

DATA PACKAGE METALS

PROJECT NAME : NJ SOIL PT

ALLIANCE TECHNICAL GROUP, LLC - NEWARK

284 Sheffiled Stree

Suite 1

Mountainside, NJ - 07092

Phone No: 908-789-8900

ORDER ID : Q3483

ATTENTION : Mohammad Ahmed



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q3483

Project ID : NJ Soil PT

Client : Alliance Technical Group, LLC - Newark

Lab Sample Number

Q3483-01
Q3483-02
Q3483-03
Q3483-04
Q3483-05
Q3483-06
Q3483-07
Q3483-08
Q3483-09
Q3483-10
Q3483-11
Q3483-12
Q3483-13
Q3483-14
Q3483-15
Q3483-16
Q3483-17
Q3483-18
Q3483-19
Q3483-20
Q3483-21
Q3483-22
Q3483-23
Q3483-24
Q3483-25

Client Sample Number

HW1025-PT-AN-SOIL
HW1025-PT-CORR-SOIL
HW1025-PT-CN-SOIL
HW1025-PT-CN-SOIL
HW1025-PT-FP-SOIL
HW1025-PT-CR6-SOIL
HW1025-PT-NUT-SOIL
HW1025-PT-NUT-SOIL
HW1025-PT-OGR-SOIL
HW1025-PT-MET-SOIL
HW1025-PT-BNA-SOIL
HW1025-PT-TRIAZINE-SOIL
HW1025-PT-PAH-SOIL
HW1025-PT-DIES-SOIL
HW1025-PT-GAS-SOIL
HW1025-PT-NJEPH-SOIL
HW1025-PT-HERB-SOIL
HW1025-PT-PCB-SOIL
HW1025-PT-PCBO-SOIL
HW1025-PT-PEST-SOIL
HW1025-PT-CHLOR-SOIL
HW1025-PT-TXP-SOIL
HW1025-PT-VOA-SOIL
HW1025-PT-SOL-SOIL
HW1025-PT-NO2-SOIL

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: 12/16/2025

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 Soil PT

Project # N/A

Order ID # Q3483

Test Name: Metals Group3

A. Number of Samples and Date of Receipt:

25 Solid samples were received on 10/29/2025.

B. Parameters:

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

C. Analytical Techniques:

The analysis of Metals Group3 was based on method 6020B and digestion based on method 3050 (soils).

D. QA/ QC Samples:

The Holding Times were met for all analysis.

Sample HW1025-PT-MET-SOIL was diluted due to high concentrations for Arsenic, Cadmium, Chromium, Cobalt, Selenium, Silver, Thallium, Tin, and 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.

Internal standard 6Li was out Side qc limit for samples Q3483-10 in Original so for this sample affected parameter (Beryllium) is reported from 5X Dilution.

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: Q3483

MATRIX: Solid

METHOD: 6020B

	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.			

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.

Internal standard 6Li was out Side qc limit for samples Q3483-10 in Original so for this sample affected parameter (Beryllium) is reported from 5X Dilution.

QA REVIEW_____
Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q3483

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: 12/16/2025

LAB CHRONICLE

OrderID:	Q3483	OrderDate:	10/29/2025 2:32:00 PM
Client:	Alliance Technical Group, LLC - Newark	Project:	NJ Soil PT
Contact:	Mohammad Ahmed	Location:	QA Office,VOA Lab

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3483-10	HW1025-PT-MET-SOIL	SOIL			10/27/25			10/29/25
	L		Mercury	7471B		11/05/25	11/05/25	
			Metals Group3	6020B		10/30/25	11/05/25	
			Metals ICP-Group1	6010D		10/30/25	12/10/25	

Hit Summary Sheet SW-846

SDG No.: Q3483

Order ID: Q3483

Client: Alliance Technical Group, LLC - Newark

Project ID: NJ Soil PT

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : HW1025-PT-MET-SOIL								
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Aluminum	7170		0.28	1.53	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Antimony	37.7		0.034	0.15	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Arsenic	125	D	0.046	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Barium	376		0.025	0.76	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Beryllium	67.7	D	0.12	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Cadmium	139	D	0.069	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Calcium	11200		3.66	38.2	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Chromium	160	D	0.099	0.76	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Cobalt	295	D	0.034	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Copper	222		0.050	0.15	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Iron	11400		0.70	3.82	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Lead	143		0.024	0.076	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Magnesium	7880		1.47	38.2	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Manganese	175		0.026	0.076	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Nickel	65.7		0.033	0.076	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Potassium	9620		2.93	38.2	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Molybdenum	91.9		0.060	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Tin	143	D	0.12	1.91	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Selenium	278	D	1.07	1.91	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Silver	81.4	D	0.099	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Sodium	11500		5.36	38.2	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Thallium	128	D	0.053	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Vanadium	110	D	0.042	1.91	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Zinc	149		0.069	0.38	mg/Kg
Q3483-10	HW1025-PT-MET-SOIL	SOIL	Strontium	64.2		0.040	0.076	mg/Kg



SAMPLE DATA

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Report of Analysis

Client: Alliance Technical Group, LLC - Newark
Project: NJ Soil PT
Client Sample ID: HW1025-PT-MET-SOIL
Lab Sample ID: Q3483-10
Level (low/med): low

Date Collected: 10/27/25
Date Received: 10/29/25
SDG No.: Q3483
Matrix: SOIL
% Solid: 100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	7170		1	0.28	1.53	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-36-0	Antimony	37.7		1	0.034	0.15	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-38-2	Arsenic	125	D	5	0.046	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-39-3	Barium	376		1	0.025	0.76	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-41-7	Beryllium	67.7	D	5	0.12	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-43-9	Cadmium	139	D	5	0.069	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-70-2	Calcium	11200		1	3.66	38.2	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-47-3	Chromium	160	D	5	0.099	0.76	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-48-4	Cobalt	295	D	5	0.034	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-50-8	Copper	222		1	0.050	0.15	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7439-89-6	Iron	11400		1	0.70	3.82	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7439-92-1	Lead	143		1	0.024	0.076	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7439-95-4	Magnesium	7880		1	1.47	38.2	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7439-96-5	Manganese	175		1	0.026	0.076	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7439-98-7	Molybdenum	91.9		1	0.060	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-02-0	Nickel	65.7		1	0.033	0.076	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-09-7	Potassium	9620		1	2.93	38.2	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7782-49-2	Selenium	278	D	5	1.07	1.91	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-22-4	Silver	81.4	D	5	0.099	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-23-5	Sodium	11500		1	5.36	38.2	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-24-6	Strontium	64.2		1	0.040	0.076	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050
7440-28-0	Thallium	128	D	5	0.053	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-31-5	Tin	143	D	5	0.12	1.91	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-62-2	Vanadium	110	D	5	0.042	1.91	mg/Kg	10/30/25 10:30	11/05/25 14:12	6020B	SW3050
7440-66-6	Zinc	149		1	0.069	0.38	mg/Kg	10/30/25 10:30	11/05/25 14:06	6020B	SW3050

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
Contract: ALLI03
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

SDG No.: Q3483
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	1500	1600	94	90 - 110	P	11/05/2025	13:19	LB138073
	Antimony	434	400	109	90 - 110	P	11/05/2025	13:19	LB138073
	Arsenic	421	400	105	90 - 110	P	11/05/2025	13:19	LB138073
	Barium	1620	1600	101	90 - 110	P	11/05/2025	13:19	LB138073
	Beryllium	42.4	40.0	106	90 - 110	P	11/05/2025	13:19	LB138073
	Cadmium	216	200	108	90 - 110	P	11/05/2025	13:19	LB138073
	Calcium	4220	4000	106	90 - 110	P	11/05/2025	13:19	LB138073
	Chromium	159	160	99	90 - 110	P	11/05/2025	13:19	LB138073
	Cobalt	400	400	100	90 - 110	P	11/05/2025	13:19	LB138073
	Copper	182	200	91	90 - 110	P	11/05/2025	13:19	LB138073
	Iron	855	800	107	90 - 110	P	11/05/2025	13:19	LB138073
	Lead	384	400	96	90 - 110	P	11/05/2025	13:19	LB138073
	Magnesium	3800	4000	95	90 - 110	P	11/05/2025	13:19	LB138073
	Manganese	391	400	98	90 - 110	P	11/05/2025	13:19	LB138073
	Molybdenum	4830	5000	97	90 - 110	P	11/05/2025	13:19	LB138073
	Nickel	408	400	102	90 - 110	P	11/05/2025	13:19	LB138073
	Potassium	4100	4000	102	90 - 110	P	11/05/2025	13:19	LB138073
	Selenium	435	400	109	90 - 110	P	11/05/2025	13:19	LB138073
	Silver	186	200	93	90 - 110	P	11/05/2025	13:19	LB138073
	Sodium	3930	4000	98	90 - 110	P	11/05/2025	13:19	LB138073
	Strontium	501	500	100	90 - 110	P	11/05/2025	13:19	LB138073
	Thallium	391	400	98	90 - 110	P	11/05/2025	13:19	LB138073
	Tin	483	500	97	90 - 110	P	11/05/2025	13:19	LB138073
	Vanadium	394	400	98	90 - 110	P	11/05/2025	13:19	LB138073
	Zinc	386	400	97	90 - 110	P	11/05/2025	13:19	LB138073

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

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	19.5	20.0	98	80 - 120	P	11/05/2025	13:25	LB138073
	Antimony	2.04	2.0	102	80 - 120	P	11/05/2025	13:25	LB138073
	Arsenic	1.08	1.0	108	80 - 120	P	11/05/2025	13:25	LB138073
	Barium	9.48	10.0	95	80 - 120	P	11/05/2025	13:25	LB138073
	Beryllium	1.07	1.0	107	80 - 120	P	11/05/2025	13:25	LB138073
	Cadmium	0.86	1.0	86	80 - 120	P	11/05/2025	13:25	LB138073
	Calcium	484	500	97	80 - 120	P	11/05/2025	13:25	LB138073
	Chromium	2.01	2.0	100	80 - 120	P	11/05/2025	13:25	LB138073
	Cobalt	1.02	1.0	102	80 - 120	P	11/05/2025	13:25	LB138073
	Copper	1.85	2.0	92	80 - 120	P	11/05/2025	13:25	LB138073
	Iron	55.5	50.0	111	80 - 120	P	11/05/2025	13:25	LB138073
	Lead	0.83	1.0	83	80 - 120	P	11/05/2025	13:25	LB138073
	Magnesium	464	500	93	80 - 120	P	11/05/2025	13:25	LB138073
	Manganese	1.02	1.0	102	80 - 120	P	11/05/2025	13:25	LB138073
	Molybdenum	4.75	5.0	95	80 - 120	P	11/05/2025	13:25	LB138073
	Nickel	0.91	1.0	91	80 - 120	P	11/05/2025	13:25	LB138073
	Potassium	503	500	101	80 - 120	P	11/05/2025	13:25	LB138073
	Selenium	4.54	5.0	91	80 - 120	P	11/05/2025	13:25	LB138073
	Silver	1.14	1.0	114	80 - 120	P	11/05/2025	13:25	LB138073
	Sodium	476	500	95	80 - 120	P	11/05/2025	13:25	LB138073
	Strontium	0.95	1.0	95	80 - 120	P	11/05/2025	13:25	LB138073
	Thallium	0.96	1.0	96	80 - 120	P	11/05/2025	13:25	LB138073
	Tin	4.79	5.0	96	80 - 120	P	11/05/2025	13:25	LB138073
	Vanadium	4.88	5.0	98	80 - 120	P	11/05/2025	13:25	LB138073
	Zinc	5.40	5.0	108	80 - 120	P	11/05/2025	13:25	LB138073

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

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
CCV01	Aluminum	48400	50000	97	90 - 110	P	11/05/2025	13:46	LB138073
	Antimony	486	500	97	90 - 110	P	11/05/2025	13:46	LB138073
	Arsenic	471	500	94	90 - 110	P	11/05/2025	13:46	LB138073
	Barium	2480	2500	99	90 - 110	P	11/05/2025	13:46	LB138073
	Beryllium	488	500	98	90 - 110	P	11/05/2025	13:46	LB138073
	Cadmium	473	500	95	90 - 110	P	11/05/2025	13:46	LB138073
	Calcium	248000	250000	99	90 - 110	P	11/05/2025	13:46	LB138073
	Chromium	497	500	99	90 - 110	P	11/05/2025	13:46	LB138073
	Cobalt	486	500	97	90 - 110	P	11/05/2025	13:46	LB138073
	Copper	4740	5000	95	90 - 110	P	11/05/2025	13:46	LB138073
	Iron	127000	125000	101	90 - 110	P	11/05/2025	13:46	LB138073
	Lead	2460	2500	98	90 - 110	P	11/05/2025	13:46	LB138073
	Magnesium	245000	250000	98	90 - 110	P	11/05/2025	13:46	LB138073
	Manganese	4800	5000	96	90 - 110	P	11/05/2025	13:46	LB138073
	Molybdenum	5000	5000	100	90 - 110	P	11/05/2025	13:46	LB138073
	Nickel	486	500	97	90 - 110	P	11/05/2025	13:46	LB138073
	Potassium	123000	125000	99	90 - 110	P	11/05/2025	13:46	LB138073
	Selenium	467	500	93	90 - 110	P	11/05/2025	13:46	LB138073
	Silver	484	500	97	90 - 110	P	11/05/2025	13:46	LB138073
	Sodium	247000	250000	99	90 - 110	P	11/05/2025	13:46	LB138073
	Strontium	498	500	100	90 - 110	P	11/05/2025	13:46	LB138073
	Thallium	509	500	102	90 - 110	P	11/05/2025	13:46	LB138073
	Tin	492	500	98	90 - 110	P	11/05/2025	13:46	LB138073
	Vanadium	487	500	97	90 - 110	P	11/05/2025	13:46	LB138073
	Zinc	4640	5000	93	90 - 110	P	11/05/2025	13:46	LB138073
CCV02	Aluminum	48700	50000	98	90 - 110	P	11/05/2025	14:16	LB138073
	Antimony	460	500	92	90 - 110	P	11/05/2025	14:16	LB138073
	Arsenic	480	500	96	90 - 110	P	11/05/2025	14:16	LB138073
	Barium	2380	2500	95	90 - 110	P	11/05/2025	14:16	LB138073
	Beryllium	462	500	92	90 - 110	P	11/05/2025	14:16	LB138073
	Cadmium	458	500	92	90 - 110	P	11/05/2025	14:16	LB138073
	Calcium	247000	250000	99	90 - 110	P	11/05/2025	14:16	LB138073
	Chromium	498	500	100	90 - 110	P	11/05/2025	14:16	LB138073
	Cobalt	493	500	99	90 - 110	P	11/05/2025	14:16	LB138073

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

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
CCV02	Copper	4830	5000	97	90 - 110	P	11/05/2025	14:16	LB138073
	Iron	125000	125000	100	90 - 110	P	11/05/2025	14:16	LB138073
	Lead	2440	2500	98	90 - 110	P	11/05/2025	14:16	LB138073
	Magnesium	247000	250000	99	90 - 110	P	11/05/2025	14:16	LB138073
	Manganese	4820	5000	96	90 - 110	P	11/05/2025	14:16	LB138073
	Molybdenum	4860	5000	97	90 - 110	P	11/05/2025	14:16	LB138073
	Nickel	490	500	98	90 - 110	P	11/05/2025	14:16	LB138073
	Potassium	122000	125000	98	90 - 110	P	11/05/2025	14:16	LB138073
	Selenium	460	500	92	90 - 110	P	11/05/2025	14:16	LB138073
	Silver	464	500	93	90 - 110	P	11/05/2025	14:16	LB138073
	Sodium	248000	250000	99	90 - 110	P	11/05/2025	14:16	LB138073
	Strontium	491	500	98	90 - 110	P	11/05/2025	14:16	LB138073
	Thallium	501	500	100	90 - 110	P	11/05/2025	14:16	LB138073
	Tin	473	500	95	90 - 110	P	11/05/2025	14:16	LB138073
	Vanadium	490	500	98	90 - 110	P	11/05/2025	14:16	LB138073
	Zinc	4730	5000	95	90 - 110	P	11/05/2025	14:16	LB138073

Metals

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CRDL STANDARD FOR AA & ICP

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

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	23.6	20.0	118	70 - 130	P	11/05/2025	13:53	LB138073
	Antimony	1.95	2.0	98	70 - 130	P	11/05/2025	13:53	LB138073
	Arsenic	1.05	1.0	105	70 - 130	P	11/05/2025	13:53	LB138073
	Barium	8.98	10.0	90	70 - 130	P	11/05/2025	13:53	LB138073
	Beryllium	1.01	1.0	101	70 - 130	P	11/05/2025	13:53	LB138073
	Cadmium	0.85	1.0	85	70 - 130	P	11/05/2025	13:53	LB138073
	Calcium	476	500	95	70 - 130	P	11/05/2025	13:53	LB138073
	Chromium	1.97	2.0	98	70 - 130	P	11/05/2025	13:53	LB138073
	Cobalt	1.02	1.0	102	50 - 150	P	11/05/2025	13:53	LB138073
	Copper	1.94	2.0	97	70 - 130	P	11/05/2025	13:53	LB138073
	Iron	54.9	50.0	110	70 - 130	P	11/05/2025	13:53	LB138073
	Lead	0.81	1.0	81	70 - 130	P	11/05/2025	13:53	LB138073
	Magnesium	453	500	91	70 - 130	P	11/05/2025	13:53	LB138073
	Manganese	1.00	1.0	100	50 - 150	P	11/05/2025	13:53	LB138073
	Molybdenum	4.72	5.0	94	70 - 130	P	11/05/2025	13:53	LB138073
	Nickel	0.90	1.0	90	70 - 130	P	11/05/2025	13:53	LB138073
	Potassium	501	500	100	70 - 130	P	11/05/2025	13:53	LB138073
	Selenium	3.80	5.0	76	70 - 130	P	11/05/2025	13:53	LB138073
	Silver	1.02	1.0	102	70 - 130	P	11/05/2025	13:53	LB138073
	Sodium	498	500	100	70 - 130	P	11/05/2025	13:53	LB138073
	Strontium	0.95	1.0	95	70 - 130	P	11/05/2025	13:53	LB138073
	Thallium	0.98	1.0	98	70 - 130	P	11/05/2025	13:53	LB138073
	Tin	4.30	5.0	86	70 - 130	P	11/05/2025	13:53	LB138073
	Vanadium	4.71	5.0	94	70 - 130	P	11/05/2025	13:53	LB138073
	Zinc	5.10	5.0	102	50 - 150	P	11/05/2025	13:53	LB138073

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

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	11/05/2025	13:28	LB138073
	Antimony	0.11	+/-1	U	2.00	P	11/05/2025	13:28	LB138073
	Arsenic	0.089	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Barium	0.21	+/-5	U	10.0	P	11/05/2025	13:28	LB138073
	Beryllium	0.32	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Cadmium	0.34	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Calcium	45.7	+/-250	U	500	P	11/05/2025	13:28	LB138073
	Chromium	0.21	+/-1	U	2.00	P	11/05/2025	13:28	LB138073
	Cobalt	0.070	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Copper	0.30	+/-1	U	2.00	P	11/05/2025	13:28	LB138073
	Iron	7.81	+/-25	U	50.0	P	11/05/2025	13:28	LB138073
	Lead	0.21	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Magnesium	19.5	+/-250	U	500	P	11/05/2025	13:28	LB138073
	Manganese	0.43	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Nickel	0.27	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Potassium	36.4	+/-250	U	500	P	11/05/2025	13:28	LB138073
	Selenium	2.90	+/-2.5	U	5.00	P	11/05/2025	13:28	LB138073
	Tin	0.31	+/-2.5	U	5.00	P	11/05/2025	13:28	LB138073
	Molybdenum	0.27	+/-2.5	U	5.00	P	11/05/2025	13:28	LB138073
	Silver	0.060	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Sodium	128	+/-250	U	500	P	11/05/2025	13:28	LB138073
	Thallium	0.060	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073
	Vanadium	0.077	+/-2.5	U	5.00	P	11/05/2025	13:28	LB138073
	Zinc	1.25	+/-2.5	U	5.00	P	11/05/2025	13:28	LB138073
	Strontium	0.084	+/-0.5	U	1.00	P	11/05/2025	13:28	LB138073

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

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	2.54	+/-10	J	20.0	P	11/05/2025	13:50	LB138073
	Antimony	0.22	+/-1	J	2.00	P	11/05/2025	13:50	LB138073
	Arsenic	0.089	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Barium	0.21	+/-5	U	10.0	P	11/05/2025	13:50	LB138073
	Beryllium	0.32	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Cadmium	0.34	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Calcium	45.7	+/-250	U	500	P	11/05/2025	13:50	LB138073
	Chromium	0.21	+/-1	U	2.00	P	11/05/2025	13:50	LB138073
	Cobalt	0.070	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Copper	0.30	+/-1	U	2.00	P	11/05/2025	13:50	LB138073
	Iron	7.81	+/-25	U	50.0	P	11/05/2025	13:50	LB138073
	Lead	0.21	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Magnesium	19.5	+/-250	U	500	P	11/05/2025	13:50	LB138073
	Manganese	0.43	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Nickel	0.27	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Potassium	36.4	+/-250	U	500	P	11/05/2025	13:50	LB138073
	Selenium	2.90	+/-2.5	U	5.00	P	11/05/2025	13:50	LB138073
	Tin	0.31	+/-2.5	U	5.00	P	11/05/2025	13:50	LB138073
	Molybdenum	0.27	+/-2.5	U	5.00	P	11/05/2025	13:50	LB138073
	Silver	0.060	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
	Sodium	128	+/-250	U	500	P	11/05/2025	13:50	LB138073
	Thallium	0.070	+/-0.5	J	1.00	P	11/05/2025	13:50	LB138073
	Vanadium	0.077	+/-2.5	U	5.00	P	11/05/2025	13:50	LB138073
	Zinc	1.25	+/-2.5	U	5.00	P	11/05/2025	13:50	LB138073
	Strontium	0.084	+/-0.5	U	1.00	P	11/05/2025	13:50	LB138073
CCB02	Aluminum	1.94	+/-10	U	20.0	P	11/05/2025	14:20	LB138073
	Antimony	0.31	+/-1	J	2.00	P	11/05/2025	14:20	LB138073
	Arsenic	0.089	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073
	Barium	0.21	+/-5	U	10.0	P	11/05/2025	14:20	LB138073
	Beryllium	0.32	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073
	Cadmium	0.34	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073
	Calcium	45.7	+/-250	U	500	P	11/05/2025	14:20	LB138073
	Chromium	0.21	+/-1	U	2.00	P	11/05/2025	14:20	LB138073
	Cobalt	0.070	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073
	Copper	0.35	+/-1	J	2.00	P	11/05/2025	14:20	LB138073
	Iron	7.81	+/-25	U	50.0	P	11/05/2025	14:20	LB138073
	Lead	0.21	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073
	Magnesium	19.5	+/-250	U	500	P	11/05/2025	14:20	LB138073
	Manganese	0.43	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

Contract: ALLI03

Lab Code: ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Nickel	0.27	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073
	Potassium	36.4	+/-250	U	500	P	11/05/2025	14:20	LB138073
	Selenium	2.90	+/-2.5	U	5.00	P	11/05/2025	14:20	LB138073
	Tin	0.31	+/-2.5	U	5.00	P	11/05/2025	14:20	LB138073
	Molybdenum	0.27	+/-2.5	U	5.00	P	11/05/2025	14:20	LB138073
	Silver	0.060	+/-0.5	J	1.00	P	11/05/2025	14:20	LB138073
	Sodium	128	+/-250	U	500	P	11/05/2025	14:20	LB138073
	Thallium	0.11	+/-0.5	J	1.00	P	11/05/2025	14:20	LB138073
	Vanadium	0.077	+/-2.5	U	5.00	P	11/05/2025	14:20	LB138073
	Zinc	1.25	+/-2.5	U	5.00	P	11/05/2025	14:20	LB138073
	Strontium	0.084	+/-0.5	U	1.00	P	11/05/2025	14:20	LB138073

Metals
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PREPARATION BLANK SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

Instrument: P7

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB170330BL	SOLID			Batch Number:	PB170330		Prep Date:	10/30/2025	
	Aluminum	0.36	<1	U	2.00	P	11/05/2025	13:57	LB138073
	Antimony	0.045	<0.1	U	0.20	P	11/05/2025	13:57	LB138073
	Arsenic	0.012	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Barium	0.033	<0.5	U	1.00	P	11/05/2025	13:57	LB138073
	Beryllium	0.032	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Cadmium	0.018	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Calcium	4.79	<25	U	50.0	P	11/05/2025	13:57	LB138073
	Chromium	0.026	<0.1	U	0.20	P	11/05/2025	13:57	LB138073
	Cobalt	0.0090	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Copper	0.065	<0.1	U	0.20	P	11/05/2025	13:57	LB138073
	Iron	0.92	<2.5	U	5.00	P	11/05/2025	13:57	LB138073
	Lead	0.032	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Magnesium	1.93	<25	U	50.0	P	11/05/2025	13:57	LB138073
	Manganese	0.034	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Nickel	0.043	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Potassium	3.84	<25	U	50.0	P	11/05/2025	13:57	LB138073
	Tin	0.032	<0.25	U	0.50	P	11/05/2025	13:57	LB138073
	Molybdenum	0.079	<0.25	U	0.50	P	11/05/2025	13:57	LB138073
	Selenium	0.28	<0.25	U	0.50	P	11/05/2025	13:57	LB138073
	Silver	0.026	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Sodium	7.02	<25	U	50.0	P	11/05/2025	13:57	LB138073
	Thallium	0.014	<0.05	U	0.10	P	11/05/2025	13:57	LB138073
	Vanadium	0.011	<0.25	U	0.50	P	11/05/2025	13:57	LB138073
	Zinc	0.090	<0.25	U	0.50	P	11/05/2025	13:57	LB138073
	Strontium	0.052	<0.05	U	0.10	P	11/05/2025	13:57	LB138073

Metals
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INTERFERENCE CHECK SAMPLE

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

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	93200	100000	93	0	0	11/05/2025	13:32	LB138073
	Antimony	1.11	1.5	74	-2.5	5.5	11/05/2025	13:32	LB138073
	Arsenic	0.42	0.1	420	-1.9	2.1	11/05/2025	13:32	LB138073
	Barium	1.39	1.2	116	-18.8	21.2	11/05/2025	13:32	LB138073
	Beryllium	0.28			-2	2	11/05/2025	13:32	LB138073
	Cadmium	0.20	0.7	29	-1.3	2.7	11/05/2025	13:32	LB138073
	Calcium	98600	100000	99	0	0	11/05/2025	13:32	LB138073
	Chromium	19.9	21.0	95	17	25	11/05/2025	13:32	LB138073
	Cobalt	1.27	1.0	127	-1	3	11/05/2025	13:32	LB138073
	Copper	7.05	8.0	88	4	12	11/05/2025	13:32	LB138073
	Iron	98800	100000	99	0	0	11/05/2025	13:32	LB138073
	Lead	4.09	4.0	102	2	6	11/05/2025	13:32	LB138073
	Magnesium	91800	100000	92	0	0	11/05/2025	13:32	LB138073
	Manganese	7.12	7.0	102	5	9	11/05/2025	13:32	LB138073
	Nickel	5.58	6.0	93	4	8	11/05/2025	13:32	LB138073
	Potassium	99100	100000	99	0	0	11/05/2025	13:32	LB138073
	Tin	0.15			0	0	11/05/2025	13:32	LB138073
	Molybdenum	1890	2000	94	1600	2400	11/05/2025	13:32	LB138073
	Selenium	0	0.3		-9.7	10	11/05/2025	13:32	LB138073
	Silver	0.050			-2	2	11/05/2025	13:32	LB138073
	Sodium	98600	100000	99	0	0	11/05/2025	13:32	LB138073
	Thallium	0.060			-2	2	11/05/2025	13:32	LB138073
	Vanadium	0.20	0.5	40	-9.5	10.5	11/05/2025	13:32	LB138073
	Zinc	12.3	11.0	112	1	21	11/05/2025	13:32	LB138073
	Strontium	33.0			0	0	11/05/2025	13:32	LB138073
ICSAB01	Aluminum	92400	100000	92	0	0	11/05/2025	13:42	LB138073
	Antimony	20.9	22.0	95	18	26	11/05/2025	13:42	LB138073
	Arsenic	20.8	19.0	110	16.2	21.9	11/05/2025	13:42	LB138073
	Barium	21.0	22.0	96	2	42	11/05/2025	13:42	LB138073
	Beryllium	21.6	19.0	114	16.2	21.9	11/05/2025	13:42	LB138073
	Cadmium	20.1	20.0	100	17	23	11/05/2025	13:42	LB138073
	Calcium	100000	100000	100	0	0	11/05/2025	13:42	LB138073
	Chromium	40.7	40.0	102	34	46	11/05/2025	13:42	LB138073
	Cobalt	21.3	20.0	106	17	23	11/05/2025	13:42	LB138073
	Copper	25.7	25.0	103	21	29	11/05/2025	13:42	LB138073
	Iron	101000	100000	101	0	0	11/05/2025	13:42	LB138073
	Lead	22.8	25.0	91	21.3	28.8	11/05/2025	13:42	LB138073
	Magnesium	90000	100000	90	0	0	11/05/2025	13:42	LB138073
	Manganese	25.4	27.0	94	23	31.1	11/05/2025	13:42	LB138073
	Nickel	26.3	24.0	110	20.4	27.6	11/05/2025	13:42	LB138073
	Potassium	100000	100000	100	0	0	11/05/2025	13:42	LB138073
	Selenium	20.2	19.0	106	9	29	11/05/2025	13:42	LB138073

