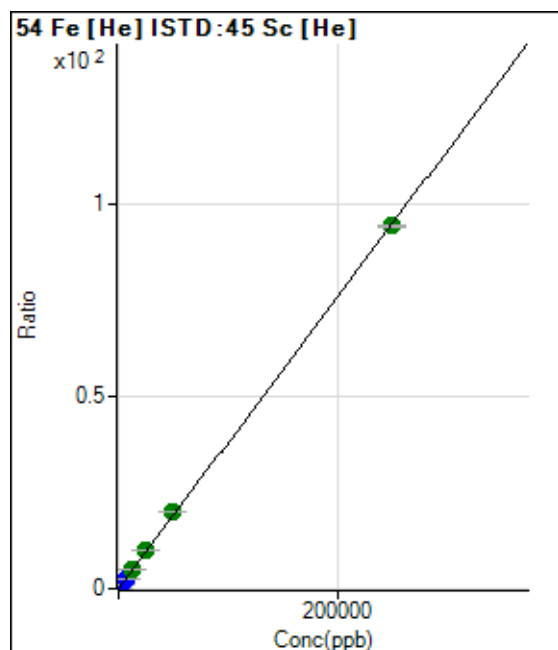
R = 1.0000

DL = 0.0843

BEC = 0.5181

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2034.60	0.0055	P	2.1
2	☐	50.000	57.001	10007.86	0.0271	P	0.4
3	☐	2500.000	2800.244	390613.43	1.0651	P	0.2
4	☐	6250.000	6923.469	936596.24	2.6254	P	0.3
5	☐	12500.000	13256.482	1749550.89	5.0218	A	1.0
6	☐	25000.000	26466.228	3355668.28	10.0204	A	1.2
7	☐	50000.000	53104.360	6330889.84	20.1003	A	1.1
8	☐	250000.00	249174.84	34612799.20	94.2935	A	0.5

$$y = 3.7840E-004 * x + 0.0055$$

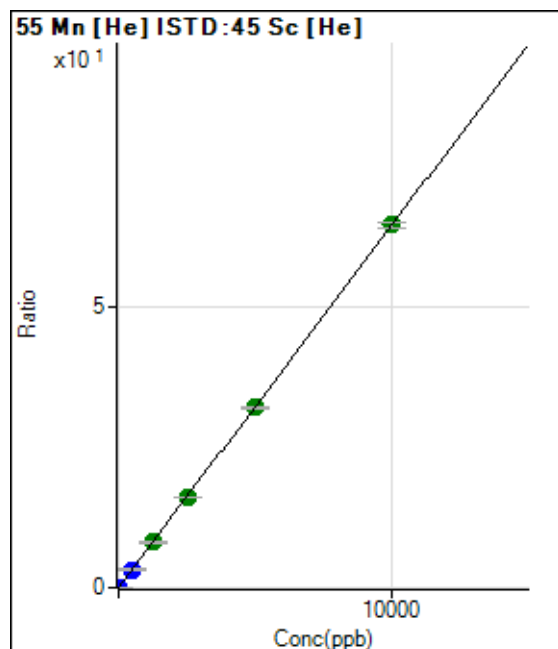
R = 0.9999

DL = 0.9218

BEC = 14.59

Weight: <None>

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3477.10	0.0094	P	2.6
2	☐	1.000	0.950	5741.14	0.0155	P	2.5
3	☐	500.000	502.347	1187516.66	3.2383	P	0.9
4	☐	1250.000	1256.134	2883535.30	8.0832	A	2.4
5	☐	2500.000	2480.777	5558244.57	15.9546	A	0.4
6	☐	5000.000	4972.674	10707034.91	31.9713	A	1.6
7	☐	10000.000	10017.584	20282169.84	64.3974	A	1.3
8	☐			21050.41	0.0573	P	0.9

$$y = 0.0064 * x + 0.0094$$

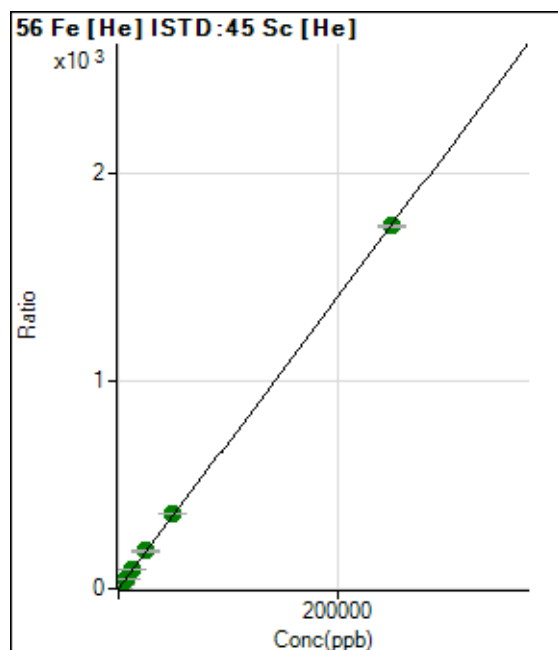
$$R = 1.0000$$

$$DL = 0.1136$$

$$BEC = 1.467$$

Weight: <None>

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15974.14	0.0433	P	1.1
2	☐	50.000	55.213	159051.38	0.4305	P	0.2
3	☐	2500.000	2620.801	6755373.23	18.4214	A	0.6
4	☐	6250.000	6474.915	16212985.59	45.4481	A	1.7
5	☐	12500.000	12857.895	31426920.09	90.2081	A	0.5
6	☐	25000.000	25813.136	60633111.32	181.0555	A	1.3
7	☐	50000.000	51927.782	114701411.6	364.1819	A	0.7
8	☐	250000.00	249508.40	642249012.6	1.749.697	A	0.6

$$y = 0.0070 * x + 0.0433$$

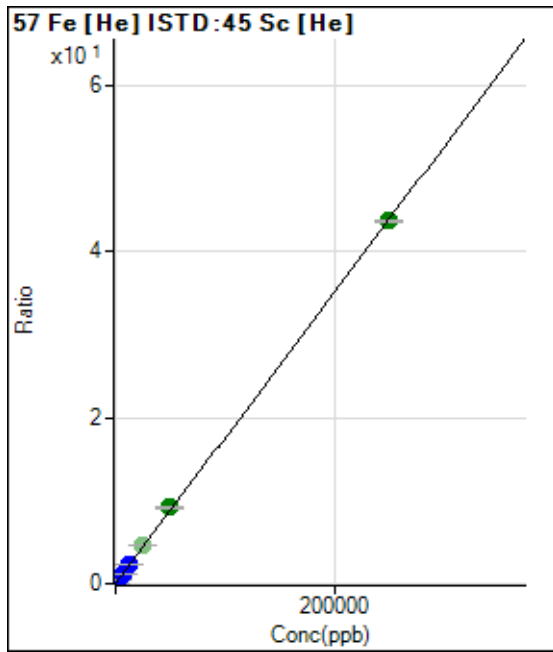
$$R = 1.0000$$

$$DL = 0.2105$$

$$BEC = 6.179$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1760.04	0.0048	P	4.0
2	☐	50.000	56.781	5439.24	0.0147	P	1.2
3	☐	2500.000	2727.669	177002.92	0.4827	P	0.9
4	☐	6250.000	6837.312	429076.75	1.2027	P	0.4
5	☐	12500.000	13478.199	824330.80	2.3663	P	0.3
6	☒	25000.000		1533648.77	4.5796	A	2.2
7	☐	50000.000	52263.220	2885567.52	9.1617	A	0.9
8	☐	250000.00	249481.48	16046366.96	43.7160	A	0.6

$$y = 1.7521E-004 * x + 0.0048$$

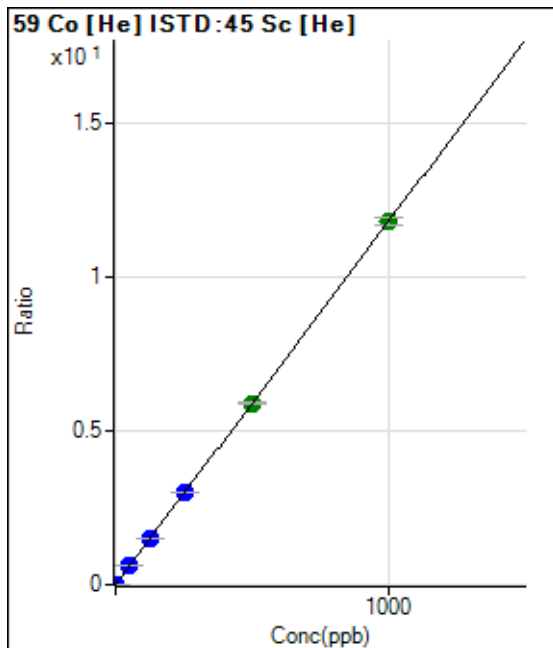
R = 1.0000

DL = 3.31

BEC = 27.25

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0002	P	28.5
2	☐	1.000	1.158	5139.82	0.0139	P	4.6
3	☐	50.000	50.936	220925.56	0.6025	P	0.6
4	☐	125.000	127.492	537855.65	1.5076	P	1.6
5	☐	250.000	253.488	1044159.22	2.9973	P	0.3
6	☐	500.000	499.088	1976204.52	5.9011	A	1.4
7	☐	1000.000	999.225	3720942.89	11.8144	A	2.3
8	☐			14748.47	0.0402	P	0.1

$$y = 0.0118 * x + 2.1676E-004$$

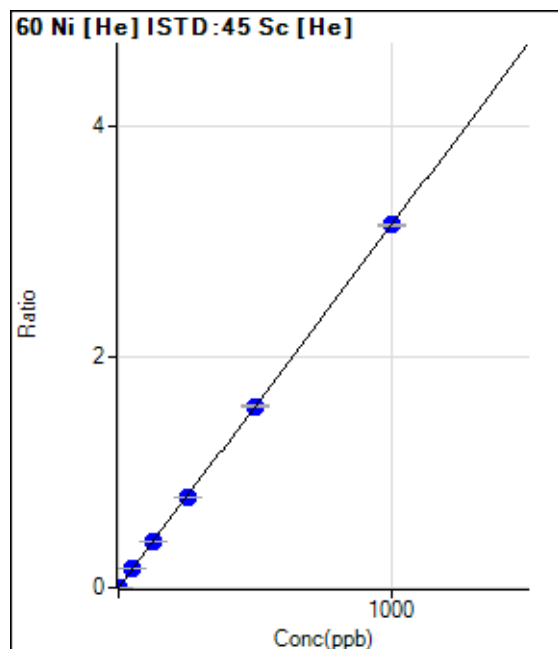
R = 1.0000

DL = 0.01569

BEC = 0.01833

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	341.12	0.0009	P	8.8
2	☐	1.000	0.972	1470.09	0.0040	P	3.2
3	☐	50.000	50.884	58971.10	0.1608	P	0.4
4	☐	125.000	126.510	142135.34	0.3984	P	1.2
5	☐	250.000	249.559	273493.57	0.7851	P	0.2
6	☐	500.000	499.688	526101.64	1.5710	P	0.8
7	☐	1000.000	1000.034	989953.17	3.1431	P	0.4
8	☐			8824.89	0.0240	P	2.3

$$y = 0.0031 * x + 9.2564E-004$$

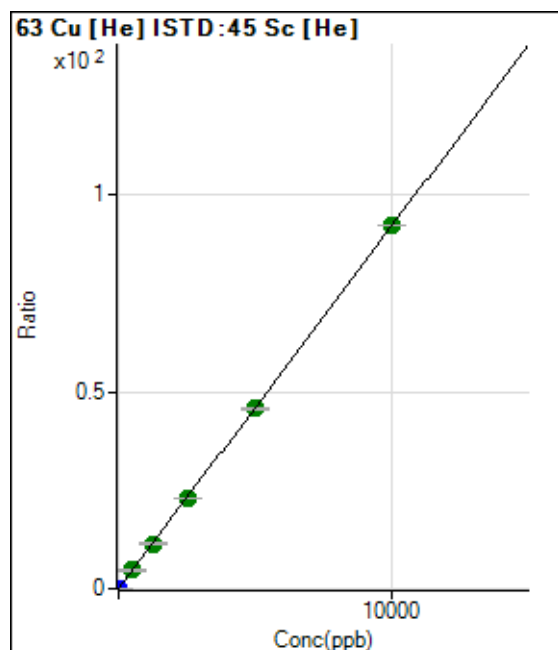
$$R = 1.0000$$

$$DL = 0.07787$$

$$BEC = 0.2946$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	998.93	0.0027	P	4.8
2	☐	2.000	1.945	7618.67	0.0206	P	2.2
3	☐	500.000	504.798	1706136.24	4.6526	A	0.8
4	☐	1250.000	1246.866	4098310.60	11.4881	A	0.8
5	☐	2500.000	2492.122	7997668.21	22.9586	A	1.2
6	☐	5000.000	4978.929	15359598.52	45.8656	A	0.8
7	☐	10000.000	10012.657	29049867.07	92.2333	A	0.2
8	☐			9527.56	0.0260	P	3.6

$$y = 0.0092 * x + 0.0027$$

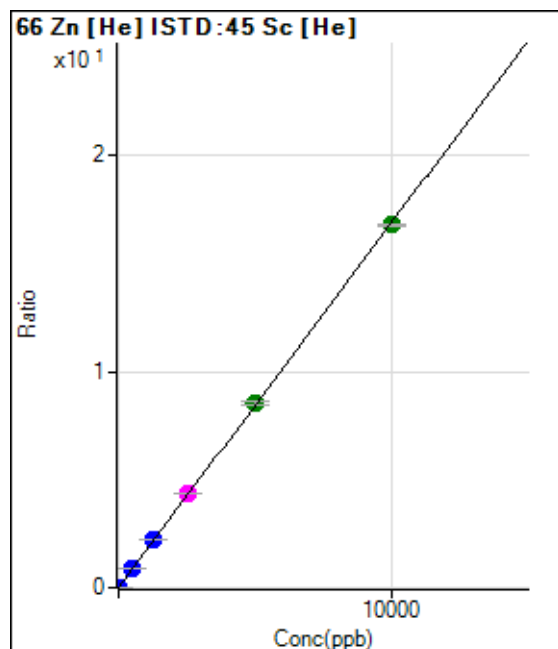
$$R = 1.0000$$

$$DL = 0.04232$$

$$BEC = 0.2942$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2729.17	0.0074	P	3.8
2	☐	5.000	5.239	5999.03	0.0162	P	1.0
3	☐	500.000	525.231	327487.22	0.8930	P	0.5
4	☐	1250.000	1321.770	797769.45	2.2361	P	1.4
5	☐	2500.000	2567.141	1510560.40	4.3360	M	0.6
6	☐	5000.000	5060.518	2860004.40	8.5402	A	1.2
7	☐	10000.000	9942.723	5282671.62	16.7724	A	0.3
8	☐			10260.26	0.0280	P	0.6

$$y = 0.0017 * x + 0.0074$$

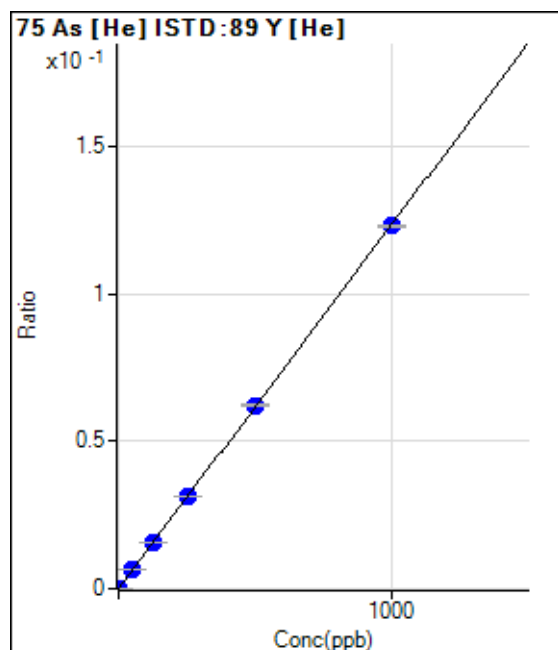
R = 0.9999

DL = 0.4994

BEC = 4.391

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	20.8
2	☐	1.000	1.155	441.12	0.0001	P	1.6
3	☐	50.000	50.874	18508.31	0.0063	P	0.6
4	☐	125.000	125.394	44469.85	0.0155	P	0.7
5	☐	250.000	252.784	87445.96	0.0312	P	0.7
6	☐	500.000	504.528	166464.40	0.0623	P	0.8
7	☐	1000.000	996.947	311674.45	0.1230	P	0.4
8	☐			335.56	0.0001	P	0.6

$$y = 1.2340E-004 * x + 5.5546E-006$$

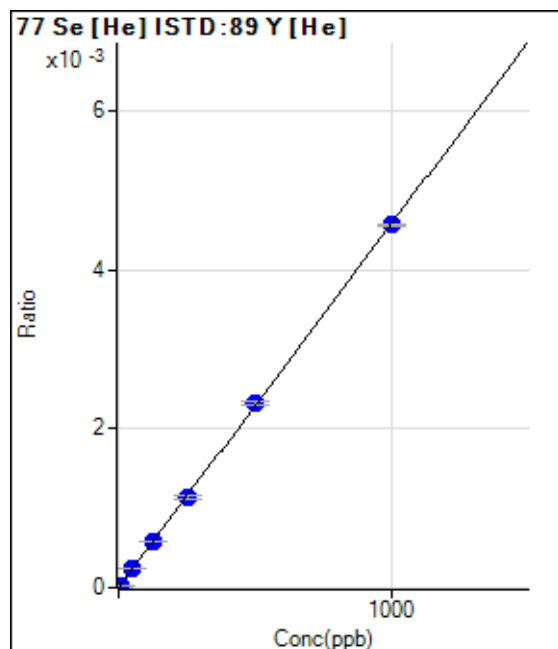
R = 1.0000

DL = 0.02811

BEC = 0.04501

Weight: <None>

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	50.7
2	☐	5.000	5.793	85.56	0.0000	P	28.0
3	☐	50.000	52.638	715.58	0.0002	P	4.0
4	☐	125.000	126.178	1664.56	0.0006	P	2.8
5	☐	250.000	246.699	3167.04	0.0011	P	4.1
6	☐	500.000	507.632	6212.48	0.0023	P	1.9
7	☐	1000.000	996.726	11552.38	0.0046	P	0.3
8	☐			13.34	0.0000	P	44.3

$$y = 4.5729\text{E-}006 * x + 2.2257\text{E-}006$$

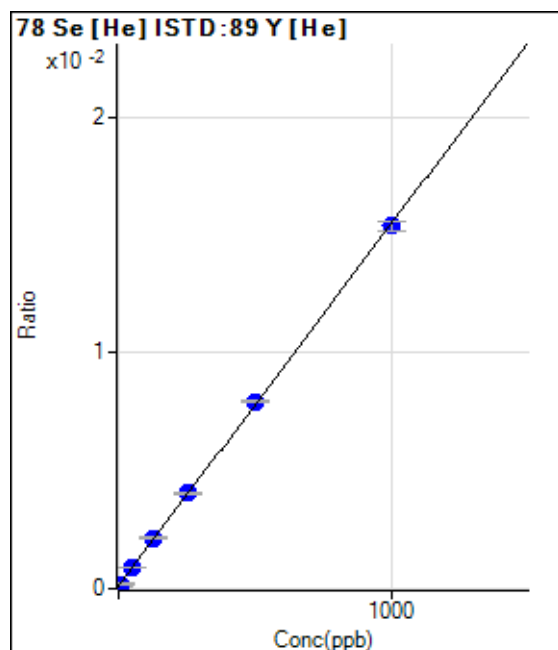
R = 0.9999

DL = 0.7397

BEC = 0.4867

Weight: <None>

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	356.67	0.0001	P	9.0
2	☐	5.000	5.536	606.69	0.0002	P	11.6
3	☐	50.000	51.455	2678.05	0.0009	P	2.2
4	☐	125.000	132.500	6191.35	0.0022	P	3.3
5	☐	250.000	255.925	11352.25	0.0041	P	1.9
6	☐	500.000	508.316	21196.47	0.0079	P	0.8
7	☐	1000.000	993.348	38962.51	0.0154	P	2.4
8	☐			410.01	0.0001	P	12.4

$$y = 1.5364\text{E-}005 * x + 1.1867\text{E-}004$$

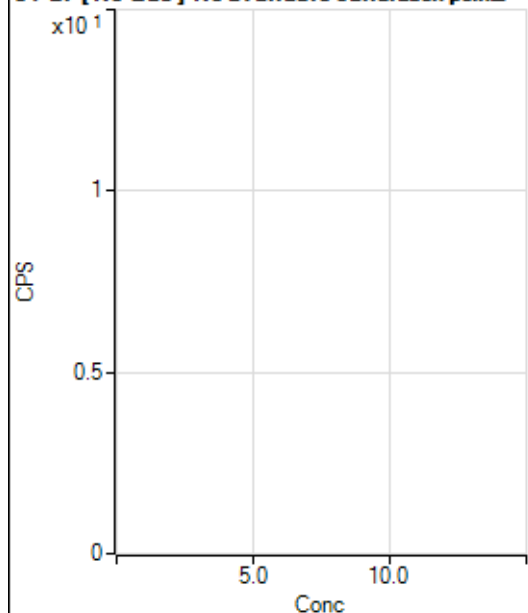
R = 0.9999

DL = 2.074

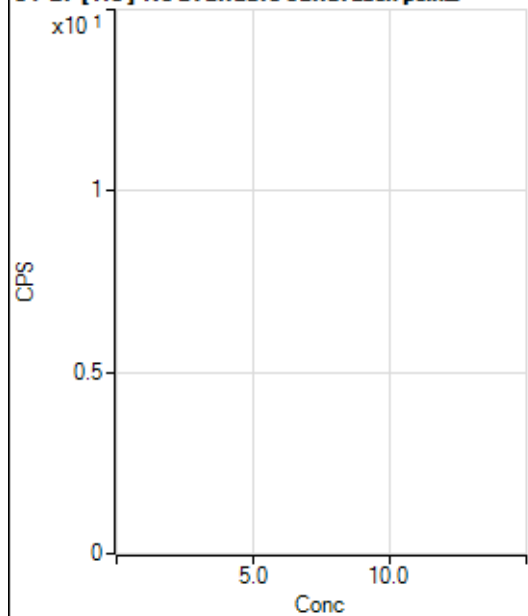
BEC = 7.724

Weight: <None>

Min Conc: <None>

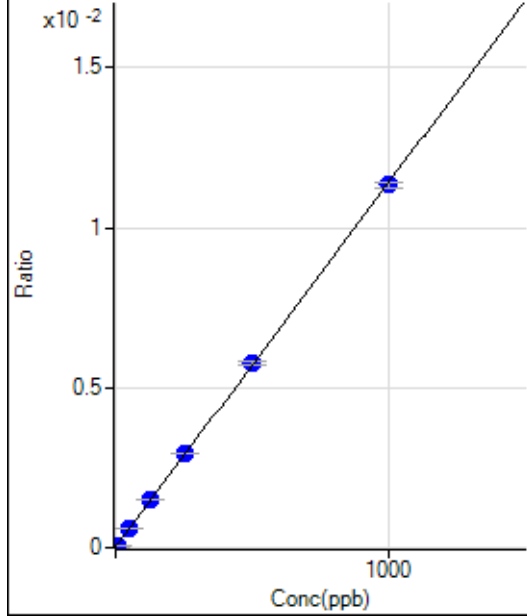
81 Br [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			9771.09		P	1.2
2	☐			9629.88		P	1.1
3	☐			9722.16		P	3.3
4	☐			9340.83		P	1.7
5	☐			9368.63		P	3.2
6	☐			9466.45		P	1.2
7	☐			9453.11		P	2.4
8	☐			9260.77		P	2.2

81 Br [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			204.45		P	13.9
2	☐			224.45		P	6.2
3	☐			193.34		P	10.8
4	☐			200.00		P	14.4
5	☐			200.01		P	7.6
6	☐			227.78		P	4.5
7	☐			250.00		P	8.7
8	☐			215.56		P	14.0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.17	0.0000	P	54.7
2	☐	5.000	5.936	857.74	0.0001	P	6.0
3	☐	50.000	52.562	6438.37	0.0006	P	1.2
4	☐	125.000	131.733	15725.05	0.0015	P	2.2
5	☐	250.000	257.538	29648.33	0.0029	P	1.2
6	☐	500.000	506.077	56145.10	0.0058	P	2.2
7	☐	1000.000	994.103	102748.26	0.0113	P	1.8
8	☐			311.45	0.0000	P	14.5

$$y = 1.1393E-005 * x + 1.2541E-005$$

R = 0.9999

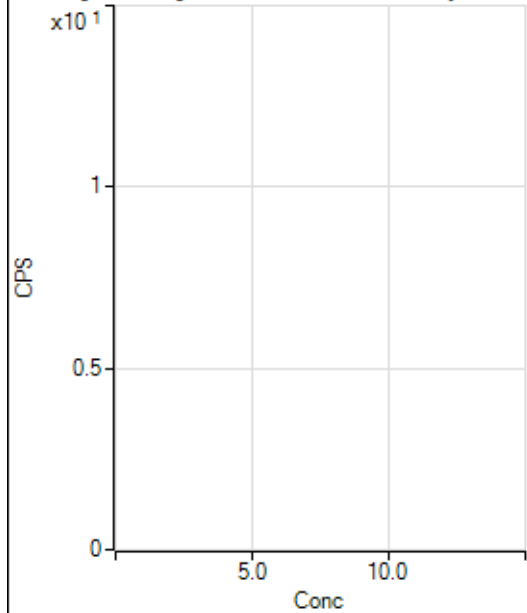
DL = 1.807

BEC = 1.101

Weight: <None>

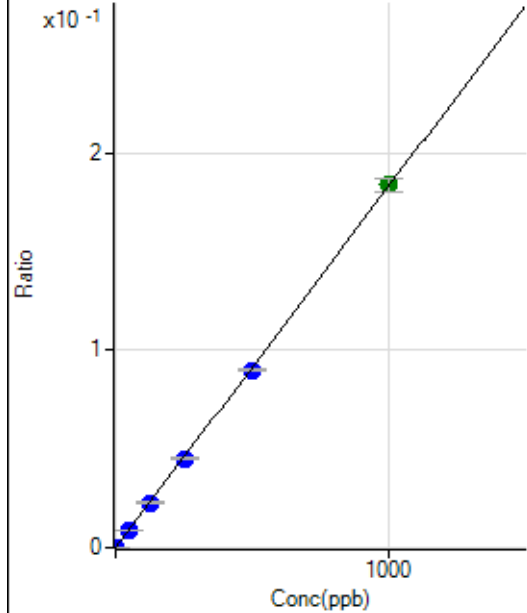
Min Conc: <None>

83 Kr [No Gas] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			514.46		P	8.6
2	☐			415.57		P	6.0
3	☐			456.68		P	5.5
4	☐			504.46		P	8.6
5	☐			514.46		P	4.2
6	☐			482.23		P	11.7
7	☐			508.90		P	13.1
8	☐			473.35		P	9.8

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	772.25	0.0001	P	7.1
2	☐	1.000	0.947	2611.37	0.0002	P	4.0
3	☐	50.000	49.396	95818.17	0.0091	P	1.1
4	☐	125.000	123.838	235930.27	0.0227	P	1.7
5	☐	250.000	246.235	453469.75	0.0451	P	1.9
6	☐	500.000	492.379	875059.08	0.0901	P	2.1
7	☐	1000.000	1004.927	1665009.21	0.1837	A	3.5
8	☐			25462.14	0.0025	P	0.5

$$y = 1.8275E-004 * x + 7.1162E-005$$

$$R = 0.9999$$

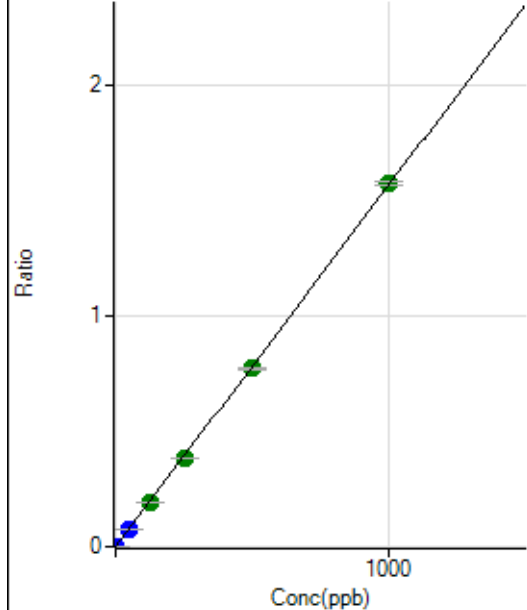
$$DL = 0.08255$$

$$BEC = 0.3894$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	153.34	0.0000	P	11.0
2	☐	1.000	0.999	16878.72	0.0016	P	1.4
3	☐	50.000	50.079	825793.06	0.0784	P	1.2
4	☐	125.000	123.530	2010334.12	0.1934	A	1.2
5	☐	250.000	244.084	3845003.28	0.3821	A	1.5
6	☐	500.000	493.996	7515563.29	0.7734	A	1.5
7	☐	1000.000	1004.661	14253599.93	1.5729	A	1.1
8	☐			216423.17	0.0209	P	0.8

$$y = 0.0016 * x + 1.4122E-005$$

$$R = 1.0000$$

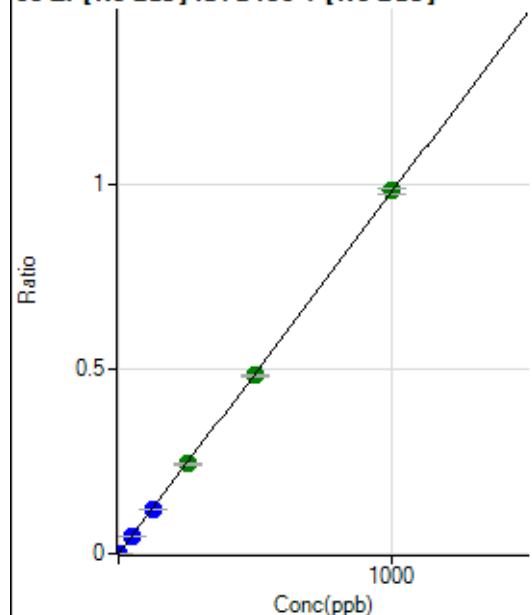
$$DL = 0.002969$$

$$BEC = 0.009021$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	388.90	0.0000	P	24.1
2	☐	1.000	0.985	10658.43	0.0010	P	2.8
3	☐	50.000	48.979	503881.55	0.0478	P	1.4
4	☐	125.000	123.209	1250109.91	0.1203	P	2.2
5	☐	250.000	247.643	2432731.51	0.2418	A	1.2
6	☐	500.000	493.177	4678991.25	0.4814	A	0.9
7	☐	1000.000	1004.276	8884230.77	0.9804	A	1.9
8	☐			10121.36	0.0010	P	3.3

$$y = 9.7615E-004 * x + 3.5870E-005$$

$$R = 1.0000$$

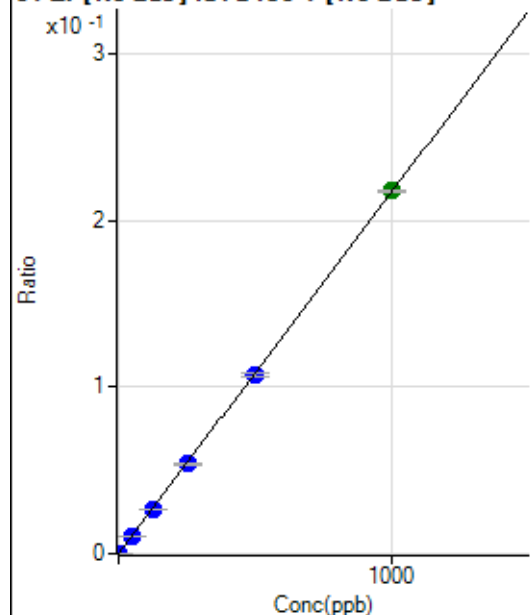
$$DL = 0.02656$$

$$BEC = 0.03675$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67.78	0.0000	P	6.1
2	☐	1.000	0.977	2332.43	0.0002	P	2.1
3	☐	50.000	48.986	111880.52	0.0106	P	1.3
4	☐	125.000	123.507	278274.50	0.0268	P	1.2
5	☐	250.000	247.477	539763.23	0.0536	P	1.7
6	☐	500.000	494.631	1041873.98	0.1072	P	1.6
7	☐	1000.000	1003.553	1971201.78	0.2175	A	0.9
8	☐			2202.41	0.0002	P	4.5

$$y = 2.1675E-004 * x + 6.2444E-006$$

$$R = 1.0000$$

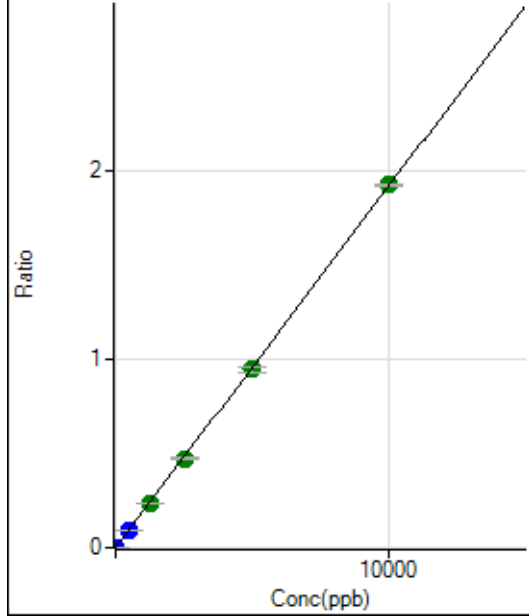
$$DL = 0.005236$$

$$BEC = 0.02881$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	216.67	0.0000	P	20.2
2	☐	5.000	6.023	12561.04	0.0012	P	1.0
3	☐	500.000	501.139	1011970.06	0.0961	P	0.8
4	☐	1250.000	1236.734	2464156.72	0.2371	A	1.7
5	☐	2500.000	2474.640	4773219.16	0.4744	A	1.9
6	☐	5000.000	4927.757	9178016.53	0.9447	A	3.4
7	☐	10000.000	10044.063	17449278.35	1.9255	A	0.8
8	☐			9259.68	0.0009	P	4.6

$$y = 1.9170E-004 * x + 1.9942E-005$$

R = 1.0000

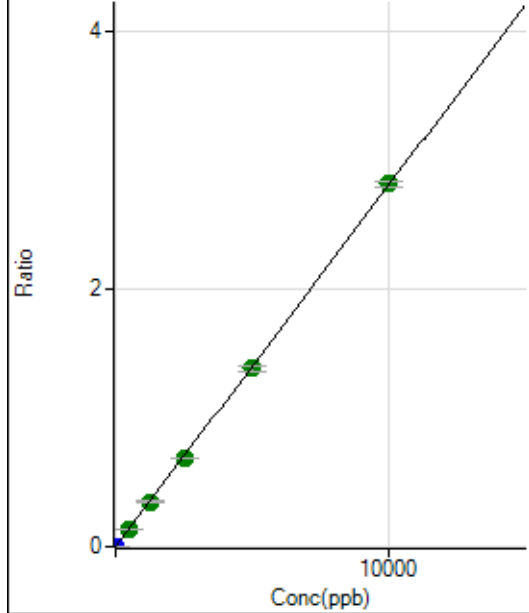
DL = 0.06315

BEC = 0.104

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0000	P	14.4
2	☐	5.000	5.026	15274.75	0.0014	P	1.5
3	☐	500.000	489.833	1446839.13	0.1374	A	1.1
4	☐	1250.000	1243.507	3623703.25	0.3487	A	2.4
5	☐	2500.000	2449.829	6912995.94	0.6870	A	1.2
6	☐	5000.000	4934.284	13445323.13	1.3838	A	2.5
7	☐	10000.000	10046.721	25532871.28	2.8175	A	1.6
8	☐			9723.31	0.0009	P	6.6

$$y = 2.8043E-004 * x + 1.9041E-005$$

R = 1.0000

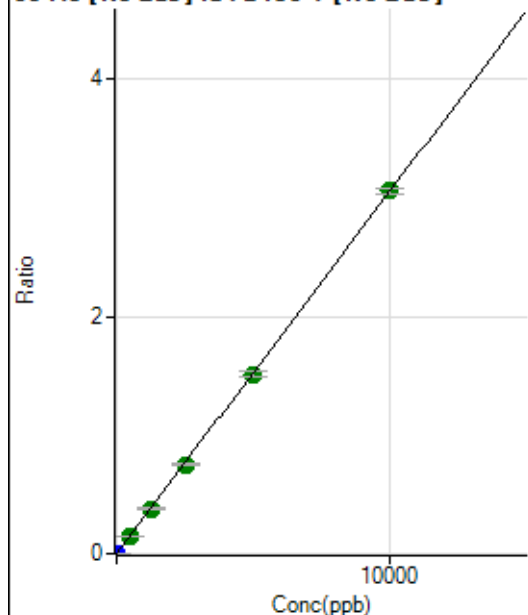
DL = 0.02943

BEC = 0.0679

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	234.45	0.0000	P	4.0
2	☐	5.000	5.167	17091.18	0.0016	P	0.4
3	☐	500.000	491.701	1580504.42	0.1501	A	0.2
4	☐	1250.000	1242.145	3939476.22	0.3791	A	1.5
5	☐	2500.000	2458.668	7549164.40	0.7503	A	1.5
6	☐	5000.000	4968.557	14732357.56	1.5162	A	2.3
7	☐	10000.000	10027.451	27729462.64	3.0599	A	1.6
8	☐			14072.47	0.0014	P	2.5

$$y = 3.0515E-004 * x + 2.1593E-005$$

R = 1.0000

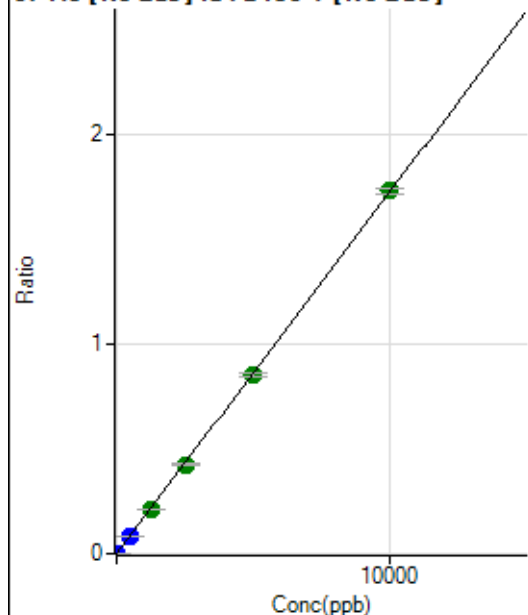
DL = 0.008432

BEC = 0.07076

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	137.78	0.0000	P	11.6
2	☐	5.000	4.993	9323.06	0.0009	P	0.9
3	☐	500.000	500.937	908108.39	0.0862	P	0.6
4	☐	1250.000	1238.864	2215906.75	0.2132	A	1.3
5	☐	2500.000	2459.630	4258985.04	0.4233	A	2.4
6	☐	5000.000	4947.646	8273918.14	0.8515	A	2.4
7	☐	10000.000	10037.615	15655444.77	1.7275	A	1.8
8	☐			6059.10	0.0006	P	5.8

$$y = 1.7210E-004 * x + 1.2694E-005$$

R = 1.0000

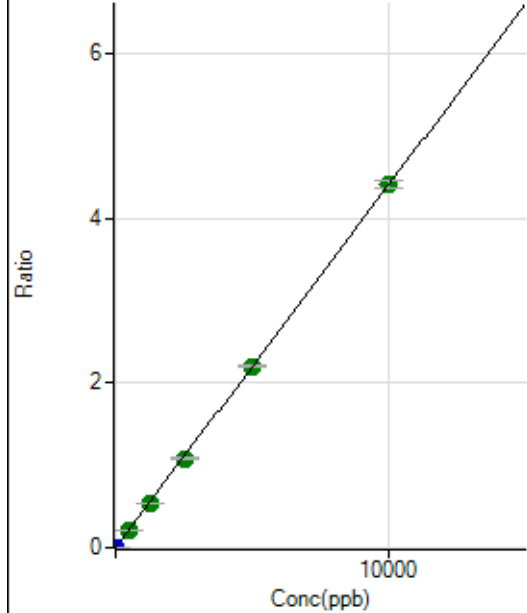
DL = 0.02562

BEC = 0.07376

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.00	0.0000	P	20.2
2	☐	5.000	5.104	24293.64	0.0023	P	2.1
3	☐	500.000	490.325	2272444.18	0.2158	A	1.6
4	☐	1250.000	1233.460	5640028.25	0.5428	A	2.1
5	☐	2500.000	2463.950	10908395.95	1.0842	A	1.9
6	☐	5000.000	5005.326	21403241.49	2.2024	A	1.2
7	☐	10000.000	10008.901	39911463.29	4.4041	A	2.1
8	☐			15365.96	0.0015	P	8.1

$$y = 4.4001\text{E-}004 * x + 2.6683\text{E-}005$$

$$R = 1.0000$$

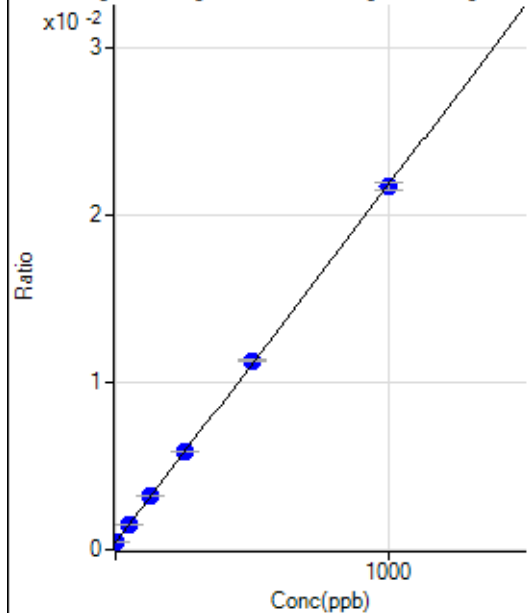
$$DL = 0.03672$$

$$BEC = 0.06064$$

Weight: <None>

Min Conc: <None>

106 Cd [No Gas] ISTD: 159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2978.11	0.0004	P	1.9
2	☐	1.000	0.050	2979.23	0.0004	P	6.1
3	☐	50.000	51.508	10619.52	0.0015	P	4.0
4	☐	125.000	131.335	22287.20	0.0032	P	1.3
5	☐	250.000	255.023	39775.56	0.0059	P	0.6
6	☐	500.000	507.577	73917.42	0.0113	P	0.9
7	☐	1000.000	994.089	134138.79	0.0217	P	2.0
8	☐			3029.24	0.0004	P	6.3

$$y = 2.1362\text{E-}005 * x + 4.1709\text{E-}004$$

$$R = 0.9999$$

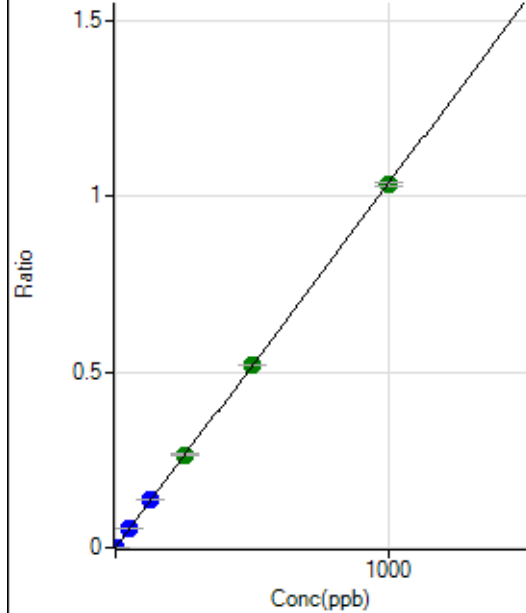
$$DL = 1.13$$

$$BEC = 19.52$$

Weight: <None>

Min Conc: <None>

107 Ag [No Gas] ISTD : 159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	87.78	0.0000	P	37.0
2	☐	1.000	1.123	8376.92	0.0012	P	1.1
3	☐	50.000	51.793	375976.89	0.0537	P	2.5
4	☐	125.000	130.425	935291.98	0.1352	P	0.9
5	☐	250.000	255.707	1798079.37	0.2651	A	2.3
6	☐	500.000	503.049	3424028.32	0.5216	A	0.1
7	☐	1000.000	996.281	6399008.45	1.0330	A	1.2
8	☐			1959.04	0.0003	P	6.6

$$y = 0.0010 * x + 1.2341E-005$$

$$R = 1.0000$$

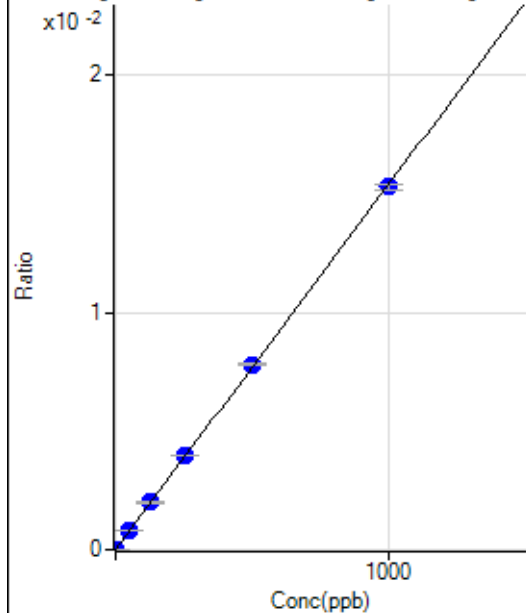
$$DL = 0.01321$$

$$BEC = 0.0119$$

Weight: <None>

Min Conc: <None>

108 Cd [No Gas] ISTD : 159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11.11	0.0000	P	61.5
2	☐	1.000	0.882	107.78	0.0000	P	21.1
3	☐	50.000	51.901	5608.92	0.0008	P	0.2
4	☐	125.000	129.566	13812.25	0.0020	P	1.7
5	☐	250.000	257.236	26881.71	0.0040	P	0.7
6	☐	500.000	507.967	51372.99	0.0078	P	0.9
7	☐	1000.000	993.542	94813.62	0.0153	P	1.3
8	☐			86.67	0.0000	P	26.0

$$y = 1.5403E-005 * x + 1.5447E-006$$

$$R = 0.9999$$

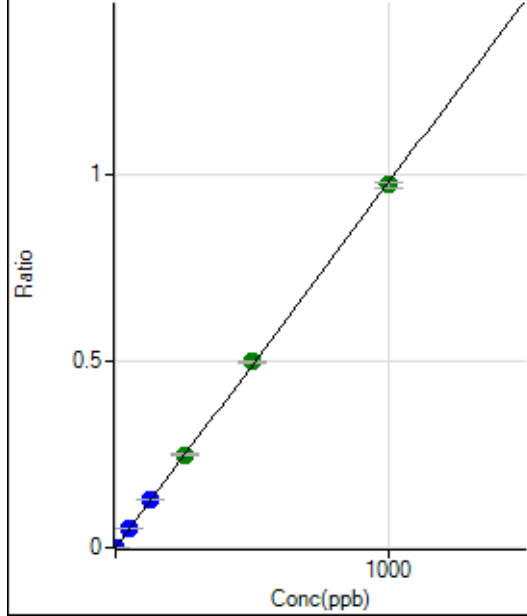
$$DL = 0.1849$$

$$BEC = 0.1003$$

Weight: <None>

Min Conc: <None>

109 Ag [No Gas] ISTD:159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53.33	0.0000	P	16.8
2	☐	1.000	1.124	7871.10	0.0011	P	2.8
3	☐	50.000	52.246	357316.14	0.0510	P	2.7
4	☐	125.000	130.438	881331.45	0.1274	P	1.1
5	☐	250.000	255.420	1692220.29	0.2495	A	2.0
6	☐	500.000	508.441	3260734.29	0.4967	A	1.0
7	☐	1000.000	993.632	6013570.60	0.9707	A	1.7
8	☐			1831.25	0.0003	P	6.2

$$y = 9.7694E-004 * x + 7.4512E-006$$

$$R = 0.9999$$

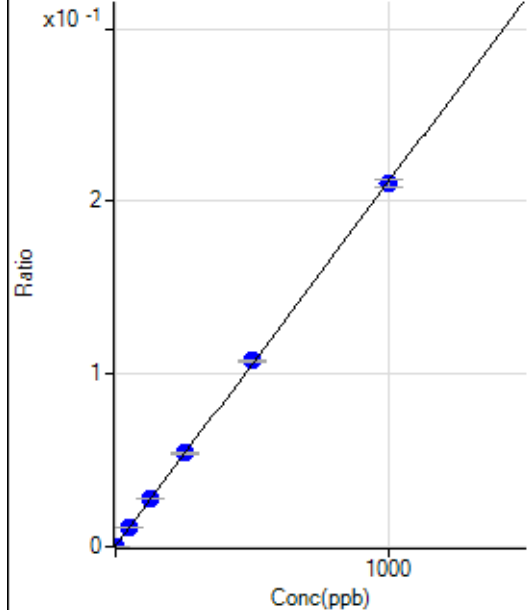
$$DL = 0.003851$$

$$BEC = 0.007627$$

Weight: <None>

Min Conc: <None>

111 Cd [No Gas] ISTD:159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2088.01	0.0003	P	1.9
2	☐	1.000	0.881	3407.88	0.0005	P	4.7
3	☐	50.000	51.568	78214.78	0.0112	P	2.3
4	☐	125.000	130.381	192282.20	0.0278	P	1.0
5	☐	250.000	254.654	366388.96	0.0540	P	0.7
6	☐	500.000	507.982	705536.87	0.1075	P	1.2
7	☐	1000.000	994.095	1301238.24	0.2101	P	2.2
8	☐			2645.38	0.0004	P	5.3

$$y = 2.1100E-004 * x + 2.9244E-004$$

$$R = 0.9999$$

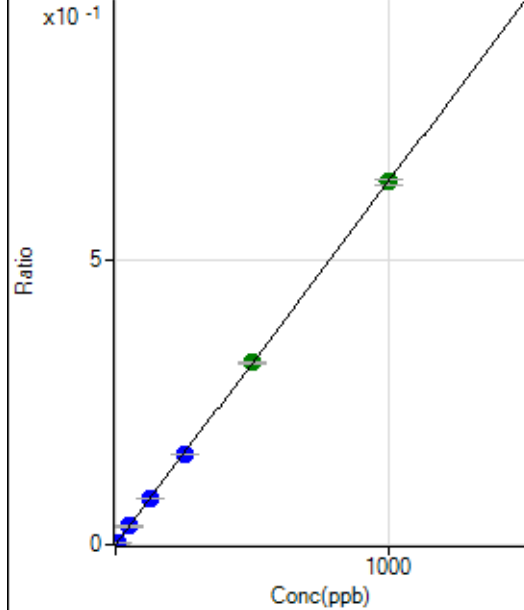
$$DL = 0.08096$$

$$BEC = 1.386$$

Weight: <None>

Min Conc: <None>

118 Sn [No Gas] ISTD: 159 Tb [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	791.14	0.0001	P	2.0
2	☐	5.000	5.165	24297.28	0.0034	P	1.4
3	☐	50.000	50.440	226461.13	0.0324	P	2.4
4	☐	125.000	125.916	557345.23	0.0806	P	1.3
5	☐	250.000	249.255	1081202.00	0.1594	P	0.7
6	☐	500.000	501.504	2105031.76	0.3207	A	0.7
7	☐	1000.000	999.297	3957447.13	0.6388	A	1.9
8	☐			3277.07	0.0005	P	6.1

$$y = 6.3917E-004 * x + 1.1076E-004$$

$$R = 1.0000$$

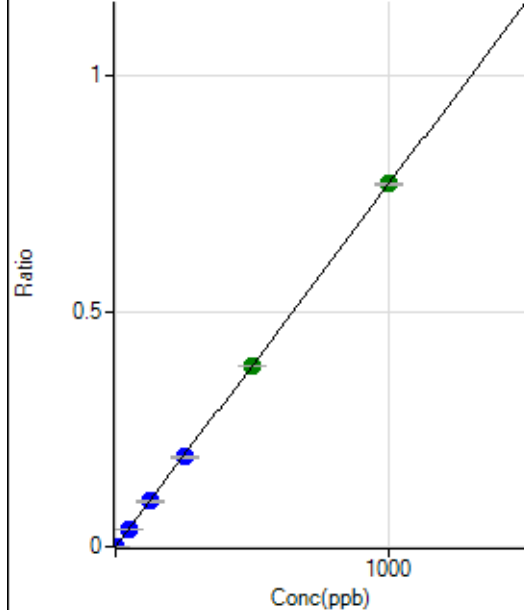
$$DL = 0.01065$$

$$BEC = 0.1733$$

Weight: <None>

Min Conc: <None>

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	18.8
2	☐	2.000	2.087	11475.77	0.0016	P	1.5
3	☐	50.000	49.660	267365.76	0.0382	P	2.9
4	☐	125.000	125.128	665590.65	0.0962	P	0.8
5	☐	250.000	247.571	1291296.56	0.1904	P	1.0
6	☐	500.000	498.625	2517524.01	0.3835	A	0.2
7	☐	1000.000	1001.296	4770491.00	0.7701	A	0.4
8	☐			5179.87	0.0007	P	2.7

$$y = 7.6909E-004 * x + 6.0552E-006$$

$$R = 1.0000$$

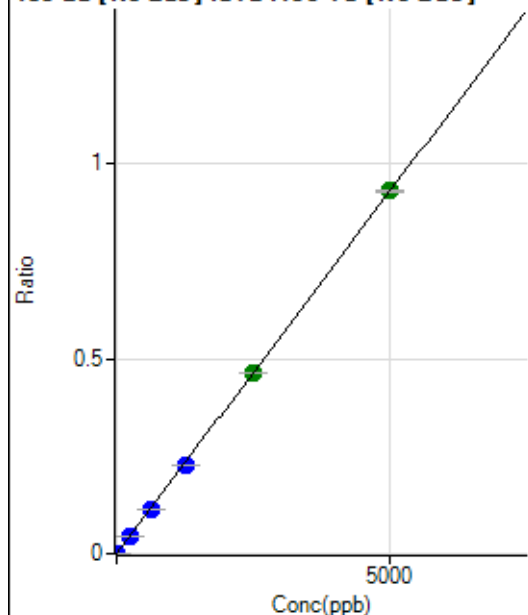
$$DL = 0.004452$$

$$BEC = 0.007873$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	25.4
2	☐	10.000	9.939	13162.85	0.0018	P	1.3
3	☐	250.000	245.743	319125.20	0.0456	P	1.4
4	☐	625.000	612.414	785553.77	0.1136	P	1.2
5	☐	1250.000	1215.877	1529372.27	0.2255	P	1.1
6	☐	2500.000	2492.374	3034664.99	0.4623	A	0.1
7	☐	5000.000	5014.130	5761073.73	0.9300	A	0.7
8	☐			10784.16	0.0015	P	4.1

$$y = 1.8547E-004 * x + 5.1179E-006$$

R = 1.0000

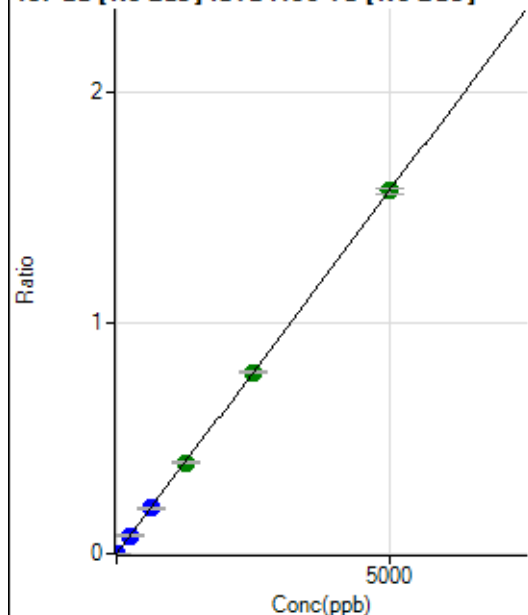
DL = 0.02101

BEC = 0.02759

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	22.3
2	☐	10.000	10.192	22904.12	0.0032	P	0.7
3	☐	250.000	249.000	549122.42	0.0784	P	2.3
4	☐	625.000	624.462	1360490.55	0.1967	P	0.9
5	☐	1250.000	1257.571	2686739.60	0.3962	A	1.1
6	☐	2500.000	2499.275	5168279.96	0.7873	A	1.0
7	☐	5000.000	4998.587	9754495.76	1.5746	A	1.7
8	☐			18434.28	0.0026	P	2.2

$$y = 3.1502E-004 * x + 5.6024E-006$$

R = 1.0000

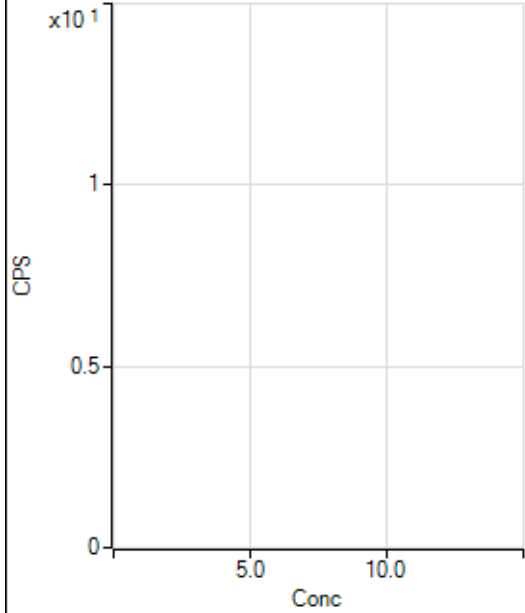
DL = 0.01188

BEC = 0.01778

Weight: <None>

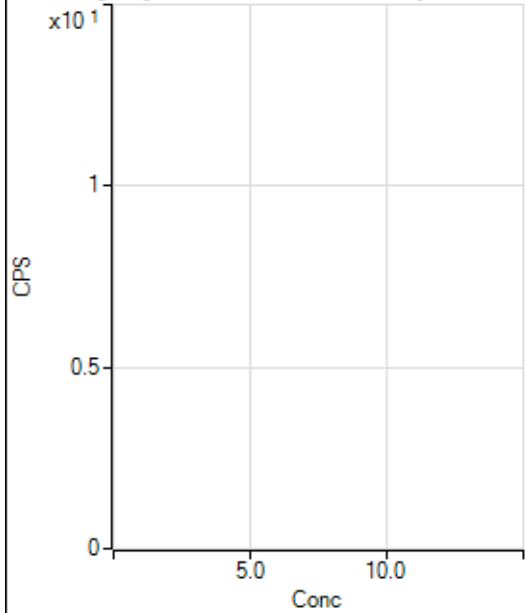
Min Conc: <None>

150 Nd [No Gas] No available calibration points



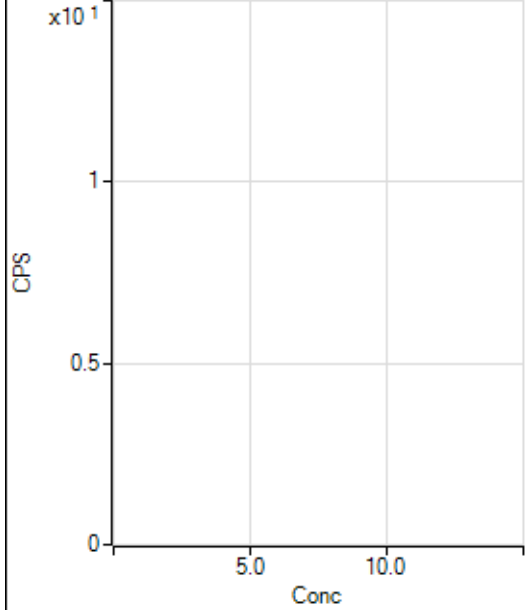
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			7.78		P	24.7
2	☐			7.78		P	137.
3	☐			16.66		P	34.6
4	☐			42.22		P	31.9
5	☐			65.55		P	40.8
6	☐			105.56		P	10.2
7	☐			207.78		P	17.2
8	☐			152.23		P	9.9

150 Nd [He] No available calibration points



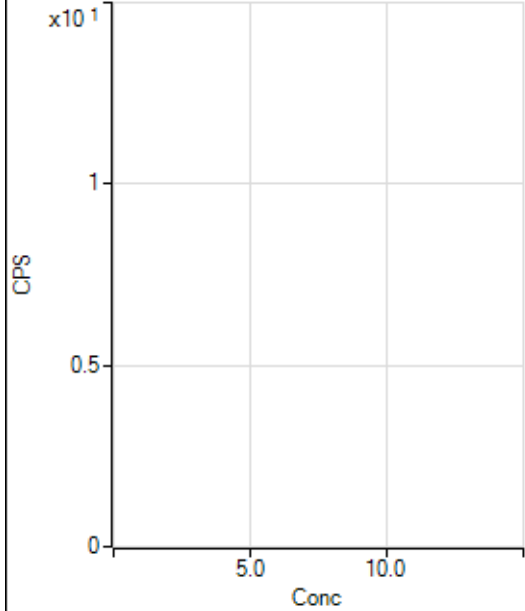
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			0.00		P	
2	☐			2.22		P	173.
3	☐			2.22		P	173.
4	☐			10.00		P	33.3
5	☐			33.33		P	52.0
6	☐			36.67		P	24.1
7	☐			92.23		P	20.6
8	☐			94.44		P	30.4

156 Dy [No Gas] No available calibration points



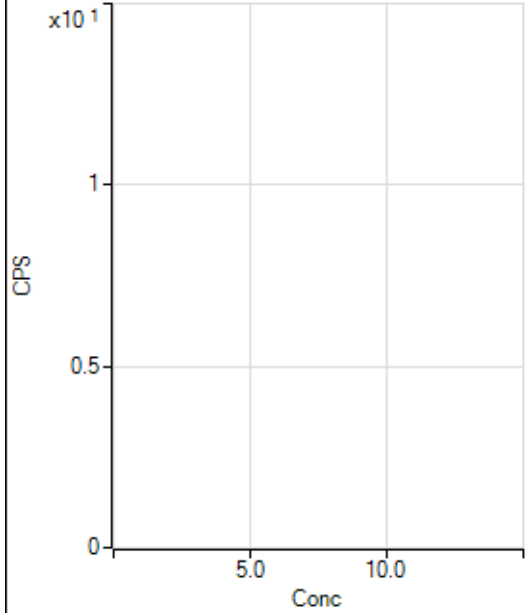
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			4.44		P	43.4
2	☐			8.89		P	43.3
3	☐			17.78		P	10.8
4	☐			18.89		P	51.0
5	☐			44.45		P	24.1
6	☐			76.67		P	18.9
7	☐			120.00		P	5.6
8	☐			308.89		P	7.6

156 Dy [He] No available calibration points



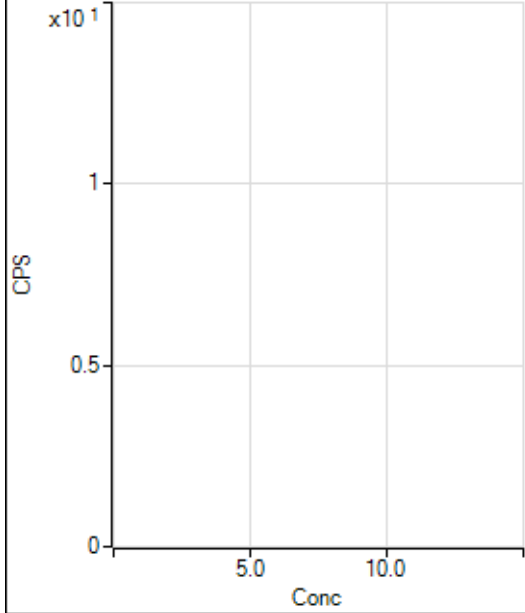
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			5.56		P	34.7
2	☐			3.33		P	100.
3	☐			32.22		P	46.6
4	☐			62.22		P	34.4
5	☐			126.67		P	10.5
6	☐			228.90		P	13.5
7	☐			408.90		P	14.4
8	☐			313.34		P	5.3

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



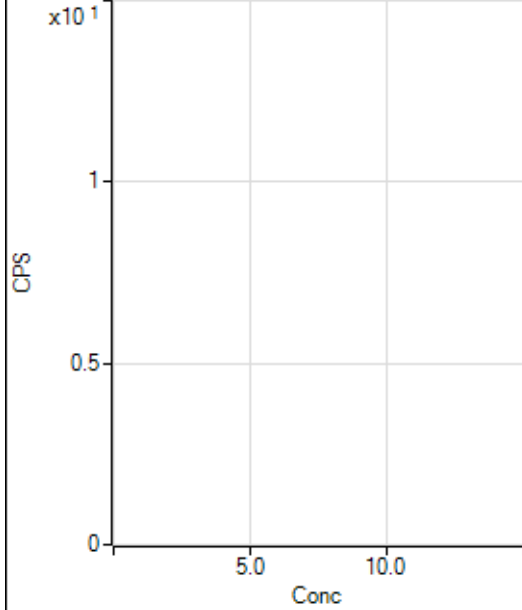
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			53.33		P	21.7
2	☐			63.33		P	10.5
3	☐			72.22		P	11.6
4	☐			80.00		P	34.1
5	☐			67.78		P	11.4
6	☐			96.67		P	20.7
7	☐			118.89		P	9.0
8	☐			338.89		P	6.9

160 Gd [He] No available calibration points



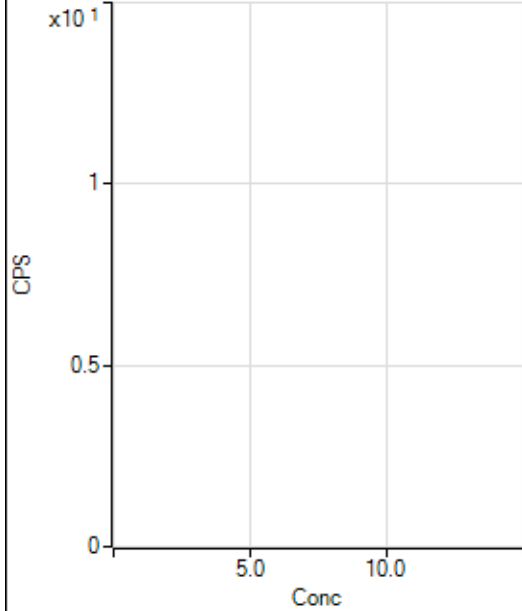
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			431.12		P	5.6
2	☐			466.68		P	10.6
3	☐			481.12		P	4.5
4	☐			397.79		P	7.9
5	☐			440.01		P	6.6
6	☐			437.79		P	11.0
7	☐			463.35		P	7.5
8	☐			675.58		P	6.7

164 Er [No Gas] No available calibration points



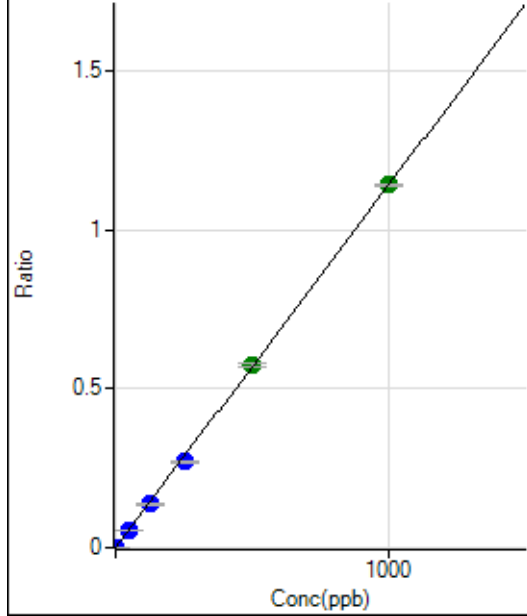
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			60.00		P	20.0
2	☐			46.67		P	18.9
3	☐			56.67		P	11.8
4	☐			73.33		P	16.4
5	☐			80.00		P	15.0
6	☐			148.89		P	8.5
7	☐			207.78		P	9.7
8	☐			597.80		P	7.3

164 Er [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			38.89		P	40.5
2	☐			36.67		P	48.1
3	☐			46.67		P	25.8
4	☐			55.56		P	29.6
5	☐			66.67		P	22.9
6	☐			95.56		P	17.2
7	☐			145.56		P	18.5
8	☐			494.46		P	10.3