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: <u>Alliance Technical Group, LLC - Newark</u>	SDG No.: <u>Q3483</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	Tin	51.2			0	0	11/05/2025	13:42	LB138073
	Molybdenum	2010	2000	100	1600	2400	11/05/2025	13:42	LB138073
	Silver	19.4	18.0	108	15.3	20.7	11/05/2025	13:42	LB138073
	Sodium	100000	100000	100	0	0	11/05/2025	13:42	LB138073
	Thallium	19.3	21.0	92	17.9	24.2	11/05/2025	13:42	LB138073
	Vanadium	20.4	19.0	107	9	29	11/05/2025	13:42	LB138073
	Zinc	30.0	29.0	103	19	39	11/05/2025	13:42	LB138073
	Strontium	84.6			0	0	11/05/2025	13:42	LB138073



METAL QC DATA

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Alliance Technical Group, LLC - Newark

SDG No.: Q3483

Contract: ALLI03

Lab Code: ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB170330BS							
Aluminum	mg/Kg	1000	989		99	80 - 120	P
Antimony	mg/Kg	50.0	52.4		105	80 - 120	P
Arsenic	mg/Kg	50.0	51.2		102	80 - 120	P
Barium	mg/Kg	250	253		101	80 - 120	P
Beryllium	mg/Kg	50.0	50.7		101	80 - 120	P
Cadmium	mg/Kg	50.0	50.8		102	80 - 120	P
Calcium	mg/Kg	5000	5130		103	80 - 120	P
Chromium	mg/Kg	50.0	51.0		102	80 - 120	P
Cobalt	mg/Kg	50.0	51.8		104	80 - 120	P
Copper	mg/Kg	500	516		103	80 - 120	P
Iron	mg/Kg	2500	2690		108	80 - 120	P
Lead	mg/Kg	250	248		99	80 - 120	P
Magnesium	mg/Kg	5000	5000		100	80 - 120	P
Manganese	mg/Kg	500	506		101	80 - 120	P
Nickel	mg/Kg	50.0	51.8		104	80 - 120	P
Potassium	mg/Kg	2500	2550		102	80 - 120	P
Tin	mg/Kg	50.0	51.2		102	80 - 120	P
Molybdenum	mg/Kg	500	503		101	80 - 120	P
Selenium	mg/Kg	50.0	51.6		103	80 - 120	P
Silver	mg/Kg	50.0	51.5		103	80 - 120	P
Sodium	mg/Kg	5000	5090		102	80 - 120	P
Thallium	mg/Kg	50.0	50.8		102	80 - 120	P
Vanadium	mg/Kg	50.0	50.6		101	80 - 120	P
Zinc	mg/Kg	500	527		105	80 - 120	P
Strontium	mg/Kg	50.0	50.6		101	80 - 120	P

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Alliance Technical Group, LLC -

Contract: ALLI03

Lab Code: ACE

SDG No.: Q3483

Instrument ID: P7

Start Date : 11/05/2025

Run Number: LB138073

End Date : 11/05/2025

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	1132	100		100		100		100		100	
S2	S2	1135	95		95		94		94		93	
S3	S3	1139	97		95		95		94		96	
S4	S4	1142	98		96		94		96		97	
S5	S5	1145	98		93		92		92		96	
S6	S6	1148	99		92		91		92		95	
S7	S7	1151	100		92		91		90		96	
S8	S8	1154	93		89		87		84		92	
ICV01	ICV01	1319	107		109		109		110		110	
LLICV01	LLICV01	1325	93		92		91		94		92	
ICB01	ICB01	1328	92		93		91		93		93	
ICSA01	ICSA01	1332	92		89		90		89		96	
ICSAB01	ICSAB01	1342	99		104		108		108		114	
CCV01	CCV01	1346	92		95		97		94		102	
CCB01	CCB01	1350	91		92		95		96		100	
CRI	CRI	1353	89		93		94		95		98	
PB170330BL	PB170330BL	1357	97		99		102		103		107	
PB170330BS	PB170330BS	1400	90		92		93		91		98	
Q3483-10	HW1025-PT-M	1406	145	*	99		113		91		100	
Q3483-10	HW1025-PT-M	1412	112		106		114		110		116	
CCV02	CCV02	1416	90		91		96		92		104	
CCB02	CCB02	1420	87		90		93		93		98	

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Alliance Technical Group, LLC -

Contract: ALLI03

Lab Code: ACE

SDG No.: Q3483

Instrument ID: P7

Start Date : 11/05/2025

Run Number: LB138073

End Date : 11/05/2025

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	1132	100		100		100		100		100	
S2	S2	1135	96		95		96		96		96	
S3	S3	1139	97		94		96		95		96	
S4	S4	1142	94		91		95		96		96	
S5	S5	1145	92		92		92		95		96	
S6	S6	1148	91		90		90		95		95	
S7	S7	1151	91		90		91		96		97	
S8	S8	1154	91		90		86		94		93	
ICV01	ICV01	1319	104		104		106		107		108	
LLICV01	LLICV01	1325	90		90		93		93		93	
ICB01	ICB01	1328	91		91		93		92		93	
ICSA01	ICSA01	1332	89		89		90		93		95	
ICSAB01	ICSAB01	1342	105		104		105		110		110	
CCV01	CCV01	1346	97		96		95		100		102	
CCB01	CCB01	1350	91		93		95		95		96	
CRI	CRI	1353	91		92		96		94		95	
PB170330BL	PB170330BL	1357	97		97		102		100		101	
PB170330BS	PB170330BS	1400	91		90		93		94		95	
Q3483-10	HW1025-PT-M	1406	101		110		92		96		97	
Q3483-10	HW1025-PT-M	1412	105		109		105		107		109	
CCV02	CCV02	1416	93		92		94		97		98	
CCB02	CCB02	1420	89		90		94		94		96	

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.: Q3483

Instrument ID: P7

Start Date : 11/05/2025

Run Number: LB138073

End Date : 11/05/2025

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	1132	100		100							
S2	S2	1135	95		94							
S3	S3	1139	96		97							
S4	S4	1142	98		96							
S5	S5	1145	96		97							
S6	S6	1148	97		97							
S7	S7	1151	97		96							
S8	S8	1154	94		86							
ICV01	ICV01	1319	111		112							
LLICV01	LLICV01	1325	95		96							
ICB01	ICB01	1328	94		94							
ICSA01	ICSA01	1332	97		95							
ICSAB01	ICSAB01	1342	114		111							
CCV01	CCV01	1346	104		99							
CCB01	CCB01	1350	101		101							
CRI	CRI	1353	97		98							
PB170330BL	PB170330BL	1357	106		104							
PB170330BS	PB170330BS	1400	100		98							
Q3483-10	HW1025-PT-ME	1406	102		110							
Q3483-10	HW1025-PT-ME	1412	118		118							
CCV02	CCV02	1416	104		99							
CCB02	CCB02	1420	98		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.: Q3483

Instrument ID: P7

Start Date : 11/05/2025

Run Number: LB138073

End Date : 11/05/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1132	100									
S2	S2	1135	95									
S3	S3	1139	95									
S4	S4	1142	96									
S5	S5	1145	93									
S6	S6	1148	94									
S7	S7	1151	93									
S8	S8	1154	86									
ICV01	ICV01	1319	107									
LLICV01	LLICV01	1325	94									
ICB01	ICB01	1328	93									
ICSA01	ICSA01	1332	92									
ICSAB01	ICSAB01	1342	106									
CCV01	CCV01	1346	94									
CCB01	CCB01	1350	96									
CRI	CRI	1353	94									
PB170330BL	PB170330BL	1357	99									
PB170330BS	PB170330BS	1400	92									
Q3483-10	HW1025-PT-ME	1406	102									
Q3483-10	HW1025-PT-ME	1412	110									
CCV02	CCV02	1416	92									
CCB02	CCB02	1420	93									

Internal Standard %RI Limit: 70 -130



METAL PREPARATION & INSTRUMENT DATA

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METAL PREPARATION & ANALYICAL SUMMARY

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Metals
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SAMPLE PREPARATION SUMMARY

Client: Alliance Technical Group, LLC - Newark **SDG No.:** Q3483
Contract: ALLI03 **Lab Code:** ACE **Method:** _____

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB170330							
PB170330BL	PB170330BL	MB	SOLID	10/30/2025	1.00	100.0	100.00
PB170330BS	PB170330BS	LCS	SOLID	10/30/2025	1.00	100.0	100.00
Q3483-10	HW1025-PT-MET-SOIL	SAM	SOLID	10/30/2025	1.31	100.0	100.00

metals
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ANALYSIS RUN LOG

Client: Alliance Technical Group, LLC - Newark

Contract: ALLI03

Lab code: ACE

Sdg no.: Q3483

Instrument id number:

Method:

Run number: LB138073

Start date: 11/05/2025

End date: 11/05/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1132	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zn
S2	S2	1	1135	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
S3	S3	1	1139	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
S4	S4	1	1142	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
S5	S5	1	1145	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
S6	S6	1	1148	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
S7	S7	1	1151	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
S8	S8	1	1154	Al,Ca,Fe,K,Mg,Na
ICV01	ICV01	1	1319	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
LLICV01	LLICV01	1	1325	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
ICB01	ICB01	1	1328	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
ICSA01	ICSA01	1	1332	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
ICSAB01	ICSAB01	1	1342	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
CCV01	CCV01	1	1346	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
CCB01	CCB01	1	1350	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
CRI	CRI	1	1353	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
PB170330BL	PB170330BL	1	1357	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
PB170330BS	PB170330BS	1	1400	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
Q3483-10	HW1025-PT-MET-SOIL	1	1406	Al,Ba,Ca,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Sr,Zn
Q3483-10	HW1025-PT-MET-SOIL	5	1412	Ag,As,Be,Cd,Co,Cr,Se,Sn,Tl,V
CCV02	CCV02	1	1416	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr
CCB02	CCB02	1	1420	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Tl,V,Zr



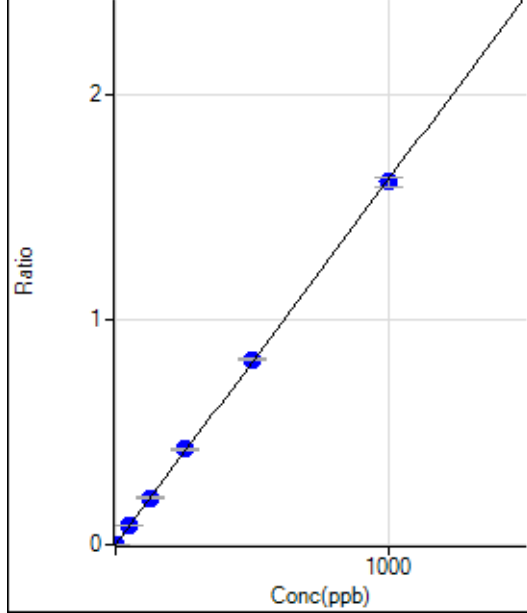
METAL RAW DATA

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Batch Folder: D:\Agilent\ICPMH\1\DATA\P7110525-MS.b\
Analysis File: P7110525-MS.batch.bin
DA Date-Time: 2025-12-01 18:14:19
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	S00	2025-11-05 11:32:37
2	005CALS.d	S02	2025-11-05 11:35:55
3	006CALS.d	S03	2025-11-05 11:39:16
4	007CALS.d	S04	2025-11-05 11:42:30
5	008CALS.d	S05	2025-11-05 11:45:35
6	009CALS.d	S06	2025-11-05 11:48:31
7	010CALS.d	S07	2025-11-05 11:51:23
8	011CALS.d	S08	2025-11-05 11:54:07

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	11.11	0.0000	P	92.3
2	☐	1.000	1.026	735.58	0.0017	P	5.5
3	☐	50.000	52.477	38047.57	0.0851	P	1.4
4	☐	125.000	128.742	94310.86	0.2088	P	1.6
5	☐	250.000	261.469	191504.59	0.4240	P	2.2
6	☐	500.000	506.738	371617.82	0.8218	P	1.4
7	☐	1000.000	993.172	735842.73	1.6106	P	2.3
8	☐			282.23	0.0007	P	4.2

$$y = 0.0016 * x + 2.4301E-005$$

$$R = 0.9999$$

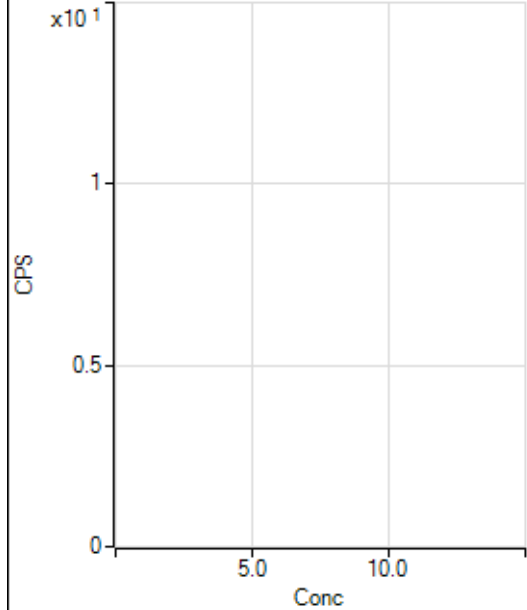
$$DL = 0.04151$$

$$BEC = 0.01498$$

Weight: <None>

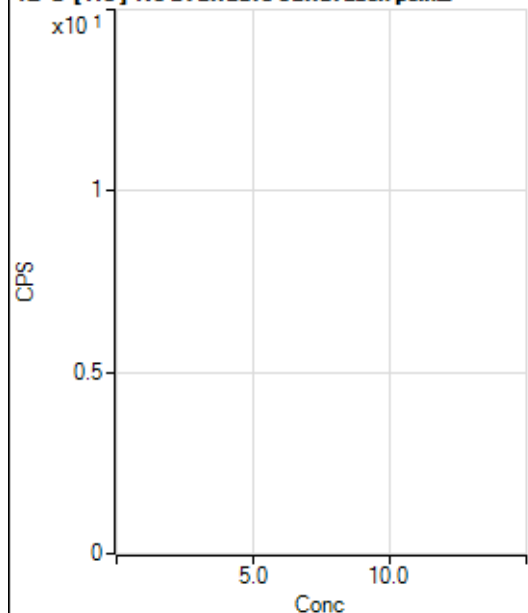
Min Conc: <None>

12 C [No Gas] No available calibration points



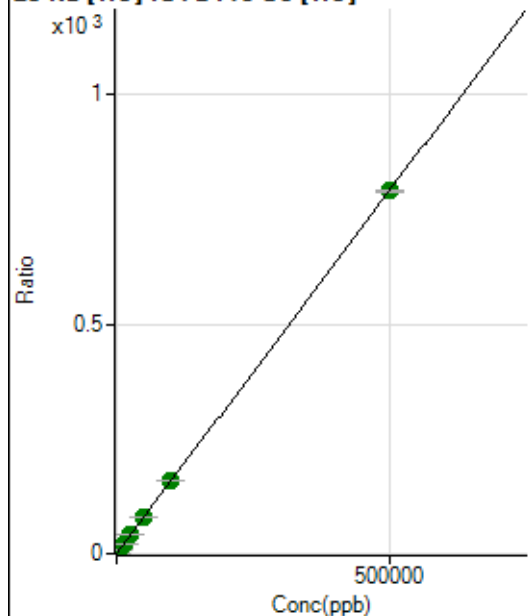
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

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	15824.90	0.0728	P	0.3
2	☐	500.000	460.418	166556.93	0.8005	P	1.2
3	☐	5000.000	4965.254	1661723.97	7.9196	A	1.6
4	☐	12500.000	12527.861	4061843.69	19.8709	A	0.2
5	☐	25000.000	26168.721	8303715.64	41.4279	A	1.8
6	☐	50000.000	50741.231	15864241.15	80.2605	A	1.2
7	☐	100000.00	100740.58	31508025.64	159.2757	A	1.7
8	☐	500000.00	499719.01	156608031.0	789.7912	A	0.5

$$y = 0.0016 * x + 0.0728$$

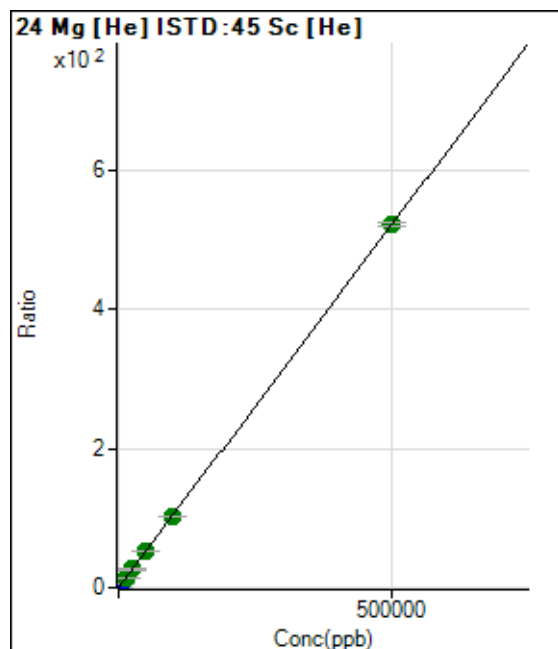
$$R = 1.0000$$

$$DL = 0.37$$

$$BEC = 46.09$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	160.00	0.0007	P	17.7
2	☐	500.000	449.833	97600.12	0.4691	P	1.0
3	☐	5000.000	4805.952	1049959.54	5.0042	P	0.6
4	☐	12500.000	12248.757	2607011.37	12.7529	A	1.6
5	☐	25000.000	25427.037	5305963.92	26.4729	A	2.1
6	☐	50000.000	49513.119	10188962.07	51.5489	A	1.1
7	☐	100000.00	99193.869	20430817.75	103.2716	A	0.3
8	☐	500000.00	500196.83	103256915.1	520.7564	A	1.0

$$y = 0.0010 * x + 7.3646E-004$$

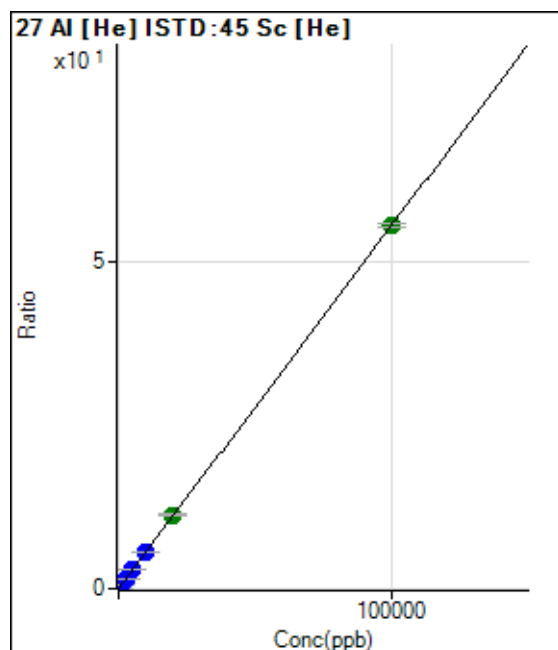
R = 1.0000

DL = 0.3754

BEC = 0.7074

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	662.24	0.0030	P	8.3
2	☐	20.000	17.771	2686.93	0.0129	P	2.7
3	☐	1000.000	995.182	116555.47	0.5555	P	0.2
4	☐	2500.000	2540.365	288894.07	1.4133	P	0.3
5	☐	5000.000	5180.086	577006.66	2.8787	P	1.4
6	☐	10000.000	9912.663	1088296.52	5.5059	P	1.0
7	☐	20000.000	20355.117	2236007.47	11.3030	A	1.4
8	☐	100000.00	99927.745	11000565.95	55.4768	A	1.0

$$y = 5.5514E-004 * x + 0.0030$$

R = 1.0000

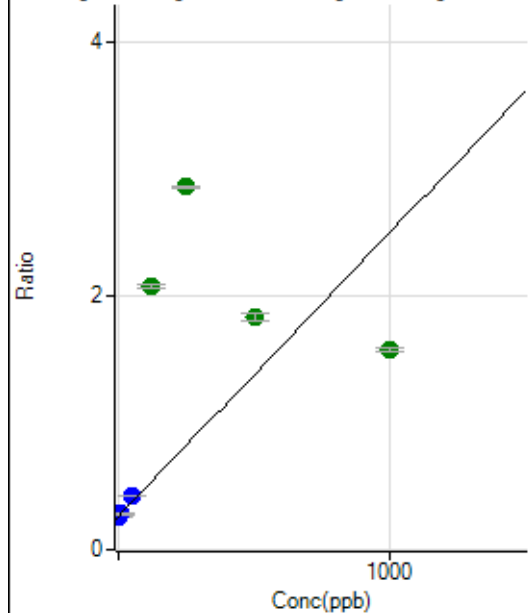
DL = 1.363

BEC = 5.491

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	601731.42	0.2603	P	2.3
2	☐	10.000	9.046	619148.70	0.2806	P	1.2
3	☐	50.000	73.763	938630.77	0.4258	P	0.8
4	☐	125.000	811.517	4618640.24	2.0811	A	1.2
5	☐	250.000	1158.869	6159819.35	2.8604	A	0.7
6	☐	500.000	701.620	3909928.87	1.8345	A	2.5
7	☐	1000.000	584.979	3348114.01	1.5728	A	2.2
8	☐			610636.23	0.2974	P	1.5

$$y = 0.0022 * x + 0.2603$$

$$R = 0.4089$$

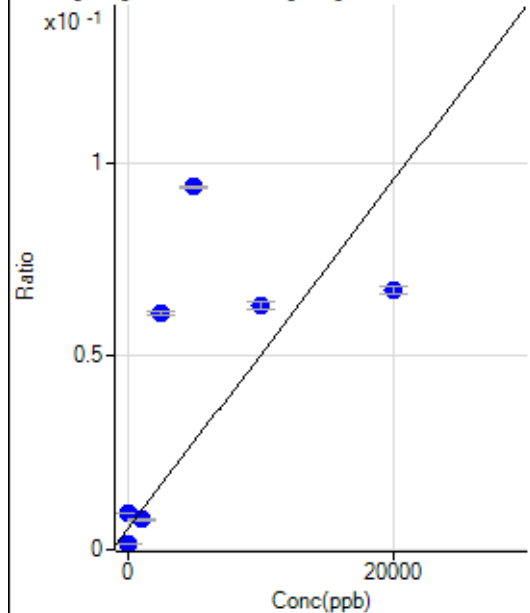
$$DL = 8.139$$

$$BEC = 116$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-863.381	338.90	0.0016	P	13.2
2	☐	0.000	863.381	1941.25	0.0093	P	0.4
3	☐	1000.000	506.925	1621.21	0.0077	P	6.3
4	☐	2500.000	12374.259	12494.07	0.0611	P	0.9
5	☐	5000.000	19628.834	18796.08	0.0938	P	0.2
6	☐	10000.000	12835.246	12491.91	0.0632	P	2.7
7	☐	20000.000	13715.540	13284.75	0.0672	P	2.9
8	☐			335.56	0.0017	P	14.1

$$y = 4.4997E-006 * x + 0.0054$$

$$R = 0.5832$$

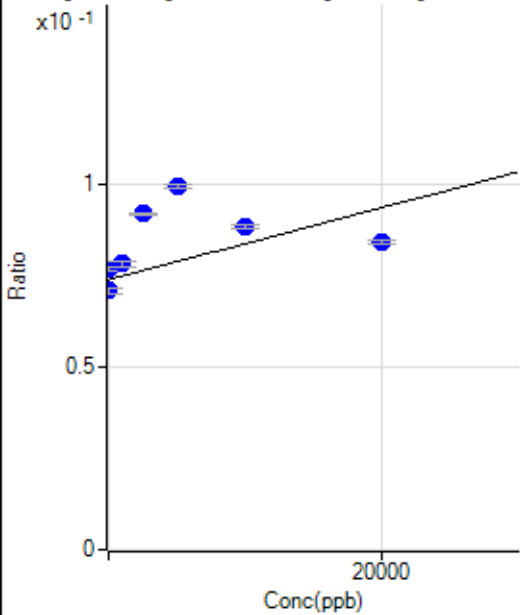
$$DL = 80.99$$

$$BEC = 1210$$

Weight: <None>

Min Conc: <None>

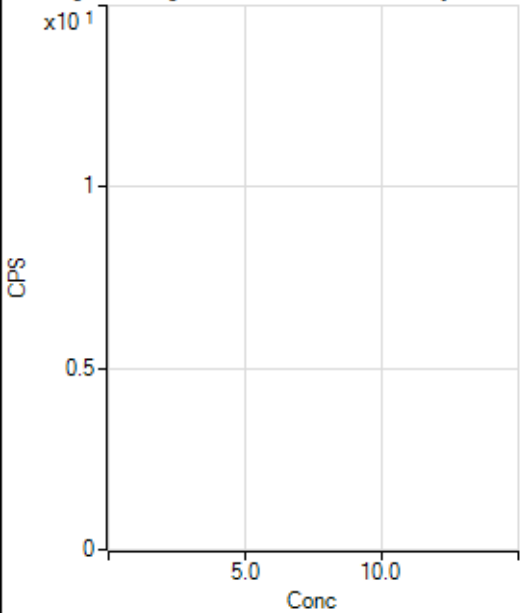
34 S [No Gas] ISTD:45 Sc [No Gas] , abno_



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	-3140.105	163536.54	0.0707	P	1.7
2	☐	0.000	3140.105	169696.84	0.0769	P	1.4
3	☐	1000.000	4386.428	172195.57	0.0781	P	1.6
4	☐	2500.000	18209.003	203531.09	0.0917	P	0.9
5	☐	5000.000	25767.667	213476.62	0.0991	P	1.0
6	☐	10000.000	14590.407	187895.23	0.0881	P	1.2
7	☐	20000.000	10379.933	178865.66	0.0840	P	0.8
8	☐			134701.42	0.0656	P	2.5

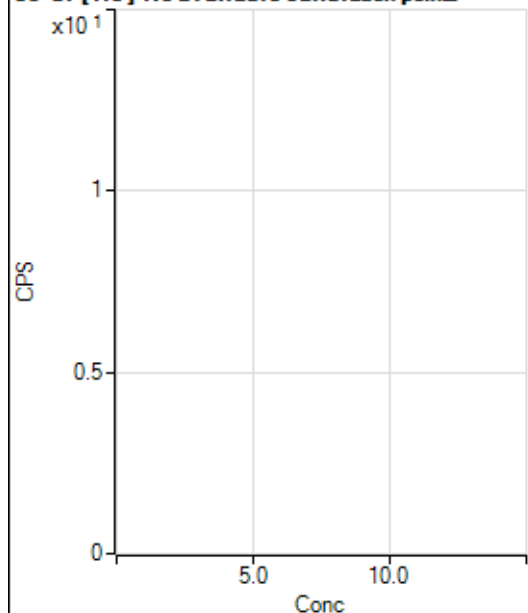
Weight: <None>
Min Conc: <None>

35 Cl [No Gas] No available calibration points



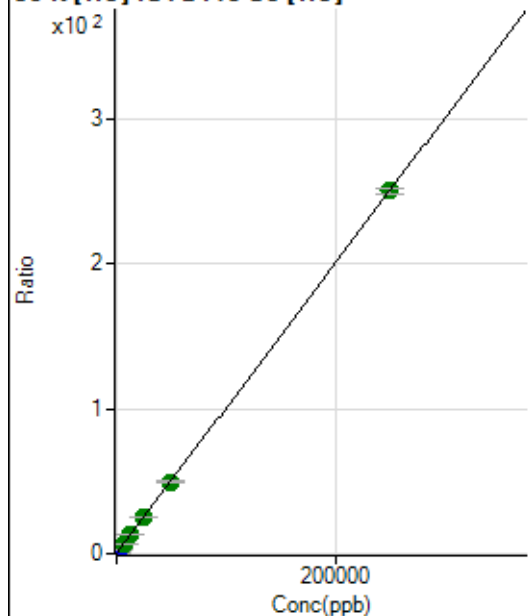
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

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	42595.02	0.1961	P	0.4
2	☐	500.000	500.646	144837.11	0.6961	P	0.7
3	☐	2500.000	2620.087	590166.57	2.8127	P	0.5
4	☐	6250.000	6349.596	1336280.42	6.5374	A	1.1
5	☐	12500.000	12956.634	2633152.15	13.1358	A	0.1
6	☐	25000.000	25037.868	4981216.28	25.2013	A	0.4
7	☐	50000.000	49382.364	9795740.06	49.5141	A	1.2
8	☐	250000.00	250093.21	49561928.71	249.9635	A	1.6

$$y = 9.9870E-004 * x + 0.1961$$

$$R = 1.0000$$

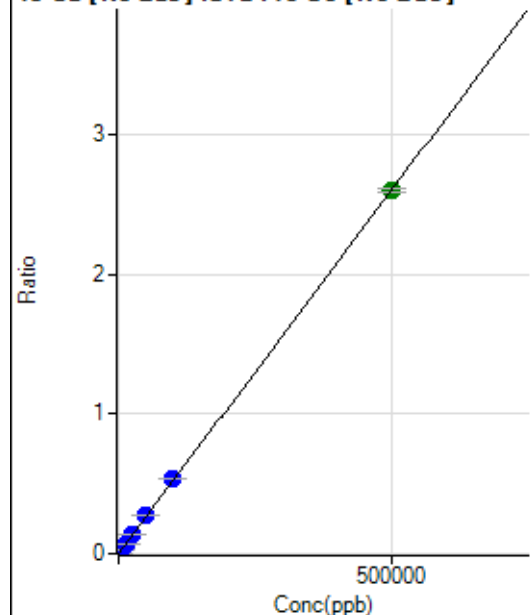
$$DL = 2.418$$

$$BEC = 196.3$$

Weight: <None>

Min Conc: <None>

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	151.11	0.0001	P	15.3
2	☐	500.000	490.564	5768.93	0.0026	P	2.2
3	☐	5000.000	5287.895	60712.01	0.0275	P	0.6
4	☐	12500.000	12898.999	148892.06	0.0671	P	1.0
5	☐	25000.000	26654.843	298389.34	0.1386	P	0.7
6	☐	50000.000	51981.693	575893.51	0.2702	P	0.9
7	☐	100000.00	102650.93	1135625.35	0.5334	P	1.5
8	☐	500000.00	499176.05	5325245.23	2.5937	A	1.2

$$y = 5.1959\text{E-}006 * x + 6.5315\text{E-}005$$

R = 1.0000

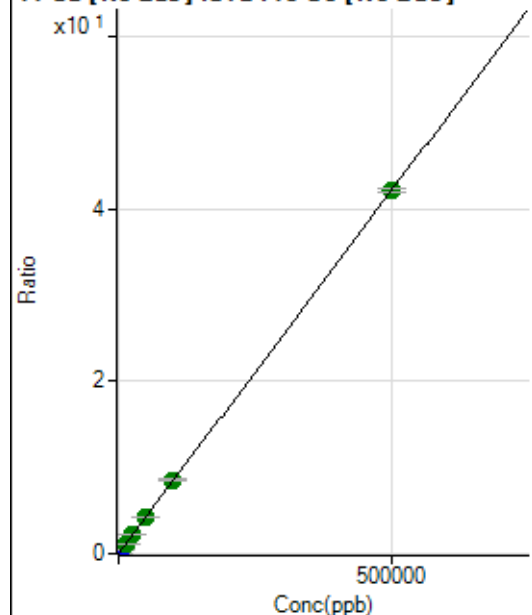
DL = 5.755

BEC = 12.57

Weight: <None>

Min Conc: <None>

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9083.96	0.0039	P	6.0
2	☐	500.000	483.142	98450.27	0.0446	P	1.5
3	☐	5000.000	5194.613	972848.04	0.4413	P	0.9
4	☐	12500.000	12430.450	2331714.90	1.0506	A	0.9
5	☐	25000.000	25600.885	4650772.77	2.1596	A	0.3
6	☐	50000.000	50347.232	9045177.30	4.2433	A	0.8
7	☐	100000.00	101572.12	18216676.81	8.5566	A	1.1
8	☐	500000.00	499620.61	86388783.16	42.0735	A	1.1

$$y = 8.4203\text{E-}005 * x + 0.0039$$

R = 1.0000

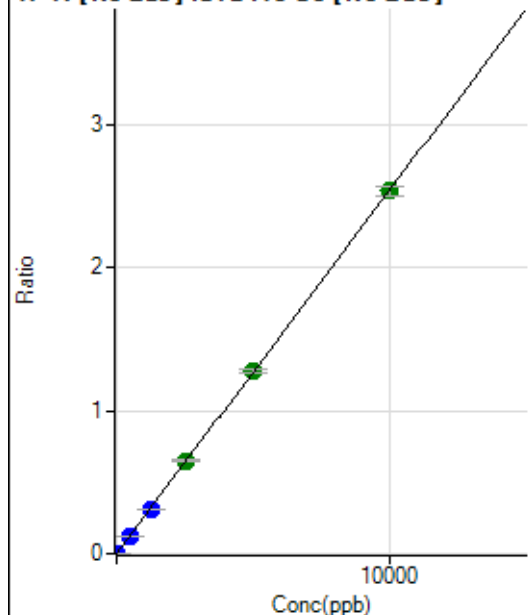
DL = 8.421

BEC = 46.68

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	51.11	0.0000	P	10.8
2	☐	5.000	4.858	2774.72	0.0013	P	3.6
3	☐	500.000	500.360	280515.42	0.1273	P	0.7
4	☐	1250.000	1232.682	695694.42	0.3135	P	1.2
5	☐	2500.000	2546.197	1394259.27	0.6475	A	1.8
6	☐	5000.000	5009.774	2715202.68	1.2739	A	2.1
7	☐	10000.000	9985.711	5405181.59	2.5392	A	2.3
8	☐			965.60	0.0005	P	10.0

$$y = 2.5428E-004 * x + 2.2118E-005$$

$$R = 1.0000$$

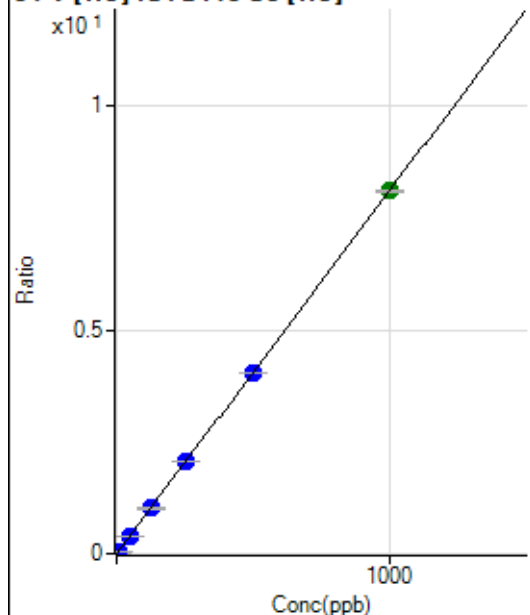
$$DL = 0.02819$$

$$BEC = 0.08699$$

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	12.22	0.0001	P	68.5
2	☐	5.000	4.673	7896.58	0.0379	P	1.9
3	☐	50.000	50.048	85156.37	0.4059	P	0.6
4	☐	125.000	124.683	206662.92	1.0110	P	0.5
5	☐	250.000	254.419	413513.05	2.0630	P	0.8
6	☐	500.000	498.296	798591.39	4.0404	P	0.7
7	☐	1000.000	999.786	1603757.87	8.1066	A	0.9
8	☐			2932.53	0.0148	P	3.7

$$y = 0.0081 * x + 5.6160E-005$$

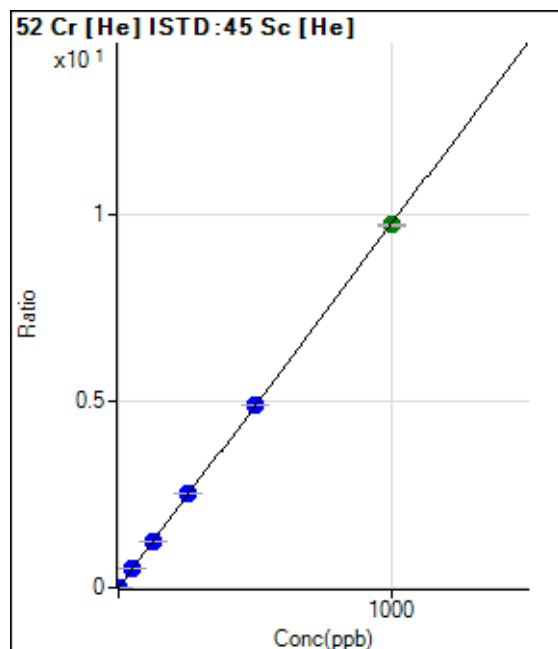
$$R = 1.0000$$

$$DL = 0.01423$$

$$BEC = 0.006926$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1035.60	0.0048	P	0.2
2	☐	2.000	1.924	4898.61	0.0235	P	1.7
3	☐	50.000	50.084	103539.93	0.4935	P	0.3
4	☐	125.000	126.364	253020.54	1.2378	P	0.4
5	☐	250.000	259.066	507680.47	2.5327	P	0.9
6	☐	500.000	501.161	967531.50	4.8951	P	0.5
7	☐	1000.000	996.978	1925582.16	9.7332	A	0.6
8	☐			34407.03	0.1735	P	1.6

$$y = 0.0098 * x + 0.0048$$

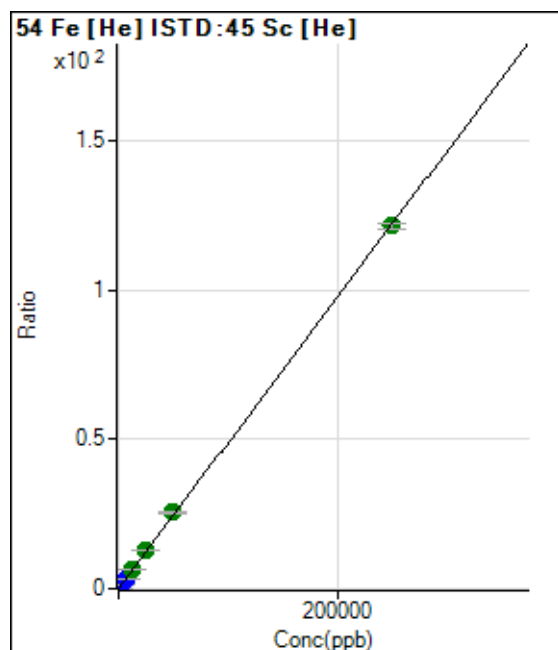
$$R = 1.0000$$

$$DL = 0.002734$$

$$BEC = 0.4885$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1560.09	0.0072	P	2.5
2	☐	50.000	51.242	6688.21	0.0321	P	1.7
3	☐	2500.000	2704.068	277886.21	1.3244	P	0.3
4	☐	6250.000	6933.324	691843.59	3.3846	P	0.3
5	☐	12500.000	13650.385	1334317.12	6.6567	A	1.2
6	☐	25000.000	26609.483	2563486.80	12.9694	A	0.3
7	☐	50000.000	52387.364	5049569.86	25.5266	A	2.2
8	☐	250000.00	249284.93	24078699.36	121.4413	A	1.8

$$y = 4.8713E-004 * x + 0.0072$$

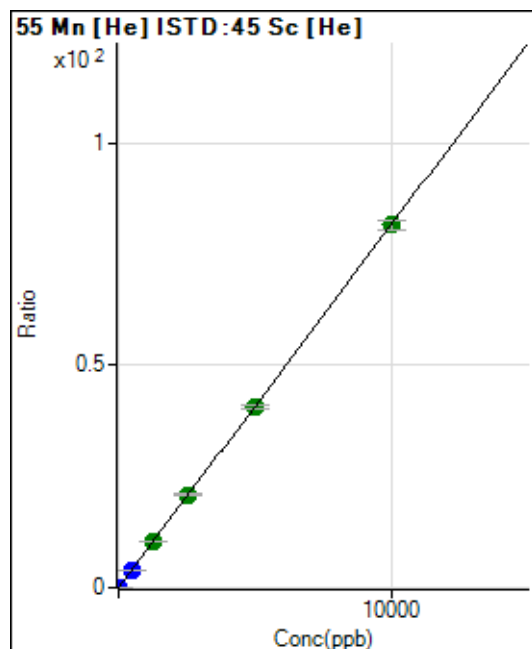
$$R = 0.9999$$

$$DL = 1.122$$

$$BEC = 14.74$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	648.91	0.0030	P	8.2
2	☐	1.000	0.977	2283.53	0.0110	P	1.3
3	☐	500.000	494.013	848372.59	4.0434	P	0.9
4	☐	1250.000	1266.517	2118044.01	10.3616	A	1.3
5	☐	2500.000	2553.575	4186874.10	20.8883	A	1.3
6	☐	5000.000	4998.693	8080845.99	40.8865	A	2.2
7	☐	10000.000	9985.494	16155821.15	81.6728	A	2.6
8	☐			15006.46	0.0757	P	2.3

$$y = 0.0082 * x + 0.0030$$

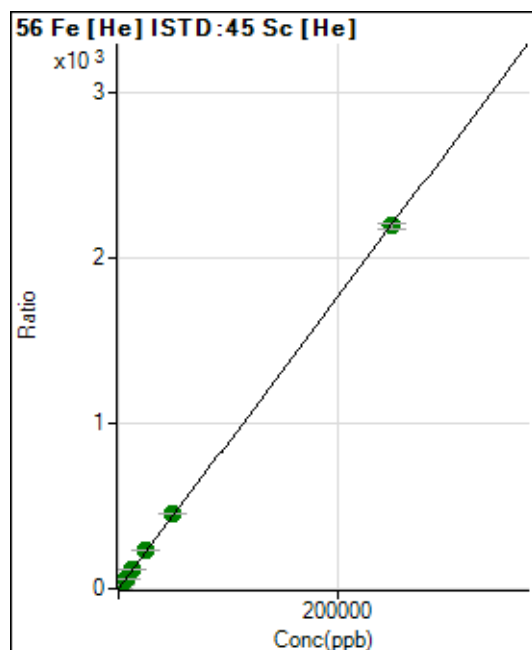
$$R = 1.0000$$

$$DL = 0.08981$$

$$BEC = 0.3651$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13049.55	0.0601	P	2.5
2	☐	50.000	50.588	105067.63	0.5049	P	0.8
3	☐	2500.000	2582.531	4777547.91	22.7705	A	0.7
4	☐	6250.000	6642.882	11953159.41	58.4767	A	0.7
5	☐	12500.000	13557.534	23909718.53	119.2831	A	0.9
6	☐	25000.000	26146.466	45457500.99	229.9885	A	0.9
7	☐	50000.000	51890.128	90287980.88	456.3747	A	1.2
8	☐	250000.00	249443.80	434987713.5	2.193.634	A	1.4

$$y = 0.0088 * x + 0.0601$$

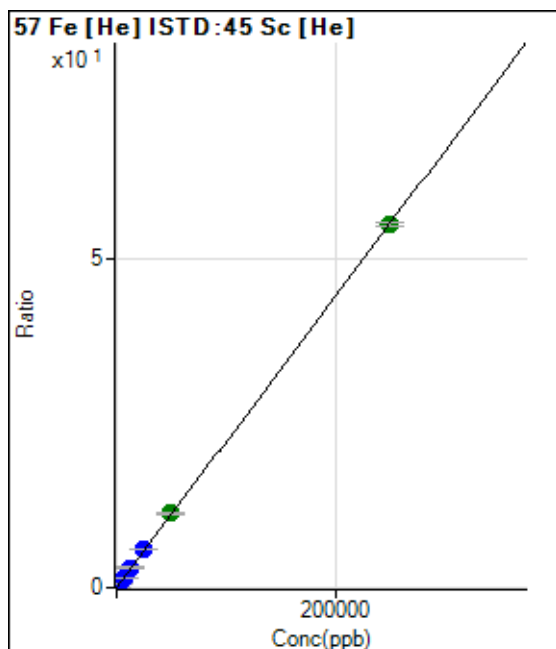
$$R = 1.0000$$

$$DL = 0.5097$$

$$BEC = 6.831$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	892.26	0.0041	P	5.1
2	☐	50.000	55.296	3402.64	0.0164	P	2.3
3	☐	2500.000	2672.614	125027.75	0.5959	P	1.3
4	☐	6250.000	6790.509	308204.45	1.5077	P	0.3
5	☐	12500.000	13845.887	615385.67	3.0700	P	0.5
6	☐	25000.000	26615.693	1165690.62	5.8977	P	0.6
7	☐	50000.000	51380.371	2251629.18	11.3814	A	2.1
8	☐	250000.00	249479.82	10954507.06	55.2470	A	1.1

$$y = 2.2143\text{E-}004 * x + 0.0041$$

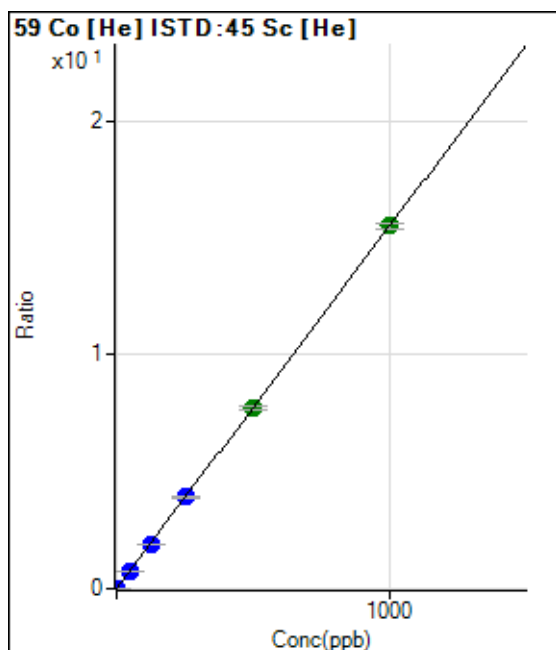
R = 1.0000

DL = 2.834

BEC = 18.55

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37.78	0.0002	P	30.7
2	☐	1.000	0.988	3225.94	0.0155	P	2.3
3	☐	50.000	49.451	161011.26	0.7674	P	0.9
4	☐	125.000	123.985	393245.67	1.9238	P	1.0
5	☐	250.000	252.508	785310.45	3.9178	P	0.8
6	☐	500.000	497.860	1526661.00	7.7244	A	2.1
7	☐	1000.000	1000.597	3071282.00	15.5244	A	1.3
8	☐			10255.81	0.0517	P	1.0

$$y = 0.0155 * x + 1.7381\text{E-}004$$

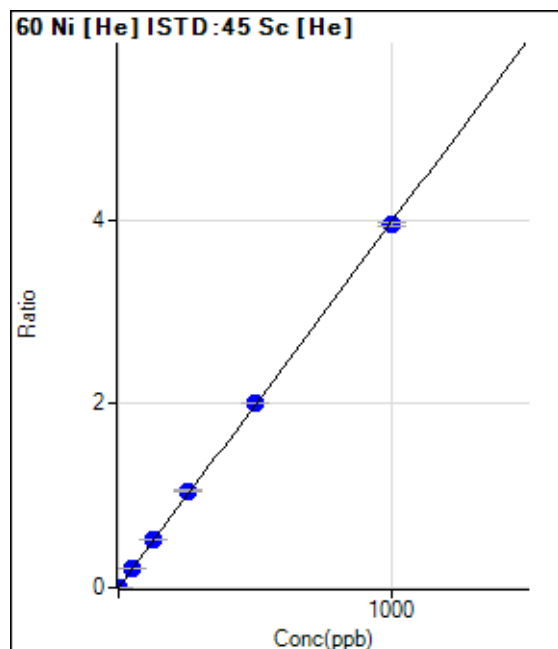
R = 1.0000

DL = 0.01033

BEC = 0.0112

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	304.45	0.0014	P	16.7
2	☐	1.000	0.957	1083.38	0.0052	P	2.2
3	☐	50.000	50.854	42698.44	0.2035	P	0.7
4	☐	125.000	129.122	105178.15	0.5145	P	0.8
5	☐	250.000	264.304	210811.93	1.0518	P	1.7
6	☐	500.000	506.496	398125.11	2.0143	P	0.4
7	☐	1000.000	992.618	780719.88	3.9461	P	1.0
8	☐			10475.97	0.0528	P	2.1

$$y = 0.0040 * x + 0.0014$$

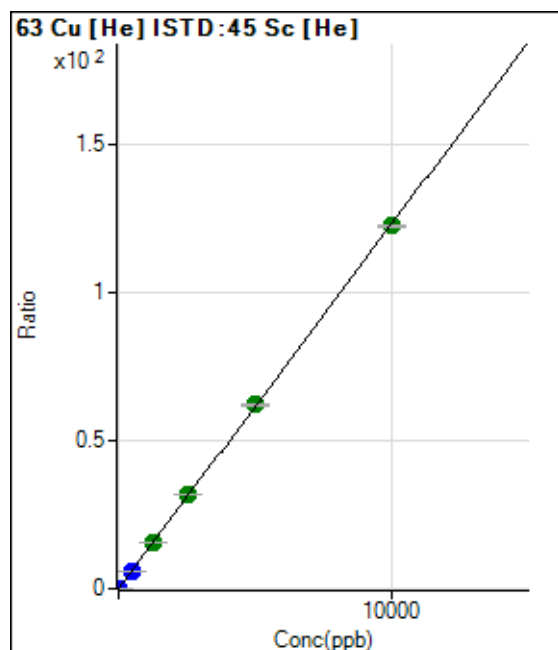
$$R = 0.9998$$

$$DL = 0.1772$$

$$BEC = 0.3528$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	621.13	0.0029	P	10.1
2	☐	2.000	1.799	5197.62	0.0250	P	5.3
3	☐	500.000	493.592	1274131.95	6.0728	P	1.2
4	☐	1250.000	1278.065	3213293.39	15.7197	A	0.3
5	☐	2500.000	2579.654	6359161.64	31.7258	A	1.4
6	☐	5000.000	5045.650	12264369.82	62.0511	A	1.0
7	☐	10000.000	9954.074	24216937.70	122.4119	A	0.6
8	☐			8254.57	0.0416	P	3.2

$$y = 0.0123 * x + 0.0029$$

$$R = 0.9999$$

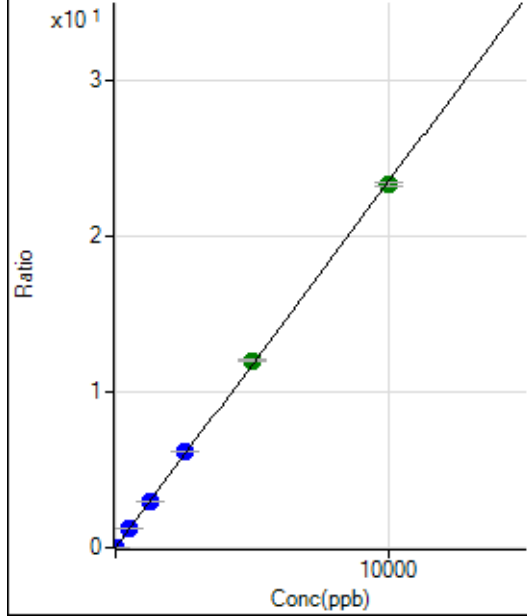
$$DL = 0.07018$$

$$BEC = 0.2326$$

Weight: <None>

Min Conc: <None>

66 Zn [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1282.29	0.0059	P	0.3
2	☐	5.000	5.093	3720.50	0.0179	P	2.0
3	☐	500.000	509.014	252437.77	1.2031	P	0.2
4	☐	1250.000	1273.631	613547.78	3.0016	P	0.3
5	☐	2500.000	2626.884	1239677.78	6.1845	P	0.6
6	☐	5000.000	5104.431	2374168.47	12.0118	A	0.8
7	☐	10000.000	9912.659	4613550.73	23.3210	A	1.0
8	☐			17644.98	0.0890	P	2.3

$$y = 0.0024 * x + 0.0059$$

$$R = 0.9998$$

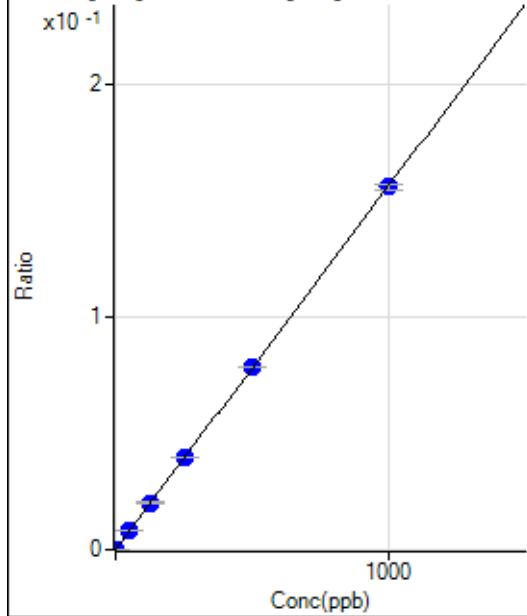
$$DL = 0.02417$$

$$BEC = 2.51$$

Weight: <None>

Min Conc: <None>

75 As [He] ISTD:89 Y [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	12.22	0.0000	P	69.0
2	☐	1.000	1.098	307.78	0.0002	P	9.3
3	☐	50.000	51.359	13667.50	0.0080	P	1.0
4	☐	125.000	129.060	33419.87	0.0202	P	1.0
5	☐	250.000	253.998	66465.83	0.0397	P	0.4
6	☐	500.000	501.704	128436.15	0.0784	P	0.4
7	☐	1000.000	997.573	255058.53	0.1559	P	1.4
8	☐			471.12	0.0003	P	10.5

$$y = 1.5625E-004 * x + 6.7575E-006$$

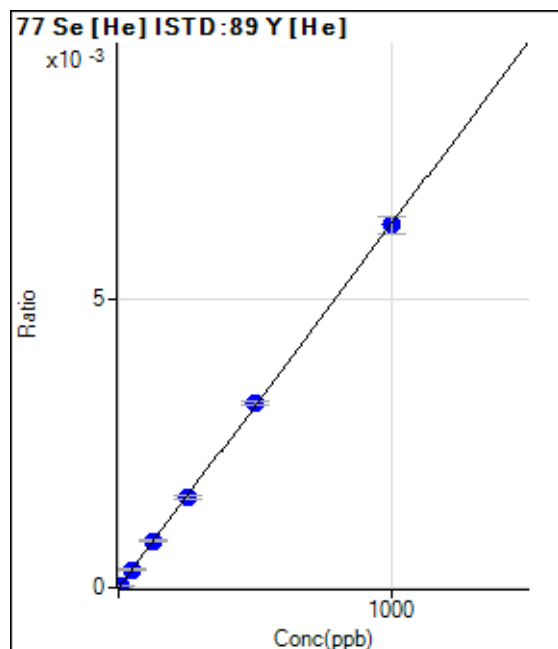
$$R = 1.0000$$

$$DL = 0.08956$$

$$BEC = 0.04325$$

Weight: <None>

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.
2	☐	5.000	5.093	56.67	0.0000	P	11.4
3	☐	50.000	48.109	518.90	0.0003	P	8.7
4	☐	125.000	128.620	1348.97	0.0008	P	4.5
5	☐	250.000	247.602	2624.71	0.0016	P	3.7
6	☐	500.000	506.156	5247.64	0.0032	P	2.4
7	☐	1000.000	997.163	10319.23	0.0063	P	4.5
8	☐			6.67	0.0000	P	51.2

$$y = 6.3267\text{E-}006 * x + 6.1035\text{E-}007$$

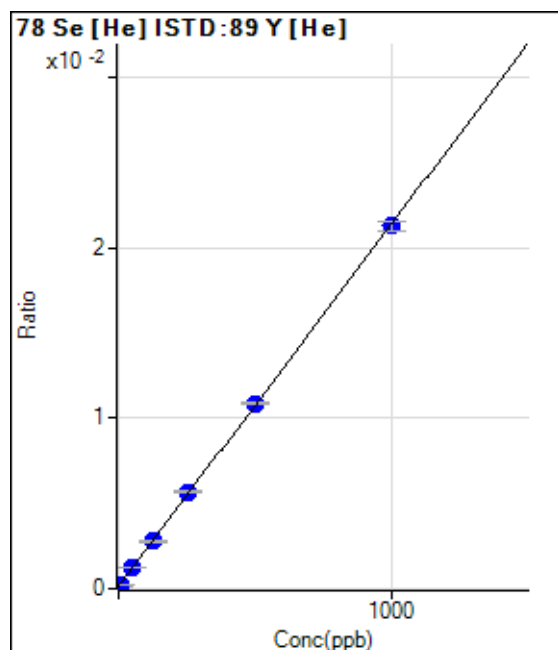
$$R = 1.0000$$

$$DL = 0.5013$$

$$BEC = 0.09647$$

Weight: <None>

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	255.56	0.0001	P	1.2
2	☐	5.000	5.085	430.01	0.0002	P	7.4
3	☐	50.000	52.334	2131.28	0.0013	P	5.3
4	☐	125.000	124.331	4608.53	0.0028	P	2.2
5	☐	250.000	259.668	9470.89	0.0057	P	2.1
6	☐	500.000	505.482	17819.68	0.0109	P	1.1
7	☐	1000.000	994.808	34797.63	0.0213	P	2.8
8	☐			322.23	0.0002	P	10.8

$$y = 2.1240\text{E-}005 * x + 1.4102\text{E-}004$$

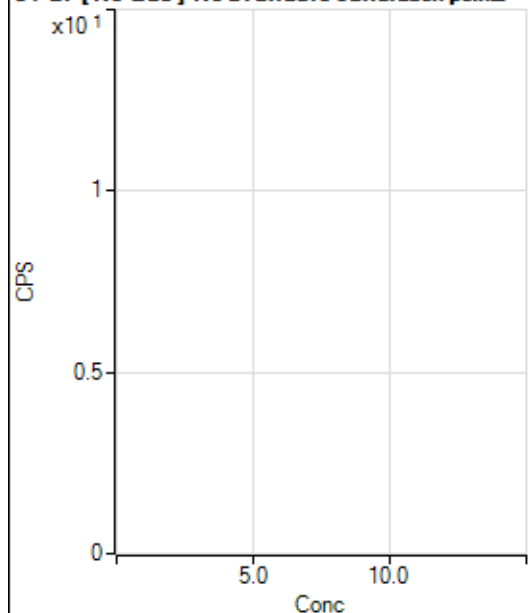
$$R = 0.9999$$

$$DL = 0.23$$

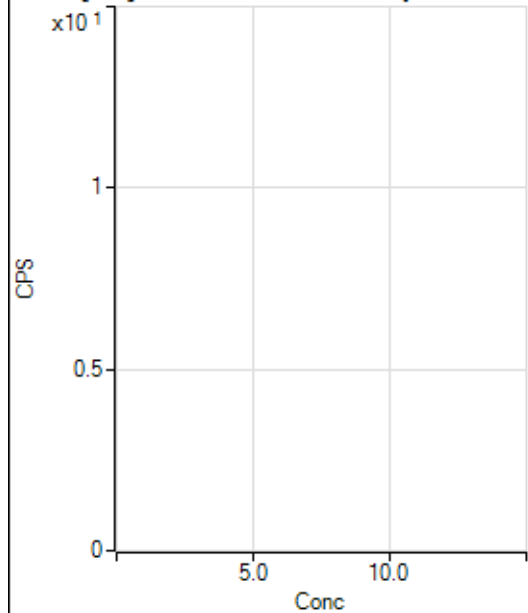
$$BEC = 6.639$$

Weight: <None>

Min Conc: <None>

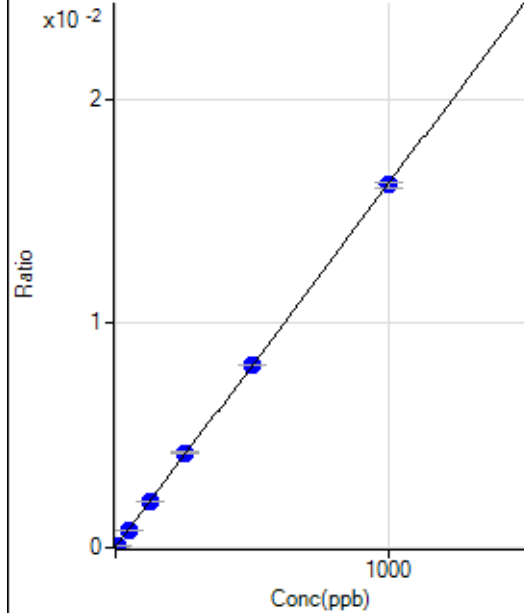
81 Br [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			8182.37		P	2.8
2	☐			8122.31		P	3.1
3	☐			8236.84		P	4.2
4	☐			7697.63		P	0.9
5	☐			7371.92		P	4.1
6	☐			7087.32		P	2.7
7	☐			7090.66		P	1.2
8	☐			7388.58		P	2.2