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	110.00	0.0000	P	12.0
2	☐	1.000	0.997	5124.36	0.0012	P	4.1
3	☐	50.000	47.914	240590.32	0.0547	P	0.4
4	☐	125.000	119.664	599141.93	0.1366	P	1.0
5	☐	250.000	237.852	1169827.12	0.2716	P	1.5
6	☐	500.000	505.261	2400888.26	0.5769	A	1.9
7	☐	1000.000	1001.178	4494200.18	1.1431	A	0.3
8	☐			5802.41	0.0014	P	4.6

$$y = 0.0011 * x + 2.4122E-005$$

$$R = 0.9999$$

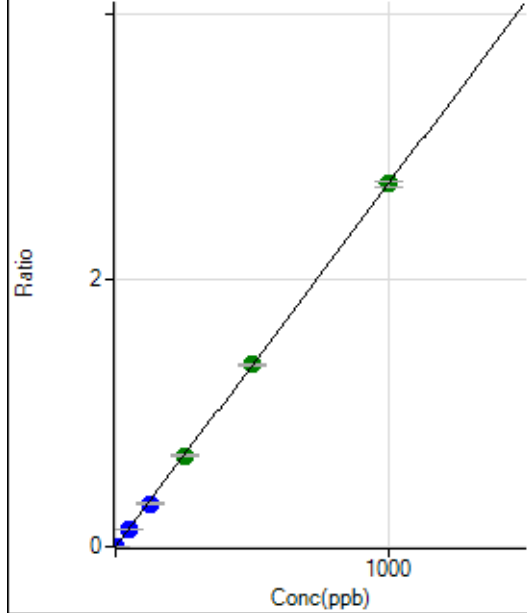
$$DL = 0.007615$$

$$BEC = 0.02113$$

Weight: <None>

Min Conc: <None>

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	257.78	0.0001	P	2.8
2	☐	1.000	1.035	12671.55	0.0029	P	0.6
3	☐	50.000	47.760	572122.28	0.1301	P	0.9
4	☐	125.000	119.043	1421940.59	0.3243	P	1.0
5	☐	250.000	250.811	2943199.61	0.6832	A	1.0
6	☐	500.000	501.628	5687200.89	1.3664	A	1.1
7	☐	1000.000	999.840	10707830.12	2.7234	A	1.2
8	☐			13717.04	0.0033	P	3.7

$$y = 0.0027 * x + 5.6461E-005$$

$$R = 1.0000$$

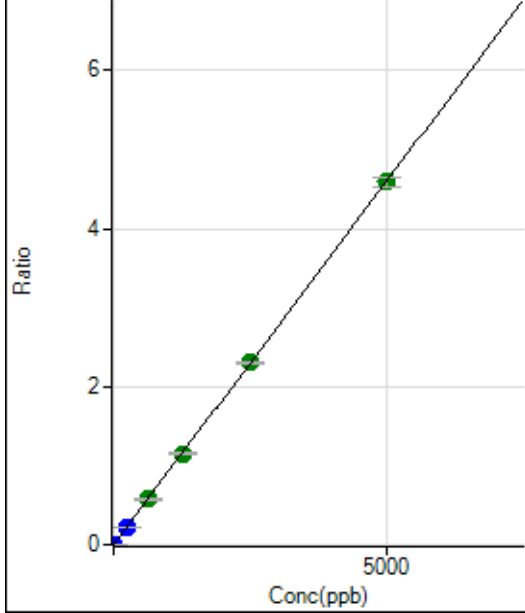
$$DL = 0.001754$$

$$BEC = 0.02073$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	423.34	0.0001	P	12.9
2	☐	1.000	0.860	3890.60	0.0009	P	3.7
3	☐	250.000	242.840	981881.19	0.2234	P	0.9
4	☐	625.000	622.175	2508631.11	0.5721	A	1.9
5	☐	1250.000	1250.753	4953492.08	1.1500	A	1.7
6	☐	2500.000	2513.907	9619990.20	2.3113	A	1.0
7	☐	5000.000	4993.570	18050295.98	4.5911	A	2.6
8	☐			6386.02	0.0015	P	8.9

$$y = 9.1938\text{E-}004 * x + 9.2880\text{E-}005$$

$$R = 1.0000$$

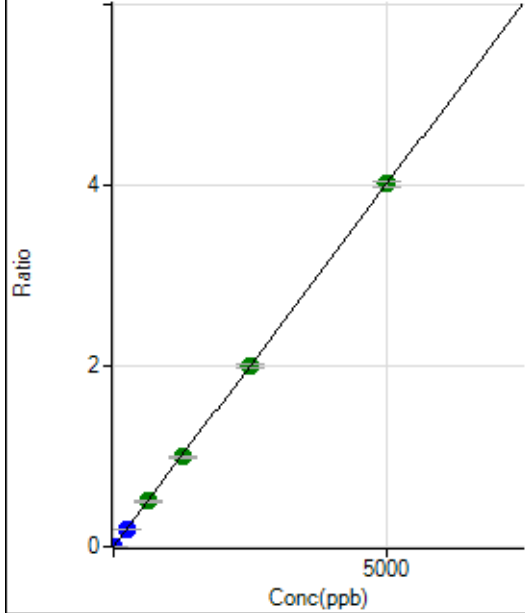
$$DL = 0.03922$$

$$BEC = 0.101$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	356.68	0.0001	P	4.0
2	☐	1.000	0.852	3351.56	0.0008	P	3.1
3	☐	250.000	236.838	835137.46	0.1900	P	0.9
4	☐	625.000	624.325	2195178.56	0.5007	A	0.8
5	☐	1250.000	1241.545	4287799.42	0.9955	A	2.4
6	☐	2500.000	2492.316	8316893.62	1.9984	A	2.1
7	☐	5000.000	5006.698	15783346.57	4.0144	A	1.4
8	☐			5531.19	0.0013	P	6.5

$$y = 8.0179\text{E-}004 * x + 7.8111\text{E-}005$$

$$R = 1.0000$$

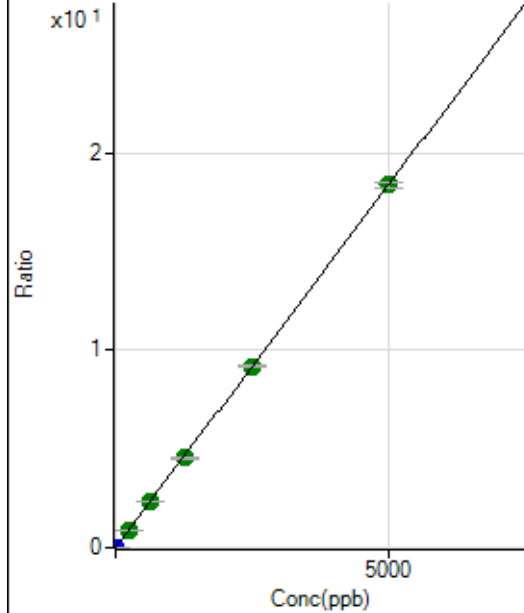
$$DL = 0.01155$$

$$BEC = 0.09742$$

Weight: <None>

Min Conc: <None>

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1691.17	0.0004	P	4.6
2	☐	1.000	0.863	15599.26	0.0035	P	1.4
3	☐	250.000	243.281	3929212.40	0.8938	A	1.5
4	☐	625.000	623.894	10048587.54	2.2916	A	0.4
5	☐	1250.000	1243.512	19672060.37	4.5672	A	1.9
6	☐	2500.000	2503.233	38263426.44	9.1936	A	1.4
7	☐	5000.000	5000.480	72203523.65	18.3648	A	1.5
8	☐			25439.62	0.0061	P	7.7

$$y = 0.0037 * x + 3.7069E-004$$

$$R = 1.0000$$

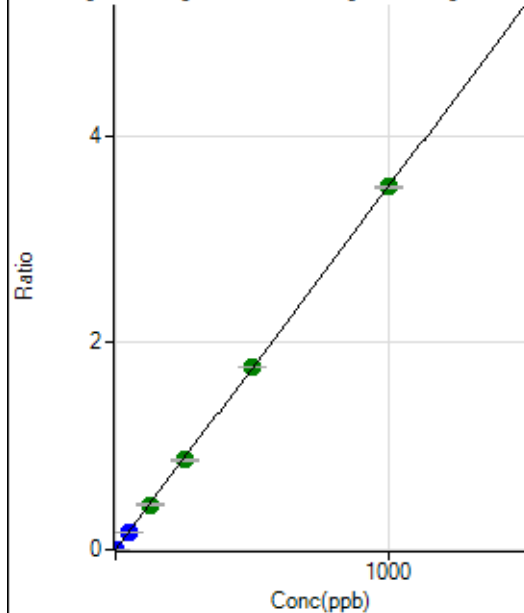
$$DL = 0.01378$$

$$BEC = 0.1009$$

Weight: <None>

Min Conc: <None>

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31.11	0.0000	P	25.5
2	☐	1.000	0.966	14974.12	0.0034	P	1.3
3	☐	50.000	46.152	712357.76	0.1620	P	1.2
4	☐	125.000	123.384	1899179.75	0.4332	A	2.3
5	☐	250.000	247.978	3749913.59	0.8707	A	2.5
6	☐	500.000	503.426	7356935.17	1.7676	A	0.7
7	☐	1000.000	999.187	13793395.91	3.5082	A	0.8
8	☐			1667.90	0.0004	P	23.5

$$y = 0.0035 * x + 6.8012E-006$$

$$R = 1.0000$$

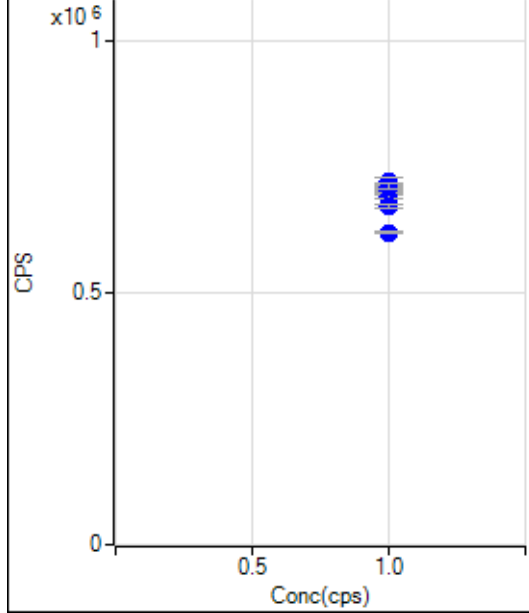
$$DL = 0.001482$$

$$BEC = 0.001937$$

Weight: <None>

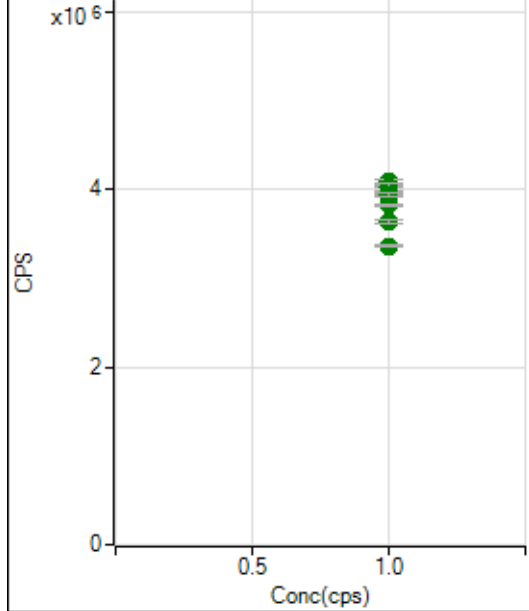
Min Conc: <None>

6 Li (ISTD) [No Gas]



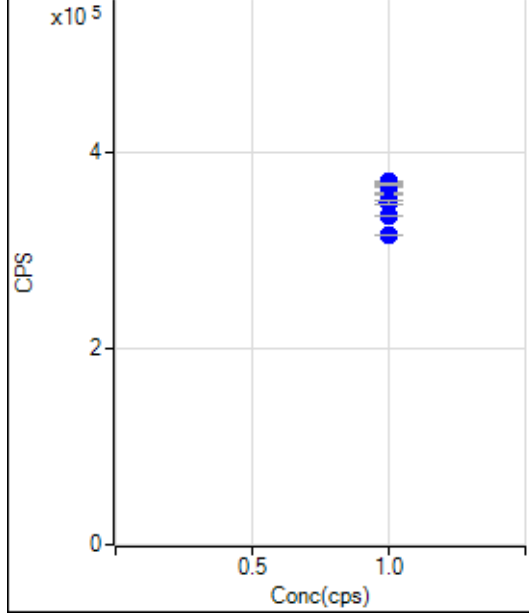
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		719010.30		P	2.1
2	☐	1.000		702904.49		P	1.7
3	☐	1.000		696778.59		P	1.1
4	☐	1.000		700217.06		P	1.6
5	☐	1.000		691631.78		P	1.5
6	☐	1.000		669524.17		P	1.1
7	☐	1.000		618608.25		P	0.2
8	☐	1.000		710372.26		P	1.5

45 Sc (ISTD) [No Gas]



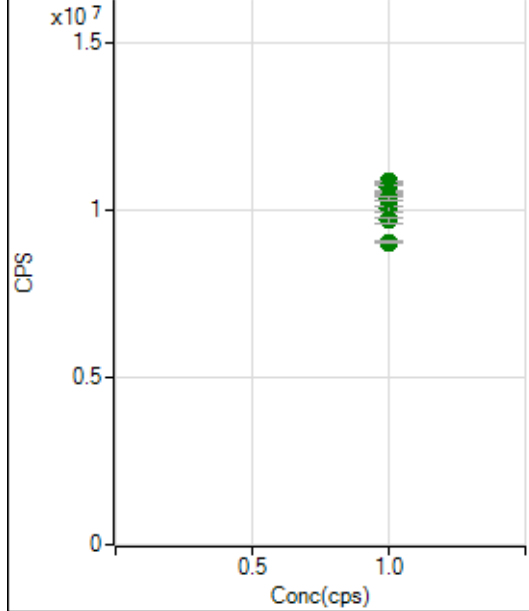
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4081684.91		A	1.9
2	☐	1.000		4066605.77		A	2.5
3	☐	1.000		4024895.46		A	2.5
4	☐	1.000		3921453.45		A	0.7
5	☐	1.000		3821748.52		A	0.5
6	☐	1.000		3639356.34		A	1.2
7	☐	1.000		3363967.21		A	0.5
8	☐	1.000		3941652.27		A	1.0

45 Sc (ISTD) [He]



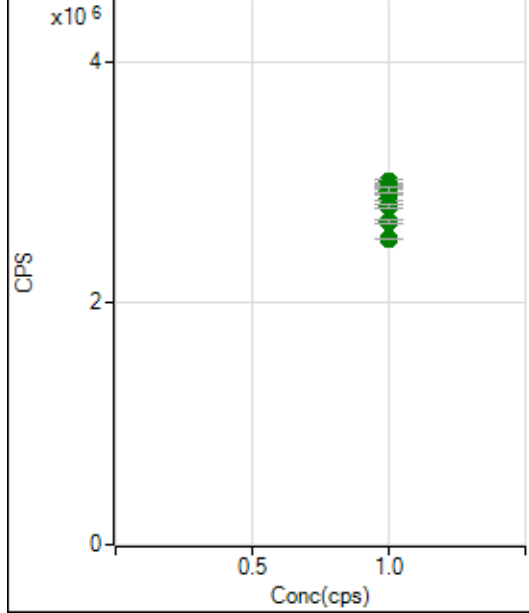
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		368634.43		P	0.7
2	☐	1.000		369452.25		P	0.3
3	☐	1.000		366724.40		P	0.9
4	☐	1.000		356750.95		P	0.4
5	☐	1.000		348372.94		P	0.8
6	☐	1.000		334876.59		P	0.6
7	☐	1.000		314960.07		P	0.3
8	☐	1.000		367069.01		P	0.6

89 Y (ISTD) [No Gas]



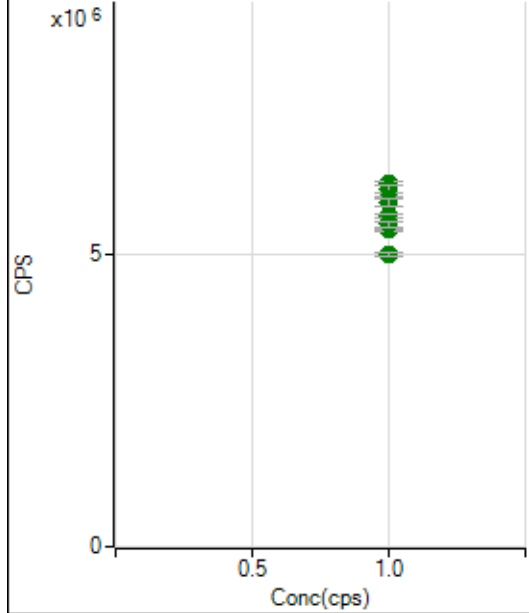
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		10855958.17		A	0.9
2	☐	1.000		10693204.56		A	1.6
3	☐	1.000		10532439.50		A	1.5
4	☐	1.000		10394453.94		A	2.2
5	☐	1.000		10063349.43		A	1.6
6	☐	1.000		9719426.10		A	1.8
7	☐	1.000		9062096.88		A	0.3
8	☐	1.000		10347113.04		A	1.3

89 Y (ISTD) [He]



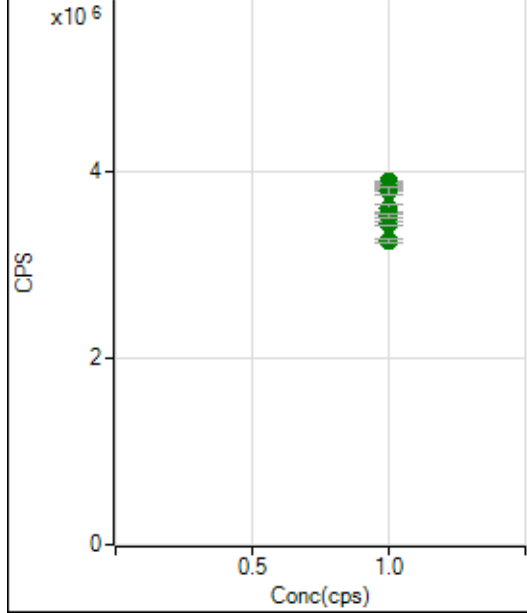
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3004099.88		A	0.9
2	☐	1.000		2978185.20		A	0.4
3	☐	1.000		2945581.14		A	0.4
4	☐	1.000		2872814.47		A	1.8
5	☐	1.000		2802976.73		A	1.6
6	☐	1.000		2673484.47		A	0.9
7	☐	1.000		2533330.76		A	0.2
8	☐	1.000		2937642.11		A	1.7

103 Rh (ISTD) [No Gas]



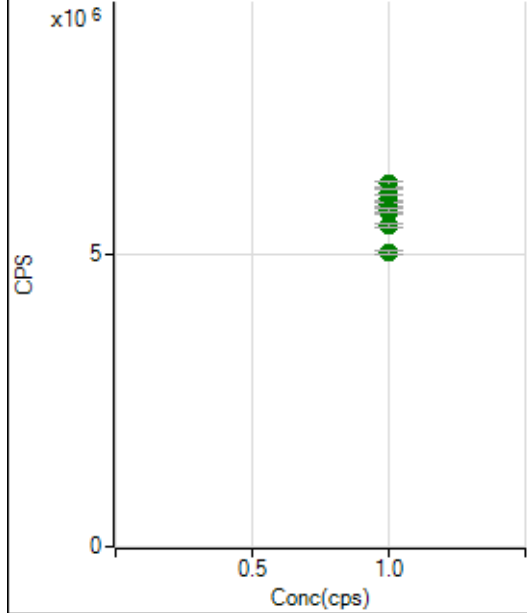
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6207496.99		A	1.1
2	☐	1.000		6117666.51		A	1.8
3	☐	1.000		5968732.83		A	1.0
4	☐	1.000		5888312.55		A	1.8
5	☐	1.000		5656765.33		A	0.7
6	☐	1.000		5415579.92		A	0.2
7	☐	1.000		4998985.66		A	1.4
8	☐	1.000		5514112.69		A	2.1

103 Rh (ISTD) [He]



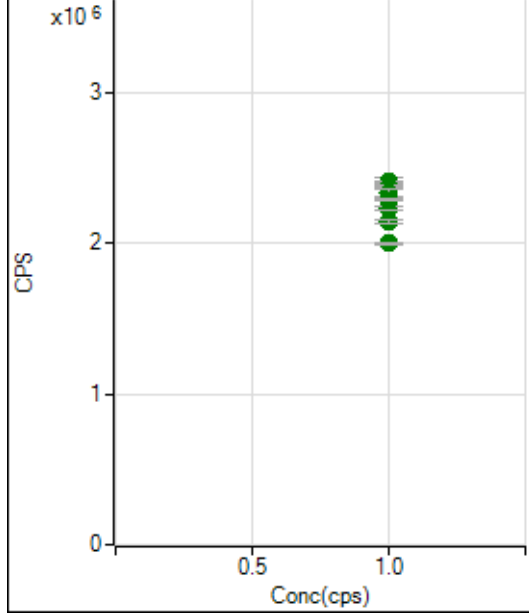
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3896832.17		A	0.5
2	☐	1.000		3881825.36		A	0.6
3	☐	1.000		3815505.26		A	0.4
4	☐	1.000		3801597.93		A	1.8
5	☐	1.000		3607550.23		A	2.4
6	☐	1.000		3452692.20		A	1.5
7	☐	1.000		3258895.99		A	1.1
8	☐	1.000		3533375.82		A	0.8

115 In (ISTD) [No Gas]



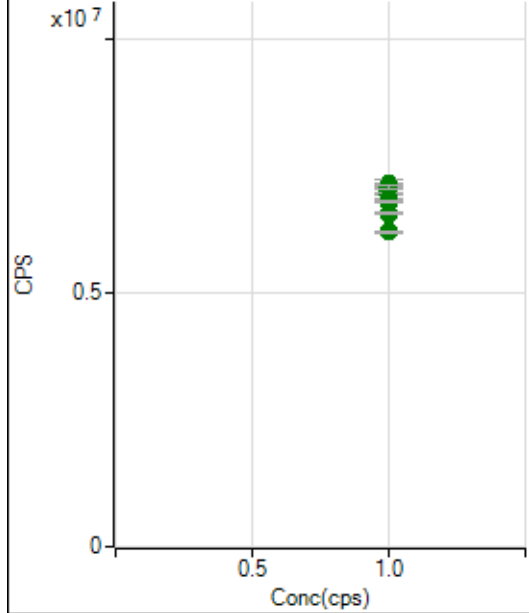
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6208384.84		A	1.5
2	☐	1.000		6070342.63		A	1.1
3	☐	1.000		5964456.95		A	1.6
4	☐	1.000		5855769.40		A	1.2
5	☐	1.000		5738490.09		A	1.3
6	☐	1.000		5497520.54		A	1.2
7	☐	1.000		5043663.90		A	1.4
8	☐	1.000		5756431.54		A	1.6

115 In (ISTD) [He]

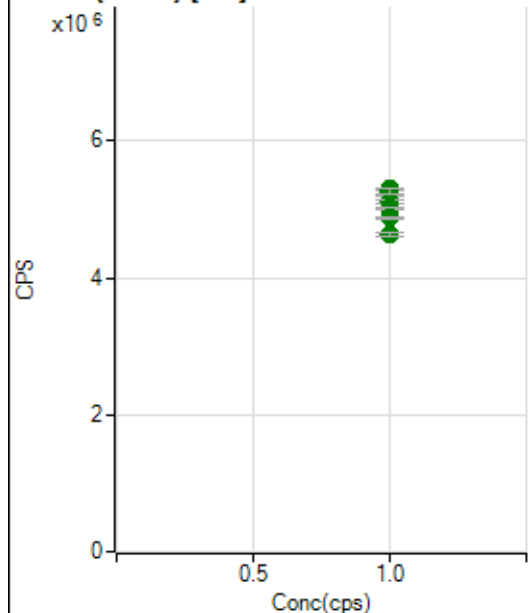


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2410877.95		A	2.1
2	☐	1.000		2410259.22		A	0.1
3	☐	1.000		2380973.57		A	0.6
4	☐	1.000		2341745.82		A	2.1
5	☐	1.000		2237108.51		A	1.5
6	☐	1.000		2147892.52		A	1.6
7	☐	1.000		2005182.98		A	0.7
8	☐	1.000		2291960.91		A	0.7

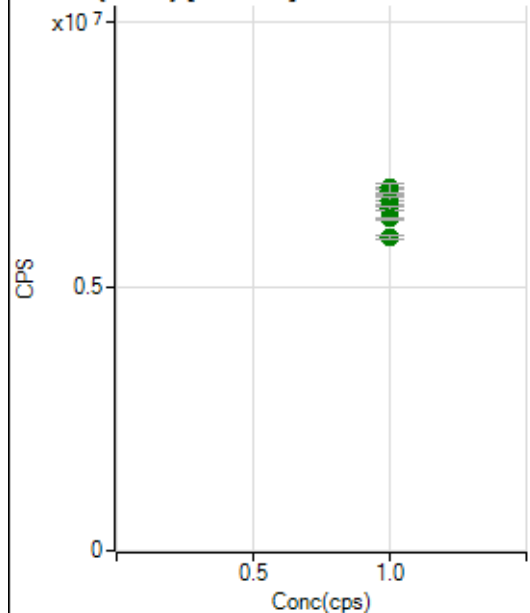
159 Tb (ISTD) [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7141813.16		A	2.0
2	☐	1.000		7121227.26		A	1.3
3	☐	1.000		7002475.31		A	2.3
4	☐	1.000		6916382.61		A	1.3
5	☐	1.000		6781939.34		A	0.5
6	☐	1.000		6564714.55		A	0.7
7	☐	1.000		6194713.80		A	0.4
8	☐	1.000		7082509.13		A	1.0

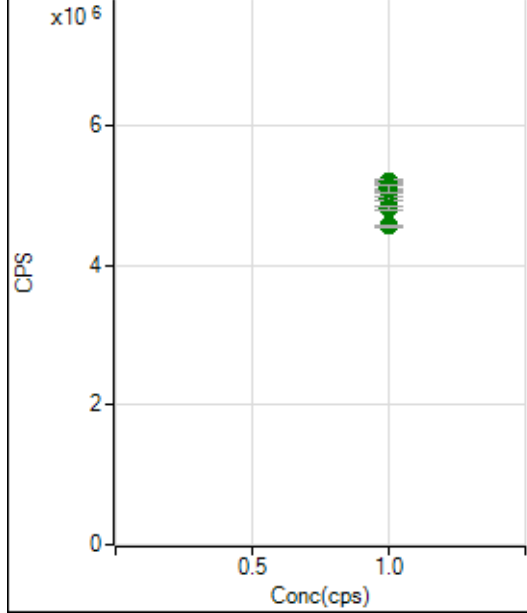
159 Tb (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5299113.46		A	0.7
2	☐	1.000		5201047.42		A	0.3
3	☐	1.000		5243502.15		A	1.3
4	☐	1.000		5114134.96		A	1.3
5	☐	1.000		5020825.79		A	0.3
6	☐	1.000		4879391.18		A	0.3
7	☐	1.000		4634125.98		A	0.8
8	☐	1.000		5271905.55		A	1.6

165 Ho (ISTD) [No Gas]

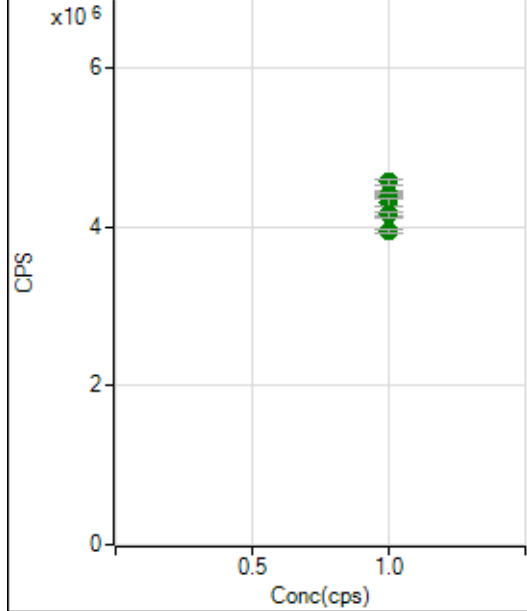
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6807714.90		A	2.0
2	☐	1.000		6778319.83		A	1.6
3	☐	1.000		6690731.57		A	1.3
4	☐	1.000		6629259.83		A	2.1
5	☐	1.000		6490690.81		A	0.8
6	☐	1.000		6283374.35		A	0.5
7	☐	1.000		5935264.91		A	1.1
8	☐	1.000		6871366.29		A	2.8

165 Ho (ISTD) [He]

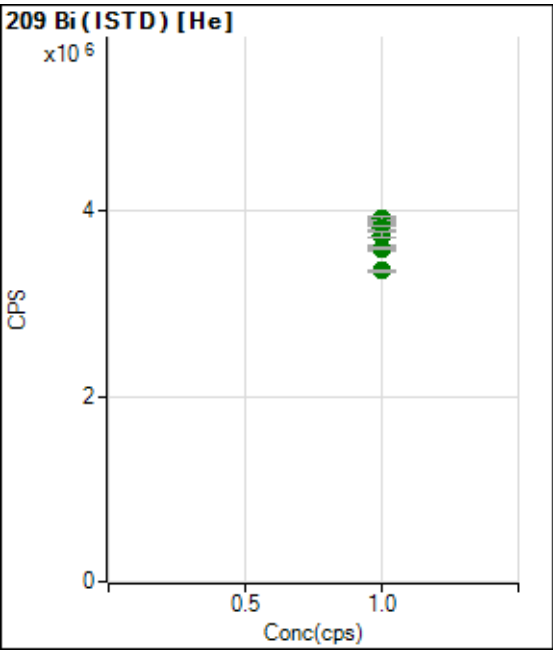


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5141125.83		A	1.7
2	☐	1.000		5187194.71		A	1.2
3	☐	1.000		5101182.46		A	2.1
4	☐	1.000		5084826.42		A	2.1
5	☐	1.000		4948430.69		A	1.5
6	☐	1.000		4815625.10		A	1.2
7	☐	1.000		4551437.33		A	0.3
8	☐	1.000		5091422.22		A	1.9

209 Bi (ISTD) [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4564258.82		A	1.7
2	☐	1.000		4404769.55		A	1.6
3	☐	1.000		4396146.43		A	0.6
4	☐	1.000		4384963.47		A	1.5
5	☐	1.000		4308215.74		A	1.8
6	☐	1.000		4162386.09		A	1.2
7	☐	1.000		3931678.10		A	1.2
8	☐	1.000		4152625.29		A	1.8



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1		1.000		3899419.56		A	1.3
2		1.000		3911219.91		A	0.9
3		1.000		3822546.92		A	1.6
4		1.000		3811176.61		A	1.3
5		1.000		3741838.00		A	1.9
6		1.000		3596604.95		A	1.5
7		1.000		3348130.47		A	0.5
8		1.000		3591831.96		A	0.5

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US EPA Tune Check Report

Reviewed By:jasw
On:10/7/2025 11:5
PM
Inst Id :P7
LB :LB137409

Operator Name Jaswal
Acq/Data Batch D:\Agilent\ICPMH\1\DATA\P7092525MS.b
Acq. Date-Time 2025-09-25 15:21:21
Report Comment ---
Instrument Name G8403A JP14410463

[No Gas]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9		6723	67231.82			0.713	5.000
24		59934	599342.96			0.297	5.000
25		8124	81235.99			0.627	5.000
26		9526	95257.00			0.290	5.000
59		93157	931565.37			0.744	5.000
113		10751	107505.24			0.674	5.000
115		124219	1242191.48			0.439	5.000
206		24934	249338.94			0.951	5.000
207		21951	219512.57			1.640	5.000
208		51610	516100.93			1.693	5.000
220		0	3.90			53.170	

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	6687	6780	6710	6767	6673
24	59676	59869	60148	60036	59942
25	8038	8137	8137	8174	8132
26	9531	9561	9502	9494	9540
59	92758	93724	94078	92604	92619
113	10806	10652	10799	10802	10693
115	124933	124174	123567	124565	123856
206	24853	24628	25218	25124	24846
207	21888	21520	22412	22208	21727
208	51462	50640	52522	52500	50927

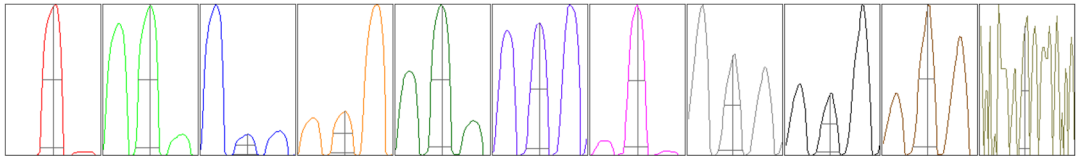
US EPA Tune Check Report

Reviewed By:jasw
On:10/7/2025 11:5
PM
Inst Id :P7
LB :LB137409

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

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	11676.19	9.05	8.90 - 9.10	
24	104568.93	24.00	23.90 - 24.10	
25	14131.11	25.00	24.90 - 25.10	
26	16516.09	26.00	25.90 - 26.10	
59	163197.38	59.00	58.90 - 59.10	
113	20575.32	113.00	112.90 - 113.10	
115	238818.62	115.05	114.90 - 115.10	
206	51081.14	205.95	205.90 - 206.10	
207	44993.14	206.95	206.90 - 207.10	
208	109199.75	207.95	207.90 - 208.10	
220	0.60	219.95	-	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.60	0.738	0.900	
24	0.61	0.753	0.900	
25	0.62	0.744	0.900	
26	0.61	0.748	0.900	
59	0.59	0.740	0.900	
113	0.53	0.733	0.900	
115	0.52	0.758	0.900	
206	0.51	0.759	0.900	
207	0.49	0.737	0.900	
208	0.50	0.764	0.900	
220	0.25	0.340		

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

Tune Parameters

Plasma Parameters

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

US EPA Tune Check Report

Reviewed By:jasw
On:10/7/2025 11:5
PM
Inst Id :P7
LB :LB137409

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	0.0 V	Omega Lens	8.2 V	Deflect	14.6 V
Extract 2	-175.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-75 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	180 V		

QP Parameters

Mass Gain	138	Axis Gain	0.9973	QP Bias	-3.0 V
Mass Offset	129	Axis Offset	0.16		

Hardware Settings

Torch

Torch H	-1.7 mm	Torch V	0.3 mm
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EM

Discriminator	4.6 mV	Analog HV	2292 V	Pulse HV	1209 V
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[He]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
59		31355	313550.91			0.781	
89		28579	285785.70			1.147	
205		29145	291445.81			1.385	

Mass	RSD% (Flag)
59	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	31782	31339	31207	31243	31204
89	29122	28615	28345	28503	28308
205	29788	29132	29097	29035	28672

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.87 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	9.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.2 V	Deflect	3.2 V
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US EPA Tune Check Report

Reviewed By:jasw
On:10/7/2025 11:5
PM
Inst Id :P7
LB :LB137409

Extract 2	-160.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		
Cell Parameters					
Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.9 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		
QP Parameters					
Mass Gain	138	Axis Gain	0.9973	QP Bias	-13.0 V
Mass Offset	129	Axis Offset	0.16		
Hardware Settings					
Torch					
Torch H	-1.7 mm	Torch V	0.3 mm		
EM					
Discriminator	4.6 mV	Analog HV	2292 V	Pulse HV	1209 V

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:51:29 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.19	0.43	-0.24	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-2	-0.01	0.00	0.01	0.00	N/A	ppb
Barium	135-1	0.01	-0.01	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
Bromine	81-2						cps
Cadmium	108-1	0.05	-0.07	0.02	0.00	N/A	ppb
Cadmium	106-1	-0.32	0.41	-0.09	0.00	N/A	ppb
Cadmium	111-1	-0.03	0.03	0.00	0.00	N/A	ppb
Calcium	43-1	-2.99	2.19	0.80	0.00	N/A	ppb
Calcium	44-1	0.13	0.54	-0.67	0.00	N/A	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.03	-0.01	-0.02	0.00	N/A	ppb
Cobalt	59-2	0.01	0.00	-0.01	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	56-2	0.07	-0.07	0.00	0.00	N/A	ppb
Iron	57-2	0.86	-1.24	0.39	0.00	N/A	ppb
Iron	54-2	-0.03	-0.29	0.32	0.00	N/A	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:51:29 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	-0.01	0.01	0.00	0.00	N/A	ppb
Lead	207-1	0.00	0.00	0.00	0.00	N/A	ppb
Lead	208-1	0.00	0.01	0.00	0.00	N/A	ppb
Lithium	6-1				100		%
Magnesium	24-2	-0.05	-0.02	0.07	0.00	N/A	ppb
Manganese	55-2	0.04	0.00	-0.04	0.00	N/A	ppb
Molybdenum	94-1	0.00	0.02	-0.02	0.00	N/A	ppb
Molybdenum	95-1	0.01	-0.01	0.00	0.00	N/A	ppb
Molybdenum	96-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	97-1	0.01	-0.01	0.00	0.00	N/A	ppb
Molybdenum	98-1	0.01	0.01	-0.01	0.00	N/A	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.02	-0.01	0.03	0.00	N/A	ppb
Phosphorus	31-2	-132.51	-124.38	-135.90	-130.93		ppb
Potassium	39-2	-2.08	3.80	-1.72	0.00	N/A	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	0.58	-0.63	0.05	0.00	N/A	ppb
Selenium	77-2	-0.25	0.00	0.25	0.00	N/A	ppb
Selenium	78-2	0.71	-0.04	-0.67	0.00	N/A	ppb
Silicon	28-1	-0.25	0.05	0.20	0.00	N/A	ppb
Silver	107-1	0.00	0.01	0.00	0.00	N/A	ppb
Silver	109-1	0.00	0.00	0.00	0.00	N/A	ppb
Sodium	23-2	-0.92	0.84	0.08	0.00	N/A	ppb
Strontium	86-1	-0.01	-0.02	0.03	0.00	N/A	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	N/A	ppb
Sulfur	34-1	-460.44	-76.65	27.47	-169.88		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	0.00	0.00	0.00	0.00	N/A	ppb
Titanium	47-1	0.00	-0.01	0.01	0.00	N/A	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:51:29 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	N/A	ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	N/A	ppb
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	-0.06	-0.13	0.19	0.00	N/A	ppb
Zirconium	90-1	0.00	-0.01	0.01	0.00	N/A	ppb
Zirconium	91-1	0.00	0.00	0.00	0.00	N/A	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:54:45 DataFile Name : 005CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	21.57	21.44	20.52	21.17	2.70	ppb
Antimony	121-1	2.12	2.08	2.06	2.09	1.48	ppb
Arsenic	75-2	1.18	1.14	1.15	1.16	1.62	ppb
Barium	135-1	9.97	9.79	10.05	9.94	1.34	ppb
Barium	137-1	10.27	10.14	10.17	10.19	0.67	ppb
Beryllium	9-1	1.12	1.24	1.31	1.22	7.91	ppb
Bismuth	209-1				97		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	1.07	0.66	0.92	0.88	23.47	ppb
Cadmium	106-1	0.83	0.65	-1.33	0.05	2381.29	ppb
Cadmium	111-1	0.98	0.90	0.77	0.88	12.14	ppb
Calcium	43-1	519.15	533.49	540.33	530.99	2.04	ppb
Calcium	44-1	515.56	538.32	526.55	526.81	2.16	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.11	2.18	2.12	2.14	1.63	ppb
Cobalt	59-2	1.20	1.18	1.10	1.16	4.72	ppb
Copper	63-2	2.00	1.90	1.93	1.94	2.57	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				101		%
Indium	115-1				98		%
Indium	115-2				100		%
Iron	56-2	55.18	55.32	55.14	55.21	0.17	ppb
Iron	57-2	56.67	57.85	55.83	56.78	1.79	ppb
Iron	54-2	57.35	56.82	56.83	57.00	0.53	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:54:45 DataFile Name : 005CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.87	0.82	0.89	0.86	4.12	ppb
Lead	207-1	0.86	0.88	0.82	0.85	3.50	ppb
Lead	208-1	0.86	0.85	0.88	0.86	1.54	ppb
Lithium	6-1				98		%
Magnesium	24-2	494.41	496.05	495.20	495.22	0.17	ppb
Manganese	55-2	0.96	1.01	0.88	0.95	6.44	ppb
Molybdenum	94-1	6.09	5.97	6.01	6.02	1.03	ppb
Molybdenum	95-1	4.95	5.03	5.10	5.03	1.51	ppb
Molybdenum	96-1	5.16	5.15	5.19	5.17	0.37	ppb
Molybdenum	97-1	4.96	5.05	4.97	4.99	0.92	ppb
Molybdenum	98-1	4.99	5.20	5.13	5.10	2.08	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.95	1.02	0.94	0.97	4.21	ppb
Phosphorus	31-2	143.96	120.76	128.07	130.93	9.06	ppb
Potassium	39-2	539.62	534.07	535.34	536.34	0.54	ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	6.41	5.79	5.60	5.94	7.15	ppb
Selenium	77-2	4.64	4.93	7.81	5.79	30.32	ppb
Selenium	78-2	6.95	5.75	3.90	5.54	27.75	ppb
Silicon	28-1	0.00	0.69	0.75	0.48	87.56	ppb
Silver	107-1	1.12	1.11	1.14	1.12	1.09	ppb
Silver	109-1	1.10	1.16	1.11	1.12	2.86	ppb
Sodium	23-2	496.30	496.74	496.98	496.67	0.07	ppb
Strontium	86-1	0.89	0.98	0.98	0.95	5.63	ppb
Strontium	88-1	0.98	1.01	1.01	1.00	1.39	ppb
Sulfur	34-1	-53.06	240.15	322.54	169.88	116.21	ppb
Terbium	159-1				100		%
Terbium	159-2				98		%
Thallium	203-1	1.04	0.99	0.96	1.00	4.18	ppb
Thallium	205-1	1.04	1.03	1.04	1.04	0.61	ppb
Tin	118-1	5.08	5.22	5.19	5.17	1.41	ppb
Titanium	47-1	5.13	5.25	5.02	5.13	2.31	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:54:45 DataFile Name : 005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.95	0.97	0.98	0.97	1.27	ppb
Vanadium	51-2	5.11	5.32	5.26	5.23	2.09	ppb
Yttrium	89-1				99		%
Yttrium	89-2				99		%
Zinc	66-2	5.25	5.33	5.14	5.24	1.76	ppb
Zirconium	90-1	0.96	1.01	0.98	0.98	2.88	ppb
Zirconium	91-1	1.00	0.96	0.98	0.98	2.20	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:58:04 DataFile Name : 006CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1014.24	1001.42	1012.40	1009.35	0.69	ppb
Antimony	121-1	48.19	51.08	49.72	49.66	2.91	ppb
Arsenic	75-2	51.11	50.51	51.00	50.87	0.63	ppb
Barium	135-1	242.00	249.03	246.20	245.74	1.44	ppb
Barium	137-1	244.10	255.33	247.57	249.00	2.31	ppb
Beryllium	9-1	51.46	51.49	52.92	51.95	1.61	ppb
Bismuth	209-1				96		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	51.95	51.98	51.77	51.90	0.22	ppb
Cadmium	106-1	48.30	53.50	52.72	51.51	5.45	ppb
Cadmium	111-1	50.25	52.63	51.82	51.57	2.35	ppb
Calcium	43-1	5066.16	5296.36	5253.07	5205.20	2.35	ppb
Calcium	44-1	4836.21	5097.33	4952.02	4961.85	2.64	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	50.22	50.57	50.42	50.40	0.35	ppb
Cobalt	59-2	50.85	50.68	51.28	50.94	0.61	ppb
Copper	63-2	503.42	501.49	509.48	504.80	0.83	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				98		%
Holmium	165-2				99		%
Indium	115-1				96		%
Indium	115-2				99		%
Iron	56-2	2624.17	2603.34	2634.90	2620.80	0.61	ppb
Iron	57-2	2710.34	2717.32	2755.35	2727.67	0.89	ppb
Iron	54-2	2796.49	2806.69	2797.56	2800.24	0.20	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:58:04 DataFile Name : 006CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	244.85	243.22	240.45	242.84	0.92	ppb
Lead	207-1	239.03	236.74	234.74	236.84	0.91	ppb
Lead	208-1	245.47	245.23	239.15	243.28	1.47	ppb
Lithium	6-1				97		%
Magnesium	24-2	4952.00	4807.85	4925.81	4895.22	1.57	ppb
Manganese	55-2	505.56	497.42	504.06	502.35	0.86	ppb
Molybdenum	94-1	498.10	499.39	505.93	501.14	0.84	ppb
Molybdenum	95-1	485.93	487.54	496.02	489.83	1.11	ppb
Molybdenum	96-1	490.90	491.39	492.81	491.70	0.20	ppb
Molybdenum	97-1	499.73	498.83	504.25	500.94	0.58	ppb
Molybdenum	98-1	493.22	481.24	496.52	490.32	1.64	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	50.65	50.96	51.04	50.88	0.41	ppb
Phosphorus	31-2	912.60	879.81	892.02	894.81	1.85	ppb
Potassium	39-2	2639.86	2644.34	2670.33	2651.51	0.62	ppb
Rhodium	103-1				96		%
Rhodium	103-2				98		%
Scandium	45-1				99		%
Scandium	45-2				99		%
Selenium	82-1	52.31	52.08	53.29	52.56	1.22	ppb
Selenium	77-2	52.95	54.57	50.39	52.64	4.00	ppb
Selenium	78-2	52.94	51.00	50.43	51.46	2.56	ppb
Silicon	28-1	55.20	57.14	57.82	56.72	2.40	ppb
Silver	107-1	50.55	53.17	51.66	51.79	2.54	ppb
Silver	109-1	50.80	53.67	52.27	52.25	2.74	ppb
Sodium	23-2	4998.73	4873.79	5018.83	4963.78	1.58	ppb
Strontium	86-1	49.22	48.96	50.00	49.40	1.10	ppb
Strontium	88-1	49.67	49.76	50.80	50.08	1.25	ppb
Sulfur	34-1	631.19	1043.09	1004.94	893.08	25.48	ppb
Terbium	159-1				98		%
Terbium	159-2				99		%
Thallium	203-1	47.91	48.12	47.71	47.91	0.43	ppb
Thallium	205-1	47.81	48.15	47.31	47.76	0.89	ppb
Tin	118-1	49.58	51.81	49.93	50.44	2.38	ppb
Titanium	47-1	478.76	494.96	492.04	488.59	1.77	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:58:04 DataFile Name : 006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	46.44	46.52	45.50	46.15	1.23	ppb
Vanadium	51-2	49.86	49.56	50.29	49.91	0.73	ppb
Yttrium	89-1				97		%
Yttrium	89-2				98		%
Zinc	66-2	526.36	522.18	527.15	525.23	0.51	ppb
Zirconium	90-1	48.77	48.44	49.72	48.98	1.36	ppb
Zirconium	91-1	48.72	48.54	49.70	48.99	1.28	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:01:11 DataFile Name : 007CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2479.89	2497.62	2554.94	2510.81	1.56	ppb
Antimony	121-1	125.03	124.16	126.19	125.13	0.81	ppb
Arsenic	75-2	126.18	124.41	125.59	125.39	0.72	ppb
Barium	135-1	609.28	607.24	620.72	612.41	1.19	ppb
Barium	137-1	620.89	621.54	630.95	624.46	0.90	ppb
Beryllium	9-1	127.07	130.59	130.04	129.23	1.47	ppb
Bismuth	209-1				96		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	127.25	129.84	131.61	129.57	1.69	ppb
Cadmium	106-1	130.77	129.69	133.55	131.34	1.52	ppb
Cadmium	111-1	129.26	130.10	131.78	130.38	0.98	ppb
Calcium	43-1	13152.74	13183.27	13156.91	13164.31	0.13	ppb
Calcium	44-1	12439.42	12436.37	12248.15	12374.65	0.89	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	126.84	127.28	125.59	126.57	0.69	ppb
Cobalt	59-2	128.15	129.10	125.22	127.49	1.59	ppb
Copper	63-2	1241.56	1241.05	1257.99	1246.87	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				99		%
Indium	115-1				94		%
Indium	115-2				97		%
Iron	56-2	6417.00	6407.98	6599.76	6474.92	1.67	ppb
Iron	57-2	6841.40	6861.20	6809.34	6837.31	0.38	ppb
Iron	54-2	6920.28	6901.51	6948.62	6923.47	0.34	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:01:11 DataFile Name : 007CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	633.08	609.64	623.81	622.17	1.90	ppb
Lead	207-1	620.27	622.38	630.33	624.33	0.85	ppb
Lead	208-1	625.29	621.29	625.10	623.89	0.36	ppb
Lithium	6-1				97		%
Magnesium	24-2	12179.40	12069.16	12106.53	12118.36	0.46	ppb
Manganese	55-2	1241.79	1235.30	1291.31	1256.13	2.44	ppb
Molybdenum	94-1	1216.92	1259.14	1234.14	1236.73	1.72	ppb
Molybdenum	95-1	1209.90	1256.28	1264.34	1243.51	2.36	ppb
Molybdenum	96-1	1223.50	1260.54	1242.40	1242.15	1.49	ppb
Molybdenum	97-1	1219.73	1247.45	1249.41	1238.86	1.34	ppb
Molybdenum	98-1	1204.04	1247.85	1248.49	1233.46	2.07	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	125.09	126.24	128.20	126.51	1.24	ppb
Phosphorus	31-2	2501.54	2502.94	2366.10	2456.86	3.20	ppb
Potassium	39-2	6464.01	6381.39	6253.45	6366.28	1.67	ppb
Rhodium	103-1				95		%
Rhodium	103-2				98		%
Scandium	45-1				96		%
Scandium	45-2				97		%
Selenium	82-1	128.42	133.16	133.61	131.73	2.18	ppb
Selenium	77-2	128.19	128.32	122.02	126.18	2.85	ppb
Selenium	78-2	133.97	136.26	127.28	132.50	3.52	ppb
Silicon	28-1	131.97	132.82	133.79	132.86	0.68	ppb
Silver	107-1	130.23	129.34	131.70	130.42	0.91	ppb
Silver	109-1	130.30	129.09	131.92	130.44	1.09	ppb
Sodium	23-2	12223.46	12374.27	12102.40	12233.38	1.11	ppb
Strontium	86-1	121.52	125.74	124.25	123.84	1.73	ppb
Strontium	88-1	123.83	121.88	124.88	123.53	1.24	ppb
Sulfur	34-1	2278.90	2389.54	2529.69	2399.38	5.24	ppb
Terbium	159-1				97		%
Terbium	159-2				97		%
Thallium	203-1	119.85	118.41	120.74	119.66	0.98	ppb
Thallium	205-1	119.03	117.83	120.27	119.04	1.02	ppb
Tin	118-1	124.63	125.31	127.81	125.92	1.33	ppb
Titanium	47-1	1224.45	1250.41	1228.18	1234.35	1.14	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:01:11 DataFile Name : 007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	121.80	121.71	126.64	123.38	2.29	ppb
Vanadium	51-2	123.49	124.34	126.74	124.86	1.35	ppb
Yttrium	89-1				96		%
Yttrium	89-2				96		%
Zinc	66-2	1337.78	1326.95	1300.58	1321.77	1.45	ppb
Zirconium	90-1	120.16	124.40	125.07	123.21	2.16	ppb
Zirconium	91-1	121.86	124.40	124.26	123.51	1.16	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:04:11 DataFile Name : 008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5033.07	5039.95	5072.20	5048.41	0.41	ppb
Antimony	121-1	245.22	250.23	247.26	247.57	1.02	ppb
Arsenic	75-2	251.11	254.55	252.69	252.78	0.68	ppb
Barium	135-1	1202.55	1228.43	1216.65	1215.88	1.07	ppb
Barium	137-1	1267.13	1263.56	1242.02	1257.57	1.08	ppb
Beryllium	9-1	248.71	255.84	251.06	251.87	1.44	ppb
Bismuth	209-1				94		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	255.53	259.31	256.87	257.24	0.75	ppb
Cadmium	106-1	253.18	255.59	256.30	255.02	0.64	ppb
Cadmium	111-1	253.98	256.62	253.36	254.65	0.68	ppb
Calcium	43-1	26061.47	26489.58	26175.01	26242.02	0.85	ppb
Calcium	44-1	24385.52	24858.79	24686.63	24643.64	0.97	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	248.50	246.12	248.84	247.82	0.60	ppb
Cobalt	59-2	252.49	254.09	253.89	253.49	0.34	ppb
Copper	63-2	2456.26	2511.66	2508.45	2492.12	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				95		%
Holmium	165-2				96		%
Indium	115-1				92		%
Indium	115-2				93		%
Iron	56-2	12921.24	12863.29	12789.15	12857.89	0.51	ppb
Iron	57-2	13436.18	13496.97	13501.45	13478.20	0.27	ppb
Iron	54-2	13398.96	13241.48	13129.00	13256.48	1.02	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:04:11 DataFile Name : 008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1231.68	1247.24	1273.34	1250.75	1.68	ppb
Lead	207-1	1218.85	1230.43	1275.35	1241.54	2.40	ppb
Lead	208-1	1225.61	1234.15	1270.78	1243.51	1.93	ppb
Lithium	6-1				96		%
Magnesium	24-2	24757.04	24630.34	24914.71	24767.36	0.58	ppb
Manganese	55-2	2485.81	2487.77	2468.75	2480.78	0.42	ppb
Molybdenum	94-1	2433.98	2462.71	2527.23	2474.64	1.93	ppb
Molybdenum	95-1	2420.84	2448.23	2480.42	2449.83	1.22	ppb
Molybdenum	96-1	2427.49	2450.32	2498.20	2458.67	1.47	ppb
Molybdenum	97-1	2421.79	2430.28	2526.83	2459.63	2.37	ppb
Molybdenum	98-1	2425.38	2449.43	2517.03	2463.95	1.93	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	249.27	250.17	249.24	249.56	0.21	ppb
Phosphorus	31-2	4941.88	4947.31	4937.37	4942.19	0.10	ppb
Potassium	39-2	12621.90	12671.00	12531.18	12608.03	0.56	ppb
Rhodium	103-1				91		%
Rhodium	103-2				93		%
Scandium	45-1				94		%
Scandium	45-2				95		%
Selenium	82-1	254.53	257.14	260.95	257.54	1.25	ppb
Selenium	77-2	235.32	254.80	249.97	246.70	4.11	ppb
Selenium	78-2	251.19	255.24	261.34	255.93	2.00	ppb
Silicon	28-1	254.08	256.32	253.45	254.62	0.59	ppb
Silver	107-1	258.29	259.81	249.03	255.71	2.28	ppb
Silver	109-1	251.41	261.17	253.69	255.42	2.00	ppb
Sodium	23-2	25404.07	25026.96	25374.28	25268.44	0.83	ppb
Strontium	86-1	242.08	245.16	251.46	246.24	1.94	ppb
Strontium	88-1	241.19	242.99	248.08	244.08	1.46	ppb
Sulfur	34-1	4604.37	4785.99	4737.97	4709.44	2.00	ppb
Terbium	159-1				95		%
Terbium	159-2				95		%
Thallium	203-1	235.04	236.56	241.95	237.85	1.53	ppb
Thallium	205-1	247.96	252.67	251.80	250.81	1.00	ppb
Tin	118-1	247.70	251.08	248.99	249.25	0.68	ppb
Titanium	47-1	2399.08	2490.29	2434.29	2441.22	1.88	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:04:11 DataFile Name : 008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	242.23	247.21	254.50	247.98	2.49	ppb
Vanadium	51-2	248.43	247.61	249.91	248.65	0.47	ppb
Yttrium	89-1				93		%
Yttrium	89-2				93		%
Zinc	66-2	2564.24	2584.40	2552.78	2567.14	0.62	ppb
Zirconium	90-1	244.67	247.81	250.45	247.64	1.17	ppb
Zirconium	91-1	244.28	245.96	252.19	247.48	1.68	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:07:03 DataFile Name : 009CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10358.33	9950.13	10082.28	10130.25	2.06	ppb
Antimony	121-1	499.91	497.66	498.30	498.62	0.23	ppb
Arsenic	75-2	503.86	508.83	500.90	504.53	0.79	ppb
Barium	135-1	2491.27	2494.34	2491.52	2492.37	0.07	ppb
Barium	137-1	2479.32	2490.00	2528.50	2499.27	1.04	ppb
Beryllium	9-1	485.97	504.19	504.36	498.17	2.12	ppb
Bismuth	209-1				91		%
Bismuth	209-2				92		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	506.74	503.99	513.17	507.97	0.93	ppb
Cadmium	106-1	502.23	509.55	510.95	507.58	0.92	ppb
Cadmium	111-1	501.17	510.49	512.29	507.98	1.18	ppb
Calcium	43-1	52445.86	53031.73	52786.05	52754.55	0.56	ppb
Calcium	44-1	48789.68	49073.60	49693.13	49185.47	0.94	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	498.89	495.25	495.85	496.66	0.39	ppb
Cobalt	59-2	504.98	500.80	491.48	499.09	1.38	ppb
Copper	63-2	5012.68	4987.14	4936.97	4978.93	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				92		%
Holmium	165-2				94		%
Indium	115-1				89		%
Indium	115-2				89		%
Iron	56-2	26106.68	25875.85	25456.88	25813.14	1.28	ppb
Iron	57-2	26418.02	26470.20	25444.74	26110.99	2.21	ppb
Iron	54-2	26718.48	26555.81	26124.39	26466.23	1.16	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:07:03 DataFile Name : 009CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2496.28	2543.82	2501.62	2513.91	1.04	ppb
Lead	207-1	2451.33	2550.50	2475.12	2492.32	2.08	ppb
Lead	208-1	2476.25	2542.03	2491.43	2503.23	1.38	ppb
Lithium	6-1				93		%
Magnesium	24-2	49678.00	48445.03	49572.24	49231.76	1.39	ppb
Manganese	55-2	5064.17	4938.58	4915.27	4972.67	1.61	ppb
Molybdenum	94-1	4800.19	4867.80	5115.28	4927.76	3.37	ppb
Molybdenum	95-1	4821.30	4913.99	5067.56	4934.28	2.52	ppb
Molybdenum	96-1	4852.08	4969.90	5083.69	4968.56	2.33	ppb
Molybdenum	97-1	4826.58	4950.54	5065.82	4947.65	2.42	ppb
Molybdenum	98-1	4953.97	4990.47	5071.55	5005.33	1.20	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	504.24	497.91	496.91	499.69	0.80	ppb
Phosphorus	31-2	10012.28	9821.51	9921.45	9918.41	0.96	ppb
Potassium	39-2	24999.18	25089.40	25248.77	25112.45	0.50	ppb
Rhodium	103-1				87		%
Rhodium	103-2				89		%
Scandium	45-1				89		%
Scandium	45-2				91		%
Selenium	82-1	494.62	506.37	517.24	506.08	2.24	ppb
Selenium	77-2	513.45	513.07	496.37	507.63	1.92	ppb
Selenium	78-2	508.67	503.81	512.46	508.32	0.85	ppb
Silicon	28-1	491.43	510.38	509.34	503.72	2.12	ppb
Silver	107-1	502.87	503.57	502.71	503.05	0.09	ppb
Silver	109-1	502.70	511.16	511.46	508.44	0.98	ppb
Sodium	23-2	51227.31	49951.31	49991.75	50390.12	1.44	ppb
Strontium	86-1	482.27	492.15	502.72	492.38	2.08	ppb
Strontium	88-1	490.34	489.06	502.59	494.00	1.51	ppb
Sulfur	34-1	9693.49	9864.05	9994.27	9850.60	1.53	ppb
Terbium	159-1				92		%
Terbium	159-2				92		%
Thallium	203-1	496.74	515.95	503.09	505.26	1.94	ppb
Thallium	205-1	500.55	507.83	496.50	501.63	1.14	ppb
Tin	118-1	498.44	505.42	500.66	501.50	0.71	ppb
Titanium	47-1	4776.56	5002.87	4968.25	4915.89	2.48	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:07:03 DataFile Name : 009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	501.03	507.18	502.07	503.43	0.65	ppb
Vanadium	51-2	500.90	495.08	494.30	496.76	0.73	ppb
Yttrium	89-1				90		%
Yttrium	89-2				89		%
Zinc	66-2	5111.78	5076.80	4992.98	5060.52	1.21	ppb
Zirconium	90-1	492.70	488.96	497.87	493.18	0.91	ppb
Zirconium	91-1	488.21	492.16	503.52	494.63	1.61	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:09:50 DataFile Name : 010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	20408.56	20195.99	20341.94	20315.50	0.54	ppb
Antimony	121-1	997.19	1004.96	1001.73	1001.30	0.39	ppb
Arsenic	75-2	1000.93	993.95	995.95	996.95	0.36	ppb
Barium	135-1	4976.10	5016.64	5049.65	5014.13	0.73	ppb
Barium	137-1	4913.71	5082.01	5000.04	4998.59	1.68	ppb
Beryllium	9-1	992.77	1000.59	1006.09	999.82	0.67	ppb
Bismuth	209-1				86		%
Bismuth	209-2				86		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	978.98	1003.16	998.48	993.54	1.29	ppb
Cadmium	106-1	970.84	1009.16	1002.27	994.09	2.05	ppb
Cadmium	111-1	968.90	1008.78	1004.60	994.09	2.21	ppb
Calcium	43-1	101471.85	102153.95	105266.46	102964.09	1.96	ppb
Calcium	44-1	99533.23	102088.27	102147.36	101256.29	1.47	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1005.95	998.09	1001.96	1002.00	0.39	ppb
Cobalt	59-2	1019.60	974.99	1003.08	999.23	2.26	ppb
Copper	63-2	10019.05	10025.22	9993.70	10012.66	0.17	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				87		%
Holmium	165-2				89		%
Indium	115-1				81		%
Indium	115-2				83		%
Iron	56-2	52157.18	51506.06	52120.11	51927.78	0.70	ppb
Iron	57-2	52825.48	52070.78	51893.40	52263.22	0.95	ppb
Iron	54-2	53022.57	53699.88	52590.64	53104.36	1.05	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:09:50 DataFile Name : 010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	4918.70	5142.03	4919.98	4993.57	2.57	ppb
Lead	207-1	4962.06	5085.76	4972.28	5006.70	1.37	ppb
Lead	208-1	4957.75	5084.64	4959.05	5000.48	1.46	ppb
Lithium	6-1				86		%
Magnesium	24-2	99698.89	99425.99	99227.74	99450.87	0.24	ppb
Manganese	55-2	10103.21	9870.50	10079.04	10017.58	1.28	ppb
Molybdenum	94-1	9962.87	10112.76	10056.55	10044.06	0.75	ppb
Molybdenum	95-1	9864.63	10119.00	10156.53	10046.72	1.58	ppb
Molybdenum	96-1	9869.49	10025.98	10186.89	10027.45	1.58	ppb
Molybdenum	97-1	9836.01	10190.60	10086.23	10037.61	1.82	ppb
Molybdenum	98-1	9766.77	10095.63	10164.31	10008.90	2.12	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1004.05	997.25	998.80	1000.03	0.36	ppb
Phosphorus	31-2	20179.87	19916.72	20101.10	20065.90	0.67	ppb
Potassium	39-2	50623.84	50947.55	50392.55	50654.65	0.55	ppb
Rhodium	103-1				81		%
Rhodium	103-2				84		%
Scandium	45-1				82		%
Scandium	45-2				85		%
Selenium	82-1	974.62	999.51	1008.18	994.10	1.75	ppb
Selenium	77-2	998.35	993.72	998.10	996.73	0.26	ppb
Selenium	78-2	1021.07	982.78	976.19	993.35	2.44	ppb
Silicon	28-1	995.93	1001.61	989.75	995.76	0.60	ppb
Silver	107-1	983.39	1006.51	998.94	996.28	1.18	ppb
Silver	109-1	975.11	997.71	1008.07	993.63	1.70	ppb
Sodium	23-2	102139.70	102136.04	101634.21	101969.99	0.29	ppb
Strontium	86-1	964.50	1019.69	1030.59	1004.93	3.53	ppb
Strontium	88-1	992.50	1007.15	1014.33	1004.66	1.11	ppb
Sulfur	34-1	20000.60	20303.38	20191.81	20165.26	0.76	ppb
Terbium	159-1				87		%
Terbium	159-2				87		%
Thallium	203-1	1003.91	998.15	1001.47	1001.18	0.29	ppb
Thallium	205-1	989.48	1013.65	996.38	999.84	1.25	ppb
Tin	118-1	979.17	1015.84	1002.88	999.30	1.86	ppb
Titanium	47-1	9846.13	10119.11	10212.58	10059.28	1.89	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:09:50 DataFile Name : 010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	991.78	1007.22	998.56	999.19	0.77	ppb
Vanadium	51-2	995.54	996.58	1013.81	1001.98	1.02	ppb
Yttrium	89-1				83		%
Yttrium	89-2				84		%
Zinc	66-2	9919.38	9981.31	9927.48	9942.72	0.34	ppb
Zirconium	90-1	985.84	1002.43	1024.56	1004.28	1.93	ppb
Zirconium	91-1	1002.32	995.55	1012.79	1003.55	0.87	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:12:34 DataFile Name : 011CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	99465.48	100474.28	99823.51	99921.09	0.51	ppb
Antimony	121-1	0.94	0.97	0.92	0.94	2.77	ppb
Arsenic	75-2	0.88	0.89	0.88	0.88	0.65	ppb
Barium	135-1	7.83	8.50	8.21	8.18	4.12	ppb
Barium	137-1	8.09	8.44	8.20	8.25	2.16	ppb
Beryllium	9-1	0.35	0.33	0.51	0.40	24.41	ppb
Bismuth	209-1				91		%
Bismuth	209-2				92		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.60	0.55	0.93	0.69	29.81	ppb
Cadmium	106-1	0.82	1.58	-0.89	0.50	251.19	ppb
Cadmium	111-1	0.38	0.48	0.29	0.38	24.38	ppb
Calcium	43-1	498474.17	498621.87	500056.77	499050.94	0.18	ppb
Calcium	44-1	497314.68	502088.03	500151.79	499851.50	0.48	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	9.25	9.26	9.21	9.24	0.31	ppb
Cobalt	59-2	3.38	3.39	3.38	3.38	0.14	ppb
Copper	63-2	2.63	2.52	2.43	2.52	3.99	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				93		%
Indium	115-2				95		%
Iron	56-2	248558.25	251199.08	248767.88	249508.40	0.59	ppb
Iron	57-2	249528.18	251052.04	247864.24	249481.49	0.64	ppb
Iron	54-2	248317.56	248700.00	250506.96	249174.84	0.47	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:12:34 DataFile Name : 011CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1.42	1.58	1.72	1.57	9.47	ppb
Lead	207-1	1.45	1.59	1.66	1.57	6.89	ppb
Lead	208-1	1.43	1.61	1.67	1.57	8.20	ppb
Lithium	6-1				99		%
Magnesium	24-2	496295.01	499202.83	505128.78	500208.88	0.90	ppb
Manganese	55-2	7.47	7.53	7.37	7.46	1.06	ppb
Molybdenum	94-1	4.33	4.62	4.75	4.57	4.67	ppb
Molybdenum	95-1	3.04	3.34	3.48	3.28	6.76	ppb
Molybdenum	96-1	4.26	4.46	4.44	4.39	2.57	ppb
Molybdenum	97-1	3.12	3.36	3.51	3.33	5.98	ppb
Molybdenum	98-1	3.03	3.35	3.57	3.32	8.24	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	7.46	7.46	7.16	7.36	2.35	ppb
Phosphorus	31-2	-133.76	-129.39	-137.51	-133.55		ppb
Potassium	39-2	247239.07	250278.39	252026.32	249847.93	0.97	ppb
Rhodium	103-1				89		%
Rhodium	103-2				91		%
Scandium	45-1				97		%
Scandium	45-2				100		%
Selenium	82-1	1.97	1.26	1.38	1.54	24.82	ppb
Selenium	77-2	0.76	0.77	0.00	0.51	86.50	ppb
Selenium	78-2	1.11	2.61	0.40	1.37	82.20	ppb
Silicon	28-1	2.16	2.27	2.21	2.21	2.62	ppb
Silver	107-1	0.25	0.28	0.24	0.25	6.91	ppb
Silver	109-1	0.24	0.26	0.27	0.26	6.38	ppb
Sodium	23-2	495777.10	504224.91	498679.80	499560.60	0.86	ppb
Strontium	86-1	13.14	13.01	13.08	13.08	0.52	ppb
Strontium	88-1	13.25	13.47	13.33	13.35	0.83	ppb
Sulfur	34-1	-290.35	-88.12	-62.59	-147.02		ppb
Terbium	159-1				99		%
Terbium	159-2				99		%
Thallium	203-1	1.14	1.21	1.26	1.20	4.70	ppb
Thallium	205-1	1.14	1.20	1.23	1.19	3.80	ppb
Tin	118-1	0.51	0.60	0.54	0.55	8.08	ppb
Titanium	47-1	1.19	1.64	1.63	1.49	17.11	ppb