81 Br [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			143.34		P	14.1
2	☐			155.56		P	8.7
3	☐			146.67		P	12.0
4	☐			111.11		P	13.5
5	☐			117.78		P	9.9
6	☐			97.78		P	3.9
7	☐			116.67		P	13.1
8	☐			222.23		P	19.0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	141.90	0.0000	P	20.0
2	☐	5.000	4.726	622.91	0.0001	P	11.6
3	☐	50.000	48.520	5202.38	0.0008	P	0.7
4	☐	125.000	125.697	13074.95	0.0021	P	1.6
5	☐	250.000	259.772	26349.55	0.0042	P	1.4
6	☐	500.000	502.051	50567.43	0.0082	P	0.6
7	☐	1000.000	996.520	99826.75	0.0162	P	1.5
8	☐			188.69	0.0000	P	1.4

$y = 1.6197E-005 * x + 2.0917E-005$

$R = 0.9999$

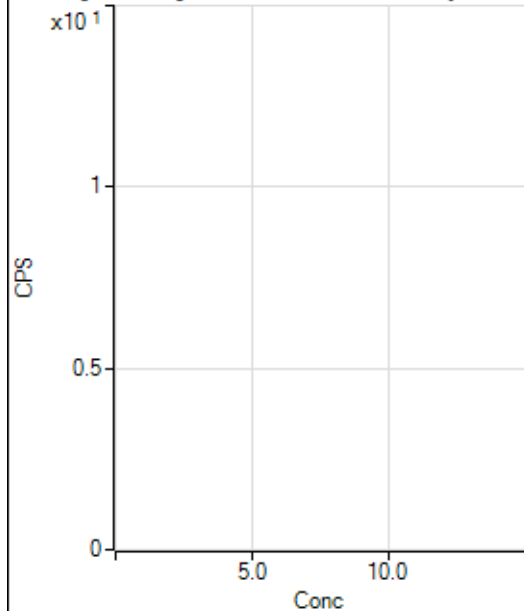
$DL = 0.7759$

$BEC = 1.291$

Weight: <None>

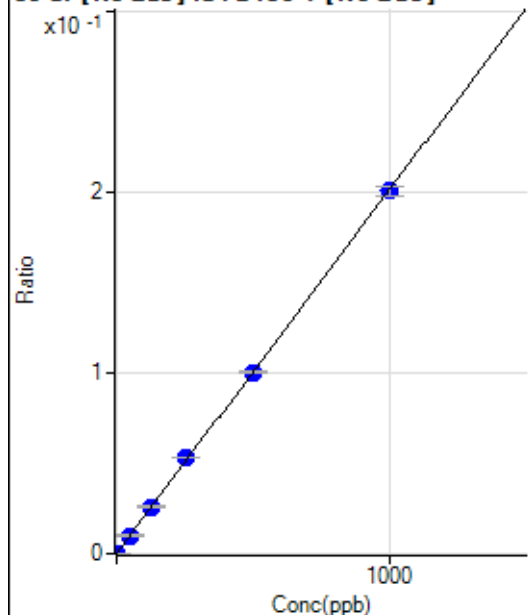
Min Conc: <None>

83 Kr [No Gas] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			351.12		P	6.7
2	☐			324.45		P	10.3
3	☐			382.23		P	11.8
4	☐			308.90		P	3.3
5	☐			355.56		P	19.8
6	☐			342.23		P	8.8
7	☐			350.01		P	15.9
8	☐			372.23		P	4.4

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	606.68	0.0001	P	3.5
2	☐	1.000	0.944	1786.79	0.0003	P	6.3
3	☐	50.000	49.398	64596.67	0.0100	P	2.3
4	☐	125.000	128.535	164819.27	0.0259	P	2.0
5	☐	250.000	262.809	329772.26	0.0529	P	0.6
6	☐	500.000	498.956	622681.22	0.1004	P	0.8
7	☐	1000.000	996.908	1238342.96	0.2005	P	2.4
8	☐			17050.25	0.0029	P	2.5

$$y = 2.0102\text{E-}004 * x + 8.9424\text{E-}005$$

R = 0.9999

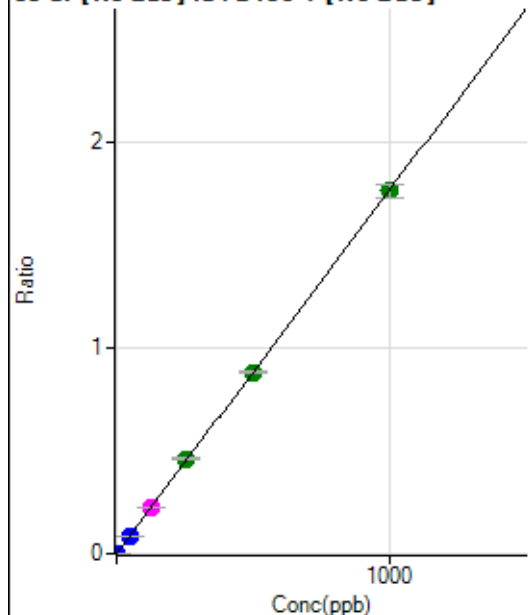
DL = 0.04643

BEC = 0.4449

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	150.00	0.0000	P	24.6
2	☐	1.000	0.935	10736.22	0.0017	P	2.6
3	☐	50.000	49.551	565541.17	0.0877	P	1.6
4	☐	125.000	127.742	1437190.24	0.2261	M	1.5
5	☐	250.000	260.043	2867803.60	0.4602	A	1.4
6	☐	500.000	498.086	5467598.67	0.8815	A	0.9
7	☐	1000.000	998.126	10909973.45	1.7664	A	4.0
8	☐			143105.03	0.0242	P	0.6

$$y = 0.0018 * x + 2.2129\text{E-}005$$

R = 0.9999

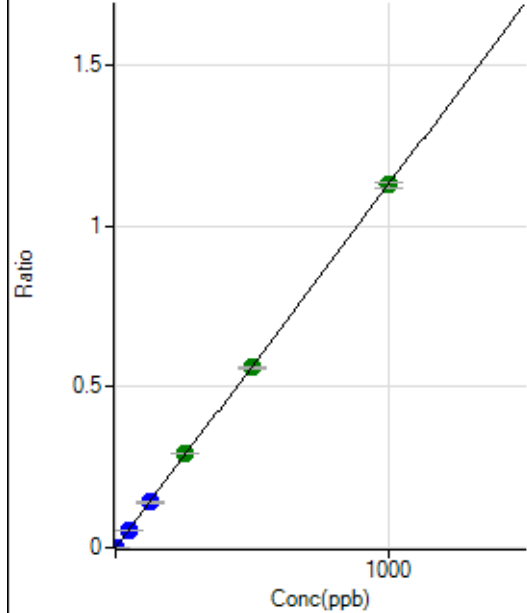
DL = 0.009232

BEC = 0.0125

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	265.56	0.0000	P	3.7
2	☐	1.000	0.960	7186.29	0.0011	P	1.5
3	☐	50.000	48.674	354464.17	0.0550	P	1.8
4	☐	125.000	124.996	897157.55	0.1411	P	1.3
5	☐	250.000	260.278	1830959.59	0.2938	A	1.1
6	☐	500.000	496.618	3477191.13	0.5606	A	0.8
7	☐	1000.000	999.188	6966874.90	1.1279	A	1.8
8	☐			6605.98	0.0011	P	2.3

$$y = 0.0011 * x + 3.9143E-005$$

$$R = 0.9999$$

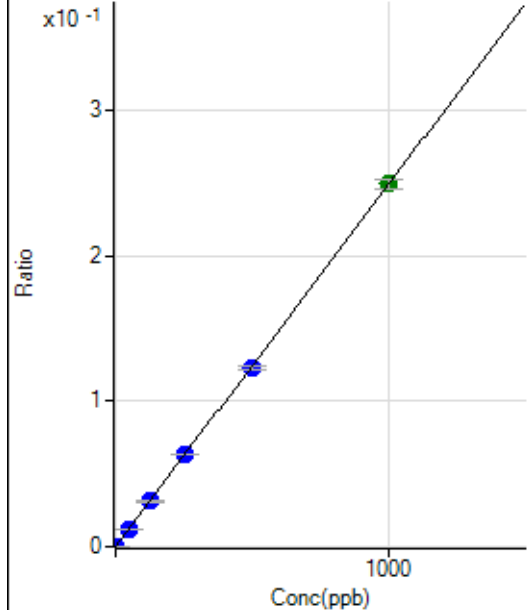
$$DL = 0.003823$$

$$BEC = 0.03468$$

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	63.33	0.0000	P	19.0
2	☐	1.000	0.962	1594.55	0.0002	P	1.1
3	☐	50.000	48.735	78343.30	0.0122	P	1.4
4	☐	125.000	124.834	197768.59	0.0311	P	1.0
5	☐	250.000	257.113	399247.25	0.0641	P	0.2
6	☐	500.000	492.983	761883.90	0.1228	P	1.9
7	☐	1000.000	1001.814	1541719.60	0.2496	A	2.3
8	☐			1404.53	0.0002	P	8.8

$$y = 2.4914E-004 * x + 9.3362E-006$$

$$R = 0.9999$$

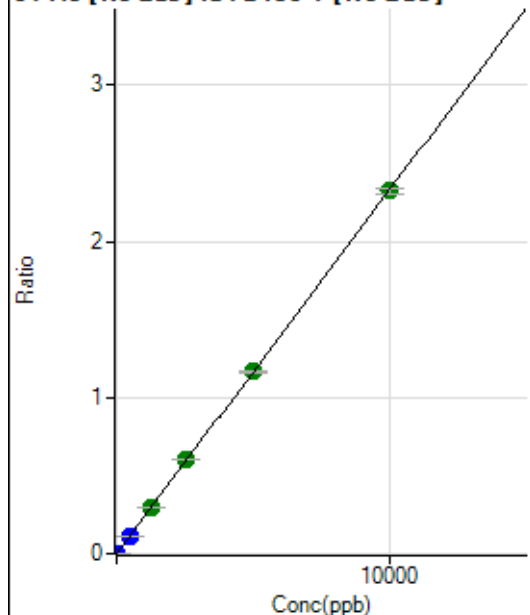
$$DL = 0.02135$$

$$BEC = 0.03747$$

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	180.00	0.0000	P	14.6
2	☐	5.000	5.574	8481.42	0.0013	P	3.5
3	☐	500.000	490.761	737338.60	0.1144	P	0.8
4	☐	1250.000	1263.029	1870392.04	0.2943	A	3.0
5	☐	2500.000	2597.365	3770746.02	0.6051	A	1.0
6	☐	5000.000	4997.086	7220801.56	1.1641	A	0.5
7	☐	10000.000	9975.949	14356321.17	2.3240	A	1.7
8	☐			7680.97	0.0013	P	1.2

$$y = 2.3296E-004 * x + 2.6518E-005$$

R = 0.9999

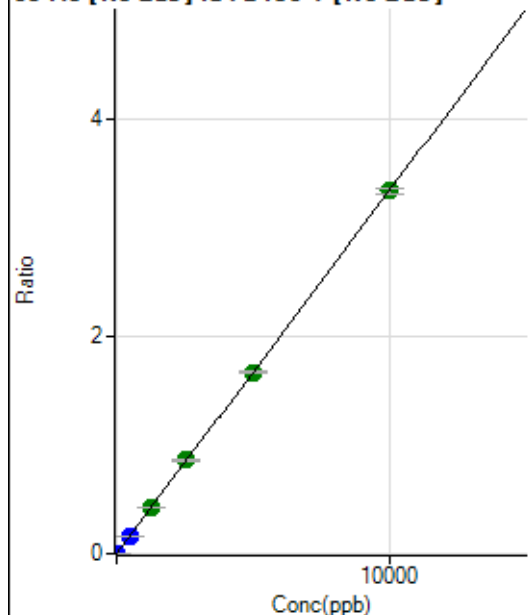
DL = 0.05

BEC = 0.1138

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	132.22	0.0000	P	38.9
2	☐	5.000	4.549	9850.05	0.0015	P	1.4
3	☐	500.000	487.701	1050153.84	0.1629	P	1.9
4	☐	1250.000	1254.665	2663768.31	0.4190	A	0.5
5	☐	2500.000	2583.821	5377389.50	0.8629	A	1.4
6	☐	5000.000	4984.840	10325464.85	1.6647	A	0.8
7	☐	10000.000	9986.657	20601399.14	3.3350	A	1.7
8	☐			8936.15	0.0015	P	3.6

$$y = 3.3395E-004 * x + 1.9469E-005$$

R = 1.0000

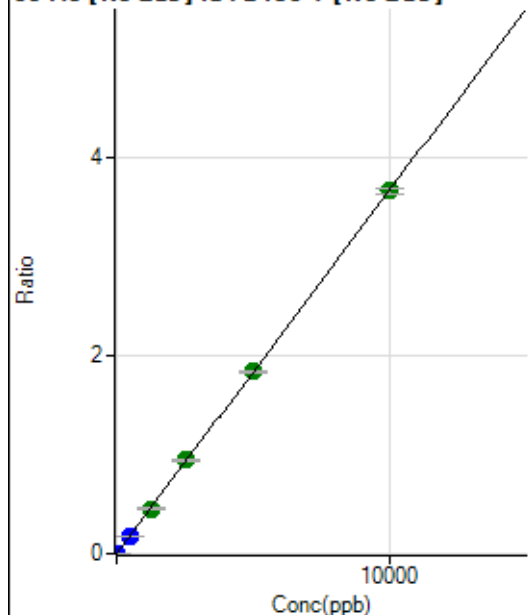
DL = 0.0681

BEC = 0.0583

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	183.34	0.0000	P	18.2
2	☐	5.000	4.660	11125.42	0.0017	P	3.6
3	☐	500.000	482.287	1141846.39	0.1771	P	2.2
4	☐	1250.000	1239.066	2892232.00	0.4550	A	1.2
5	☐	2500.000	2569.208	5879029.91	0.9434	A	1.1
6	☐	5000.000	5003.469	11395228.86	1.8372	A	1.1
7	☐	10000.000	9983.216	22642574.66	3.6656	A	1.4
8	☐			12325.26	0.0021	P	2.0

$$y = 3.6717E-004 * x + 2.7019E-005$$

R = 1.0000

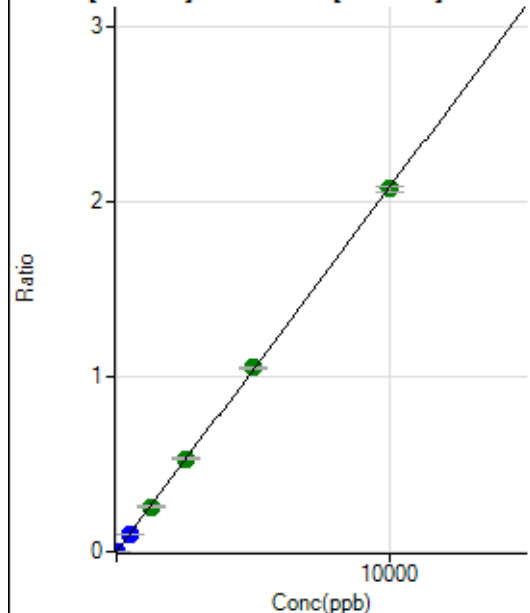
DL = 0.04023

BEC = 0.07359

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	76.67	0.0000	P	4.3
2	☐	5.000	4.612	6221.38	0.0010	P	4.4
3	☐	500.000	493.709	663180.14	0.1029	P	2.3
4	☐	1250.000	1237.607	1639012.35	0.2578	A	1.1
5	☐	2500.000	2548.258	3308123.04	0.5309	A	1.2
6	☐	5000.000	5052.239	6528244.90	1.0525	A	1.0
7	☐	10000.000	9963.680	12821732.45	2.0756	A	1.7
8	☐			5756.75	0.0010	P	2.3

$$y = 2.0832E-004 * x + 1.1301E-005$$

R = 1.0000

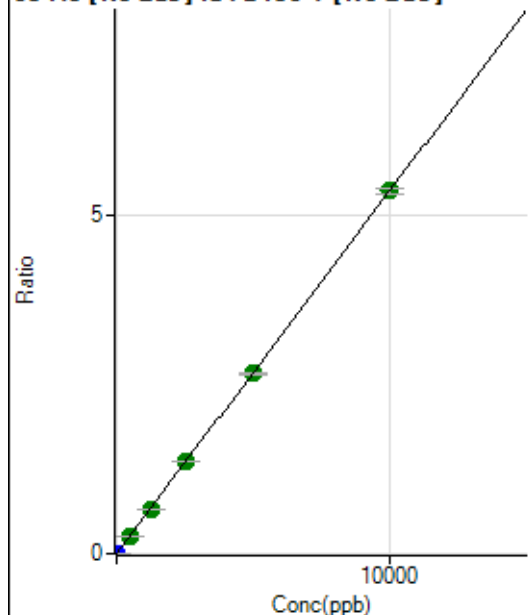
DL = 0.006985

BEC = 0.05425

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	182.22	0.0000	P	11.0
2	☐	5.000	4.534	15748.59	0.0025	P	1.6
3	☐	500.000	492.447	1703938.86	0.2643	A	1.7
4	☐	1250.000	1229.693	4194756.46	0.6599	A	1.4
5	☐	2500.000	2537.996	8487218.63	1.3619	A	0.5
6	☐	5000.000	4966.719	16530922.11	2.6652	A	1.7
7	☐	10000.000	10010.058	33177984.23	5.3714	A	1.8
8	☐			14241.48	0.0024	P	3.3

$$y = 5.3660E-004 * x + 2.6866E-005$$

$$R = 1.0000$$

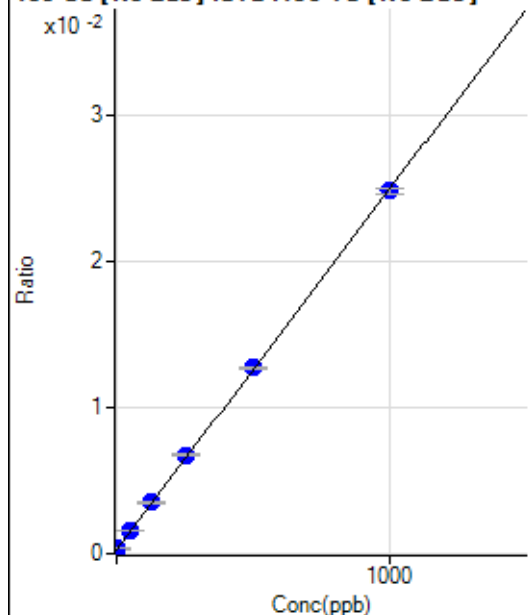
$$DL = 0.01656$$

$$BEC = 0.05007$$

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	1603.44	0.0003	P	3.3
2	☐	1.000	0.710	1574.54	0.0003	P	8.7
3	☐	50.000	52.084	7597.61	0.0016	P	2.4
4	☐	125.000	128.611	16624.11	0.0035	P	1.3
5	☐	250.000	260.400	31744.79	0.0067	P	1.5
6	☐	500.000	503.550	59272.67	0.0127	P	1.5
7	☐	1000.000	995.070	116957.12	0.0248	P	1.4
8	☐			1557.88	0.0003	P	4.5

$$y = 2.4566E-005 * x + 3.2715E-004$$

$$R = 0.9999$$

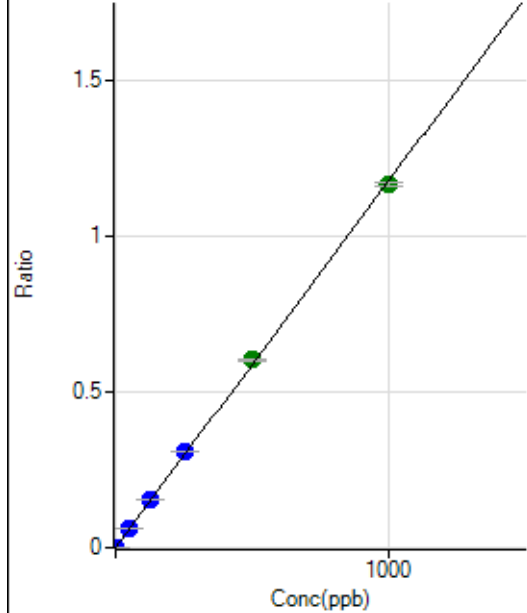
$$DL = 1.316$$

$$BEC = 13.32$$

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	47.78	0.0000	P	22.9
2	☐	1.000	1.040	5644.48	0.0012	P	0.6
3	☐	50.000	51.866	288924.83	0.0611	P	1.1
4	☐	125.000	130.198	730949.57	0.1533	P	2.1
5	☐	250.000	262.494	1459566.49	0.3091	P	1.4
6	☐	500.000	512.513	2817765.86	0.6036	A	0.8
7	☐	1000.000	989.877	5503295.61	1.1658	A	1.2
8	☐			5643.37	0.0012	P	1.6

$$y = 0.0012 * x + 9.7551E-006$$

$$R = 0.9998$$

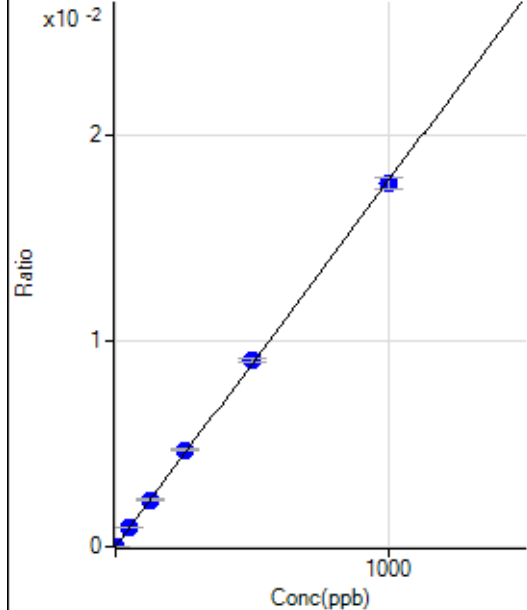
$$DL = 0.005694$$

$$BEC = 0.008283$$

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	4.44	0.0000	P	43.6
2	☐	1.000	0.919	78.89	0.0000	P	5.4
3	☐	50.000	52.539	4425.17	0.0009	P	3.1
4	☐	125.000	128.585	10906.41	0.0023	P	3.5
5	☐	250.000	264.921	22257.19	0.0047	P	0.7
6	☐	500.000	509.816	42346.23	0.0091	P	1.5
7	☐	1000.000	990.787	83213.94	0.0176	P	3.0
8	☐			75.55	0.0000	P	15.4

$$y = 1.7791E-005 * x + 9.0701E-007$$

$$R = 0.9998$$

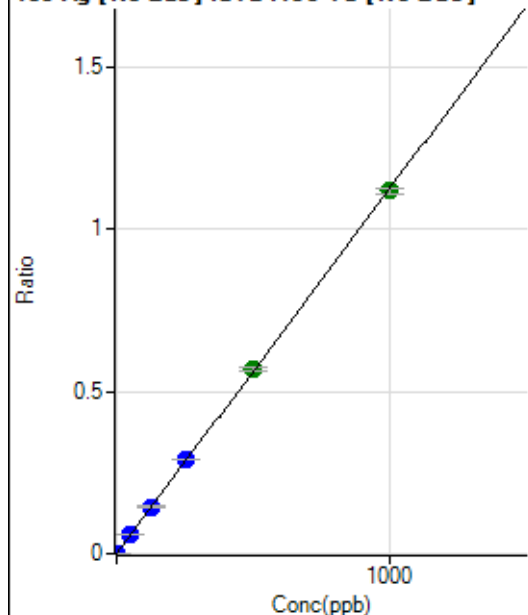
$$DL = 0.06664$$

$$BEC = 0.05098$$

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	17.78	0.0000	P	28.9
2	☐	1.000	1.033	5327.70	0.0012	P	1.5
3	☐	50.000	50.994	271129.70	0.0573	P	1.2
4	☐	125.000	128.161	686810.94	0.1441	P	2.2
5	☐	250.000	258.917	1374227.34	0.2911	P	1.1
6	☐	500.000	505.630	2653376.83	0.5684	A	2.5
7	☐	1000.000	994.511	5277924.89	1.1181	A	1.6
8	☐			5335.47	0.0012	P	3.6

$$y = 0.0011 * x + 3.6294E-006$$

R = 0.9999

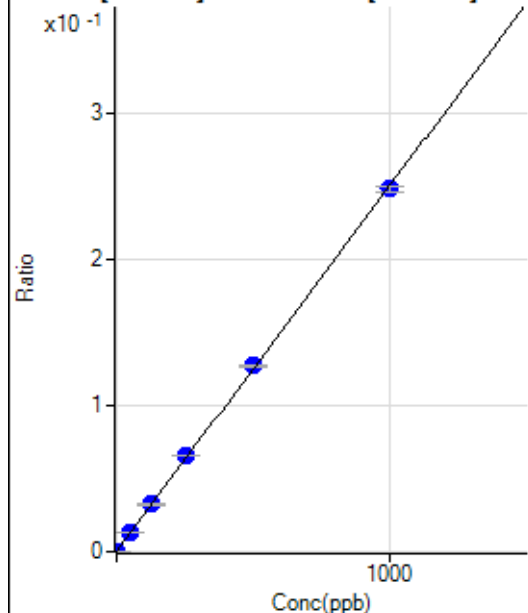
DL = 0.0028

BEC = 0.003228

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	1123.74	0.0002	P	2.7
2	☐	1.000	0.967	2152.57	0.0005	P	5.8
3	☐	50.000	51.612	62087.35	0.0131	P	0.9
4	☐	125.000	128.518	154198.74	0.0323	P	1.9
5	☐	250.000	262.705	311042.29	0.0659	P	1.0
6	☐	500.000	507.910	593634.61	0.1272	P	1.5
7	☐	1000.000	992.349	1171848.62	0.2482	P	1.8
8	☐			1597.65	0.0004	P	4.6

$$y = 2.4992E-004 * x + 2.2928E-004$$

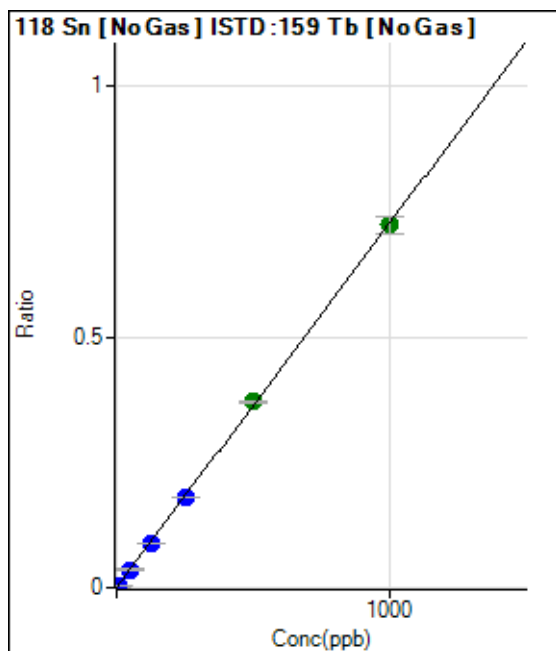
R = 0.9999

DL = 0.0754

BEC = 0.9174

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2157.96	0.0004	P	2.3
2	☐	5.000	4.590	17240.41	0.0038	P	2.7
3	☐	50.000	49.312	171302.99	0.0362	P	1.1
4	☐	125.000	121.987	424038.24	0.0890	P	2.3
5	☐	250.000	248.879	854690.54	0.1810	P	0.9
6	☐	500.000	509.561	1728285.01	0.3702	A	0.4
7	☐	1000.000	995.913	3412349.60	0.7231	A	4.6
8	☐			5782.33	0.0013	P	2.4

$$y = 7.2565E-004 * x + 4.4026E-004$$

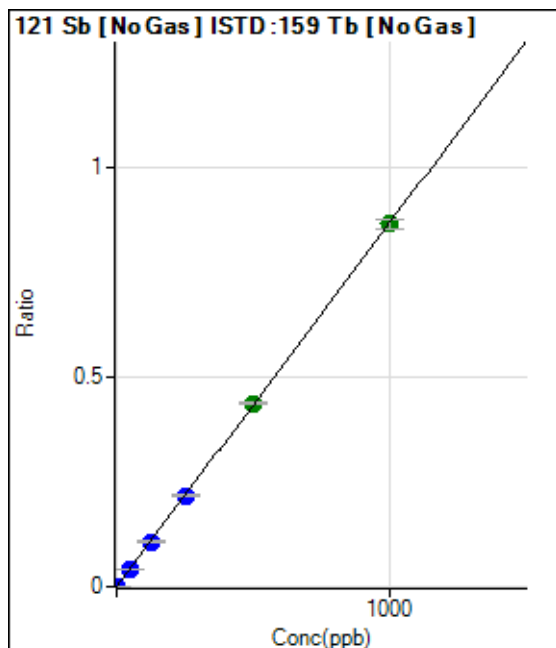
R = 0.9999

DL = 0.04265

BEC = 0.6067

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21.11	0.0000	P	32.7
2	☐	2.000	2.000	7935.60	0.0017	P	2.1
3	☐	50.000	49.330	201927.14	0.0427	P	1.5
4	☐	125.000	122.620	505819.38	0.1061	P	3.0
5	☐	250.000	250.953	1025430.84	0.2172	P	1.2
6	☐	500.000	504.601	2038725.11	0.4367	A	1.4
7	☐	1000.000	997.792	4076066.71	0.8636	A	2.6
8	☐			10309.33	0.0023	P	4.4

$$y = 8.6550E-004 * x + 4.3045E-006$$

R = 1.0000

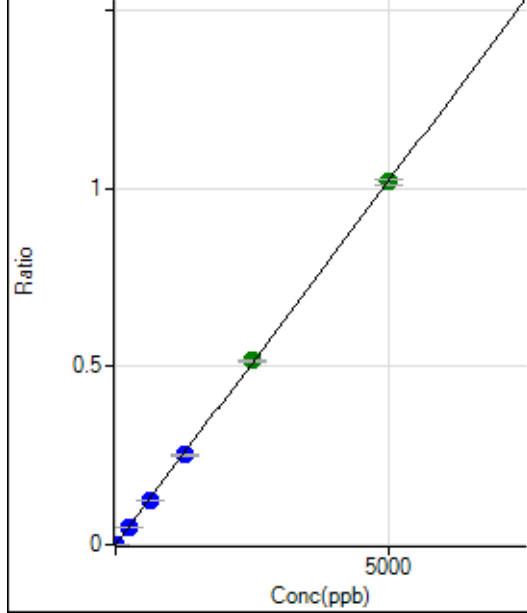
DL = 0.004881

BEC = 0.004973

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	24.45	0.0000	P	43.2
2	☐	10.000	9.413	8803.91	0.0019	P	1.6
3	☐	250.000	243.906	235387.88	0.0498	P	1.4
4	☐	625.000	603.883	587322.76	0.1232	P	2.4
5	☐	1250.000	1236.047	1190716.05	0.2522	P	1.5
6	☐	2500.000	2531.916	2411980.62	0.5166	A	1.6
7	☐	5000.000	4990.476	4806971.80	1.0183	A	1.9
8	☐			7706.60	0.0017	P	3.5

$$y = 2.0404\text{E-}004 * x + 4.9804\text{E-}006$$

$$R = 1.0000$$

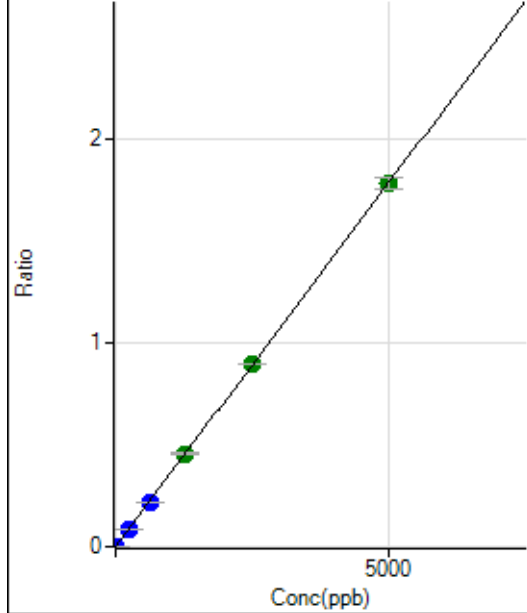
$$DL = 0.03165$$

$$BEC = 0.02441$$

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	51.11	0.0000	P	33.7
2	☐	10.000	9.224	15069.23	0.0033	P	2.3
3	☐	250.000	242.264	408015.52	0.0863	P	0.4
4	☐	625.000	605.669	1028017.97	0.2157	P	2.2
5	☐	1250.000	1281.513	2154284.84	0.4563	A	1.6
6	☐	2500.000	2512.649	4177119.42	0.8947	A	0.7
7	☐	5000.000	4988.602	8383405.57	1.7763	A	3.2
8	☐			13444.23	0.0030	P	2.1

$$y = 3.5608\text{E-}004 * x + 1.0436\text{E-}005$$

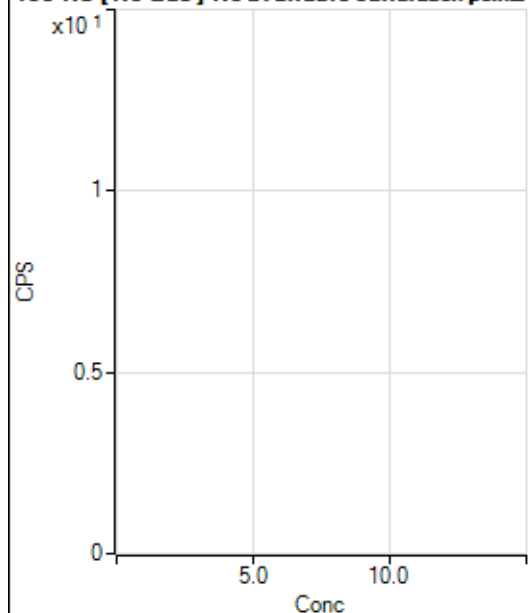
$$R = 1.0000$$

$$DL = 0.02964$$

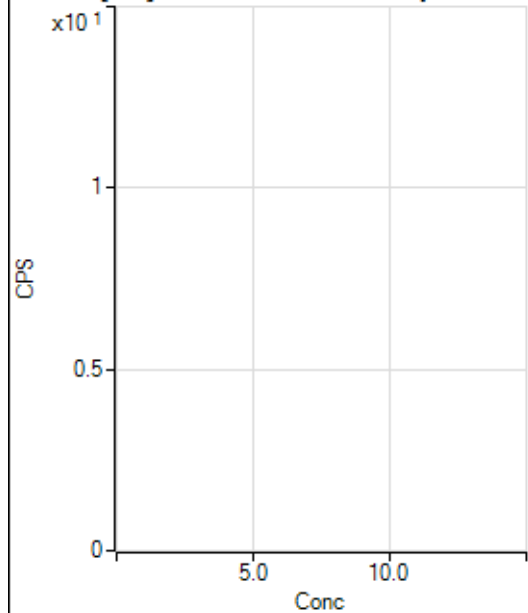
$$BEC = 0.02931$$

Weight: <None>

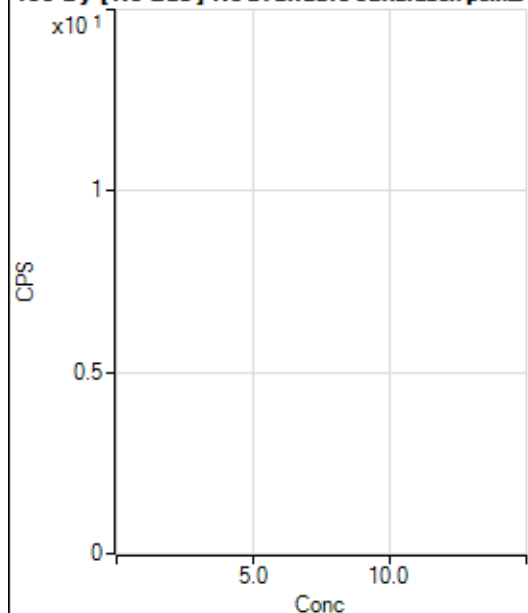
Min Conc: <None>

150 Nd [No Gas] No available calibration points

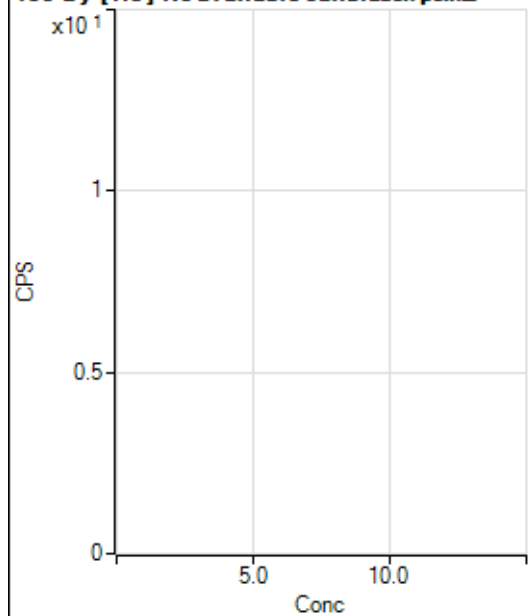
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			6.67		P	100.
2	☐			4.44		P	43.4
3	☐			20.00		P	33.4
4	☐			24.44		P	70.0
5	☐			61.11		P	17.5
6	☐			85.56		P	31.7
7	☐			152.23		P	20.8
8	☐			87.78		P	23.2

150 Nd [He] No available calibration points

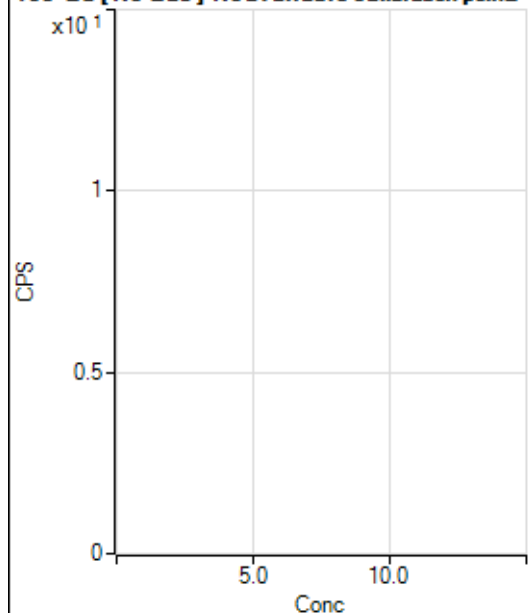
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			3.33		P	0.0
2	☐			1.11		P	173.
3	☐			4.44		P	114.
4	☐			7.78		P	49.5
5	☐			7.78		P	49.5
6	☐			17.78		P	28.6
7	☐			33.33		P	34.6
8	☐			55.55		P	35.2

156 Dy [No Gas] No available calibration points

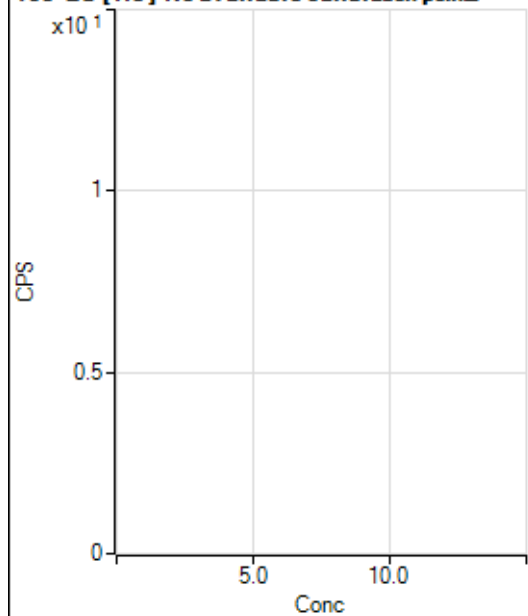
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			4.44		P	43.4
2	☐			4.45		P	86.6
3	☐			10.00		P	66.7
4	☐			25.56		P	32.8
5	☐			30.00		P	19.2
6	☐			47.78		P	29.0
7	☐			102.22		P	29.2
8	☐			231.12		P	16.7

156 Dy [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			1.11		P	173.
2	☐			4.44		P	43.4
3	☐			18.89		P	53.9
4	☐			38.89		P	32.4
5	☐			85.55		P	12.5
6	☐			165.56		P	12.3
7	☐			250.00		P	22.2
8	☐			175.56		P	6.1

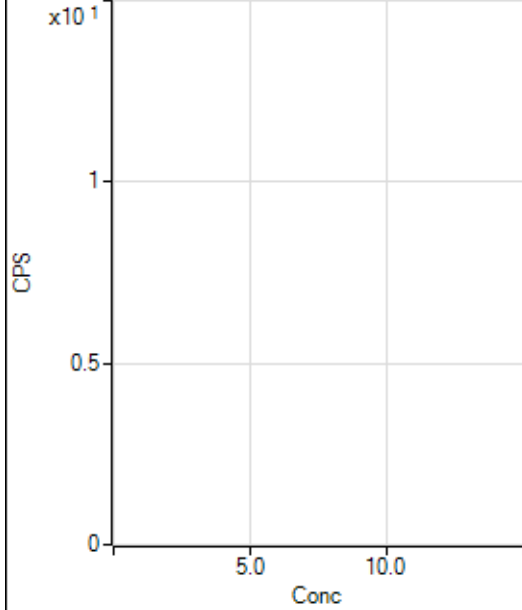
160 Gd [No Gas] Noavailable calibration poin...

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			22.22		P	37.8
2	☐			21.11		P	32.9
3	☐			25.55		P	27.1
4	☐			36.67		P	24.0
5	☐			38.89		P	35.7
6	☐			74.44		P	13.7
7	☐			65.55		P	16.3
8	☐			236.67		P	8.6

160 Gd [He] No available calibration points

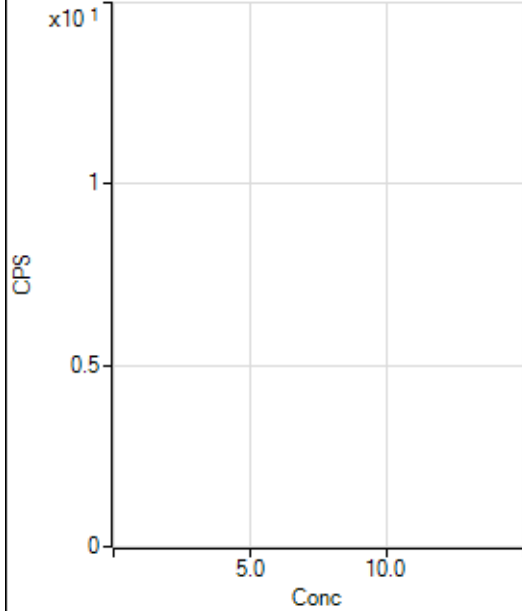
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			215.56		P	7.6
2	☐			212.23		P	3.6
3	☐			187.78		P	7.4
4	☐			207.78		P	3.7
5	☐			206.67		P	25.2
6	☐			212.23		P	14.6
7	☐			230.00		P	9.5
8	☐			428.90		P	16.5

164 Er [No Gas] No available calibration points



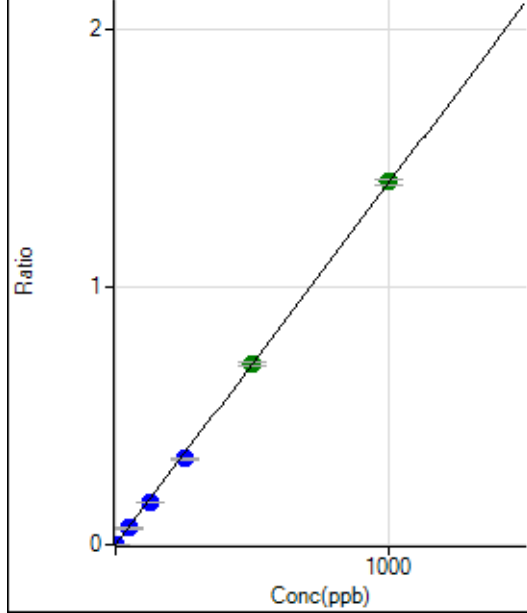
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			24.44		P	7.9
2	☐			21.11		P	48.2
3	☐			14.44		P	35.3
4	☐			41.11		P	52.1
5	☐			68.89		P	17.0
6	☐			82.22		P	20.4
7	☐			130.00		P	6.8
8	☐			462.24		P	9.0

164 Er [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			14.45		P	26.7
2	☐			10.00		P	100.
3	☐			22.22		P	22.9
4	☐			25.56		P	7.5
5	☐			36.67		P	24.1
6	☐			42.22		P	18.2
7	☐			72.22		P	26.2
8	☐			307.79		P	15.2

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47.78	0.0000	P	36.0
2	☐	1.000	0.927	3989.51	0.0013	P	2.2
3	☐	50.000	45.713	199131.41	0.0642	P	2.8
4	☐	125.000	115.770	501537.64	0.1627	P	1.0
5	☐	250.000	237.317	1031948.89	0.3334	P	2.5
6	☐	500.000	501.071	2188359.50	0.7040	A	1.9
7	☐	1000.000	1004.004	4346828.93	1.4105	A	1.6
8	☐			5965.81	0.0022	P	1.0

$$y = 0.0014 * x + 1.4910E-005$$

$$R = 0.9999$$

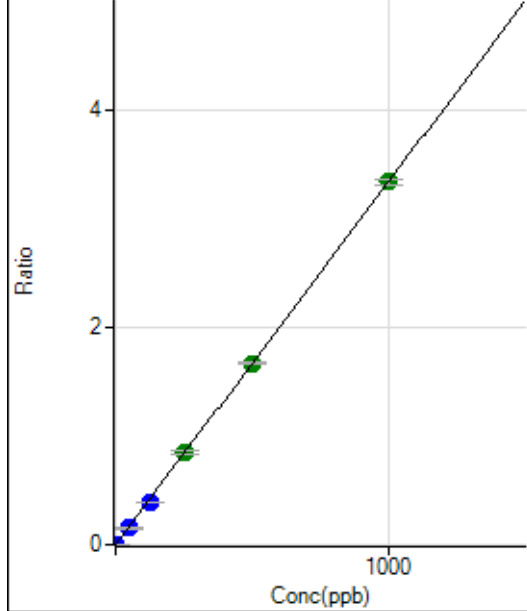
$$DL = 0.01145$$

$$BEC = 0.01061$$

Weight: <None>

Min Conc: <None>

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	118.89	0.0000	P	17.7
2	☐	1.000	0.934	9535.63	0.0032	P	3.1
3	☐	50.000	45.222	467195.36	0.1507	P	2.3
4	☐	125.000	115.444	1185943.72	0.3846	P	1.1
5	☐	250.000	254.752	2626854.42	0.8487	A	3.2
6	☐	500.000	500.253	5180746.48	1.6666	A	1.7
7	☐	1000.000	1000.119	10268536.65	3.3319	A	1.3
8	☐			14040.68	0.0051	P	2.5

$$y = 0.0033 * x + 3.7078E-005$$

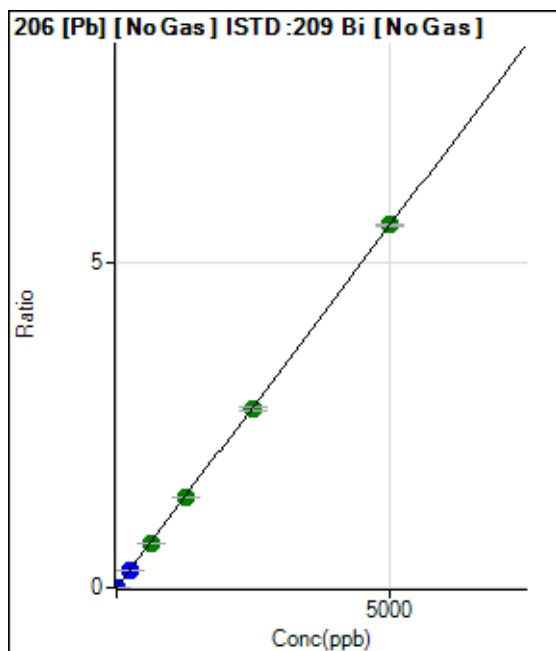
$$R = 0.9999$$

$$DL = 0.005916$$

$$BEC = 0.01113$$

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	248.89	0.0001	P	12.8
2	☐	1.000	0.775	2850.32	0.0009	P	5.1
3	☐	250.000	231.256	799627.87	0.2579	P	1.8
4	☐	625.000	617.311	2122311.60	0.6883	A	1.7
5	☐	1250.000	1257.684	4340413.83	1.4023	A	0.6
6	☐	2500.000	2471.809	8567706.75	2.7560	A	2.2
7	☐	5000.000	5014.073	17228348.77	5.5905	A	0.8
8	☐			6940.72	0.0025	P	4.4

$$y = 0.0011 * x + 7.7630E-005$$

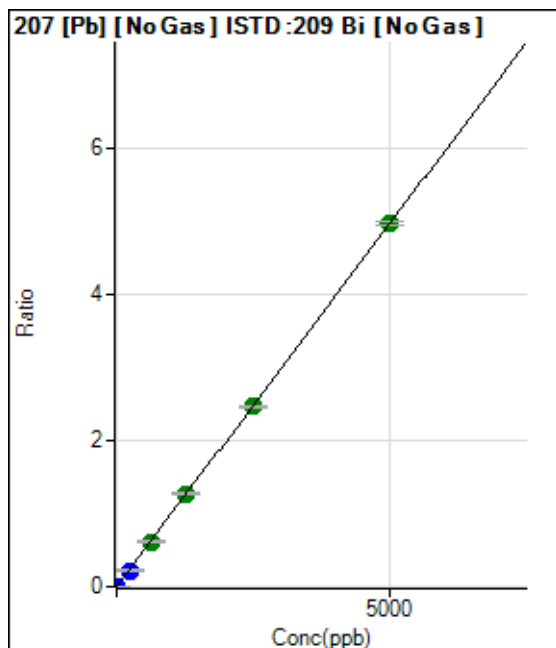
R = 1.0000

DL = 0.02682

BEC = 0.06963

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0001	P	15.6
2	☐	1.000	0.795	2578.05	0.0009	P	6.1
3	☐	250.000	225.037	694009.53	0.2239	P	2.2
4	☐	625.000	619.403	1899478.01	0.6161	A	1.3
5	☐	1250.000	1283.584	3951067.86	1.2766	A	2.2
6	☐	2500.000	2483.901	7679474.12	2.4703	A	1.3
7	☐	5000.000	5001.601	15328305.74	4.9741	A	1.2
8	☐			6235.93	0.0023	P	3.5

$$y = 9.9449E-004 * x + 6.1356E-005$$

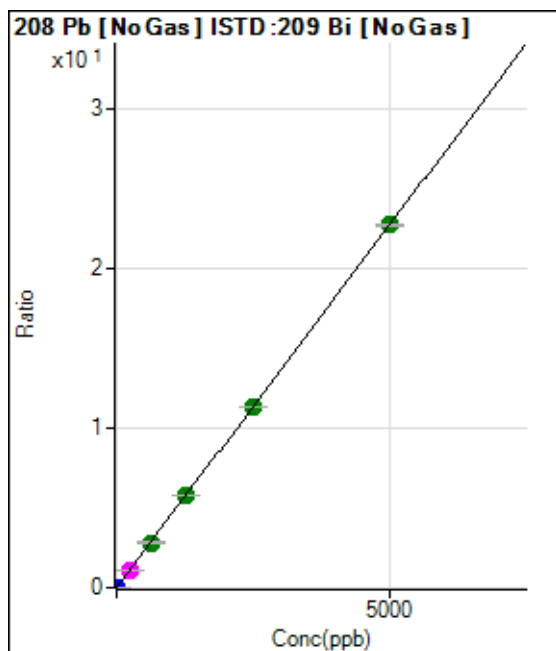
R = 0.9999

DL = 0.0288

BEC = 0.0617

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1008.91	0.0003	P	7.3
2	☐	1.000	0.784	11725.46	0.0039	P	3.8
3	☐	250.000	230.180	3242420.74	1.0455	M	0.3
4	☐	625.000	618.011	8653354.30	2.8066	A	1.9
5	☐	1250.000	1267.348	17812806.13	5.7552	A	1.2
6	☐	2500.000	2492.233	35182655.03	11.3172	A	0.7
7	☐	5000.000	5001.411	69987883.96	22.7110	A	0.5
8	☐			28480.92	0.0103	P	0.5

$$y = 0.0045 * x + 3.1472E-004$$

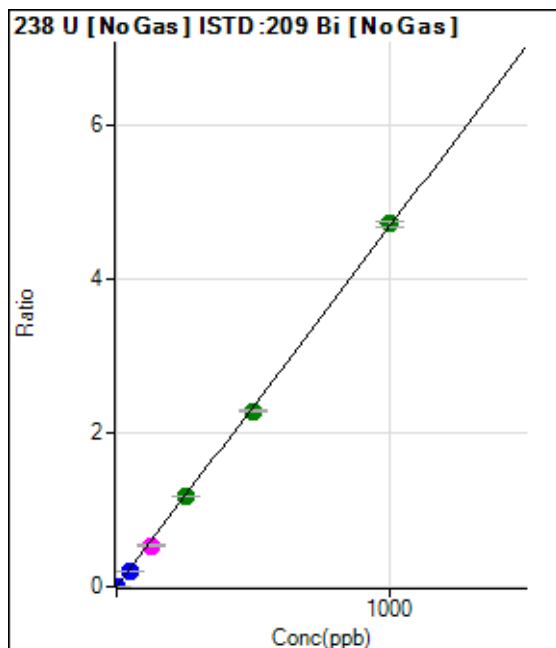
R = 1.0000

DL = 0.01528

BEC = 0.06931

Weight: <None>

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18.89	0.0000	P	54.1
2	☐	1.000	0.840	11922.10	0.0039	P	1.8
3	☐	50.000	43.728	634722.45	0.2047	P	2.5
4	☐	125.000	114.317	1649956.35	0.5352	M	5.2
5	☐	250.000	250.703	3633008.25	1.1738	A	0.4
6	☐	500.000	488.092	7104059.48	2.2852	A	0.9
7	☐	1000.000	1007.427	14534267.14	4.7167	A	1.4
8	☐			915.60	0.0003	P	4.8

$$y = 0.0047 * x + 5.8956E-006$$

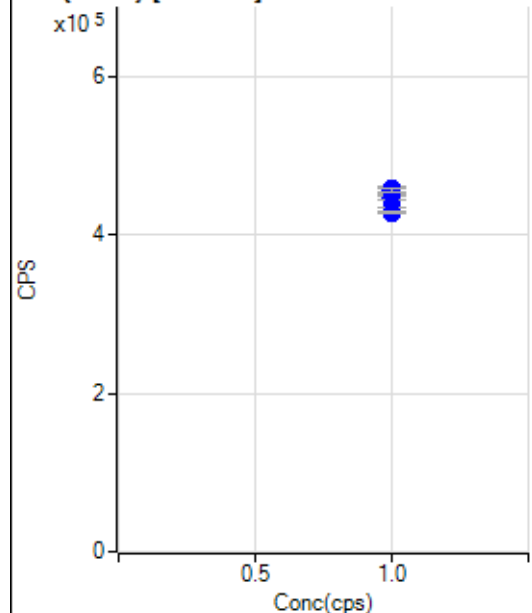
R = 0.9998

DL = 0.002043

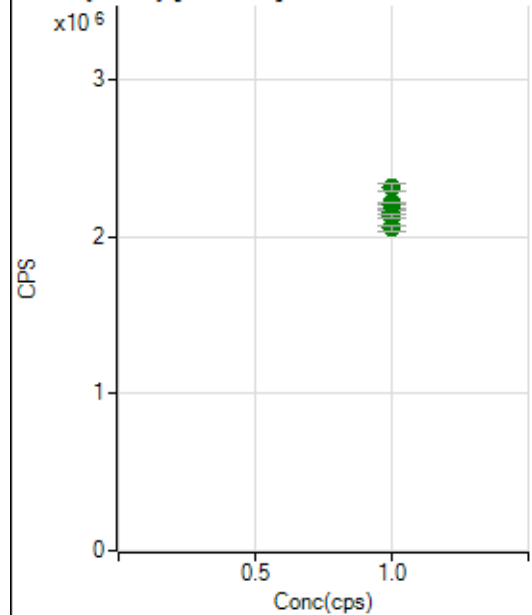
BEC = 0.001259

Weight: <None>

Min Conc: <None>

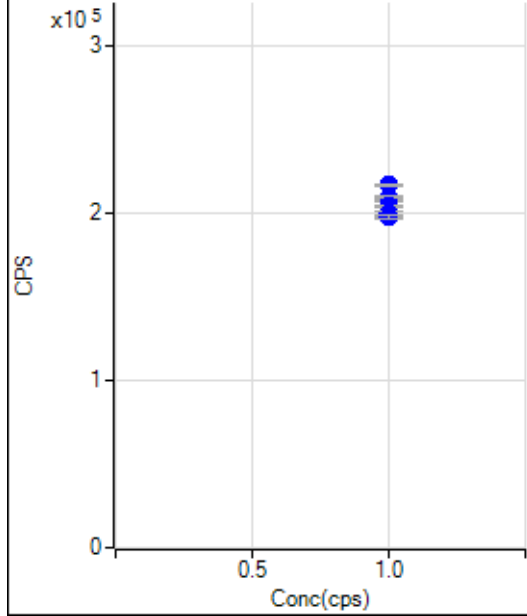
6 Li (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		458651.85		P	1.4
2	☐	1.000		435750.46		P	0.3
3	☐	1.000		447016.24		P	1.2
4	☐	1.000		451702.41		P	0.6
5	☐	1.000		451641.18		P	0.7
6	☐	1.000		452200.61		P	0.3
7	☐	1.000		456934.13		P	0.9
8	☐	1.000		427940.47		P	0.5