LB Number :LB137409Operator :Jaswal

Lab Sample ID :S8Instrumnet Name :P7

Client Sample ID :S8Dilution Factor :1

Date & Time Acquired :2025-09-25 16:12:34DataFile Name :011CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.08	0.12	0.14	0.11	23.90	ppb
Vanadium	51-2	1.82	1.74	1.70	1.75	3.75	ppb
Yttrium	89-1				95		%
Yttrium	89-2				98		%
Zinc	66-2	12.16	12.10	12.30	12.19	0.82	ppb
Zirconium	90-1	0.93	0.98	0.99	0.97	3.46	ppb
Zirconium	91-1	1.00	0.95	0.91	0.95	4.67	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:20:22 DataFile Name : 012ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1565.12	1543.61	1544.38	1551.03	0.79	ppb
Antimony	121-1	414.26	414.86	427.70	418.94	1.81	ppb
Arsenic	75-2	414.56	413.20	420.04	415.93	0.87	ppb
Barium	135-1	1604.45	1599.67	1625.95	1610.03	0.87	ppb
Barium	137-1	1590.50	1626.78	1603.21	1606.83	1.15	ppb
Beryllium	9-1	41.24	42.23	41.71	41.73	1.19	ppb
Bismuth	209-1				101		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	241.62	243.14	242.81	242.52	0.33	ppb
Cadmium	106-1	230.67	236.89	238.43	235.33	1.74	ppb
Cadmium	111-1	210.00	214.96	215.32	213.43	1.39	ppb
Calcium	43-1	4463.04	4597.81	4547.65	4536.17	1.50	ppb
Calcium	44-1	4166.07	4245.26	4266.23	4225.85	1.25	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	164.01	159.79	162.44	162.08	1.32	ppb
Cobalt	59-2	412.26	401.77	410.78	408.27	1.39	ppb
Copper	63-2	193.36	188.21	190.76	190.78	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				103		%
Holmium	165-2				102		%
Indium	115-1				99		%
Indium	115-2				98		%
Iron	56-2	838.02	814.81	823.11	825.31	1.43	ppb
Iron	57-2	878.83	835.57	847.00	853.80	2.63	ppb
Iron	54-2	1007.33	963.35	971.26	980.65	2.39	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:20:22 DataFile Name : 012ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	386.92	395.76	397.52	393.40	1.44	ppb
Lead	207-1	376.14	384.38	386.09	382.20	1.39	ppb
Lead	208-1	393.82	396.88	395.52	395.41	0.39	ppb
Lithium	6-1				103		%
Magnesium	24-2	3745.28	3638.35	3722.65	3702.09	1.52	ppb
Manganese	55-2	408.62	395.37	400.66	401.55	1.66	ppb
Molybdenum	94-1	5288.51	5319.71	5405.38	5337.87	1.13	ppb
Molybdenum	95-1	5345.80	5445.21	5460.30	5417.10	1.15	ppb
Molybdenum	96-1	5344.26	5490.75	5381.34	5405.45	1.41	ppb
Molybdenum	97-1	5455.28	5459.27	5470.60	5461.72	0.15	ppb
Molybdenum	98-1	5501.50	5453.10	5467.59	5474.06	0.45	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	413.83	406.43	409.13	409.80	0.91	ppb
Phosphorus	31-2	-127.55	-136.19	-134.09	-132.61		ppb
Potassium	39-2	4132.37	3989.09	4001.35	4040.94	1.97	ppb
Rhodium	103-1				99		%
Rhodium	103-2				98		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	415.63	428.49	422.89	422.34	1.53	ppb
Selenium	77-2	450.54	437.40	437.35	441.76	1.72	ppb
Selenium	78-2	424.61	428.31	438.39	430.44	1.66	ppb
Silicon	28-1	43.63	46.92	46.23	45.59	3.81	ppb
Silver	107-1	178.06	181.05	181.97	180.36	1.13	ppb
Silver	109-1	178.87	183.07	182.40	181.45	1.24	ppb
Sodium	23-2	4192.54	4003.85	4078.58	4091.66	2.32	ppb
Strontium	86-1	455.41	463.55	466.43	461.79	1.24	ppb
Strontium	88-1	461.86	464.80	468.13	464.93	0.68	ppb
Sulfur	34-1	-658.26	-553.04	-748.45	-653.25		ppb
Terbium	159-1				102		%
Terbium	159-2				101		%
Thallium	203-1	381.88	395.93	400.42	392.74	2.46	ppb
Thallium	205-1	388.60	406.79	403.33	399.58	2.42	ppb
Tin	118-1	492.20	503.98	512.74	502.97	2.05	ppb
Titanium	47-1	5377.67	5468.94	5225.96	5357.52	2.29	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:20:22 DataFile Name : 012ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	493.93	487.04	486.83	489.26	0.83	ppb
Vanadium	51-2	405.29	398.14	401.76	401.73	0.89	ppb
Yttrium	89-1				101		%
Yttrium	89-2				99		%
Zinc	66-2	393.21	386.45	390.38	390.01	0.87	ppb
Zirconium	90-1	479.42	480.67	480.53	480.20	0.14	ppb
Zirconium	91-1	475.55	479.06	480.09	478.23	0.50	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:23:20 DataFile Name : 013LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	20.60	19.56	21.28	20.48	4.24	ppb
Antimony	121-1	1.94	2.05	2.03	2.01	3.12	ppb
Arsenic	75-2	0.92	1.01	0.89	0.94	6.96	ppb
Barium	135-1	9.14	9.60	9.52	9.42	2.63	ppb
Barium	137-1	9.27	9.83	9.43	9.51	3.01	ppb
Beryllium	9-1	1.08	1.03	1.02	1.04	3.29	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.92	1.25	1.08	1.08	14.92	ppb
Cadmium	106-1	0.00	-0.59	0.61	0.01	6076.85	ppb
Cadmium	111-1	0.80	0.82	0.84	0.82	2.36	ppb
Calcium	43-1	499.68	501.94	497.83	499.82	0.41	ppb
Calcium	44-1	477.47	500.03	496.25	491.25	2.46	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1.85	1.95	1.94	1.91	2.80	ppb
Cobalt	59-2	1.06	0.99	1.06	1.04	4.17	ppb
Copper	63-2	1.90	1.86	1.89	1.88	1.20	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				98		%
Indium	115-2				99		%
Iron	56-2	52.71	52.12	52.60	52.48	0.59	ppb
Iron	57-2	53.01	53.44	52.90	53.12	0.54	ppb
Iron	54-2	55.28	53.48	53.32	54.02	2.01	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:23:20 DataFile Name : 013LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.84	0.84	0.87	0.85	2.38	ppb
Lead	207-1	0.82	0.82	0.82	0.82	0.29	ppb
Lead	208-1	0.85	0.85	0.85	0.85	0.37	ppb
Lithium	6-1				101		%
Magnesium	24-2	476.50	480.48	480.25	479.08	0.47	ppb
Manganese	55-2	0.96	0.92	0.88	0.92	4.48	ppb
Molybdenum	94-1	5.96	6.14	6.01	6.04	1.46	ppb
Molybdenum	95-1	4.97	4.99	5.08	5.01	1.17	ppb
Molybdenum	96-1	5.09	5.21	5.06	5.12	1.59	ppb
Molybdenum	97-1	4.93	5.28	5.20	5.14	3.53	ppb
Molybdenum	98-1	5.08	5.19	5.13	5.13	1.09	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.90	0.94	0.85	0.90	4.86	ppb
Phosphorus	31-2	122.08	93.40	115.80	110.42	13.65	ppb
Potassium	39-2	507.20	513.80	517.76	512.92	1.04	ppb
Rhodium	103-1				97		%
Rhodium	103-2				98		%
Scandium	45-1				99		%
Scandium	45-2				98		%
Selenium	82-1	4.91	5.62	4.31	4.94	13.27	ppb
Selenium	77-2	3.92	3.81	3.50	3.75	5.82	ppb
Selenium	78-2	3.73	5.29	3.33	4.12	25.11	ppb
Silicon	28-1	-0.03	0.37	0.51	0.29	97.65	ppb
Silver	107-1	1.08	1.12	1.10	1.10	1.58	ppb
Silver	109-1	1.11	1.11	1.13	1.12	0.78	ppb
Sodium	23-2	511.45	521.47	511.87	514.93	1.10	ppb
Strontium	86-1	0.92	0.89	0.91	0.91	1.81	ppb
Strontium	88-1	0.92	0.95	0.95	0.94	2.09	ppb
Sulfur	34-1	-745.51	-518.66	-536.08	-600.08		ppb
Terbium	159-1				101		%
Terbium	159-2				100		%
Thallium	203-1	0.98	1.00	0.99	0.99	1.06	ppb
Thallium	205-1	0.97	1.01	1.02	1.00	2.75	ppb
Tin	118-1	4.75	4.94	4.88	4.86	1.93	ppb
Titanium	47-1	4.82	4.81	5.00	4.88	2.15	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:23:20 DataFile Name : 013LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.88	0.90	0.90	0.89	1.23	ppb
Vanadium	51-2	4.88	5.07	4.88	4.94	2.13	ppb
Yttrium	89-1				98		%
Yttrium	89-2				97		%
Zinc	66-2	4.97	4.76	4.48	4.74	5.23	ppb
Zirconium	90-1	0.91	0.94	0.97	0.94	2.94	ppb
Zirconium	91-1	0.95	0.95	1.01	0.97	3.82	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:26:35 DataFile Name : 014CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.30	0.66	1.42	1.13	36.50	ppb
Antimony	121-1	0.04	0.05	0.04	0.05	9.72	ppb
Arsenic	75-2	0.05	0.02	-0.02	0.02	192.64	ppb
Barium	135-1	0.04	0.05	0.07	0.05	37.46	ppb
Barium	137-1	0.05	0.05	0.05	0.05	5.86	ppb
Beryllium	9-1	0.03	0.01	-0.01	0.01	165.53	ppb
Bismuth	209-1				97		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.04	0.18	-0.04	0.03	368.05	ppb
Cadmium	106-1	0.64	0.14	-0.83	-0.02		ppb
Cadmium	111-1	0.07	0.00	-0.03	0.02	298.92	ppb
Calcium	43-1	-1.14	-0.87	2.38	0.12	1582.86	ppb
Calcium	44-1	-0.64	-0.58	-0.04	-0.42		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.03	0.00	0.04	0.02	84.88	ppb
Cobalt	59-2	0.01	0.02	0.02	0.02	25.54	ppb
Copper	63-2	0.10	0.09	0.16	0.11	31.59	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				99		%
Holmium	165-2				99		%
Indium	115-1				96		%
Indium	115-2				98		%
Iron	56-2	1.52	1.21	1.33	1.35	11.78	ppb
Iron	57-2	-1.49	-2.26	0.42	-1.11		ppb
Iron	54-2	0.47	2.13	1.11	1.24	67.84	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:26:35 DataFile Name : 014CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.07	0.09	0.07	0.08	15.06	ppb
Lead	207-1	0.09	0.08	0.08	0.08	2.27	ppb
Lead	208-1	0.07	0.08	0.07	0.07	8.99	ppb
Lithium	6-1				100		%
Magnesium	24-2	3.00	2.83	2.41	2.75	11.13	ppb
Manganese	55-2	-0.16	-0.21	-0.32	-0.23		ppb
Molybdenum	94-1	0.19	0.20	0.21	0.20	3.74	ppb
Molybdenum	95-1	0.15	0.16	0.18	0.16	8.20	ppb
Molybdenum	96-1	0.14	0.18	0.21	0.18	19.91	ppb
Molybdenum	97-1	0.18	0.19	0.19	0.19	3.21	ppb
Molybdenum	98-1	0.21	0.18	0.16	0.18	12.49	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.03	0.03	0.00	0.02	106.32	ppb
Phosphorus	31-2	-137.00	-147.81	-138.26	-141.02		ppb
Potassium	39-2	4.37	5.35	6.88	5.53	22.91	ppb
Rhodium	103-1				96		%
Rhodium	103-2				98		%
Scandium	45-1				96		%
Scandium	45-2				97		%
Selenium	82-1	0.45	0.30	0.52	0.42	25.86	ppb
Selenium	77-2	-0.49	-0.49	-0.49	-0.49		ppb
Selenium	78-2	-0.49	1.03	-0.75	-0.07		ppb
Silicon	28-1	0.02	0.08	0.87	0.32	146.69	ppb
Silver	107-1	0.02	0.02	0.02	0.02	20.09	ppb
Silver	109-1	0.02	0.02	0.01	0.02	25.45	ppb
Sodium	23-2	29.60	31.59	32.89	31.36	5.28	ppb
Strontium	86-1	0.05	0.01	0.05	0.04	64.95	ppb
Strontium	88-1	0.01	0.02	0.01	0.01	20.41	ppb
Sulfur	34-1	-545.79	-418.82	-343.77	-436.12		ppb
Terbium	159-1				98		%
Terbium	159-2				99		%
Thallium	203-1	0.04	0.03	0.04	0.04	4.80	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	5.18	ppb
Tin	118-1	0.06	0.05	0.06	0.06	15.94	ppb
Titanium	47-1	0.09	0.09	0.12	0.10	22.83	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:26:35 DataFile Name : 014CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.01	0.01	0.01	9.15	ppb
Vanadium	51-2	0.01	0.01	0.00	0.01	59.56	ppb
Yttrium	89-1				95		%
Yttrium	89-2				97		%
Zinc	66-2	0.40	0.20	0.69	0.43	57.93	ppb
Zirconium	90-1	0.01	0.02	0.01	0.01	33.97	ppb
Zirconium	91-1	0.00	0.03	0.03	0.02	75.31	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:29:53 DataFile Name : 015ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	89186.95	88639.50	87841.10	88555.85	0.76	ppb
Antimony	121-1	1.09	1.15	1.16	1.13	3.00	ppb
Arsenic	75-2	0.38	0.35	0.49	0.41	18.39	ppb
Barium	135-1	1.36	1.42	1.43	1.40	2.77	ppb
Barium	137-1	1.42	1.36	1.42	1.40	2.47	ppb
Beryllium	9-1	0.29	0.30	0.23	0.27	14.24	ppb
Bismuth	209-1				96		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	7.47	7.72	8.25	7.81	5.08	ppb
Cadmium	106-1	-0.20	-0.60	-1.84	-0.88		ppb
Cadmium	111-1	0.28	0.39	0.20	0.29	32.75	ppb
Calcium	43-1	93944.10	95551.93	97986.38	95827.47	2.12	ppb
Calcium	44-1	94577.11	95126.28	96640.27	95447.89	1.12	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	19.23	19.39	19.33	19.31	0.41	ppb
Cobalt	59-2	1.30	1.34	1.32	1.32	1.42	ppb
Copper	63-2	7.20	7.35	7.18	7.24	1.24	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				101		%
Indium	115-1				94		%
Indium	115-2				96		%
Iron	56-2	97391.22	96962.19	96448.48	96933.96	0.49	ppb
Iron	57-2	97575.31	95873.77	95948.57	96465.89	1.00	ppb
Iron	54-2	97716.33	97019.36	97156.16	97297.28	0.38	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:29:53 DataFile Name : 015ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	4.32	4.53	4.50	4.45	2.61	ppb
Lead	207-1	3.97	3.90	4.22	4.03	4.08	ppb
Lead	208-1	4.05	4.16	4.23	4.15	2.15	ppb
Lithium	6-1				98		%
Magnesium	24-2	89020.66	87878.69	88210.60	88369.98	0.66	ppb
Manganese	55-2	6.82	6.93	6.84	6.86	0.87	ppb
Molybdenum	94-1	1462.21	1603.36	1562.71	1542.76	4.71	ppb
Molybdenum	95-1	1760.09	1930.50	1942.24	1877.61	5.43	ppb
Molybdenum	96-1	1763.92	1904.09	1938.83	1868.95	4.95	ppb
Molybdenum	97-1	1818.78	1944.65	1982.47	1915.30	4.47	ppb
Molybdenum	98-1	1803.86	1904.43	1949.96	1886.08	3.96	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	5.16	5.55	5.20	5.30	4.08	ppb
Phosphorus	31-2	97196.46	96945.43	98771.98	97637.96	1.01	ppb
Potassium	39-2	96308.43	95113.87	97430.46	96284.25	1.20	ppb
Rhodium	103-1				93		%
Rhodium	103-2				96		%
Scandium	45-1				97		%
Scandium	45-2				97		%
Selenium	82-1	1.00	1.05	0.93	0.99	6.35	ppb
Selenium	77-2	-0.49	-0.24	-0.23	-0.32		ppb
Selenium	78-2	1.41	1.82	-0.58	0.88	145.57	ppb
Silicon	28-1	1.08	1.85	1.81	1.58	27.62	ppb
Silver	107-1	0.06	0.05	0.05	0.05	13.13	ppb
Silver	109-1	0.07	0.08	0.05	0.07	27.19	ppb
Sodium	23-2	96929.59	97307.26	96644.93	96960.59	0.34	ppb
Strontium	86-1	29.86	32.58	32.29	31.58	4.74	ppb
Strontium	88-1	30.43	32.61	32.65	31.90	3.98	ppb
Sulfur	34-1	92459.76	93943.32	94337.68	93580.25	1.06	ppb
Terbium	159-1				100		%
Terbium	159-2				99		%
Thallium	203-1	0.06	0.06	0.08	0.07	18.31	ppb
Thallium	205-1	0.05	0.06	0.07	0.06	15.55	ppb
Tin	118-1	0.43	0.60	0.62	0.55	19.29	ppb
Titanium	47-1	1894.89	1957.17	1958.29	1936.78	1.87	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:29:53 DataFile Name : 015ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.03	0.03	0.03	0.03	3.36	ppb
Vanadium	51-2	0.24	0.22	0.25	0.24	7.44	ppb
Yttrium	89-1				96		%
Yttrium	89-2				97		%
Zinc	66-2	10.85	10.64	10.39	10.63	2.15	ppb
Zirconium	90-1	0.05	0.06	0.05	0.05	13.00	ppb
Zirconium	91-1	0.05	0.06	0.03	0.05	37.84	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:32:55 DataFile Name : 016ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	88104.75	88581.96	87213.33	87966.68	0.79	ppb
Antimony	121-1	20.11	20.17	20.07	20.12	0.25	ppb
Arsenic	75-2	20.48	19.30	19.46	19.75	3.24	ppb
Barium	135-1	20.16	20.30	20.41	20.29	0.62	ppb
Barium	137-1	20.31	20.60	20.80	20.57	1.20	ppb
Beryllium	9-1	20.42	20.72	21.46	20.87	2.58	ppb
Bismuth	209-1				97		%
Bismuth	209-2				98		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	27.71	25.20	27.89	26.93	5.59	ppb
Cadmium	106-1	21.29	19.93	21.95	21.06	4.89	ppb
Cadmium	111-1	20.01	19.58	19.79	19.79	1.07	ppb
Calcium	43-1	95060.87	96222.00	96496.54	95926.47	0.79	ppb
Calcium	44-1	92257.85	93404.94	96066.95	93909.91	2.08	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	39.30	39.33	39.06	39.23	0.38	ppb
Cobalt	59-2	20.93	21.44	21.06	21.14	1.27	ppb
Copper	63-2	25.89	25.76	25.61	25.75	0.56	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				96		%
Indium	115-2				94		%
Iron	56-2	96762.60	99024.02	97316.69	97701.10	1.21	ppb
Iron	57-2	94976.06	95690.54	94424.82	95030.47	0.67	ppb
Iron	54-2	98086.30	98301.33	95583.08	97323.57	1.55	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:32:55 DataFile Name : 016ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	23.61	24.48	23.86	23.98	1.86	ppb
Lead	207-1	22.09	23.02	22.23	22.45	2.24	ppb
Lead	208-1	22.62	23.59	22.84	23.01	2.20	ppb
Lithium	6-1				98		%
Magnesium	24-2	87862.18	89047.19	89181.75	88697.04	0.82	ppb
Manganese	55-2	24.81	24.56	24.18	24.52	1.29	ppb
Molybdenum	94-1	1669.06	1675.93	1639.24	1661.41	1.17	ppb
Molybdenum	95-1	1909.73	1907.43	1898.02	1905.06	0.33	ppb
Molybdenum	96-1	1899.72	1873.88	1895.21	1889.60	0.73	ppb
Molybdenum	97-1	1940.95	1921.01	1952.48	1938.15	0.82	ppb
Molybdenum	98-1	1910.88	1942.44	1923.64	1925.65	0.82	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	24.57	25.18	25.31	25.02	1.57	ppb
Phosphorus	31-2	97939.98	98935.16	97767.80	98214.31	0.64	ppb
Potassium	39-2	95890.02	95952.50	96534.87	96125.80	0.37	ppb
Rhodium	103-1				94		%
Rhodium	103-2				94		%
Scandium	45-1				97		%
Scandium	45-2				96		%
Selenium	82-1	20.01	21.02	20.36	20.46	2.50	ppb
Selenium	77-2	17.93	21.80	17.97	19.24	11.56	ppb
Selenium	78-2	21.56	19.72	17.72	19.67	9.78	ppb
Silicon	28-1	10.91	10.85	11.98	11.25	5.66	ppb
Silver	107-1	19.00	19.23	18.71	18.98	1.36	ppb
Silver	109-1	18.94	19.10	18.97	19.00	0.46	ppb
Sodium	23-2	97079.77	96571.87	97833.53	97161.72	0.65	ppb
Strontium	86-1	74.58	75.82	74.89	75.10	0.86	ppb
Strontium	88-1	75.71	75.64	75.77	75.71	0.09	ppb
Sulfur	34-1	90568.48	92044.81	93926.88	92180.06	1.83	ppb
Terbium	159-1				101		%
Terbium	159-2				98		%
Thallium	203-1	19.48	19.98	19.40	19.62	1.62	ppb
Thallium	205-1	19.30	19.96	19.34	19.53	1.91	ppb
Tin	118-1	45.34	44.86	45.22	45.14	0.56	ppb
Titanium	47-1	1953.75	2008.51	1968.42	1976.89	1.43	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:32:55 DataFile Name : 016ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	43.89	45.43	44.01	44.44	1.93	ppb
Vanadium	51-2	19.87	19.96	19.86	19.90	0.27	ppb
Yttrium	89-1				97		%
Yttrium	89-2				96		%
Zinc	66-2	28.95	28.71	29.87	29.18	2.09	ppb
Zirconium	90-1	44.38	44.74	44.80	44.64	0.51	ppb
Zirconium	91-1	44.51	44.74	44.51	44.59	0.29	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:35:59 DataFile Name : 017CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	49840.82	50625.27	50718.49	50394.86	0.96	ppb
Antimony	121-1	485.82	500.19	500.80	495.60	1.71	ppb
Arsenic	75-2	502.31	506.99	499.88	503.06	0.72	ppb
Barium	135-1	2466.64	2459.24	2501.76	2475.88	0.92	ppb
Barium	137-1	2452.42	2499.84	2528.55	2493.61	1.54	ppb
Beryllium	9-1	498.82	514.24	518.09	510.38	2.00	ppb
Bismuth	209-1				90		%
Bismuth	209-2				89		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	485.01	498.42	493.20	492.21	1.37	ppb
Cadmium	106-1	483.10	481.75	492.98	485.94	1.26	ppb
Cadmium	111-1	479.22	480.57	495.33	485.04	1.84	ppb
Calcium	43-1	247632.87	251475.67	247880.25	248996.27	0.86	ppb
Calcium	44-1	241805.16	248674.74	249423.40	246634.43	1.70	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	506.69	508.19	503.37	506.08	0.49	ppb
Cobalt	59-2	495.93	505.42	496.62	499.32	1.06	ppb
Copper	63-2	4978.02	4847.45	4956.86	4927.44	1.42	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				96		%
Holmium	165-2				94		%
Indium	115-1				88		%
Indium	115-2				89		%
Iron	56-2	130413.88	127245.87	129111.21	128923.65	1.24	ppb
Iron	57-2	128494.89	126568.31	127613.17	127558.79	0.76	ppb
Iron	54-2	129533.51	127065.29	129589.30	128729.37	1.12	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:35:59 DataFile Name : 017CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2595.27	2617.45	2542.39	2585.04	1.49	ppb
Lead	207-1	2558.76	2631.21	2556.93	2582.30	1.64	ppb
Lead	208-1	2564.81	2605.84	2578.66	2583.10	0.81	ppb
Lithium	6-1				91		%
Magnesium	24-2	252252.68	251880.24	244605.05	249579.33	1.73	ppb
Manganese	55-2	5102.30	5088.76	4984.89	5058.65	1.27	ppb
Molybdenum	94-1	4964.66	5102.86	5201.99	5089.84	2.34	ppb
Molybdenum	95-1	4962.46	5097.05	5126.37	5061.96	1.73	ppb
Molybdenum	96-1	4970.27	5104.47	5133.16	5069.30	1.72	ppb
Molybdenum	97-1	4888.29	5133.27	5142.12	5054.56	2.85	ppb
Molybdenum	98-1	5017.11	5097.85	5176.59	5097.18	1.56	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	498.51	494.52	495.30	496.11	0.43	ppb
Phosphorus	31-2	10230.89	10151.65	9996.86	10126.46	1.18	ppb
Potassium	39-2	124103.59	125415.43	125253.84	124924.29	0.57	ppb
Rhodium	103-1				86		%
Rhodium	103-2				86		%
Scandium	45-1				91		%
Scandium	45-2				91		%
Selenium	82-1	478.11	496.45	502.62	492.39	2.59	ppb
Selenium	77-2	492.35	511.78	492.16	498.76	2.26	ppb
Selenium	78-2	491.22	479.80	507.78	492.93	2.85	ppb
Silicon	28-1	506.69	514.60	510.37	510.56	0.78	ppb
Silver	107-1	486.54	503.16	485.67	491.79	2.00	ppb
Silver	109-1	492.49	488.66	501.37	494.17	1.32	ppb
Sodium	23-2	252223.47	253344.67	252530.63	252699.59	0.23	ppb
Strontium	86-1	498.47	512.61	519.56	510.21	2.11	ppb
Strontium	88-1	498.90	509.18	522.26	510.11	2.29	ppb
Sulfur	34-1	9452.12	9564.93	9503.79	9506.95	0.59	ppb
Terbium	159-1				95		%
Terbium	159-2				93		%
Thallium	203-1	522.14	528.05	527.90	526.03	0.64	ppb
Thallium	205-1	527.43	537.34	523.22	529.33	1.37	ppb
Tin	118-1	493.69	492.18	503.95	496.61	1.29	ppb
Titanium	47-1	4938.21	5052.23	4942.90	4977.78	1.30	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:35:59 DataFile Name : 017CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	520.92	531.32	536.48	529.57	1.50	ppb
Vanadium	51-2	513.78	505.90	511.41	510.36	0.79	ppb
Yttrium	89-1				90		%
Yttrium	89-2				90		%
Zinc	66-2	4961.50	4898.36	4892.65	4917.50	0.78	ppb
Zirconium	90-1	498.46	512.68	517.28	509.47	1.93	ppb
Zirconium	91-1	499.82	511.21	518.40	509.81	1.84	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:38:43 DataFile Name : 018CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	7.70	7.43	7.51	7.55	1.84	ppb
Antimony	121-1	0.20	0.23	0.20	0.21	8.73	ppb
Arsenic	75-2	0.07	0.02	0.04	0.04	56.94	ppb
Barium	135-1	0.36	0.48	0.34	0.39	18.62	ppb
Barium	137-1	0.41	0.48	0.38	0.42	12.20	ppb
Beryllium	9-1	0.07	0.11	0.07	0.09	24.46	ppb
Bismuth	209-1				99		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.08	0.14	0.17	0.13	38.30	ppb
Cadmium	106-1	-1.04	-1.78	-1.03	-1.28		ppb
Cadmium	111-1	0.03	-0.02	0.00	0.00	1676.46	ppb
Calcium	43-1	32.07	48.83	39.85	40.25	20.84	ppb
Calcium	44-1	40.62	53.81	37.65	44.03	19.54	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.06	0.10	0.08	0.08	27.01	ppb
Cobalt	59-2	0.05	0.06	0.06	0.05	12.63	ppb
Copper	63-2	0.79	0.79	0.70	0.76	7.25	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				101		%
Holmium	165-2				100		%
Indium	115-1				98		%
Indium	115-2				98		%
Iron	56-2	17.90	16.79	15.79	16.83	6.29	ppb
Iron	57-2	15.18	13.63	13.58	14.13	6.42	ppb
Iron	54-2	16.72	17.16	15.62	16.50	4.82	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:38:43 DataFile Name : 018CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.45	0.48	0.39	0.44	10.57	ppb
Lead	207-1	0.47	0.56	0.42	0.48	15.31	ppb
Lead	208-1	0.45	0.52	0.39	0.45	14.19	ppb
Lithium	6-1				99		%
Magnesium	24-2	31.83	30.67	27.11	29.87	8.23	ppb
Manganese	55-2	0.47	0.40	0.45	0.44	7.68	ppb
Molybdenum	94-1	0.89	1.13	0.85	0.96	15.80	ppb
Molybdenum	95-1	0.96	1.17	0.94	1.02	12.49	ppb
Molybdenum	96-1	0.90	1.26	0.91	1.02	19.88	ppb
Molybdenum	97-1	0.92	1.18	0.88	0.99	16.28	ppb
Molybdenum	98-1	0.97	1.25	1.03	1.08	13.50	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.07	0.01	0.04	0.04	71.08	ppb
Phosphorus	31-2	-143.62	-133.34	-130.45	-135.80		ppb
Potassium	39-2	40.31	42.95	45.09	42.78	5.61	ppb
Rhodium	103-1				97		%
Rhodium	103-2				99		%
Scandium	45-1				97		%
Scandium	45-2				97		%
Selenium	82-1	0.69	0.90	0.95	0.84	16.12	ppb
Selenium	77-2	-0.49	0.26	-0.24	-0.15		ppb
Selenium	78-2	1.78	0.75	1.12	1.22	42.88	ppb
Silicon	28-1	-0.51	0.05	-0.42	-0.29		ppb
Silver	107-1	0.12	0.13	0.12	0.12	7.03	ppb
Silver	109-1	0.12	0.13	0.10	0.12	10.57	ppb
Sodium	23-2	82.10	82.95	81.78	82.28	0.74	ppb
Strontium	86-1	0.06	0.10	0.08	0.08	27.55	ppb
Strontium	88-1	0.07	0.10	0.08	0.09	16.88	ppb
Sulfur	34-1	-680.19	-419.54	-539.20	-546.31		ppb
Terbium	159-1				102		%
Terbium	159-2				99		%
Thallium	203-1	0.17	0.14	0.13	0.15	14.71	ppb
Thallium	205-1	0.18	0.16	0.14	0.16	11.29	ppb
Tin	118-1	0.19	0.18	0.17	0.18	4.99	ppb
Titanium	47-1	0.74	1.03	0.85	0.87	16.22	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:38:43 DataFile Name : 018CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.07	0.10	0.07	0.08	22.88	ppb
Vanadium	51-2	0.05	0.05	0.06	0.05	16.42	ppb
Yttrium	89-1				97		%
Yttrium	89-2				97		%
Zinc	66-2	0.67	0.83	0.69	0.73	12.07	ppb
Zirconium	90-1	0.05	0.06	0.05	0.05	18.59	ppb
Zirconium	91-1	0.04	0.06	0.06	0.05	22.18	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:42:01 DataFile Name : 019LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	19.24	19.46	21.95	20.22	7.44	ppb
Antimony	121-1	1.96	2.00	1.97	1.98	0.93	ppb
Arsenic	75-2	1.02	0.94	0.87	0.94	8.12	ppb
Barium	135-1	9.06	9.41	9.26	9.25	1.94	ppb
Barium	137-1	9.57	9.45	9.35	9.46	1.16	ppb
Beryllium	9-1	0.96	1.09	1.02	1.02	6.41	ppb
Bismuth	209-1				102		%
Bismuth	209-2				103		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.83	1.22	0.86	0.97	22.29	ppb
Cadmium	106-1	0.59	0.11	0.82	0.51	70.54	ppb
Cadmium	111-1	0.92	0.89	0.90	0.91	1.84	ppb
Calcium	43-1	489.66	484.50	476.45	483.53	1.38	ppb
Calcium	44-1	482.07	485.82	480.31	482.73	0.58	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1.94	1.88	1.94	1.92	1.83	ppb
Cobalt	59-2	0.97	1.03	1.06	1.02	4.55	ppb
Copper	63-2	1.92	2.10	2.04	2.02	4.45	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				102		%
Indium	115-1				100		%
Indium	115-2				100		%
Iron	56-2	51.66	52.51	52.37	52.18	0.88	ppb
Iron	57-2	54.72	47.53	50.27	50.84	7.14	ppb
Iron	54-2	53.30	55.80	54.16	54.42	2.33	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:42:01 DataFile Name : 019LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.89	0.86	0.79	0.85	6.13	ppb
Lead	207-1	0.87	0.82	0.80	0.83	4.19	ppb
Lead	208-1	0.85	0.84	0.79	0.83	4.24	ppb
Lithium	6-1				101		%
Magnesium	24-2	468.20	468.61	471.82	469.54	0.42	ppb
Manganese	55-2	0.81	0.86	0.87	0.85	3.42	ppb
Molybdenum	94-1	5.62	5.90	5.79	5.77	2.48	ppb
Molybdenum	95-1	4.75	5.08	4.73	4.85	4.04	ppb
Molybdenum	96-1	4.84	4.90	4.92	4.89	0.83	ppb
Molybdenum	97-1	4.75	5.16	5.05	4.99	4.25	ppb
Molybdenum	98-1	4.73	4.87	4.91	4.84	1.94	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.82	0.99	0.83	0.88	10.50	ppb
Phosphorus	31-2	78.05	82.85	91.17	84.02	7.90	ppb
Potassium	39-2	494.62	510.75	500.71	502.03	1.62	ppb
Rhodium	103-1				98		%
Rhodium	103-2				100		%
Scandium	45-1				99		%
Scandium	45-2				100		%
Selenium	82-1	4.73	5.10	4.81	4.88	4.04	ppb
Selenium	77-2	5.08	3.62	4.00	4.23	17.95	ppb
Selenium	78-2	5.96	4.77	5.70	5.48	11.43	ppb
Silicon	28-1	-0.60	-0.19	-0.33	-0.37		ppb
Silver	107-1	0.99	1.07	1.04	1.04	3.79	ppb
Silver	109-1	1.03	1.08	1.07	1.06	2.59	ppb
Sodium	23-2	507.11	503.56	511.02	507.23	0.74	ppb
Strontium	86-1	0.92	0.91	0.96	0.93	3.24	ppb
Strontium	88-1	0.93	0.92	0.95	0.93	1.55	ppb
Sulfur	34-1	-342.92	-175.55	-163.72	-227.40		ppb
Terbium	159-1				102		%
Terbium	159-2				102		%
Thallium	203-1	0.98	0.96	0.95	0.96	1.77	ppb
Thallium	205-1	1.03	0.93	0.97	0.98	5.02	ppb
Tin	118-1	4.78	4.78	4.74	4.76	0.47	ppb
Titanium	47-1	4.83	4.82	4.51	4.72	3.82	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:42:01 DataFile Name : 019LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.89	0.88	0.86	0.88	1.50	ppb
Vanadium	51-2	4.83	4.84	5.05	4.90	2.51	ppb
Yttrium	89-1				98		%
Yttrium	89-2				99		%
Zinc	66-2	4.76	4.69	4.85	4.77	1.69	ppb
Zirconium	90-1	0.91	0.94	0.97	0.94	3.39	ppb
Zirconium	91-1	0.94	1.01	0.94	0.96	4.19	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:45:16 DataFile Name : 020SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	3022.21	3052.69	3045.82	3040.24	0.53	ppb
Antimony	121-1	618.73	633.43	617.20	623.12	1.44	ppb
Arsenic	75-2	233.09	232.32	229.64	231.68	0.78	ppb
Barium	135-1	1600.59	1601.40	1575.15	1592.38	0.94	ppb
Barium	137-1	1609.20	1594.01	1575.31	1592.84	1.07	ppb
Beryllium	9-1	244.69	248.43	251.99	248.37	1.47	ppb
Bismuth	209-1				104		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	369.36	376.96	372.23	372.85	1.03	ppb
Cadmium	106-1	374.41	368.07	359.65	367.38	2.02	ppb
Cadmium	111-1	409.21	411.46	401.46	407.38	1.29	ppb
Calcium	43-1	106.84	115.23	107.51	109.86	4.25	ppb
Calcium	44-1	54.31	54.73	55.97	55.00	1.56	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	888.47	861.06	882.99	877.51	1.65	ppb
Cobalt	59-2	319.34	319.15	316.34	318.27	0.53	ppb
Copper	63-2	332.61	329.93	330.20	330.91	0.45	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				103		%
Indium	115-1				100		%
Indium	115-2				99		%
Iron	56-2	2383.94	2417.72	2397.81	2399.82	0.71	ppb
Iron	57-2	2471.05	2488.36	2500.88	2486.76	0.60	ppb
Iron	54-2	3174.31	3156.38	3125.07	3151.92	0.79	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:45:16 DataFile Name : 020SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1041.34	1066.63	1069.84	1059.27	1.47	ppb
Lead	207-1	1015.45	1031.08	1034.83	1027.12	1.00	ppb
Lead	208-1	1029.98	1044.90	1034.70	1036.53	0.74	ppb
Lithium	6-1				103		%
Magnesium	24-2	1.68	1.37	1.11	1.39	20.46	ppb
Manganese	55-2	786.12	794.80	798.14	793.02	0.78	ppb
Molybdenum	94-1	207.57	211.50	212.29	210.45	1.20	ppb
Molybdenum	95-1	248.71	252.26	255.04	252.00	1.26	ppb
Molybdenum	96-1	243.38	246.54	250.33	246.75	1.41	ppb
Molybdenum	97-1	250.69	254.24	257.57	254.17	1.35	ppb
Molybdenum	98-1	252.10	255.15	255.39	254.21	0.72	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	654.51	658.67	656.05	656.41	0.32	ppb
Phosphorus	31-2	-139.98	-152.00	-137.43	-143.14		ppb
Potassium	39-2	3.25	3.92	3.63	3.60	9.35	ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-1				99		%
Scandium	45-2				99		%
Selenium	82-1	532.07	541.58	551.95	541.87	1.84	ppb
Selenium	77-2	535.37	547.82	565.04	549.41	2.71	ppb
Selenium	78-2	535.31	537.07	539.28	537.22	0.37	ppb
Silicon	28-1	39.06	40.46	40.44	39.99	2.01	ppb
Silver	107-1	675.37	679.96	666.28	673.87	1.03	ppb
Silver	109-1	682.06	686.52	672.84	680.47	1.03	ppb
Sodium	23-2	90.09	91.37	91.49	90.98	0.85	ppb
Strontium	86-1	141.45	143.43	145.22	143.36	1.32	ppb
Strontium	88-1	142.86	146.19	145.46	144.84	1.21	ppb
Sulfur	34-1	-637.42	-832.01	-920.37	-796.60		ppb
Terbium	159-1				103		%
Terbium	159-2				101		%
Thallium	203-1	601.80	615.30	610.84	609.31	1.13	ppb
Thallium	205-1	603.66	603.34	611.23	606.07	0.74	ppb
Tin	118-1	0.07	0.06	0.04	0.06	28.21	ppb
Titanium	47-1	0.40	0.30	0.36	0.35	15.30	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:45:16 DataFile Name : 020SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.01	0.00	28.05	ppb
Vanadium	51-2	1261.02	1267.09	1240.12	1256.07	1.13	ppb
Yttrium	89-1				100		%
Yttrium	89-2				98		%
Zinc	66-2	1133.59	1124.15	1129.77	1129.17	0.42	ppb
Zirconium	90-1	0.59	0.49	0.49	0.52	11.01	ppb
Zirconium	91-1	0.61	0.57	0.54	0.58	5.99	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:48:16 DataFile Name : 021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	48.29	49.67	48.60	48.85	1.49	ppb
Antimony	121-1	0.10	0.08	0.09	0.09	10.97	ppb
Arsenic	75-2	-0.02	-0.05	0.00	-0.02		ppb
Barium	135-1	0.11	0.10	0.15	0.12	22.01	ppb
Barium	137-1	0.16	0.13	0.16	0.15	11.86	ppb
Beryllium	9-1	0.00	0.01	-0.01	0.00	381.91	ppb
Bismuth	209-1				105		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.02	0.01	-0.04	0.00		ppb
Cadmium	106-1	0.63	-1.52	-0.47	-0.45		ppb
Cadmium	111-1	0.06	-0.09	-0.02	-0.02		ppb
Calcium	43-1	2.03	3.61	4.12	3.25	33.58	ppb
Calcium	44-1	0.73	1.30	2.11	1.38	50.40	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.03	0.03	0.08	0.05	54.12	ppb
Cobalt	59-2	0.02	0.02	0.01	0.02	21.47	ppb
Copper	63-2	0.11	0.14	0.12	0.12	12.64	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				102		%
Indium	115-1				100		%
Indium	115-2				99		%
Iron	56-2	0.86	0.93	0.94	0.91	4.57	ppb
Iron	57-2	-4.98	-2.20	-3.35	-3.51		ppb
Iron	54-2	0.39	-0.16	0.53	0.25	144.83	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:48:16 DataFile Name : 021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.04	0.05	0.07	0.05	25.23	ppb
Lead	207-1	0.08	0.04	0.07	0.06	35.52	ppb
Lead	208-1	0.05	0.04	0.06	0.05	21.35	ppb
Lithium	6-1				103		%
Magnesium	24-2	0.98	0.85	1.12	0.98	13.34	ppb
Manganese	55-2	0.10	0.21	0.08	0.13	55.87	ppb
Molybdenum	94-1	1.88	1.85	1.84	1.85	1.12	ppb
Molybdenum	95-1	0.06	0.04	0.06	0.05	24.65	ppb
Molybdenum	96-1	0.24	0.21	0.23	0.23	8.35	ppb
Molybdenum	97-1	0.08	0.05	0.05	0.06	30.87	ppb
Molybdenum	98-1	0.06	0.05	0.06	0.06	8.49	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.14	0.14	0.18	0.15	13.20	ppb
Phosphorus	31-2	-141.85	-155.51	-140.97	-146.11		ppb
Potassium	39-2	3.30	3.77	2.43	3.17	21.43	ppb
Rhodium	103-1				101		%
Rhodium	103-2				101		%
Scandium	45-1				101		%
Scandium	45-2				100		%
Selenium	82-1	0.73	0.29	0.26	0.43	60.87	ppb
Selenium	77-2	-0.49	-0.49	-0.49	-0.49		ppb
Selenium	78-2	0.09	1.65	-0.83	0.30	413.15	ppb
Silicon	28-1	91.83	96.76	96.45	95.02	2.91	ppb
Silver	107-1	0.07	0.04	0.04	0.05	40.56	ppb
Silver	109-1	0.08	0.05	0.04	0.05	36.24	ppb
Sodium	23-2	152.81	152.18	150.04	151.68	0.96	ppb
Strontium	86-1	-0.02	0.04	0.02	0.01	231.61	ppb
Strontium	88-1	0.02	0.02	0.02	0.02	4.85	ppb
Sulfur	34-1	-1421.37	-1338.03	-1203.21	-1320.87		ppb
Terbium	159-1				105		%
Terbium	159-2				103		%
Thallium	203-1	0.06	0.07	0.06	0.06	8.45	ppb
Thallium	205-1	0.06	0.07	0.06	0.07	4.44	ppb
Tin	118-1	664.18	652.76	663.30	660.08	0.96	ppb
Titanium	47-1	77.70	78.45	78.69	78.28	0.66	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:48:16 DataFile Name : 021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	66.09	ppb
Vanadium	51-2	0.02	0.02	0.02	0.02	6.90	ppb
Yttrium	89-1				101		%
Yttrium	89-2				99		%
Zinc	66-2	-0.04	-0.10	-0.05	-0.06		ppb
Zirconium	90-1	0.92	0.98	0.95	0.95	3.29	ppb
Zirconium	91-1	1.01	0.95	0.94	0.97	3.96	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 16:51:29 DataFile Name : 022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1502.23	1509.52	1508.03	1506.59	0.26	ppb
Antimony	121-1	304.14	310.78	309.10	308.00	1.12	ppb
Arsenic	75-2	114.93	114.94	114.47	114.78	0.23	ppb
Barium	135-1	771.93	773.18	797.70	780.94	1.86	ppb
Barium	137-1	787.31	805.16	818.95	803.81	1.97	ppb
Beryllium	9-1	123.07	122.94	124.90	123.64	0.89	ppb
Bismuth	209-1				103		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	181.29	184.20	188.80	184.76	2.05	ppb
Cadmium	106-1	179.72	176.39	186.26	180.79	2.78	ppb
Cadmium	111-1	202.89	201.06	208.50	204.15	1.90	ppb
Calcium	43-1	61.66	77.87	64.60	68.04	12.70	ppb
Calcium	44-1	36.88	37.51	39.51	37.96	3.62	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	439.48	442.05	438.69	440.08	0.40	ppb
Cobalt	59-2	158.43	159.89	159.83	159.38	0.52	ppb
Copper	63-2	165.67	165.29	165.21	165.39	0.15	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				105		%
Holmium	165-2				102		%
Indium	115-1				101		%
Indium	115-2				100		%
Iron	56-2	1192.95	1217.05	1216.36	1208.79	1.13	ppb
Iron	57-2	1246.46	1240.94	1238.18	1241.86	0.34	ppb
Iron	54-2	1572.04	1579.90	1588.44	1580.13	0.52	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 16:51:29 DataFile Name : 022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	524.52	539.04	539.39	534.32	1.59	ppb
Lead	207-1	518.26	509.33	525.62	517.73	1.58	ppb
Lead	208-1	520.22	524.87	534.87	526.66	1.42	ppb
Lithium	6-1				103		%
Magnesium	24-2	2.17	2.17	1.90	2.08	7.30	ppb
Manganese	55-2	398.83	400.16	400.56	399.85	0.23	ppb
Molybdenum	94-1	106.43	105.61	107.59	106.54	0.94	ppb
Molybdenum	95-1	125.95	125.69	128.16	126.60	1.07	ppb
Molybdenum	96-1	124.75	121.70	125.46	123.97	1.61	ppb
Molybdenum	97-1	127.46	126.68	130.64	128.26	1.64	ppb
Molybdenum	98-1	127.86	127.14	129.57	128.19	0.97	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	327.69	331.32	330.68	329.89	0.59	ppb
Phosphorus	31-2	-156.10	-147.39	-142.47	-148.65		ppb
Potassium	39-2	-5.47	1.96	0.23	-1.09		ppb
Rhodium	103-1				99		%
Rhodium	103-2				99		%
Scandium	45-1				99		%
Scandium	45-2				99		%
Selenium	82-1	266.50	273.97	270.55	270.34	1.38	ppb
Selenium	77-2	273.49	277.11	259.44	270.01	3.46	ppb
Selenium	78-2	267.38	272.39	258.70	266.16	2.60	ppb
Silicon	28-1	22.41	22.38	23.30	22.70	2.30	ppb
Silver	107-1	331.86	328.64	338.28	332.93	1.48	ppb
Silver	109-1	344.00	345.02	341.94	343.65	0.46	ppb
Sodium	23-2	52.28	54.53	54.33	53.72	2.32	ppb
Strontium	86-1	72.11	71.14	72.04	71.77	0.75	ppb
Strontium	88-1	73.15	72.80	73.48	73.14	0.47	ppb
Sulfur	34-1	-1281.32	-1327.67	-1185.14	-1264.71		ppb
Terbium	159-1				103		%
Terbium	159-2				101		%
Thallium	203-1	288.08	294.14	296.80	293.01	1.53	ppb
Thallium	205-1	307.34	306.84	307.60	307.26	0.13	ppb
Tin	118-1	0.10	0.10	0.19	0.13	39.28	ppb
Titanium	47-1	0.15	0.18	0.23	0.19	19.74	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 16:51:29 DataFile Name : 022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	37.41	ppb
Vanadium	51-2	622.95	627.23	614.51	621.56	1.04	ppb
Yttrium	89-1				99		%
Yttrium	89-2				98		%
Zinc	66-2	564.99	564.36	571.06	566.80	0.65	ppb
Zirconium	90-1	0.23	0.21	0.23	0.22	4.11	ppb
Zirconium	91-1	0.24	0.23	0.25	0.24	2.76	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:54:37 DataFile Name : 023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	3062.43	3040.96	3011.24	3038.21	0.85	ppb
Antimony	121-1	612.90	618.73	623.08	618.24	0.83	ppb
Arsenic	75-2	228.21	228.48	227.57	228.08	0.21	ppb
Barium	135-1	1581.76	1606.82	1578.34	1588.98	0.98	ppb
Barium	137-1	1592.66	1632.85	1585.98	1603.83	1.58	ppb
Beryllium	9-1	245.60	248.90	248.11	247.54	0.70	ppb
Bismuth	209-1				105		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	365.48	368.86	367.66	367.33	0.47	ppb
Cadmium	106-1	361.95	361.31	362.05	361.77	0.11	ppb
Cadmium	111-1	400.21	405.46	402.21	402.63	0.66	ppb
Calcium	43-1	94.31	106.05	111.70	104.02	8.53	ppb
Calcium	44-1	51.77	53.00	50.16	51.64	2.75	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	879.11	887.40	876.97	881.16	0.63	ppb
Cobalt	59-2	319.40	316.60	315.76	317.26	0.60	ppb
Copper	63-2	334.62	329.89	331.08	331.86	0.74	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				103		%
Indium	115-1				100		%
Indium	115-2				100		%
Iron	56-2	2408.31	2435.44	2397.02	2413.59	0.82	ppb
Iron	57-2	2489.97	2481.69	2480.12	2483.93	0.21	ppb
Iron	54-2	3186.66	3136.50	3150.35	3157.84	0.82	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:54:37 DataFile Name : 023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1016.26	1068.29	1062.80	1049.12	2.72	ppb
Lead	207-1	1001.60	1034.77	1038.84	1025.07	1.99	ppb
Lead	208-1	1023.93	1053.13	1046.34	1041.13	1.47	ppb
Lithium	6-1				103		%
Magnesium	24-2	0.34	0.55	0.64	0.51	30.11	ppb
Manganese	55-2	819.91	799.09	793.65	804.22	1.72	ppb
Molybdenum	94-1	209.88	209.60	209.14	209.54	0.18	ppb
Molybdenum	95-1	252.56	252.00	250.93	251.83	0.33	ppb
Molybdenum	96-1	246.28	244.32	246.63	245.74	0.51	ppb
Molybdenum	97-1	254.66	251.18	253.89	253.24	0.72	ppb
Molybdenum	98-1	255.85	253.75	253.22	254.28	0.55	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	660.20	656.33	654.55	657.03	0.44	ppb
Phosphorus	31-2	-132.10	-149.06	-140.80	-140.65		ppb
Potassium	39-2	-5.99	-6.47	-4.80	-5.75		ppb
Rhodium	103-1				99		%
Rhodium	103-2				99		%
Scandium	45-1				100		%
Scandium	45-2				99		%
Selenium	82-1	546.64	536.26	540.19	541.03	0.97	ppb
Selenium	77-2	554.81	541.68	553.87	550.12	1.33	ppb
Selenium	78-2	531.93	537.46	542.89	537.43	1.02	ppb
Silicon	28-1	39.57	39.91	39.85	39.78	0.46	ppb
Silver	107-1	672.24	674.10	665.38	670.57	0.69	ppb
Silver	109-1	678.16	684.94	668.54	677.21	1.22	ppb
Sodium	23-2	78.65	78.28	78.23	78.39	0.30	ppb
Strontium	86-1	143.42	142.46	143.10	143.00	0.34	ppb
Strontium	88-1	144.25	143.57	147.17	145.00	1.32	ppb
Sulfur	34-1	-1558.58	-1600.16	-1682.02	-1613.59		ppb
Terbium	159-1				104		%
Terbium	159-2				102		%
Thallium	203-1	587.64	625.32	596.49	603.15	3.27	ppb
Thallium	205-1	600.08	607.68	616.51	608.09	1.35	ppb
Tin	118-1	0.07	0.05	0.04	0.05	24.99	ppb
Titanium	47-1	0.34	0.27	0.36	0.32	14.99	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:54:37 DataFile Name : 023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.01	0.00	0.00	30.91	ppb
Vanadium	51-2	1267.32	1270.22	1241.38	1259.64	1.26	ppb
Yttrium	89-1				100		%
Yttrium	89-2				99		%
Zinc	66-2	1150.58	1133.87	1130.52	1138.32	0.94	ppb
Zirconium	90-1	0.39	0.37	0.39	0.39	2.40	ppb
Zirconium	91-1	0.48	0.43	0.49	0.47	7.54	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:57:35 DataFile Name : 024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	51.25	47.69	47.58	48.84	4.27	ppb
Antimony	121-1	0.10	0.09	0.09	0.09	4.24	ppb
Arsenic	75-2	0.05	0.00	-0.02	0.01	356.46	ppb
Barium	135-1	0.14	0.17	0.15	0.15	10.09	ppb
Barium	137-1	0.15	0.15	0.14	0.15	3.97	ppb
Beryllium	9-1	0.02	0.00	0.01	0.01	79.40	ppb
Bismuth	209-1				101		%
Bismuth	209-2				103		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.01	-0.01	0.13	0.04	170.42	ppb
Cadmium	106-1	-0.38	0.59	-0.84	-0.21		ppb
Cadmium	111-1	0.00	0.06	-0.05	0.00	1747.85	ppb
Calcium	43-1	0.73	-1.48	-1.80	-0.85		ppb
Calcium	44-1	-1.44	-2.01	-1.37	-1.61		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.08	0.07	0.07	0.07	10.46	ppb
Cobalt	59-2	0.03	0.04	0.04	0.04	18.18	ppb
Copper	63-2	0.14	0.12	0.15	0.14	13.79	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				100		%
Indium	115-2				99		%
Iron	56-2	0.69	0.85	0.73	0.76	11.07	ppb
Iron	57-2	-4.80	-2.61	-4.32	-3.91		ppb
Iron	54-2	-0.42	0.98	-0.37	0.06	1225.42	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:57:35 DataFile Name : 024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.07	0.07	0.06	0.07	6.12	ppb
Lead	207-1	0.06	0.06	0.09	0.07	25.78	ppb
Lead	208-1	0.06	0.07	0.07	0.07	7.36	ppb
Lithium	6-1				103		%
Magnesium	24-2	0.56	1.08	0.45	0.70	48.51	ppb
Manganese	55-2	0.22	0.20	0.17	0.20	14.75	ppb
Molybdenum	94-1	1.80	1.75	1.72	1.76	2.38	ppb
Molybdenum	95-1	0.04	0.04	0.02	0.03	29.35	ppb
Molybdenum	96-1	0.26	0.23	0.21	0.23	10.81	ppb
Molybdenum	97-1	0.07	0.04	0.04	0.05	38.04	ppb
Molybdenum	98-1	0.05	0.04	0.04	0.04	17.88	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.17	0.16	0.25	0.19	26.58	ppb
Phosphorus	31-2	-143.84	-148.56	-149.64	-147.35		ppb
Potassium	39-2	-1.53	1.51	-1.54	-0.52		ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				99		%
Selenium	82-1	0.61	0.06	1.03	0.57	86.48	ppb
Selenium	77-2	0.00	-0.49	-0.24	-0.24		ppb
Selenium	78-2	0.29	-0.27	-0.58	-0.19		ppb
Silicon	28-1	98.16	96.24	97.15	97.18	0.99	ppb
Silver	107-1	0.09	0.06	0.04	0.07	37.39	ppb
Silver	109-1	0.08	0.07	0.03	0.06	39.75	ppb
Sodium	23-2	144.33	144.45	143.09	143.96	0.52	ppb
Strontium	86-1	0.02	-0.01	0.04	0.02	125.19	ppb
Strontium	88-1	0.02	0.02	0.02	0.02	21.64	ppb
Sulfur	34-1	-1794.29	-1703.96	-1663.83	-1720.70		ppb
Terbium	159-1				104		%
Terbium	159-2				102		%
Thallium	203-1	0.09	0.08	0.07	0.08	14.87	ppb
Thallium	205-1	0.09	0.09	0.08	0.09	6.22	ppb
Tin	118-1	671.53	696.94	650.55	673.01	3.45	ppb
Titanium	47-1	78.68	80.50	77.69	78.96	1.81	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:57:35 DataFile Name : 024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	59.37	ppb
Vanadium	51-2	0.03	0.05	0.03	0.04	31.72	ppb
Yttrium	89-1				99		%
Yttrium	89-2				100		%
Zinc	66-2	0.53	0.07	0.29	0.30	77.48	ppb
Zirconium	90-1	0.94	0.98	0.96	0.96	2.11	ppb
Zirconium	91-1	0.96	0.94	0.85	0.92	6.88	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:00:53 DataFile Name : 025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1544.88	1547.61	1554.80	1549.10	0.33	ppb
Antimony	121-1	307.34	305.15	310.43	307.64	0.86	ppb
Arsenic	75-2	115.09	117.47	116.60	116.39	1.03	ppb
Barium	135-1	784.53	777.85	776.89	779.76	0.53	ppb
Barium	137-1	809.40	806.61	790.67	802.23	1.26	ppb
Beryllium	9-1	121.45	121.39	123.87	122.24	1.16	ppb
Bismuth	209-1				105		%
Bismuth	209-2				103		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	190.56	184.66	177.37	184.20	3.59	ppb
Cadmium	106-1	184.82	182.72	180.75	182.76	1.12	ppb
Cadmium	111-1	205.44	201.54	201.16	202.71	1.17	ppb
Calcium	43-1	49.96	48.16	47.59	48.57	2.55	ppb
Calcium	44-1	26.22	24.17	26.48	25.62	4.93	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	442.15	447.41	444.67	444.75	0.59	ppb
Cobalt	59-2	158.87	159.71	160.41	159.66	0.48	ppb
Copper	63-2	166.76	165.76	166.33	166.28	0.30	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				101		%
Indium	115-1				102		%
Indium	115-2				99		%
Iron	56-2	1220.23	1223.07	1203.88	1215.72	0.85	ppb
Iron	57-2	1230.51	1256.19	1243.05	1243.25	1.03	ppb
Iron	54-2	1586.53	1578.45	1606.44	1590.47	0.91	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:00:53 DataFile Name : 025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	524.07	520.19	538.95	527.74	1.88	ppb
Lead	207-1	514.21	508.05	528.19	516.82	2.00	ppb
Lead	208-1	519.90	512.38	529.59	520.63	1.66	ppb
Lithium	6-1				105		%
Magnesium	24-2	0.81	0.78	0.74	0.78	4.92	ppb
Manganese	55-2	401.98	401.55	402.05	401.86	0.07	ppb
Molybdenum	94-1	104.61	104.82	104.22	104.55	0.29	ppb
Molybdenum	95-1	124.39	124.59	125.58	124.85	0.51	ppb
Molybdenum	96-1	122.85	122.25	122.69	122.60	0.25	ppb
Molybdenum	97-1	128.26	127.59	127.11	127.65	0.45	ppb
Molybdenum	98-1	127.32	126.70	128.22	127.41	0.60	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	332.02	328.36	332.12	330.83	0.65	ppb
Phosphorus	31-2	-137.73	-140.31	-144.00	-140.68		ppb
Potassium	39-2	-3.09	-4.42	-4.25	-3.92		ppb
Rhodium	103-1				100		%
Rhodium	103-2				99		%
Scandium	45-1				98		%
Scandium	45-2				98		%
Selenium	82-1	267.34	269.11	266.79	267.75	0.45	ppb
Selenium	77-2	267.79	269.33	275.34	270.82	1.47	ppb
Selenium	78-2	268.51	262.75	272.33	267.86	1.80	ppb
Silicon	28-1	23.37	21.99	23.27	22.88	3.36	ppb
Silver	107-1	340.66	338.07	334.86	337.86	0.86	ppb
Silver	109-1	345.98	341.07	334.68	340.58	1.66	ppb
Sodium	23-2	46.77	46.60	46.87	46.75	0.29	ppb
Strontium	86-1	71.45	71.58	71.95	71.66	0.36	ppb
Strontium	88-1	71.97	73.04	72.30	72.44	0.76	ppb
Sulfur	34-1	-1622.65	-1770.90	-1595.28	-1662.94		ppb
Terbium	159-1				104		%
Terbium	159-2				101		%
Thallium	203-1	289.83	283.31	292.22	288.45	1.60	ppb
Thallium	205-1	300.88	303.89	305.16	303.31	0.73	ppb
Tin	118-1	0.09	0.07	0.07	0.08	16.99	ppb
Titanium	47-1	0.16	0.15	0.15	0.15	4.06	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:00:53 DataFile Name : 025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	44.45	ppb
Vanadium	51-2	629.23	642.96	626.76	632.98	1.38	ppb
Yttrium	89-1				100		%
Yttrium	89-2				97		%
Zinc	66-2	569.40	571.46	569.40	570.09	0.21	ppb
Zirconium	90-1	0.19	0.18	0.20	0.19	4.77	ppb
Zirconium	91-1	0.21	0.21	0.21	0.21	1.64	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:03:59 DataFile Name : 026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.58	1.68	1.39	1.55	9.41	ppb
Antimony	121-1	0.07	0.06	0.06	0.06	8.61	ppb
Arsenic	75-2	-0.03	0.03	0.03	0.01	279.15	ppb
Barium	135-1	0.09	0.08	0.11	0.09	17.29	ppb
Barium	137-1	0.12	0.13	0.13	0.13	2.15	ppb
Beryllium	9-1	0.01	0.01	0.01	0.01	35.82	ppb
Bismuth	209-1				95		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.02	0.15	-0.01	0.06	148.21	ppb
Cadmium	106-1	-1.52	0.04	-0.25	-0.58		ppb
Cadmium	111-1	-0.08	0.02	0.01	-0.02		ppb
Calcium	43-1	77484.77	79003.97	80653.20	79047.31	2.00	ppb
Calcium	44-1	77873.52	78659.59	80591.57	79041.56	1.77	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.12	0.14	0.17	0.14	17.43	ppb
Cobalt	59-2	0.12	0.09	0.12	0.11	16.53	ppb
Copper	63-2	0.09	0.08	0.09	0.09	3.44	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				96		%
Holmium	165-2				97		%
Indium	115-1				93		%
Indium	115-2				95		%
Iron	56-2	1.75	1.82	1.94	1.84	5.15	ppb
Iron	57-2	642.15	656.82	662.70	653.89	1.62	ppb
Iron	54-2	1.48	2.89	2.57	2.32	31.87	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:03:59 DataFile Name : 026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.12	0.11	0.10	0.11	10.61	ppb
Lead	207-1	0.11	0.09	0.08	0.09	15.64	ppb
Lead	208-1	0.12	0.11	0.08	0.10	18.61	ppb
Lithium	6-1				97		%
Magnesium	24-2	26306.29	26092.25	25953.71	26117.42	0.68	ppb
Manganese	55-2	-0.44	-0.59	-0.54	-0.52		ppb
Molybdenum	94-1	0.18	0.15	0.16	0.16	10.13	ppb
Molybdenum	95-1	0.18	0.15	0.19	0.17	10.80	ppb
Molybdenum	96-1	0.19	0.17	0.20	0.19	7.99	ppb
Molybdenum	97-1	0.16	0.17	0.16	0.16	5.94	ppb
Molybdenum	98-1	0.18	0.17	0.18	0.18	2.30	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.21	0.26	0.22	0.23	12.38	ppb
Phosphorus	31-2	-138.36	-143.28	-138.34	-139.99		ppb
Potassium	39-2	8485.34	8418.45	8285.83	8396.54	1.21	ppb
Rhodium	103-1				92		%
Rhodium	103-2				95		%
Scandium	45-1				94		%
Scandium	45-2				96		%
Selenium	82-1	-0.76	0.59	-0.44	-0.20		ppb
Selenium	77-2	-0.23	-0.49	-0.49	-0.40		ppb
Selenium	78-2	0.53	0.93	0.27	0.58	57.71	ppb
Silicon	28-1	1.28	1.18	2.06	1.51	32.17	ppb
Silver	107-1	0.05	0.04	0.03	0.04	18.81	ppb
Silver	109-1	0.05	0.04	0.04	0.04	17.88	ppb
Sodium	23-2	25428.98	25173.80	25530.26	25377.68	0.72	ppb
Strontium	86-1	7.27	7.22	7.10	7.20	1.22	ppb
Strontium	88-1	7.35	7.50	7.52	7.46	1.22	ppb
Sulfur	34-1	-618.10	-220.47	484.02	-118.18		ppb
Terbium	159-1				97		%
Terbium	159-2				97		%
Thallium	203-1	0.07	0.06	0.06	0.06	15.87	ppb
Thallium	205-1	0.07	0.07	0.06	0.07	4.01	ppb
Tin	118-1	0.03	0.04	0.03	0.04	15.70	ppb
Titanium	47-1	0.05	0.09	0.05	0.07	34.16	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:03:59 DataFile Name : 026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.01	0.01	0.01	0.01	26.01	ppb
Yttrium	89-1				93		%
Yttrium	89-2				95		%
Zinc	66-2	0.14	0.38	0.09	0.20	77.79	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	7595.09	ppb
Zirconium	91-1	0.00	-0.01	0.00	0.00		ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:07:11 DataFile Name : 027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.21	1.94	2.04	2.06	6.50	ppb
Antimony	121-1	0.02	0.01	0.02	0.02	24.27	ppb
Arsenic	75-2	-0.01	-0.02	0.03	0.00	1335.10	ppb
Barium	135-1	0.10	0.05	0.08	0.08	35.54	ppb
Barium	137-1	0.10	0.08	0.08	0.09	9.33	ppb
Beryllium	9-1	0.00	0.00	0.01	0.00	310.76	ppb
Bismuth	209-1				93		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.01	-0.04	0.03	-0.01		ppb
Cadmium	106-1	0.06	1.16	1.00	0.74	80.84	ppb
Cadmium	111-1	0.02	0.09	0.10	0.07	58.34	ppb
Calcium	43-1	81062.92	76752.21	82360.96	80058.70	3.67	ppb
Calcium	44-1	78672.58	77566.42	79725.67	78654.89	1.37	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.10	0.16	0.17	0.14	26.71	ppb
Cobalt	59-2	0.11	0.10	0.12	0.11	9.92	ppb
Copper	63-2	0.06	0.06	0.08	0.07	19.77	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				97		%
Indium	115-1				94		%
Indium	115-2				95		%
Iron	56-2	1.43	1.73	1.75	1.64	11.08	ppb
Iron	57-2	650.04	664.03	669.84	661.30	1.54	ppb
Iron	54-2	2.43	1.72	1.32	1.82	30.94	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:07:11 DataFile Name : 027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.07	0.09	0.08	0.08	17.04	ppb
Lead	207-1	0.09	0.06	0.08	0.08	19.85	ppb
Lead	208-1	0.08	0.08	0.07	0.07	5.11	ppb
Lithium	6-1				98		%
Magnesium	24-2	26544.52	26154.69	26745.81	26481.68	1.13	ppb
Manganese	55-2	-0.67	-0.66	-0.65	-0.66		ppb
Molybdenum	94-1	0.18	0.19	0.15	0.17	11.11	ppb
Molybdenum	95-1	0.17	0.18	0.15	0.17	8.69	ppb
Molybdenum	96-1	0.17	0.18	0.18	0.18	4.94	ppb
Molybdenum	97-1	0.16	0.17	0.17	0.17	3.46	ppb
Molybdenum	98-1	0.16	0.18	0.17	0.17	6.32	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.18	0.17	0.13	0.16	15.84	ppb
Phosphorus	31-2	-135.20	-138.59	-126.75	-133.51		ppb
Potassium	39-2	8434.64	8462.17	8349.13	8415.31	0.70	ppb
Rhodium	103-1				94		%
Rhodium	103-2				95		%
Scandium	45-1				95		%
Scandium	45-2				98		%
Selenium	82-1	0.34	0.02	1.08	0.48	113.16	ppb
Selenium	77-2	0.53	-0.49	0.02	0.02	2573.80	ppb
Selenium	78-2	-1.30	3.47	1.80	1.32	183.07	ppb
Silicon	28-1	1.77	1.57	2.67	2.00	29.17	ppb
Silver	107-1	0.02	0.01	0.01	0.01	28.78	ppb
Silver	109-1	0.01	0.01	0.01	0.01	10.73	ppb
Sodium	23-2	25492.71	24983.16	25587.45	25354.44	1.28	ppb
Strontium	86-1	7.18	7.72	7.27	7.39	3.91	ppb
Strontium	88-1	7.44	7.65	7.66	7.58	1.62	ppb
Sulfur	34-1	971.36	1028.32	1508.42	1169.37	25.23	ppb
Terbium	159-1				96		%
Terbium	159-2				97		%
Thallium	203-1	0.05	0.03	0.03	0.04	32.58	ppb
Thallium	205-1	0.04	0.04	0.04	0.04	9.10	ppb
Tin	118-1	0.00	0.06	0.04	0.03	88.15	ppb
Titanium	47-1	0.07	0.07	0.07	0.07	1.58	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:07:11 DataFile Name : 027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.00	0.01	0.00	0.00	81.25	ppb
Yttrium	89-1				93		%
Yttrium	89-2				96		%
Zinc	66-2	0.30	0.11	0.00	0.14	109.36	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	157.57	ppb
Zirconium	91-1	0.00	0.00	0.01	0.00	126.56	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06DLX5 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 5
Date & Time Acquired : 2025-09-25 17:10:22 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.23	0.52	1.58	0.78	91.36	ppb
Antimony	121-1	0.01	0.01	0.01	0.01	16.94	ppb
Arsenic	75-2	-0.04	-0.02	0.00	-0.02		ppb
Barium	135-1	0.01	0.01	0.00	0.01	36.85	ppb
Barium	137-1	0.03	0.01	0.02	0.02	52.25	ppb
Beryllium	9-1	0.01	0.00	0.01	0.01	56.64	ppb
Bismuth	209-1				110		%
Bismuth	209-2				109		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.01	-0.07	-0.02	-0.03		ppb
Cadmium	106-1	1.53	1.29	-0.30	0.84	118.79	ppb
Cadmium	111-1	0.12	0.11	-0.02	0.07	111.05	ppb
Calcium	43-1	16136.28	16598.71	16724.53	16486.51	1.88	ppb
Calcium	44-1	15166.64	15657.85	15968.93	15597.81	2.59	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.10	-0.07	-0.13	-0.10		ppb
Cobalt	59-2	0.01	0.02	0.02	0.02	28.22	ppb
Copper	63-2	0.06	0.06	0.03	0.05	30.80	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				112		%
Holmium	165-2				111		%
Indium	115-1				109		%
Indium	115-2				111		%
Iron	56-2	-0.03	-0.23	-0.11	-0.12		ppb
Iron	57-2	129.40	127.82	123.77	127.00	2.29	ppb
Iron	54-2	-0.81	-1.55	-1.63	-1.33		ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06DLX5 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 5
Date & Time Acquired : 2025-09-25 17:10:22 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.01	-0.01	0.01	0.00	474.00	ppb
Lead	207-1	0.01	0.00	0.01	0.01	57.74	ppb
Lead	208-1	0.00	0.00	0.01	0.00	204.03	ppb
Lithium	6-1				113		%
Magnesium	24-2	5365.54	5242.08	5233.51	5280.38	1.40	ppb
Manganese	55-2	-0.14	-0.05	-0.19	-0.13		ppb
Molybdenum	94-1	0.03	0.02	0.04	0.03	32.06	ppb
Molybdenum	95-1	0.01	0.02	0.04	0.02	52.46	ppb
Molybdenum	96-1	0.02	0.03	0.04	0.03	35.03	ppb
Molybdenum	97-1	0.02	0.02	0.00	0.01	119.98	ppb
Molybdenum	98-1	0.03	0.02	0.02	0.02	17.99	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.02	-0.02	-0.02	-0.02		ppb
Phosphorus	31-2	-151.99	-153.24	-151.18	-152.14		ppb
Potassium	39-2	1736.93	1709.12	1715.22	1720.42	0.85	ppb
Rhodium	103-1				108		%
Rhodium	103-2				110		%
Scandium	45-1				110		%
Scandium	45-2				110		%
Selenium	82-1	0.40	0.85	0.61	0.62	35.81	ppb
Selenium	77-2	-0.26	-0.49	-0.49	-0.41		ppb
Selenium	78-2	-1.09	1.09	-0.31	-0.10		ppb
Silicon	28-1	-1.71	-1.29	-1.08	-1.36		ppb
Silver	107-1	0.00	0.00	0.00	0.00		ppb
Silver	109-1	0.01	0.01	0.01	0.01	16.15	ppb
Sodium	23-2	5037.00	5172.31	5015.68	5075.00	1.67	ppb
Strontium	86-1	1.23	1.47	1.40	1.37	8.79	ppb
Strontium	88-1	1.42	1.46	1.47	1.45	1.91	ppb
Sulfur	34-1	74.73	431.27	571.81	359.27	71.32	ppb
Terbium	159-1				112		%
Terbium	159-2				109		%
Thallium	203-1	0.03	0.03	0.03	0.03	7.73	ppb
Thallium	205-1	0.02	0.02	0.03	0.02	13.42	ppb
Tin	118-1	0.00	-0.02	-0.01	-0.01		ppb
Titanium	47-1	-0.04	-0.03	-0.03	-0.03		ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06DLX5 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 5
Date & Time Acquired : 2025-09-25 17:10:22 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.00	-0.01	-0.01	0.00		ppb
Yttrium	89-1				110		%
Yttrium	89-2				108		%
Zinc	66-2	0.38	0.50	0.52	0.47	16.19	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00		ppb
Zirconium	91-1	0.00	0.02	0.00	0.00	311.66	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:13:36 DataFile Name : 029CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	48640.53	49420.88	49778.19	49279.86	1.18	ppb
Antimony	121-1	501.24	516.43	522.28	513.32	2.12	ppb
Arsenic	75-2	480.05	483.65	493.94	485.88	1.48	ppb
Barium	135-1	2521.91	2567.42	2662.34	2583.89	2.77	ppb
Barium	137-1	2532.19	2593.60	2631.57	2585.79	1.94	ppb
Beryllium	9-1	519.59	512.11	534.11	521.94	2.14	ppb
Bismuth	209-1				89		%
Bismuth	209-2				91		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	495.13	507.18	508.47	503.60	1.46	ppb
Cadmium	106-1	499.13	506.49	525.78	510.47	2.70	ppb
Cadmium	111-1	497.39	498.91	520.74	505.68	2.58	ppb
Calcium	43-1	246429.73	246405.80	254438.06	249091.20	1.86	ppb
Calcium	44-1	243354.20	243449.50	256910.37	247904.69	3.15	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	484.18	481.92	507.88	491.33	2.93	ppb
Cobalt	59-2	493.15	487.86	505.28	495.43	1.80	ppb
Copper	63-2	4794.02	4812.26	4963.83	4856.70	1.92	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				97		%
Indium	115-1				88		%
Indium	115-2				91		%
Iron	56-2	126554.26	124696.48	128910.22	126720.32	1.67	ppb
Iron	57-2	124933.97	124491.26	128880.05	126101.76	1.92	ppb
Iron	54-2	126199.34	123707.13	129398.03	126434.83	2.26	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:13:36 DataFile Name : 029CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2572.31	2666.82	2765.15	2668.09	3.61	ppb
Lead	207-1	2564.61	2612.30	2760.73	2645.88	3.87	ppb
Lead	208-1	2572.37	2629.37	2745.43	2649.05	3.33	ppb
Lithium	6-1				94		%
Magnesium	24-2	240519.52	244944.82	253316.23	246260.19	2.64	ppb
Manganese	55-2	4951.13	4845.97	5014.47	4937.19	1.72	ppb
Molybdenum	94-1	5153.53	5128.10	5288.76	5190.13	1.66	ppb
Molybdenum	95-1	5060.07	5067.93	5171.32	5099.78	1.22	ppb
Molybdenum	96-1	5091.18	5178.93	5176.02	5148.71	0.97	ppb
Molybdenum	97-1	5092.96	5139.60	5274.05	5168.87	1.82	ppb
Molybdenum	98-1	5105.17	5104.61	5330.51	5180.10	2.51	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	482.02	481.51	499.45	487.66	2.09	ppb
Phosphorus	31-2	9940.71	10003.32	10294.87	10079.63	1.88	ppb
Potassium	39-2	123240.65	121374.59	125580.02	123398.42	1.71	ppb
Rhodium	103-1				87		%
Rhodium	103-2				90		%
Scandium	45-1				93		%
Scandium	45-2				95		%
Selenium	82-1	485.47	490.49	512.15	496.04	2.86	ppb
Selenium	77-2	467.88	464.75	481.99	471.54	1.95	ppb
Selenium	78-2	474.10	457.79	476.19	469.36	2.15	ppb
Silicon	28-1	514.40	523.65	535.52	524.52	2.02	ppb
Silver	107-1	501.16	516.21	526.31	514.56	2.46	ppb
Silver	109-1	506.26	515.02	537.52	519.60	3.10	ppb
Sodium	23-2	245487.32	248266.23	255487.62	249747.06	2.07	ppb
Strontium	86-1	505.82	510.01	530.10	515.31	2.52	ppb
Strontium	88-1	511.06	516.54	539.45	522.35	2.88	ppb
Sulfur	34-1	9899.22	9891.80	10444.22	10078.41	3.14	ppb
Terbium	159-1				93		%
Terbium	159-2				96		%
Thallium	203-1	524.41	543.02	546.45	537.96	2.20	ppb
Thallium	205-1	530.88	533.67	546.52	537.02	1.55	ppb
Tin	118-1	503.68	512.22	532.23	516.04	2.84	ppb
Titanium	47-1	4923.06	4920.65	5185.91	5009.87	3.04	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:13:36 DataFile Name : 029CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	510.49	538.45	543.78	530.91	3.37	ppb
Vanadium	51-2	492.98	494.10	509.35	498.81	1.83	ppb
Yttrium	89-1				91		%
Yttrium	89-2				94		%
Zinc	66-2	4702.53	4658.66	4906.85	4756.01	2.79	ppb
Zirconium	90-1	507.94	516.82	534.04	519.60	2.55	ppb
Zirconium	91-1	508.48	514.77	528.87	517.38	2.02	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:21:00 DataFile Name : 030CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.40	2.63	2.97	2.67	10.71	ppb
Antimony	121-1	0.06	0.07	0.05	0.06	12.06	ppb
Arsenic	75-2	0.06	0.00	-0.02	0.01	290.71	ppb
Barium	135-1	0.03	0.02	0.03	0.03	12.81	ppb
Barium	137-1	0.04	0.03	0.03	0.03	12.71	ppb
Beryllium	9-1	-0.01	0.02	0.01	0.00	612.39	ppb
Bismuth	209-1				101		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.02	-0.01	0.11	0.04	162.71	ppb
Cadmium	106-1	-1.37	-1.32	-1.90	-1.53		ppb
Cadmium	111-1	-0.09	-0.08	-0.13	-0.10		ppb
Calcium	43-1	3.57	0.92	2.88	2.46	55.91	ppb
Calcium	44-1	2.60	2.02	1.51	2.04	26.62	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	279.87	ppb
Cobalt	59-2	0.01	0.00	0.01	0.00	33.35	ppb
Copper	63-2	0.10	0.06	0.07	0.07	26.92	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				100		%
Indium	115-2				99		%
Iron	56-2	3.26	2.94	3.12	3.11	5.11	ppb
Iron	57-2	-1.74	0.27	0.30	-0.39		ppb
Iron	54-2	2.63	2.69	2.30	2.54	8.19	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:21:00 DataFile Name : 030CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.03	0.06	0.03	0.04	41.86	ppb
Lead	207-1	0.05	0.05	0.04	0.04	13.43	ppb
Lead	208-1	0.04	0.05	0.04	0.04	12.67	ppb
Lithium	6-1				101		%
Magnesium	24-2	4.44	4.26	4.25	4.32	2.52	ppb
Manganese	55-2	0.01	-0.09	-0.02	-0.03		ppb
Molybdenum	94-1	0.14	0.14	0.11	0.13	12.30	ppb
Molybdenum	95-1	0.11	0.10	0.11	0.11	5.37	ppb
Molybdenum	96-1	0.12	0.10	0.12	0.11	12.20	ppb
Molybdenum	97-1	0.12	0.13	0.12	0.12	8.65	ppb
Molybdenum	98-1	0.13	0.13	0.13	0.13	1.17	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.01	0.02	-0.01	0.00		ppb
Phosphorus	31-2	-141.81	-139.47	-141.55	-140.94		ppb
Potassium	39-2	8.47	5.23	8.35	7.35	25.03	ppb
Rhodium	103-1				99		%
Rhodium	103-2				99		%
Scandium	45-1				99		%
Scandium	45-2				98		%
Selenium	82-1	0.43	0.82	0.32	0.52	50.67	ppb
Selenium	77-2	-0.49	-0.23	-0.49	-0.40		ppb
Selenium	78-2	-0.56	0.75	0.14	0.11	601.77	ppb
Silicon	28-1	-1.08	-0.59	-0.52	-0.73		ppb
Silver	107-1	0.02	0.01	0.02	0.02	18.89	ppb
Silver	109-1	0.02	0.02	0.01	0.02	18.04	ppb
Sodium	23-2	30.99	29.29	30.04	30.11	2.82	ppb
Strontium	86-1	-0.03	-0.02	-0.03	-0.03		ppb
Strontium	88-1	0.01	0.01	0.01	0.01	13.21	ppb
Sulfur	34-1	-245.16	-62.96	-27.21	-111.78		ppb
Terbium	159-1				102		%
Terbium	159-2				100		%
Thallium	203-1	0.02	0.03	0.04	0.03	28.31	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	9.65	ppb
Tin	118-1	-0.01	0.03	0.02	0.01	122.67	ppb
Titanium	47-1	0.10	0.11	0.08	0.10	15.60	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:21:00 DataFile Name : 030CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.00	0.00	0.01	21.74	ppb
Vanadium	51-2	0.01	0.00	0.01	0.01	68.60	ppb
Yttrium	89-1				99		%
Yttrium	89-2				98		%
Zinc	66-2	0.27	0.15	0.12	0.18	45.29	ppb
Zirconium	90-1	0.00	0.01	0.01	0.00	85.55	ppb
Zirconium	91-1	0.02	0.01	0.02	0.02	55.29	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:24:45 DataFile Name : 031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.06	0.09	0.35	0.17	94.65	ppb
Antimony	121-1	0.02	0.01	0.01	0.01	28.28	ppb
Arsenic	75-2	-0.02	-0.02	0.01	-0.01		ppb
Barium	135-1	0.06	0.03	0.03	0.04	48.88	ppb
Barium	137-1	0.04	0.04	0.05	0.05	9.70	ppb
Beryllium	9-1	0.00	0.00	-0.01	-0.01		ppb
Bismuth	209-1				121		%
Bismuth	209-2				121		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.09	0.04	0.07	0.07	32.79	ppb
Cadmium	106-1	-0.87	-1.96	-1.52	-1.45		ppb
Cadmium	111-1	-0.06	-0.13	-0.11	-0.10		ppb
Calcium	43-1	40820.13	41919.46	40942.05	41227.21	1.46	ppb
Calcium	44-1	38529.82	39788.22	38985.78	39101.27	1.63	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.17	-0.19	-0.17	-0.18		ppb
Cobalt	59-2	0.04	0.05	0.05	0.05	20.17	ppb
Copper	63-2	-0.01	0.01	0.00	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				126		%
Holmium	165-2				122		%
Indium	115-1				123		%
Indium	115-2				122		%
Iron	56-2	-1.08	-1.01	-1.09	-1.06		ppb
Iron	57-2	314.18	315.28	319.85	316.44	0.95	ppb
Iron	54-2	-3.78	-3.53	-3.70	-3.67		ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:24:45 DataFile Name : 031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.03	0.03	0.04	0.03	18.84	ppb
Lead	207-1	0.03	0.03	0.05	0.04	31.77	ppb
Lead	208-1	0.03	0.02	0.03	0.03	12.15	ppb
Lithium	6-1				126		%
Magnesium	24-2	12896.15	12874.69	12699.43	12823.42	0.84	ppb
Manganese	55-2	-0.57	-0.56	-0.58	-0.57		ppb
Molybdenum	94-1	0.06	0.05	0.05	0.05	7.00	ppb
Molybdenum	95-1	0.08	0.08	0.05	0.07	24.04	ppb
Molybdenum	96-1	0.08	0.08	0.06	0.07	15.20	ppb
Molybdenum	97-1	0.08	0.05	0.10	0.07	31.94	ppb
Molybdenum	98-1	0.07	0.09	0.07	0.08	14.39	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.04	-0.05	-0.04	-0.04		ppb
Phosphorus	31-2	-155.70	-158.27	-160.60	-158.19		ppb
Potassium	39-2	4178.44	4109.71	4100.18	4129.44	1.03	ppb
Rhodium	103-1				122		%
Rhodium	103-2				121		%
Scandium	45-1				122		%
Scandium	45-2				122		%
Selenium	82-1	0.14	-0.43	0.47	0.06	728.07	ppb
Selenium	77-2	-0.49	-0.09	-0.09	-0.22		ppb
Selenium	78-2	-1.03	-0.88	-0.09	-0.66		ppb
Silicon	28-1	-3.80	-3.10	-3.17	-3.36		ppb
Silver	107-1	0.00	0.00	0.00	0.00		ppb
Silver	109-1	0.00	0.00	0.00	0.00	161.58	ppb
Sodium	23-2	12186.71	12228.17	12228.93	12214.60	0.20	ppb
Strontium	86-1	3.40	3.55	3.55	3.50	2.41	ppb
Strontium	88-1	3.68	3.78	3.68	3.71	1.57	ppb
Sulfur	34-1	-1537.32	-1116.56	-1051.12	-1235.00		ppb
Terbium	159-1				126		%
Terbium	159-2				120		%
Thallium	203-1	0.03	0.02	0.03	0.03	32.72	ppb
Thallium	205-1	0.02	0.02	0.02	0.02	2.20	ppb
Tin	118-1	-0.04	-0.05	-0.03	-0.04		ppb
Titanium	47-1	-0.01	0.01	-0.01	0.00		ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:24:45 DataFile Name : 031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	69.27	ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	1741.90	ppb
Yttrium	89-1				122		%
Yttrium	89-2				121		%
Zinc	66-2	-0.08	-0.04	0.13	0.01	2034.47	ppb
Zirconium	90-1	-0.01	0.00	0.00	0.00		ppb
Zirconium	91-1	-0.01	0.01	0.00	0.00	510.87	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BL Instrumnet Name : P7
Client Sample ID : PB169562BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:35:25 DataFile Name : 033CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.18	0.26	0.19	0.21	20.08	ppb
Antimony	121-1	0.00	0.00	0.01	0.00	53.49	ppb
Arsenic	75-2	-0.02	0.00	-0.03	-0.02		ppb
Barium	135-1	0.00	-0.01	-0.01	-0.01		ppb
Barium	137-1	0.00	0.01	0.00	0.00	166.97	ppb
Beryllium	9-1	-0.01	-0.01	-0.01	-0.01		ppb
Bismuth	209-1				98		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.04	0.11	-0.04	0.01	757.50	ppb
Cadmium	106-1	-0.07	-0.57	0.22	-0.14		ppb
Cadmium	111-1	0.00	-0.04	0.02	-0.01		ppb
Calcium	43-1	-2.59	-0.42	-1.22	-1.41		ppb
Calcium	44-1	-1.78	-1.34	1.92	-0.40		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.01	-0.03	-0.03	-0.03		ppb
Cobalt	59-2	0.00	0.00	0.00	0.00		ppb
Copper	63-2	0.01	-0.01	-0.04	-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				100		%
Holmium	165-2				102		%
Indium	115-1				99		%
Indium	115-2				102		%
Iron	56-2	0.32	0.19	0.07	0.19	66.78	ppb
Iron	57-2	-4.03	-4.30	-2.11	-3.48		ppb
Iron	54-2	-0.89	-0.76	-1.14	-0.93		ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BL Instrumnet Name : P7
Client Sample ID : PB169562BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:35:25 DataFile Name : 033CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.00	0.01	0.00	0.00	213.03	ppb
Lead	207-1	0.01	-0.02	0.00	0.00		ppb
Lead	208-1	0.00	0.00	0.01	0.00	147.30	ppb
Lithium	6-1				98		%
Magnesium	24-2	0.04	0.17	0.20	0.14	61.69	ppb
Manganese	55-2	0.19	0.14	0.14	0.16	16.14	ppb
Molybdenum	94-1	-0.03	0.00	0.01	-0.01		ppb
Molybdenum	95-1	-0.01	-0.01	0.01	-0.01		ppb
Molybdenum	96-1	-0.01	0.00	-0.02	-0.01		ppb
Molybdenum	97-1	-0.01	0.01	-0.01	0.00		ppb
Molybdenum	98-1	0.01	0.01	-0.01	0.00	472.36	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.01	-0.03	-0.04	-0.02		ppb
Phosphorus	31-2	-150.69	-144.23	-143.19	-146.04		ppb
Potassium	39-2	4.85	2.59	3.60	3.68	30.79	ppb
Rhodium	103-1				98		%
Rhodium	103-2				102		%
Scandium	45-1				99		%
Scandium	45-2				102		%
Selenium	82-1	-0.03	0.14	0.68	0.26	140.71	ppb
Selenium	77-2	-0.49	-0.49	-0.49	-0.49		ppb
Selenium	78-2	1.58	1.36	0.50	1.15	49.53	ppb
Silicon	28-1	-0.70	0.04	0.91	0.08	983.95	ppb
Silver	107-1	0.00	0.00	0.01	0.00	84.03	ppb
Silver	109-1	0.00	0.00	0.01	0.00	53.77	ppb
Sodium	23-2	14.40	12.57	12.86	13.27	7.43	ppb
Strontium	86-1	-0.05	-0.04	0.02	-0.02		ppb
Strontium	88-1	0.00	0.00	0.00	0.00		ppb
Sulfur	34-1	477.91	830.66	1337.28	881.95	48.98	ppb
Terbium	159-1				99		%
Terbium	159-2				101		%
Thallium	203-1	0.01	0.02	0.02	0.02	45.36	ppb
Thallium	205-1	0.02	0.02	0.02	0.02	7.52	ppb
Tin	118-1	0.00	0.02	0.00	0.01	232.78	ppb
Titanium	47-1	-0.01	-0.07	0.03	-0.02		ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BL Instrumnet Name : P7
Client Sample ID : PB169562BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:35:25 DataFile Name : 033CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.00	0.00	0.00	0.00		ppb
Yttrium	89-1				100		%
Yttrium	89-2				102		%
Zinc	66-2	-0.10	0.09	-0.01	-0.01		ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	105.29	ppb
Zirconium	91-1	0.01	0.00	-0.01	0.00		ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BL Instrumnet Name : P7
Client Sample ID : PB169560BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:38:40 DataFile Name : 034CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.95	0.43	0.79	0.09	1031.29	ppb
Antimony	121-1	0.00	0.01	0.01	0.00	68.67	ppb
Arsenic	75-2	-0.03	0.00	-0.04	-0.02		ppb
Barium	135-1	-0.01	-0.01	0.00	-0.01		ppb
Barium	137-1	0.01	0.00	0.01	0.00	49.73	ppb
Beryllium	9-1	0.02	-0.01	0.00	0.01	330.06	ppb
Bismuth	209-1				100		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.07	0.02	-0.07	-0.04		ppb
Cadmium	106-1	-0.34	0.51	-0.84	-0.22		ppb
Cadmium	111-1	-0.02	0.04	-0.04	-0.01		ppb
Calcium	43-1	-0.43	-1.86	-3.87	-2.05		ppb
Calcium	44-1	-5.17	-5.64	-4.32	-5.04		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.03	0.01	-0.04	-0.02		ppb
Cobalt	59-2	0.01	-0.01	0.00	0.00		ppb
Copper	63-2	-0.02	-0.02	-0.05	-0.03		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				100		%
Indium	115-2				102		%
Iron	56-2	0.32	0.09	0.21	0.21	55.25	ppb
Iron	57-2	-1.97	-1.82	-3.48	-2.42		ppb
Iron	54-2	-1.02	-0.79	-1.32	-1.04		ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BL Instrumnet Name : P7
Client Sample ID : PB169560BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:38:40 DataFile Name : 034CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.00	0.01	0.01	0.01	69.15	ppb
Lead	207-1	0.01	0.00	0.00	0.01	81.00	ppb
Lead	208-1	0.00	0.00	0.01	0.00	70.94	ppb
Lithium	6-1				100		%
Magnesium	24-2	0.11	-0.10	0.17	0.06	245.48	ppb
Manganese	55-2	0.14	0.18	0.12	0.15	22.43	ppb
Molybdenum	94-1	-0.02	-0.02	0.02	0.00		ppb
Molybdenum	95-1	-0.01	-0.02	-0.02	-0.01		ppb
Molybdenum	96-1	0.01	0.00	0.00	0.00	110.78	ppb
Molybdenum	97-1	-0.01	0.01	-0.01	0.00		ppb
Molybdenum	98-1	0.00	0.00	0.01	0.00	158.37	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.00	0.03	0.06	0.03	92.36	ppb
Phosphorus	31-2	-153.95	-148.29	-140.70	-147.64		ppb
Potassium	39-2	-1.30	7.04	2.99	2.91	143.29	ppb
Rhodium	103-1				101		%
Rhodium	103-2				100		%
Scandium	45-1				102		%
Scandium	45-2				101		%
Selenium	82-1	0.03	0.58	0.49	0.36	80.35	ppb
Selenium	77-2	-0.25	-0.25	-0.49	-0.33		ppb
Selenium	78-2	-0.14	-0.46	-0.19	-0.27		ppb
Silicon	28-1	-0.82	-0.74	-0.35	-0.64		ppb
Silver	107-1	0.00	0.00	0.00	0.00		ppb
Silver	109-1	0.00	0.00	0.00	0.00	74.07	ppb
Sodium	23-2	10.88	13.28	12.58	12.25	10.10	ppb
Strontium	86-1	-0.01	0.04	0.04	0.02	123.54	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	360.58	ppb
Sulfur	34-1	373.78	388.67	632.17	464.87	31.21	ppb
Terbium	159-1				102		%
Terbium	159-2				101		%
Thallium	203-1	0.02	0.01	0.02	0.01	35.90	ppb
Thallium	205-1	0.01	0.02	0.02	0.02	12.05	ppb
Tin	118-1	0.02	0.00	0.00	0.01	288.40	ppb
Titanium	47-1	-0.01	0.02	0.01	0.00	291.11	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BL Instrumnet Name : P7
Client Sample ID : PB169560BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:38:40 DataFile Name : 034CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.00	-0.01	0.00	0.00		ppb
Yttrium	89-1				101		%
Yttrium	89-2				101		%
Zinc	66-2	0.08	-0.01	0.21	0.10	116.64	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00		ppb
Zirconium	91-1	0.00	0.01	0.00	0.01	105.20	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BS Instrumnet Name : P7
Client Sample ID : PB169562BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:41:59 DataFile Name : 035LCS6.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10368.53	10295.52	10173.95	10279.33	0.96	ppb
Antimony	121-1	498.27	503.01	494.63	498.64	0.84	ppb
Arsenic	75-2	491.07	504.23	507.47	500.92	1.73	ppb
Barium	135-1	2464.12	2419.47	2426.07	2436.55	0.99	ppb
Barium	137-1	2501.38	2470.69	2459.30	2477.12	0.88	ppb
Beryllium	9-1	493.68	491.71	500.81	495.40	0.97	ppb
Bismuth	209-1				91		%
Bismuth	209-2				91		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	501.55	502.90	494.80	499.75	0.87	ppb
Cadmium	106-1	503.79	507.20	497.97	502.99	0.93	ppb
Cadmium	111-1	504.44	504.40	506.69	505.17	0.26	ppb
Calcium	43-1	51099.79	52657.33	52137.28	51964.80	1.53	ppb
Calcium	44-1	48009.17	49607.03	49260.17	48958.79	1.72	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	501.88	504.18	495.93	500.66	0.85	ppb
Cobalt	59-2	494.21	505.32	501.22	500.25	1.12	ppb
Copper	63-2	5004.10	5022.79	4998.94	5008.61	0.25	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				95		%
Holmium	165-2				93		%
Indium	115-1				90		%
Indium	115-2				90		%
Iron	56-2	25758.74	26145.09	25992.61	25965.48	0.75	ppb
Iron	57-2	26269.84	26492.21	26189.91	26317.32	0.60	ppb
Iron	54-2	26502.02	26253.74	26280.49	26345.42	0.52	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BS Instrumnet Name : P7
Client Sample ID : PB169562BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:41:59 DataFile Name : 035LCS6.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2477.37	2546.46	2502.87	2508.90	1.39	ppb
Lead	207-1	2366.72	2596.90	2526.49	2496.70	4.72	ppb
Lead	208-1	2397.99	2558.58	2492.36	2482.97	3.25	ppb
Lithium	6-1				93		%
Magnesium	24-2	49605.78	49811.69	49741.48	49719.65	0.21	ppb
Manganese	55-2	4907.33	4981.93	4906.80	4932.02	0.88	ppb
Molybdenum	94-1	4973.24	4990.73	4814.57	4926.18	1.97	ppb
Molybdenum	95-1	4912.69	4907.61	4824.57	4881.62	1.01	ppb
Molybdenum	96-1	4895.00	4948.22	4973.81	4939.01	0.81	ppb
Molybdenum	97-1	4889.38	5053.25	4928.91	4957.18	1.73	ppb
Molybdenum	98-1	4928.28	4918.25	4983.14	4943.22	0.71	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	496.51	499.77	495.28	497.19	0.47	ppb
Phosphorus	31-2	9880.14	9862.82	9931.37	9891.45	0.36	ppb
Potassium	39-2	25003.94	25592.32	25209.32	25268.53	1.18	ppb
Rhodium	103-1				90		%
Rhodium	103-2				90		%
Scandium	45-1				92		%
Scandium	45-2				91		%
Selenium	82-1	508.05	507.36	510.52	508.64	0.33	ppb
Selenium	77-2	514.44	522.44	513.89	516.92	0.93	ppb
Selenium	78-2	484.68	516.96	512.87	504.84	3.48	ppb
Silicon	28-1	503.91	502.13	507.04	504.36	0.49	ppb
Silver	107-1	504.04	504.81	501.03	503.29	0.40	ppb
Silver	109-1	518.52	516.82	513.91	516.42	0.45	ppb
Sodium	23-2	51292.21	51517.82	51066.34	51292.12	0.44	ppb
Strontium	86-1	485.67	488.62	492.35	488.88	0.68	ppb
Strontium	88-1	501.07	495.67	499.54	498.76	0.56	ppb
Sulfur	34-1	9878.00	10098.18	9628.35	9868.18	2.38	ppb
Terbium	159-1				93		%
Terbium	159-2				92		%
Thallium	203-1	492.05	509.59	500.37	500.67	1.75	ppb
Thallium	205-1	502.44	502.86	505.89	503.73	0.37	ppb
Tin	118-1	495.05	502.31	500.67	499.34	0.76	ppb
Titanium	47-1	4694.66	4892.17	4902.20	4829.68	2.42	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BS Instrumnet Name : P7
Client Sample ID : PB169562BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:41:59 DataFile Name : 035LCS6.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	471.44	500.90	495.84	489.39	3.22	ppb
Vanadium	51-2	503.71	496.50	498.52	499.58	0.74	ppb
Yttrium	89-1				91		%
Yttrium	89-2				90		%
Zinc	66-2	5213.46	5120.55	5042.08	5125.36	1.67	ppb
Zirconium	90-1	488.82	488.14	493.62	490.19	0.61	ppb
Zirconium	91-1	490.39	492.65	494.44	492.49	0.41	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BS Instrumnet Name : P7
Client Sample ID : PB169560BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:44:44 DataFile Name : 036DLCW.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10324.57	9996.99	10253.90	10191.82	1.69	ppb
Antimony	121-1	487.33	495.94	505.11	496.13	1.79	ppb
Arsenic	75-2	495.52	505.40	509.84	503.59	1.46	ppb
Barium	135-1	2457.50	2503.09	2481.44	2480.68	0.92	ppb
Barium	137-1	2387.29	2476.18	2483.18	2448.88	2.18	ppb
Beryllium	9-1	486.11	497.82	499.07	494.33	1.45	ppb
Bismuth	209-1				93		%
Bismuth	209-2				94		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	479.42	501.67	501.12	494.07	2.57	ppb
Cadmium	106-1	481.69	492.65	511.08	495.14	3.00	ppb
Cadmium	111-1	488.93	503.80	506.12	499.62	1.87	ppb
Calcium	43-1	51089.55	52174.53	53435.76	52233.28	2.25	ppb
Calcium	44-1	47479.75	49373.38	50572.99	49142.04	3.17	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	496.05	496.08	504.78	498.97	1.01	ppb
Cobalt	59-2	499.71	504.31	499.61	501.21	0.54	ppb
Copper	63-2	5044.24	5034.52	5047.50	5042.09	0.13	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				95		%
Holmium	165-2				94		%
Indium	115-1				91		%
Indium	115-2				91		%
Iron	56-2	26154.77	26151.97	26229.14	26178.62	0.17	ppb
Iron	57-2	26310.64	26507.86	25923.94	26247.48	1.13	ppb
Iron	54-2	26935.66	26578.57	27095.80	26870.01	0.99	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BS Instrumnet Name : P7
Client Sample ID : PB169560BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:44:44 DataFile Name : 036DLCW.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2498.81	2525.57	2519.85	2514.74	0.56	ppb
Lead	207-1	2448.73	2535.69	2496.94	2493.79	1.75	ppb
Lead	208-1	2465.33	2522.41	2513.36	2500.37	1.23	ppb
Lithium	6-1				95		%
Magnesium	24-2	50569.61	50120.95	50753.90	50481.49	0.64	ppb
Manganese	55-2	4968.72	5034.09	5113.35	5038.72	1.44	ppb
Molybdenum	94-1	4840.96	4906.63	4993.13	4913.57	1.55	ppb
Molybdenum	95-1	4797.04	4896.50	4914.85	4869.46	1.30	ppb
Molybdenum	96-1	4870.45	4923.93	5004.52	4932.97	1.37	ppb
Molybdenum	97-1	4918.19	4940.35	5011.74	4956.76	0.99	ppb
Molybdenum	98-1	4888.80	4969.93	5066.83	4975.19	1.79	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	500.61	501.86	501.49	501.32	0.13	ppb
Phosphorus	31-2	9786.41	10063.60	10115.96	9988.66	1.77	ppb
Potassium	39-2	25239.90	25040.58	25562.08	25280.85	1.04	ppb
Rhodium	103-1				90		%
Rhodium	103-2				91		%
Scandium	45-1				92		%
Scandium	45-2				93		%
Selenium	82-1	496.87	507.08	520.84	508.26	2.37	ppb
Selenium	77-2	503.84	503.09	524.24	510.39	2.35	ppb
Selenium	78-2	490.78	508.79	507.65	502.40	2.01	ppb
Silicon	28-1	491.09	503.48	509.52	501.36	1.87	ppb
Silver	107-1	489.18	499.77	513.38	500.78	2.42	ppb
Silver	109-1	482.54	513.39	511.61	502.51	3.45	ppb
Sodium	23-2	52080.20	51021.67	51208.98	51436.95	1.10	ppb
Strontium	86-1	484.60	488.60	495.90	489.70	1.17	ppb
Strontium	88-1	495.24	491.25	495.55	494.01	0.49	ppb
Sulfur	34-1	8880.28	9272.06	9581.31	9244.55	3.80	ppb
Terbium	159-1				95		%
Terbium	159-2				94		%
Thallium	203-1	500.88	510.87	499.48	503.74	1.23	ppb
Thallium	205-1	497.33	509.41	497.52	501.42	1.38	ppb
Tin	118-1	477.32	494.76	507.39	493.16	3.06	ppb
Titanium	47-1	4738.11	4854.38	4918.78	4837.09	1.89	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BS Instrumnet Name : P7
Client Sample ID : PB169560BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:44:44 DataFile Name : 036DLCW.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	488.12	495.28	497.96	493.79	1.03	ppb
Vanadium	51-2	501.80	497.12	505.83	501.58	0.87	ppb
Yttrium	89-1				92		%
Yttrium	89-2				92		%
Zinc	66-2	5109.13	5164.83	5195.11	5156.36	0.85	ppb
Zirconium	90-1	483.16	495.48	496.20	491.61	1.49	ppb
Zirconium	91-1	489.50	493.83	505.06	496.13	1.62	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P7
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:47:29 DataFile Name : 037CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	52225.95	51229.88	51468.47	51641.44	1.01	ppb
Antimony	121-1	499.99	509.93	527.17	512.36	2.68	ppb
Arsenic	75-2	502.53	502.74	512.69	505.99	1.15	ppb
Barium	135-1	2513.35	2566.31	2631.92	2570.53	2.31	ppb
Barium	137-1	2538.98	2594.15	2667.39	2600.17	2.48	ppb
Beryllium	9-1	504.09	526.06	516.87	515.68	2.14	ppb
Bismuth	209-1				88		%
Bismuth	209-2				90		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	490.37	500.36	506.10	498.94	1.60	ppb
Cadmium	106-1	485.02	498.42	505.71	496.38	2.11	ppb
Cadmium	111-1	489.07	497.71	508.07	498.28	1.91	ppb
Calcium	43-1	248173.23	247644.85	258425.38	251414.49	2.42	ppb
Calcium	44-1	246429.21	245411.61	249712.51	247184.44	0.91	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	517.47	517.05	495.71	510.08	2.44	ppb
Cobalt	59-2	515.96	509.27	496.08	507.10	2.00	ppb
Copper	63-2	5049.87	4966.27	4942.35	4986.16	1.13	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				94		%
Holmium	165-2				93		%
Indium	115-1				88		%
Indium	115-2				89		%
Iron	56-2	131017.35	129718.23	129597.04	130110.87	0.61	ppb
Iron	57-2	130231.00	129986.17	127899.49	129372.22	0.99	ppb
Iron	54-2	131218.48	131650.33	129687.03	130851.95	0.79	ppb
Krypton	83-1						cps