45 Sc (ISTD) [No Gas]

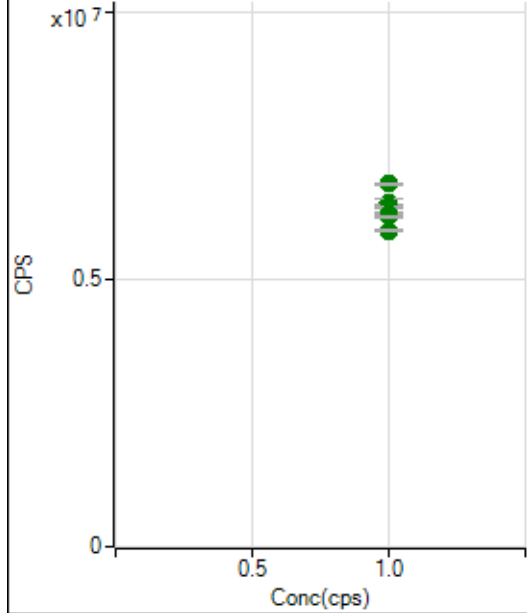
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2312735.04		A	2.1
2	☐	1.000		2206863.96		A	0.5
3	☐	1.000		2204575.00		A	1.8
4	☐	1.000		2219429.85		A	0.4
5	☐	1.000		2153578.06		A	1.0
6	☐	1.000		2131762.94		A	1.2
7	☐	1.000		2129165.63		A	1.3
8	☐	1.000		2053407.68		A	2.0

45 Sc (ISTD) [He]

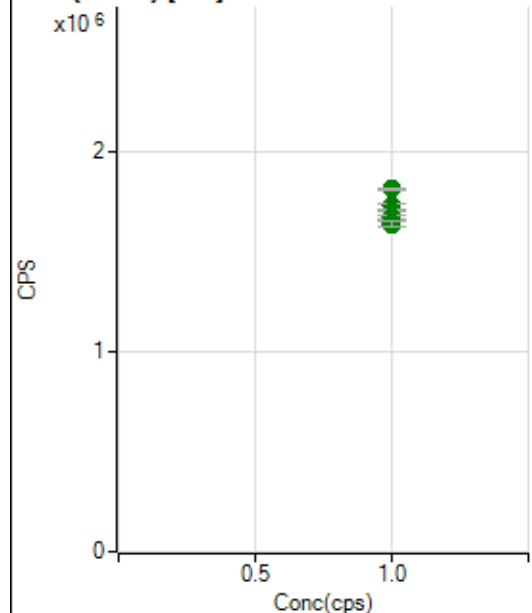


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		217242.39		P	0.4
2	☐	1.000		208080.48		P	0.3
3	☐	1.000		209817.31		P	0.4
4	☐	1.000		204411.59		P	0.7
5	☐	1.000		200455.44		P	0.9
6	☐	1.000		197657.58		P	0.6
7	☐	1.000		197838.46		P	0.8
8	☐	1.000		198295.66		P	1.0

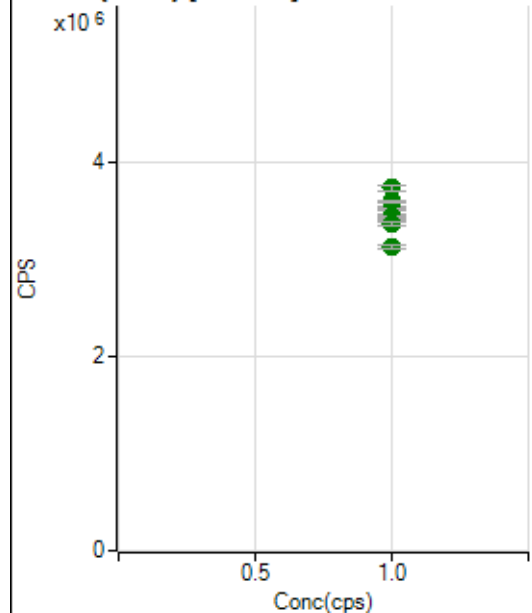
89 Y (ISTD) [No Gas]



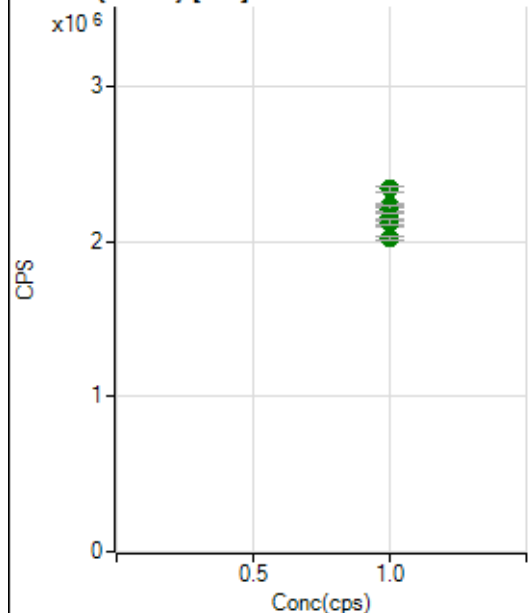
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6784251.15		A	0.6
2	☐	1.000		6403795.12		A	2.8
3	☐	1.000		6448120.18		A	1.4
4	☐	1.000		6357154.97		A	0.7
5	☐	1.000		6231716.50		A	0.8
6	☐	1.000		6202666.44		A	0.1
7	☐	1.000		6177251.57		A	0.7
8	☐	1.000		5913876.51		A	1.2

89 Y(ISTD) [He]

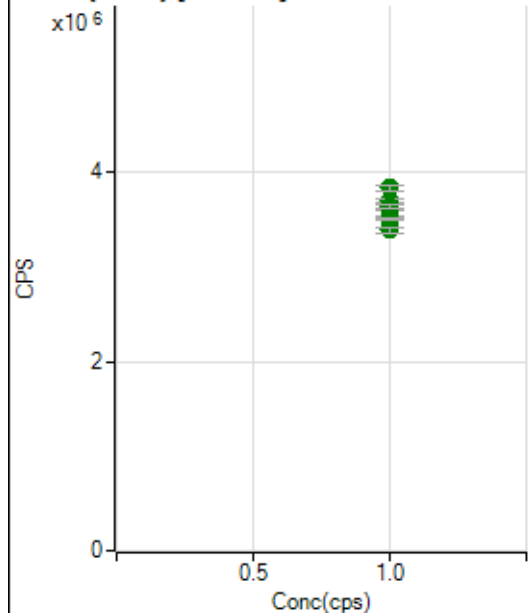
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1812238.51		A	0.6
2	☐	1.000		1725413.86		A	1.9
3	☐	1.000		1701795.72		A	0.6
4	☐	1.000		1656699.78		A	0.4
5	☐	1.000		1674501.89		A	1.0
6	☐	1.000		1638339.27		A	1.3
7	☐	1.000		1636504.73		A	2.0
8	☐	1.000		1636865.69		A	1.8

103 Rh(ISTD) [No Gas]

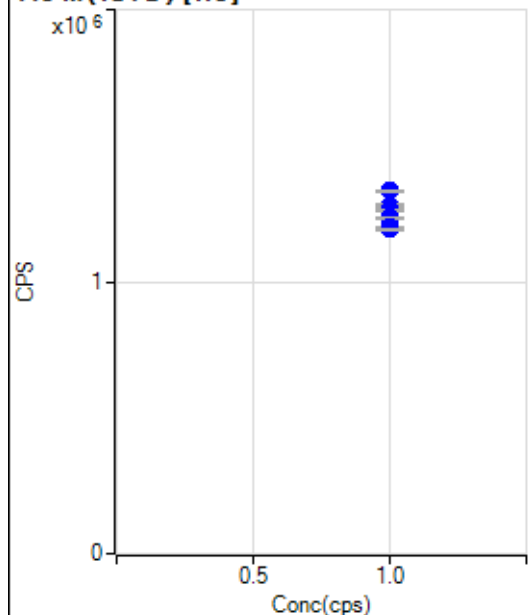
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3734377.20		A	1.4
2	☐	1.000		3515497.48		A	1.2
3	☐	1.000		3506099.22		A	0.6
4	☐	1.000		3595812.62		A	0.6
5	☐	1.000		3438545.09		A	1.9
6	☐	1.000		3436334.39		A	1.0
7	☐	1.000		3362306.27		A	1.4
8	☐	1.000		3133987.28		A	1.2

103 Rh (ISTD) [He]

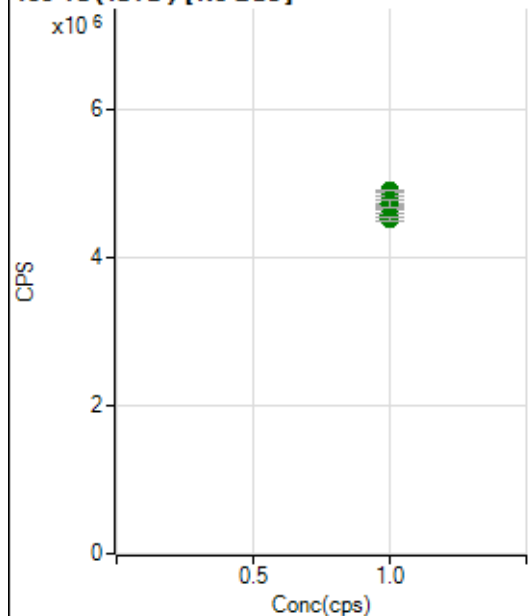
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2342543.87		A	1.5
2	☐	1.000		2240426.32		A	0.8
3	☐	1.000		2239062.73		A	1.1
4	☐	1.000		2214597.57		A	1.9
5	☐	1.000		2163726.25		A	1.4
6	☐	1.000		2117029.29		A	1.9
7	☐	1.000		2128906.18		A	1.7
8	☐	1.000		2025439.43		A	1.5

115 In (ISTD) [No Gas]

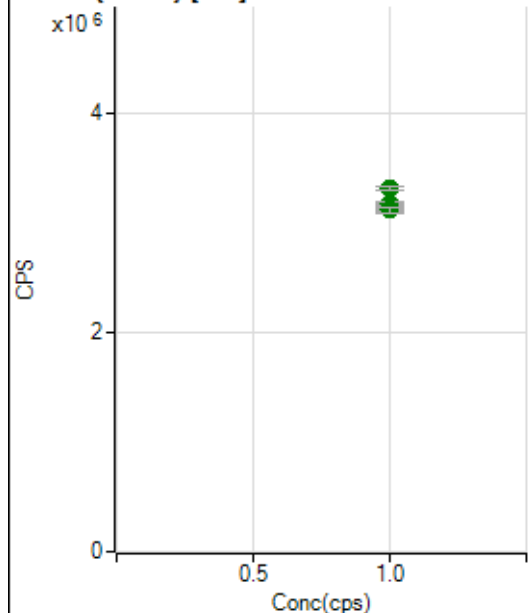
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3834089.43		A	1.3
2	☐	1.000		3596373.08		A	0.2
3	☐	1.000		3694269.30		A	1.4
4	☐	1.000		3631899.02		A	0.9
5	☐	1.000		3521217.83		A	1.0
6	☐	1.000		3513379.19		A	1.2
7	☐	1.000		3502280.03		A	0.4
8	☐	1.000		3384535.55		A	2.2

115 In (ISTD) [He]

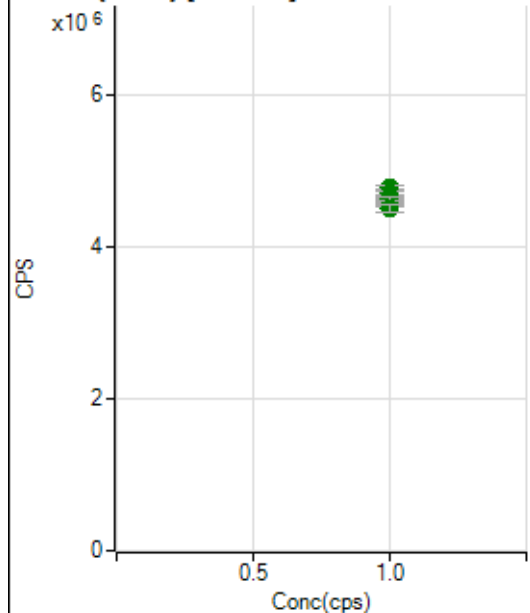
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1334835.69		P	0.6
2	☐	1.000		1278224.65		P	0.6
3	☐	1.000		1281851.28		P	0.5
4	☐	1.000		1263812.11		P	0.6
5	☐	1.000		1235501.96		P	0.4
6	☐	1.000		1200276.83		P	0.9
7	☐	1.000		1197104.73		P	1.1
8	☐	1.000		1193852.24		P	0.5

159 Tb (ISTD) [No Gas]

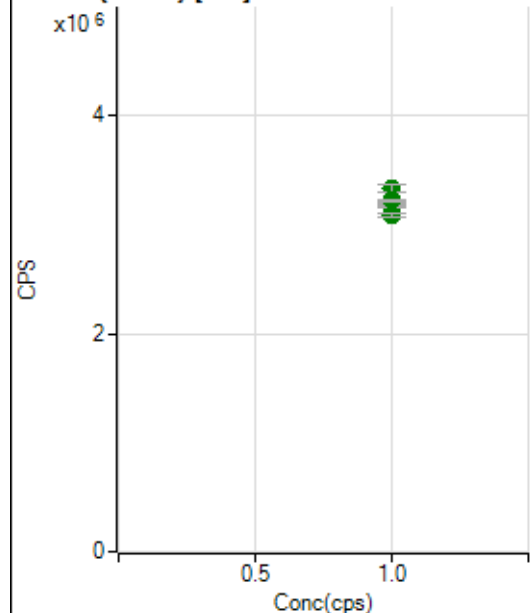
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4901116.18		A	0.6
2	☐	1.000		4572437.26		A	1.2
3	☐	1.000		4729206.42		A	0.5
4	☐	1.000		4768005.93		A	2.2
5	☐	1.000		4721219.93		A	0.8
6	☐	1.000		4668525.42		A	1.0
7	☐	1.000		4721426.53		A	2.0
8	☐	1.000		4521326.29		A	1.4

159 Tb (ISTD) [He]

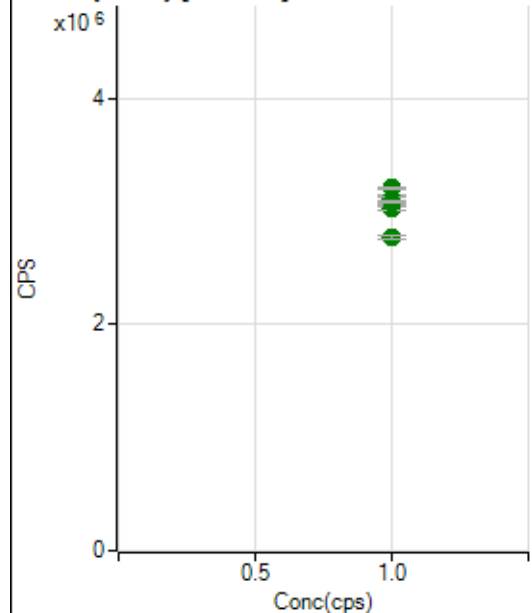
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3309765.37		A	1.1
2	☐	1.000		3178119.85		A	0.2
3	☐	1.000		3136660.27		A	1.2
4	☐	1.000		3181074.12		A	0.5
5	☐	1.000		3152758.43		A	2.8
6	☐	1.000		3132529.33		A	0.9
7	☐	1.000		3176035.65		A	0.9
8	☐	1.000		3117257.35		A	1.8

165 Ho (ISTD) [No Gas]

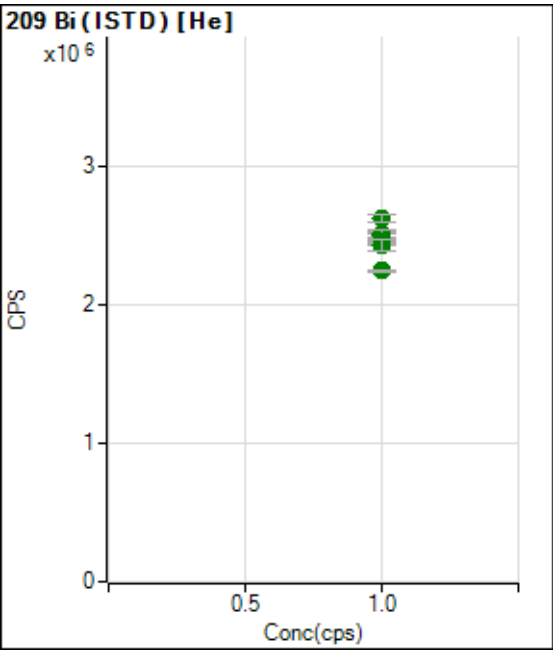
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4783580.20		A	0.9
2	☐	1.000		4538811.29		A	0.5
3	☐	1.000		4605474.55		A	1.8
4	☐	1.000		4706705.42		A	1.8
5	☐	1.000		4613156.91		A	0.9
6	☐	1.000		4656309.20		A	1.8
7	☐	1.000		4646854.06		A	1.1
8	☐	1.000		4513324.03		A	2.4

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3328571.34		A	2.1
2	☐	1.000		3201452.87		A	0.8
3	☐	1.000		3188420.13		A	0.8
4	☐	1.000		3183609.92		A	0.1
5	☐	1.000		3181118.98		A	0.3
6	☐	1.000		3169604.99		A	0.2
7	☐	1.000		3222631.89		A	0.9
8	☐	1.000		3092889.09		A	1.0

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3205346.20		A	0.3
2	☐	1.000		3027873.15		A	1.4
3	☐	1.000		3101293.15		A	2.6
4	☐	1.000		3083464.22		A	0.7
5	☐	1.000		3095174.47		A	0.3
6	☐	1.000		3108854.95		A	1.0
7	☐	1.000		3081639.71		A	0.9
8	☐	1.000		2771226.24		A	1.2



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1		1.000		2621406.75		A	2.2
2		1.000		2496488.94		A	2.7
3		1.000		2489292.83		A	2.6
4		1.000		2514016.18		A	2.1
5		1.000		2444309.20		A	0.5
6		1.000		2458691.37		A	0.6
7		1.000		2431396.56		A	3.9
8		1.000		2246250.90		A	0.9

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US EPA Tune Check Report

Reviewed By:moh
On:12/8/2025 1:36
PM
Inst Id :P7
LB :LB138073

Operator Name Jaswal

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\P7110525-MS.b

Acq. Date-Time 2025-11-05 10:54:09

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		4155	41546.18			0.564	5.000
24		38249	382485.55			0.858	5.000
25		5079	50788.93			1.055	5.000
26		6061	60607.44			0.665	5.000
59		44353	443529.47			0.401	5.000
113		5722	57221.76			0.354	5.000
115		64583	645832.18			0.547	5.000
206		13920	139198.93			0.353	5.000
207		12045	120446.69			0.259	5.000
208		28985	289846.89			0.462	5.000
220		0	1.90			43.241	

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	4127	4170	4131	4176	4169
24	37878	37943	38391	38379	38652
25	5023	5052	5082	5071	5166
26	6032	6024	6062	6059	6127
59	44584	44108	44265	44396	44412
113	5724	5730	5731	5739	5687
115	64933	64251	64723	64162	64847
206	13905	13840	13957	13948	13950
207	12053	12013	12091	12018	12049
208	29123	28789	28954	28961	29097

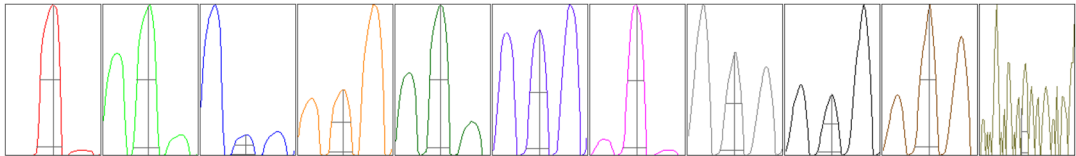
US EPA Tune Check Report

Reviewed By:moh
On:12/8/2025 1:36
PM
Inst Id :P7
LB :LB138073

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

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	6888.80	9.05	8.90 - 9.10	
24	66025.96	23.95	23.90 - 24.10	
25	8859.59	24.95	24.90 - 25.10	
26	10208.94	25.95	25.90 - 26.10	
59	78969.16	58.95	58.90 - 59.10	
113	11088.03	113.00	112.90 - 113.10	
115	125524.58	115.00	114.90 - 115.10	
206	29058.59	206.00	205.90 - 206.10	
207	25194.91	207.00	206.90 - 207.10	
208	62531.61	208.00	207.90 - 208.10	
220	0.20	219.85	-	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.63	0.778	0.900	
24	0.62	0.818	0.900	
25	0.62	0.745	0.900	
26	0.62	0.744	0.900	
59	0.60	0.738	0.900	
113	0.53	0.730	0.900	
115	0.52	0.742	0.900	
206	0.50	0.751	0.900	
207	0.49	0.754	0.900	
208	0.49	0.757	0.900	
220	0.21	0.246		

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:moh
On:12/8/2025 1:36
PM
Inst Id :P7
LB :LB138073

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 7.6 V Deflect 15.0 V
Extract 2 -135.0 V Cell Entrance -30 V Plate Bias -35 V
Omega Bias -60 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 190 V

QP Parameters

Mass Gain 139 Axis Gain 0.9975 QP Bias -3.0 V
Mass Offset 129 Axis Offset 0.11

Hardware Settings

Torch

Torch H -2.0 mm Torch V 1.1 mm

EM

Discriminator 4.8 mV Analog HV 2290 V Pulse HV 1228 V

[He]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
59		16233	162329.32			0.978	
89		41920	419203.29			1.159	
205		15342	153423.76			0.758	

Mass	RSD% (Flag)
59	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	16410	16326	16163	16267	15999
89	42709	41921	41819	41770	41382
205	15467	15453	15253	15332	15207

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 3.6 V

US EPA Tune Check Report

Reviewed By:moh
On:12/8/2025 1:36
PM
Inst Id :P7
LB :LB138073

Extract 2	-155.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-75 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	139	Axis Gain	0.9975	QP Bias	-13.0 V
Mass Offset	129	Axis Offset	0.11		
Hardware Settings					
Torch					
Torch H	-2.0 mm	Torch V	1.1 mm		
EM					
Discriminator	4.8 mV	Analog HV	2290 V	Pulse HV	1228 V