LB Number :LB137409Operator :Jaswal

Lab Sample ID :CCV03Instrumnet Name :P7

Client Sample ID :CCV03Dilution Factor :1

Date & Time Acquired :2025-09-25 17:47:29DataFile Name :037CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2590.56	2678.87	2598.64	2622.69	1.86	ppb
Lead	207-1	2558.09	2665.16	2595.57	2606.28	2.08	ppb
Lead	208-1	2544.25	2652.20	2605.39	2600.61	2.08	ppb
Lithium	6-1				93		%
Magnesium	24-2	259593.65	256854.55	249006.25	255151.48	2.15	ppb
Manganese	55-2	5104.56	5159.63	5099.68	5121.29	0.65	ppb
Molybdenum	94-1	4924.01	5226.34	5060.82	5070.39	2.99	ppb
Molybdenum	95-1	5006.51	5240.25	5114.56	5120.44	2.28	ppb
Molybdenum	96-1	5075.42	5265.80	5152.78	5164.67	1.85	ppb
Molybdenum	97-1	5081.09	5229.67	5125.34	5145.36	1.48	ppb
Molybdenum	98-1	5075.75	5175.32	5136.55	5129.21	0.98	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	503.64	502.86	496.07	500.85	0.83	ppb
Phosphorus	31-2	10481.86	10441.75	10224.08	10382.56	1.34	ppb
Potassium	39-2	130598.32	127284.41	125377.68	127753.47	2.07	ppb
Rhodium	103-1				87		%
Rhodium	103-2				88		%
Scandium	45-1				91		%
Scandium	45-2				92		%
Selenium	82-1	487.14	501.69	494.93	494.59	1.47	ppb
Selenium	77-2	482.41	464.35	506.53	484.43	4.37	ppb
Selenium	78-2	481.61	495.61	499.77	492.33	1.93	ppb
Silicon	28-1	516.81	513.62	535.33	521.92	2.25	ppb
Silver	107-1	497.73	505.33	508.89	503.98	1.13	ppb
Silver	109-1	502.40	509.93	520.23	510.85	1.75	ppb
Sodium	23-2	255608.93	255369.17	256397.27	255791.79	0.21	ppb
Strontium	86-1	503.39	523.89	513.18	513.48	2.00	ppb
Strontium	88-1	503.44	515.40	515.26	511.37	1.34	ppb
Sulfur	34-1	9531.52	9600.47	9816.76	9649.58	1.54	ppb
Terbium	159-1				92		%
Terbium	159-2				93		%
Thallium	203-1	523.87	533.95	529.53	529.12	0.95	ppb
Thallium	205-1	525.64	543.71	525.74	531.70	1.96	ppb
Tin	118-1	511.91	503.91	526.89	514.24	2.27	ppb
Titanium	47-1	5071.59	5061.94	5138.77	5090.76	0.82	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P7
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:47:29 DataFile Name : 037CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	522.58	536.50	531.16	530.08	1.32	ppb
Vanadium	51-2	521.85	516.76	507.71	515.44	1.39	ppb
Yttrium	89-1				90		%
Yttrium	89-2				91		%
Zinc	66-2	4941.08	4956.22	4853.07	4916.79	1.13	ppb
Zirconium	90-1	507.80	522.72	516.47	515.66	1.45	ppb
Zirconium	91-1	505.69	523.05	519.04	515.93	1.76	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P7
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:54:52 DataFile Name : 039CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.70	2.40	2.69	2.27	22.34	ppb
Antimony	121-1	0.04	0.07	0.07	0.06	28.36	ppb
Arsenic	75-2	0.01	0.00	-0.03	0.00		ppb
Barium	135-1	0.03	0.08	0.08	0.07	42.56	ppb
Barium	137-1	0.05	0.12	0.12	0.10	38.18	ppb
Beryllium	9-1	0.00	0.01	0.01	0.01	120.73	ppb
Bismuth	209-1				99		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.02	-0.10	-0.07	-0.05		ppb
Cadmium	106-1	-1.20	-2.05	-1.52	-1.59		ppb
Cadmium	111-1	-0.07	-0.12	-0.08	-0.09		ppb
Calcium	43-1	3.18	11.34	8.58	7.70	53.87	ppb
Calcium	44-1	-0.59	4.28	7.27	3.65	108.61	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.07	-0.01	-0.05	-0.04		ppb
Cobalt	59-2	0.03	0.02	0.02	0.02	19.83	ppb
Copper	63-2	0.22	0.21	0.25	0.23	9.10	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				96		%
Indium	115-2				98		%
Iron	56-2	5.51	5.21	4.94	5.22	5.47	ppb
Iron	57-2	1.32	3.21	2.86	2.46	40.76	ppb
Iron	54-2	5.88	4.31	3.79	4.66	23.36	ppb
Krypton	83-1						cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P7
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:54:52 DataFile Name : 039CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.09	0.13	0.13	0.12	21.01	ppb
Lead	207-1	0.07	0.15	0.16	0.13	36.77	ppb
Lead	208-1	0.07	0.13	0.13	0.11	32.03	ppb
Lithium	6-1				102		%
Magnesium	24-2	9.99	9.85	8.93	9.59	5.95	ppb
Manganese	55-2	0.40	0.31	0.37	0.36	13.00	ppb
Molybdenum	94-1	0.13	0.23	0.27	0.21	35.01	ppb
Molybdenum	95-1	0.11	0.24	0.27	0.21	39.27	ppb
Molybdenum	96-1	0.13	0.24	0.27	0.22	35.63	ppb
Molybdenum	97-1	0.09	0.23	0.30	0.21	51.98	ppb
Molybdenum	98-1	0.13	0.24	0.28	0.22	34.80	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.04	-0.01	0.01	0.02	159.44	ppb
Phosphorus	31-2	-141.55	-152.79	-147.80	-147.38		ppb
Potassium	39-2	7.61	7.04	13.11	9.25	36.25	ppb
Rhodium	103-1				97		%
Rhodium	103-2				98		%
Scandium	45-1				99		%
Scandium	45-2				97		%
Selenium	82-1	-0.04	1.24	0.76	0.65	99.49	ppb
Selenium	77-2	-0.49	-0.49	0.27	-0.23		ppb
Selenium	78-2	0.39	-1.06	0.72	0.02	5335.12	ppb
Silicon	28-1	-0.88	-0.72	-0.34	-0.65		ppb
Silver	107-1	0.03	0.03	0.04	0.03	16.05	ppb
Silver	109-1	0.02	0.03	0.04	0.03	35.25	ppb
Sodium	23-2	35.32	35.90	33.86	35.03	3.01	ppb
Strontium	86-1	0.03	0.03	0.02	0.03	19.45	ppb
Strontium	88-1	0.01	0.02	0.02	0.02	35.76	ppb
Sulfur	34-1	-335.03	-264.00	-193.99	-264.34		ppb
Terbium	159-1				100		%
Terbium	159-2				99		%
Thallium	203-1	0.03	0.04	0.04	0.04	13.95	ppb
Thallium	205-1	0.05	0.05	0.04	0.05	5.15	ppb
Tin	118-1	0.00	0.02	0.01	0.01	73.34	ppb
Titanium	47-1	0.01	0.16	0.22	0.13	83.84	ppb

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P7
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:54:52 DataFile Name : 039CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.02	0.03	0.02	57.36	ppb
Vanadium	51-2	0.02	0.01	0.03	0.02	35.65	ppb
Yttrium	89-1				96		%
Yttrium	89-2				97		%
Zinc	66-2	0.15	0.25	0.33	0.24	36.14	ppb
Zirconium	90-1	0.00	0.01	0.01	0.01	72.67	ppb
Zirconium	91-1	0.01	0.02	0.01	0.01	65.17	ppb

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:51:29 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1177	1257	1153	1196	4.53	cps
Antimony	121-1	50	33	47	43	20.36	cps
Arsenic	75-2	13	17	20	17	20.01	cps
Barium	135-1	47	27	37	37	27.27	cps
Barium	137-1	37	33	50	40	22.05	cps
Beryllium	9-1	13	13	10	12	15.73	cps
Bismuth	209-1	4652627	4497203	4542947	4564259	1.75	cps
Bismuth	209-2	3920606	3841292	3936361	3899420	1.31	cps
Bromine	81-1	9823	9850	9640	9771	1.17	cps
Bromine	81-2	183	193	237	204	13.87	cps
Cadmium	108-1	17	3	13	11	62.48	cps
Cadmium	106-1	2994	2990	2950	2978	0.81	cps
Cadmium	111-1	2094	2094	2076	2088	0.50	cps
Calcium	43-1	213	297	270	260	16.37	cps
Calcium	44-1	16512	16175	15685	16124	2.58	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1597	1467	1420	1495	6.13	cps
Cobalt	59-2	103	80	57	80	29.16	cps
Copper	63-2	960	993	1043	999	4.20	cps
Dysprosium	156-1	3	3	7	4	43.40	cps
Dysprosium	156-2	3	7	7	6	34.70	cps
Erbium	164-1	57	73	50	60	20.03	cps
Erbium	164-2	27	57	33	39	40.51	cps
Gadolinium	160-1	40	60	60	53	21.65	cps
Gadolinium	160-2	403	443	447	431	5.59	cps
Holmium	165-1	6933747	6820398	6669000	6807715	1.95	cps
Holmium	165-2	5241562	5079927	5101888	5141126	1.71	cps
Indium	115-1	6310260	6136855	6178040	6208385	1.46	cps
Indium	115-2	2438697	2440348	2353588	2410878	2.06	cps
Iron	56-2	16282	15732	15909	15974	1.76	cps
Iron	57-2	1830	1673	1777	1760	4.53	cps
Iron	54-2	2047	1987	2070	2035	2.11	cps
Krypton	83-1	467	553	523	514	8.56	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:51:29 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	383	477	410	423	11.36	cps
Lead	207-1	380	343	347	357	5.68	cps
Lead	208-1	1667	1753	1653	1691	3.21	cps
Lithium	6-1	735025	717343	704663	719010	2.12	cps
Magnesium	24-2	360	363	387	370	3.93	cps
Manganese	55-2	3594	3467	3370	3477	3.22	cps
Molybdenum	94-1	213	263	173	217	20.81	cps
Molybdenum	95-1	230	173	217	207	14.33	cps
Molybdenum	96-1	247	230	227	234	4.57	cps
Molybdenum	97-1	150	120	143	138	11.43	cps
Molybdenum	98-1	323	327	220	290	20.91	cps
Neodymium	150-1	7	7	10	8	24.71	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	320	330	373	341	8.31	cps
Phosphorus	31-2	480	540	447	489	9.67	cps
Potassium	39-2	66260	67268	65544	66357	1.31	cps
Rhodium	103-1	6285023	6157505	6179963	6207497	1.10	cps
Rhodium	103-2	3913324	3903113	3874059	3896832	0.52	cps
Scandium	45-1	4170440	4056745	4017870	4081685	1.94	cps
Scandium	45-2	371618	367298	366987	368634	0.70	cps
Selenium	82-1	209	59	141	136	55.03	cps
Selenium	77-2	3	7	10	7	50.03	cps
Selenium	78-2	393	353	323	357	9.85	cps
Silicon	28-1	779710	771223	770638	773857	0.66	cps
Silver	107-1	67	123	73	88	35.29	cps
Silver	109-1	63	43	53	53	18.75	cps
Sodium	23-2	27087	27501	27164	27251	0.81	cps
Strontium	86-1	767	727	823	772	6.29	cps
Strontium	88-1	143	173	143	153	11.30	cps
Sulfur	34-1	205617	210773	211645	209345	1.56	cps
Terbium	159-1	7297287	7020269	7107883	7141813	1.98	cps
Terbium	159-2	5325345	5258029	5313966	5299113	0.68	cps
Thallium	203-1	107	123	100	110	10.93	cps
Thallium	205-1	270	247	257	258	4.54	cps
Tin	118-1	823	780	770	791	3.58	cps
Titanium	47-1	93	80	97	90	9.80	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:51:29 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	40	30	23	31	26.97	cps
Vanadium	51-2	10	17	30	19	53.91	cps
Yttrium	89-1	10922519	10897056	10748300	10855958	0.87	cps
Yttrium	89-2	3034960	2994156	2983184	3004100	0.91	cps
Zinc	66-2	2714	2640	2834	2729	3.58	cps
Zirconium	90-1	360	317	490	389	23.20	cps
Zirconium	91-1	70	63	70	68	5.68	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:54:45 DataFile Name : 005CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4484	4484	4344	4437	1.82	cps
Antimony	121-1	11818	11411	11198	11476	2.75	cps
Arsenic	75-2	450	433	440	441	1.90	cps
Barium	135-1	13376	12963	13150	13163	1.57	cps
Barium	137-1	23376	22762	22575	22904	1.83	cps
Beryllium	9-1	950	1043	1077	1023	6.42	cps
Bismuth	209-1	4487629	4362445	4364235	4404770	1.63	cps
Bismuth	209-2	3951221	3897005	3885434	3911220	0.90	cps
Bromine	81-1	9520	9723	9647	9630	1.07	cps
Bromine	81-2	240	213	220	224	6.18	cps
Cadmium	108-1	130	83	110	108	21.72	cps
Cadmium	106-1	3137	3067	2734	2979	7.24	cps
Cadmium	111-1	3598	3432	3193	3408	5.97	cps
Calcium	43-1	9480	9320	9453	9417	0.91	cps
Calcium	44-1	165172	164419	161467	163686	1.20	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	7585	7802	7639	7675	1.47	cps
Cobalt	59-2	5318	5221	4881	5140	4.46	cps
Copper	63-2	7782	7482	7592	7619	1.99	cps
Dysprosium	156-1	7	13	7	9	43.25	cps
Dysprosium	156-2	7	3	0	3	100.05	cps
Erbium	164-1	57	43	40	47	18.90	cps
Erbium	164-2	17	43	50	37	48.10	cps
Gadolinium	160-1	63	70	57	63	10.52	cps
Gadolinium	160-2	410	500	490	467	10.57	cps
Holmium	165-1	6900005	6722376	6712578	6778320	1.56	cps
Holmium	165-2	5245604	5124630	5191350	5187195	1.17	cps
Indium	115-1	6097643	6120178	5993207	6070343	1.12	cps
Indium	115-2	2413831	2408143	2408804	2410259	0.13	cps
Iron	56-2	158484	159551	159120	159051	0.34	cps
Iron	57-2	5416	5516	5386	5439	1.25	cps
Iron	54-2	10027	9997	10000	10008	0.16	cps
Krypton	83-1	387	430	430	416	6.02	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:54:45 DataFile Name : 005CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	3997	3697	3977	3891	4.31	cps
Lead	207-1	3437	3410	3207	3352	3.75	cps
Lead	208-1	15897	15234	15667	15599	2.16	cps
Lithium	6-1	711335	707797	689581	702904	1.66	cps
Magnesium	24-2	135182	136228	136024	135811	0.41	cps
Manganese	55-2	5748	5881	5594	5741	2.50	cps
Molybdenum	94-1	12926	12312	12445	12561	2.57	cps
Molybdenum	95-1	15315	15121	15388	15275	0.90	cps
Molybdenum	96-1	17370	16863	17040	17091	1.51	cps
Molybdenum	97-1	9436	9320	9213	9323	1.20	cps
Molybdenum	98-1	24177	24464	24240	24294	0.62	cps
Neodymium	150-1	20	0	3	8	137.80	cps
Neodymium	150-2	7	0	0	2	173.21	cps
Nickel	60-2	1443	1527	1440	1470	3.34	cps
Phosphorus	31-2	2714	2537	2597	2616	3.43	cps
Potassium	39-2	229999	229321	229759	229693	0.15	cps
Rhodium	103-1	6243353	6071517	6038129	6117667	1.80	cps
Rhodium	103-2	3883445	3857952	3904078	3881825	0.60	cps
Scandium	45-1	4182941	4004781	4012096	4066606	2.48	cps
Scandium	45-2	368343	369965	370048	369452	0.26	cps
Selenium	82-1	932	831	811	858	7.58	cps
Selenium	77-2	70	73	113	86	28.19	cps
Selenium	78-2	673	613	533	607	11.58	cps
Silicon	28-1	793005	789150	793221	791792	0.29	cps
Silver	107-1	8443	8312	8376	8377	0.78	cps
Silver	109-1	7802	8119	7692	7871	2.82	cps
Sodium	23-2	234232	235448	235599	235093	0.32	cps
Strontium	86-1	2537	2647	2650	2611	2.47	cps
Strontium	88-1	16913	16860	16863	16879	0.18	cps
Sulfur	34-1	218012	216842	219523	218126	0.62	cps
Terbium	159-1	7214818	7116614	7032249	7121227	1.28	cps
Terbium	159-2	5198844	5220062	5184236	5201047	0.35	cps
Thallium	203-1	5441	5054	4878	5124	5.62	cps
Thallium	205-1	12956	12462	12596	12672	2.02	cps
Tin	118-1	24240	24541	24110	24297	0.91	cps
Titanium	47-1	4717	4624	4427	4590	3.23	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:54:45 DataFile Name : 005CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	15042	14888	14992	14974	0.52	cps
Vanadium	51-2	12409	12979	12836	12741	2.33	cps
Yttrium	89-1	10885204	10578156	10616254	10693205	1.57	cps
Yttrium	89-2	2986135	2962807	2985614	2978185	0.45	cps
Zinc	66-2	5988	6061	5948	5999	0.96	cps
Zirconium	90-1	10564	10851	10561	10658	1.56	cps
Zirconium	91-1	2427	2260	2310	2332	3.67	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:58:04 DataFile Name : 006CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	155723	154331	153305	154453	0.79	cps
Antimony	121-1	265890	269242	266966	267366	0.64	cps
Arsenic	75-2	18515	18418	18592	18508	0.47	cps
Barium	135-1	322018	316557	318801	319125	0.86	cps
Barium	137-1	551667	551249	544452	549122	0.74	cps
Beryllium	9-1	42532	42368	42856	42585	0.58	cps
Bismuth	209-1	4397263	4370811	4420365	4396146	0.56	cps
Bismuth	209-2	3876422	3836442	3754776	3822547	1.62	cps
Bromine	81-1	9396	9740	10030	9722	3.26	cps
Bromine	81-2	217	177	187	193	10.77	cps
Cadmium	108-1	5751	5498	5578	5609	2.31	cps
Cadmium	106-1	10394	10691	10774	10620	1.88	cps
Cadmium	111-1	78156	78112	78376	78215	0.18	cps
Calcium	43-1	89207	89629	88476	89104	0.65	cps
Calcium	44-1	1395866	1413285	1366910	1392020	1.68	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	146047	147602	144604	146084	1.03	cps
Cobalt	59-2	221290	221383	220104	220926	0.32	cps
Copper	63-2	1707324	1706986	1704099	1706136	0.10	cps
Dysprosium	156-1	20	17	17	18	10.81	cps
Dysprosium	156-2	47	33	17	32	46.65	cps
Erbium	164-1	57	50	63	57	11.76	cps
Erbium	164-2	57	33	50	47	25.76	cps
Gadolinium	160-1	80	73	63	72	11.62	cps
Gadolinium	160-2	460	503	480	481	4.51	cps
Holmium	165-1	6735835	6749160	6587200	6690732	1.34	cps
Holmium	165-2	5206849	5102155	4994544	5101182	2.08	cps
Indium	115-1	6052462	5978022	5862887	5964457	1.60	cps
Indium	115-2	2396797	2371839	2374284	2380974	0.58	cps
Iron	56-2	6787089	6757970	6721061	6755373	0.49	cps
Iron	57-2	176492	177590	176927	177003	0.31	cps
Iron	54-2	391407	394263	386170	390613	1.05	cps
Krypton	83-1	453	433	483	457	5.51	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:58:04 DataFile Name : 006CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	990276	977763	977605	981881	0.74	cps
Lead	207-1	843103	829993	832316	835137	0.84	cps
Lead	208-1	3965702	3938001	3883934	3929212	1.06	cps
Lithium	6-1	702579	699382	688375	696779	1.07	cps
Magnesium	24-2	1349258	1314783	1323665	1329235	1.35	cps
Manganese	55-2	1199156	1184232	1179161	1187517	0.88	cps
Molybdenum	94-1	1017520	1014431	1003959	1011970	0.70	cps
Molybdenum	95-1	1452039	1448678	1439800	1446839	0.44	cps
Molybdenum	96-1	1596166	1588796	1556550	1580504	1.33	cps
Molybdenum	97-1	916419	909643	898263	908108	1.01	cps
Molybdenum	98-1	2312412	2243586	2261335	2272444	1.57	cps
Neodymium	150-1	23	13	13	17	34.65	cps
Neodymium	150-2	0	7	0	2	173.21	cps
Nickel	60-2	58899	59477	58537	58971	0.80	cps
Phosphorus	31-2	8926	8693	8639	8753	1.74	cps
Potassium	39-2	866207	870740	863402	866783	0.43	cps
Rhodium	103-1	6036059	5945106	5925034	5968733	0.99	cps
Rhodium	103-2	3809388	3831109	3806019	3815505	0.36	cps
Scandium	45-1	4138278	3977664	3958745	4024895	2.45	cps
Scandium	45-2	367963	369308	362902	366724	0.92	cps
Selenium	82-1	6483	6419	6413	6438	0.60	cps
Selenium	77-2	717	743	687	716	3.96	cps
Selenium	78-2	2734	2664	2637	2678	1.86	cps
Silicon	28-1	3239876	3197240	3210706	3215941	0.68	cps
Silver	107-1	376078	377894	373958	375977	0.52	cps
Silver	109-1	356091	359364	356493	357316	0.50	cps
Sodium	23-2	2109949	2065419	2089192	2088187	1.07	cps
Strontium	86-1	96597	95548	95310	95818	0.72	cps
Strontium	88-1	828684	825515	823180	825793	0.33	cps
Sulfur	34-1	235256	237450	235277	235995	0.53	cps
Terbium	159-1	7173678	6852967	6980782	7002475	2.31	cps
Terbium	159-2	5304559	5255908	5170040	5243502	1.30	cps
Thallium	203-1	240659	240239	240873	240590	0.13	cps
Thallium	205-1	572934	573543	569890	572122	0.34	cps
Tin	118-1	228125	227701	223558	226461	1.11	cps
Titanium	47-1	427176	424491	419981	423883	0.86	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 15:58:04 DataFile Name : 006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	717004	713922	706147	712358	0.79	cps
Vanadium	51-2	120829	120553	120205	120529	0.26	cps
Yttrium	89-1	10653911	10594148	10349259	10532439	1.53	cps
Yttrium	89-2	2933023	2952439	2951281	2945581	0.37	cps
Zinc	66-2	329302	327902	325258	327487	0.63	cps
Zirconium	90-1	507607	501355	502683	503882	0.65	cps
Zirconium	91-1	112568	111520	111554	111881	0.53	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:01:11 DataFile Name : 007CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	369058	370092	376947	372032	1.15	cps
Antimony	121-1	670964	664810	660997	665591	0.76	cps
Arsenic	75-2	45446	44326	43637	44470	2.05	cps
Barium	135-1	788476	784087	784099	785554	0.32	cps
Barium	137-1	1364693	1363086	1353693	1360491	0.44	cps
Beryllium	9-1	106053	107987	105262	106434	1.32	cps
Bismuth	209-1	4426504	4421634	4306752	4384963	1.55	cps
Bismuth	209-2	3852884	3824975	3755671	3811177	1.31	cps
Bromine	81-1	9170	9473	9380	9341	1.66	cps
Bromine	81-2	167	217	217	200	14.43	cps
Cadmium	108-1	13687	13933	13817	13812	0.89	cps
Cadmium	106-1	22401	22190	22270	22287	0.48	cps
Cadmium	111-1	192337	193148	191361	192282	0.47	cps
Calcium	43-1	220725	219517	217530	219257	0.74	cps
Calcium	44-1	3403489	3376216	3301841	3360516	1.57	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	356960	356657	350435	354684	1.04	cps
Cobalt	59-2	542953	544620	525994	537856	1.92	cps
Copper	63-2	4098473	4079202	4117256	4098311	0.46	cps
Dysprosium	156-1	30	13	13	19	50.96	cps
Dysprosium	156-2	87	53	47	62	34.44	cps
Erbium	164-1	77	83	60	73	16.39	cps
Erbium	164-2	63	67	37	56	29.59	cps
Gadolinium	160-1	57	110	73	80	34.10	cps
Gadolinium	160-2	433	373	387	398	7.92	cps
Holmium	165-1	6783073	6599877	6504829	6629260	2.13	cps
Holmium	165-2	5156484	5138603	4959392	5084826	2.14	cps
Indium	115-1	5865628	5922803	5778878	5855769	1.24	cps
Indium	115-2	2365019	2374158	2286061	2341746	2.07	cps
Iron	56-2	16137793	16045896	16455268	16212986	1.32	cps
Iron	57-2	431174	430559	425497	429077	0.73	cps
Iron	54-2	940193	933619	935976	936596	0.36	cps
Krypton	83-1	507	547	460	504	8.60	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:01:11 DataFile Name : 007CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2576825	2478684	2470384	2508631	2.36	cps
Lead	207-1	2201775	2206833	2176928	2195179	0.73	cps
Lead	208-1	10166646	10090566	9888551	10048588	1.43	cps
Lithium	6-1	709515	702966	688170	700217	1.56	cps
Magnesium	24-2	3230672	3187677	3183930	3200760	0.81	cps
Manganese	55-2	2863059	2835882	2951665	2883535	2.10	cps
Molybdenum	94-1	2486374	2489508	2416589	2464157	1.67	cps
Molybdenum	95-1	3616142	3633417	3621551	3623703	0.24	cps
Molybdenum	96-1	3979057	3967043	3872329	3939476	1.48	cps
Molybdenum	97-1	2237267	2214159	2196294	2215907	0.93	cps
Molybdenum	98-1	5646344	5662680	5611061	5640028	0.47	cps
Neodymium	150-1	57	30	40	42	31.91	cps
Neodymium	150-2	10	13	7	10	33.30	cps
Nickel	60-2	141155	141835	143416	142135	0.82	cps
Phosphorus	31-2	21201	21121	19963	20762	3.34	cps
Potassium	39-2	1971790	1939046	1893359	1934732	2.04	cps
Rhodium	103-1	5994267	5888804	5781867	5888313	1.80	cps
Rhodium	103-2	3836442	3845443	3722909	3801598	1.80	cps
Scandium	45-1	3951163	3920458	3892739	3921453	0.75	cps
Scandium	45-2	358284	356744	355225	356751	0.43	cps
Selenium	82-1	15726	15775	15675	15725	0.32	cps
Selenium	77-2	1717	1700	1577	1665	4.59	cps
Selenium	78-2	6351	6385	5838	6191	4.95	cps
Silicon	28-1	6353818	6340006	6335926	6343250	0.15	cps
Silver	107-1	942149	933673	930054	935292	0.66	cps
Silver	109-1	888190	878004	877800	881331	0.67	cps
Sodium	23-2	4985490	5024989	4894232	4968237	1.35	cps
Strontium	86-1	237440	237711	232640	235930	1.21	cps
Strontium	88-1	2066164	1967842	1996997	2010334	2.51	cps
Sulfur	34-1	269619	270522	272381	270841	0.52	cps
Terbium	159-1	6977064	6961573	6810512	6916383	1.33	cps
Terbium	159-2	5191334	5071686	5079385	5114135	1.31	cps
Thallium	203-1	605783	597865	593778	599142	1.02	cps
Thallium	205-1	1435389	1419352	1411081	1421941	0.87	cps
Tin	118-1	556552	558363	557121	557345	0.17	cps
Titanium	47-1	1042998	1056828	1030705	1043510	1.25	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:01:11 DataFile Name : 007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1893042	1889503	1914995	1899180	0.73	cps
Vanadium	51-2	291358	292109	296485	293317	0.94	cps
Yttrium	89-1	10657123	10312743	10213496	10394454	2.24	cps
Yttrium	89-2	2917536	2886302	2814605	2872814	1.84	cps
Zinc	66-2	810836	800840	781633	797769	1.86	cps
Zirconium	90-1	1250442	1252630	1247258	1250110	0.22	cps
Zirconium	91-1	281542	278128	275153	278275	1.15	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:04:11 DataFile Name : 008CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	733577	727058	727385	729340	0.50	cps
Antimony	121-1	1285528	1297655	1290707	1291297	0.47	cps
Arsenic	75-2	88438	87205	86695	87446	1.02	cps
Barium	135-1	1520296	1536238	1531583	1529372	0.54	cps
Barium	137-1	2720801	2683859	2655558	2686740	1.22	cps
Beryllium	9-1	205928	206399	202310	204879	1.09	cps
Bismuth	209-1	4380863	4317179	4226605	4308216	1.80	cps
Bismuth	209-2	3823664	3712195	3689655	3741838	1.92	cps
Bromine	81-1	9710	9263	9133	9369	3.23	cps
Bromine	81-2	213	183	203	200	7.64	cps
Cadmium	108-1	26838	26942	26865	26882	0.20	cps
Cadmium	106-1	39708	39627	39992	39776	0.48	cps
Cadmium	111-1	367279	367067	364822	366389	0.37	cps
Calcium	43-1	425226	428500	423402	425709	0.61	cps
Calcium	44-1	6476059	6544842	6499428	6506776	0.54	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	684667	671181	674582	676810	1.04	cps
Cobalt	59-2	1049249	1045107	1038122	1044159	0.54	cps
Copper	63-2	7952854	8048947	7991204	7997668	0.60	cps
Dysprosium	156-1	57	37	40	44	24.11	cps
Dysprosium	156-2	127	113	140	127	10.53	cps
Erbium	164-1	83	90	67	80	15.02	cps
Erbium	164-2	70	80	50	67	22.91	cps
Gadolinium	160-1	63	77	63	68	11.36	cps
Gadolinium	160-2	407	457	457	440	6.56	cps
Holmium	165-1	6446191	6551171	6474710	6490691	0.84	cps
Holmium	165-2	5016390	4962118	4866784	4948431	1.53	cps
Indium	115-1	5825891	5693517	5696062	5738490	1.32	cps
Indium	115-2	2276090	2219504	2215731	2237109	1.51	cps
Iron	56-2	31860310	31392776	31027674	31426920	1.33	cps
Iron	57-2	829051	824268	819674	824331	0.57	cps
Iron	54-2	1783884	1744893	1719875	1749551	1.84	cps
Krypton	83-1	523	490	530	514	4.17	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:04:11 DataFile Name : 008CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4961221	4950839	4948416	4953492	0.14	cps
Lead	207-1	4281615	4259452	4322332	4287799	0.74	cps
Lead	208-1	19720194	19568958	19727029	19672060	0.45	cps
Lithium	6-1	703919	685885	685092	691632	1.54	cps
Magnesium	24-2	6441474	6342901	6378257	6387544	0.78	cps
Manganese	55-2	5618708	5565576	5490450	5558245	1.16	cps
Molybdenum	94-1	4762429	4766004	4791225	4773219	0.33	cps
Molybdenum	95-1	6929053	6930938	6878998	6912996	0.43	cps
Molybdenum	96-1	7560417	7548191	7538885	7549164	0.14	cps
Molybdenum	97-1	4254023	4222315	4300617	4258985	0.92	cps
Molybdenum	98-1	10892324	10880195	10952669	10908396	0.36	cps
Neodymium	150-1	63	93	40	66	40.78	cps
Neodymium	150-2	13	43	43	33	51.97	cps
Nickel	60-2	275598	273755	271128	273494	0.82	cps
Phosphorus	31-2	39645	39280	38973	39299	0.86	cps
Potassium	39-2	3716561	3692577	3630963	3680033	1.20	cps
Rhodium	103-1	5635507	5703792	5630998	5656765	0.72	cps
Rhodium	103-2	3702907	3589900	3529843	3607550	2.44	cps
Scandium	45-1	3843760	3810799	3810687	3821749	0.50	cps
Scandium	45-2	351456	347858	345805	348373	0.82	cps
Selenium	82-1	29724	29699	29523	29648	0.37	cps
Selenium	77-2	3077	3240	3184	3167	2.62	cps
Selenium	78-2	11351	11214	11491	11352	1.22	cps
Silicon	28-1	11225517	11221238	11103236	11183330	0.62	cps
Silver	107-1	1825413	1816348	1752478	1798079	2.21	cps
Silver	109-1	1674138	1720371	1682152	1692220	1.46	cps
Sodium	23-2	10135899	9883592	9961247	9993580	1.29	cps
Strontium	86-1	452257	452999	455153	453470	0.33	cps
Strontium	88-1	3853872	3840284	3840854	3845003	0.20	cps
Sulfur	34-1	324075	326080	324805	324986	0.31	cps
Terbium	159-1	6816126	6742539	6787153	6781939	0.55	cps
Terbium	159-2	5039784	5017158	5005535	5020826	0.35	cps
Thallium	203-1	1175722	1166098	1167662	1169827	0.44	cps
Thallium	205-1	2959097	2971461	2899040	2943200	1.32	cps
Tin	118-1	1079895	1082808	1080903	1081202	0.14	cps
Titanium	47-1	1987926	2045802	1999742	2011157	1.52	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:04:11 DataFile Name : 008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	3725825	3747145	3776770	3749914	0.68	cps
Vanadium	51-2	574962	567192	569091	570415	0.71	cps
Yttrium	89-1	10206209	10094752	9889087	10063349	1.60	cps
Yttrium	89-2	2853469	2775742	2779719	2802977	1.56	cps
Zinc	66-2	1522200	1518439	1491042	1510560	1.13	cps
Zirconium	90-1	2437906	2442278	2418010	2432732	0.53	cps
Zirconium	91-1	540458	538221	540611	539763	0.25	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:07:03 DataFile Name : 009CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1446536	1374997	1396030	1405854	2.62	cps
Antimony	121-1	2537543	2517706	2497322	2517524	0.80	cps
Arsenic	75-2	167871	167246	164276	166464	1.15	cps
Barium	135-1	3049559	3043202	3011235	3034665	0.68	cps
Barium	137-1	5154707	5159755	5190378	5168280	0.37	cps
Beryllium	9-1	387437	394012	395287	392245	1.07	cps
Bismuth	209-1	4215595	4118487	4153076	4162386	1.18	cps
Bismuth	209-2	3656294	3580309	3553212	3596605	1.49	cps
Bromine	81-1	9366	9583	9450	9466	1.16	cps
Bromine	81-2	217	237	230	228	4.47	cps
Cadmium	108-1	51525	51076	51518	51373	0.50	cps
Cadmium	106-1	73562	74346	73844	73917	0.54	cps
Cadmium	111-1	699854	710467	706289	705537	0.76	cps
Calcium	43-1	821129	814952	808064	814715	0.80	cps
Calcium	44-1	12422321	12263589	12370559	12352156	0.66	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1316657	1293350	1297494	1302500	0.95	cps
Cobalt	59-2	2012215	1974626	1941773	1976205	1.78	cps
Copper	63-2	15561984	15320313	15196499	15359599	1.21	cps
Dysprosium	156-1	67	70	93	77	18.95	cps
Dysprosium	156-2	193	250	243	229	13.53	cps
Erbium	164-1	140	143	163	149	8.48	cps
Erbium	164-2	107	103	77	96	17.21	cps
Gadolinium	160-1	97	77	117	97	20.69	cps
Gadolinium	160-2	437	390	487	438	11.04	cps
Holmium	165-1	6312750	6253217	6284156	6283374	0.47	cps
Holmium	165-2	4856966	4838170	4751739	4815625	1.17	cps
Indium	115-1	5566232	5439142	5487188	5497521	1.17	cps
Indium	115-2	2182046	2149764	2111867	2147893	1.64	cps
Iron	56-2	61711436	60524289	59663609	60633111	1.70	cps
Iron	57-2	1561516	1548185	1491245	1533649	2.43	cps
Iron	54-2	3409142	3352854	3305009	3355668	1.55	cps
Krypton	83-1	547	443	457	482	11.66	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:07:03 DataFile Name : 009CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9675325	9632440	9552205	9619990	0.65	cps
Lead	207-1	8285915	8422505	8242261	8316894	1.13	cps
Lead	208-1	38338522	38450317	38001440	38263426	0.61	cps
Lithium	6-1	677824	664414	666334	669524	1.08	cps
Magnesium	24-2	12394010	11959624	12262358	12205331	1.82	cps
Manganese	55-2	10972868	10588558	10559678	10707035	2.15	cps
Molybdenum	94-1	9070202	9129279	9334569	9178017	1.51	cps
Molybdenum	95-1	13326725	13481512	13527732	13445323	0.78	cps
Molybdenum	96-1	14593764	14836546	14766763	14732358	0.85	cps
Molybdenum	97-1	8187536	8335129	8299089	8273918	0.93	cps
Molybdenum	98-1	21485434	21482147	21242144	21403241	0.65	cps
Neodymium	150-1	93	110	113	106	10.16	cps
Neodymium	150-2	33	47	30	37	24.06	cps
Nickel	60-2	534260	522025	522020	526102	1.34	cps
Phosphorus	31-2	75566	73375	74256	74399	1.48	cps
Potassium	39-2	6999058	6950415	7008169	6985881	0.44	cps
Rhodium	103-1	5428265	5410281	5408193	5415580	0.20	cps
Rhodium	103-2	3511895	3425714	3420468	3452692	1.49	cps
Scandium	45-1	3689452	3621260	3607358	3639356	1.21	cps
Scandium	45-2	337011	333476	334143	334877	0.56	cps
Selenium	82-1	55665	56559	56212	56145	0.80	cps
Selenium	77-2	6345	6255	6038	6212	2.54	cps
Selenium	78-2	21419	20932	21239	21196	1.16	cps
Silicon	28-1	20186728	20551345	20432276	20390116	0.91	cps
Silver	107-1	3441127	3434494	3396465	3424028	0.70	cps
Silver	109-1	3241300	3284894	3256010	3260734	0.68	cps
Sodium	23-2	19573668	18886513	18939578	19133253	2.00	cps
Strontium	86-1	869400	880572	875205	875059	0.64	cps
Strontium	88-1	7566464	7490390	7489836	7515563	0.59	cps
Sulfur	34-1	440847	436968	438537	438784	0.44	cps
Terbium	159-1	6599871	6577996	6516276	6564715	0.66	cps
Terbium	159-2	4877532	4893173	4867468	4879391	0.27	cps
Thallium	203-1	2390909	2426168	2385587	2400888	0.92	cps
Thallium	205-1	5747810	5697057	5616736	5687201	1.16	cps
Tin	118-1	2103371	2125757	2085968	2105032	0.95	cps
Titanium	47-1	3798979	3905423	3863514	3855972	1.39	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:07:03 DataFile Name : 009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7415775	7333991	7321039	7356935	0.70	cps
Vanadium	51-2	1111614	1087174	1087625	1095471	1.28	cps
Yttrium	89-1	9856466	9782879	9518933	9719426	1.83	cps
Yttrium	89-2	2699676	2663339	2657438	2673484	0.86	cps
Zinc	66-2	2907287	2857120	2815607	2860004	1.61	cps
Zirconium	90-1	4740833	4669686	4626455	4678991	1.23	cps
Zirconium	91-1	1043063	1043640	1038919	1041874	0.25	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:09:50 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2659977	2642600	2648660	2650412	0.33	cps
Antimony	121-1	4738146	4778202	4795125	4770491	0.61	cps
Arsenic	75-2	312201	311018	311804	311674	0.19	cps
Barium	135-1	5701874	5752138	5829209	5761074	1.11	cps
Barium	137-1	9562999	9897081	9803408	9754496	1.77	cps
Beryllium	9-1	720438	728499	733464	727467	0.90	cps
Bismuth	209-1	3887099	3926121	3981814	3931678	1.21	cps
Bismuth	209-2	3354728	3330690	3358973	3348130	0.46	cps
Bromine	81-1	9283	9707	9370	9453	2.37	cps
Bromine	81-2	230	247	273	250	8.74	cps
Cadmium	108-1	93171	95536	95734	94814	1.50	cps
Cadmium	106-1	130706	135853	135857	134139	2.22	cps
Cadmium	111-1	1264849	1317713	1321153	1301238	2.43	cps
Calcium	43-1	1439436	1463446	1506245	1469709	2.30	cps
Calcium	44-1	22950390	23772053	23757669	23493371	2.00	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2477445	2467743	2465170	2470119	0.26	cps
Cobalt	59-2	3793256	3641499	3728074	3720943	2.05	cps
Copper	63-2	29040040	29171819	28937742	29049867	0.40	cps
Dysprosium	156-1	120	127	113	120	5.56	cps
Dysprosium	156-2	343	427	457	409	14.36	cps
Erbium	164-1	187	210	227	208	9.67	cps
Erbium	164-2	170	150	117	146	18.51	cps
Gadolinium	160-1	107	123	127	119	9.01	cps
Gadolinium	160-2	447	503	440	463	7.51	cps
Holmium	165-1	5867896	5944549	5993350	5935265	1.07	cps
Holmium	165-2	4566389	4543666	4544257	4551437	0.28	cps
Indium	115-1	5092343	4961018	5077632	5043664	1.43	cps
Indium	115-2	1990628	2008143	2016778	2005183	0.66	cps
Iron	56-2	115097188	114106058	114900988	114701412	0.46	cps
Iron	57-2	2913761	2883413	2859528	2885568	0.94	cps
Iron	54-2	6314871	6420586	6257213	6330890	1.31	cps
Krypton	83-1	577	507	443	509	13.11	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:09:50 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	17578428	18561025	18011435	18050296	2.73	cps
Lead	207-1	15465301	16009961	15874777	15783347	1.80	cps
Lead	208-1	70775569	73315799	72519204	72203524	1.80	cps
Lithium	6-1	616985	619012	619827	618608	0.24	cps
Magnesium	24-2	23223092	23250314	23090358	23187921	0.37	cps
Manganese	55-2	20436016	20043643	20366850	20282170	1.03	cps
Molybdenum	94-1	17251693	17626476	17469667	17449278	1.08	cps
Molybdenum	95-1	24987931	25800956	25809726	25532871	1.85	cps
Molybdenum	96-1	27203480	27816665	28168243	27729463	1.76	cps
Molybdenum	97-1	15290567	15946030	15729737	15655445	2.13	cps
Molybdenum	98-1	38817977	40389068	40527345	39911463	2.38	cps
Neodymium	150-1	247	200	177	208	17.15	cps
Neodymium	150-2	87	113	77	92	20.55	cps
Nickel	60-2	992967	990107	986786	989953	0.31	cps
Phosphorus	31-2	140857	139582	140172	140204	0.45	cps
Potassium	39-2	13174894	13310755	13101916	13195855	0.80	cps
Rhodium	103-1	4927811	5005132	5064013	4998986	1.37	cps
Rhodium	103-2	3254878	3297442	3224367	3258896	1.13	cps
Scandium	45-1	3343250	3376323	3372329	3363967	0.54	cps
Scandium	45-2	314653	315887	314340	314960	0.26	cps
Selenium	82-1	100407	103645	104193	102748	1.99	cps
Selenium	77-2	11545	11528	11585	11552	0.25	cps
Selenium	78-2	39951	38587	38350	38963	2.22	cps
Silicon	28-1	36421128	36987421	36513614	36640721	0.83	cps
Silver	107-1	6299139	6451513	6446373	6399008	1.35	cps
Silver	109-1	5885381	6025774	6129557	6013571	2.04	cps
Sodium	23-2	36414762	36556204	36198619	36389861	0.49	cps
Strontium	86-1	1592772	1694946	1707309	1665009	3.78	cps
Strontium	88-1	14035139	14335965	14389696	14253600	1.34	cps
Sulfur	34-1	637666	651040	647669	645458	1.08	cps
Terbium	159-1	6178027	6182121	6223993	6194714	0.41	cps
Terbium	159-2	4634689	4670779	4596910	4634126	0.80	cps
Thallium	203-1	4455414	4474300	4552886	4494200	1.15	cps
Thallium	205-1	10476557	10840231	10806703	10707830	1.88	cps
Tin	118-1	3867249	4014717	3990376	3957447	2.00	cps
Titanium	47-1	7096099	7364979	7424216	7295098	2.40	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:09:50 DataFile Name : 010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	13535634	13884397	13960157	13793396	1.64	cps
Vanadium	51-2	2062752	2072994	2098518	2078088	0.89	cps
Yttrium	89-1	9032644	9092082	9061564	9062097	0.33	cps
Yttrium	89-2	2527495	2535597	2536901	2533331	0.20	cps
Zinc	66-2	5265112	5318737	5264166	5282672	0.59	cps
Zirconium	90-1	8692643	8897114	9062935	8884231	2.09	cps
Zirconium	91-1	1962398	1961965	1989243	1971202	0.79	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:12:34 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	15096751	15192771	15274561	15188028	0.59	cps
Antimony	121-1	5154	5278	5108	5180	1.70	cps
Arsenic	75-2	333	333	340	336	1.15	cps
Barium	135-1	10354	11078	10921	10784	3.53	cps
Barium	137-1	18145	18656	18502	18434	1.42	cps
Beryllium	9-1	313	283	433	343	23.12	cps
Bismuth	209-1	4238489	4127415	4091972	4152625	1.84	cps
Bismuth	209-2	3569445	3601433	3604617	3591832	0.54	cps
Bromine	81-1	9296	9046	9440	9261	2.15	cps
Bromine	81-2	203	250	193	216	14.03	cps
Cadmium	108-1	77	70	113	87	26.93	cps
Cadmium	106-1	3087	3157	2844	3029	5.43	cps
Cadmium	111-1	2647	2758	2531	2645	4.28	cps
Calcium	43-1	8425358	8311229	8299558	8345382	0.83	cps
Calcium	44-1	136585178	135987785	134885048	135819337	0.64	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	28023	27943	28123	28030	0.32	cps
Cobalt	59-2	14724	14694	14827	14748	0.47	cps
Copper	63-2	9867	9453	9263	9528	3.24	cps
Dysprosium	156-1	333	287	307	309	7.58	cps
Dysprosium	156-2	330	313	297	313	5.32	cps
Erbium	164-1	593	643	557	598	7.28	cps
Erbium	164-2	550	450	483	494	10.30	cps
Gadolinium	160-1	337	363	317	339	6.91	cps
Gadolinium	160-2	723	670	633	676	6.70	cps
Holmium	165-1	7088138	6796512	6729448	6871366	2.78	cps
Holmium	165-2	5145275	4981086	5147906	5091422	1.88	cps
Indium	115-1	5820003	5797465	5651827	5756432	1.59	cps
Indium	115-2	2304778	2274243	2296862	2291961	0.69	cps
Iron	56-2	638875510	643246324	644625204	642249013	0.47	cps
Iron	57-2	16026239	16063745	16049117	16046367	0.12	cps
Iron	54-2	34442551	34366473	35029374	34612799	1.05	cps
Krypton	83-1	420	503	497	473	9.78	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:12:34 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	5925	6395	6838	6386	7.16	cps
Lead	207-1	5251	5578	5765	5531	4.70	cps
Lead	208-1	23755	25897	26667	25440	5.93	cps
Lithium	6-1	722235	703028	705853	710372	1.46	cps
Magnesium	24-2	134661368	134943348	138175211	135926642	1.44	cps
Manganese	55-2	21055	21108	20988	21050	0.29	cps
Molybdenum	94-1	8923	9346	9510	9260	3.27	cps
Molybdenum	95-1	9150	9860	10160	9723	5.34	cps
Molybdenum	96-1	13860	14277	14080	14072	1.48	cps
Molybdenum	97-1	5765	6101	6311	6059	4.55	cps
Molybdenum	98-1	14257	15505	16336	15366	6.81	cps
Neodymium	150-1	137	153	167	152	9.87	cps
Neodymium	150-2	100	63	120	94	30.43	cps
Nickel	60-2	8926	8896	8653	8825	1.70	cps
Phosphorus	31-2	463	497	437	466	6.46	cps
Potassium	39-2	74696442	75330844	76762012	75596433	1.40	cps
Rhodium	103-1	5633963	5504130	5404246	5514113	2.09	cps
Rhodium	103-2	3533405	3506649	3560073	3533376	0.76	cps
Scandium	45-1	3983998	3928867	3912092	3941652	0.95	cps
Scandium	45-2	366531	365159	369518	367069	0.61	cps
Selenium	82-1	368	278	289	311	15.72	cps
Selenium	77-2	17	17	7	13	43.29	cps
Selenium	78-2	397	460	373	410	10.94	cps
Silicon	28-1	847906	841034	834568	841169	0.79	cps
Silver	107-1	1910	2084	1883	1959	5.54	cps
Silver	109-1	1707	1857	1930	1831	6.22	cps
Sodium	23-2	205791357	208514057	208682984	207662799	0.78	cps
Strontium	86-1	25950	25268	25168	25462	1.67	cps
Strontium	88-1	217883	217830	213557	216423	1.15	cps
Sulfur	34-1	201108	203817	203637	202854	0.75	cps
Terbium	159-1	7102551	7001042	7143935	7082509	1.04	cps
Terbium	159-2	5249411	5201248	5365058	5271906	1.60	cps
Thallium	203-1	5635	5808	5965	5802	2.85	cps
Thallium	205-1	13437	13750	13964	13717	1.93	cps
Tin	118-1	3117	3460	3254	3277	5.28	cps
Titanium	47-1	1113	1473	1463	1350	15.19	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:12:34 DataFile Name : 011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1273	1737	1994	1668	21.88	cps
Vanadium	51-2	4421	4194	4144	4253	3.47	cps
Yttrium	89-1	10494038	10321660	10225641	10347113	1.31	cps
Yttrium	89-2	2921514	2898561	2992852	2937642	1.67	cps
Zinc	66-2	10230	10154	10397	10260	1.21	cps
Zirconium	90-1	9873	10277	10214	10121	2.14	cps
Zirconium	91-1	2337	2190	2080	2202	5.85	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:20:22 DataFile Name : 012ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	238701	238757	236924	238127	0.44	cps
Antimony	121-1	2340319	2314543	2372124	2342329	1.23	cps
Arsenic	75-2	152508	151303	152705	152172	0.50	cps
Barium	135-1	2185886	2152263	2174739	2170963	0.79	cps
Barium	137-1	3680338	3717465	3642033	3679945	1.02	cps
Beryllium	9-1	36089	36717	36209	36338	0.92	cps
Bismuth	209-1	4687549	4634583	4574977	4632370	1.22	cps
Bismuth	209-2	3894841	3941064	3923353	3919753	0.59	cps
Bromine	81-1	9270	9303	9113	9229	1.10	cps
Bromine	81-2	147	117	183	149	22.43	cps
Cadmium	108-1	27349	27179	26982	27170	0.68	cps
Cadmium	106-1	39260	39734	39738	39577	0.69	cps
Cadmium	111-1	327635	331150	329744	329510	0.54	cps
Calcium	43-1	78358	78690	79290	78779	0.60	cps
Calcium	44-1	1200717	1192521	1220738	1204659	1.20	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	471730	466103	469949	469260	0.61	cps
Cobalt	59-2	1786519	1765604	1790442	1780855	0.75	cps
Copper	63-2	653765	645368	648741	649291	0.65	cps
Dysprosium	156-1	17	23	13	18	28.64	cps
Dysprosium	156-2	137	157	137	143	8.06	cps
Erbium	164-1	40	47	87	58	43.68	cps
Erbium	164-2	17	60	40	39	55.76	cps
Gadolinium	160-1	67	90	63	73	19.81	cps
Gadolinium	160-2	420	373	397	397	5.88	cps
Holmium	165-1	7009541	7025954	6968003	7001166	0.43	cps
Holmium	165-2	5282891	5204904	5190950	5226248	0.95	cps
Indium	115-1	6135383	6209943	6028337	6124555	1.49	cps
Indium	115-2	2371522	2378873	2352449	2367615	0.58	cps
Iron	56-2	2169638	2139722	2143693	2151018	0.76	cps
Iron	57-2	58183	56186	56465	56944	1.90	cps
Iron	54-2	141724	137536	137515	138925	1.74	cps
Krypton	83-1	523	513	397	478	14.74	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:20:22 DataFile Name : 012ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	1667908	1686738	1672470	1675705	0.59	cps
Lead	207-1	1414053	1428727	1416597	1419793	0.55	cps
Lead	208-1	6781423	6756919	6647174	6728506	1.06	cps
Lithium	6-1	743784	738944	737924	740217	0.42	cps
Magnesium	24-2	1016498	1001412	1016231	1011380	0.85	cps
Manganese	55-2	966021	948002	952778	955600	0.98	cps
Molybdenum	94-1	11149324	11138861	11249032	11179072	0.54	cps
Molybdenum	95-1	16486521	16678923	16622885	16596109	0.60	cps
Molybdenum	96-1	17934295	18300594	17826287	18020392	1.38	cps
Molybdenum	97-1	10324953	10262259	10220671	10269295	0.51	cps
Molybdenum	98-1	26621288	26207726	26116682	26315232	1.02	cps
Neodymium	150-1	60	100	60	73	31.49	cps
Neodymium	150-2	23	3	7	11	96.43	cps
Nickel	60-2	476890	474979	474222	475364	0.29	cps
Phosphorus	31-2	513	450	463	476	7.02	cps
Potassium	39-2	1313250	1287911	1281105	1294089	1.31	cps
Rhodium	103-1	6205088	6148312	6135311	6162903	0.60	cps
Rhodium	103-2	3814143	3858093	3826319	3832851	0.59	cps
Scandium	45-1	4124558	4021009	4096194	4080587	1.31	cps
Scandium	45-2	366500	371668	368629	368932	0.70	cps
Selenium	82-1	52211	53456	52437	52701	1.26	cps
Selenium	77-2	6148	5941	5898	5996	2.23	cps
Selenium	78-2	19800	19877	20191	19956	1.04	cps
Silicon	28-1	2716195	2790228	2812225	2772883	1.81	cps
Silver	107-1	1356126	1361808	1360620	1359518	0.22	cps
Silver	109-1	1283638	1297397	1285078	1288704	0.59	cps
Sodium	23-2	1766995	1712501	1729693	1736396	1.60	cps
Strontium	86-1	916030	926051	926099	922727	0.63	cps
Strontium	88-1	7951736	7948062	7956030	7951943	0.05	cps
Sulfur	34-1	197715	195676	193802	195731	1.00	cps
Terbium	159-1	7345412	7254043	7211344	7270267	0.94	cps
Terbium	159-2	5328518	5364345	5338226	5343696	0.35	cps
Thallium	203-1	2043870	2095105	2091642	2076872	1.38	cps
Thallium	205-1	4961892	5135505	5026350	5041249	1.74	cps
Tin	118-1	2311698	2337572	2364159	2337810	1.12	cps
Titanium	47-1	4781459	4740528	4614617	4712201	1.85	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:20:22 DataFile Name : 012ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	8129173	7925186	7819944	7958101	1.98	cps
Vanadium	51-2	978144	974428	975246	975939	0.20	cps
Yttrium	89-1	10997117	10922356	10855567	10925013	0.65	cps
Yttrium	89-2	2980870	2967013	2945755	2964546	0.60	cps
Zinc	66-2	245707	244938	245376	245340	0.16	cps
Zirconium	90-1	5146818	5125219	5092353	5121463	0.54	cps
Zirconium	91-1	1133591	1134197	1129669	1132485	0.22	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:23:20 DataFile Name : 013LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4297	4067	4317	4227	3.29	cps
Antimony	121-1	11054	11201	11215	11157	0.80	cps
Arsenic	75-2	353	377	337	356	5.65	cps
Barium	135-1	12562	12609	12649	12607	0.34	cps
Barium	137-1	21637	21907	21263	21602	1.50	cps
Beryllium	9-1	950	897	870	906	4.50	cps
Bismuth	209-1	4709423	4510044	4509960	4576475	2.52	cps
Bismuth	209-2	3950555	3879586	3862999	3897713	1.19	cps
Bromine	81-1	9106	9543	9280	9310	2.36	cps
Bromine	81-2	200	193	140	178	18.50	cps
Cadmium	108-1	117	147	130	131	11.46	cps
Cadmium	106-1	3084	2857	3074	3005	4.26	cps
Cadmium	111-1	3414	3284	3357	3352	1.94	cps
Calcium	43-1	9053	8796	8653	8834	2.30	cps
Calcium	44-1	152816	154067	151734	152872	0.76	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	6768	6915	6895	6859	1.16	cps
Cobalt	59-2	4641	4261	4587	4496	4.58	cps
Copper	63-2	7375	7102	7198	7225	1.92	cps
Dysprosium	156-1	7	7	7	7	0.00	cps
Dysprosium	156-2	3	7	7	6	34.70	cps
Erbium	164-1	30	63	57	50	35.28	cps
Erbium	164-2	23	67	17	36	76.36	cps
Gadolinium	160-1	47	73	70	63	22.94	cps
Gadolinium	160-2	467	433	427	442	4.85	cps
Holmium	165-1	6960054	6872326	6734252	6855544	1.66	cps
Holmium	165-2	5189120	5111801	5090183	5130368	1.01	cps
Indium	115-1	6137330	6071801	5973469	6060866	1.36	cps
Indium	115-2	2426407	2386071	2330736	2381071	2.02	cps
Iron	56-2	150728	146622	147624	148325	1.44	cps
Iron	57-2	5133	5070	5030	5078	1.03	cps
Iron	54-2	9650	9236	9203	9363	2.66	cps
Krypton	83-1	430	460	540	477	11.93	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:23:20 DataFile Name : 013LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4077	3887	4041	4002	2.52	cps
Lead	207-1	3450	3320	3317	3363	2.26	cps
Lead	208-1	16421	15780	15677	15959	2.52	cps
Lithium	6-1	736229	728349	717172	727250	1.32	cps
Magnesium	24-2	129124	127917	127689	128243	0.60	cps
Manganese	55-2	5698	5501	5401	5533	2.73	cps
Molybdenum	94-1	12599	12569	12239	12469	1.60	cps
Molybdenum	95-1	15318	14891	15065	15091	1.42	cps
Molybdenum	96-1	17057	16947	16339	16781	2.30	cps
Molybdenum	97-1	9333	9680	9470	9494	1.84	cps
Molybdenum	98-1	24517	24297	23816	24210	1.48	cps
Neodymium	150-1	3	13	3	7	86.65	cps
Neodymium	150-2	7	3	10	7	50.03	cps
Nickel	60-2	1370	1393	1293	1352	3.87	cps
Phosphorus	31-2	2514	2244	2417	2391	5.72	cps
Potassium	39-2	218178	216305	217190	217224	0.43	cps
Rhodium	103-1	6144487	5896769	6025321	6022193	2.06	cps
Rhodium	103-2	3815915	3859391	3826354	3833887	0.59	cps
Scandium	45-1	4145650	4010442	3976669	4044254	2.21	cps
Scandium	45-2	365020	358622	358154	360599	1.06	cps
Selenium	82-1	742	804	643	730	11.16	cps
Selenium	77-2	60	57	53	57	5.89	cps
Selenium	78-2	523	577	497	532	7.65	cps
Silicon	28-1	784984	776401	776082	779155	0.65	cps
Silver	107-1	8406	8282	8216	8301	1.16	cps
Silver	109-1	8089	7709	7912	7903	2.41	cps
Sodium	23-2	238380	238269	234065	236904	1.04	cps
Strontium	86-1	2587	2450	2480	2506	2.87	cps
Strontium	88-1	15735	15835	15702	15757	0.44	cps
Sulfur	34-1	196226	196114	193984	195441	0.65	cps
Terbium	159-1	7391773	7062856	7144329	7199653	2.38	cps
Terbium	159-2	5376400	5295208	5209998	5293868	1.57	cps
Thallium	203-1	5398	5278	5231	5302	1.62	cps
Thallium	205-1	12703	12709	12786	12733	0.36	cps
Tin	118-1	23282	23069	23095	23149	0.50	cps
Titanium	47-1	4397	4247	4371	4338	1.85	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:23:20 DataFile Name : 013LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	14618	14311	14288	14406	1.28	cps
Vanadium	51-2	11758	11981	11535	11758	1.90	cps
Yttrium	89-1	10832858	10508677	10434079	10591871	2.00	cps
Yttrium	89-2	2974447	2884394	2923340	2927394	1.54	cps
Zinc	66-2	5765	5534	5358	5552	3.67	cps
Zirconium	90-1	10013	9983	10207	10068	1.20	cps
Zirconium	91-1	2294	2237	2360	2297	2.69	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:26:35 DataFile Name : 014CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1363	1263	1370	1332	4.49	cps
Antimony	121-1	287	313	267	289	8.10	cps
Arsenic	75-2	33	23	10	22	52.68	cps
Barium	135-1	83	97	130	103	23.26	cps
Barium	137-1	157	157	143	152	5.06	cps
Beryllium	9-1	40	20	7	22	75.49	cps
Bismuth	209-1	4485173	4458992	4376951	4440372	1.27	cps
Bismuth	209-2	3913010	3814777	3885746	3871178	1.31	cps
Bromine	81-1	9256	9053	8709	9006	3.07	cps
Bromine	81-2	150	213	190	184	17.37	cps
Cadmium	108-1	7	30	7	14	93.24	cps
Cadmium	106-1	3070	2917	2764	2917	5.26	cps
Cadmium	111-1	2188	2038	1987	2071	5.06	cps
Calcium	43-1	233	237	287	252	11.84	cps
Calcium	44-1	15448	15385	15311	15381	0.44	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1540	1463	1573	1526	3.70	cps
Cobalt	59-2	127	160	147	144	11.61	cps
Copper	63-2	1303	1270	1483	1352	8.49	cps
Dysprosium	156-1	13	0	17	10	88.20	cps
Dysprosium	156-2	10	7	3	7	50.03	cps
Erbium	164-1	43	43	67	51	26.37	cps
Erbium	164-2	50	53	37	47	18.89	cps
Gadolinium	160-1	40	50	53	48	14.52	cps
Gadolinium	160-2	373	460	433	422	10.51	cps
Holmium	165-1	6766736	6811114	6699977	6759276	0.83	cps
Holmium	165-2	5205152	5060121	5074856	5113376	1.56	cps
Indium	115-1	6077054	5922365	5857848	5952422	1.89	cps
Indium	115-2	2400168	2337646	2374691	2370835	1.33	cps
Iron	56-2	19469	18615	18835	18973	2.34	cps
Iron	57-2	1627	1573	1733	1644	4.96	cps
Iron	54-2	2054	2274	2124	2150	5.23	cps
Krypton	83-1	443	467	480	463	4.00	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:26:35 DataFile Name : 014CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	697	780	693	723	6.79	cps
Lead	207-1	663	647	637	649	2.08	cps
Lead	208-1	2870	2943	2680	2831	4.80	cps
Lithium	6-1	732836	716598	702185	717206	2.14	cps
Magnesium	24-2	1163	1113	997	1091	7.84	cps
Manganese	55-2	3040	2907	2647	2865	6.98	cps
Molybdenum	94-1	597	617	607	607	1.65	cps
Molybdenum	95-1	647	663	700	670	4.07	cps
Molybdenum	96-1	683	797	883	788	12.73	cps
Molybdenum	97-1	460	480	453	464	2.99	cps
Molybdenum	98-1	1230	1103	990	1108	10.84	cps
Neodymium	150-1	7	3	0	3	100.05	cps
Neodymium	150-2	3	7	3	4	43.40	cps
Nickel	60-2	363	367	327	352	6.30	cps
Phosphorus	31-2	430	343	417	397	11.77	cps
Potassium	39-2	66183	66280	66401	66288	0.16	cps
Rhodium	103-1	6082711	5897629	5832642	5937661	2.19	cps
Rhodium	103-2	3846846	3750717	3803212	3800259	1.27	cps
Scandium	45-1	3955059	3934486	3878669	3922738	1.01	cps
Scandium	45-2	360451	359403	357603	359153	0.40	cps
Selenium	82-1	185	167	187	179	6.19	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	320	390	313	341	12.45	cps
Silicon	28-1	750757	749545	771839	757380	1.66	cps
Silver	107-1	253	263	203	240	13.39	cps
Silver	109-1	200	183	137	173	18.94	cps
Sodium	23-2	38729	39427	39754	39303	1.33	cps
Strontium	86-1	843	760	820	808	5.32	cps
Strontium	88-1	320	407	373	367	11.92	cps
Sulfur	34-1	192664	195115	194359	194046	0.65	cps
Terbium	159-1	7126435	6943397	6920094	6996642	1.62	cps
Terbium	159-2	5336217	5153930	5214091	5234746	1.77	cps
Thallium	203-1	297	280	290	289	2.90	cps
Thallium	205-1	667	627	650	648	3.10	cps
Tin	118-1	1077	980	1050	1036	4.82	cps
Titanium	47-1	160	160	190	170	10.19	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:26:35 DataFile Name : 014CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	170	183	193	182	6.43	cps
Vanadium	51-2	40	40	23	34	27.94	cps
Yttrium	89-1	10452467	10423173	10133046	10336229	1.71	cps
Yttrium	89-2	2881020	2901414	2924856	2902430	0.76	cps
Zinc	66-2	2910	2780	3064	2918	4.86	cps
Zirconium	90-1	493	560	460	504	10.09	cps
Zirconium	91-1	73	123	140	112	30.92	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:29:53 DataFile Name : 015ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	13357147	13109000	13006252	13157466	1.37	cps
Antimony	121-1	6221	6161	6361	6248	1.64	cps
Arsenic	75-2	153	143	190	162	15.14	cps
Barium	135-1	1887	1860	1920	1889	1.59	cps
Barium	137-1	3324	3010	3214	3183	5.00	cps
Beryllium	9-1	260	267	197	241	16.02	cps
Bismuth	209-1	4421780	4408086	4294556	4374807	1.60	cps
Bismuth	209-2	3841333	3772321	3751217	3788290	1.24	cps
Bromine	81-1	11078	12902	13827	12602	11.10	cps
Bromine	81-2	1047	1163	1083	1098	5.43	cps
Cadmium	108-1	857	837	913	869	4.58	cps
Cadmium	106-1	3034	2807	2684	2841	6.25	cps
Cadmium	111-1	2587	2609	2383	2526	4.95	cps
Calcium	43-1	1608098	1593849	1624196	1608715	0.94	cps
Calcium	44-1	26315540	25792365	26038222	26048709	1.00	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	55870	55609	55505	55661	0.34	cps
Cobalt	59-2	5634	5718	5678	5677	0.73	cps
Copper	63-2	24978	25135	24617	24910	1.07	cps
Dysprosium	156-1	27	20	30	26	19.92	cps
Dysprosium	156-2	17	17	20	18	10.81	cps
Erbium	164-1	67	70	80	72	9.61	cps
Erbium	164-2	53	37	33	41	26.06	cps
Gadolinium	160-1	70	70	103	81	23.73	cps
Gadolinium	160-2	437	387	443	422	7.34	cps
Holmium	165-1	6880847	6799562	6702474	6794295	1.31	cps
Holmium	165-2	5169085	5245337	5167865	5194096	0.85	cps
Indium	115-1	5922776	5903457	5741062	5855765	1.70	cps
Indium	115-2	2334896	2328569	2302243	2321903	0.75	cps
Iron	56-2	247014223	242847890	241846183	243902765	1.12	cps
Iron	57-2	6184764	6000878	6012640	6066094	1.70	cps
Iron	54-2	13374934	13113332	13147303	13211856	1.08	cps
Krypton	83-1	433	433	457	441	3.05	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:29:53 DataFile Name : 015ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	17962	18770	18179	18304	2.28	cps
Lead	207-1	14424	14141	14852	14472	2.47	cps
Lead	208-1	67465	68958	68317	68247	1.10	cps
Lithium	6-1	724901	714454	684427	707927	2.97	cps
Magnesium	24-2	23833986	23233745	23348991	23472241	1.36	cps
Manganese	55-2	19259	19272	19082	19205	0.55	cps
Molybdenum	94-1	3039317	3138077	3041830	3073075	1.83	cps
Molybdenum	95-1	5351712	5527036	5530330	5469693	1.87	cps
Molybdenum	96-1	5836025	5931855	6007153	5925011	1.45	cps
Molybdenum	97-1	3393854	3416798	3464261	3424971	1.05	cps
Molybdenum	98-1	8605796	8554982	8711713	8624163	0.93	cps
Neodymium	150-1	33	17	20	23	37.78	cps
Neodymium	150-2	13	13	13	13	0.00	cps
Nickel	60-2	6201	6562	6168	6310	3.46	cps
Phosphorus	31-2	774001	762342	777593	771312	1.03	cps
Potassium	39-2	28750488	28039276	28754495	28514753	1.44	cps
Rhodium	103-1	5884453	5701879	5713441	5766591	1.77	cps
Rhodium	103-2	3762946	3757613	3673151	3731237	1.35	cps
Scandium	45-1	4034224	3931207	3906543	3957325	1.71	cps
Scandium	45-2	361666	357139	357560	358788	0.70	cps
Selenium	82-1	259	251	235	248	5.02	cps
Selenium	77-2	0	3	3	2	86.60	cps
Selenium	78-2	413	427	313	384	16.11	cps
Silicon	28-1	811654	823770	816682	817369	0.74	cps
Silver	107-1	550	443	437	477	13.34	cps
Silver	109-1	573	613	380	522	23.89	cps
Sodium	23-2	39721863	39377397	39155664	39418308	0.72	cps
Strontium	86-1	59928	61505	60641	60691	1.30	cps
Strontium	88-1	516728	521347	519124	519066	0.45	cps
Sulfur	34-1	2789981	2759050	2752388	2767140	0.72	cps
Terbium	159-1	7347947	6943828	7104297	7132024	2.85	cps
Terbium	159-2	5298250	5302418	5174829	5258499	1.38	cps
Thallium	203-1	397	430	503	443	12.31	cps
Thallium	205-1	860	1007	1053	973	10.37	cps
Tin	118-1	2834	3454	3617	3302	12.52	cps
Titanium	47-1	1647964	1658660	1649198	1651941	0.35	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:29:53 DataFile Name : 015ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	433	453	447	444	2.29	cps
Vanadium	51-2	580	533	617	577	7.24	cps
Yttrium	89-1	10841971	10208818	10153146	10401312	3.68	cps
Yttrium	89-2	2945771	2909010	2855719	2903500	1.56	cps
Zinc	66-2	9293	9050	8913	9085	2.12	cps
Zirconium	90-1	877	937	820	878	6.65	cps
Zirconium	91-1	183	207	127	172	23.89	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:32:55 DataFile Name : 016ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	13053547	12947191	12752780	12917839	1.18	cps
Antimony	121-1	112467	112332	111156	111985	0.64	cps
Arsenic	75-2	7319	6872	6938	7043	3.42	cps
Barium	135-1	27223	27290	27290	27267	0.14	cps
Barium	137-1	46543	47008	47201	46917	0.72	cps
Beryllium	9-1	16866	17500	17513	17293	2.14	cps
Bismuth	209-1	4463300	4376888	4486193	4442127	1.30	cps
Bismuth	209-2	3786348	3793799	3840418	3806855	0.77	cps
Bromine	81-1	12696	13370	13503	13189	3.28	cps
Bromine	81-2	1033	990	890	971	7.57	cps
Cadmium	108-1	3114	2820	3104	3013	5.53	cps
Cadmium	106-1	6338	6101	6378	6273	2.38	cps
Cadmium	111-1	32813	32024	32160	32332	1.30	cps
Calcium	43-1	1625516	1636969	1590445	1617643	1.50	cps
Calcium	44-1	25643858	25829970	25737225	25737018	0.36	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	111442	110038	109323	110268	0.98	cps
Cobalt	59-2	88603	89565	88003	88724	0.89	cps
Copper	63-2	86311	84701	84246	85086	1.27	cps
Dysprosium	156-1	40	23	17	27	45.07	cps
Dysprosium	156-2	23	33	30	29	17.63	cps
Erbium	164-1	67	103	53	74	34.78	cps
Erbium	164-2	30	43	57	43	30.77	cps
Gadolinium	160-1	77	87	83	82	6.19	cps
Gadolinium	160-2	387	330	390	369	9.14	cps
Holmium	165-1	7001478	6967774	7015394	6994882	0.35	cps
Holmium	165-2	5127528	5032765	5127451	5095915	1.07	cps
Indium	115-1	6050201	5929688	5880659	5953516	1.47	cps
Indium	115-2	2285843	2252482	2242452	2260259	1.01	cps
Iron	56-2	242787443	245109330	240989583	242962119	0.85	cps
Iron	57-2	5955483	5919325	5843623	5906144	0.97	cps
Iron	54-2	13281557	13131101	12773671	13062110	2.00	cps
Krypton	83-1	503	437	463	468	7.17	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:32:55 DataFile Name : 016ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	97316	98910	98816	98347	0.91	cps
Lead	207-1	79395	81144	80329	80290	1.09	cps
Lead	208-1	372436	380736	377959	377043	1.12	cps
Lithium	6-1	701880	717621	693359	704287	1.75	cps
Magnesium	24-2	23271497	23267179	23312594	23283757	0.11	cps
Manganese	55-2	60424	59046	58212	59227	1.89	cps
Molybdenum	94-1	3436822	3382023	3268359	3362401	2.56	cps
Molybdenum	95-1	5752382	5630702	5535771	5639619	1.93	cps
Molybdenum	96-1	6226532	6019183	6014719	6086811	1.99	cps
Molybdenum	97-1	3587958	3480165	3494788	3520970	1.66	cps
Molybdenum	98-1	9031107	8996892	8803053	8943684	1.38	cps
Neodymium	150-1	23	40	20	28	38.58	cps
Neodymium	150-2	10	23	17	17	39.99	cps
Nickel	60-2	27956	28247	28414	28205	0.82	cps
Phosphorus	31-2	771544	768854	760135	766844	0.78	cps
Potassium	39-2	28318810	27954933	28136599	28136781	0.65	cps
Rhodium	103-1	5991302	5752251	5733811	5825788	2.47	cps
Rhodium	103-2	3675730	3697345	3640254	3671110	0.79	cps
Scandium	45-1	4030020	4009447	3884414	3974627	1.98	cps
Scandium	45-2	357787	352960	353115	354621	0.77	cps
Selenium	82-1	2583	2653	2543	2593	2.13	cps
Selenium	77-2	243	293	243	260	11.10	cps
Selenium	78-2	1300	1213	1127	1213	7.14	cps
Silicon	28-1	1236836	1227823	1236861	1233840	0.42	cps
Silver	107-1	143279	144389	139748	142472	1.70	cps
Silver	109-1	134579	135141	133449	134390	0.64	cps
Sodium	23-2	39356629	38622695	39144164	39041163	0.97	cps
Strontium	86-1	147160	146600	143084	145614	1.52	cps
Strontium	88-1	1273146	1246695	1233861	1251234	1.60	cps
Sulfur	34-1	2734390	2761346	2725768	2740501	0.68	cps
Terbium	159-1	7269816	7238327	7198407	7235517	0.49	cps
Terbium	159-2	5223968	5126928	5243327	5198074	1.20	cps
Thallium	203-1	99361	99960	99463	99595	0.32	cps
Thallium	205-1	234833	238246	236591	236556	0.72	cps
Tin	118-1	211473	208326	208867	209556	0.80	cps
Titanium	47-1	1697382	1736047	1648340	1693923	2.59	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:32:55 DataFile Name : 016ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	687864	698218	693170	693084	0.75	cps
Vanadium	51-2	46826	46408	46207	46480	0.68	cps
Yttrium	89-1	10740622	10526087	10399942	10555550	1.63	cps
Yttrium	89-2	2889334	2877890	2882569	2883264	0.20	cps
Zinc	66-2	20114	19700	20397	20070	1.75	cps
Zirconium	90-1	465709	460120	455225	460351	1.14	cps
Zirconium	91-1	103693	102137	100398	102076	1.61	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:35:59 DataFile Name : 017CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	6945425	7088686	7010982	7015031	1.02	cps
Antimony	121-1	2530640	2612593	2590388	2577874	1.64	cps
Arsenic	75-2	167920	169022	164704	167215	1.34	cps
Barium	135-1	3098532	3097703	3120661	3105632	0.42	cps
Barium	137-1	5232387	5348170	5357069	5312542	1.31	cps
Beryllium	9-1	385853	396820	397242	393305	1.64	cps
Bismuth	209-1	4096447	4088601	4121483	4102177	0.42	cps
Bismuth	209-2	3506468	3477623	3432544	3472212	1.07	cps
Bromine	81-1	9913	10430	10344	10229	2.71	cps
Bromine	81-2	423	343	317	361	15.37	cps
Cadmium	108-1	50608	52150	51103	51287	1.54	cps
Cadmium	106-1	72721	72724	73632	73026	0.72	cps
Cadmium	111-1	686829	690642	704881	694117	1.37	cps
Calcium	43-1	3882875	3936771	3915213	3911620	0.69	cps
Calcium	44-1	61613631	63261519	64019707	62964952	1.95	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1335185	1345561	1315782	1332176	1.13	cps
Cobalt	59-2	1973140	2020584	1959998	1984574	1.61	cps
Copper	63-2	15430746	15098366	15241818	15256977	1.09	cps
Dysprosium	156-1	183	183	190	186	2.07	cps
Dysprosium	156-2	333	380	383	366	7.65	cps
Erbium	164-1	373	400	303	359	13.91	cps
Erbium	164-2	247	273	260	260	5.13	cps
Gadolinium	160-1	240	157	220	206	21.16	cps
Gadolinium	160-2	527	563	490	527	6.96	cps
Holmium	165-1	6562991	6556890	6499148	6539676	0.54	cps
Holmium	165-2	4791313	4800692	4848712	4813573	0.64	cps
Indium	115-1	5539120	5366247	5472849	5459405	1.60	cps
Indium	115-2	2148020	2168883	2091659	2136187	1.87	cps
Iron	56-2	307744395	301714589	302225096	303894693	1.10	cps
Iron	57-2	7577240	7499587	7464854	7513894	0.77	cps
Iron	54-2	16495364	16258985	16370009	16374786	0.72	cps
Krypton	83-1	517	577	537	543	5.62	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:35:59 DataFile Name : 017CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9774673	9839325	9634028	9749342	1.08	cps
Lead	207-1	8404582	8625984	8449894	8493487	1.38	cps
Lead	208-1	38587243	39129501	39032790	38916511	0.74	cps
Lithium	6-1	657665	656066	651881	655204	0.46	cps
Magnesium	24-2	62836004	63045289	60441926	62107740	2.33	cps
Manganese	55-2	11038537	11062248	10698027	10932937	1.86	cps
Molybdenum	94-1	9466989	9556412	9630850	9551417	0.86	cps
Molybdenum	95-1	13842682	13963723	13883739	13896715	0.44	cps
Molybdenum	96-1	15086321	15216435	15127301	15143352	0.44	cps
Molybdenum	97-1	8368265	8630398	8546598	8515087	1.57	cps
Molybdenum	98-1	21958815	21912963	21997435	21956404	0.19	cps
Neodymium	150-1	210	190	163	188	12.47	cps
Neodymium	150-2	33	100	93	76	48.60	cps
Nickel	60-2	527387	525686	519784	524285	0.76	cps
Phosphorus	31-2	77067	76849	74731	76216	1.69	cps
Potassium	39-2	34452132	34983281	34491798	34642404	0.85	cps
Rhodium	103-1	5422194	5343137	5325206	5363512	0.96	cps
Rhodium	103-2	3343603	3365482	3353288	3354124	0.33	cps
Scandium	45-1	3695772	3689816	3722833	3702807	0.48	cps
Scandium	45-2	336495	338115	333794	336135	0.65	cps
Selenium	82-1	54304	55374	55420	55033	1.15	cps
Selenium	77-2	6105	6328	6015	6149	2.62	cps
Selenium	78-2	20765	20234	21145	20715	2.21	cps
Silicon	28-1	20827690	21107955	21127540	21021062	0.80	cps
Silver	107-1	3416603	3543017	3386662	3448761	2.41	cps
Silver	109-1	3258634	3242150	3294171	3264985	0.81	cps
Sodium	23-2	96127995	97020035	95472512	96206847	0.81	cps
Strontium	86-1	906816	915838	917655	913436	0.64	cps
Strontium	88-1	7769157	7787357	7896177	7817564	0.88	cps
Sulfur	34-1	435436	437611	439954	437667	0.52	cps
Terbium	159-1	6772807	6791359	6725414	6763194	0.50	cps
Terbium	159-2	4956264	4937487	4882733	4925495	0.78	cps
Thallium	203-1	2442139	2465054	2484179	2463791	0.85	cps
Thallium	205-1	5885233	5984350	5874001	5914528	1.03	cps
Tin	118-1	2137926	2137241	2167062	2147409	0.79	cps
Titanium	47-1	3934269	4018626	3966842	3973245	1.07	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:35:59 DataFile Name : 017CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7492357	7627245	7763284	7627629	1.78	cps
Vanadium	51-2	1138439	1126393	1124106	1129646	0.68	cps
Yttrium	89-1	9946844	9768875	9657370	9791030	1.49	cps
Yttrium	89-2	2708740	2701372	2669795	2693302	0.77	cps
Zinc	66-2	2817568	2795134	2756201	2789634	1.11	cps
Zirconium	90-1	4840216	4889200	4876713	4868709	0.52	cps
Zirconium	91-1	1077643	1082474	1085182	1081766	0.35	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:38:43 DataFile Name : 018CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2314	2250	2250	2271	1.61	cps
Antimony	121-1	1163	1327	1143	1211	8.30	cps
Arsenic	75-2	40	23	30	31	26.97	cps
Barium	135-1	533	680	490	568	17.54	cps
Barium	137-1	1003	1133	887	1008	12.24	cps
Beryllium	9-1	73	103	73	83	20.79	cps
Bismuth	209-1	4481011	4486193	4521553	4496252	0.49	cps
Bismuth	209-2	3932490	3902458	3849575	3894841	1.08	cps
Bromine	81-1	9433	9360	9747	9513	2.16	cps
Bromine	81-2	233	180	203	206	13.01	cps
Cadmium	108-1	20	27	30	26	19.92	cps
Cadmium	106-1	2917	2747	2817	2827	3.02	cps
Cadmium	111-1	2208	2084	2081	2124	3.41	cps
Calcium	43-1	810	1043	927	927	12.59	cps
Calcium	44-1	27352	29489	26046	27629	6.29	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1627	1733	1660	1673	3.26	cps
Cobalt	59-2	277	323	323	308	8.75	cps
Copper	63-2	3594	3564	3230	3463	5.83	cps
Dysprosium	156-1	7	0	17	8	107.84	cps
Dysprosium	156-2	3	3	0	2	86.60	cps
Erbium	164-1	67	40	47	51	27.15	cps
Erbium	164-2	30	60	30	40	43.30	cps
Gadolinium	160-1	40	50	47	46	11.18	cps
Gadolinium	160-2	353	377	403	378	6.62	cps
Holmium	165-1	7035067	6817615	6815537	6889406	1.83	cps
Holmium	165-2	5111801	5198995	5090221	5133672	1.12	cps
Indium	115-1	6131059	6057883	6108210	6099051	0.61	cps
Indium	115-2	2376285	2339263	2338477	2351342	0.92	cps
Iron	56-2	60735	57346	54549	57543	5.38	cps
Iron	57-2	2673	2550	2533	2585	2.96	cps
Iron	54-2	4261	4277	4047	4195	3.06	cps
Krypton	83-1	433	423	390	416	5.46	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:38:43 DataFile Name : 018CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2257	2404	2040	2234	8.19	cps
Lead	207-1	2047	2374	1860	2094	12.41	cps
Lead	208-1	9045	10188	8141	9125	11.24	cps
Lithium	6-1	722530	709673	699135	710446	1.65	cps
Magnesium	24-2	8836	8439	7462	8246	8.58	cps
Manganese	55-2	4474	4277	4354	4368	2.27	cps
Molybdenum	94-1	2094	2457	1907	2152	13.00	cps
Molybdenum	95-1	3160	3597	2934	3230	10.44	cps
Molybdenum	96-1	3260	4204	3104	3523	16.90	cps
Molybdenum	97-1	1877	2234	1707	1939	13.86	cps
Molybdenum	98-1	4958	5971	5014	5314	10.72	cps
Neodymium	150-1	10	7	3	7	50.03	cps
Neodymium	150-2	3	0	7	3	100.05	cps
Nickel	60-2	417	343	377	379	9.69	cps
Phosphorus	31-2	377	453	473	434	11.75	cps
Potassium	39-2	76678	76679	76893	76750	0.16	cps
Rhodium	103-1	6035831	6107555	5912490	6018625	1.64	cps
Rhodium	103-2	3819160	3882937	3829231	3843776	0.89	cps
Scandium	45-1	4052162	3850122	3979205	3960497	2.58	cps
Scandium	45-2	359641	356012	354098	356583	0.79	cps
Selenium	82-1	223	236	243	234	4.29	cps
Selenium	77-2	0	10	3	4	114.60	cps
Selenium	78-2	423	380	397	400	5.46	cps
Silicon	28-1	746070	732064	736630	738255	0.97	cps
Silver	107-1	990	1093	977	1020	6.26	cps
Silver	109-1	933	953	773	887	11.13	cps
Sodium	23-2	60020	59759	58969	59582	0.92	cps
Strontium	86-1	900	937	890	909	2.70	cps
Strontium	88-1	1427	1810	1487	1575	13.10	cps
Sulfur	34-1	193630	190913	194022	192855	0.88	cps
Terbium	159-1	7387979	7245443	7130772	7254732	1.78	cps
Terbium	159-2	5262066	5258950	5241543	5254186	0.21	cps
Thallium	203-1	990	830	783	868	12.49	cps
Thallium	205-1	2424	2230	2000	2218	9.56	cps
Tin	118-1	1700	1630	1560	1630	4.30	cps
Titanium	47-1	740	937	820	832	11.88	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:38:43 DataFile Name : 018CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1117	1587	1090	1265	22.10	cps
Vanadium	51-2	130	130	163	141	13.64	cps
Yttrium	89-1	10950706	10375375	10423531	10583204	3.02	cps
Yttrium	89-2	2899963	2919525	2919020	2912836	0.38	cps
Zinc	66-2	3067	3134	3034	3078	1.65	cps
Zirconium	90-1	887	1027	873	929	9.14	cps
Zirconium	91-1	163	193	207	188	11.82	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:42:01 DataFile Name : 019LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4174	4141	4497	4271	4.61	cps
Antimony	121-1	11311	11148	10951	11137	1.62	cps
Arsenic	75-2	397	367	330	364	9.16	cps
Barium	135-1	12572	12662	12429	12555	0.94	cps
Barium	137-1	22531	21576	21279	21796	3.00	cps
Beryllium	9-1	843	937	873	884	5.39	cps
Bismuth	209-1	4585029	4707029	4666695	4652918	1.34	cps
Bismuth	209-2	4003438	4002876	4018651	4008322	0.22	cps
Bromine	81-1	9370	9613	9523	9502	1.30	cps
Bromine	81-2	220	240	190	217	11.62	cps
Cadmium	108-1	107	147	107	120	19.24	cps
Cadmium	106-1	3207	3034	3134	3125	2.79	cps
Cadmium	111-1	3637	3474	3482	3531	2.60	cps
Calcium	43-1	8706	8526	8329	8520	2.21	cps
Calcium	44-1	151169	150610	148026	149935	1.12	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	7155	6868	7012	7012	2.04	cps
Cobalt	59-2	4361	4544	4667	4524	3.41	cps
Copper	63-2	7592	8066	7832	7830	3.02	cps
Dysprosium	156-1	0	7	7	4	86.60	cps
Dysprosium	156-2	3	10	3	6	69.34	cps
Erbium	164-1	67	23	80	57	52.29	cps
Erbium	164-2	30	37	57	41	33.76	cps
Gadolinium	160-1	63	67	37	56	29.59	cps
Gadolinium	160-2	387	433	450	423	7.75	cps
Holmium	165-1	7041758	6924882	6850784	6939141	1.39	cps
Holmium	165-2	5263199	5254640	5201378	5239739	0.64	cps
Indium	115-1	6303849	6108233	6160772	6190951	1.64	cps
Indium	115-2	2432320	2397929	2375942	2402064	1.18	cps
Iron	56-2	150996	150768	149728	150498	0.45	cps
Iron	57-2	5347	4800	4953	5033	5.61	cps
Iron	54-2	9563	9757	9486	9602	1.45	cps
Krypton	83-1	520	473	490	494	4.78	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:42:01 DataFile Name : 019LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4177	4171	3821	4056	5.03	cps
Lead	207-1	3554	3467	3364	3462	2.75	cps
Lead	208-1	16074	16204	15207	15828	3.42	cps
Lithium	6-1	738902	723254	719698	727285	1.40	cps
Magnesium	24-2	129410	127451	127736	128199	0.83	cps
Manganese	55-2	5461	5491	5468	5473	0.29	cps
Molybdenum	94-1	12025	12158	11835	12006	1.35	cps
Molybdenum	95-1	14811	15238	14084	14711	3.97	cps
Molybdenum	96-1	16433	16032	15939	16135	1.63	cps
Molybdenum	97-1	9100	9506	9240	9282	2.23	cps
Molybdenum	98-1	23125	22918	22915	22986	0.52	cps
Neodymium	150-1	7	10	23	13	66.12	cps
Neodymium	150-2	3	3	7	4	43.40	cps
Nickel	60-2	1307	1477	1293	1359	7.52	cps
Phosphorus	31-2	2204	2207	2264	2225	1.52	cps
Potassium	39-2	218675	220038	216020	218244	0.94	cps
Rhodium	103-1	6176664	6110011	6011022	6099232	1.37	cps
Rhodium	103-2	3915535	3946958	3861883	3908125	1.10	cps
Scandium	45-1	4065980	4022999	3994494	4027824	0.89	cps
Scandium	45-2	372301	366339	364668	367769	1.09	cps
Selenium	82-1	728	746	705	727	2.85	cps
Selenium	77-2	77	57	60	64	16.63	cps
Selenium	78-2	633	580	603	606	4.42	cps
Silicon	28-1	744986	754473	743412	747624	0.80	cps
Silver	107-1	7772	8109	7899	7927	2.15	cps
Silver	109-1	7555	7679	7612	7615	0.81	cps
Sodium	23-2	241305	235969	237972	238415	1.13	cps
Strontium	86-1	2617	2504	2590	2570	2.31	cps
Strontium	88-1	16189	15318	15662	15723	2.79	cps
Sulfur	34-1	203769	206269	205135	205058	0.61	cps
Terbium	159-1	7461792	7230966	7211682	7301480	1.91	cps
Terbium	159-2	5357716	5364570	5421277	5381188	0.65	cps
Thallium	203-1	5244	5271	5158	5224	1.13	cps
Thallium	205-1	13133	12232	12609	12658	3.57	cps
Tin	118-1	23609	22872	22635	23039	2.21	cps
Titanium	47-1	4321	4271	3974	4188	4.48	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:42:01 DataFile Name : 019LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	14325	14528	14151	14335	1.32	cps
Vanadium	51-2	11855	11688	12135	11893	1.90	cps
Yttrium	89-1	10961970	10559571	10472062	10664535	2.45	cps
Yttrium	89-2	3011534	3020891	2924742	2985722	1.78	cps
Zinc	66-2	5744	5608	5681	5678	1.20	cps
Zirconium	90-1	10104	10060	10304	10156	1.28	cps
Zirconium	91-1	2294	2377	2207	2292	3.71	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:45:16 DataFile Name : 020SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	460003	459963	459386	459784	0.08	cps
Antimony	121-1	3527947	3571265	3509859	3536357	0.89	cps
Arsenic	75-2	85612	84228	83611	84484	1.21	cps
Barium	135-1	2200925	2177325	2160176	2179475	0.94	cps
Barium	137-1	3758295	3681020	3669339	3702884	1.31	cps
Beryllium	9-1	216029	215938	217664	216544	0.45	cps
Bismuth	209-1	4816958	4750089	4705926	4757658	1.17	cps
Bismuth	209-2	4028350	3929139	3985644	3981044	1.25	cps
Bromine	81-1	9690	9466	9453	9537	1.40	cps
Bromine	81-2	210	180	167	186	11.96	cps
Cadmium	108-1	42191	42576	42405	42391	0.45	cps
Cadmium	106-1	62390	60697	59893	60993	2.09	cps
Cadmium	111-1	642311	638581	628516	636469	1.12	cps
Calcium	43-1	2110	2237	2100	2149	3.55	cps
Calcium	44-1	31396	31255	31540	31397	0.45	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2549856	2446416	2511168	2502480	2.09	cps
Cobalt	59-2	1384407	1369667	1358953	1371009	0.93	cps
Copper	63-2	1124317	1104052	1106050	1111473	1.00	cps
Dysprosium	156-1	27	33	23	28	18.33	cps
Dysprosium	156-2	140	143	157	147	6.01	cps
Erbium	164-1	60	67	80	69	14.78	cps
Erbium	164-2	37	37	53	42	22.78	cps
Gadolinium	160-1	83	67	47	66	28.00	cps
Gadolinium	160-2	490	407	453	450	9.28	cps
Holmium	165-1	7189839	7121937	6949798	7087191	1.75	cps
Holmium	165-2	5370238	5242973	5204809	5272673	1.64	cps
Indium	115-1	6161739	6217482	6175132	6184784	0.47	cps
Indium	115-2	2398820	2388608	2394500	2393976	0.21	cps
Iron	56-2	6145131	6169405	6124783	6146440	0.36	cps
Iron	57-2	160488	159977	160933	160466	0.30	cps
Iron	54-2	442423	435517	431644	436528	1.25	cps
Krypton	83-1	390	517	503	470	14.81	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:45:16 DataFile Name : 020SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4612124	4658581	4629148	4633285	0.51	cps
Lead	207-1	3922258	3927337	3904964	3918187	0.30	cps
Lead	208-1	18222575	18229847	17884154	18112192	1.09	cps
Lithium	6-1	750598	738972	734367	741312	1.13	cps
Magnesium	24-2	823	733	663	740	10.84	cps
Manganese	55-2	1856025	1857642	1867288	1860318	0.33	cps
Molybdenum	94-1	441584	443062	435645	440097	0.89	cps
Molybdenum	95-1	773827	772888	765452	770723	0.60	cps
Molybdenum	96-1	823992	821938	817533	821154	0.40	cps
Molybdenum	97-1	478683	478050	474421	477051	0.48	cps
Molybdenum	98-1	1230650	1226522	1202621	1219931	1.24	cps
Neodymium	150-1	120	60	70	83	38.57	cps
Neodymium	150-2	7	13	7	9	43.25	cps
Nickel	60-2	754359	751520	749275	751718	0.34	cps
Phosphorus	31-2	413	313	430	386	16.37	cps
Potassium	39-2	66983	66511	66488	66661	0.42	cps
Rhodium	103-1	6184121	6138680	6121205	6148002	0.53	cps
Rhodium	103-2	3989382	3845636	3867918	3900979	1.98	cps
Scandium	45-1	4080737	4047173	4039465	4055792	0.54	cps
Scandium	45-2	366645	362962	363321	364309	0.56	cps
Selenium	82-1	67373	67528	67414	67438	0.12	cps
Selenium	77-2	7292	7365	7629	7429	2.38	cps
Selenium	78-2	24828	24587	24791	24735	0.52	cps
Silicon	28-1	2486951	2527427	2521788	2512055	0.87	cps
Silver	107-1	5191483	5168120	5107944	5155849	0.84	cps
Silver	109-1	4940073	4916604	4860332	4905670	0.84	cps
Sodium	23-2	64508	64384	64498	64463	0.11	cps
Strontium	86-1	287507	287075	284708	286430	0.53	cps
Strontium	88-1	2480855	2499995	2436602	2472484	1.32	cps
Sulfur	34-1	196202	189145	186317	190555	2.67	cps
Terbium	159-1	7413817	7330616	7394063	7379499	0.59	cps
Terbium	159-2	5466060	5257410	5302437	5341969	2.06	cps
Thallium	203-1	3309753	3337032	3282038	3309608	0.83	cps
Thallium	205-1	7920550	7806429	7834969	7853983	0.76	cps
Tin	118-1	1160	1090	1007	1086	7.07	cps
Titanium	47-1	443	347	407	399	12.23	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:45:16 DataFile Name : 020SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	103	93	133	110	18.93	cps
Vanadium	51-2	3044524	3028466	2966927	3013306	1.36	cps
Yttrium	89-1	11091751	10922454	10699345	10904517	1.80	cps
Yttrium	89-2	2975783	2937474	2949863	2954373	0.66	cps
Zinc	66-2	703523	690682	694805	696336	0.94	cps
Zirconium	90-1	6745	5604	5451	5933	11.91	cps
Zirconium	91-1	1540	1420	1327	1429	7.48	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:48:16 DataFile Name : 021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	8556	8683	8596	8611	0.75	cps
Antimony	121-1	630	530	550	570	9.28	cps
Arsenic	75-2	10	0	17	9	94.38	cps
Barium	135-1	193	177	243	204	16.97	cps
Barium	137-1	427	357	417	400	9.46	cps
Beryllium	9-1	17	20	7	14	48.02	cps
Bismuth	209-1	4947366	4759309	4662762	4789812	3.02	cps
Bismuth	209-2	4043709	4000358	3944228	3996098	1.25	cps
Bromine	81-1	10080	10874	11511	10822	6.62	cps
Bromine	81-2	533	507	503	514	3.20	cps
Cadmium	108-1	13	13	7	11	34.61	cps
Cadmium	106-1	3217	2934	3037	3063	4.68	cps
Cadmium	111-1	2283	2081	2155	2173	4.70	cps
Calcium	43-1	303	327	333	321	4.91	cps
Calcium	44-1	16756	16669	16793	16739	0.38	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1590	1573	1720	1628	4.93	cps
Cobalt	59-2	173	157	140	157	10.64	cps
Copper	63-2	1370	1453	1387	1403	3.14	cps
Dysprosium	156-1	13	7	23	14	58.06	cps
Dysprosium	156-2	7	10	13	10	33.30	cps
Erbium	164-1	63	63	63	63	0.00	cps
Erbium	164-2	50	57	63	57	11.76	cps
Gadolinium	160-1	43	70	43	52	29.49	cps
Gadolinium	160-2	427	433	363	408	9.47	cps
Holmium	165-1	7119306	7128075	7019435	7088939	0.85	cps
Holmium	165-2	5355464	5121847	5283043	5253451	2.28	cps
Indium	115-1	6209543	6324527	6058161	6197410	2.16	cps
Indium	115-2	2429130	2349388	2385920	2388146	1.67	cps
Iron	56-2	18181	18188	18351	18240	0.53	cps
Iron	57-2	1437	1600	1540	1525	5.42	cps
Iron	54-2	2087	1990	2104	2060	2.97	cps
Krypton	83-1	453	493	497	481	5.01	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:48:16 DataFile Name : 021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	637	673	713	674	5.69	cps
Lead	207-1	693	510	613	606	15.18	cps
Lead	208-1	2660	2547	2827	2678	5.26	cps
Lithium	6-1	768036	728177	732008	742740	2.96	cps
Magnesium	24-2	637	597	673	636	6.03	cps
Manganese	55-2	3700	3927	3650	3759	3.92	cps
Molybdenum	94-1	4141	4091	4077	4103	0.81	cps
Molybdenum	95-1	393	323	393	370	10.92	cps
Molybdenum	96-1	1050	927	1020	999	6.44	cps
Molybdenum	97-1	297	233	237	256	13.95	cps
Molybdenum	98-1	600	553	593	582	4.34	cps
Neodymium	150-1	7	27	17	17	59.99	cps
Neodymium	150-2	10	3	3	6	69.34	cps
Nickel	60-2	500	503	543	516	4.68	cps
Phosphorus	31-2	400	287	407	364	18.51	cps
Potassium	39-2	67281	66773	66953	67002	0.38	cps
Rhodium	103-1	6446717	6286602	6114748	6282689	2.64	cps
Rhodium	103-2	3957573	3985575	3867164	3936770	1.57	cps
Scandium	45-1	4188518	4126632	4100034	4138395	1.10	cps
Scandium	45-2	368192	364634	367835	366887	0.53	cps
Selenium	82-1	227	173	170	190	16.81	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	360	427	313	367	15.54	cps
Silicon	28-1	4928254	5074333	5027870	5010152	1.49	cps
Silver	107-1	670	417	380	489	32.30	cps
Silver	109-1	617	393	353	454	31.23	cps
Sodium	23-2	90930	89790	89686	90135	0.77	cps
Strontium	86-1	733	853	827	804	7.83	cps
Strontium	88-1	537	523	563	541	3.76	cps
Sulfur	34-1	178688	178425	181096	179403	0.82	cps
Terbium	159-1	7470617	7628306	7462167	7520364	1.24	cps
Terbium	159-2	5427680	5421070	5464896	5437882	0.43	cps
Thallium	203-1	457	497	447	467	5.67	cps
Thallium	205-1	1143	1170	1087	1133	3.76	cps
Tin	118-1	3172291	3183576	3164531	3173466	0.30	cps
Titanium	47-1	70246	69881	69639	69922	0.44	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:48:16 DataFile Name : 021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	37	43	37	39	9.89	cps
Vanadium	51-2	63	60	67	63	5.27	cps
Yttrium	89-1	10905077	10907538	10966567	10926394	0.32	cps
Yttrium	89-2	2999633	2963247	2957264	2973382	0.77	cps
Zinc	66-2	2700	2640	2694	2678	1.23	cps
Zirconium	90-1	10164	10831	10541	10512	3.18	cps
Zirconium	91-1	2460	2320	2304	2361	3.64	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 16:51:29 DataFile Name : 022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	231818	227967	226261	228682	1.24	cps
Antimony	121-1	1758525	1764920	1718653	1747366	1.43	cps
Arsenic	75-2	41943	41735	41896	41858	0.26	cps
Barium	135-1	1076381	1058907	1069653	1068314	0.82	cps
Barium	137-1	1864599	1872868	1865131	1867533	0.25	cps
Beryllium	9-1	106614	107747	107379	107247	0.54	cps
Bismuth	209-1	4753419	4714272	4655769	4707820	1.04	cps
Bismuth	209-2	4005207	3969931	3990992	3988710	0.44	cps
Bromine	81-1	9707	9597	9700	9668	0.64	cps
Bromine	81-2	183	213	230	209	11.32	cps
Cadmium	108-1	21005	20962	21035	21001	0.18	cps
Cadmium	106-1	31999	30903	31782	31561	1.84	cps
Cadmium	111-1	324036	315420	320173	319876	1.35	cps
Calcium	43-1	1330	1590	1343	1421	10.30	cps
Calcium	44-1	26537	26363	26533	26478	0.37	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1276179	1256248	1238595	1257007	1.50	cps
Cobalt	59-2	694560	685992	681287	687280	0.98	cps
Copper	63-2	566802	553429	549579	556603	1.62	cps
Dysprosium	156-1	7	10	10	9	21.63	cps
Dysprosium	156-2	73	57	73	68	14.19	cps
Erbium	164-1	60	53	67	60	11.12	cps
Erbium	164-2	33	20	60	38	53.92	cps
Gadolinium	160-1	30	83	47	53	51.15	cps
Gadolinium	160-2	457	403	427	429	6.23	cps
Holmium	165-1	7111109	7195558	7104704	7137124	0.71	cps
Holmium	165-2	5383753	5174175	5131131	5229686	2.58	cps
Indium	115-1	6303020	6184370	6291389	6259593	1.04	cps
Indium	115-2	2440728	2384616	2395401	2406915	1.24	cps
Iron	56-2	3117602	3112373	3090399	3106791	0.46	cps
Iron	57-2	82739	80623	79924	81095	1.81	cps
Iron	54-2	222593	218922	218664	220060	1.00	cps
Krypton	83-1	480	380	437	432	11.60	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 16:51:29 DataFile Name : 022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2292691	2336761	2309257	2312903	0.96	cps
Lead	207-1	1975579	1925561	1962472	1954537	1.33	cps
Lead	208-1	9083246	9089038	9147201	9106495	0.39	cps
Lithium	6-1	736428	745071	730868	737456	0.97	cps
Magnesium	24-2	967	947	870	928	5.50	cps
Manganese	55-2	953919	936658	931499	940692	1.25	cps
Molybdenum	94-1	223478	217521	219052	220017	1.41	cps
Molybdenum	95-1	386711	378558	381552	382274	1.08	cps
Molybdenum	96-1	416795	398846	406433	407358	2.21	cps
Molybdenum	97-1	240173	234153	238686	237671	1.32	cps
Molybdenum	98-1	615896	600790	605204	607296	1.28	cps
Neodymium	150-1	20	37	40	32	33.25	cps
Neodymium	150-2	10	17	7	11	45.82	cps
Nickel	60-2	382079	378069	374879	378342	0.95	cps
Phosphorus	31-2	287	350	387	341	14.83	cps
Potassium	39-2	65072	65902	64961	65311	0.79	cps
Rhodium	103-1	6242371	6044393	6177103	6154622	1.64	cps
Rhodium	103-2	3939081	3865146	3797563	3867263	1.83	cps
Scandium	45-1	4087547	4033776	3975954	4032426	1.38	cps
Scandium	45-2	370754	362842	360482	364693	1.48	cps
Selenium	82-1	33360	33637	32837	33278	1.22	cps
Selenium	77-2	3704	3734	3524	3654	3.11	cps
Selenium	78-2	12495	12659	12135	12430	2.16	cps
Silicon	28-1	1759677	1735159	1749585	1748140	0.70	cps
Silver	107-1	2586812	2516026	2535741	2546193	1.43	cps
Silver	109-1	2526549	2488868	2415096	2476837	2.29	cps
Sodium	23-2	49359	49228	48827	49138	0.56	cps
Strontium	86-1	144983	140317	140451	141917	1.87	cps
Strontium	88-1	1253232	1223441	1220771	1232481	1.46	cps
Sulfur	34-1	178337	174699	176111	176382	1.04	cps
Terbium	159-1	7517860	7383867	7229521	7377083	1.96	cps
Terbium	159-2	5382840	5283472	5377582	5347965	1.05	cps
Thallium	203-1	1563515	1583305	1577754	1574858	0.65	cps
Thallium	205-1	3979480	3940336	3901025	3940280	1.00	cps
Tin	118-1	1310	1290	1667	1422	14.90	cps
Titanium	47-1	227	247	283	252	11.39	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 16:51:29 DataFile Name : 022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	83	57	63	68	20.47	cps
Vanadium	51-2	1520871	1498662	1458700	1492744	2.11	cps
Yttrium	89-1	10942424	10733774	10610189	10762129	1.56	cps
Yttrium	89-2	2956254	2941402	2964649	2954102	0.40	cps
Zinc	66-2	355951	347969	349773	351231	1.19	cps
Zirconium	90-1	2854	2617	2730	2734	4.33	cps
Zirconium	91-1	640	610	633	628	2.51	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:54:37 DataFile Name : 023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	465898	462596	454495	460997	1.27	cps
Antimony	121-1	3538003	3502846	3538403	3526417	0.58	cps
Arsenic	75-2	84583	83205	82454	83414	1.29	cps
Barium	135-1	2201974	2193764	2161561	2185766	0.98	cps
Barium	137-1	3765702	3786356	3689072	3747043	1.37	cps
Beryllium	9-1	216790	217810	214150	216250	0.87	cps
Bismuth	209-1	4916689	4724865	4724137	4788564	2.32	cps
Bismuth	209-2	4078236	4079880	4044001	4067372	0.50	cps
Bromine	81-1	9603	9583	9483	9557	0.67	cps
Bromine	81-2	257	200	220	226	12.74	cps
Cadmium	108-1	42265	41834	41827	41975	0.60	cps
Cadmium	106-1	61165	59886	60188	60413	1.11	cps
Cadmium	111-1	636013	631912	628806	632244	0.57	cps
Calcium	43-1	1887	2087	2184	2052	7.37	cps
Calcium	44-1	30578	30885	30080	30514	1.33	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2521869	2545406	2495760	2521012	0.99	cps
Cobalt	59-2	1384047	1371789	1357425	1371087	0.97	cps
Copper	63-2	1130584	1114536	1109763	1118294	0.98	cps
Dysprosium	156-1	10	37	23	23	57.15	cps
Dysprosium	156-2	130	103	137	123	14.30	cps
Erbium	164-1	77	67	63	69	10.08	cps
Erbium	164-2	50	43	40	44	11.46	cps
Gadolinium	160-1	40	60	63	54	23.18	cps
Gadolinium	160-2	433	433	433	433	0.00	cps
Holmium	165-1	7151561	7150722	7010247	7104176	1.15	cps
Holmium	165-2	5285827	5318920	5278335	5294361	0.41	cps
Indium	115-1	6303864	6145856	6118625	6189448	1.62	cps
Indium	115-2	2442347	2389791	2401318	2411152	1.15	cps
Iron	56-2	6204980	6274136	6126960	6202025	1.19	cps
Iron	57-2	161631	161084	159721	160812	0.61	cps
Iron	54-2	443936	436939	435417	438764	1.04	cps
Krypton	83-1	457	447	483	462	4.10	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:54:37 DataFile Name : 023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4594285	4641055	4616469	4617270	0.51	cps
Lead	207-1	3948850	3920453	3935271	3934858	0.36	cps
Lead	208-1	18490602	18275917	18155207	18307242	0.93	cps
Lithium	6-1	750446	743980	733810	742745	1.13	cps
Magnesium	24-2	460	517	537	504	7.88	cps
Manganese	55-2	1934795	1885578	1858067	1892813	2.05	cps
Molybdenum	94-1	437726	437851	433906	436494	0.51	cps
Molybdenum	95-1	770378	769922	761428	767243	0.66	cps
Molybdenum	96-1	817413	812240	814342	814665	0.32	cps
Molybdenum	97-1	476706	470967	472795	473489	0.62	cps
Molybdenum	98-1	1224440	1216391	1205573	1215468	0.78	cps
Neodymium	150-1	77	50	53	60	24.22	cps
Neodymium	150-2	10	20	13	14	35.26	cps
Nickel	60-2	760566	756038	748081	754895	0.84	cps
Phosphorus	31-2	477	340	403	407	16.82	cps
Potassium	39-2	64164	64014	64010	64063	0.14	cps
Rhodium	103-1	6201859	6125275	6138802	6155312	0.66	cps
Rhodium	103-2	3867585	3819845	3893481	3860304	0.97	cps
Scandium	45-1	4066919	4062112	4060640	4063224	0.08	cps
Scandium	45-2	366479	366444	363571	365498	0.46	cps
Selenium	82-1	67855	66678	66707	67080	1.00	cps
Selenium	77-2	7625	7315	7442	7461	2.09	cps
Selenium	78-2	24898	24714	24834	24815	0.38	cps
Silicon	28-1	2500737	2512909	2509096	2507580	0.25	cps
Silver	107-1	5231447	5144831	5093978	5156752	1.35	cps
Silver	109-1	4972654	4925659	4822578	4906964	1.56	cps
Sodium	23-2	59732	59571	59083	59462	0.57	cps
Strontium	86-1	285782	284337	283666	284595	0.38	cps
Strontium	88-1	2455776	2448177	2492497	2465483	0.96	cps
Sulfur	34-1	169643	168275	165916	167945	1.12	cps
Terbium	159-1	7505617	7361016	7383830	7416821	1.05	cps
Terbium	159-2	5504233	5374728	5307695	5395552	1.85	cps
Thallium	203-1	3298821	3373388	3217362	3296524	2.37	cps
Thallium	205-1	8036620	7820930	7933291	7930280	1.36	cps
Tin	118-1	1160	1047	1020	1076	6.91	cps
Titanium	47-1	387	323	403	371	11.37	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:54:37 DataFile Name : 023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	87	117	83	96	19.21	cps
Vanadium	51-2	3058356	3065067	2971982	3031802	1.71	cps
Yttrium	89-1	10873858	10891627	10817290	10860925	0.36	cps
Yttrium	89-2	3002910	2950531	2935632	2963024	1.19	cps
Zinc	66-2	713704	703310	695747	704254	1.28	cps
Zirconium	90-1	4527	4374	4521	4474	1.94	cps
Zirconium	91-1	1200	1073	1220	1165	6.83	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:57:35 DataFile Name : 024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	8916	8326	8359	8534	3.89	cps
Antimony	121-1	613	557	567	579	5.23	cps
Arsenic	75-2	33	17	10	20	60.08	cps
Barium	135-1	230	263	243	246	6.83	cps
Barium	137-1	407	397	380	394	3.42	cps
Beryllium	9-1	27	13	23	21	32.88	cps
Bismuth	209-1	4638849	4595727	4636123	4623566	0.52	cps
Bismuth	209-2	3991887	4032783	4023105	4015925	0.53	cps
Bromine	81-1	10524	10490	10951	10655	2.41	cps
Bromine	81-2	453	460	427	447	3.95	cps
Cadmium	108-1	13	10	27	17	52.93	cps
Cadmium	106-1	3090	3144	2987	3074	2.59	cps
Cadmium	111-1	2204	2234	2112	2183	2.90	cps
Calcium	43-1	277	233	230	247	10.55	cps
Calcium	44-1	15922	15458	15775	15718	1.51	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1700	1653	1663	1672	1.47	cps
Cobalt	59-2	213	270	237	240	11.87	cps
Copper	63-2	1473	1367	1493	1445	4.71	cps
Dysprosium	156-1	0	17	23	13	90.13	cps
Dysprosium	156-2	10	13	3	9	57.30	cps
Erbium	164-1	67	77	53	66	17.86	cps
Erbium	164-2	40	47	50	46	11.18	cps
Gadolinium	160-1	57	53	63	58	8.81	cps
Gadolinium	160-2	457	490	473	473	3.52	cps
Holmium	165-1	7052452	6893181	7074737	7006790	1.41	cps
Holmium	165-2	5264381	5168704	5209346	5214143	0.92	cps
Indium	115-1	6288298	6196025	6137771	6207365	1.22	cps
Indium	115-2	2385349	2382159	2418692	2395400	0.84	cps
Iron	56-2	17564	17861	17650	17692	0.86	cps
Iron	57-2	1433	1563	1463	1487	4.58	cps
Iron	54-2	1953	2134	1960	2016	5.06	cps
Krypton	83-1	453	510	393	452	12.90	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:57:35 DataFile Name : 024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	737	733	707	726	2.27	cps
Lead	207-1	573	577	690	613	10.83	cps
Lead	208-1	2770	2853	2934	2852	2.86	cps
Lithium	6-1	749168	734881	728673	737574	1.42	cps
Magnesium	24-2	517	653	487	552	16.09	cps
Manganese	55-2	3961	3881	3824	3888	1.77	cps
Molybdenum	94-1	4054	3797	3724	3858	4.49	cps
Molybdenum	95-1	340	313	270	308	11.48	cps
Molybdenum	96-1	1123	967	920	1003	10.62	cps
Molybdenum	97-1	280	203	213	232	17.95	cps
Molybdenum	98-1	560	477	470	502	9.99	cps
Neodymium	150-1	10	13	23	16	44.60	cps
Neodymium	150-2	17	20	13	17	20.01	cps
Nickel	60-2	530	513	623	556	10.67	cps
Phosphorus	31-2	380	340	333	351	7.19	cps
Potassium	39-2	65149	65644	65115	65303	0.45	cps
Rhodium	103-1	6267004	6151031	6052253	6156763	1.75	cps
Rhodium	103-2	3895271	3911658	3860830	3889253	0.67	cps
Scandium	45-1	4134817	4055245	4091527	4093863	0.97	cps
Scandium	45-2	364461	362165	364287	363638	0.35	cps
Selenium	82-1	216	141	259	205	29.12	cps
Selenium	77-2	7	0	3	3	100.05	cps
Selenium	78-2	367	343	330	347	5.35	cps
Silicon	28-1	5146392	4963650	5048242	5052761	1.81	cps
Silver	107-1	817	543	437	599	32.73	cps
Silver	109-1	643	533	300	492	35.62	cps
Sodium	23-2	86508	86012	85955	86158	0.35	cps
Strontium	86-1	833	747	827	802	6.01	cps
Strontium	88-1	587	440	440	489	17.32	cps
Sulfur	34-1	165738	165081	167693	166171	0.82	cps
Terbium	159-1	7556597	7314768	7482484	7451283	1.66	cps
Terbium	159-2	5440373	5395421	5413165	5416319	0.42	cps
Thallium	203-1	600	550	473	541	11.79	cps
Thallium	205-1	1397	1363	1270	1343	4.89	cps
Tin	118-1	3244327	3259264	3112143	3205245	2.53	cps
Titanium	47-1	70219	70463	68612	69765	1.44	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-04 Instrumnet Name : P7
Client Sample ID : WP0925-PT-SNTI-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 16:57:35 DataFile Name : 024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	53	47	37	46	18.41	cps
Vanadium	51-2	83	133	93	103	25.61	cps
Yttrium	89-1	11083681	10666659	10644700	10798347	2.29	cps
Yttrium	89-2	2979565	2997693	3007018	2994759	0.47	cps
Zinc	66-2	3024	2724	2877	2875	5.22	cps
Zirconium	90-1	10567	10591	10377	10512	1.11	cps
Zirconium	91-1	2384	2247	2017	2216	8.36	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:00:53 DataFile Name : 025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	234900	233831	232493	233742	0.52	cps
Antimony	121-1	1755438	1724773	1773380	1751197	1.40	cps
Arsenic	75-2	42277	42277	41545	42033	1.01	cps
Barium	135-1	1080656	1060283	1070305	1070414	0.95	cps
Barium	137-1	1893610	1867417	1850096	1870374	1.17	cps
Beryllium	9-1	108242	108398	108550	108397	0.14	cps
Bismuth	209-1	4785303	4835543	4752087	4790978	0.88	cps
Bismuth	209-2	4053303	3973011	4018797	4015037	1.00	cps
Bromine	81-1	9580	9843	9450	9624	2.08	cps
Bromine	81-2	230	250	233	238	4.51	cps
Cadmium	108-1	21810	20915	20304	21010	3.60	cps
Cadmium	106-1	32420	31752	31778	31983	1.18	cps
Cadmium	111-1	324102	314672	317440	318738	1.52	cps
Calcium	43-1	1100	1100	1053	1084	2.48	cps
Calcium	44-1	22964	23041	22897	22968	0.31	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1265269	1272240	1251432	1262980	0.84	cps
Cobalt	59-2	686371	685659	681568	684533	0.38	cps
Copper	63-2	562213	555325	551517	556352	0.97	cps
Dysprosium	156-1	13	23	10	16	44.60	cps
Dysprosium	156-2	67	50	107	74	39.12	cps
Erbium	164-1	60	57	43	53	16.54	cps
Erbium	164-2	33	40	37	37	9.10	cps
Gadolinium	160-1	67	57	90	71	24.05	cps
Gadolinium	160-2	517	383	450	450	14.82	cps
Holmium	165-1	7191307	7072735	7036897	7100313	1.14	cps
Holmium	165-2	5308817	5163137	5178616	5216857	1.53	cps
Indium	115-1	6452169	6182879	6338374	6324474	2.14	cps
Indium	115-2	2421858	2381163	2347882	2383634	1.55	cps
Iron	56-2	3142151	3129593	3049013	3106919	1.63	cps
Iron	57-2	80515	81642	79974	80710	1.05	cps
Iron	54-2	221361	218856	220409	220209	0.57	cps
Krypton	83-1	453	460	490	468	4.17	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:00:53 DataFile Name : 025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2306113	2313078	2355106	2324765	1.14	cps
Lead	207-1	1973293	1970156	2012877	1985442	1.20	cps
Lead	208-1	9138585	9100989	9244311	9161295	0.81	cps
Lithium	6-1	757669	759157	744958	753928	1.04	cps
Magnesium	24-2	587	573	557	572	2.63	cps
Manganese	55-2	947457	940475	931933	939955	0.83	cps
Molybdenum	94-1	221547	219513	214594	218552	1.64	cps
Molybdenum	95-1	385192	381509	378085	381595	0.93	cps
Molybdenum	96-1	413951	407376	401956	407761	1.47	cps
Molybdenum	97-1	243743	239793	234869	239468	1.86	cps
Molybdenum	98-1	618572	608735	605635	610980	1.11	cps
Neodymium	150-1	33	40	50	41	20.41	cps
Neodymium	150-2	0	7	10	6	91.64	cps
Nickel	60-2	381501	374919	375301	377240	0.98	cps
Phosphorus	31-2	430	407	373	403	7.06	cps
Potassium	39-2	64840	64034	63425	64100	1.11	cps
Rhodium	103-1	6361712	6085220	6116099	6187677	2.45	cps
Rhodium	103-2	3935343	3852443	3836653	3874813	1.37	cps
Scandium	45-1	3988749	4102458	3964448	4018552	1.83	cps
Scandium	45-2	365365	363063	359324	362584	0.84	cps
Selenium	82-1	33752	33596	32747	33365	1.62	cps
Selenium	77-2	3650	3597	3640	3629	0.78	cps
Selenium	78-2	12629	12115	12419	12387	2.09	cps
Silicon	28-1	1758277	1747679	1743266	1749741	0.44	cps
Silver	107-1	2623112	2576073	2578945	2592710	1.02	cps
Silver	109-1	2510212	2448803	2428618	2462544	1.73	cps
Sodium	23-2	46360	45999	45634	45997	0.79	cps
Strontium	86-1	144896	143537	141860	143431	1.06	cps
Strontium	88-1	1243664	1248171	1214632	1235489	1.47	cps
Sulfur	34-1	164616	165105	164363	164695	0.23	cps
Terbium	159-1	7426510	7349092	7427768	7401123	0.61	cps
Terbium	159-2	5373264	5239778	5390464	5334502	1.55	cps
Thallium	203-1	1583564	1564210	1585543	1577772	0.75	cps
Thallium	205-1	3921959	4002887	3950227	3958357	1.04	cps
Tin	118-1	1273	1147	1167	1196	5.70	cps
Titanium	47-1	223	220	213	219	2.33	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-02DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-TM1-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:00:53 DataFile Name : 025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	73	50	57	60	20.03	cps
Vanadium	51-2	1513876	1537179	1482998	1511351	1.80	cps
Yttrium	89-1	11036128	10913537	10729944	10893203	1.41	cps
Yttrium	89-2	2975620	2915433	2886204	2925752	1.56	cps
Zinc	66-2	353492	352527	347649	351223	0.89	cps
Zirconium	90-1	2430	2317	2467	2405	3.25	cps
Zirconium	91-1	563	573	557	564	1.49	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:03:59 DataFile Name : 026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1373	1393	1357	1375	1.34	cps
Antimony	121-1	407	347	363	372	8.32	cps
Arsenic	75-2	7	27	27	20	57.73	cps
Barium	135-1	157	133	177	156	13.94	cps
Barium	137-1	307	313	313	311	1.24	cps
Beryllium	9-1	17	17	20	18	10.81	cps
Bismuth	209-1	4300696	4500595	4219425	4340238	3.33	cps
Bismuth	209-2	3768346	3740145	3710551	3739681	0.77	cps
Bromine	81-1	11291	12996	13553	12613	9.34	cps
Bromine	81-2	1097	1270	1070	1146	9.48	cps
Cadmium	108-1	13	27	10	17	52.93	cps
Cadmium	106-1	2667	2854	2847	2789	3.80	cps
Cadmium	111-1	1914	2029	2033	1992	3.38	cps
Calcium	43-1	1252977	1312529	1293454	1286320	2.36	cps
Calcium	44-1	20471103	21243924	21010504	20908510	1.90	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1757	1817	1907	1827	4.13	cps
Cobalt	59-2	570	440	567	526	14.10	cps
Copper	63-2	1243	1230	1250	1241	0.82	cps
Dysprosium	156-1	3	17	13	11	62.48	cps
Dysprosium	156-2	7	13	10	10	33.30	cps
Erbium	164-1	60	43	77	60	27.78	cps
Erbium	164-2	27	33	37	32	15.80	cps
Gadolinium	160-1	53	43	73	57	26.96	cps
Gadolinium	160-2	440	440	393	424	6.35	cps
Holmium	165-1	6556071	6548102	6573609	6559260	0.20	cps
Holmium	165-2	5035282	4941358	4951214	4975951	1.04	cps
Indium	115-1	5771250	5760633	5713283	5748388	0.54	cps
Indium	115-2	2333948	2274190	2267237	2291792	1.60	cps
Iron	56-2	19606	19857	20227	19897	1.57	cps
Iron	57-2	41343	42413	42947	42234	1.93	cps
Iron	54-2	2144	2340	2307	2264	4.65	cps
Krypton	83-1	507	403	520	477	13.40	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:03:59 DataFile Name : 026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	873	893	770	846	7.83	cps
Lead	207-1	720	670	613	668	7.99	cps
Lead	208-1	3514	3410	2853	3259	10.89	cps
Lithium	6-1	695716	713032	692509	700419	1.58	cps
Magnesium	24-2	6864969	6835456	6826216	6842214	0.30	cps
Manganese	55-2	2317	2007	2107	2144	7.38	cps
Molybdenum	94-1	547	487	513	516	5.83	cps
Molybdenum	95-1	690	623	727	680	7.70	cps
Molybdenum	96-1	793	760	853	802	5.90	cps
Molybdenum	97-1	397	433	417	416	4.42	cps
Molybdenum	98-1	1067	1050	1087	1068	1.72	cps
Neodymium	150-1	10	17	3	10	66.70	cps
Neodymium	150-2	3	10	10	8	49.52	cps
Nickel	60-2	557	620	577	584	5.54	cps
Phosphorus	31-2	410	373	413	399	5.56	cps
Potassium	39-2	2526787	2517069	2488280	2510712	0.80	cps
Rhodium	103-1	5793078	5618997	5736952	5716342	1.55	cps
Rhodium	103-2	3702837	3678730	3702521	3694696	0.37	cps
Scandium	45-1	3810911	3915287	3779506	3835235	1.85	cps
Scandium	45-2	352505	353868	355276	353883	0.39	cps
Selenium	82-1	39	195	76	104	78.88	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	363	377	353	364	3.21	cps
Silicon	28-1	774928	792145	800569	789214	1.66	cps
Silver	107-1	423	393	317	378	14.56	cps
Silver	109-1	400	327	297	341	15.59	cps
Sodium	23-2	10176083	10113201	10296840	10195374	0.92	cps
Strontium	86-1	14110	14090	13883	14028	0.90	cps
Strontium	88-1	116144	119239	119528	118304	1.59	cps
Sulfur	34-1	183738	199531	211016	198095	6.91	cps
Terbium	159-1	6935548	6828782	6912696	6892342	0.82	cps
Terbium	159-2	5154118	5122647	5153986	5143584	0.35	cps
Thallium	203-1	470	393	390	418	10.83	cps
Thallium	205-1	1063	1067	983	1038	4.55	cps
Tin	118-1	917	950	920	929	1.98	cps
Titanium	47-1	127	163	127	139	15.24	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:03:59 DataFile Name : 026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	23	13	17	18	28.64	cps
Vanadium	51-2	37	50	47	44	15.61	cps
Yttrium	89-1	10075744	10138784	10142387	10118972	0.37	cps
Yttrium	89-2	2863691	2831771	2877058	2857507	0.81	cps
Zinc	66-2	2690	2847	2684	2740	3.37	cps
Zirconium	90-1	400	337	353	363	9.04	cps
Zirconium	91-1	67	40	60	56	24.98	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:07:11 DataFile Name : 027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1507	1457	1460	1475	1.90	cps
Antimony	121-1	133	107	147	129	15.80	cps
Arsenic	75-2	13	10	27	17	52.93	cps
Barium	135-1	167	93	133	131	28.01	cps
Barium	137-1	257	220	210	229	10.74	cps
Beryllium	9-1	10	10	23	14	53.28	cps
Bismuth	209-1	4296159	4242464	4178571	4239064	1.39	cps
Bismuth	209-2	3697065	3787118	3737939	3740707	1.21	cps
Bromine	81-1	12379	13496	14420	13432	7.61	cps
Bromine	81-2	1300	1300	1227	1276	3.32	cps
Cadmium	108-1	10	7	13	10	33.30	cps
Cadmium	106-1	2964	3004	2940	2969	1.08	cps
Cadmium	111-1	2108	2121	2102	2110	0.46	cps
Calcium	43-1	1335208	1288905	1340153	1321422	2.14	cps
Calcium	44-1	21065670	21175276	21088878	21109941	0.27	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1747	1903	1917	1856	5.09	cps
Cobalt	59-2	540	490	577	536	8.12	cps
Copper	63-2	1177	1183	1243	1201	3.06	cps
Dysprosium	156-1	23	3	20	16	68.90	cps
Dysprosium	156-2	13	10	3	9	57.30	cps
Erbium	164-1	30	43	53	42	27.72	cps
Erbium	164-2	43	37	40	40	8.32	cps
Gadolinium	160-1	50	63	77	63	21.06	cps
Gadolinium	160-2	447	513	503	488	7.37	cps
Holmium	165-1	6631598	6730726	6354784	6572369	2.96	cps
Holmium	165-2	5085684	4991246	4910800	4995910	1.75	cps
Indium	115-1	5795568	6029615	5629745	5818309	3.45	cps
Indium	115-2	2308006	2304630	2269590	2294075	0.93	cps
Iron	56-2	19333	19957	19877	19722	1.72	cps
Iron	57-2	43004	43583	43639	43409	0.81	cps
Iron	54-2	2334	2220	2150	2235	4.14	cps
Krypton	83-1	433	440	357	410	11.30	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:07:11 DataFile Name : 027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	663	760	687	703	7.17	cps
Lead	207-1	660	547	583	597	9.69	cps
Lead	208-1	2783	2747	2607	2712	3.44	cps
Lithium	6-1	704664	709671	700343	704893	0.66	cps
Magnesium	24-2	7121546	6967368	7074673	7054529	1.12	cps
Manganese	55-2	1860	1870	1887	1872	0.72	cps
Molybdenum	94-1	567	547	497	537	6.72	cps
Molybdenum	95-1	680	690	630	667	4.82	cps
Molybdenum	96-1	747	760	777	761	1.97	cps
Molybdenum	97-1	420	407	433	420	3.17	cps
Molybdenum	98-1	1013	1060	1050	1041	2.36	cps
Neodymium	150-1	20	27	23	23	14.29	cps
Neodymium	150-2	10	7	3	7	50.03	cps
Nickel	60-2	543	523	480	516	6.28	cps
Phosphorus	31-2	447	417	507	457	10.03	cps
Potassium	39-2	2582570	2572474	2521105	2558716	1.29	cps
Rhodium	103-1	5991968	5851819	5694212	5846000	2.55	cps
Rhodium	103-2	3715417	3693784	3676397	3695199	0.53	cps
Scandium	45-1	3881794	3957596	3834777	3891389	1.59	cps
Scandium	45-2	362398	359836	357303	359846	0.71	cps
Selenium	82-1	169	125	252	182	35.28	cps
Selenium	77-2	13	0	7	7	99.98	cps
Selenium	78-2	283	493	423	400	26.73	cps
Silicon	28-1	809977	817152	837026	821385	1.71	cps
Silver	107-1	203	160	147	170	17.43	cps
Silver	109-1	153	140	127	140	9.52	cps
Sodium	23-2	10487828	10206083	10378720	10357543	1.37	cps
Strontium	86-1	14254	14547	14207	14336	1.29	cps
Strontium	88-1	120247	117747	121753	119916	1.69	cps
Sulfur	34-1	229803	235848	241255	235635	2.43	cps
Terbium	159-1	7085576	6798081	6704872	6862843	2.89	cps
Terbium	159-2	5161609	5068551	5122873	5117678	0.91	cps
Thallium	203-1	353	240	253	282	21.95	cps
Thallium	205-1	753	700	650	701	7.37	cps
Tin	118-1	793	1007	900	900	11.85	cps
Titanium	47-1	140	143	140	141	1.37	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WP Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:07:11 DataFile Name : 027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	33	7	10	17	87.16	cps
Vanadium	51-2	20	37	30	29	29.04	cps
Yttrium	89-1	10306744	9816347	10143381	10088824	2.48	cps
Yttrium	89-2	2871500	2869527	2893230	2878085	0.46	cps
Zinc	66-2	2864	2730	2647	2747	3.98	cps
Zirconium	90-1	417	400	343	387	9.94	cps
Zirconium	91-1	67	63	83	71	15.07	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06DLX5 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 5
Date & Time Acquired : 2025-09-25 17:10:22 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1353	1407	1577	1446	8.07	cps
Antimony	121-1	100	117	110	109	7.71	cps
Arsenic	75-2	3	10	17	10	66.70	cps
Barium	135-1	50	53	47	50	6.66	cps
Barium	137-1	123	70	87	93	29.24	cps
Beryllium	9-1	20	17	23	20	16.65	cps
Bismuth	209-1	5187037	4917501	4978688	5027742	2.81	cps
Bismuth	209-2	4305087	4212619	4262672	4260126	1.09	cps
Bromine	81-1	11384	11214	10634	11078	3.55	cps
Bromine	81-2	437	433	470	447	4.54	cps
Cadmium	108-1	13	3	10	9	57.30	cps
Cadmium	106-1	3667	3507	3224	3466	6.48	cps
Cadmium	111-1	2588	2496	2263	2449	6.84	cps
Calcium	43-1	318317	315278	312763	315452	0.88	cps
Calcium	44-1	4874929	4845455	4865095	4861826	0.31	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1323	1433	1220	1326	8.05	cps
Cobalt	59-2	150	200	187	179	14.47	cps
Copper	63-2	1307	1330	1217	1285	4.66	cps
Dysprosium	156-1	7	7	7	7	0.00	cps
Dysprosium	156-2	7	7	7	7	0.00	cps
Erbium	164-1	67	77	60	68	12.38	cps
Erbium	164-2	43	67	30	47	39.77	cps
Gadolinium	160-1	70	70	77	72	5.33	cps
Gadolinium	160-2	457	503	500	487	5.35	cps
Holmium	165-1	7781231	7444444	7698669	7641448	2.30	cps
Holmium	165-2	5726487	5706890	5686874	5706751	0.35	cps
Indium	115-1	6917335	6704680	6733771	6785262	1.70	cps
Indium	115-2	2747514	2635118	2667330	2683321	2.16	cps
Iron	56-2	17490	16966	17223	17227	1.52	cps
Iron	57-2	11124	11051	10707	10961	2.03	cps
Iron	54-2	2114	2007	1983	2035	3.41	cps
Krypton	83-1	503	433	407	448	11.15	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06DLX5 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 5
Date & Time Acquired : 2025-09-25 17:10:22 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	533	403	503	480	14.18	cps
Lead	207-1	437	400	443	427	5.47	cps
Lead	208-1	1943	1787	2037	1922	6.57	cps
Lithium	6-1	835006	806553	797240	812933	2.42	cps
Magnesium	24-2	1610283	1578763	1568158	1585735	1.38	cps
Manganese	55-2	3454	3700	3310	3488	5.66	cps
Molybdenum	94-1	320	287	330	312	7.27	cps
Molybdenum	95-1	287	293	353	311	11.80	cps
Molybdenum	96-1	343	353	397	364	7.78	cps
Molybdenum	97-1	210	187	140	179	19.92	cps
Molybdenum	98-1	483	417	437	446	7.68	cps
Neodymium	150-1	3	10	13	9	57.30	cps
Neodymium	150-2	3	0	3	2	86.60	cps
Nickel	60-2	347	353	350	350	0.95	cps
Phosphorus	31-2	350	340	357	349	2.40	cps
Potassium	39-2	652736	645712	644455	647634	0.69	cps
Rhodium	103-1	6876640	6708085	6565234	6716653	2.32	cps
Rhodium	103-2	4276225	4232661	4306350	4271745	0.87	cps
Scandium	45-1	4645557	4473143	4404096	4507598	2.76	cps
Scandium	45-2	405310	406733	404662	405568	0.26	cps
Selenium	82-1	213	263	229	235	10.91	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	330	443	370	381	15.08	cps
Silicon	28-1	795379	785982	783953	788438	0.77	cps
Silver	107-1	83	93	97	91	7.62	cps
Silver	109-1	123	107	103	111	9.65	cps
Sodium	23-2	2341670	2412208	2328154	2360677	1.91	cps
Strontium	86-1	3677	4014	3831	3841	4.39	cps
Strontium	88-1	27726	27305	27148	27393	1.09	cps
Sulfur	34-1	246226	248112	248560	247633	0.50	cps
Terbium	159-1	8151941	7886453	7851283	7963226	2.06	cps
Terbium	159-2	5840661	5706274	5732599	5759844	1.24	cps
Thallium	203-1	293	277	303	291	4.63	cps
Thallium	205-1	600	537	623	587	7.64	cps
Tin	118-1	893	790	843	842	6.14	cps
Titanium	47-1	67	70	70	69	2.79	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3018-06DLX5 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 5
Date & Time Acquired : 2025-09-25 17:10:22 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	23	10	10	14	53.28	cps
Vanadium	51-2	13	7	7	9	43.25	cps
Yttrium	89-1	12404811	11833915	11738108	11992278	3.01	cps
Yttrium	89-2	3236452	3274403	3248320	3253059	0.60	cps
Zinc	66-2	3260	3354	3350	3322	1.59	cps
Zirconium	90-1	397	377	373	382	3.30	cps
Zirconium	91-1	70	123	63	86	38.44	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:13:36 DataFile Name : 029CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	7096571	7215375	7023865	7111937	1.36	cps
Antimony	121-1	2619242	2651539	2601518	2624100	0.97	cps
Arsenic	75-2	169413	169309	167650	168791	0.59	cps
Barium	135-1	3178055	3178939	3198046	3185013	0.35	cps
Barium	137-1	5419806	5454353	5368953	5414370	0.79	cps
Beryllium	9-1	414674	411719	412917	413104	0.36	cps
Bismuth	209-1	4164773	4055738	4003396	4074636	2.02	cps
Bismuth	209-2	3619019	3584326	3482347	3561897	1.99	cps
Bromine	81-1	10210	9620	9917	9916	2.98	cps
Bromine	81-2	397	293	363	351	15.02	cps
Cadmium	108-1	51829	52164	50735	51576	1.45	cps
Cadmium	106-1	75281	75016	75445	75247	0.29	cps
Cadmium	111-1	715065	704723	713514	711101	0.78	cps
Calcium	43-1	4063585	3964665	3962464	3996905	1.45	cps
Calcium	44-1	65210937	63654607	65016812	64627452	1.31	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1335859	1330554	1355124	1340512	0.96	cps
Cobalt	59-2	2054235	2033600	2035576	2041137	0.56	cps
Copper	63-2	15558447	15628387	15580105	15588979	0.23	cps
Dysprosium	156-1	203	180	163	182	11.03	cps
Dysprosium	156-2	350	373	367	363	3.31	cps
Erbium	164-1	370	360	377	369	2.27	cps
Erbium	164-2	263	240	197	233	14.50	cps
Gadolinium	160-1	193	227	203	208	8.23	cps
Gadolinium	160-2	510	547	567	541	5.31	cps
Holmium	165-1	6497776	6623802	6289684	6470421	2.61	cps
Holmium	165-2	5083035	5066507	4805820	4985121	3.12	cps
Indium	115-1	5586022	5483610	5315407	5461680	2.50	cps
Indium	115-2	2259473	2212854	2100792	2191040	3.72	cps
Iron	56-2	312664602	308287315	308018829	309656915	0.84	cps
Iron	57-2	7713355	7691325	7695448	7700043	0.15	cps
Iron	54-2	16825699	16504827	16685177	16671901	0.96	cps
Krypton	83-1	490	417	433	447	8.61	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:13:36 DataFile Name : 029CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9849769	9944313	10177914	9990665	1.69	cps
Lead	207-1	8564300	8495166	8861973	8640480	2.26	cps
Lead	208-1	39346581	39165377	40366302	39626087	1.63	cps
Lithium	6-1	678531	683529	657290	673116	2.07	cps
Magnesium	24-2	62727527	63925669	63893857	63515685	1.07	cps
Manganese	55-2	11214727	10984166	10984894	11061262	1.20	cps
Molybdenum	94-1	9869294	9770714	9763482	9801163	0.60	cps
Molybdenum	95-1	14175530	14125426	13965411	14088789	0.78	cps
Molybdenum	96-1	15519630	15706924	15209969	15478841	1.62	cps
Molybdenum	97-1	8756032	8791350	8740802	8762728	0.30	cps
Molybdenum	98-1	22440101	22323666	22586692	22450153	0.59	cps
Neodymium	150-1	190	157	200	182	12.45	cps
Neodymium	150-2	60	50	80	63	24.12	cps
Nickel	60-2	533906	533710	535020	534212	0.13	cps
Phosphorus	31-2	78440	78979	78514	78644	0.37	cps
Potassium	39-2	35820041	35302943	35299348	35474111	0.84	cps
Rhodium	103-1	5523131	5448810	5308117	5426686	2.01	cps
Rhodium	103-2	3567495	3569162	3397080	3511246	2.82	cps
Scandium	45-1	3886657	3792413	3670659	3783243	2.86	cps
Scandium	45-2	352301	352544	340724	348523	1.94	cps
Selenium	82-1	55375	55662	56307	55781	0.86	cps
Selenium	77-2	6125	6035	6068	6076	0.75	cps
Selenium	78-2	21169	20287	20448	20635	2.28	cps
Silicon	28-1	22225497	22063726	21823337	22037520	0.92	cps
Silver	107-1	3530506	3573068	3534173	3545916	0.67	cps
Silver	109-1	3360440	3358943	3400985	3373456	0.71	cps
Sodium	23-2	97956102	99132945	98595285	98561444	0.60	cps
Strontium	86-1	924132	927058	933586	928258	0.52	cps
Strontium	88-1	7992617	8037389	8132704	8054237	0.89	cps
Sulfur	34-1	469938	458348	457649	461978	1.49	cps
Terbium	159-1	6794401	6675806	6476488	6648898	2.42	cps
Terbium	159-2	5223536	5140636	4882508	5082227	3.50	cps
Thallium	203-1	2493658	2514548	2497774	2501993	0.44	cps
Thallium	205-1	6022593	5895689	5959749	5959343	1.06	cps
Tin	118-1	2188135	2186374	2203939	2192816	0.44	cps
Titanium	47-1	4124786	4022791	4103534	4083704	1.32	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:13:36 DataFile Name : 029CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7464726	7667499	7643486	7591904	1.46	cps
Vanadium	51-2	1143665	1147056	1142822	1144514	0.20	cps
Yttrium	89-1	9989523	9938791	9629738	9852684	1.98	cps
Yttrium	89-2	2859583	2836532	2750261	2815459	2.05	cps
Zinc	66-2	2796080	2771926	2821576	2796527	0.89	cps
Zirconium	90-1	4953436	5014361	5020371	4996056	0.74	cps
Zirconium	91-1	1101032	1108986	1103936	1104651	0.36	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:21:00 DataFile Name : 030CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1533	1573	1610	1572	2.44	cps
Antimony	121-1	390	420	337	382	11.04	cps
Arsenic	75-2	37	17	10	21	65.74	cps
Barium	135-1	77	67	73	72	7.05	cps
Barium	137-1	130	110	110	117	9.90	cps
Beryllium	9-1	0	27	17	14	93.26	cps
Bismuth	209-1	4708840	4604717	4581366	4631641	1.47	cps
Bismuth	209-2	3982543	3979254	3812529	3924775	2.48	cps
Bromine	81-1	9330	9293	9893	9505	3.54	cps
Bromine	81-2	260	270	247	259	4.52	cps
Cadmium	108-1	13	10	23	16	44.60	cps
Cadmium	106-1	2867	2807	2700	2791	3.02	cps
Cadmium	111-1	2024	1991	1904	1973	3.15	cps
Calcium	43-1	323	270	303	299	9.02	cps
Calcium	44-1	16910	16302	16169	16460	2.40	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1467	1450	1533	1483	2.97	cps
Cobalt	59-2	100	90	100	97	5.97	cps
Copper	63-2	1300	1180	1193	1225	5.37	cps
Dysprosium	156-1	17	13	3	11	62.48	cps
Dysprosium	156-2	0	3	7	3	100.05	cps
Erbium	164-1	73	50	50	58	23.31	cps
Erbium	164-2	50	27	57	44	35.44	cps
Gadolinium	160-1	67	60	33	53	33.08	cps
Gadolinium	160-2	393	520	487	467	14.07	cps
Holmium	165-1	7002107	6878597	6994062	6958255	0.99	cps
Holmium	165-2	5139614	5106920	5124687	5123740	0.32	cps
Indium	115-1	6352066	6051505	6195783	6199785	2.42	cps
Indium	115-2	2390433	2389040	2347806	2375760	1.02	cps
Iron	56-2	23943	23218	23462	23541	1.57	cps
Iron	57-2	1617	1750	1737	1701	4.32	cps
Iron	54-2	2357	2374	2300	2344	1.64	cps
Krypton	83-1	493	413	487	464	9.56	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:21:00 DataFile Name : 030CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	570	687	560	606	11.63	cps
Lead	207-1	540	530	490	520	5.09	cps
Lead	208-1	2503	2527	2330	2453	4.38	cps
Lithium	6-1	742580	724019	718647	728415	1.72	cps
Magnesium	24-2	1553	1510	1493	1519	2.04	cps
Manganese	55-2	3430	3214	3344	3329	3.28	cps
Molybdenum	94-1	517	497	440	484	8.21	cps
Molybdenum	95-1	553	503	540	532	4.86	cps
Molybdenum	96-1	657	543	620	607	9.53	cps
Molybdenum	97-1	360	377	347	361	4.16	cps
Molybdenum	98-1	923	877	870	890	3.27	cps
Neodymium	150-1	3	3	13	7	86.65	cps
Neodymium	150-2	3	7	0	3	100.05	cps
Nickel	60-2	327	360	317	334	6.79	cps
Phosphorus	31-2	393	413	393	400	2.89	cps
Potassium	39-2	67649	66913	67261	67274	0.55	cps
Rhodium	103-1	6227563	6071166	6117713	6138814	1.31	cps
Rhodium	103-2	3841951	3878761	3869672	3863462	0.50	cps
Scandium	45-1	4095031	3986198	3988048	4023092	1.55	cps
Scandium	45-2	361780	363027	359888	361565	0.44	cps
Selenium	82-1	193	231	171	199	15.24	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	327	377	360	354	7.18	cps
Silicon	28-1	728830	730739	733930	731166	0.35	cps
Silver	107-1	237	187	203	209	12.19	cps
Silver	109-1	187	193	150	177	13.21	cps
Sodium	23-2	39440	38879	38846	39055	0.86	cps
Strontium	86-1	723	703	700	709	1.78	cps
Strontium	88-1	293	250	277	273	8.00	cps
Sulfur	34-1	207992	207485	208567	208014	0.26	cps
Terbium	159-1	7392111	7219249	7171518	7260959	1.60	cps
Terbium	159-2	5421483	5253147	5283453	5319361	1.69	cps
Thallium	203-1	237	293	327	286	15.93	cps
Thallium	205-1	690	683	610	661	6.71	cps
Tin	118-1	790	917	907	871	8.08	cps
Titanium	47-1	180	187	160	176	7.91	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:21:00 DataFile Name : 030CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	140	103	107	117	17.38	cps
Vanadium	51-2	33	23	43	33	30.00	cps
Yttrium	89-1	11077177	10535102	10590089	10734123	2.78	cps
Yttrium	89-2	2969018	2891910	2981049	2947325	1.64	cps
Zinc	66-2	2844	2777	2737	2786	1.93	cps
Zirconium	90-1	403	430	470	434	7.72	cps
Zirconium	91-1	113	80	120	104	20.52	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:24:45 DataFile Name : 031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1463	1477	1540	1493	2.74	cps
Antimony	121-1	177	120	147	148	19.18	cps
Arsenic	75-2	10	13	23	16	44.60	cps
Barium	135-1	157	93	93	114	31.95	cps
Barium	137-1	183	173	190	182	4.60	cps
Beryllium	9-1	13	13	3	10	57.75	cps
Bismuth	209-1	5690917	5512391	5370953	5524754	2.90	cps
Bismuth	209-2	4745927	4717602	4643407	4702312	1.13	cps
Bromine	81-1	10050	10354	10434	10279	1.97	cps
Bromine	81-2	373	447	480	433	12.59	cps
Cadmium	108-1	27	20	23	23	14.29	cps
Cadmium	106-1	3697	3397	3344	3479	5.48	cps
Cadmium	111-1	2599	2397	2344	2447	5.50	cps
Calcium	43-1	882453	877118	862233	873935	1.20	cps
Calcium	44-1	13548443	13541149	13354549	13481380	0.82	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1230	1150	1243	1208	4.18	cps
Cobalt	59-2	287	363	387	346	15.14	cps
Copper	63-2	1163	1243	1237	1215	3.66	cps
Dysprosium	156-1	17	7	3	9	78.08	cps
Dysprosium	156-2	3	7	17	9	78.08	cps
Erbium	164-1	73	70	63	69	7.39	cps
Erbium	164-2	37	53	37	42	22.78	cps
Gadolinium	160-1	77	90	73	80	11.02	cps
Gadolinium	160-2	547	617	560	574	6.47	cps
Holmium	165-1	8898284	8413169	8374490	8561981	3.41	cps
Holmium	165-2	6326952	6271860	6203843	6267552	0.98	cps
Indium	115-1	7931695	7490019	7520714	7647476	3.22	cps
Indium	115-2	2909286	2934275	2990746	2944769	1.42	cps
Iron	56-2	16009	16312	16219	16180	0.96	cps
Iron	57-2	26774	27021	27655	27150	1.67	cps
Iron	54-2	1830	1883	1873	1862	1.52	cps
Krypton	83-1	493	583	397	491	19.01	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:24:45 DataFile Name : 031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	683	677	707	689	2.29	cps
Lead	207-1	600	543	627	590	7.21	cps
Lead	208-1	2707	2527	2590	2608	3.50	cps
Lithium	6-1	950106	912594	865787	909496	4.64	cps
Magnesium	24-2	4273222	4291648	4275538	4280136	0.23	cps
Manganese	55-2	2594	2627	2590	2604	0.78	cps
Molybdenum	94-1	417	387	400	401	3.75	cps
Molybdenum	95-1	557	560	443	520	12.77	cps
Molybdenum	96-1	627	590	527	581	8.71	cps
Molybdenum	97-1	360	277	383	340	16.49	cps
Molybdenum	98-1	767	860	760	796	7.03	cps
Neodymium	150-1	20	7	7	11	69.25	cps
Neodymium	150-2	10	10	23	14	53.28	cps
Nickel	60-2	360	340	370	357	4.28	cps
Phosphorus	31-2	350	327	307	328	6.62	cps
Potassium	39-2	1620710	1604928	1617398	1614345	0.52	cps
Rhodium	103-1	7785015	7498680	7431167	7571621	2.48	cps
Rhodium	103-2	4712008	4693463	4721324	4708932	0.30	cps
Scandium	45-1	5093823	4930293	4962287	4995468	1.73	cps
Scandium	45-2	447567	450246	454746	450853	0.80	cps
Selenium	82-1	192	101	237	176	39.31	cps
Selenium	77-2	0	7	7	4	86.60	cps
Selenium	78-2	373	387	427	396	7.02	cps
Silicon	28-1	757907	770837	771864	766869	1.01	cps
Silver	107-1	100	120	83	101	18.16	cps
Silver	109-1	63	100	73	79	24.03	cps
Sodium	23-2	6209237	6267539	6330568	6269115	0.97	cps
Strontium	86-1	9376	9473	9496	9449	0.67	cps
Strontium	88-1	78129	78049	76176	77452	1.43	cps
Sulfur	34-1	213227	220720	224397	219448	2.59	cps
Terbium	159-1	9278317	9052429	8692023	9007590	3.28	cps
Terbium	159-2	6346513	6385720	6377383	6369872	0.32	cps
Thallium	203-1	357	240	290	296	19.81	cps
Thallium	205-1	593	570	567	577	2.52	cps
Tin	118-1	780	720	780	760	4.56	cps
Titanium	47-1	103	123	103	110	10.50	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : Q3016-06DLX2 Instrumnet Name : P7
Client Sample ID : WP0925-PT-MIN2-WPDL Dilution Factor : 2
Date & Time Acquired : 2025-09-25 17:24:45 DataFile Name : 031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	57	47	40	48	17.56	cps
Vanadium	51-2	27	23	20	23	14.29	cps
Yttrium	89-1	13526340	13154964	13195148	13292151	1.53	cps
Yttrium	89-2	3628173	3675645	3637139	3646986	0.69	cps
Zinc	66-2	3257	3304	3467	3343	3.30	cps
Zirconium	90-1	417	437	443	432	3.21	cps
Zirconium	91-1	67	103	90	87	21.41	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BL Instrumnet Name : P7
Client Sample ID : PB169562BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:35:25 DataFile Name : 033CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1240	1263	1247	1250	0.96	cps
Antimony	121-1	70	53	73	66	16.35	cps
Arsenic	75-2	10	17	7	11	45.82	cps
Barium	135-1	40	20	23	28	38.58	cps
Barium	137-1	43	63	37	48	29.04	cps
Beryllium	9-1	7	3	7	6	34.70	cps
Bismuth	209-1	4685281	4527089	4212661	4475010	5.38	cps
Bismuth	209-2	3971762	4077008	3921439	3990070	1.99	cps
Bromine	81-1	10014	10397	10150	10187	1.91	cps
Bromine	81-2	197	253	213	221	13.17	cps
Cadmium	108-1	7	23	7	12	78.69	cps
Cadmium	106-1	3087	2884	2830	2934	4.62	cps
Cadmium	111-1	2180	2016	1993	2063	4.93	cps
Calcium	43-1	223	250	223	232	6.63	cps
Calcium	44-1	16172	15548	15545	15755	2.29	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1480	1427	1427	1445	2.13	cps
Cobalt	59-2	93	67	63	74	22.09	cps
Copper	63-2	1037	1003	867	969	9.30	cps
Dysprosium	156-1	7	0	20	9	114.55	cps
Dysprosium	156-2	3	7	0	3	100.05	cps
Erbium	164-1	73	50	27	50	46.66	cps
Erbium	164-2	57	43	33	44	26.35	cps
Gadolinium	160-1	50	23	57	43	40.71	cps
Gadolinium	160-2	467	450	423	447	4.89	cps
Holmium	165-1	7237592	6871353	6385571	6831505	6.26	cps
Holmium	165-2	5226217	5256203	5274598	5252339	0.46	cps
Indium	115-1	6350716	6251269	5812423	6138136	4.67	cps
Indium	115-2	2475304	2427005	2466515	2456274	1.05	cps
Iron	56-2	17030	16836	16436	16767	1.81	cps
Iron	57-2	1520	1517	1653	1563	4.99	cps
Iron	54-2	1937	1973	1910	1940	1.64	cps
Krypton	83-1	520	530	453	501	8.32	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BL Instrumnet Name : P7
Client Sample ID : PB169562BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:35:25 DataFile Name : 033CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	440	457	383	427	9.01	cps
Lead	207-1	390	290	330	337	14.95	cps
Lead	208-1	1810	1647	1660	1706	5.32	cps
Lithium	6-1	731372	716335	674552	707420	4.16	cps
Magnesium	24-2	387	427	433	416	6.07	cps
Manganese	55-2	3971	3907	3877	3918	1.22	cps
Molybdenum	94-1	160	217	217	198	16.54	cps
Molybdenum	95-1	177	180	213	190	10.67	cps
Molybdenum	96-1	197	230	170	199	15.12	cps
Molybdenum	97-1	130	163	113	136	18.78	cps
Molybdenum	98-1	367	333	217	306	25.78	cps
Neodymium	150-1	3	3	7	4	43.40	cps
Neodymium	150-2	0	3	0	1	173.21	cps
Nickel	60-2	360	313	297	323	10.15	cps
Phosphorus	31-2	333	390	397	373	9.32	cps
Potassium	39-2	68764	68697	68681	68714	0.06	cps
Rhodium	103-1	6385748	6153944	5757936	6099209	5.21	cps
Rhodium	103-2	4026998	3911921	3981732	3973551	1.46	cps
Scandium	45-1	4225557	4030342	3807744	4021214	5.20	cps
Scandium	45-2	373701	377155	375346	375401	0.46	cps
Selenium	82-1	139	155	207	167	21.24	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	447	413	393	418	6.45	cps
Silicon	28-1	769423	765851	759289	764854	0.67	cps
Silver	107-1	93	120	123	112	14.66	cps
Silver	109-1	83	70	97	83	16.00	cps
Sodium	23-2	33720	33249	33212	33394	0.85	cps
Strontium	86-1	710	697	757	721	4.37	cps
Strontium	88-1	117	120	157	131	16.93	cps
Sulfur	34-1	235741	234677	235050	235156	0.23	cps
Terbium	159-1	7429758	7122642	6710674	7087691	5.09	cps
Terbium	159-2	5421070	5297067	5386013	5368050	1.19	cps
Thallium	203-1	160	200	217	192	15.15	cps
Thallium	205-1	510	527	490	509	3.61	cps
Tin	118-1	820	900	727	816	10.64	cps
Titanium	47-1	87	27	107	73	56.77	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BL Instrumnet Name : P7
Client Sample ID : PB169562BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:35:25 DataFile Name : 033CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	13	3	7	8	65.47	cps
Vanadium	51-2	10	20	17	16	32.73	cps
Yttrium	89-1	11433033	10952237	10197537	10860936	5.73	cps
Yttrium	89-2	3125697	2962840	3112003	3066846	2.95	cps
Zinc	66-2	2707	2850	2770	2776	2.59	cps
Zirconium	90-1	440	403	367	403	9.09	cps
Zirconium	91-1	97	77	33	69	47.00	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BL Instrumnet Name : P7
Client Sample ID : PB169560BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:38:40 DataFile Name : 034CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1077	1267	1307	1217	10.10	cps
Antimony	121-1	50	83	83	72	26.65	cps
Arsenic	75-2	7	17	3	9	78.08	cps
Barium	135-1	23	27	40	30	29.40	cps
Barium	137-1	53	47	57	52	9.75	cps
Beryllium	9-1	33	7	10	17	87.16	cps
Bismuth	209-1	4741411	4534768	4444090	4573423	3.33	cps
Bismuth	209-2	4047913	3973406	3951887	3991069	1.26	cps
Bromine	81-1	9707	10050	9840	9866	1.76	cps
Bromine	81-2	257	247	243	249	2.79	cps
Cadmium	108-1	3	13	3	7	86.65	cps
Cadmium	106-1	2990	3160	2884	3011	4.63	cps
Cadmium	111-1	2104	2216	2050	2123	4.00	cps
Calcium	43-1	260	233	193	229	14.66	cps
Calcium	44-1	15071	14854	14894	14940	0.77	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1447	1520	1377	1448	4.95	cps
Cobalt	59-2	107	53	70	77	35.59	cps
Copper	63-2	953	950	807	903	9.27	cps
Dysprosium	156-1	13	3	10	9	57.30	cps
Dysprosium	156-2	7	7	10	8	24.71	cps
Erbium	164-1	57	70	40	56	27.06	cps
Erbium	164-2	47	23	40	37	32.79	cps
Gadolinium	160-1	70	77	70	72	5.33	cps
Gadolinium	160-2	457	400	463	440	7.91	cps
Holmium	165-1	7106648	6901264	6885689	6964534	1.77	cps
Holmium	165-2	5262741	5212034	5105872	5193549	1.54	cps
Indium	115-1	6391351	6251765	6011929	6218348	3.09	cps
Indium	115-2	2491702	2435268	2456005	2460991	1.16	cps
Iron	56-2	17223	16289	16392	16635	3.08	cps
Iron	57-2	1673	1650	1523	1616	5.00	cps
Iron	54-2	1940	1933	1837	1903	3.04	cps
Krypton	83-1	530	423	517	490	11.86	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BL Instrumnet Name : P7
Client Sample ID : PB169560BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:38:40 DataFile Name : 034CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	450	457	467	458	1.83	cps
Lead	207-1	410	370	353	378	7.71	cps
Lead	208-1	1823	1703	1763	1763	3.40	cps
Lithium	6-1	732091	723095	710611	721932	1.49	cps
Magnesium	24-2	410	343	413	389	10.15	cps
Manganese	55-2	3901	3927	3727	3852	2.82	cps
Molybdenum	94-1	187	180	260	209	21.25	cps
Molybdenum	95-1	183	150	157	163	10.80	cps
Molybdenum	96-1	277	240	237	251	8.84	cps
Molybdenum	97-1	120	167	123	137	19.05	cps
Molybdenum	98-1	300	297	347	314	8.89	cps
Neodymium	150-1	10	10	17	12	31.50	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	353	377	407	379	7.06	cps
Phosphorus	31-2	310	350	407	356	13.66	cps
Potassium	39-2	67609	68828	66752	67730	1.54	cps
Rhodium	103-1	6389292	6274636	6219843	6294590	1.37	cps
Rhodium	103-2	3960994	3882463	3881708	3908388	1.17	cps
Scandium	45-1	4193199	4170861	4077612	4147224	1.48	cps
Scandium	45-2	377820	370418	365816	371351	1.63	cps
Selenium	82-1	145	209	193	182	18.13	cps
Selenium	77-2	3	3	0	2	86.60	cps
Selenium	78-2	357	337	350	348	2.93	cps
Silicon	28-1	758203	757526	757991	757907	0.05	cps
Silver	107-1	80	77	83	80	4.16	cps
Silver	109-1	70	57	70	66	11.74	cps
Sodium	23-2	32584	32955	32254	32598	1.08	cps
Strontium	86-1	783	857	830	823	4.51	cps
Strontium	88-1	167	130	197	164	20.30	cps
Sulfur	34-1	230918	230117	231835	230956	0.37	cps
Terbium	159-1	7296066	7383980	7222780	7300942	1.11	cps
Terbium	159-2	5509115	5262498	5208477	5326697	3.01	cps
Thallium	203-1	197	157	207	187	14.17	cps
Thallium	205-1	440	443	457	447	1.97	cps
Tin	118-1	920	797	787	834	8.90	cps
Titanium	47-1	83	107	97	96	12.25	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BL Instrumnet Name : P7
Client Sample ID : PB169560BL Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:38:40 DataFile Name : 034CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	10	3	23	12	83.33	cps
Vanadium	51-2	20	3	20	14	66.64	cps
Yttrium	89-1	11278864	10934615	10673523	10962334	2.77	cps
Yttrium	89-2	3061842	3017794	3025521	3035052	0.77	cps
Zinc	66-2	2850	2737	2840	2809	2.23	cps
Zirconium	90-1	420	413	343	392	10.83	cps
Zirconium	91-1	73	103	77	84	19.47	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BS Instrumnet Name : P7
Client Sample ID : PB169562BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:41:59 DataFile Name : 035LCS6.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1449584	1425891	1417116	1430864	1.17	cps
Antimony	121-1	2556342	2578584	2547544	2560823	0.62	cps
Arsenic	75-2	168533	167019	166977	167510	0.53	cps
Barium	135-1	3048693	2991041	3013298	3017677	0.96	cps
Barium	137-1	5256376	5187688	5188056	5210707	0.76	cps
Beryllium	9-1	386820	387654	394020	389498	1.01	cps
Bismuth	209-1	4257802	4087061	4161172	4168678	2.05	cps
Bismuth	209-2	3557041	3586698	3537624	3560454	0.69	cps
Bromine	81-1	9587	9353	9476	9472	1.23	cps
Bromine	81-2	260	203	320	261	22.34	cps
Cadmium	108-1	51545	51642	51050	51412	0.62	cps
Cadmium	106-1	74574	74999	74031	74535	0.65	cps
Cadmium	111-1	711963	711334	717913	713737	0.51	cps
Calcium	43-1	827130	830269	823622	827007	0.40	cps
Calcium	44-1	12637436	12719511	12654497	12670481	0.34	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1326034	1319616	1305455	1317035	0.80	cps
Cobalt	59-2	1971511	1996936	1992065	1986837	0.68	cps
Copper	63-2	15552784	15464566	15479046	15498799	0.31	cps
Dysprosium	156-1	63	73	73	70	8.25	cps
Dysprosium	156-2	240	227	197	221	10.04	cps
Erbium	164-1	140	177	137	151	14.69	cps
Erbium	164-2	143	120	113	126	12.55	cps
Gadolinium	160-1	110	83	77	90	19.60	cps
Gadolinium	160-2	467	433	427	442	4.85	cps
Holmium	165-1	6580147	6366337	6368510	6438331	1.91	cps
Holmium	165-2	4743580	4739405	4795698	4759561	0.66	cps
Indium	115-1	5635997	5546831	5588825	5590551	0.80	cps
Indium	115-2	2158438	2168901	2150366	2159235	0.43	cps
Iron	56-2	60957512	61291619	61282271	61177134	0.31	cps
Iron	57-2	1554509	1552960	1544026	1550499	0.36	cps
Iron	54-2	3385334	3322200	3344578	3350704	0.96	cps
Krypton	83-1	420	463	527	470	11.41	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BS Instrumnet Name : P7
Client Sample ID : PB169562BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:41:59 DataFile Name : 035LCS6.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9698157	9568875	9575622	9614218	0.76	cps
Lead	207-1	8080023	8510298	8429725	8340015	2.74	cps
Lead	208-1	37498691	38405297	38089765	37997918	1.21	cps
Lithium	6-1	666175	670277	668915	668456	0.31	cps
Magnesium	24-2	12389885	12324690	12377614	12364063	0.28	cps
Manganese	55-2	10645065	10705534	10604360	10651653	0.48	cps
Molybdenum	94-1	9513545	9491965	9126405	9377305	2.32	cps
Molybdenum	95-1	13747489	13654083	13378305	13593292	1.41	cps
Molybdenum	96-1	14905181	14980364	15007609	14964385	0.35	cps
Molybdenum	97-1	8396773	8628166	8387812	8470917	1.61	cps
Molybdenum	98-1	21638697	21470182	21680916	21596598	0.52	cps
Neodymium	150-1	113	150	120	128	15.28	cps
Neodymium	150-2	43	37	30	37	18.18	cps
Nickel	60-2	526661	525150	523414	525075	0.31	cps
Phosphorus	31-2	74671	73844	74772	74429	0.68	cps
Potassium	39-2	7008236	7104497	7039050	7050594	0.70	cps
Rhodium	103-1	5650525	5486655	5541097	5559426	1.50	cps
Rhodium	103-2	3519141	3476243	3519369	3504918	0.71	cps
Scandium	45-1	3814288	3715546	3722553	3750796	1.47	cps
Scandium	45-2	337389	334227	336136	335917	0.47	cps
Selenium	82-1	57881	57469	57634	57661	0.36	cps
Selenium	77-2	6548	6418	6271	6413	2.16	cps
Selenium	78-2	21038	21636	21325	21333	1.40	cps
Silicon	28-1	21381568	20756977	20992675	21043740	1.50	cps
Silver	107-1	3486176	3488645	3478806	3484542	0.15	cps
Silver	109-1	3379160	3365356	3362159	3368892	0.27	cps
Sodium	23-2	19620431	19521896	19461556	19534628	0.41	cps
Strontium	86-1	886371	886614	890393	887793	0.25	cps
Strontium	88-1	7827785	7698802	7733007	7753198	0.86	cps
Sulfur	34-1	460628	454358	443126	452704	1.96	cps
Terbium	159-1	6670679	6665309	6696648	6677546	0.25	cps
Terbium	159-2	4848747	4891859	4877326	4872644	0.45	cps
Thallium	203-1	2392054	2377960	2377286	2382433	0.35	cps
Thallium	205-1	5827229	5598212	5734084	5719842	2.01	cps
Tin	118-1	2111487	2140733	2143779	2132000	0.84	cps
Titanium	47-1	3860185	3918444	3933887	3904172	1.00	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169562BS Instrumnet Name : P7
Client Sample ID : PB169562BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:41:59 DataFile Name : 035LCS6.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7047728	7187920	7244210	7159953	1.41	cps
Vanadium	51-2	1119106	1092754	1103460	1105107	1.20	cps
Yttrium	89-1	9978519	9920989	9887913	9929140	0.46	cps
Yttrium	89-2	2780893	2683961	2666192	2710349	2.28	cps
Zinc	66-2	2968395	2888208	2860234	2905612	1.93	cps
Zirconium	90-1	4761693	4727654	4764810	4751386	0.43	cps
Zirconium	91-1	1060689	1059421	1059725	1059945	0.06	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BS Instrumnet Name : P7
Client Sample ID : PB169560BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:44:44 DataFile Name : 036DLCW.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1470732	1409815	1442315	1440954	2.12	cps
Antimony	121-1	2587261	2582409	2599715	2589795	0.34	cps
Arsenic	75-2	172221	170316	170044	170860	0.69	cps
Barium	135-1	3146363	3143213	3079923	3123166	1.20	cps
Barium	137-1	5191299	5281213	5234782	5235765	0.86	cps
Beryllium	9-1	390657	401137	401366	397720	1.54	cps
Bismuth	209-1	4254410	4249436	4219029	4240958	0.45	cps
Bismuth	209-2	3715046	3653255	3643203	3670501	1.06	cps
Bromine	81-1	9113	9580	9547	9413	2.77	cps
Bromine	81-2	263	217	243	241	9.71	cps
Cadmium	108-1	50986	52328	51665	51660	1.30	cps
Cadmium	106-1	73911	74078	75854	74614	1.44	cps
Cadmium	111-1	714170	721700	716609	717493	0.54	cps
Calcium	43-1	831045	834093	832692	832610	0.18	cps
Calcium	44-1	12559914	12835625	12815337	12736959	1.21	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1335412	1322105	1341812	1333110	0.75	cps
Cobalt	59-2	2031148	2029255	2005195	2021866	0.72	cps
Copper	63-2	15973957	15783182	15783374	15846837	0.69	cps
Dysprosium	156-1	70	80	67	72	9.61	cps
Dysprosium	156-2	297	207	233	246	18.83	cps
Erbium	164-1	143	133	127	134	6.24	cps
Erbium	164-2	93	123	117	111	14.18	cps
Gadolinium	160-1	87	107	113	102	13.58	cps
Gadolinium	160-2	380	407	357	381	6.57	cps
Holmium	165-1	6433896	6656628	6395598	6495374	2.17	cps
Holmium	165-2	4865545	4881558	4810758	4852620	0.77	cps
Indium	115-1	5687958	5668455	5516563	5624325	1.67	cps
Indium	115-2	2250041	2193299	2173565	2205635	1.80	cps
Iron	56-2	63064627	62425172	62449104	62646301	0.58	cps
Iron	57-2	1586356	1582199	1543421	1570659	1.51	cps
Iron	54-2	3505745	3424583	3482256	3470861	1.20	cps
Krypton	83-1	453	523	497	491	7.19	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BS Instrumnet Name : P7
Client Sample ID : PB169560BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:44:44 DataFile Name : 036DLCW.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9774297	9867399	9774610	9805436	0.55	cps
Lead	207-1	8353350	8639857	8446956	8480054	1.72	cps
Lead	208-1	38521013	39366740	38944834	38944196	1.09	cps
Lithium	6-1	683254	685080	683762	684032	0.14	cps
Magnesium	24-2	12869401	12627243	12753976	12750207	0.95	cps
Manganese	55-2	10981953	11014749	11159489	11052064	0.85	cps
Molybdenum	94-1	9296616	9446438	9439320	9394125	0.90	cps
Molybdenum	95-1	13476219	13790218	13591866	13619434	1.17	cps
Molybdenum	96-1	14888260	15089586	15059536	15012461	0.72	cps
Molybdenum	97-1	8479194	8538819	8505749	8507921	0.35	cps
Molybdenum	98-1	21549066	21961806	21985520	21832130	1.12	cps
Neodymium	150-1	123	147	147	139	9.70	cps
Neodymium	150-2	53	53	50	52	3.68	cps
Nickel	60-2	541053	536957	535187	537733	0.56	cps
Phosphorus	31-2	75375	76691	76886	76317	1.08	cps
Potassium	39-2	7207533	7079352	7207020	7164635	1.03	cps
Rhodium	103-1	5592644	5672421	5577362	5614143	0.91	cps
Rhodium	103-2	3568986	3522071	3562916	3551324	0.72	cps
Scandium	45-1	3833109	3767187	3672116	3757471	2.15	cps
Scandium	45-2	343768	340319	339448	341178	0.67	cps
Selenium	82-1	56831	58142	58637	57870	1.61	cps
Selenium	77-2	6495	6288	6485	6423	1.82	cps
Selenium	78-2	21569	21669	21399	21546	0.63	cps
Silicon	28-1	20958718	21100170	20805985	20954958	0.70	cps
Silver	107-1	3501174	3508267	3562087	3523843	0.95	cps
Silver	109-1	3254199	3395774	3344751	3331574	2.15	cps
Sodium	23-2	20298099	19686524	19708137	19897587	1.74	cps
Strontium	86-1	887868	897438	894384	893230	0.55	cps
Strontium	88-1	7766942	7723646	7650524	7713704	0.76	cps
Sulfur	34-1	436466	439162	435928	437185	0.40	cps
Terbium	159-1	6902951	6770423	6691973	6788449	1.57	cps
Terbium	159-2	5051163	5001104	4899201	4983823	1.55	cps
Thallium	203-1	2433031	2478645	2406048	2439241	1.50	cps
Thallium	205-1	5763400	5896443	5717613	5792486	1.60	cps
Tin	118-1	2106783	2141811	2171023	2139872	1.50	cps
Titanium	47-1	3915128	3942218	3893706	3917017	0.62	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : PB169560BS Instrumnet Name : P7
Client Sample ID : PB169560BS Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:44:44 DataFile Name : 036DLCW.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7291352	7389624	7376404	7352460	0.73	cps
Vanadium	51-2	1135934	1114042	1130674	1126883	1.01	cps
Yttrium	89-1	10017432	10042635	9861227	9973765	0.99	cps
Yttrium	89-2	2816203	2730618	2702513	2749778	2.15	cps
Zinc	66-2	2964043	2966262	2975999	2968768	0.21	cps
Zirconium	90-1	4724906	4857604	4776751	4786420	1.40	cps
Zirconium	91-1	1062890	1074989	1079566	1072482	0.80	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P7
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:47:29 DataFile Name : 037CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	7314527	7213019	7253015	7260187	0.70	cps
Antimony	121-1	2543136	2599350	2664454	2602313	2.33	cps
Arsenic	75-2	170603	170107	168961	169890	0.50	cps
Barium	135-1	3082889	3154765	3207958	3148538	1.99	cps
Barium	137-1	5289541	5416360	5522009	5409304	2.15	cps
Beryllium	9-1	399433	410105	408848	406129	1.44	cps
Bismuth	209-1	4060067	3990097	4057216	4035794	0.98	cps
Bismuth	209-2	3474251	3483866	3532338	3496818	0.89	cps
Bromine	81-1	8796	9436	9510	9247	4.25	cps
Bromine	81-2	183	267	213	221	19.09	cps
Cadmium	108-1	49963	51093	51240	50765	1.38	cps
Cadmium	106-1	71281	73334	73736	72784	1.81	cps
Cadmium	111-1	684400	697990	706429	696273	1.60	cps
Calcium	43-1	3928856	3935083	4085049	3982996	2.22	cps
Calcium	44-1	63396839	63370094	64145527	63637487	0.69	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1370440	1376568	1321003	1356003	2.25	cps
Cobalt	59-2	2063204	2047215	1995962	2035460	1.73	cps
Copper	63-2	15732548	15554021	15492776	15593115	0.80	cps
Dysprosium	156-1	163	190	180	178	7.58	cps
Dysprosium	156-2	380	383	377	380	0.88	cps
Erbium	164-1	300	313	327	313	4.25	cps
Erbium	164-2	257	257	290	268	7.19	cps
Gadolinium	160-1	190	240	220	217	11.62	cps
Gadolinium	160-2	447	533	513	498	9.12	cps
Holmium	165-1	6359436	6401184	6432333	6397651	0.57	cps
Holmium	165-2	4843088	4727243	4795164	4788498	1.22	cps
Indium	115-1	5464341	5464966	5436053	5455120	0.30	cps
Indium	115-2	2131217	2152416	2126350	2136661	0.65	cps
Iron	56-2	310730869	309278229	309262555	309757218	0.27	cps
Iron	57-2	7718406	7744674	7627114	7696731	0.80	cps
Iron	54-2	16794361	16938808	16700983	16811384	0.71	cps
Krypton	83-1	490	510	477	492	3.41	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P7
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:47:29 DataFile Name : 037CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9670270	9827564	9693645	9730493	0.87	cps
Lead	207-1	8327765	8526795	8443850	8432803	1.19	cps
Lead	208-1	37938006	38866144	38822450	38542200	1.36	cps
Lithium	6-1	673682	662803	672510	669665	0.89	cps
Magnesium	24-2	64991431	64646032	62726179	64121214	1.90	cps
Manganese	55-2	11099237	11278322	11157168	11178242	0.82	cps
Molybdenum	94-1	9261176	9681356	9586253	9509595	2.32	cps
Molybdenum	95-1	13774746	14200099	14172204	14049016	1.69	cps
Molybdenum	96-1	15194984	15526885	15536420	15419429	1.26	cps
Molybdenum	97-1	8579455	8696981	8715789	8664075	0.85	cps
Molybdenum	98-1	21911896	22004386	22332277	22082853	1.00	cps
Neodymium	150-1	163	180	193	179	8.40	cps
Neodymium	150-2	87	70	80	79	10.64	cps
Nickel	60-2	535498	537500	530714	534571	0.65	cps
Phosphorus	31-2	79321	79441	77884	78882	1.10	cps
Potassium	39-2	36435163	35700129	35197354	35777549	1.74	cps
Rhodium	103-1	5316591	5402755	5436406	5385251	1.15	cps
Rhodium	103-2	3379693	3436013	3441557	3419088	1.00	cps
Scandium	45-1	3731396	3745283	3725832	3734170	0.27	cps
Scandium	45-2	338196	339986	340286	339489	0.33	cps
Selenium	82-1	54571	55349	55838	55253	1.16	cps
Selenium	77-2	6075	5828	6191	6031	3.08	cps
Selenium	78-2	20681	21202	20821	20902	1.29	cps
Silicon	28-1	21434430	21385488	22143998	21654638	1.96	cps
Silver	107-1	3412900	3472670	3467438	3451002	0.96	cps
Silver	109-1	3245975	3301840	3340001	3295939	1.43	cps
Sodium	23-2	97910272	98336185	98819292	98355250	0.46	cps
Strontium	86-1	903249	925813	927355	918806	1.47	cps
Strontium	88-1	7732705	7796936	7970624	7833422	1.57	cps
Sulfur	34-1	441681	445110	448369	445053	0.75	cps
Terbium	159-1	6613372	6627905	6571668	6604315	0.44	cps
Terbium	159-2	4930333	4974778	4864069	4923060	1.13	cps
Thallium	203-1	2428482	2432526	2452980	2437996	0.54	cps
Thallium	205-1	5813168	5909436	5810172	5844259	0.97	cps
Tin	118-1	2164613	2135507	2213897	2171339	1.82	cps
Titanium	47-1	4079477	4086873	4127351	4097900	0.63	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCV03 Instrumnet Name : P7
Client Sample ID : CCV03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:47:29 DataFile Name : 037CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7449492	7516124	7566370	7510662	0.78	cps
Vanadium	51-2	1162174	1156926	1137683	1152261	1.12	cps
Yttrium	89-1	9810935	9662782	9880789	9784835	1.14	cps
Yttrium	89-2	2750865	2741703	2670365	2720978	1.62	cps
Zinc	66-2	2820166	2843770	2787100	2817012	1.01	cps
Zirconium	90-1	4863502	4930792	4981785	4925360	1.20	cps
Zirconium	91-1	1075399	1095534	1111646	1094193	1.66	cps