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:32:37 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.52	-0.28	-0.24	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-2	0.03	-0.03	0.00	0.00	N/A	ppb
Barium	135-1	0.01	-0.01	0.00	0.00	N/A	ppb
Barium	137-1	-0.01	0.01	0.00	0.00	N/A	ppb
Beryllium	9-1	0.00	-0.01	0.01	0.00	N/A	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.01	0.03	-0.01	0.00	N/A	ppb
Cadmium	106-1	0.00	0.44	-0.44	0.00	N/A	ppb
Cadmium	111-1	0.00	0.03	-0.02	0.00	N/A	ppb
Calcium	43-1	-0.62	-1.53	2.15	0.00	N/A	ppb
Calcium	44-1	-2.53	3.02	-0.49	0.00	N/A	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.00	0.00	0.00	0.00	N/A	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	N/A	ppb
Copper	63-2	0.00	-0.02	0.02	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	-0.20	0.08	0.11	0.00	N/A	ppb
Iron	57-2	0.89	-0.99	0.10	0.00	N/A	ppb
Iron	54-2	0.32	0.09	-0.41	0.00	N/A	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:32:37 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	-0.01	0.01	-0.01	0.00	N/A	ppb
Lead	207-1	-0.01	0.00	0.01	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	-0.12	0.13	-0.01	0.00	N/A	ppb
Manganese	55-2	0.00	0.03	-0.03	0.00	N/A	ppb
Molybdenum	94-1	-0.02	0.01	0.00	0.00	N/A	ppb
Molybdenum	95-1	-0.02	0.00	0.02	0.00	N/A	ppb
Molybdenum	96-1	0.00	0.01	-0.01	0.00	N/A	ppb
Molybdenum	97-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	98-1	0.00	0.00	-0.01	0.00	N/A	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.06	0.00	0.06	0.00	N/A	ppb
Phosphorus	31-2	-845.71	-828.99	-915.45	-863.38		ppb
Potassium	39-2	0.88	-0.70	-0.18	0.00	N/A	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	-0.03	-0.24	0.27	0.00	N/A	ppb
Selenium	77-2	-0.10	0.19	-0.10	0.00	N/A	ppb
Selenium	78-2	0.07	-0.08	0.01	0.00	N/A	ppb
Silicon	28-1	-2.63	2.79	-0.16	0.00	N/A	ppb
Silver	107-1	0.00	0.00	0.00	0.00	N/A	ppb
Silver	109-1	0.00	0.00	0.00	0.00	N/A	ppb
Sodium	23-2	-0.14	0.04	0.10	0.00	N/A	ppb
Strontium	86-1	0.00	0.02	-0.02	0.00	N/A	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	N/A	ppb
Sulfur	34-1	-4240.76	-1777.87	-3401.68	-3140.10		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	0.02	-0.01	-0.01	0.00	N/A	ppb
Titanium	47-1	-0.01	0.00	0.01	0.00	N/A	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:32:37 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	-0.01	0.00	N/A	ppb
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	0.00	0.01	-0.01	0.00	N/A	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	N/A	ppb
Zirconium	91-1	0.00	0.01	-0.01	0.00	N/A	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:35:55 DataFile Name : 005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	18.47	17.56	17.29	17.77	3.47	ppb
Antimony	121-1	1.96	2.00	2.04	2.00	2.11	ppb
Arsenic	75-2	1.08	1.00	1.21	1.10	9.71	ppb
Barium	135-1	9.36	9.30	9.58	9.41	1.56	ppb
Barium	137-1	9.04	9.46	9.18	9.22	2.32	ppb
Beryllium	9-1	1.09	1.00	0.99	1.03	5.58	ppb
Bismuth	209-1				94		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.90	0.88	0.98	0.92	5.66	ppb
Cadmium	106-1	1.86	-0.58	0.84	0.71	172.54	ppb
Cadmium	111-1	1.08	0.86	0.96	0.97	11.23	ppb
Calcium	43-1	477.87	496.33	497.50	490.56	2.24	ppb
Calcium	44-1	477.03	480.54	491.87	483.14	1.61	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1.96	1.92	1.88	1.92	2.08	ppb
Cobalt	59-2	1.01	0.96	0.99	0.99	2.31	ppb
Copper	63-2	1.91	1.79	1.70	1.80	5.99	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				95		%
Holmium	165-2				96		%
Indium	115-1				94		%
Indium	115-2				96		%
Iron	56-2	50.24	51.12	50.41	50.59	0.92	ppb
Iron	57-2	53.35	56.14	56.39	55.30	3.05	ppb
Iron	54-2	50.96	52.45	50.31	51.24	2.14	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:35:55 DataFile Name : 005CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.81	0.79	0.73	0.77	5.58	ppb
Lead	207-1	0.82	0.83	0.73	0.79	6.56	ppb
Lead	208-1	0.79	0.81	0.75	0.78	4.11	ppb
Lithium	6-1				95		%
Magnesium	24-2	453.68	450.76	445.05	449.83	0.98	ppb
Manganese	55-2	0.99	0.98	0.96	0.98	1.82	ppb
Molybdenum	94-1	5.65	5.73	5.35	5.57	3.53	ppb
Molybdenum	95-1	4.61	4.56	4.48	4.55	1.47	ppb
Molybdenum	96-1	4.73	4.79	4.47	4.66	3.63	ppb
Molybdenum	97-1	4.72	4.74	4.38	4.61	4.44	ppb
Molybdenum	98-1	4.60	4.55	4.45	4.53	1.66	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.99	0.94	0.94	0.96	3.01	ppb
Phosphorus	31-2	866.47	869.52	854.15	863.38	0.94	ppb
Potassium	39-2	501.13	505.24	495.57	500.65	0.97	ppb
Rhodium	103-1				94		%
Rhodium	103-2				96		%
Scandium	45-1				95		%
Scandium	45-2				96		%
Selenium	82-1	5.26	4.99	3.93	4.73	14.80	ppb
Selenium	77-2	4.99	4.56	5.73	5.09	11.65	ppb
Selenium	78-2	5.65	4.09	5.52	5.09	17.06	ppb
Silicon	28-1	7.42	10.46	9.26	9.05	16.94	ppb
Silver	107-1	1.03	1.04	1.05	1.04	0.59	ppb
Silver	109-1	1.03	1.02	1.05	1.03	1.47	ppb
Sodium	23-2	463.16	464.37	453.73	460.42	1.27	ppb
Strontium	86-1	0.98	1.01	0.84	0.94	9.20	ppb
Strontium	88-1	0.94	0.96	0.91	0.94	2.68	ppb
Sulfur	34-1	2129.34	3020.22	4270.76	3140.10	34.26	ppb
Terbium	159-1				93		%
Terbium	159-2				96		%
Thallium	203-1	0.92	0.95	0.91	0.93	2.20	ppb
Thallium	205-1	0.91	0.97	0.93	0.93	3.15	ppb
Tin	118-1	4.61	4.45	4.72	4.59	3.00	ppb
Titanium	47-1	4.81	4.71	5.06	4.86	3.67	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:35:55 DataFile Name : 005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.83	0.86	0.83	0.84	1.77	ppb
Vanadium	51-2	4.62	4.77	4.62	4.67	1.86	ppb
Yttrium	89-1				94		%
Yttrium	89-2				95		%
Zinc	66-2	5.22	4.93	5.12	5.09	2.93	ppb
Zirconium	90-1	0.98	0.94	0.96	0.96	1.59	ppb
Zirconium	91-1	0.95	0.96	0.97	0.96	1.18	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:39:16 DataFile Name : 006CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	995.86	996.55	993.14	995.18	0.18	ppb
Antimony	121-1	48.66	50.16	49.17	49.33	1.55	ppb
Arsenic	75-2	51.57	50.79	51.71	51.36	0.97	ppb
Barium	135-1	240.86	243.17	247.68	243.91	1.42	ppb
Barium	137-1	241.07	242.70	243.02	242.26	0.43	ppb
Beryllium	9-1	52.65	53.13	51.65	52.48	1.44	ppb
Bismuth	209-1				97		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	51.37	51.84	54.41	52.54	3.12	ppb
Cadmium	106-1	52.33	53.54	50.38	52.08	3.06	ppb
Cadmium	111-1	51.29	51.42	52.12	51.61	0.87	ppb
Calcium	43-1	5316.99	5254.74	5291.95	5287.89	0.59	ppb
Calcium	44-1	5247.06	5176.59	5160.20	5194.61	0.89	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	50.09	50.22	49.94	50.08	0.28	ppb
Cobalt	59-2	49.76	49.63	48.96	49.45	0.86	ppb
Copper	63-2	495.30	498.52	486.95	493.59	1.21	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				96		%
Holmium	165-2				96		%
Indium	115-1				96		%
Indium	115-2				96		%
Iron	56-2	2568.63	2603.88	2575.09	2582.53	0.73	ppb
Iron	57-2	2662.21	2710.62	2645.02	2672.61	1.27	ppb
Iron	54-2	2712.31	2697.29	2702.61	2704.07	0.28	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:39:16 DataFile Name : 006CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	234.46	232.63	226.68	231.26	1.76	ppb
Lead	207-1	227.10	228.69	219.33	225.04	2.23	ppb
Lead	208-1	229.84	231.02	229.68	230.18	0.32	ppb
Lithium	6-1				97		%
Magnesium	24-2	4820.81	4824.82	4772.23	4805.95	0.61	ppb
Manganese	55-2	497.19	496.02	488.83	494.01	0.92	ppb
Molybdenum	94-1	486.06	493.68	492.54	490.76	0.84	ppb
Molybdenum	95-1	479.31	497.25	486.54	487.70	1.85	ppb
Molybdenum	96-1	471.29	492.72	482.85	482.29	2.22	ppb
Molybdenum	97-1	481.06	502.31	497.76	493.71	2.27	ppb
Molybdenum	98-1	483.17	498.31	495.87	492.45	1.65	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	50.64	50.66	51.26	50.85	0.69	ppb
Phosphorus	31-2	587.42	383.36	550.00	506.93	21.43	ppb
Potassium	39-2	2637.87	2610.40	2611.99	2620.09	0.59	ppb
Rhodium	103-1				94		%
Rhodium	103-2				96		%
Scandium	45-1				95		%
Scandium	45-2				97		%
Selenium	82-1	48.94	48.26	48.35	48.52	0.76	ppb
Selenium	77-2	52.28	43.91	48.13	48.11	8.71	ppb
Selenium	78-2	51.71	49.55	55.74	52.33	6.00	ppb
Silicon	28-1	73.74	75.24	72.31	73.76	1.99	ppb
Silver	107-1	51.57	51.49	52.54	51.87	1.12	ppb
Silver	109-1	50.37	51.56	51.06	50.99	1.17	ppb
Sodium	23-2	5043.84	4882.54	4969.38	4965.25	1.63	ppb
Strontium	86-1	48.20	50.47	49.52	49.40	2.30	ppb
Strontium	88-1	48.66	50.21	49.78	49.55	1.61	ppb
Sulfur	34-1	5830.15	3306.82	4022.31	4386.43	29.65	ppb
Terbium	159-1				96		%
Terbium	159-2				95		%
Thallium	203-1	46.17	46.72	44.25	45.71	2.83	ppb
Thallium	205-1	45.40	46.14	44.12	45.22	2.26	ppb
Tin	118-1	49.04	49.96	48.94	49.31	1.14	ppb
Titanium	47-1	503.95	496.83	500.30	500.36	0.71	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:39:16 DataFile Name : 006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	44.00	44.65	42.54	43.73	2.48	ppb
Vanadium	51-2	50.26	50.21	49.68	50.05	0.65	ppb
Yttrium	89-1				95		%
Yttrium	89-2				94		%
Zinc	66-2	509.92	508.96	508.16	509.01	0.17	ppb
Zirconium	90-1	48.09	49.66	48.27	48.67	1.76	ppb
Zirconium	91-1	48.14	49.51	48.55	48.73	1.45	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:42:30 DataFile Name : 007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2533.22	2548.38	2539.49	2540.36	0.30	ppb
Antimony	121-1	121.29	119.83	126.74	122.62	2.97	ppb
Arsenic	75-2	127.62	130.05	129.51	129.06	0.99	ppb
Barium	135-1	597.72	593.55	620.38	603.88	2.39	ppb
Barium	137-1	600.59	595.48	620.94	605.67	2.22	ppb
Beryllium	9-1	130.35	126.48	129.39	128.74	1.56	ppb
Bismuth	209-1				96		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	127.44	124.73	133.59	128.59	3.53	ppb
Cadmium	106-1	126.55	129.73	129.55	128.61	1.39	ppb
Cadmium	111-1	126.96	127.22	131.37	128.52	1.93	ppb
Calcium	43-1	12773.04	12895.63	13028.33	12899.00	0.99	ppb
Calcium	44-1	12310.16	12525.02	12456.17	12430.45	0.88	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	125.89	126.32	126.87	126.36	0.39	ppb
Cobalt	59-2	124.91	122.53	124.52	123.98	1.03	ppb
Copper	63-2	1280.83	1273.92	1279.45	1278.07	0.29	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				98		%
Holmium	165-2				96		%
Indium	115-1				95		%
Indium	115-2				95		%
Iron	56-2	6594.31	6693.43	6640.91	6642.88	0.75	ppb
Iron	57-2	6803.79	6797.22	6770.51	6790.51	0.26	ppb
Iron	54-2	6906.85	6943.72	6949.40	6933.32	0.33	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:42:30 DataFile Name : 007CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	607.20	628.10	616.63	617.31	1.70	ppb
Lead	207-1	609.99	624.39	623.82	619.40	1.32	ppb
Lead	208-1	605.26	627.57	621.21	618.01	1.86	ppb
Lithium	6-1				98		%
Magnesium	24-2	12298.38	12419.11	12028.78	12248.76	1.63	ppb
Manganese	55-2	1255.31	1285.55	1258.68	1266.52	1.31	ppb
Molybdenum	94-1	1278.35	1291.12	1219.62	1263.03	3.02	ppb
Molybdenum	95-1	1251.22	1251.18	1261.60	1254.66	0.48	ppb
Molybdenum	96-1	1231.78	1256.61	1228.81	1239.07	1.23	ppb
Molybdenum	97-1	1226.41	1252.93	1233.48	1237.61	1.11	ppb
Molybdenum	98-1	1218.86	1250.15	1220.07	1229.69	1.44	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	129.71	127.99	129.66	129.12	0.76	ppb
Phosphorus	31-2	12241.14	12401.12	12480.51	12374.26	0.99	ppb
Potassium	39-2	6272.21	6410.09	6366.49	6349.60	1.11	ppb
Rhodium	103-1				96		%
Rhodium	103-2				95		%
Scandium	45-1				96		%
Scandium	45-2				94		%
Selenium	82-1	124.23	127.95	124.91	125.70	1.57	ppb
Selenium	77-2	134.23	122.75	128.88	128.62	4.47	ppb
Selenium	78-2	124.24	121.53	127.22	124.33	2.29	ppb
Silicon	28-1	798.81	819.64	816.10	811.52	1.37	ppb
Silver	107-1	128.18	129.02	133.39	130.20	2.15	ppb
Silver	109-1	126.16	126.97	131.35	128.16	2.18	ppb
Sodium	23-2	12504.28	12559.41	12519.89	12527.86	0.23	ppb
Strontium	86-1	126.43	131.35	127.83	128.54	1.97	ppb
Strontium	88-1	128.73	128.95	125.55	127.74	1.49	ppb
Sulfur	34-1	18126.51	19047.10	17453.40	18209.00	4.39	ppb
Terbium	159-1				97		%
Terbium	159-2				96		%
Thallium	203-1	114.40	116.31	116.60	115.77	1.03	ppb
Thallium	205-1	114.18	116.67	115.48	115.44	1.08	ppb
Tin	118-1	120.13	120.60	125.24	121.99	2.31	ppb
Titanium	47-1	1218.81	1248.79	1230.45	1232.68	1.23	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:42:30 DataFile Name : 007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	110.39	121.13	111.43	114.32	5.18	ppb
Vanadium	51-2	124.97	124.00	125.08	124.68	0.48	ppb
Yttrium	89-1				94		%
Yttrium	89-2				91		%
Zinc	66-2	1274.01	1270.19	1276.69	1273.63	0.26	ppb
Zirconium	90-1	123.67	126.73	124.59	125.00	1.26	ppb
Zirconium	91-1	124.49	126.20	123.81	124.83	0.98	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:45:35 DataFile Name : 008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5213.65	5098.26	5228.35	5180.09	1.38	ppb
Antimony	121-1	247.72	251.22	253.92	250.95	1.24	ppb
Arsenic	75-2	253.89	254.94	253.16	254.00	0.35	ppb
Barium	135-1	1214.87	1243.73	1249.54	1236.05	1.50	ppb
Barium	137-1	1266.93	1273.11	1304.50	1281.51	1.57	ppb
Beryllium	9-1	255.03	263.92	265.45	261.47	2.15	ppb
Bismuth	209-1				97		%
Bismuth	209-2				93		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	266.67	264.93	263.16	264.92	0.66	ppb
Cadmium	106-1	256.40	260.05	264.75	260.40	1.61	ppb
Cadmium	111-1	260.90	261.66	265.56	262.70	0.95	ppb
Calcium	43-1	26517.72	26584.02	26862.80	26654.84	0.69	ppb
Calcium	44-1	25602.04	25518.00	25682.61	25600.88	0.32	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	261.74	257.61	257.85	259.07	0.90	ppb
Cobalt	59-2	253.96	250.30	253.26	252.51	0.77	ppb
Copper	63-2	2584.95	2541.94	2612.07	2579.65	1.37	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				96		%
Indium	115-1				92		%
Indium	115-2				93		%
Iron	56-2	13606.87	13419.99	13645.74	13557.53	0.89	ppb
Iron	57-2	13916.33	13768.05	13853.29	13845.89	0.54	ppb
Iron	54-2	13843.08	13573.77	13534.31	13650.38	1.23	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:45:35 DataFile Name : 008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1251.47	1265.36	1256.23	1257.68	0.56	ppb
Lead	207-1	1253.41	1289.13	1308.22	1283.58	2.17	ppb
Lead	208-1	1251.20	1268.48	1282.36	1267.35	1.23	ppb
Lithium	6-1				98		%
Magnesium	24-2	25841.36	24836.72	25603.04	25427.04	2.06	ppb
Manganese	55-2	2588.06	2522.28	2550.38	2553.57	1.29	ppb
Molybdenum	94-1	2610.62	2568.09	2613.38	2597.36	0.98	ppb
Molybdenum	95-1	2566.56	2626.63	2558.27	2583.82	1.44	ppb
Molybdenum	96-1	2543.73	2565.60	2598.29	2569.21	1.07	ppb
Molybdenum	97-1	2559.87	2571.75	2513.16	2548.26	1.22	ppb
Molybdenum	98-1	2525.72	2550.60	2537.67	2538.00	0.49	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	268.87	259.95	264.09	264.30	1.69	ppb
Phosphorus	31-2	19686.22	19587.74	19612.55	19628.83	0.26	ppb
Potassium	39-2	12937.59	12957.12	12975.19	12956.63	0.15	ppb
Rhodium	103-1				92		%
Rhodium	103-2				92		%
Scandium	45-1				93		%
Scandium	45-2				92		%
Selenium	82-1	261.55	262.29	255.48	259.77	1.44	ppb
Selenium	77-2	241.81	242.80	258.20	247.60	3.71	ppb
Selenium	78-2	265.74	255.07	258.20	259.67	2.11	ppb
Silicon	28-1	1160.55	1148.63	1167.43	1158.87	0.82	ppb
Silver	107-1	258.21	265.01	264.26	262.49	1.42	ppb
Silver	109-1	256.20	258.73	261.82	258.92	1.09	ppb
Sodium	23-2	26194.43	25686.91	26624.82	26168.72	1.79	ppb
Strontium	86-1	264.03	263.25	261.15	262.81	0.57	ppb
Strontium	88-1	263.72	256.35	260.06	260.04	1.42	ppb
Sulfur	34-1	24800.18	25700.26	26802.56	25767.67	3.89	ppb
Terbium	159-1				96		%
Terbium	159-2				95		%
Thallium	203-1	230.61	240.36	240.98	237.32	2.45	ppb
Thallium	205-1	246.51	262.68	255.07	254.75	3.17	ppb
Tin	118-1	247.85	247.24	251.54	248.88	0.94	ppb
Titanium	47-1	2585.30	2495.37	2557.92	2546.20	1.81	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:45:35 DataFile Name : 008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	249.97	251.75	250.39	250.70	0.37	ppb
Vanadium	51-2	256.00	252.24	255.01	254.42	0.77	ppb
Yttrium	89-1				92		%
Yttrium	89-2				92		%
Zinc	66-2	2626.63	2611.55	2642.47	2626.88	0.59	ppb
Zirconium	90-1	263.23	257.50	260.10	260.28	1.10	ppb
Zirconium	91-1	257.41	256.58	257.35	257.11	0.18	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:48:31 DataFile Name : 009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9925.92	9812.19	9999.88	9912.66	0.95	ppb
Antimony	121-1	507.06	510.15	496.59	504.60	1.41	ppb
Arsenic	75-2	500.45	503.86	500.80	501.70	0.37	ppb
Barium	135-1	2484.34	2557.34	2554.07	2531.92	1.63	ppb
Barium	137-1	2492.32	2519.72	2525.90	2512.65	0.71	ppb
Beryllium	9-1	498.35	511.52	510.35	506.74	1.44	ppb
Bismuth	209-1				97		%
Bismuth	209-2				94		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	507.50	518.32	503.62	509.82	1.49	ppb
Cadmium	106-1	508.03	507.99	494.63	503.55	1.53	ppb
Cadmium	111-1	506.34	516.28	501.11	507.91	1.52	ppb
Calcium	43-1	51526.04	51981.18	52437.86	51981.69	0.88	ppb
Calcium	44-1	50444.50	49886.08	50711.12	50347.23	0.84	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	503.30	501.55	498.63	501.16	0.47	ppb
Cobalt	59-2	509.99	491.90	491.69	497.86	2.11	ppb
Copper	63-2	5096.91	5048.42	4991.62	5045.65	1.04	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				97		%
Holmium	165-2				95		%
Indium	115-1				92		%
Indium	115-2				90		%
Iron	56-2	26402.65	25941.62	26095.13	26146.47	0.90	ppb
Iron	57-2	26811.05	26522.91	26513.12	26615.69	0.64	ppb
Iron	54-2	26660.57	26646.77	26521.10	26609.48	0.29	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:48:31 DataFile Name : 009CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2527.21	2420.91	2467.31	2471.81	2.16	ppb
Lead	207-1	2515.40	2448.98	2487.33	2483.90	1.34	ppb
Lead	208-1	2506.96	2473.78	2495.97	2492.23	0.68	ppb
Lithium	6-1				99		%
Magnesium	24-2	49741.19	48907.74	49890.42	49513.12	1.07	ppb
Manganese	55-2	5121.59	4921.59	4952.89	4998.69	2.15	ppb
Molybdenum	94-1	5026.98	4981.11	4983.17	4997.09	0.52	ppb
Molybdenum	95-1	4955.68	4968.71	5030.13	4984.84	0.80	ppb
Molybdenum	96-1	4959.46	5062.20	4988.74	5003.47	1.06	ppb
Molybdenum	97-1	5099.19	4997.07	5060.46	5052.24	1.02	ppb
Molybdenum	98-1	4871.49	5024.27	5004.39	4966.72	1.67	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	508.78	505.73	504.98	506.50	0.40	ppb
Phosphorus	31-2	12887.18	12434.71	13183.85	12835.25	2.94	ppb
Potassium	39-2	25089.53	24908.14	25115.94	25037.87	0.45	ppb
Rhodium	103-1				92		%
Rhodium	103-2				90		%
Scandium	45-1				92		%
Scandium	45-2				91		%
Selenium	82-1	498.61	504.17	503.38	502.05	0.60	ppb
Selenium	77-2	519.36	503.28	495.83	506.16	2.38	ppb
Selenium	78-2	500.64	511.69	504.12	505.48	1.12	ppb
Silicon	28-1	702.68	680.41	721.77	701.62	2.95	ppb
Silver	107-1	512.88	516.61	508.05	512.51	0.84	ppb
Silver	109-1	509.80	515.67	491.42	505.63	2.50	ppb
Sodium	23-2	50772.64	50097.52	51353.53	50741.23	1.24	ppb
Strontium	86-1	494.48	500.91	501.48	498.96	0.78	ppb
Strontium	88-1	494.47	503.22	496.57	498.09	0.92	ppb
Sulfur	34-1	14533.13	13524.16	15713.93	14590.41	7.51	ppb
Terbium	159-1				95		%
Terbium	159-2				95		%
Thallium	203-1	507.91	490.31	504.99	501.07	1.88	ppb
Thallium	205-1	494.98	495.78	510.00	500.25	1.69	ppb
Tin	118-1	508.93	511.68	508.07	509.56	0.37	ppb
Titanium	47-1	5042.30	4893.82	5093.20	5009.77	2.07	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:48:31 DataFile Name : 009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	483.89	487.57	492.81	488.09	0.92	ppb
Vanadium	51-2	502.08	496.08	496.73	498.30	0.66	ppb
Yttrium	89-1				91		%
Yttrium	89-2				90		%
Zinc	66-2	5128.89	5126.72	5057.68	5104.43	0.79	ppb
Zirconium	90-1	491.99	500.00	497.87	496.62	0.84	ppb
Zirconium	91-1	482.75	501.37	494.82	492.98	1.92	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:51:23 DataFile Name : 010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	20172.05	20205.52	20687.78	20355.12	1.42	ppb
Antimony	121-1	992.02	1026.50	974.86	997.79	2.64	ppb
Arsenic	75-2	982.64	1000.05	1010.03	997.57	1.39	ppb
Barium	135-1	4915.09	5098.27	4958.07	4990.48	1.92	ppb
Barium	137-1	5010.01	5134.43	4821.36	4988.60	3.16	ppb
Beryllium	9-1	972.30	1017.66	989.56	993.17	2.31	ppb
Bismuth	209-1				96		%
Bismuth	209-2				93		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	964.97	1023.74	983.65	990.79	3.03	ppb
Cadmium	106-1	979.27	1008.04	997.90	995.07	1.47	ppb
Cadmium	111-1	979.77	1013.08	984.19	992.35	1.82	ppb
Calcium	43-1	100868.19	103738.40	103346.20	102650.93	1.52	ppb
Calcium	44-1	100424.52	101636.59	102655.25	101572.12	1.10	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	997.33	990.79	1002.81	996.98	0.60	ppb
Cobalt	59-2	1005.68	985.46	1010.65	1000.60	1.33	ppb
Copper	63-2	9888.22	9957.05	10016.95	9954.07	0.65	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				91		%
Indium	115-2				90		%
Iron	56-2	52189.00	51167.92	52313.47	51890.13	1.21	ppb
Iron	57-2	51782.87	50152.27	52205.97	51380.37	2.11	ppb
Iron	54-2	51383.02	52163.11	53615.96	52387.36	2.16	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:51:23 DataFile Name : 010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	4982.11	4999.85	5060.25	5014.07	0.82	ppb
Lead	207-1	5020.73	5050.45	4933.63	5001.60	1.21	ppb
Lead	208-1	4993.57	5027.14	4983.52	5001.41	0.46	ppb
Lithium	6-1				100		%
Magnesium	24-2	98975.21	99123.38	99483.02	99193.87	0.26	ppb
Manganese	55-2	9760.94	9928.17	10267.38	9985.49	2.58	ppb
Molybdenum	94-1	9834.04	10162.18	9931.63	9975.95	1.69	ppb
Molybdenum	95-1	9822.26	10155.65	9982.06	9986.66	1.67	ppb
Molybdenum	96-1	9824.91	10069.11	10055.63	9983.22	1.37	ppb
Molybdenum	97-1	9792.22	10133.72	9965.10	9963.68	1.71	ppb
Molybdenum	98-1	9845.26	9988.71	10196.20	10010.06	1.76	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1002.85	982.43	992.57	992.62	1.03	ppb
Phosphorus	31-2	13303.78	13664.36	14178.48	13715.54	3.21	ppb
Potassium	39-2	48999.95	50062.42	49084.71	49382.36	1.20	ppb
Rhodium	103-1				90		%
Rhodium	103-2				91		%
Scandium	45-1				92		%
Scandium	45-2				91		%
Selenium	82-1	982.32	995.29	1011.95	996.52	1.49	ppb
Selenium	77-2	948.68	1037.53	1005.28	997.16	4.51	ppb
Selenium	78-2	967.10	1023.76	993.57	994.81	2.85	ppb
Silicon	28-1	567.18	594.07	593.68	584.98	2.63	ppb
Silver	107-1	992.68	1000.21	976.74	989.88	1.21	ppb
Silver	109-1	987.16	1012.63	983.75	994.51	1.59	ppb
Sodium	23-2	99229.55	100383.63	102608.59	100740.59	1.70	ppb
Strontium	86-1	974.02	995.46	1021.24	996.91	2.37	ppb
Strontium	88-1	956.13	1001.91	1036.34	998.13	4.03	ppb
Sulfur	34-1	9610.12	10988.08	10541.59	10379.93	6.77	ppb
Terbium	159-1				96		%
Terbium	159-2				96		%
Thallium	203-1	998.61	991.70	1021.70	1004.00	1.56	ppb
Thallium	205-1	985.30	1010.98	1004.08	1000.12	1.33	ppb
Tin	118-1	982.19	1046.95	958.60	995.91	4.59	ppb
Titanium	47-1	9727.48	10059.02	10170.63	9985.71	2.31	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:51:23 DataFile Name : 010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	1020.19	1009.76	992.33	1007.43	1.40	ppb
Vanadium	51-2	998.85	991.65	1008.86	999.79	0.86	ppb
Yttrium	89-1				91		%
Yttrium	89-2				90		%
Zinc	66-2	9829.45	9883.27	10025.26	9912.66	1.02	ppb
Zirconium	90-1	978.80	1008.46	1010.30	999.19	1.77	ppb
Zirconium	91-1	979.90	999.43	1026.11	1001.81	2.32	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:54:07 DataFile Name : 011CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	99397.82	99275.68	101109.74	99927.75	1.03	ppb
Antimony	121-1	2.51	2.64	2.74	2.63	4.40	ppb
Arsenic	75-2	1.60	1.99	1.81	1.80	10.75	ppb
Barium	135-1	8.04	8.62	8.33	8.33	3.47	ppb
Barium	137-1	8.14	8.35	8.48	8.32	2.06	ppb
Beryllium	9-1	0.41	0.37	0.40	0.39	4.38	ppb
Bismuth	209-1				86		%
Bismuth	209-2				86		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.95	1.00	0.72	0.89	16.30	ppb
Cadmium	106-1	1.18	0.97	-0.01	0.71	88.69	ppb
Cadmium	111-1	0.57	0.48	0.44	0.50	13.20	ppb
Calcium	43-1	505847.36	496911.96	494768.85	499176.06	1.18	ppb
Calcium	44-1	497674.98	506027.38	495159.50	499620.62	1.14	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	17.15	17.62	17.11	17.29	1.66	ppb
Cobalt	59-2	3.33	3.35	3.28	3.32	1.05	ppb