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LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P7
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:54:52 DataFile Name : 039CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1433	1520	1550	1501	4.04	cps
Antimony	121-1	277	433	420	377	23.06	cps
Arsenic	75-2	20	17	7	14	48.02	cps
Barium	135-1	83	143	143	123	28.09	cps
Barium	137-1	167	300	303	257	30.37	cps
Beryllium	9-1	10	23	23	19	40.75	cps
Bismuth	209-1	4625862	4461219	4487879	4524987	1.95	cps
Bismuth	209-2	3872884	3889534	3859752	3874057	0.39	cps
Bromine	81-1	9200	9286	9133	9206	0.84	cps
Bromine	81-2	233	290	220	248	15.00	cps
Cadmium	108-1	13	0	3	6	124.93	cps
Cadmium	106-1	2870	2620	2700	2730	4.68	cps
Cadmium	111-1	2043	1881	1941	1955	4.20	cps
Calcium	43-1	313	450	400	388	17.83	cps
Calcium	44-1	15838	17066	17767	16891	5.78	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1283	1417	1307	1336	5.33	cps
Cobalt	59-2	193	153	173	173	11.54	cps
Copper	63-2	1727	1680	1797	1735	3.39	cps
Dysprosium	156-1	10	3	10	8	49.52	cps
Dysprosium	156-2	3	10	7	7	50.03	cps
Erbium	164-1	43	67	63	58	21.85	cps
Erbium	164-2	33	40	23	32	26.04	cps
Gadolinium	160-1	23	53	80	52	54.29	cps
Gadolinium	160-2	473	463	393	443	9.83	cps
Holmium	165-1	7025707	6788277	6733662	6849215	2.27	cps
Holmium	165-2	5179169	5157990	4997098	5111419	1.95	cps
Indium	115-1	6028070	5930102	6012001	5990058	0.88	cps
Indium	115-2	2385980	2355467	2328762	2356737	1.21	cps
Iron	56-2	29759	28637	27749	28715	3.51	cps
Iron	57-2	1817	1913	1877	1869	2.61	cps
Iron	54-2	2810	2564	2474	2616	6.66	cps
Krypton	83-1	500	390	460	450	12.37	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P7
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:54:52 DataFile Name : 039CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	813	963	967	914	9.58	cps
Lead	207-1	633	883	920	812	19.21	cps
Lead	208-1	2913	3864	3807	3528	15.11	cps
Lithium	6-1	742620	727864	727499	732661	1.18	cps
Magnesium	24-2	3047	2974	2710	2910	6.08	cps
Manganese	55-2	4367	4101	4207	4225	3.18	cps
Molybdenum	94-1	477	667	737	627	21.47	cps
Molybdenum	95-1	547	883	963	798	27.72	cps
Molybdenum	96-1	650	993	1077	907	24.94	cps
Molybdenum	97-1	300	533	657	497	36.47	cps
Molybdenum	98-1	910	1347	1530	1262	25.23	cps
Neodymium	150-1	10	10	3	8	49.52	cps
Neodymium	150-2	3	0	0	1	173.21	cps
Nickel	60-2	387	323	343	351	9.22	cps
Phosphorus	31-2	397	303	340	347	13.56	cps
Potassium	39-2	67606	66625	67887	67372	0.98	cps
Rhodium	103-1	6137609	5882558	5995758	6005308	2.13	cps
Rhodium	103-2	3840057	3842636	3755753	3812815	1.30	cps
Scandium	45-1	4051405	4019874	3991397	4020892	0.75	cps
Scandium	45-2	362925	358568	355782	359092	1.00	cps
Selenium	82-1	128	275	217	207	35.79	cps
Selenium	77-2	0	0	10	3	173.21	cps
Selenium	78-2	367	297	373	346	12.29	cps
Silicon	28-1	729853	730963	742374	734397	0.94	cps
Silver	107-1	297	293	350	313	10.15	cps
Silver	109-1	197	263	337	266	26.37	cps
Sodium	23-2	41345	41085	39942	40791	1.83	cps
Strontium	86-1	820	800	770	797	3.16	cps
Strontium	88-1	300	430	447	392	20.47	cps
Sulfur	34-1	203260	203651	204140	203684	0.22	cps
Terbium	159-1	7331743	7018073	7018767	7122861	2.54	cps
Terbium	159-2	5261221	5304840	5173157	5246406	1.28	cps
Thallium	203-1	287	310	333	310	7.53	cps
Thallium	205-1	830	843	793	822	3.15	cps
Tin	118-1	833	873	820	842	3.30	cps
Titanium	47-1	97	227	273	199	46.03	cps

LB Number : LB137409 Operator : Jaswal
Lab Sample ID : CCB03 Instrumnet Name : P7
Client Sample ID : CCB03 Dilution Factor : 1
Date & Time Acquired : 2025-09-25 17:54:52 DataFile Name : 039CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	140	347	453	313	50.84	cps
Vanadium	51-2	63	53	87	68	25.24	cps
Yttrium	89-1	10665812	10322426	10207253	10398497	2.29	cps
Yttrium	89-2	2941549	2896295	2877808	2905217	1.13	cps
Zinc	66-2	2780	2804	2830	2805	0.89	cps
Zirconium	90-1	400	473	503	459	11.58	cps
Zirconium	91-1	80	117	90	96	19.84	cps

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SOP ID : M200.8-Trace Elements-22

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 #1 2. N/A

Start Digest Date: 09/23/2025 Time : 11:30 Temp : 96 °C

End Digest Date: 09/23/2025 Time : 13:30 Temp : 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: *SKY*

Supervisor Signature: *[Signature]*

Temp : 1. 96°C 2. N/A

Standardized Name	MLS USED	STD REF. # FROM LOG
Spike Sol 1	0.50	MP87093
Spike Sol 2	1.00	MP87094
Spike Sol 3	1.00	MP87095
Spike Sol 4	1.00	MP87096
Spike Sol 5	1.00mL	MP87097

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HCL	5.00	MP87148
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
X*MP87095,MP87096,MP87097

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
09/23/25 14:30	<i>SKY met dig</i>	<i>[Signature] (Metals 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
PB169562BL	PBW562	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	1
PB169562BS	LCS562	<2	50	50	Colorless	Colorless	Clear	Clear	MP87093,MP87094,X*	2
Q3016-02	WP0925-PT-TM1-WP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	3
Q3016-04	WP0925-PT-SNTI-WP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	4
Q3016-06	WP0925-PT-MIN2-WP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	5

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB169562

Worklist ID : 191681

Department : Digestion

Date : 09-04-2025 17:26:22

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3016-02	WP0925-PT-TM1-WP	Water	Metals Group3	1:1 HNO3 to pH < 2	ALL103	QA Of	09/02/2025	200.8
Q3016-04	WP0925-PT-SNT1-WP	Water	Metals Group4	1:1 HNO3 to pH < 2	ALL103	QA Of	09/02/2025	200.8
Q3016-06	WP0925-PT-MIN2-WP	Water	Metals Group5	1:1 HNO3 to pH < 2	ALL103	QA Of	09/02/2025	200.8

Date/Time 09104125

18:15

Raw Sample Received by:

SP5 met dig

Raw Sample Relinquished by:

SP5 met dig

Date/Time

09104125

19:15

Raw Sample Received by:

SP5 met dig

Raw Sample Relinquished by:

SP5 met dig

Instrument ID: P7

Daily Analysis Runlog For Sequence/QC Batch ID # LB137409

Review By	Janvi	Review On	10/3/2025 2:04:10 PM
Supervise By	jaswal	Supervise On	10/7/2025 11:57:21 PM
STD. NAME	STD REF.#		
ICAL Standard	MP87074,MP87083,MP87082,MP87080,MP87079,MP87078,MP87077,MP87076,MP87075		
ICV Standard	MP87084,MP87082		
CCV Standard	MP87086		
ICSA Standard	MP87087,MP87089		
CRI Standard	MP87082		
LCS Standard			
Chk Standard	MP87091,MP87092		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	TUNE	TUNE	TUNE	09/25/25 15:24		Jaswal	OK
2	S0	S0	CAL1	09/25/25 15:51		Jaswal	OK
3	S2	S2	CAL3	09/25/25 15:54		Jaswal	OK
4	S3	S3	CAL4	09/25/25 15:58		Jaswal	OK
5	S4	S4	CAL5	09/25/25 16:01		Jaswal	OK
6	S5	S5	CAL6	09/25/25 16:04		Jaswal	OK
7	S6	S6	CAL7	09/25/25 16:07		Jaswal	OK
8	S7	S7	CAL8	09/25/25 16:09		Jaswal	OK
9	S8	S8	CAL9	09/25/25 16:12		Jaswal	OK
10	ICV01	ICV01	ICV	09/25/25 16:20		Jaswal	OK
11	LLICV01	LLICV01	LLICV	09/25/25 16:23		Jaswal	OK
12	ICB01	ICB01	ICB	09/25/25 16:26		Jaswal	OK
13	ICSA01	ICSA01	ICSA	09/25/25 16:29		Jaswal	OK
14	ICSAB01	ICSAB01	ICSAB	09/25/25 16:32		Jaswal	OK
15	CCV01	CCV01	CCV	09/25/25 16:35		Jaswal	OK
16	CCB01	CCB01	CCB	09/25/25 16:38		Jaswal	OK
17	CRI	CRI	CRDL	09/25/25 16:42		Jaswal	OK
18	Q3018-02	WP0925-PT-TM1-WP	SAM	09/25/25 16:45	V High	Jaswal	Dilution

Instrument ID: P7

Daily Analysis Runlog For Sequence/QC Batch ID # LB137409

Review By	Janvi	Review On	10/3/2025 2:04:10 PM
Supervise By	jaswal	Supervise On	10/7/2025 11:57:21 PM
STD. NAME	STD REF.#		
ICAL Standard	MP87074,MP87083,MP87082,MP87080,MP87079,MP87078,MP87077,MP87076,MP87075		
ICV Standard	MP87084,MP87082		
CCV Standard	MP87086		
ICSA Standard	MP87087,MP87089		
CRI Standard	MP87082		
LCS Standard			
Chk Standard	MP87091,MP87092		

19	Q3018-04	WP0925-PT-SNTI-WP	SAM	09/25/25 16:48		Jaswal	OK
20	Q3018-02DL	WP0925-PT-TM1-WP	SAM	09/25/25 16:51	2X For V	Jaswal	Confirms
21	Q3016-02	WP0925-PT-TM1-WP	SAM	09/25/25 16:54	V High	Jaswal	Dilution
22	Q3016-04	WP0925-PT-SNTI-WP	SAM	09/25/25 16:57		Jaswal	OK
23	Q3016-02DL	WP0925-PT-TM1-WP	SAM	09/25/25 17:00	2X For V	Jaswal	Dilution
24	Q3018-06	WP0925-PT-MIN2-WP	SAM	09/25/25 17:03		Jaswal	OK
25	Q3016-06	WP0925-PT-MIN2-WP	SAM	09/25/25 17:07		Jaswal	OK
26	Q3018-06DL	WP0925-PT-MIN2-WP	SAM	09/25/25 17:10	Not Required	Jaswal	Not Ok
27	CCV02	CCV02	CCV	09/25/25 17:13		Jaswal	OK
28	CCB02	CCB02	CCB	09/25/25 17:21		Jaswal	OK
29	Q3016-06DL	WP0925-PT-MIN2-WP	SAM	09/25/25 17:24	Not Required	Jaswal	Not Ok
30	PB169562BL	PB169562BL	MB	09/25/25 17:35		Jaswal	OK
31	PB169560BL	PB169560BL	MB	09/25/25 17:38		Jaswal	OK
32	PB169562BS	PB169562BS	LCS	09/25/25 17:41		Jaswal	OK
33	PB169560BS	PB169560BS	LCS	09/25/25 17:44		Jaswal	OK
34	CCV03	CCV03	CCV	09/25/25 17:47		Jaswal	OK
35	CCB03	CCB03	CCB	09/25/25 17:54		Jaswal	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3016
Test : Metals Group3, Metals Group4, Metals Group5
Prepbatch ID : PB169562,
Sequence ID/Qc Batch ID: LB137409, LB137409, LB137409,

Standard ID :
 MP87074, MP87075, MP87076, MP87077, MP87078, MP87079, MP87080, MP87081, MP87082, MP87083, MP87084, MP87086, MP87087, MP87089, MP87090, MP87091, MP87092, MP87093, MP87094, MP87095, MP87096, MP87097, MP87148,

Chemical ID :
 M5245, M5545, M5658, M5697, M5739, M5798, M5799, M5800, M5801, M5815, M5817, M5962, M5979, M5981, M5983, M6019, M6020, M6021, M6023, M6025, M6026, M6027, M6028, M6030, M6032, M6055, M6058, M6079, M6086, M6127, M6128, M6137, M6140, M6142, M6145, M6146, M6151, M6153, M6156, M6158, M6159, M6163, M6164, M6165, M6171, M6172, M6175, M6176, M6178, M6185, M6187, 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>
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP87074	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIP ETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 25.00000ml of M6151 + 4925.00000ml of W3112 + 50.00000ml of M6187 = Final Quantity: 5000.000 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>
2902	S8 ICPMS	MP87075	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIP ETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 1.00000ml of M6159 + 2.50000ml of M6140 + 2.50000ml of M6142 + 5.00000ml of M6086 + 5.00000ml of M6171 + 5.00000ml of M6172 + 79.00000ml of MP87074 = 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>
3947	S7(SFAM,6020,200.8)	MP87076	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.10000ml of M6153 + 0.40000ml of M6026 + 0.50000ml of M6151 + 1.00000ml of M5799 + 1.00000ml of M5981 + 1.00000ml of M6079 + 1.00000ml of M6137 + 1.00000ml of M6187 + 1.90000ml of M6159 + 10.00000ml of M5979 + 10.00000ml of M6178 + 2.00000ml of M5815 + 2.00000ml of M5817 + 4.00000ml of M6032 + 4.90000ml of M6140 + 4.90000ml of M6142 + 48.50000ml of W3112 + 50.00000ml of M6175 + 9.00000ml of M5697 + 9.00000ml of M6128 + 9.00000ml of M6145 + 9.90000ml of M6086 + 9.90000ml of M6171 + 9.90000ml of M6172 = 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>
3948	S6(SFAM,6020,200.8)	MP87077	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6187 + 48.50000ml of W3112 + 50.00000ml of MP87076 = 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>
3949	S5(SFAM,6020,200.8)	MP87078	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6187 + 73.50000ml of W3112 + 25.00000ml of MP87076 = 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>
3954	S4(SFAM,6020,200.8)	MP87079	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 0.50000ml of M6151 + 1.00000ml of M6187 + 86.00000ml of W3112 + 12.50000ml of MP87076 = 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>
3951	S3(SFAM, 6020,200.8)	MP87080	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6187 + 88.50000ml of W3112 + 10.00000ml of MP87077 = 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>
3955	S2CONC(SFAM,6020,200.8)	MP87081	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.00500ml of M6153 + 0.05000ml of M5798 + 0.05000ml of M5800 + 0.05000ml of M5801 + 0.05000ml of M5981 + 0.05000ml of M6023 + 0.05000ml of M6025 + 0.05000ml of M6027 + 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 M5962 + 0.25000ml of M5979 + 0.25000ml of M6021 + 0.25000ml of M6140 + 0.25000ml of M6145 + 0.25000ml of M6178 + 0.50000ml of M6032 + 0.50000ml of M6137 + 1.25000ml of M5815 + 1.25000ml of M5817 + 1.25000ml of M6151 + 2.50000ml of M6086 + 2.50000ml of M6142 + 2.50000ml of M6171 + 2.50000ml of M6172 + 2.50000ml of M6187 + 230.04500ml of W3112 = Final Quantity: 250.000 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>
3956	S2(SFAM,6020,200.8)	MP87082	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6187 + 98.00000ml of W3112 + 0.50000ml of MP87081 = 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>
3957	S1(SFAM,6020,200.8)	MP87083	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.50000ml of M6151 + 1.00000ml of M6187 + 88.50000ml of W3112 + 10.00000ml of MP87082 = 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>
4213	NEW ICV-6020B	MP87084	09/03/2025	10/03/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.00800ml of M6164 + 0.00800ml of M6165 + 0.01600ml of M6163 + 0.02500ml of M5983 + 0.02500ml of M6019 + 0.02500ml of M6020 + 0.02500ml of M6058 + 0.22500ml of M5545 + 0.22500ml of M6156 + 49.41800ml of MP87074 = 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>
3961	CCV	MP87086	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.20000ml of M6026 + 0.50000ml of M5799 + 0.50000ml of M5981 + 0.50000ml of M6079 + 0.50000ml of M6137 + 0.50000ml of M6176 + 1.00000ml of M5815 + 1.00000ml of M5817 + 10.00000ml of M6187 + 12.45000ml of M6140 + 12.45000ml of M6142 + 2.00000ml of M6032 + 24.95000ml of M6086 + 24.95000ml of M6171 + 24.95000ml of M6172 + 25.00000ml of M6175 + 4.50000ml of M5697 + 4.50000ml of M6128 + 4.50000ml of M6145 + 4.95000ml of M6159 + 5.00000ml of M6151 + 5.50000ml of M5979 + 5.50000ml of M6178 + 824.10000ml of W3112 = 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>
1142	ICSA ICPMS	MP87087	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 10.00000ml of M6185 + 90.00000ml of MP87074 = 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>
1143	ICSAB ICPMS	MP87089	09/03/2025	10/03/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 0.00500ml of M5981 + 0.00500ml of M5983 + 0.00500ml of M6019 + 0.00500ml of M6020 + 10.00000ml of M5245 +
10.00000ml of M6185 + 79.98000ml of MP87074 = 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>
3962	MG 10PPM FOR TUNE	MP87090	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP	Sarabjit Jaswal

A)

FROM 0.01000ml of M6171 + 9.99000ml of MP87074 = 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>
3894	TUNE 200PPB	MP87091	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP	Sarabjit Jaswal

A)

FROM 2.00000ml of M6055 + 2.00000ml of MP87090 + 96.00000ml of MP87074 = 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>
3903	ISS 3PPM	MP87092	09/03/2025	10/07/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 5.00000ml of M6187 + 75.00000ml of M5739 + 170.00000ml of MP87074 = 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>
3880	M&B SPIKE-1	MP87093	09/03/2025	10/31/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 5.00000ml of M5658 + 5.00000ml of M5798 + 5.00000ml of M5800 + 5.00000ml of M5962 + 5.00000ml of M5981 + 5.00000ml of M6021 + 5.00000ml of M6023 + 5.00000ml of M6027 + 5.00000ml of M6028 + 5.00000ml of M6030 + 5.00000ml of M6079 + 5.00000ml of M6146 + 5.00000ml of M6176 + 35.00000ml of MP87074 = 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>
3881	M&B SPIKE-2	MP87094	09/03/2025	10/31/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 10.00000ml of M5979 + 10.00000ml of M6178 + 12.50000ml of M6032 + 12.50000ml of M6140 + 12.50000ml of M6142 + 2.50000ml of M5799 + 2.50000ml of M6137 + 5.00000ml of M6159 + 32.50000ml of MP87074 = 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>
3882	M&B SPIKE-3	MP87095	09/03/2025	10/31/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025
FROM 0.62500ml of M6026 + 12.50000ml of M5697 + 12.50000ml of M6128 + 12.50000ml of M6145 + 11.87500ml of MP87074 = Final Quantity: 50.000 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>
3900	M&B SPIKE-4	MP87096	09/03/2025	10/31/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 6.25000ml of M6086 + 6.25000ml of M6127 + 6.25000ml of M6172 + 6.25000ml of MP87074 = Final Quantity: 25.000 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>
4025	M&B SPIKE-5	MP87097	09/03/2025	10/31/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/09/2025

FROM 15.00000ml of M5979 + 15.00000ml of M6178 + 20.00000ml of MP87074 = Final Quantity: 50.000 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>
170	1:1HCL	MP87148	09/09/2025	02/17/2026	Sagar Kanani	None	None	Sarabjit Jaswal
FROM 1250.00000ml of M6151 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml								

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSB (ICPMS) STOCK SOLUTION	CP-MS ICSB-0803	07/01/2026	07/02/2025 / jaswal	02/20/2020 / jaswal	M5245

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

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

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

CHEMICAL RECEIPT LOG BOOK

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.	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 #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	08/05/2026	08/06/2025 / Janvi	02/22/2024 / Jaswal	M5979

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.	57040 / Zr, 1000 PPM, 125 ml	071423	07/14/2026	07/29/2024 / Jaswal	06/11/2024 / Jaswal	M5983

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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.	57028 / Ni, 1000 PPM, 125 ml	062024	06/20/2027	06/04/2025 / Janvi	08/05/2024 / Jaswal	M6027

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

CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	V2-MEB746173	01/29/2026	01/29/2025 / JANVI	08/22/2024 / Jaswal	M6058

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

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

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

CHEMICAL RECEIPT LOG BOOK

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.	58126 / Fe, 10000 PPM, 500 ml	011025	01/10/2028	06/25/2025 / Janvi	01/13/2025 / Jaswal	M6140

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.	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

CHEMICAL RECEIPT LOG BOOK

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	02/17/2026	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 #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	032123	03/21/2026	11/06/2024 / JANVI	06/12/2024 / JANVI	M6156

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	10/30/2025	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011325	03/18/2026	03/18/2025 / kareem	02/09/2025 / kareem	M6159

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-1-125ML / EPA CLP ICP Verification Standard1	V2-MEB744107	06/08/2026	06/09/2025 / jaswal	06/06/2025 / jaswal	M6163

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-2-125ML / EPA CLP ICP Verification Standard2	U2-MEB733713	06/08/2026	06/09/2025 / jaswal	06/09/2025 / jaswal	M6164

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-3-125ML / EPA CLP ICP Verification Standard3	V2-MEB749572	06/08/2026	06/09/2025 / jaswal	06/09/2025 / jaswal	M6165

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	011525	01/15/2028	07/15/2025 / jaswal	02/13/2025 / Janvi	M6171

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGNA10-5 / Sodium, 500 ml, 10000 PPM	V2-NA740547	07/29/2026	07/29/2025 / Janvi	01/25/2025 / Janvi	M6172

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	6020CAL-1 / Calibration Standard Method 6020	V2-MEB742014	07/17/2026	07/17/2025 / Janvi	01/27/2025 / Janvi	M6175

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	092724	09/27/2027	08/06/2025 / Janvi	08/06/2025 / Janvi	M6176

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	080528	08/05/2028	08/06/2025 / Janvi	08/06/2025 / Janvi	M6178

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICPMS) STOCK SOLN	MS ICSA-0803	07/01/2026	07/02/2025 / jaswal	07/14/2022 / Janvi	M6185

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)	24H0162012	01/28/2026	08/29/2025 / Sagar	08/08/2025 / Sagar	M6187

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

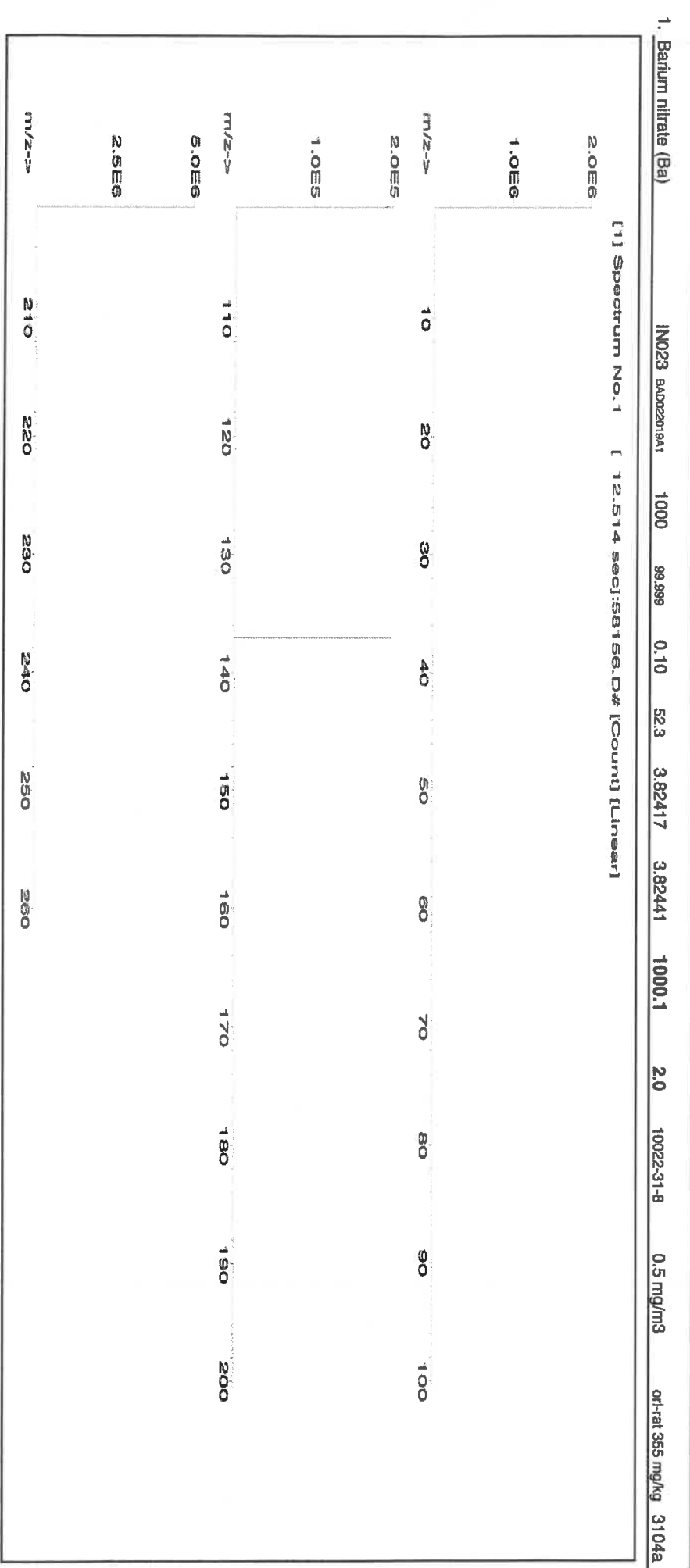


CERTIFIED WEIGHT REPORT:

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

Giovanni Caporaso	
Formulated By:	Giovanni Esposito
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

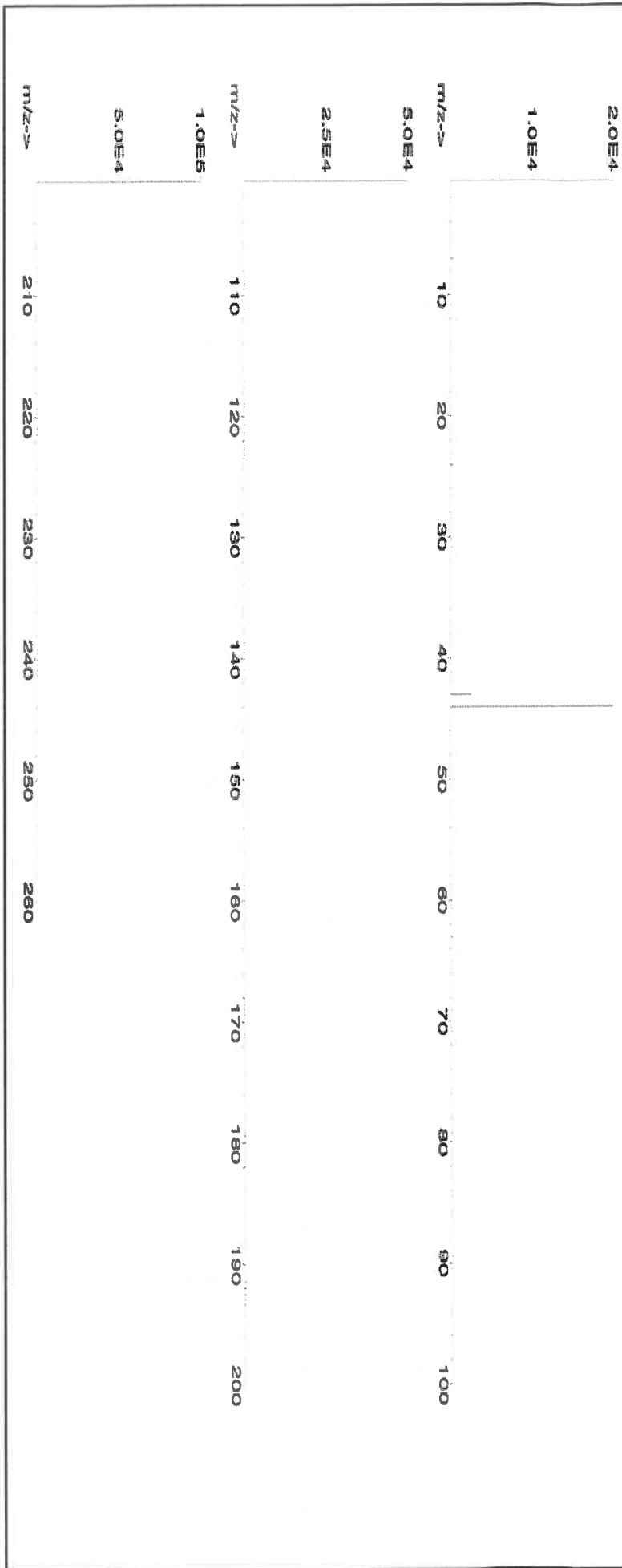
2% 80.0 (mL) Nitric Acid

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
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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 or-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

Expiration Date:

070127

2% 40.0 (mL) Nitric Acid

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

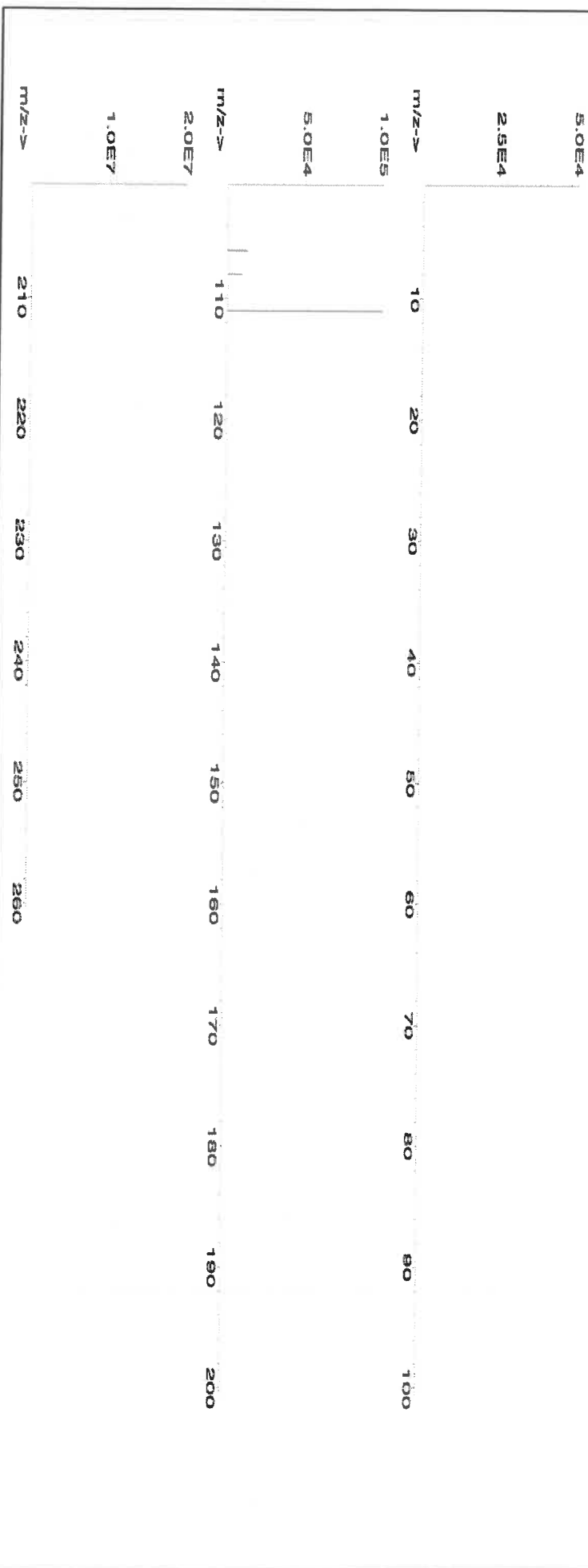
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

Compound

Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST
Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	SRM

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 ref 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).



Instructions for QATS Reference Material: ICP-MS ICS

**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 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

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	[100000]			[100000]		
Sb	2.0	(1.5)	-2.5	5.5	(22.0)	18.0	26.0
As	1.0	(0.10)	-1.9	2.1	19.0	16.2	21.9
Ba	10	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1.0	(0.0)	-2.0	2.0	19.0	16.2	21.9
Cd	1.0	(0.70)	-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	(0.30)	-9.7	10.0	(19.0)	9.0	29.0
Ag	1.0	(0.0)	-2.0	2.0	18.0	15.3	20.7
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1.0	(0.0)	-2.0	2.0	21.0	17.9	24.2
Ti		[2000]			[2000]		
V	5.0	(0.50)	-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.

ICSA:
M5244

ICSB:
M5245



CERTIFIED WEIGHT REPORT:

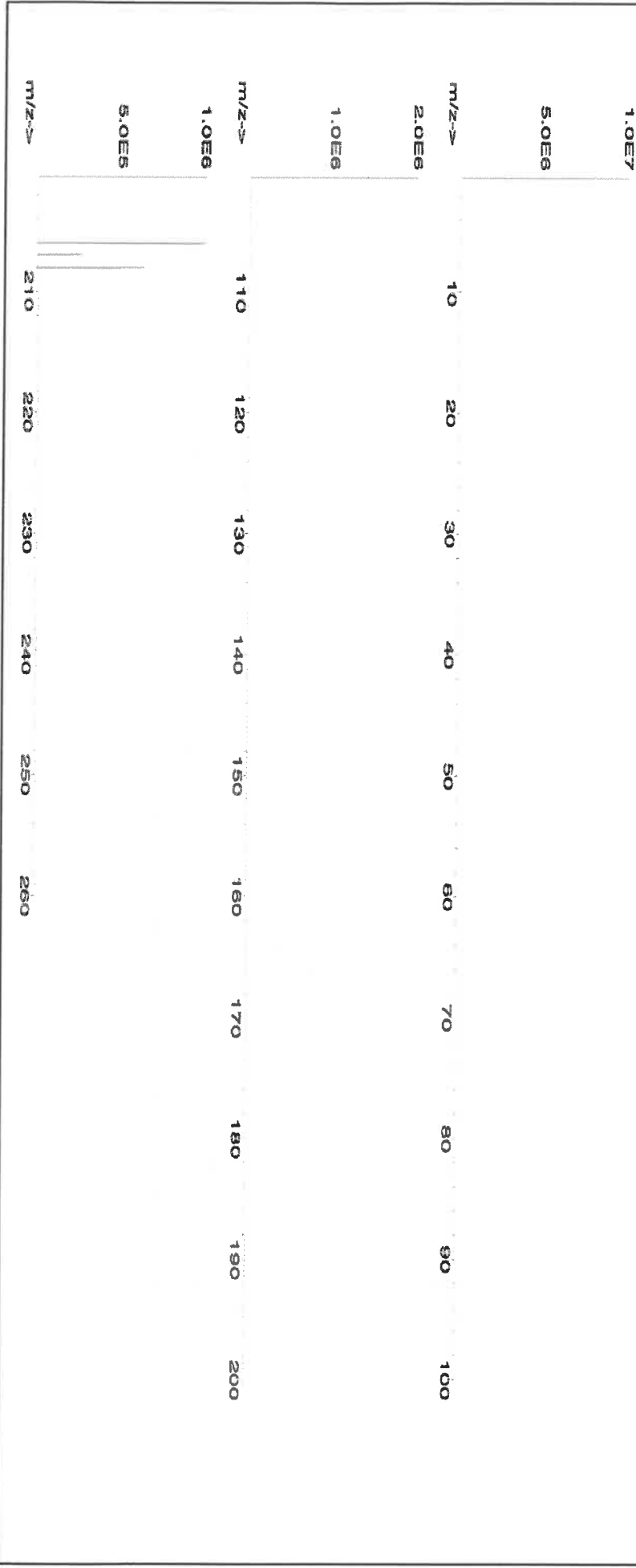
Part Number: 57182
Lot Number: 110923
Description: Lead (Pb)
Solvent: 24002546 Nitric Acid
Lot #

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	

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	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
									intrinsic 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**

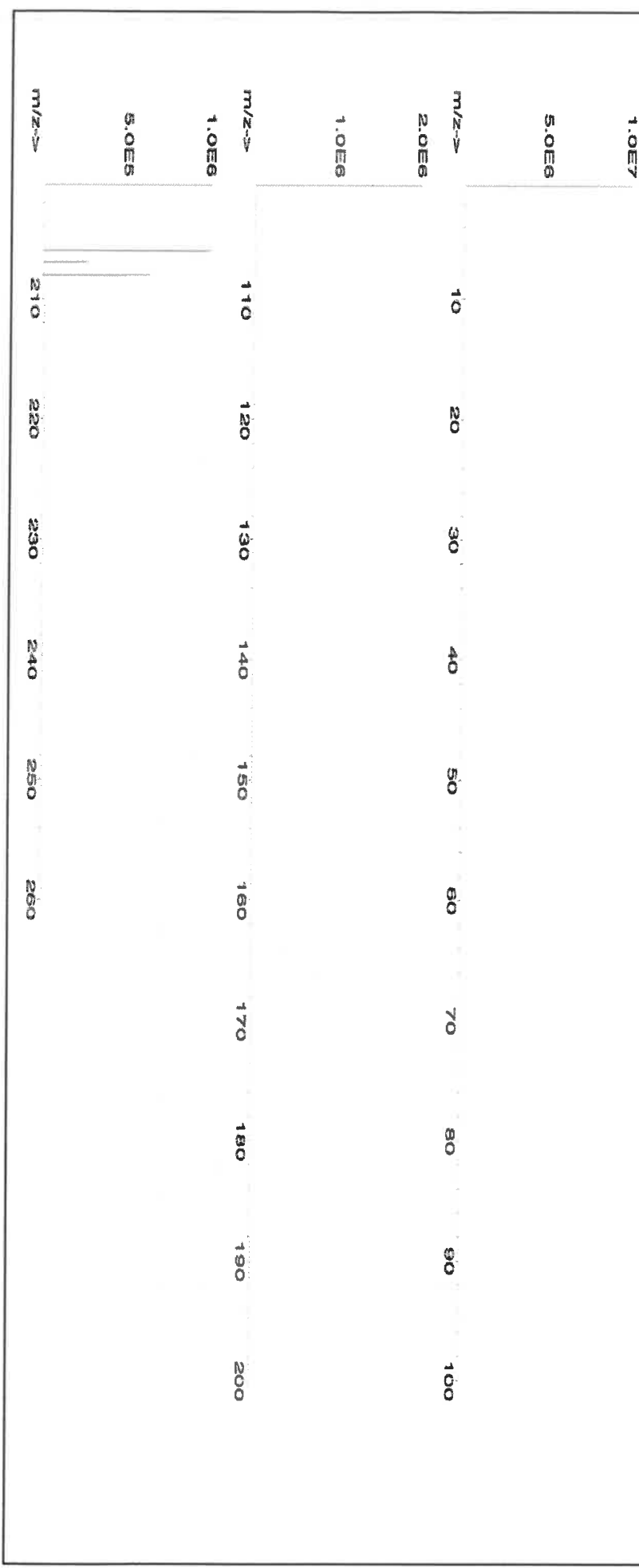
2% **40.0** **Nitric Acid**
(mL)

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	

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	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
									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).



CERTIFIED WEIGHT REPORT:

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

Lot # 2110221 **Solvent:** Nitric Acid

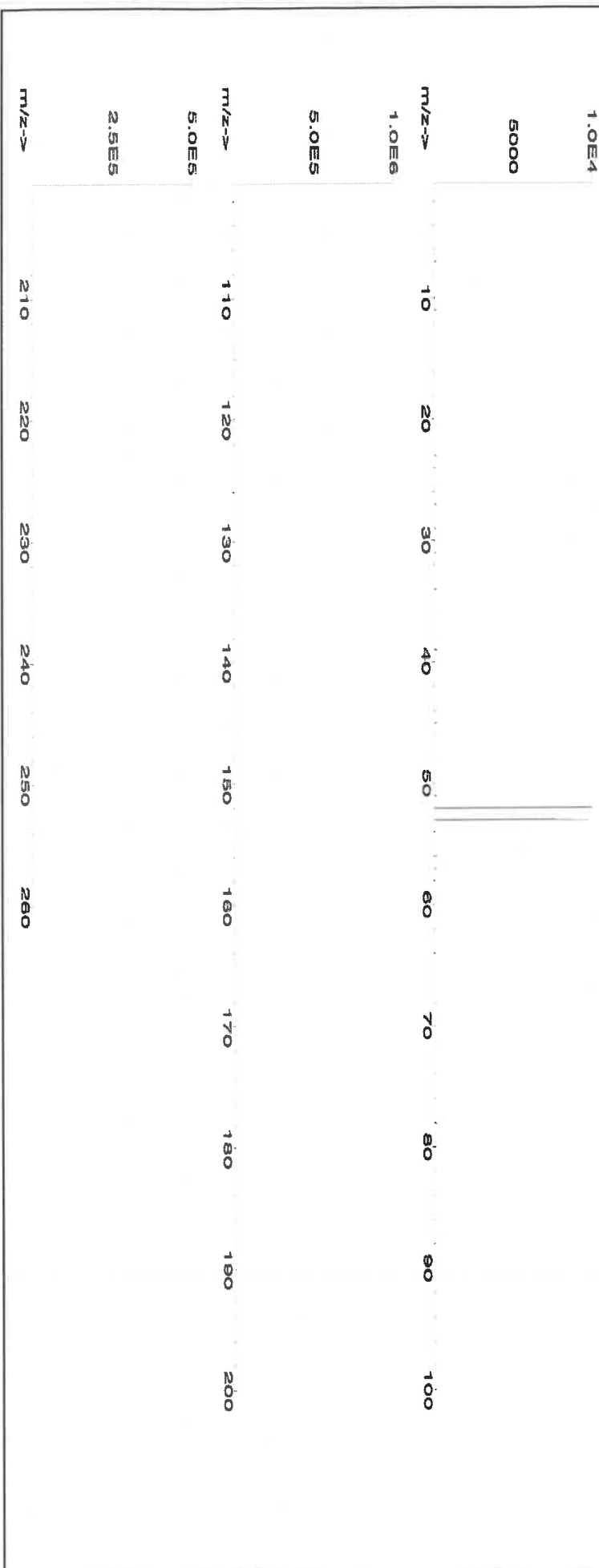
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Renteria
	060523

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 0.058 Balance Uncertainty
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
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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]





Certified Reference Material CRM



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

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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58029
102523
Copper (Cu)

Lot #
Solvent:

24002546
Nitric Acid

Expiration Date:

102526

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

2.0%

40.0

Nitric Acid

Formulated By:

Benson Chan

102523

Reviewed By:

Pedro L. Rentas

102523

SDS Information

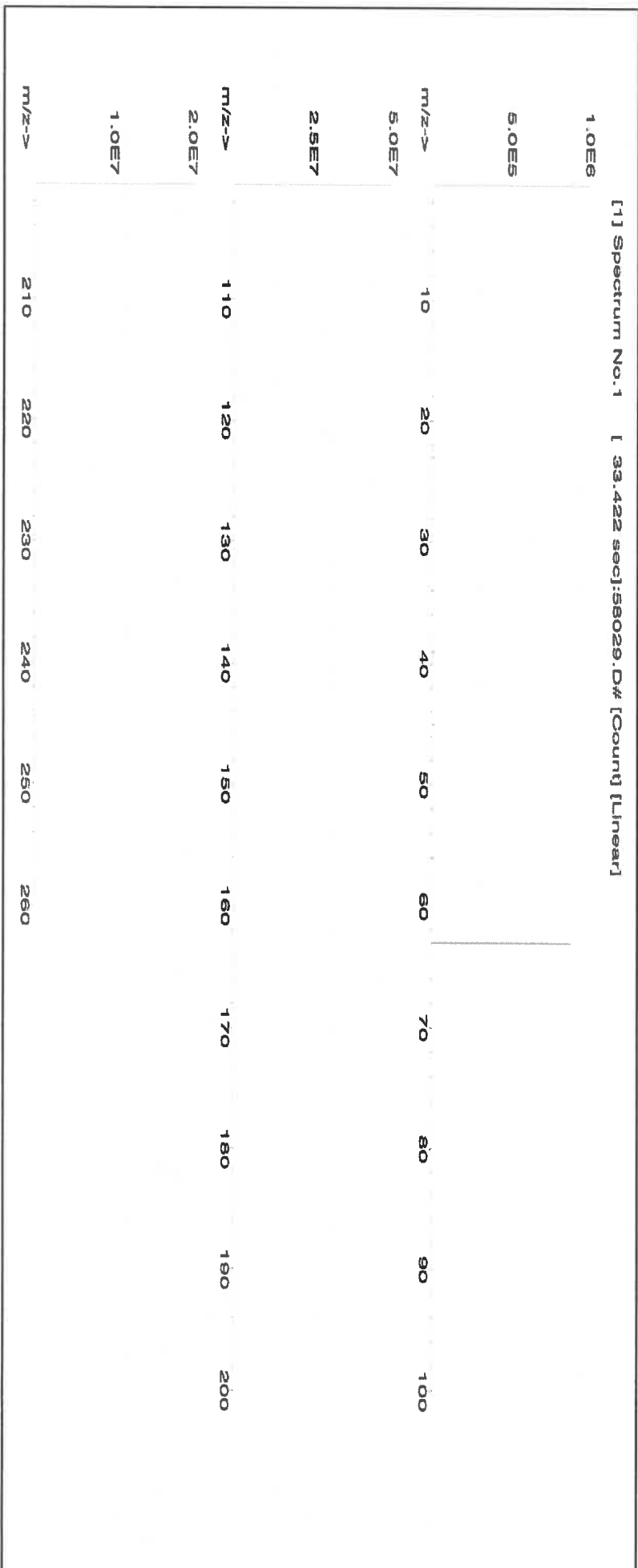
Compound

Part Lot Dilution Initial Uncertainty Nominal Initial Final
Number Number Factor Vol. (mL) Pipette (mL) Conc. (µg/mL) Conc. (µg/mL) Conc. (µg/mL)

Expanded Uncertainty (Solvent Safety Info. On Attached pg.) NIST
+/- (µg/mL) CAS# OSHA PEL (TWA) LD50 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]





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	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 WEIGHT REPORT:

Part Number: 57004
Lot Number: 102523
Description: Beryllium (Be)

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

NIST Test Number:

6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty

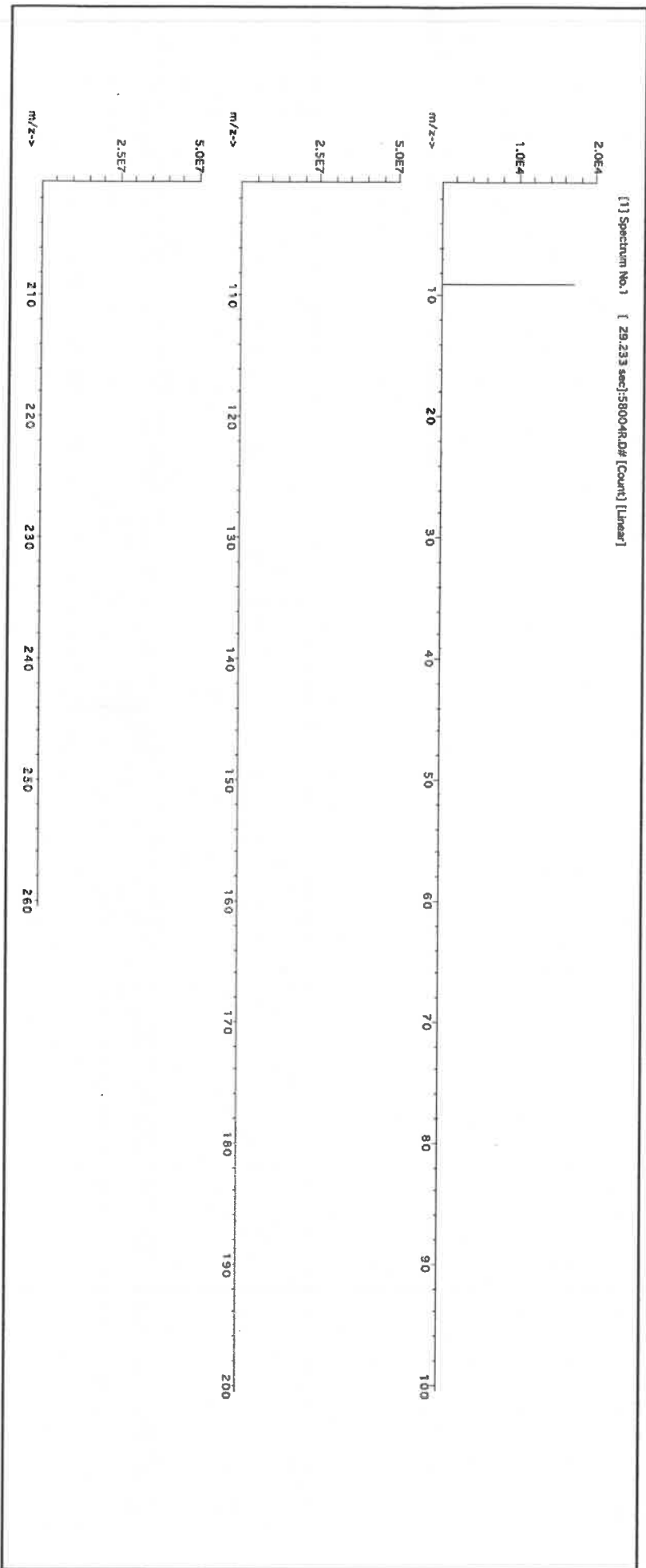
0.058 Flask Uncertainty

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

SDS Information

Compound	Part Number	Lot	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 (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	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	<0.02	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:

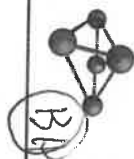
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R-02509124

M599



Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000

2% 10.0 Nitric Acid
6% 30.0 Hydrochloric acid
(mL)

NIST Test Number: 6UTB

Weight shown below was diluted to (mL):

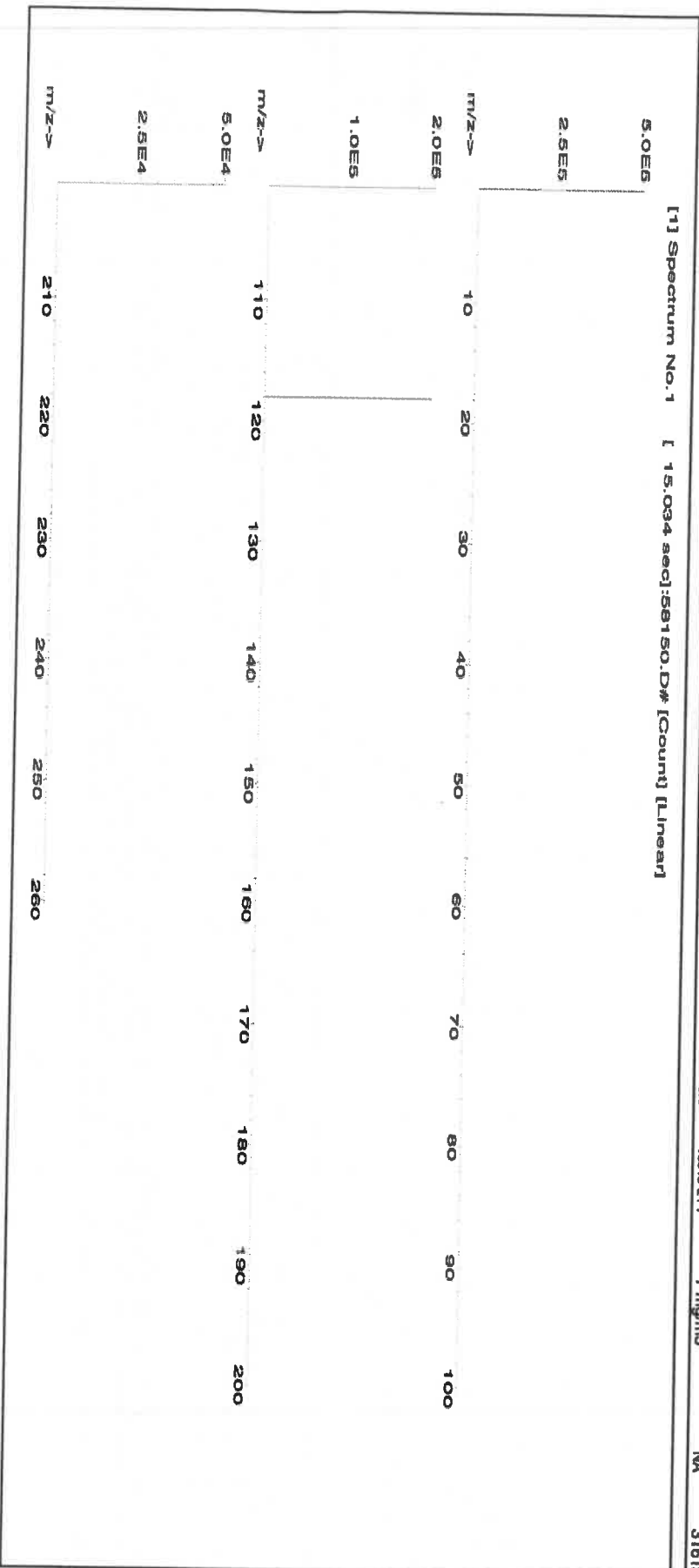
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Benson Chan	
071123	
Reviewed By:	Pedro L. Rentas
071123	

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
----------	------------	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

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	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	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.
- * 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: 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

Lot # 24002546
Solvent: Nitric Acid

2.0% Nitric Acid
40.0 (mL)

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

SDS Information

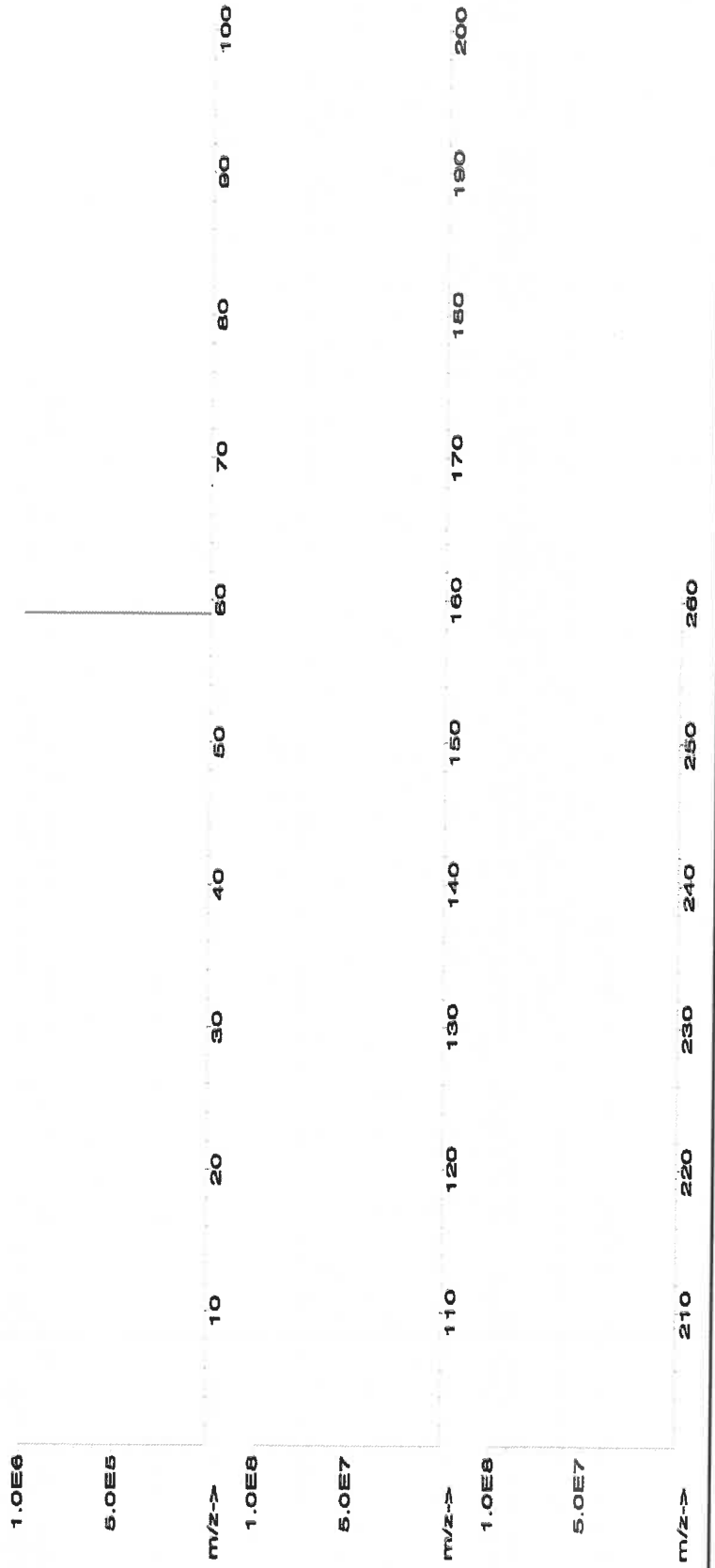
Expanded Uncertainty +/- (µg/mL)
Final Conc. (µg/mL)
Initial Conc. (µg/mL)
Nominal Conc. (µg/mL)
Pipette (mL)
Uncertainty Balance Uncertainty
Uncertainty Flask Uncertainty

NIST SRM

(Solvent Safety Info. On Attached pg.)
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	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

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Certified 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

2.0%

80.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

4000.0

5E-05

Balance Uncertainty
Flask Uncertainty

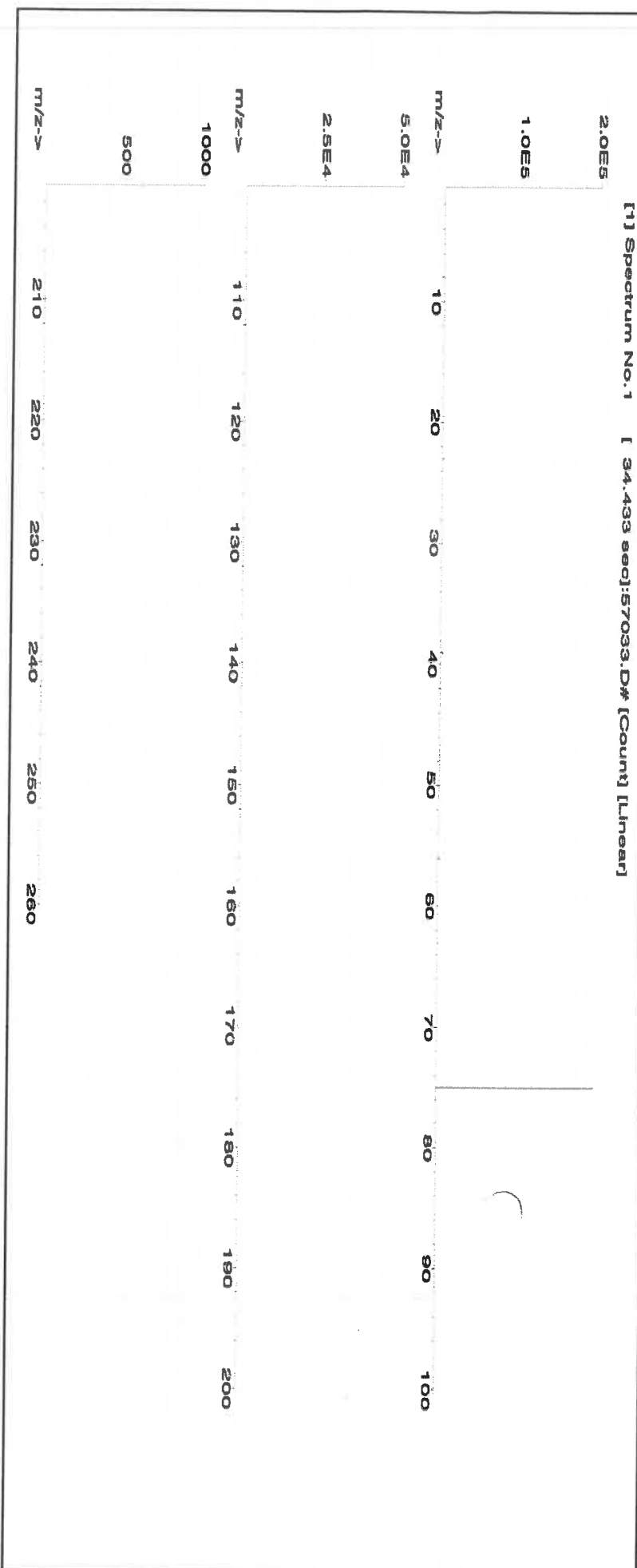
Formulated By:	Lawrence Barry
	111323
Reviewed By:	Pedro L. Rendas
	111323

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	Ru	<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	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	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			Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57115
041723
Phosphorous (P)

Solvent: 21110221 Nitric Acid

Lot #

R102109124 M5815

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

041726
Ambient (20 °C)
10000
6UTB

2%
40.0
(mL)
Nitric Acid

Weight shown below was diluted to (mL):

2000.02 0.058 Balance Uncertainty
Flask Uncertainty

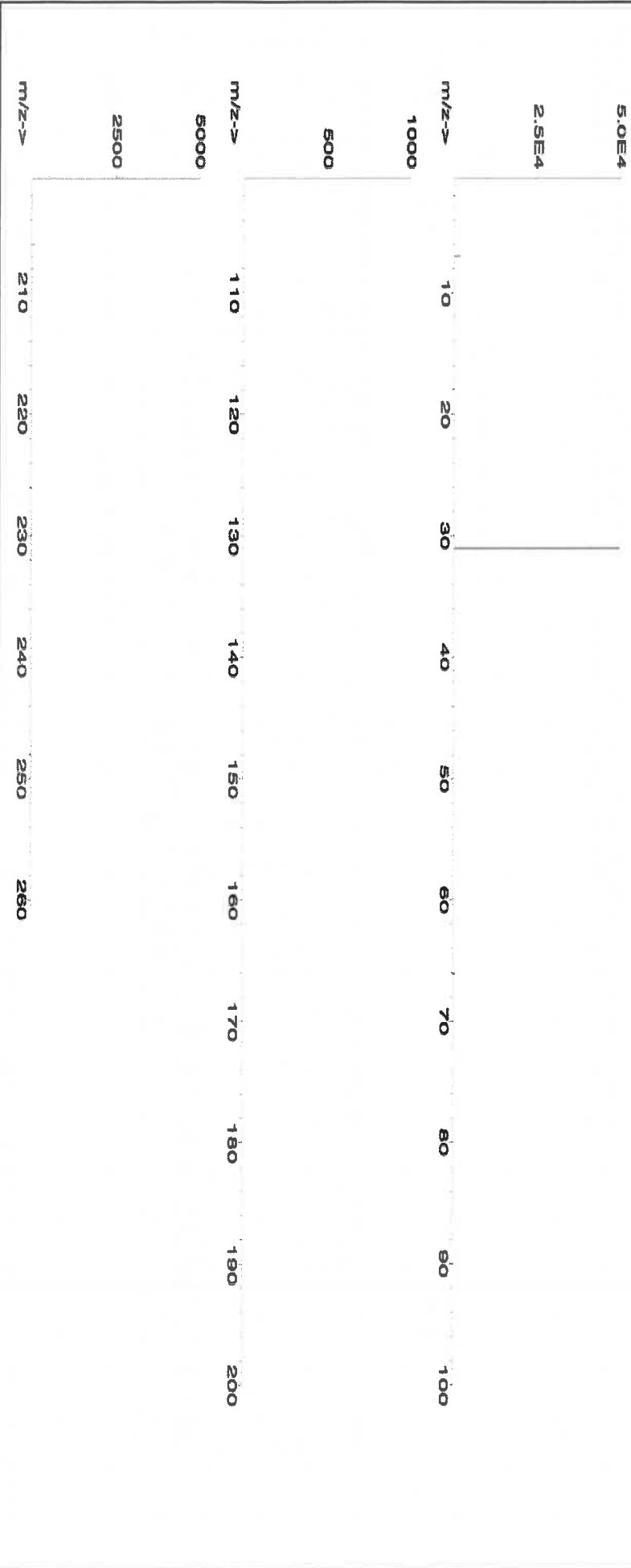
Formulated By:	Lawrence Barry
	041723
Reviewed By:	Pedro L. Rentas
	041723

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty 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:

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CERTIFIED WEIGHT REPORT:

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

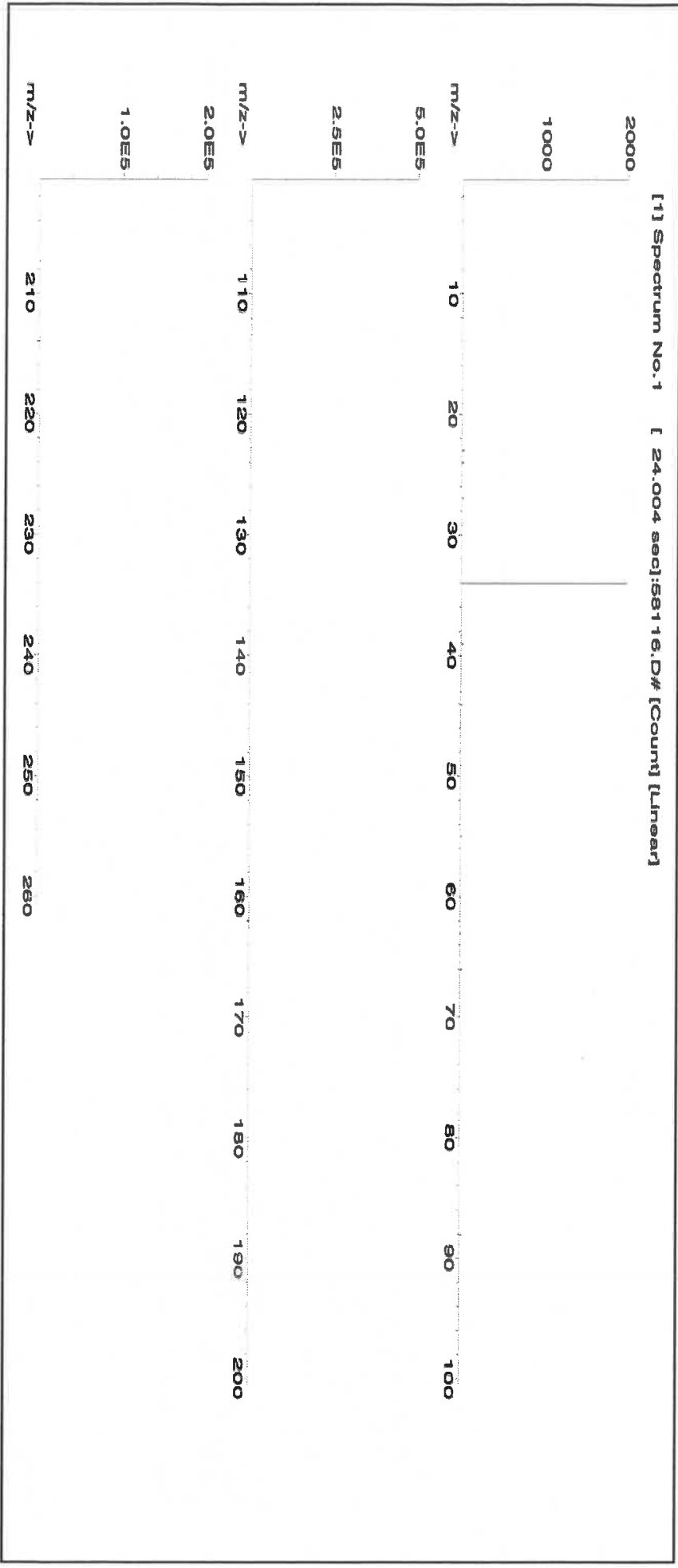
Solvent: **071123** Lot #
ASTM Type 1 Water

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

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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

Reviewed By:

Pedro L. Rantas

060624

SDS Information

Compound

Part Number

Lot Number

Dilution Factor

Initial Vol. (mL)

Pipette (mL)

Uncertainty

Nominal Conc. (µg/mL)

Initial Conc. (µg/mL)

Final Conc. (µg/mL)

Expanded Uncertainty

(Solvent Safety Info. On Attached pg.)

CAS#

OSHA PEL (TWA)

LDSO

NIST SRM

1. Selenium (Se)

58134

071223

0.1000

200.0

0.084

1000

10002.5

1000.0

2.2

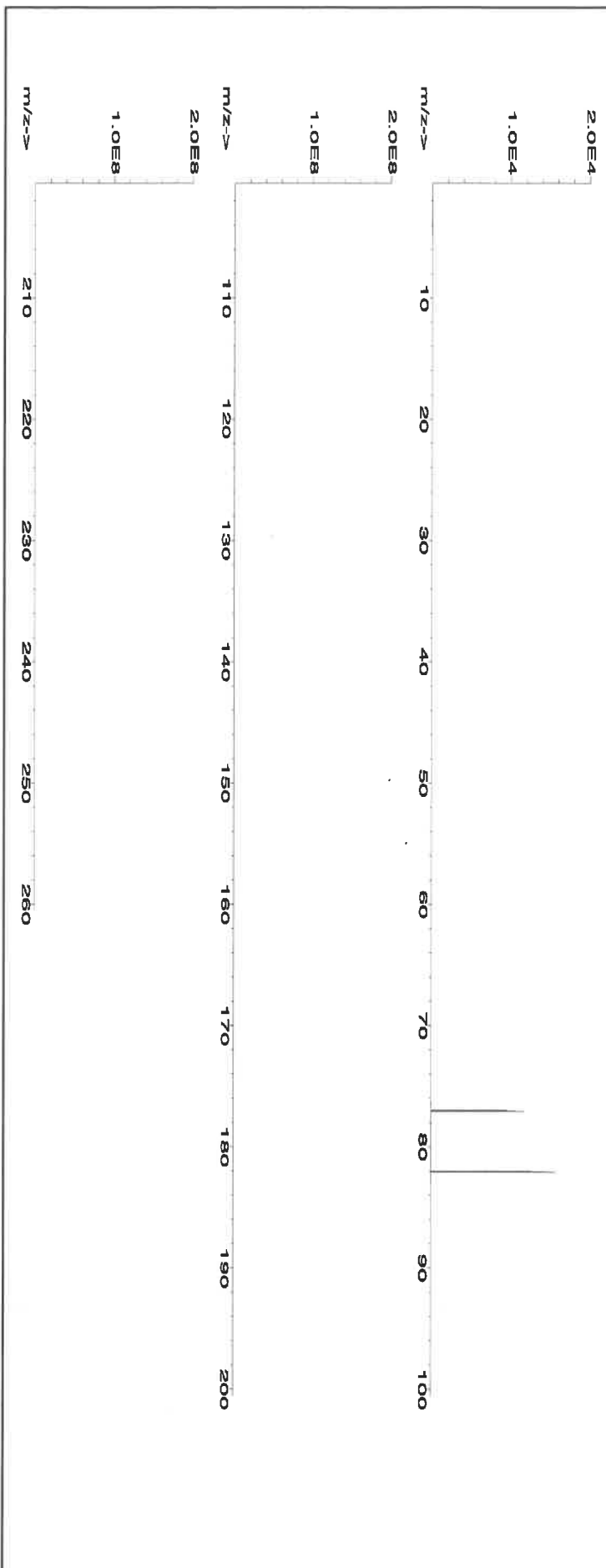
7782-49-2

0.2 mg/m3

or-tral 6700 mg/kg

3149

[1] Spectrum No.1 [33.702 sec]:58034.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	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:

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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).

Certificate of Analysis



Redefine your results. Redefine your industry.

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Christiansburg, VA 24073 USA
info@inorganicventures.com

R: 2/22/24

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F: 540-585-3012
info@inorganicventures.com



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Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

1.0 ACCREDITATION / REGISTRATION

2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution

Catalog Number: CGT1

Lot Number: T2-T1719972

Matrix: 2% (v/v) HNO₃

Value / Analyte(s): tr. HF

Starting Material: 1 000 µg/mL ea.

Starting Material: Titanium

Starting Material: Ti Metal

Starting Material Lot#: 2094

Starting Material Purity: 99.9975%

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:

$X_{CRM/RM} = (k_p) / (k_p + 1)$

k_p = mean of Assay Method A with

$U_{CRM/RM}$ = the standard uncertainty of characterization Method A

$U_{CRM/RM} = (k_p) / (k_p + 1)$

$U_{CRM/RM} = (k_p) / (k_p + 1)$

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$U_{CRM/RM} = (k_p) / (k_p + 1)$

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)

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 UHPA-filtered Clean Room. An UHPA-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
M 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	<	0.000986			
O B	<	0.008929	M Ge	<	0.002146	M Os	<	0.000269	O Sr	<	0.000986			
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 Co	<	0.000268	M K	<	0.001172	M Rb	<	0.000268	M Tl	<	0.000268			
M Cr	<	0.000752	O Li	<	0.000268	M Re	<	0.000268	M Tm	<	0.000268			
M Cs	<	0.000268	M Lu	<	0.000268	M Rh	<	0.000268	M U	<	0.000268			
O Cu	<	0.010890	O Mg	<	0.005445	I S	<	0.006976	M Y	<	0.002146			
M Dy	<	0.000268	O Mn	<	0.003267	M Sb	<	0.004900	M Yb	<	0.000536			
M Er	<	0.000268	M Mo	<	0.000774	O Sc	<	0.004900	M Yb	<	0.000536			

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

- 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: 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 forming the hydrated oxide in all dilute acids except HF. 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); K₂SiO₇ - no KF if silica not present); Organic Matrices (Dry ash at 450EC in P10 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 crystaline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	14 ppt
ICP-MS 48 amu	N/A	
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	
ICP-OES 334.941 nm	0.0038 / 0.00028 µg/mL	
ICP-OES 336.121 nm	0.0053 / 0.00034 µg/mL	
HF Note: This standard should not be prepared or stored in glass.		
		W, Mo, Co
		Nb, Ta, Cr, U
		Ce, Ar, Ni
		Ru]]
		(where X = Zr, Mo,
		14N17N2, 36Ar12C,
		48Ca, 196X=2
		14N16O18O,
		32S16O, 32S14N,
		N/A
		Order Interferences (underlined indicates severe)

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"

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY
Inorganic Ventures, 300 Technology Drive, Chesapeake, VA 24073, USA; Telephone: 800.868.6786; 540.565.3030; Fax: 540.565.3012; info@inorganicventures.com
- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

Thomas Kozlikowski
Manager, Quality Control

80978

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul Gaines



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)

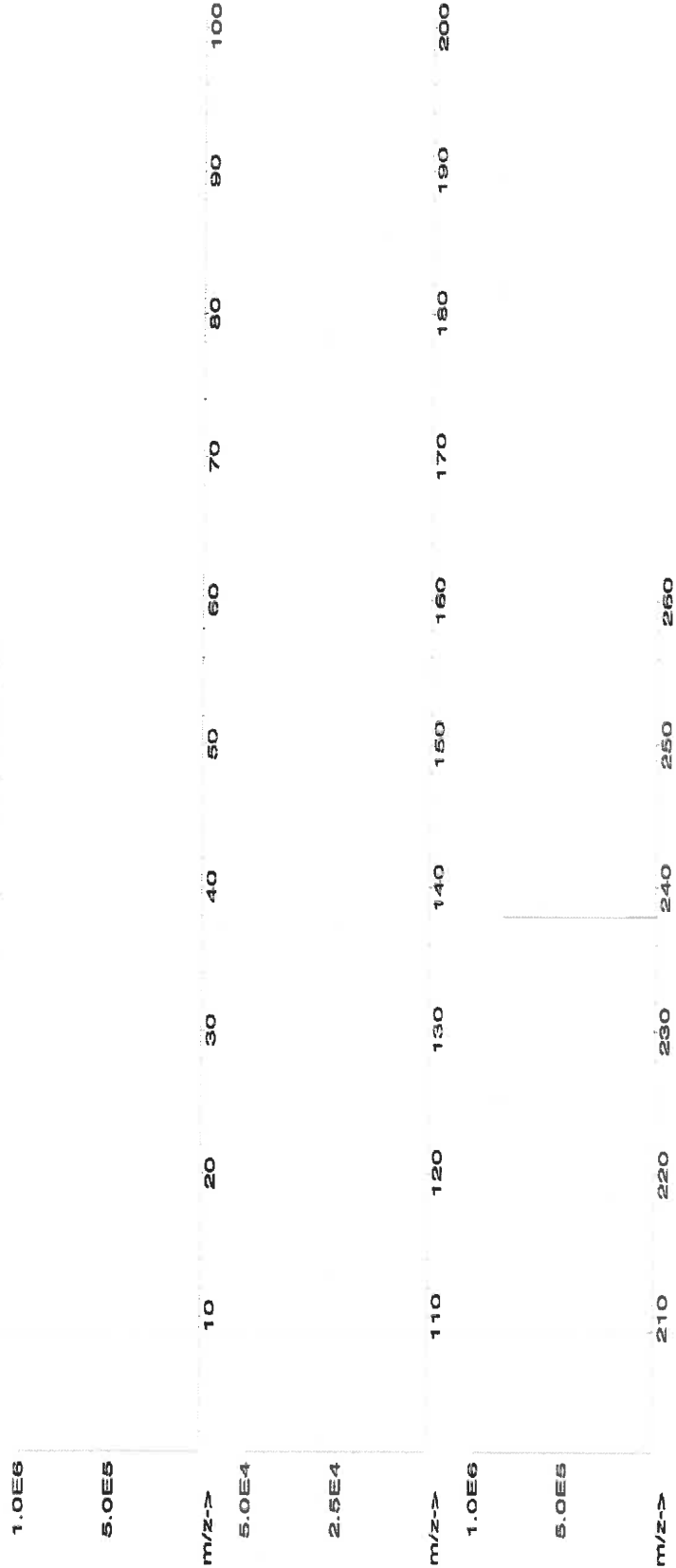
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas

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
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[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	<0.02	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).



45983

R: 6/11/24



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57040
071423
Zirconium (Zr)

Lot # Solvent:
21110221 Nitric Acid

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

071426
Ambient (20 °C)
1000
6UTB

2.0% Nitric Acid
40.0 (mL)

Balance Uncertainty
Flask Uncertainty
5E-05 0.058
2000.02

Volume shown below was diluted to (mL):

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

Expanded
Uncertainty
+/- (µg/mL)

Final
Conc. (µg/mL)

Initial
Conc. (µg/mL)

Nominal
Conc. (µg/mL)

Dilution
Factor

Part
Number

Lot
Number

Compound

SDS Information
(Solvent Safety Info. On Attached pg.)

CAS#

OSHA PEL (TWA)

LD50

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

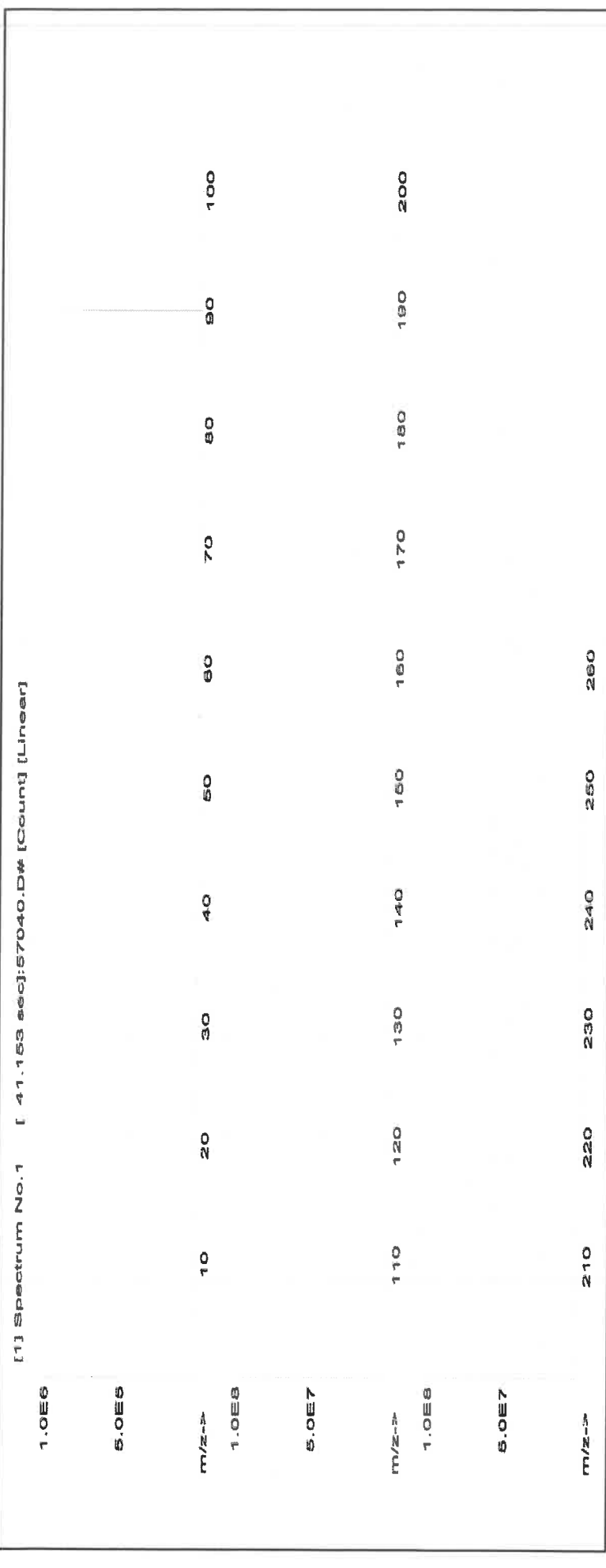
NA

NA

NA

NA

1. Zirconyl chloride octahydrate (Zr)	58140	070621	0.1000	200.0	0.084	1000	10000.3	1000.0	2.2	13520-92-8	NA	NA	NA
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																			
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	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	<0.2	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	Ta	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.2	K	<0.02	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:

[Signature]

- * 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).

[Faint text/scan artifacts]

8/19/24, 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, $X_{\text{CRM/RM}}$, 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:

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

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

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_{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, $X_{\text{CRM/RM}}$, 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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{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

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 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



Certificate of Analysis

R: 08/22/24 M6058, M6059

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: CHEM-CLP-4
Lot Number: V2-MEB746172
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

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

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, 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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 12, 2024

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

11.2 Lot Expiration Date

- **August 12, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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. **Zirconyl 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]

1.OE6	m/z->	10	20	30	40	50	60	70	80	90	100
5.OE6	m/z->	110	120	130	140	150	160	170	180	190	200
1.OE8	m/z->	210	220	230	240	250	260				
5.OE7	m/z->										



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) Nitric Acid

Expiration Date: 11/13/25
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

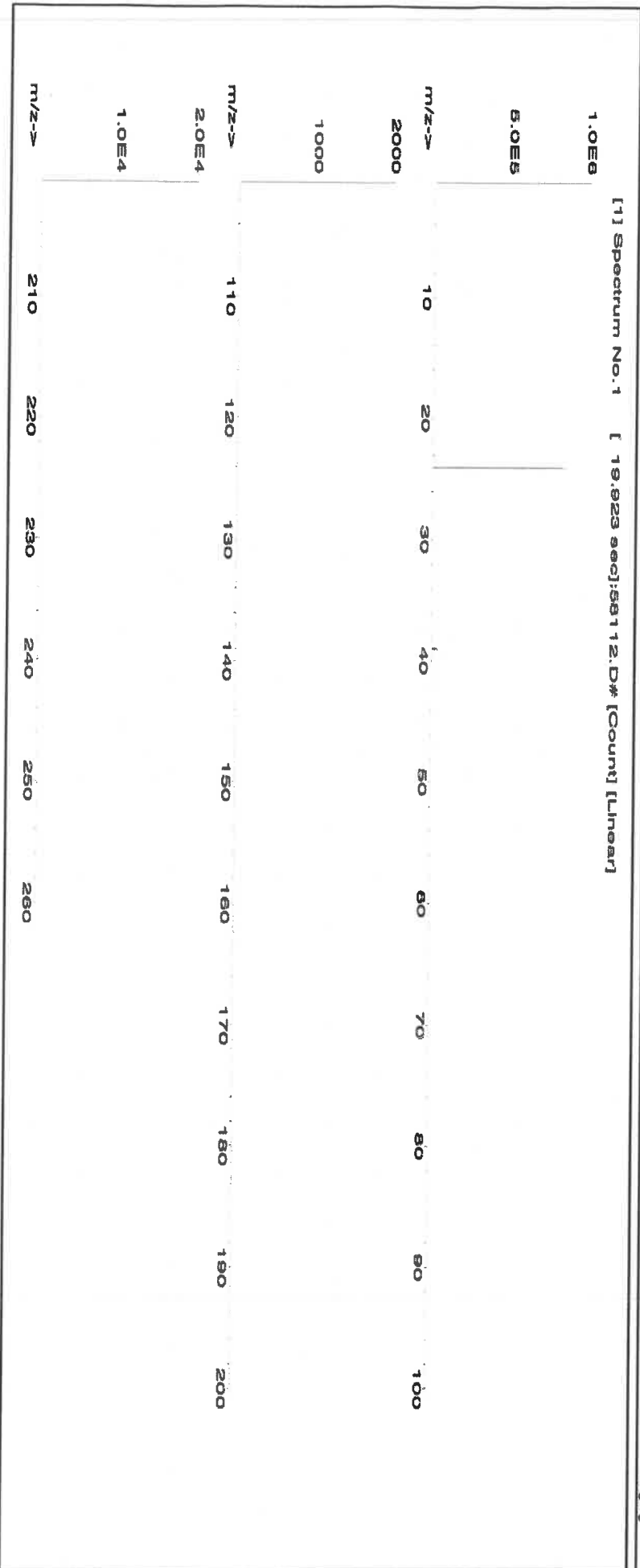
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Rentas
	112124

Compound

Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST
Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	± (µg/mL)	(Solvent Safety Info. On Attached pg.)	SRM

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 MMN02020A1 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:

58126
011025
Iron (Fe)

R-11B125
M6140

Lot #
Solvent: 24012496 Nitric Acid

Expiration Date:

011028

2% 40.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

10000

NIST Test Number:

6U7B

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.07

0.100 Flask Uncertainty

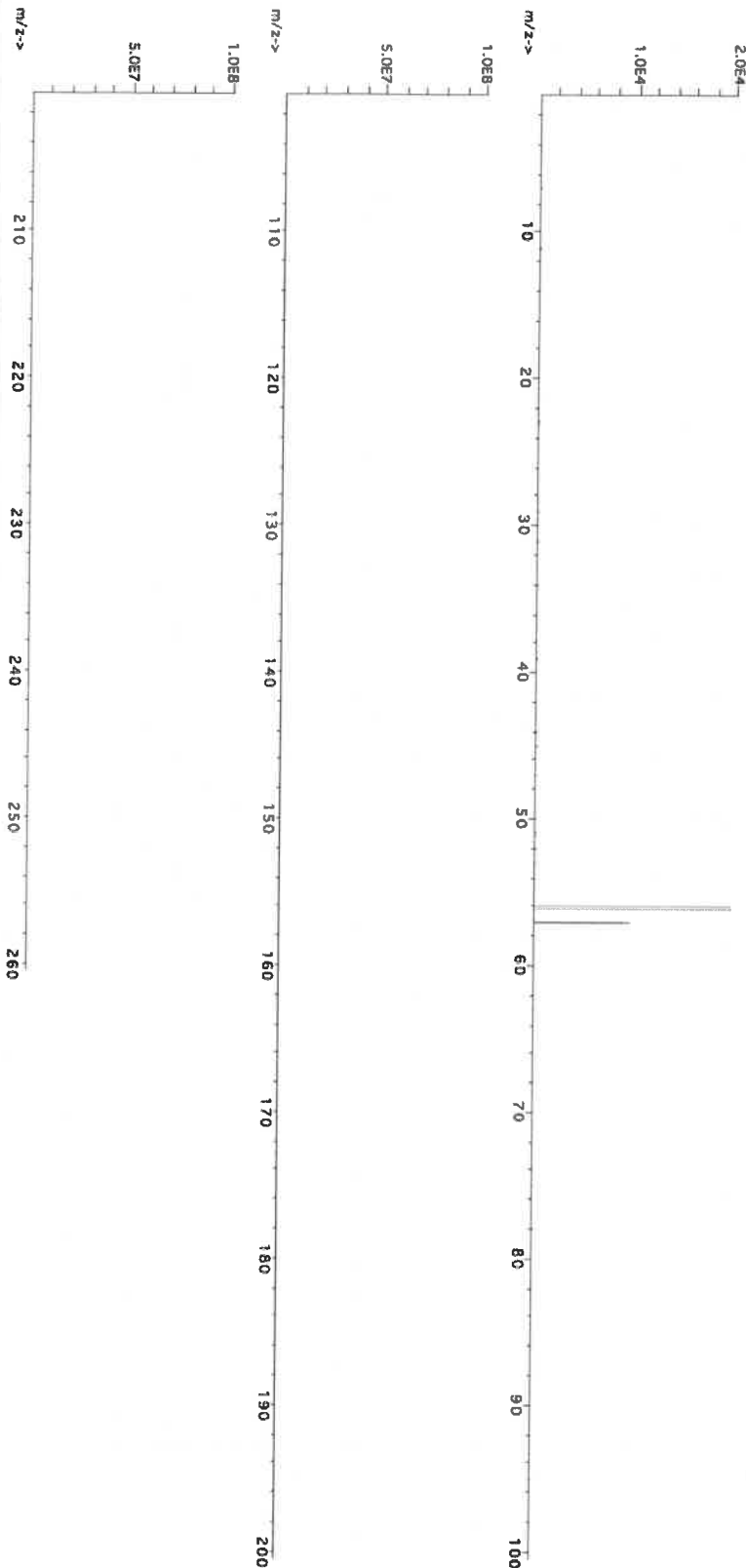
Formulated By:	Benson Chan	011025
Reviewed By:	Pedro L. Renteria	011025

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)	LDSO	NIST SRM
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1. Iron(III) nitrate nonahydrate (Fe) IN028 FED082023A1 10000 99.999 0.10 13.0 153.8534 ##### 10000.2 20.0 7782-61-8 1 mg/m³ or-rel 3250mg/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 ($\mu\text{g/mL}$)

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	Ru	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	T	Hg	<0.2	P	<0.02	Sb	<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:

Har P. D.

- * 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:
Lot Number:
Description:

57119
103024
Potassium (K)

R-21113125

Solvent: 24002546 Nitric Acid
Lot #

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Rentes
	103024

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

103027
Ambient (20 °C)
10000

M6141
M6142
M6143

2%
80.0 (mL)
Nitric Acid

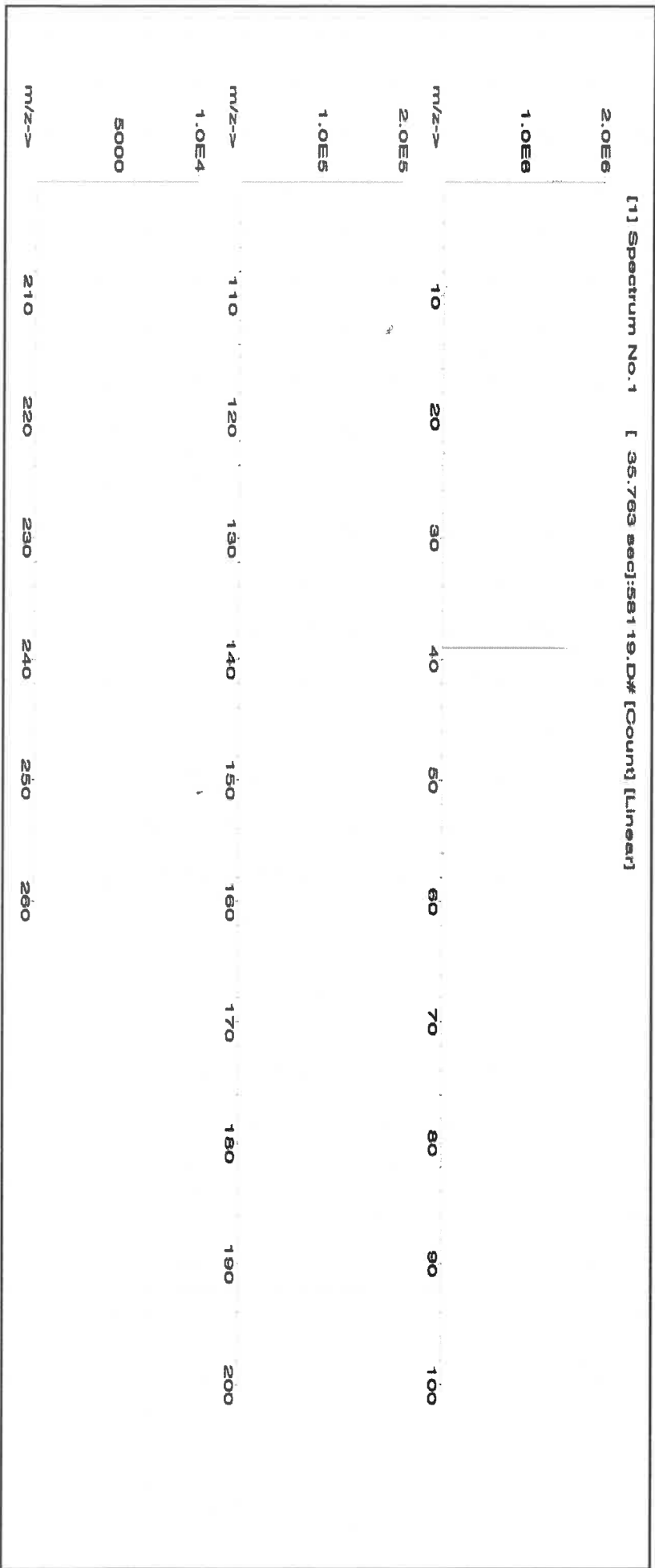
Weight shown below was diluted to (mL):

4000.1
0.15
Flask Uncertainty

Compound	Lot		Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty		CAS#	SDS Information		NIST SRM
	Number									+/- (µg/mL)	(µg/mL)		(Solvent Safety Info. On Attached pg.)	LD50	

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:

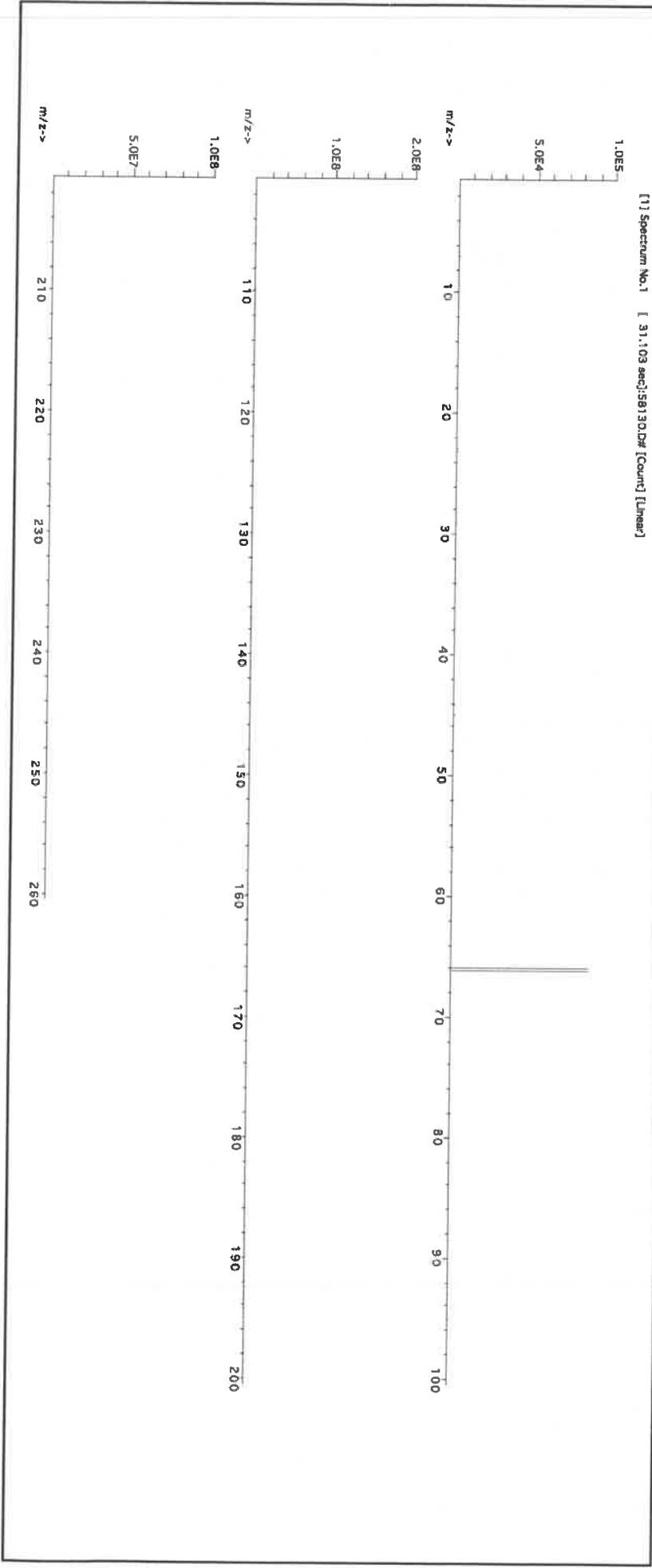
Part Number: 58030
Lot Number: 121724
Description: Zinc (Zn)
Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.1
Balance Uncertainty: 5E-05
Flask Uncertainty: 0.10

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

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

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

1. Zinc nitrate hexahydrate (Zn) IN016 ZNE0302021A1 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





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).

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

 **avantorsm**



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**™

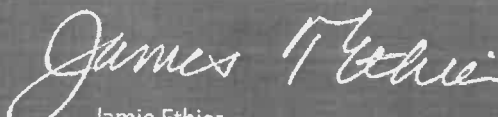


Material No.: 9530-33
Batch No.: 22G2862015

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

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 Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

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





M6156

Certified Reference Material CRM

R → 6/12/24



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

CERTIFIED WEIGHT REPORT:

Part Number:

Lot Number:

Description:

Lot #

Solvent:

57042
032123
Molybdenum (Mo)

0.5%

15.0 (mL)
Ammonium hydroxide

Expiration Date:

Recommended Storage:

Nominal Concentration (µg/mL):

NIST Test Number:

Volume shown below was diluted to (mL):

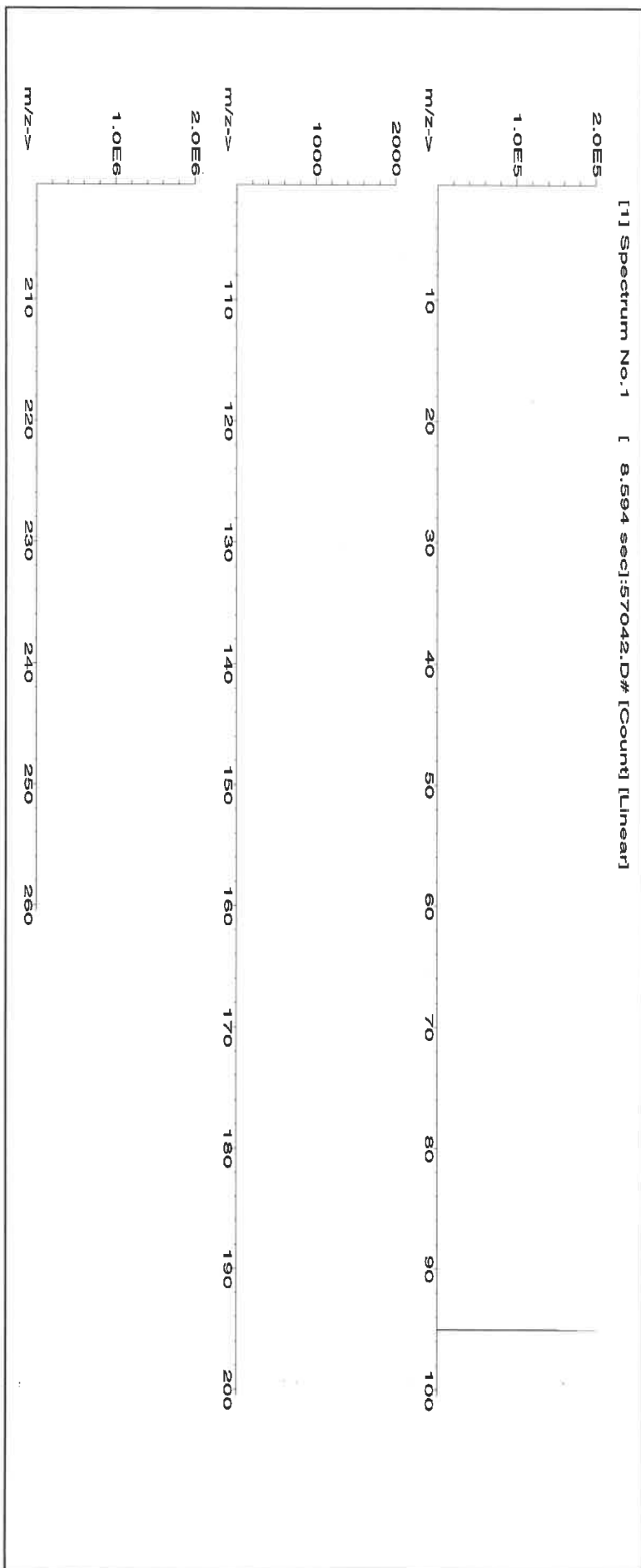
0.058 Balance Uncertainty
Flask Uncertainty

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
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1. Ammonium molybdate (Mo) 58142 112322 0.1000 300.0 0.084 1000 10001.4 1000.0 2.1 13106-76-8 5 mg(Mo)/m3 or-hal 333 mg/kg 3134

[1] Spectrum No.1 [8.594 sec]:57042.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 Spectroscopy (ICP-MS):****Trace Metals Verification by ICP-MS (µg/mL)**

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

Nitric Acid 69%
CMOS



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 >>>

Nitric Acid 69%
CMOS

 **avantorsTM**



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

Test	Specification	Result
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For Microelectronic Use

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



Jamie Croak
Director Quality Operations, Bioscience Division

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:	QCP-CICV-1		
Lot Number:	V2-MEB744107		
Matrix:	7% (v/v) HNO ₃		
Value / Analyte(s):	2 500 µg/mL ea:		
	Calcium,	Potassium,	
	Magnesium,	Sodium,	
	1 000 µg/mL ea:		
	Aluminum,	Barium,	
	500 µg/mL ea:		
	Iron,		
	250 µg/mL ea:		
	Nickel,	Vanadium,	
	Zinc,	Cobalt,	
	Manganese,		
	125 µg/mL ea:		
	Silver,	Copper,	
	100 µg/mL ea:		
	Chromium,		
	25 µg/mL ea:		
	Beryllium		

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 000 ± 4 µg/mL	Barium, Ba	1 000 ± 6 µg/mL
Beryllium, Be	24.98 ± 0.12 µg/mL	Calcium, Ca	2 500 ± 8 µg/mL
Chromium, Cr	99.9 ± 0.6 µg/mL	Cobalt, Co	250.2 ± 1.2 µg/mL
Copper, Cu	125.0 ± 0.5 µg/mL	Iron, Fe	500.0 ± 2.2 µg/mL
Magnesium, Mg	2 500 ± 11 µg/mL	Manganese, Mn	249.9 ± 1.1 µg/mL
Nickel, Ni	250.0 ± 1.2 µg/mL	Potassium, K	2 500 ± 11 µg/mL
Silver, Ag	125.0 ± 0.6 µg/mL	Sodium, Na	2 500 ± 11 µg/mL
Vanadium, V	250.0 ± 1.1 µg/mL	Zinc, Zn	249.9 ± 1.1 µg/mL

Density: 1.081 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
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	120618
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	200413
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
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

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information (<https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver>)

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 22, 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

- **May 22, 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:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: QCP-CICV-2
Lot Number: U2-MEB733713
Matrix: 3% (w/v) Tartaric acid
1% (v/v) HNO₃
Value / Analyte(s): 500 µg/mL ea:
Antimony

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	500.0 ± 2.8 µg/mL		

Density: 1.017 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Sb	ICP Assay	3102a	140911

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)

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). <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 01, 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 01, 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



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: QCP-CICV-3
 Lot Number: V2-MEB749572
 Matrix: 7% (v/v) HNO₃
 Value / Analyte(s):
 500 µg/mL ea:
 Arsenic, Lead,
 Selenium, Thallium,
 250 µg/mL ea:
 Cadmium

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	500.0 ± 3.1 µg/mL	Cadmium, Cd	250.1 ± 1.1 µg/mL
Lead, Pb	500.0 ± 2.3 µg/mL	Selenium, Se	500.0 ± 3.2 µg/mL
Thallium, Tl	500.0 ± 3.0 µg/mL		

Density: 1.040 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

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

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, 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

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

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

January 02, 2025

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

11.2 Lot Expiration Date

- **January 02, 2030**

- 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:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM



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

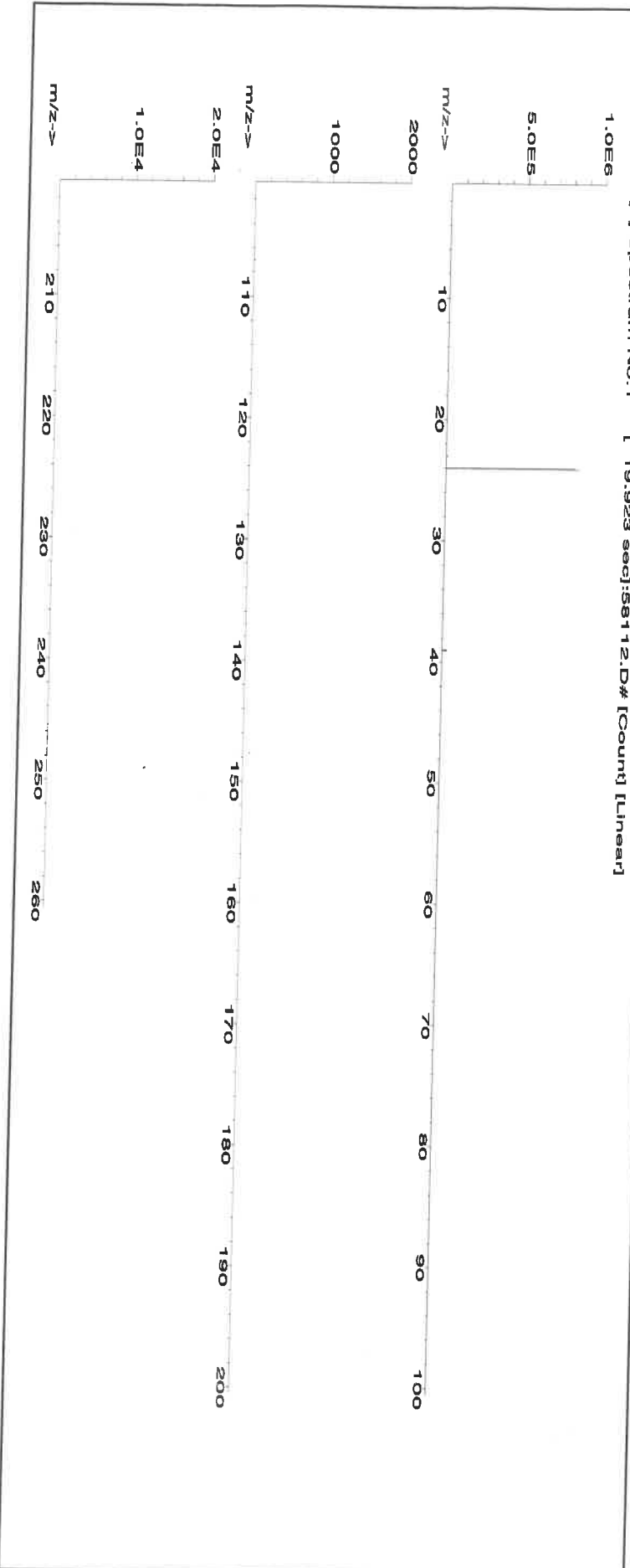
CERTIFIED WEIGHT REPORT:

Part Number: 58112 **Lot #** M 6171
Lot Number: 011525 **Solvent:** 24012496 Nitric Acid
Description: Magnesium (Mg)
Expiration Date: 011528 2% 40.0 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): 2000.07 0.100 Flask Uncertainty

Formulated By:	Benson Chan	011525
Reviewed By:	Pedro L. Rentas	011525

Compound

1. Magnesium nitrate hexahydrate (Mg) IN030 MGD05023A1 10000 99.999 0.10 8.51 234.9183 234.9195 10000.1 20.0 13446-18-9 NA off-ret 5440 mg/kg 3131a





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ku	<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).

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: CGNA10
Lot Number: V2-NA740547
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Sodium
Starting Material: Sodium Carbonate
Starting Material Lot#: 2453 and 2606
Starting Material Purity: 99.9976%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10018 ± 30 µg/mL
Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10026 ± 18 µg/mL Gravimetric NIST SRM Lot Number: See Sec. 4.2
Assay Method #2	9986 ± 66 µg/mL ICP Assay NIST SRM 3152a Lot Number: 200413
Assay Method #3	10002 ± 31 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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 errors 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 < 0.000860	M Eu < 0.000860	s Na < 0.034000	O Se < 0.000387
O Al < 0.003121	O Fe < 0.001622	M Nb < 0.000860	O Si < 0.044943
M As < 0.001800	M Ga < 0.000860	M Nd < 0.000860	M Sm < 0.000860
M Au < 0.005700	M Gd < 0.000860	O Ni < 0.000980	M Sn < 0.000860
O B < 0.025000	M Ge < 0.003500	M Os < 0.029000	M Sr < 0.000436
M Ba < 0.004494	M Hf < 0.000860	O P < 0.005742	M Ta < 0.000086
O Be < 0.000160	M Hg < 0.002900	M Pb < 0.002600	M Tb < 0.000860
M Bi < 0.000860	M Ho < 0.000860	M Pd < 0.004300	M Te < 0.004300
O Ca < 0.112358	M In < 0.000860	M Pr < 0.000860	M Th < 0.003500
O Cd < 0.000730	M Ir < 0.000940	M Pt < 0.000860	O Ti < 0.000399
M Ce < 0.000860	O K < 0.349560	M Rb < 0.000436	M Tl < 0.000860
M Co < 0.000860	M La < 0.000860	M Re < 0.000860	M Tm < 0.000860
O Cr < 0.002000	O Li < 0.000224	M Rh < 0.000860	M U < 0.000860
M Cs < 0.000287	M Lu < 0.000860	M Ru < 0.000940	O V < 0.001500
O Cu < 0.004100	M Mg < 0.097377	O S < 0.018726	M W < 0.007700
M Dy < 0.000860	M Mn < 0.007700	M Sb < 0.000860	M Y < 0.000860
M Er < 0.000860	O Mo < 0.002800	O Sc < 0.000610	M Yb < 0.000860

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 - 22.99 +1 (6) Na+(aq) largely ionic in nature

Chemical Compatibility -Soluble in HCl, HNO₃, H₂SO₄ and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO₃ / LDPE container.

Na Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Lithium carbonate fusion in graphite crucible followed by HCl dissolution - blank levels of Na in lithium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric/sulfuric/perchloric acid decomposition).

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 23 amu	310 ppt	n/a	46Ti+2, 46Ca+2
ICP-OES 330.237 nm	2.0 / 0.09 µg/mL	1	Pd, Zn
ICP-OES 588.995 nm	0.03 / 0.006 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 589.595 nm	0.07 / 0.00009 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 23, 2024

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

11.2 Lot Expiration Date

- February 23, 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



R → 1127/25

M6175

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: V2-MEB742014
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	20.02 ± 0.08 µg/mL	Antimony, Sb	20.03 ± 0.11 µg/mL
Arsenic, As	20.03 ± 0.16 µg/mL	Barium, Ba	20.02 ± 0.11 µg/mL
Beryllium, Be	20.02 ± 0.15 µg/mL	Cadmium, Cd	20.02 ± 0.11 µg/mL
Calcium, Ca	20.03 ± 0.09 µg/mL	Chromium, Cr	20.03 ± 0.13 µg/mL
Cobalt, Co	20.03 ± 0.12 µg/mL	Copper, Cu	20.03 ± 0.10 µg/mL
Iron, Fe	20.04 ± 0.09 µg/mL	Lead, Pb	20.03 ± 0.11 µg/mL
Magnesium, Mg	20.03 ± 0.10 µg/mL	Manganese, Mn	20.03 ± 0.11 µg/mL
Nickel, Ni	20.03 ± 0.11 µg/mL	Potassium, K	20.03 ± 0.10 µg/mL
Selenium, Se	20.03 ± 0.13 µg/mL	Silver, Ag	20.03 ± 0.09 µg/mL
Sodium, Na	20.03 ± 0.10 µg/mL	Thallium, Tl	20.03 ± 0.10 µg/mL
Vanadium, V	20.03 ± 0.11 µg/mL	Zinc, Zn	20.03 ± 0.11 µg/mL

Density: 1.027 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
As	Calculated		See Sec. 4.2
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
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
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215
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:

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

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

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

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

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

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

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.

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information (<https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver>)

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 11, 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

- **March 11, 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:

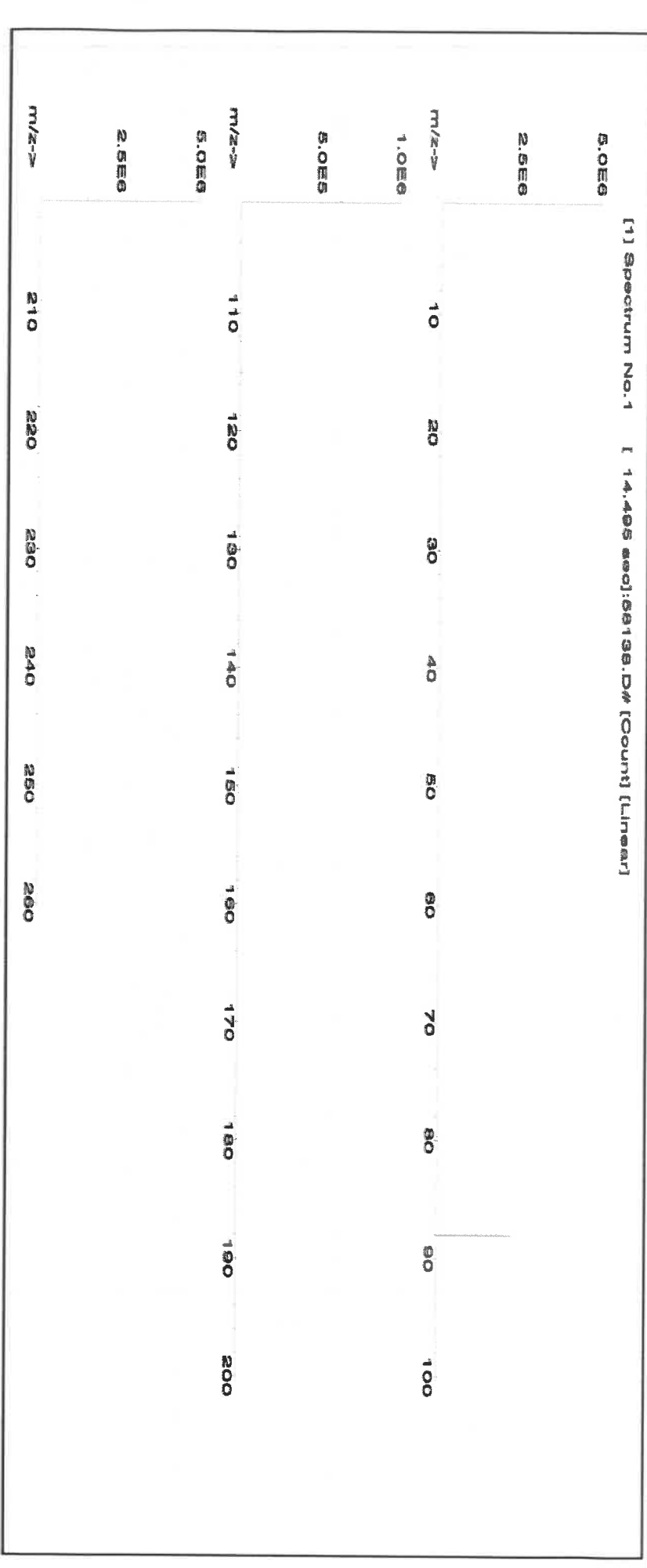
Part Number: 57038 **Lot #** 24002546 **Solvent:** Nitric Acid
Lot Number: 092724
Description: Strontium (Sr)
Expiration Date: 092727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 8UTB
Weight shown below was diluted to (mL): 2000.07
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

R-5816125
M 6/7/26

<i>[Signature]</i>	
Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
	092724

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	Uncertainty
									+/- (µg/mL)

1. Strontium nitrate (Sr) IN017 SR2022018A1 1000 99.997 0.10 41.2 4.85470 4.85481 1000.0 2.0 10042-76-9 NA or-rel >2000mg/kg 3153a





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	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	T	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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:
Lot Number:
Description:

57082
031525
Lead (Pb)

Lot #

Nitric Acid

Expiration Date:

031528

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

2000.07

5E-05 Balance Uncertainty
0.10 Flask Uncertainty

2%

40.0 (mL)

Nitric Acid

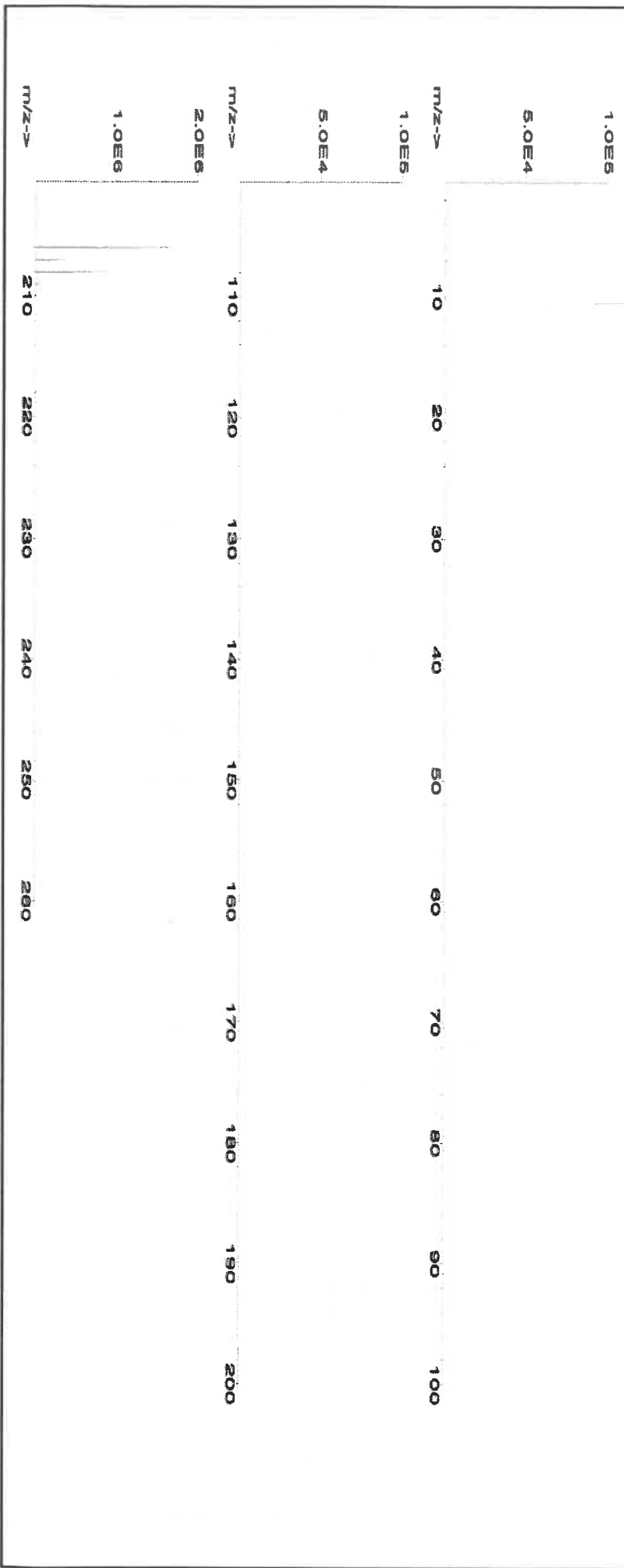
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
	031525
<i>Pedro L. Renteria</i>	
Reviewed By:	Pedro L. Renteria
	031525

SDS Information

Compound	Lot	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. **Lead(II) nitrate (Pb)** IN029 PBD122016A1 1000 99.999 0.10 62.5 3.20015 3.20067 1000.2 2.0 10099-74-8 0.05 mg/m3 Intrins-ral 93 mg/kg 3128

[1] Spectrum No. 1 [14.144 sec]:58082.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	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	Tc	<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	Ta	<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	Se	<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).



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-MS ICS*

**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.

M6185
ICSA

Nitric Acid 69%
CMOS



M6187

R.D :- 08/08/25

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
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	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	0.1 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	0.1 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	< 1 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 1 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 1.0 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	< 1.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS



Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 1 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	1 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 1.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 1.0 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	13 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	5 par/ml

>>> Continued on page 3 >>>



Certified Reference Material CRM

M6027



CERTIFIED WEIGHT REPORT:

Part Number: **57028**
Lot Number: **062024**
Description: **Nickel (NI)**

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

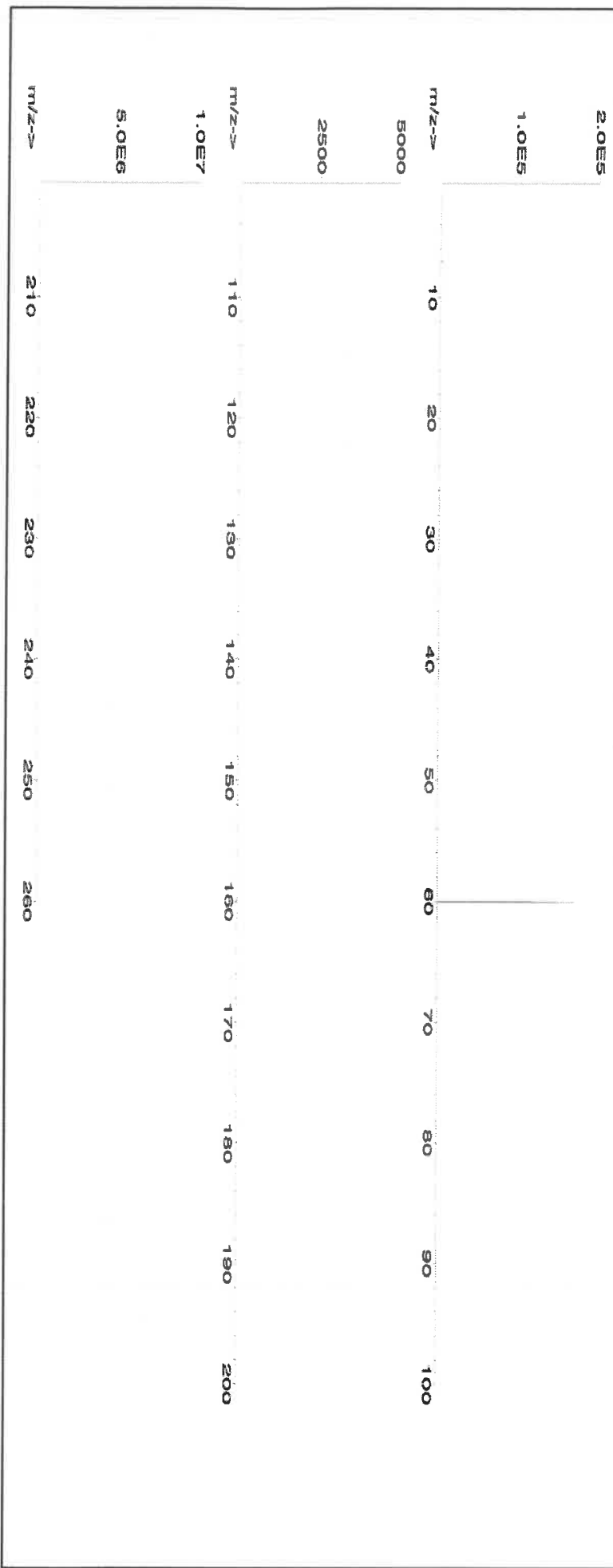
Formulated By:	Benson Chan
062024	
Reviewed By:	Pedro L. Rentes
062024	

Expiration Date: **062027**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Volume shown below was diluted to (mL): **2000.07**
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pippet (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. Nickel(II) nitrate hexahydrate (NI) 58128 062023 0.1000 200.0 0.084 1000 10000.4 1000.0 2.2 13478-00-7 1 mg/m3 orl-rat 1620 mg/kg 3136

[T] Spectrum No.1 [9.136 sec]:58028.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	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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





Certified Reference Material CRM

M6030



CERTIFIED WEIGHT REPORT:

Part Number: **57047**
Lot Number: **122823**
Description: **Silver (Ag)**

Solvent: **24002546 Nitric Acid**

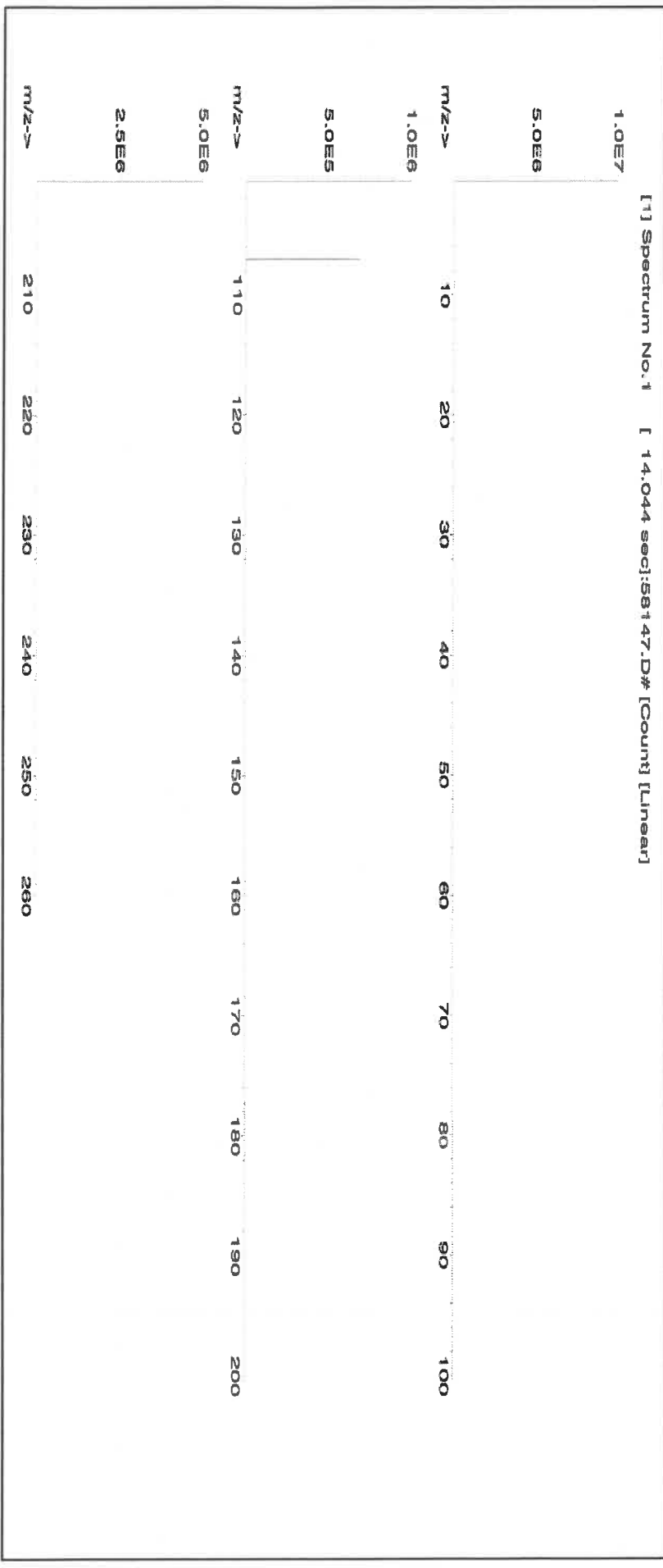
Lot #

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

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

SDS Information									
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)
1. Silver nitrate (Ag)	IN035	J0612AGAI	1000.0	99.999	0.10	63.7	6.27992	6.27998	1000.0

Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
2.0	7761-88-8	10 µg/m3	NA	3151





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	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 meghm 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 CRMANAB 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

5E-05 Balance Uncertainty

0.058 Flask Uncertainty

Formulated By:

Giovanni Esposito

071724

Reviewed By:

Pedro L. Rentas

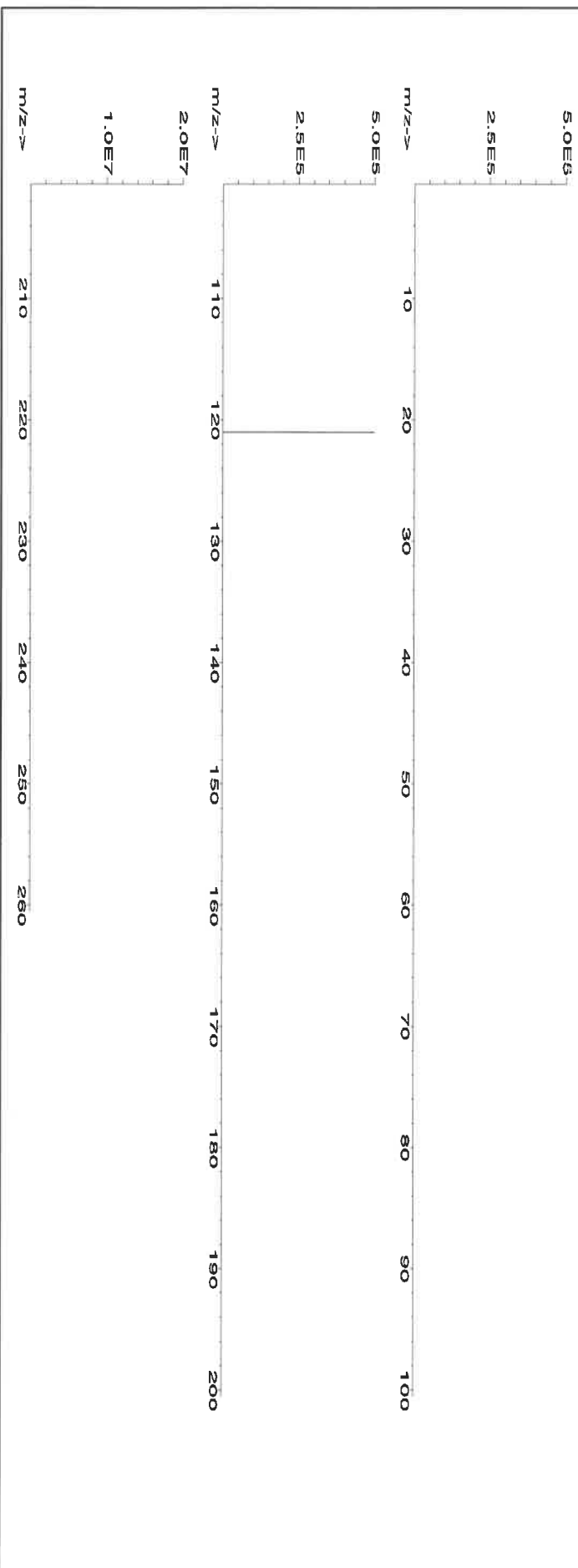
071724

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
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

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	or-rat 7000 mg/kg	3102a
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[1] Spectrum No.1 [17.964 sec]:58051.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
Sb	T	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<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
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<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
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02
														Tb	<0.02
														Te	<0.02
														Tl	<0.02
														Th	<0.02
														Tm	<0.02
														Sn	<0.02
														Ti	<0.02
														W	<0.02
														U	<0.02
														V	<0.02
														Yb	<0.02
														Y	<0.02
														Zn	<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)

Lot #

Solvent: 24002546 Nitric Acid

Aleah O'Brady
Formulated By: Aleah O'Brady 062724

Expiration Date:

062727

2%

40.0

Nitric Acid

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

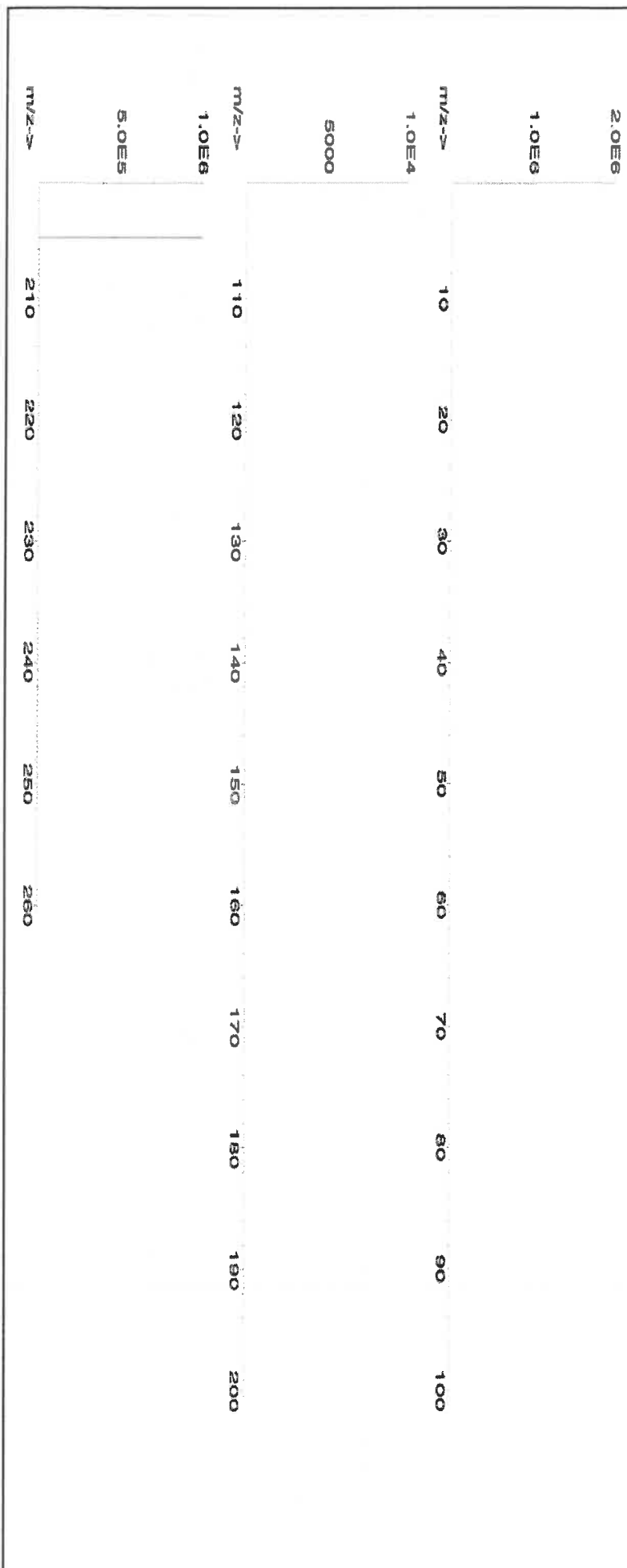
Pedro L. Renteria
Reviewed By: Pedro L. Renterias 062724

SDS Information

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

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 WEIGHT REPORT:

Part Number: 57022
Lot Number: 050223
Description: Titanium (Ti)

Lot # 21110221
Solvent: Nitric Acid

Expiration Date: 050226

2.0%

40.0 (mL) Nitric Acid

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

Formulated By:	Lawrence Barry	050223
Reviewed By:	Pedro L. Rentes	050223

NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.02

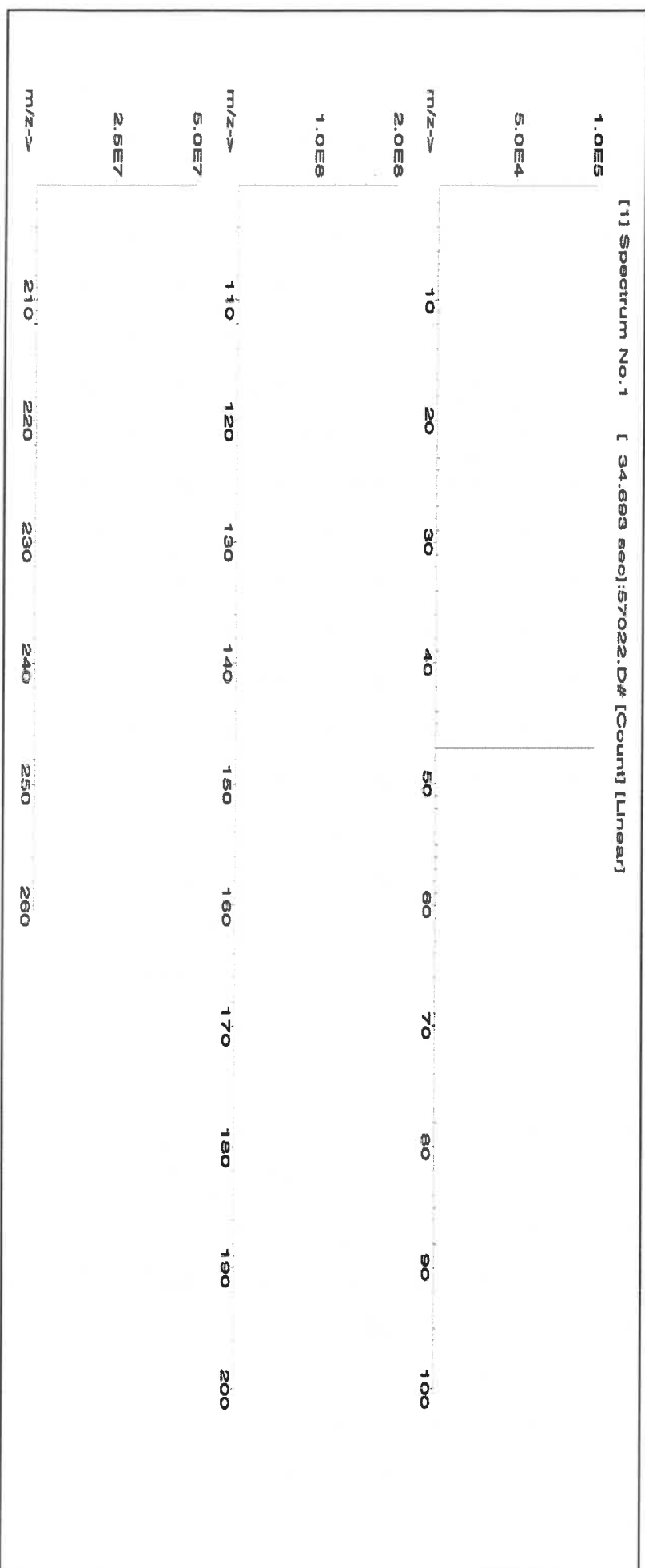
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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. Ammonium hexafluoroantimonate (Ti)	58122	071122	0.1000	200.0	0.084	1000	10000.1	1000.0	2.2	16962-40-6	2.5 (F) mg/m3	NA	3162a
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[1] Spectrum No.1 [34.683 sec]:57022.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	<0.01	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	Tn	<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).

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: CGU1
Lot Number: U2-U735194
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 1 000 µg/mL ea:
Uranium
Starting Material: Uranyl Nitrate Hexahydrate
Starting Material Lot#: 2504
Starting Material Purity: 99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL
Density: 1.010 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	1001 ± 4 µg/mL ICP Assay NIST SRM traceable to 3164 Lot Number: R2-U689597
Assay Method #2	1000 ± 5 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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 <	0.001400	M Eu <	0.000270	M Na	0.001811	M Se <	0.004800	M Zn	0.002126
M Al	0.000322	M Fe	0.007481	M Nb <	0.000790	i Si <		M Zr <	0.000270
M As <	0.007300	M Ga <	0.000270	M Nd <	0.000270	M Sm <	0.000270		
M Au <	0.001400	M Gd <	0.000270	M Ni	0.000905	M Sn <	0.120000		
M B <	0.017000	M Ge <	0.000800	M Os <	0.000270	M Sr <	0.000270		
M Ba <	0.003100	M Hf <	0.000270	i P <		M Ta <	0.000270		
M Be <	0.003200	M Hg <	0.000270	M Pb	0.000511	M Tb <	0.000270		
M Bi <	0.003000	M Ho <	0.000270	M Pd <	0.000270	M Te <	0.001100		
M Ca <	0.048000	M In <	0.001400	M Pr <	0.000270	M Th	0.000200		
M Cd <	0.000270	M Ir <	0.000270	M Pt <	0.000270	M Ti <	0.000530		
M Ce <	0.000270	O K <	0.047000	M Rb <	0.000660	M Tl <	0.000270		
M Co <	0.000270	M La	0.000322	M Re <	0.000270	M Tm <	0.000270		
M Cr	0.001732	M Li <	0.001100	M Rh <	0.000270	s U <			
M Cs <	0.003500	M Lu <	0.000270	M Ru <	0.000270	M V <	0.003500		
M Cu <	0.005600	M Mg	0.000240	i S <		M W <	0.000270		
M Dy <	0.000270	M Mn <	0.006500	M Sb <	0.000270	M Y <	0.000270		
M Er <	0.000270	M Mo	0.000433	M Sc <	0.000800	M Yb <	0.000270		

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT
Atomic Weight; Valence; Coordination Number; Chemical Form In Solution - 238.03 +6 8 UO₂²⁺(uranyl)
Chemical Compatibility - Soluble in HCl and HNO₃. Avoid H₃PO₄. H₂SO₄ and HF matrices should not be a problem depending upon [U]. Although the UO₂²⁺ ion is distinctly basic, any U+4 will precipitate in basic media. UO₂²⁺/salts are generally soluble in water and UO₂²⁺ is stable with most metals and inorganic anions. The uranyl phosphate is insoluble in water. UF₄ and UF₆ are water soluble.
Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.
U Containing Samples (Preparation and Solution) -Metal (Dissolves rapidly in HCl and HNO₃); Oxide (Soluble in HNO₃); Ores (Digest for 1-2 hours with 1 gram of ore to 30 mL 1:1 HNO₃. Silica insolubles are removed by filtration after bringing the sample to fumes with conc. H₂SO₄.)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 238 amu	2 ppt	N/A	206Pb16O2
ICP-OES 263.553 nm	0.3 / 0.01 µg/mL	1	Ce, Ir, Th, Rh, W, Zr, Ta, Ti, V, Hf, Fe, Re, Ru
ICP-OES 367.007 nm	0.3 / 0.02 µg/mL	1	Th, Ce
ICP-OES 385.958 nm	0.3 / 0.01 µg/mL	1	Th, Fe

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 03, 2023

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

11.2 Lot Expiration Date

- August 03, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

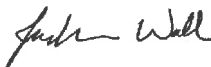
Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM

M6021



CERTIFIED WEIGHT REPORT:

Part Number: **57023**
Lot Number: **062424**
Description: **Vanadium (V)**

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

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

062424

062424

062424

062424

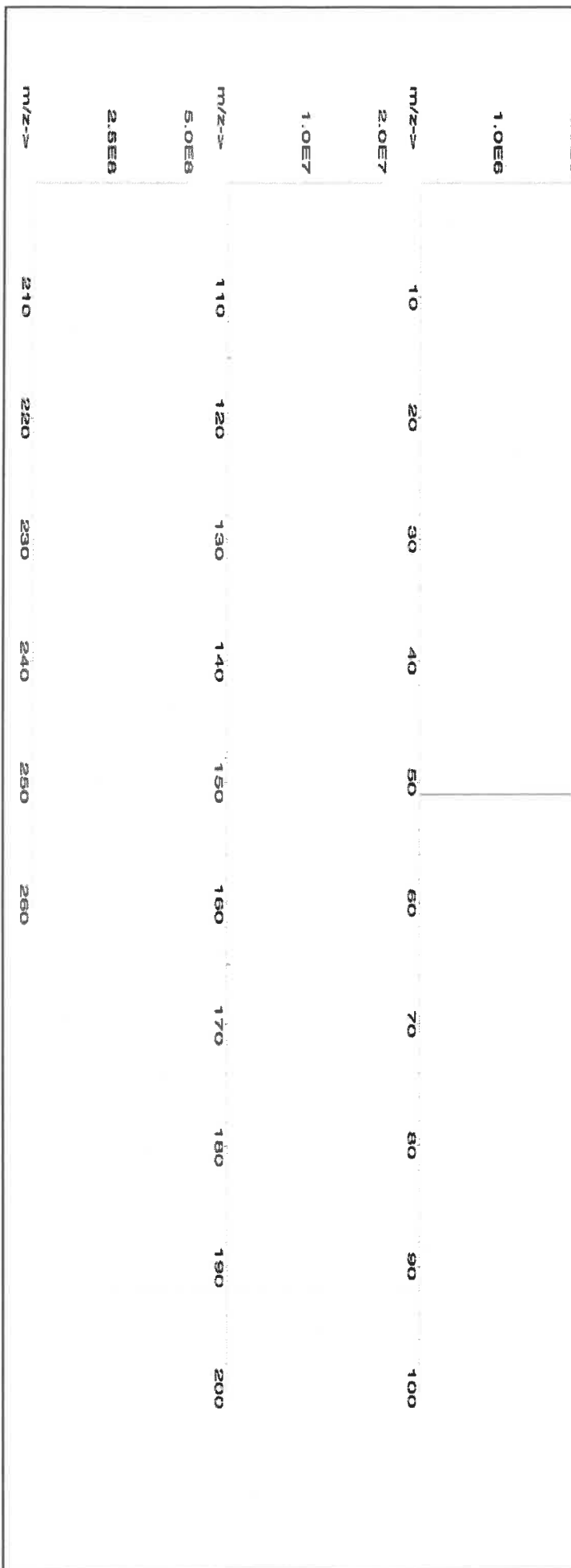
062424

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	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-at 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	<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	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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Packing List

6390 Joyce Dr., #100
Golden, CO 80403

Tel: +1-303-940-0033
Fax: +1-303-940-0043
info@phenova.com
www.phenova.com

For terms and conditions of your order, please visit:
www.phenova.com/home/termsandsale

Date	Order #
09/02/2025	333290



Ship To

Alliance Tech Group - Newark
ATTN: Sohil Jodhani
284 Sheffield St., #1
Mountainside, NJ 07092
USA

Received by: *ST* 9/4/2025
9:25

Customer PO #	Terms	PT Acct #	Customer #	Ship Via	F.O.B.
PO2-3159	Net 30	ZCM-100	1500470	FedEx 2nd Day	Golden, CO

Qty Ordered	Qty Shipped	Qty Backorder	Part Number	Part Description	Study Number	Lot Number
			PT-TMSET-WP	WP Trace Metals Set : (TM1, HG and SNTI)		
1	1	0	PT-TM1-WP	WP Trace Metals 1	WP0925	8270-04
1	1	0	PT-HG-WP	WP Mercury	WP0925	8270-05
1	1	0	PT-SNTI-WP	WP Tin & Titanium	WP0925	8270-38
1	1	0	PT-CR6-WP	WP Hexavalent Chromium	WP0925	8270-06
1	1	0	PT-DEM-WP	WP Demand	WP0925	8270-07
			PT-MINSET-WP	WP Minerals Set : (MIN1, MIN2 and COND)		
1	1	0	PT-MIN1-WP	WP Minerals 1 Only	WP0925	8270-08
1	1	0	PT-MIN2-WP	WP Minerals 2 Only	WP0925	8270-102
1	1	0	PT-COND-WP	WP Conductivity Only	WP0925	8270-72
1	1	0	PT-COND-WP	WP Conductivity Only	WP0925	8270-72
1	1	0	PT-SOL-WP	WP Solids	WP0925	8270-09
			PT-NUTSET-WP	WP Nutrients Set : (NUT1, NUT2 and NUT3)		
1	1	0	PT-NUT1-WP	WP NUT1 Simple Nutrients Only	WP0925	8270-10
1	1	0	PT-NUT2-WP	WP NUT2 - Complex Nutrients	WP0925	8270-11
1	1	0	PT-NUT3-WP	WP NUT3 - Nitrite Only	WP0925	8270-69
1	1	0	PT-OGR1L-WP	WP Oil and Grease 1L	WP0925	8270-103
1	1	0	PT-CL-WP	WP Residual Chlorine	WP0925	8270-13
1	1	0	PT-PH-WP	WP pH	WP0925	8270-15
1	1	0	PT-CN-WP	WP Cyanide	WP0925	8270-14

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www.phenova.com/home/termsofsale

Date	Order #
09/02/2025	333290



Ship To

Alliance Tech Group - Newark
ATTN: Sohil Jodhani
284 Sheffield St., #1
Mountainside, NJ 07092
USA

Received by: SJ
9/4/2025
9:25

Customer PO #	Terms	PT Acct #	Customer #	Ship Via	F.O.B.
PO2-3159	Net 30	ZCM-100	1500470	FedEx 2nd Day	Golden, CO

Qty Ordered	Qty Shipped	Qty Backorder	Part Number	Part Description	Study Number	Lot Number
1	1	0	PT-PHEN-WP	WP Phenolics	WP0925	8270-16
1	1	0	PT-S2-WP	WP Sulfide	WP0925	8270-22
1	1	0	PT-SSOL-WP	WP Settleable Solids	WP0925	8270-17
1	1	0	PT-VSOL-WP	WP Volatile Solids	WP0925	8270-18
1	1	0	PT-TURB-WP	WP Turbidity	WP0925	8270-20
1	1	0	PT-SIO2-WP	WP Silica	WP0925	8270-21
1	1	0	PT-COL-WP	WP Color	WP0925	8270-51
1	1	0	PT-VOA-WP	WP Volatiles	WP0925	8270-26
1	1	0	PT-BN-WP	WP Base Neutrals	WP0925	8270-27
1	1	0	PT-ACIDS-WP	WP Acids	WP0925	8270-28
1	1	0	PT-PEST-WP	WP Pesticides	WP0925	8270-29
1	1	0	PT-CHLR-WP	WP Chlordane	WP0925	8270-30
1	1	0	PT-TXP-WP	WP Toxaphene	WP0925	8270-31
1	1	0	PT-PCBW-WP	WP PCBs in Water	WP0925	8270-32
1	1	0	PT-HERB-WP	WP Herbicides	WP0925	8270-36
1	1	0	RR-TPH1L-WP	WP TPH 1L	R41815	R41815-104
1	1	0	RR-PAH-WP	WP PAH-Low Level	R41815	R41815-37
1	1	0	RR-GAS-WP	WP Gasoline Range Organics	R41815	R41815-62
1	1	0	RR-DIES-WP	WP Diesel Range Organics	R41815	R41815-63
1	1	0	RR-8011-WP	WP EDB/DBCP/TCP	R41815	R41815-98

Laboratory Certification

Certified By	License No.
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255425
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	TX-C25-00189
Virginia	460312