Copper	63-2	3.03	3.23	3.21	3.15	3.48	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				94		%
Holmium	165-2				93		%
Indium	115-1				88		%
Indium	115-2				89		%
Iron	56-2	248865.29	246294.88	253171.24	249443.80	1.39	ppb
Iron	57-2	246563.68	251711.83	250163.96	249479.82	1.06	ppb
Iron	54-2	244766.57	253753.09	249335.15	249284.94	1.80	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:54:07 DataFile Name : 011CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2.12	2.29	2.12	2.18	4.51	ppb
Lead	207-1	2.27	2.12	2.22	2.20	3.56	ppb
Lead	208-1	2.21	2.19	2.19	2.19	0.48	ppb
Lithium	6-1				93		%
Magnesium	24-2	494218.05	503416.17	502956.28	500196.83	1.04	ppb
Manganese	55-2	8.65	9.05	8.97	8.89	2.43	ppb
Molybdenum	94-1	5.39	5.48	5.52	5.46	1.27	ppb
Molybdenum	95-1	4.48	4.62	4.30	4.47	3.63	ppb
Molybdenum	96-1	5.60	5.49	5.71	5.60	1.99	ppb
Molybdenum	97-1	4.74	4.54	4.58	4.62	2.29	ppb
Molybdenum	98-1	4.39	4.61	4.32	4.44	3.37	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	12.93	12.67	13.22	12.94	2.12	ppb
Phosphorus	31-2	-777.61	-882.72	-842.30	-834.21		ppb
Potassium	39-2	245567.24	251374.24	253338.17	250093.22	1.62	ppb
Rhodium	103-1				84		%
Rhodium	103-2				86		%
Scandium	45-1				89		%
Scandium	45-2				91		%
Selenium	82-1	0.66	0.66	0.71	0.68	4.17	ppb
Selenium	77-2	0.23	0.89	0.54	0.55	60.22	ppb
Selenium	78-2	3.72	1.75	2.40	2.63	38.23	ppb
Silicon	28-1	18.29	17.04	14.37	16.57	12.10	ppb
Silver	107-1	1.05	1.07	1.03	1.05	1.62	ppb
Silver	109-1	1.01	1.08	1.05	1.05	3.58	ppb
Sodium	23-2	497116.43	499775.86	502264.75	499719.01	0.52	ppb
Strontium	86-1	13.49	14.17	14.04	13.90	2.57	ppb
Strontium	88-1	13.57	13.74	13.67	13.66	0.63	ppb
Sulfur	34-1	-6668.34	-8382.48	-9963.63	-8338.15		ppb
Terbium	159-1				92		%
Terbium	159-2				94		%
Thallium	203-1	1.51	1.54	1.52	1.52	1.02	ppb
Thallium	205-1	1.53	1.47	1.53	1.51	2.49	ppb
Tin	118-1	1.20	1.12	1.15	1.16	3.66	ppb
Titanium	47-1	1.93	1.79	1.57	1.76	10.46	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:54:07 DataFile Name : 011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.07	0.07	0.07	0.07	4.93	ppb
Vanadium	51-2	1.85	1.74	1.86	1.82	3.69	ppb
Yttrium	89-1				87		%
Yttrium	89-2				90		%
Zinc	66-2	34.34	36.05	35.60	35.33	2.50	ppb
Zirconium	90-1	0.94	0.98	0.95	0.96	2.38	ppb
Zirconium	91-1	0.89	0.85	1.01	0.92	9.20	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:19:02 DataFile Name : 016ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1506.08	1500.17	1503.65	1503.30	0.20	ppb
Antimony	121-1	434.15	429.17	439.84	434.39	1.23	ppb
Arsenic	75-2	415.05	423.12	425.77	421.31	1.32	ppb
Barium	135-1	1656.24	1581.70	1661.19	1633.04	2.73	ppb
Barium	137-1	1617.61	1625.96	1617.46	1620.34	0.30	ppb
Beryllium	9-1	42.63	42.53	42.01	42.39	0.78	ppb
Bismuth	209-1				112		%
Bismuth	209-2				107		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	231.79	235.38	244.70	237.29	2.81	ppb
Cadmium	106-1	242.36	233.43	238.63	238.14	1.88	ppb
Cadmium	111-1	217.71	216.86	214.67	216.42	0.72	ppb
Calcium	43-1	4318.91	4464.89	4421.38	4401.72	1.70	ppb
Calcium	44-1	4211.20	4278.30	4169.13	4219.54	1.30	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	160.07	157.93	158.31	158.77	0.72	ppb
Cobalt	59-2	398.46	396.87	405.27	400.20	1.11	ppb
Copper	63-2	182.32	181.10	183.30	182.24	0.61	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				111		%
Holmium	165-2				108		%
Indium	115-1				108		%
Indium	115-2				104		%
Iron	56-2	832.24	813.58	821.45	822.42	1.14	ppb
Iron	57-2	863.23	850.43	850.48	854.71	0.86	ppb
Iron	54-2	953.90	933.57	946.13	944.54	1.09	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:19:02 DataFile Name : 016ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	374.79	385.71	376.93	379.14	1.53	ppb
Lead	207-1	364.51	371.12	363.31	366.32	1.15	ppb
Lead	208-1	383.82	392.78	375.03	383.88	2.31	ppb
Lithium	6-1				107		%
Magnesium	24-2	3831.89	3760.32	3806.55	3799.59	0.96	ppb
Manganese	55-2	393.64	388.34	391.27	391.08	0.68	ppb
Molybdenum	94-1	4812.53	4830.21	4895.25	4846.00	0.90	ppb
Molybdenum	95-1	4786.61	4872.58	4853.01	4837.40	0.93	ppb
Molybdenum	96-1	4653.58	4736.61	4928.14	4772.78	2.95	ppb
Molybdenum	97-1	4797.29	4765.07	4942.05	4834.80	1.95	ppb
Molybdenum	98-1	4767.88	4839.50	4879.99	4829.12	1.18	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	410.71	401.76	410.58	407.69	1.26	ppb
Phosphorus	31-2	-967.08	-990.89	-901.97	-953.32		ppb
Potassium	39-2	4102.76	4084.50	4107.26	4098.17	0.29	ppb
Rhodium	103-1				110		%
Rhodium	103-2				106		%
Scandium	45-1				109		%
Scandium	45-2				104		%
Selenium	82-1	433.08	432.19	439.34	434.87	0.90	ppb
Selenium	77-2	444.80	443.07	432.63	440.17	1.50	ppb
Selenium	78-2	432.92	442.71	434.25	436.63	1.22	ppb
Silicon	28-1	197.86	201.16	204.00	201.01	1.53	ppb
Silver	107-1	187.23	183.67	186.26	185.72	0.99	ppb
Silver	109-1	184.09	183.69	184.02	183.94	0.12	ppb
Sodium	23-2	3989.57	3888.10	3911.10	3929.59	1.35	ppb
Strontium	86-1	491.81	493.84	503.70	496.45	1.28	ppb
Strontium	88-1	505.74	496.90	501.61	501.42	0.88	ppb
Sulfur	34-1	-18595.15	-19188.96	-20451.11	-19411.74		ppb
Terbium	159-1				110		%
Terbium	159-2				107		%
Thallium	203-1	388.00	399.83	396.11	394.64	1.53	ppb
Thallium	205-1	392.36	390.09	389.55	390.67	0.38	ppb
Tin	118-1	480.29	486.53	483.63	483.48	0.65	ppb
Titanium	47-1	4657.72	4797.09	4809.24	4754.68	1.77	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:19:02 DataFile Name : 016ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	491.59	508.83	501.99	500.80	1.73	ppb
Vanadium	51-2	396.49	393.00	392.96	394.15	0.51	ppb
Yttrium	89-1				109		%
Yttrium	89-2				104		%
Zinc	66-2	390.19	385.52	383.06	386.26	0.94	ppb
Zirconium	90-1	472.36	476.73	504.60	484.56	3.61	ppb
Zirconium	91-1	468.46	480.47	485.86	478.26	1.86	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:25:22 DataFile Name : 018LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	21.22	17.34	19.91	19.49	10.12	ppb
Antimony	121-1	1.98	2.01	2.13	2.04	4.07	ppb
Arsenic	75-2	1.08	0.88	1.29	1.08	18.94	ppb
Barium	135-1	9.49	9.82	9.48	9.60	2.03	ppb
Barium	137-1	9.63	9.50	9.30	9.48	1.73	ppb
Beryllium	9-1	1.12	0.97	1.10	1.07	7.65	ppb
Bismuth	209-1				96		%
Bismuth	209-2				94		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.87	0.73	0.73	0.78	10.14	ppb
Cadmium	106-1	-0.47	-0.43	-0.63	-0.51		ppb
Cadmium	111-1	0.87	0.88	0.82	0.86	3.77	ppb
Calcium	43-1	494.33	498.74	484.23	492.43	1.51	ppb
Calcium	44-1	484.45	488.35	478.90	483.90	0.98	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.00	1.99	2.04	2.01	1.28	ppb
Cobalt	59-2	1.01	1.01	1.03	1.02	1.37	ppb
Copper	63-2	1.84	1.87	1.84	1.85	1.00	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				95		%
Holmium	165-2				93		%
Indium	115-1				93		%
Indium	115-2				92		%
Iron	56-2	52.09	52.02	51.88	52.00	0.21	ppb
Iron	57-2	54.11	55.21	57.20	55.51	2.83	ppb
Iron	54-2	53.56	53.72	52.54	53.27	1.21	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:25:22 DataFile Name : 018LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.79	0.87	0.85	0.84	5.17	ppb
Lead	207-1	0.85	0.84	0.83	0.84	1.49	ppb
Lead	208-1	0.80	0.86	0.83	0.83	3.35	ppb
Lithium	6-1				93		%
Magnesium	24-2	468.98	462.43	459.21	463.54	1.07	ppb
Manganese	55-2	1.09	0.95	1.01	1.02	7.13	ppb
Molybdenum	94-1	5.80	5.77	5.96	5.84	1.80	ppb
Molybdenum	95-1	4.83	4.70	5.01	4.85	3.13	ppb
Molybdenum	96-1	4.78	4.82	4.91	4.83	1.32	ppb
Molybdenum	97-1	4.67	4.64	4.71	4.68	0.80	ppb
Molybdenum	98-1	4.70	4.73	4.83	4.75	1.52	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.93	0.96	0.84	0.91	7.03	ppb
Phosphorus	31-2	876.92	706.88	776.08	786.63	10.87	ppb
Potassium	39-2	506.04	500.18	502.57	502.93	0.59	ppb
Rhodium	103-1				94		%
Rhodium	103-2				93		%
Scandium	45-1				92		%
Scandium	45-2				90		%
Selenium	82-1	4.09	4.09	5.42	4.54	16.94	ppb
Selenium	77-2	2.80	4.78	2.46	3.35	37.50	ppb
Selenium	78-2	6.31	6.83	7.16	6.77	6.33	ppb
Silicon	28-1	5.15	3.08	5.05	4.43	26.34	ppb
Silver	107-1	1.12	1.16	1.14	1.14	1.63	ppb
Silver	109-1	1.06	1.10	1.08	1.08	1.44	ppb
Sodium	23-2	476.59	474.09	478.11	476.26	0.43	ppb
Strontium	86-1	0.87	0.94	1.03	0.95	8.26	ppb
Strontium	88-1	0.92	0.94	0.98	0.95	3.10	ppb
Sulfur	34-1	-7339.05	-7422.95	-8350.03	-7704.01		ppb
Terbium	159-1				92		%
Terbium	159-2				93		%
Thallium	203-1	0.94	0.97	0.94	0.95	1.74	ppb
Thallium	205-1	0.94	0.98	0.95	0.96	2.17	ppb
Tin	118-1	4.82	4.88	4.67	4.79	2.21	ppb
Titanium	47-1	4.70	5.07	4.95	4.91	3.87	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:25:22 DataFile Name : 018LLIC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.84	0.83	0.84	0.84	0.81	ppb
Vanadium	51-2	4.94	4.83	4.86	4.88	1.18	ppb
Yttrium	89-1				91		%
Yttrium	89-2				90		%
Zinc	66-2	5.03	5.71	5.45	5.40	6.30	ppb
Zirconium	90-1	1.08	1.08	1.06	1.07	1.20	ppb
Zirconium	91-1	1.09	1.12	1.05	1.09	3.57	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:28:43 DataFile Name : 019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-2.04	-2.29	-2.30	-2.21		ppb
Antimony	121-1	0.03	0.04	0.04	0.03	16.60	ppb
Arsenic	75-2	-0.03	-0.02	-0.03	-0.03		ppb
Barium	135-1	0.03	0.01	0.00	0.01	83.53	ppb
Barium	137-1	0.00	0.01	0.00	0.00	614.70	ppb
Beryllium	9-1	0.01	-0.01	-0.01	0.00		ppb
Bismuth	209-1				94		%
Bismuth	209-2				93		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.03	-0.01	0.15	0.06	145.42	ppb
Cadmium	106-1	-0.40	0.02	-0.64	-0.34		ppb
Cadmium	111-1	-0.02	0.01	-0.05	-0.02		ppb
Calcium	43-1	0.61	-0.33	-0.51	-0.08		ppb
Calcium	44-1	-6.85	-7.21	-4.50	-6.19		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.01	0.10	0.11	0.07	77.92	ppb
Cobalt	59-2	0.00	0.00	0.01	0.00	200.57	ppb
Copper	63-2	0.04	-0.02	-0.01	0.01	538.95	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				94		%
Holmium	165-2				93		%
Indium	115-1				93		%
Indium	115-2				91		%
Iron	56-2	0.42	0.01	0.10	0.18	122.99	ppb
Iron	57-2	1.71	0.45	1.13	1.10	57.51	ppb
Iron	54-2	2.46	0.50	-0.94	0.67	253.76	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:28:43 DataFile Name : 019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.04	0.04	0.03	0.03	18.03	ppb
Lead	207-1	0.04	0.02	0.04	0.03	37.73	ppb
Lead	208-1	0.04	0.03	0.03	0.03	18.28	ppb
Lithium	6-1				92		%
Magnesium	24-2	0.15	-0.13	0.17	0.07	256.93	ppb
Manganese	55-2	-0.02	-0.03	-0.06	-0.04		ppb
Molybdenum	94-1	0.04	0.11	0.12	0.09	44.61	ppb
Molybdenum	95-1	0.05	0.10	0.07	0.07	29.05	ppb
Molybdenum	96-1	0.07	0.07	0.08	0.08	7.93	ppb
Molybdenum	97-1	0.03	0.06	0.07	0.05	35.18	ppb
Molybdenum	98-1	0.08	0.09	0.08	0.08	7.72	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.03	0.03	0.01	0.02	36.74	ppb
Phosphorus	31-2	-882.61	-874.68	-883.47	-880.25		ppb
Potassium	39-2	4.83	-3.07	-2.25	-0.16		ppb
Rhodium	103-1				93		%
Rhodium	103-2				93		%
Scandium	45-1				93		%
Scandium	45-2				91		%
Selenium	82-1	-0.01	0.01	-0.36	-0.12		ppb
Selenium	77-2	-0.10	0.22	-0.10	0.01	2196.32	ppb
Selenium	78-2	1.38	1.42	3.23	2.01	52.65	ppb
Silicon	28-1	-1.02	-0.22	-0.85	-0.70		ppb
Silver	107-1	0.01	0.02	0.01	0.01	42.93	ppb
Silver	109-1	0.02	0.01	0.02	0.02	8.77	ppb
Sodium	23-2	5.83	5.41	4.26	5.16	15.73	ppb
Strontium	86-1	0.01	-0.02	0.01	0.00		ppb
Strontium	88-1	0.00	0.00	0.01	0.00	32.55	ppb
Sulfur	34-1	-8809.80	-9097.69	-8627.45	-8844.98		ppb
Terbium	159-1				93		%
Terbium	159-2				92		%
Thallium	203-1	0.02	0.01	0.02	0.02	18.20	ppb
Thallium	205-1	0.02	0.02	0.02	0.02	15.24	ppb
Tin	118-1	-0.05	-0.15	-0.10	-0.10		ppb
Titanium	47-1	0.00	0.13	0.07	0.07	92.07	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:28:43 DataFile Name : 019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.01	0.00	0.00	22.65	ppb
Vanadium	51-2	0.00	0.01	0.00	0.00	624.60	ppb
Yttrium	89-1				91		%
Yttrium	89-2				91		%
Zinc	66-2	0.12	0.05	0.06	0.08	48.54	ppb
Zirconium	90-1	0.04	0.05	0.04	0.04	21.28	ppb
Zirconium	91-1	0.02	0.02	0.04	0.02	55.15	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:32:04 DataFile Name : 020ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	93139.12	92814.21	93516.79	93156.71	0.38	ppb
Antimony	121-1	1.04	1.12	1.16	1.11	5.22	ppb
Arsenic	75-2	0.34	0.50	0.43	0.42	19.19	ppb
Barium	135-1	1.50	1.32	1.46	1.43	6.51	ppb
Barium	137-1	1.35	1.41	1.42	1.39	2.69	ppb
Beryllium	9-1	0.29	0.29	0.25	0.28	9.07	ppb
Bismuth	209-1				95		%
Bismuth	209-2				92		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	7.32	7.08	7.15	7.19	1.73	ppb
Cadmium	106-1	-1.18	-0.62	-1.81	-1.20		ppb
Cadmium	111-1	0.24	0.24	0.13	0.20	31.93	ppb
Calcium	43-1	100380.56	104456.29	100316.22	101717.69	2.33	ppb
Calcium	44-1	95728.34	101692.30	98302.97	98574.54	3.03	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	19.88	19.66	20.16	19.90	1.26	ppb
Cobalt	59-2	1.21	1.29	1.31	1.27	4.12	ppb
Copper	63-2	7.06	6.93	7.15	7.05	1.54	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				97		%
Holmium	165-2				95		%
Indium	115-1				90		%
Indium	115-2				89		%
Iron	56-2	100869.56	100456.13	100723.33	100683.01	0.21	ppb
Iron	57-2	99422.15	97421.79	99664.42	98836.12	1.25	ppb
Iron	54-2	100573.90	99471.81	100493.03	100179.58	0.61	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:32:04 DataFile Name : 020ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	4.32	4.51	4.47	4.44	2.23	ppb
Lead	207-1	3.72	3.88	4.12	3.91	5.17	ppb
Lead	208-1	4.01	4.05	4.21	4.09	2.61	ppb
Lithium	6-1				92		%
Magnesium	24-2	91220.40	92193.90	91927.14	91780.48	0.55	ppb
Manganese	55-2	7.33	7.09	6.96	7.12	2.66	ppb
Molybdenum	94-1	1554.52	1549.94	1581.13	1561.86	1.08	ppb
Molybdenum	95-1	1906.62	1902.06	1904.24	1904.31	0.12	ppb
Molybdenum	96-1	1846.81	1876.05	1823.83	1848.89	1.42	ppb
Molybdenum	97-1	1892.48	1939.20	1910.46	1914.05	1.23	ppb
Molybdenum	98-1	1873.10	1902.61	1880.79	1885.50	0.81	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	5.93	5.41	5.41	5.58	5.32	ppb
Phosphorus	31-2	704503.58	692950.76	697738.48	698397.61	0.83	ppb
Potassium	39-2	100413.52	99011.64	98004.14	99143.10	1.22	ppb
Rhodium	103-1				89		%
Rhodium	103-2				90		%
Scandium	45-1				89		%
Scandium	45-2				89		%
Selenium	82-1	0.00	-0.22	-0.30	-0.17		ppb
Selenium	77-2	-0.10	0.90	-0.10	0.24	243.75	ppb
Selenium	78-2	0.57	1.70	3.12	1.80	70.98	ppb
Silicon	28-1	2.76	7.66	4.02	4.82	52.84	ppb
Silver	107-1	0.06	0.04	0.05	0.05	22.33	ppb
Silver	109-1	0.07	0.04	0.04	0.05	39.91	ppb
Sodium	23-2	99159.59	98262.93	98390.44	98604.32	0.49	ppb
Strontium	86-1	33.07	34.34	33.71	33.71	1.88	ppb
Strontium	88-1	32.76	32.94	33.23	32.98	0.71	ppb
Sulfur	34-1	909924.79	922990.29	902868.62	911927.90	1.12	ppb
Terbium	159-1				96		%
Terbium	159-2				93		%
Thallium	203-1	0.06	0.04	0.06	0.05	17.97	ppb
Thallium	205-1	0.05	0.06	0.07	0.06	12.54	ppb
Tin	118-1	0.16	0.17	0.12	0.15	17.41	ppb
Titanium	47-1	1949.71	2025.15	1954.34	1976.40	2.14	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:32:04 DataFile Name : 020ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.02	0.03	0.02	0.02	9.57	ppb
Vanadium	51-2	0.22	0.19	0.19	0.20	7.77	ppb
Yttrium	89-1				90		%
Yttrium	89-2				89		%
Zinc	66-2	12.29	12.28	12.25	12.27	0.16	ppb
Zirconium	90-1	0.07	0.08	0.07	0.07	5.44	ppb
Zirconium	91-1	0.05	0.06	0.06	0.06	15.29	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:42:34 DataFile Name : 022ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	93725.97	89567.35	93758.28	92350.53	2.61	ppb
Antimony	121-1	21.14	20.16	21.34	20.88	3.03	ppb
Arsenic	75-2	20.78	21.29	20.38	20.82	2.17	ppb
Barium	135-1	21.09	20.13	21.35	20.86	3.08	ppb
Barium	137-1	20.97	20.47	21.45	20.96	2.32	ppb
Beryllium	9-1	20.39	22.35	21.99	21.58	4.83	ppb
Bismuth	209-1				111		%
Bismuth	209-2				106		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	28.39	25.99	27.68	27.35	4.50	ppb
Cadmium	106-1	21.71	18.71	19.25	19.89	8.05	ppb
Cadmium	111-1	20.53	19.43	20.35	20.10	2.96	ppb
Calcium	43-1	99499.03	100508.27	102739.27	100915.53	1.64	ppb
Calcium	44-1	99405.80	100396.55	101578.59	100460.31	1.08	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	41.29	40.09	40.59	40.66	1.48	ppb
Cobalt	59-2	21.88	20.70	21.39	21.32	2.80	ppb
Copper	63-2	26.03	25.57	25.40	25.67	1.28	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				114		%
Holmium	165-2				110		%
Indium	115-1				110		%
Indium	115-2				104		%
Iron	56-2	105104.33	101483.05	101655.59	102747.66	1.99	ppb
Iron	57-2	102274.65	99019.46	101449.72	100914.61	1.68	ppb
Iron	54-2	103355.44	101597.79	102695.75	102549.66	0.87	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:42:34 DataFile Name : 022ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	23.23	24.11	24.08	23.81	2.11	ppb
Lead	207-1	21.62	23.14	22.42	22.39	3.41	ppb
Lead	208-1	22.15	23.20	22.96	22.77	2.41	ppb
Lithium	6-1				99		%
Magnesium	24-2	91239.71	90506.44	88386.38	90044.18	1.65	ppb
Manganese	55-2	25.37	24.98	25.72	25.36	1.47	ppb
Molybdenum	94-1	1763.91	1743.57	1778.67	1762.05	1.00	ppb
Molybdenum	95-1	1993.30	1982.27	2065.64	2013.74	2.25	ppb
Molybdenum	96-1	1901.70	1936.23	2014.37	1950.76	2.96	ppb
Molybdenum	97-1	1996.53	1975.17	2091.04	2020.91	3.05	ppb
Molybdenum	98-1	1963.70	1979.10	2081.14	2007.98	3.18	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	26.71	25.87	26.19	26.26	1.60	ppb
Phosphorus	31-2	714756.83	703850.01	715566.75	711391.19	0.92	ppb
Potassium	39-2	102696.16	98974.97	99275.06	100315.40	2.06	ppb
Rhodium	103-1				108		%
Rhodium	103-2				105		%
Scandium	45-1				104		%
Scandium	45-2				105		%
Selenium	82-1	20.15	19.91	20.46	20.17	1.37	ppb
Selenium	77-2	21.87	18.84	17.91	19.54	10.59	ppb
Selenium	78-2	20.37	21.32	20.68	20.79	2.33	ppb
Silicon	28-1	12.37	16.52	16.84	15.24	16.38	ppb
Silver	107-1	19.50	18.88	19.75	19.38	2.32	ppb
Silver	109-1	19.27	18.81	19.62	19.23	2.12	ppb
Sodium	23-2	100180.32	99407.55	100408.19	99998.68	0.52	ppb
Strontium	86-1	84.89	83.72	86.07	84.89	1.38	ppb
Strontium	88-1	84.05	83.03	86.56	84.55	2.15	ppb
Sulfur	34-1	879686.47	939523.80	905021.20	908077.16	3.31	ppb
Terbium	159-1				114		%
Terbium	159-2				110		%
Thallium	203-1	18.68	20.05	19.66	19.46	3.63	ppb
Thallium	205-1	18.81	19.67	19.28	19.25	2.23	ppb
Tin	118-1	50.95	50.19	52.51	51.22	2.31	ppb
Titanium	47-1	2056.61	2115.86	2086.64	2086.37	1.42	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:42:34 DataFile Name : 022ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	42.29	45.96	45.32	44.52	4.41	ppb
Vanadium	51-2	20.89	20.07	20.17	20.38	2.22	ppb
Yttrium	89-1				108		%
Yttrium	89-2				104		%
Zinc	66-2	31.27	29.25	29.44	29.98	3.72	ppb
Zirconium	90-1	48.18	48.69	50.72	49.20	2.73	ppb
Zirconium	91-1	48.01	48.92	50.06	49.00	2.10	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:46:30 DataFile Name : 023CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	47856.74	49203.80	48061.36	48373.97	1.50	ppb
Antimony	121-1	492.10	488.09	477.96	486.05	1.50	ppb
Arsenic	75-2	471.83	478.82	461.20	470.62	1.89	ppb
Barium	135-1	2458.97	2484.67	2409.03	2450.89	1.57	ppb
Barium	137-1	2491.85	2462.60	2484.09	2479.51	0.61	ppb
Beryllium	9-1	485.25	488.92	491.21	488.46	0.62	ppb
Bismuth	209-1				99		%
Bismuth	209-2				94		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	475.90	484.44	480.41	480.25	0.89	ppb
Cadmium	106-1	473.17	471.04	469.78	471.33	0.36	ppb
Cadmium	111-1	470.46	478.75	469.25	472.82	1.09	ppb
Calcium	43-1	251935.33	250809.66	251052.15	251265.71	0.24	ppb
Calcium	44-1	247549.34	247288.26	248692.03	247843.21	0.30	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	493.56	500.52	495.63	496.57	0.72	ppb
Cobalt	59-2	477.62	487.41	492.05	485.69	1.52	ppb
Copper	63-2	4659.75	4742.77	4809.74	4737.42	1.59	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				102		%
Indium	115-1				98		%
Indium	115-2				94		%
Iron	56-2	123937.23	128097.16	125110.96	125715.12	1.71	ppb
Iron	57-2	126036.92	127582.73	126709.72	126776.46	0.61	ppb
Iron	54-2	127424.63	127950.50	125227.61	126867.58	1.14	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:46:30 DataFile Name : 023CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2543.23	2456.48	2518.68	2506.13	1.78	ppb
Lead	207-1	2461.60	2415.11	2496.49	2457.73	1.66	ppb
Lead	208-1	2458.92	2422.80	2488.88	2456.87	1.35	ppb
Lithium	6-1				92		%
Magnesium	24-2	242216.38	246227.19	245637.28	244693.62	0.88	ppb
Manganese	55-2	4815.37	4773.24	4818.42	4802.35	0.53	ppb
Molybdenum	94-1	4845.50	5051.28	4987.09	4961.29	2.12	ppb
Molybdenum	95-1	4871.43	5078.02	4974.90	4974.78	2.08	ppb
Molybdenum	96-1	4871.76	4917.07	4943.18	4910.67	0.74	ppb
Molybdenum	97-1	4901.15	4941.13	5023.83	4955.37	1.26	ppb
Molybdenum	98-1	5017.43	4927.64	5041.06	4995.38	1.20	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	486.61	487.82	484.44	486.29	0.35	ppb
Phosphorus	31-2	6072.57	5986.52	6197.50	6085.53	1.74	ppb
Potassium	39-2	121008.67	122640.77	126138.14	123262.53	2.13	ppb
Rhodium	103-1				94		%
Rhodium	103-2				95		%
Scandium	45-1				95		%
Scandium	45-2				97		%
Selenium	82-1	468.01	469.54	463.46	467.00	0.68	ppb
Selenium	77-2	448.88	450.39	427.40	442.22	2.91	ppb
Selenium	78-2	457.69	463.37	452.64	457.90	1.17	ppb
Silicon	28-1	300.56	289.07	299.67	296.43	2.16	ppb
Silver	107-1	488.50	486.74	477.91	484.38	1.17	ppb
Silver	109-1	483.11	480.63	473.70	479.15	1.02	ppb
Sodium	23-2	246522.06	246862.89	246631.13	246672.03	0.07	ppb
Strontium	86-1	488.36	498.39	495.86	494.20	1.06	ppb
Strontium	88-1	506.83	490.33	495.69	497.62	1.69	ppb
Sulfur	34-1	-3489.78	-4453.05	-4903.06	-4281.96		ppb
Terbium	159-1				102		%
Terbium	159-2				100		%
Thallium	203-1	507.07	499.78	519.39	508.74	1.95	ppb
Thallium	205-1	510.81	505.40	511.72	509.31	0.67	ppb
Tin	118-1	498.49	483.67	493.55	491.90	1.53	ppb
Titanium	47-1	5036.39	4829.42	4970.28	4945.37	2.14	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:46:30 DataFile Name : 023CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	483.14	508.93	496.32	496.13	2.60	ppb
Vanadium	51-2	485.61	487.81	487.90	487.11	0.27	ppb
Yttrium	89-1				97		%
Yttrium	89-2				96		%
Zinc	66-2	4617.87	4603.42	4684.79	4635.36	0.94	ppb
Zirconium	90-1	501.17	489.22	498.22	496.20	1.25	ppb
Zirconium	91-1	483.80	490.57	493.08	489.15	0.98	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:50:32 DataFile Name : 024CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.53	2.59	3.51	2.54	39.07	ppb
Antimony	121-1	0.21	0.21	0.25	0.22	8.59	ppb
Arsenic	75-2	0.03	0.02	0.01	0.02	63.05	ppb
Barium	135-1	0.06	0.05	0.04	0.05	15.17	ppb
Barium	137-1	0.05	0.03	0.05	0.05	24.06	ppb
Beryllium	9-1	0.00	-0.01	0.01	0.00	506.45	ppb
Bismuth	209-1				101		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.06	0.06	0.03	0.05	41.07	ppb
Cadmium	106-1	-1.50	-2.41	-2.55	-2.15		ppb
Cadmium	111-1	-0.09	-0.15	-0.15	-0.13		ppb
Calcium	43-1	7.57	13.99	9.79	10.45	31.17	ppb
Calcium	44-1	2.86	1.42	2.53	2.27	33.24	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.14	0.03	0.09	0.09	60.59	ppb
Cobalt	59-2	0.01	0.02	0.02	0.02	23.89	ppb
Copper	63-2	0.27	0.25	0.24	0.25	5.63	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				96		%
Indium	115-1				96		%
Indium	115-2				93		%
Iron	56-2	5.97	7.00	6.87	6.61	8.52	ppb
Iron	57-2	5.31	5.39	8.18	6.29	25.94	ppb
Iron	54-2	5.27	7.75	7.36	6.79	19.65	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:50:32 DataFile Name : 024CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.05	0.08	0.06	0.06	26.90	ppb
Lead	207-1	0.08	0.08	0.08	0.08	2.71	ppb
Lead	208-1	0.06	0.07	0.06	0.06	6.96	ppb
Lithium	6-1				91		%
Magnesium	24-2	7.93	8.74	9.07	8.58	6.83	ppb
Manganese	55-2	0.07	0.06	0.07	0.07	13.68	ppb
Molybdenum	94-1	0.28	0.35	0.30	0.31	11.82	ppb
Molybdenum	95-1	0.22	0.20	0.18	0.20	8.68	ppb
Molybdenum	96-1	0.21	0.16	0.21	0.19	12.87	ppb
Molybdenum	97-1	0.22	0.21	0.26	0.23	12.04	ppb
Molybdenum	98-1	0.22	0.21	0.24	0.22	7.63	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.10	0.05	0.13	0.09	44.02	ppb
Phosphorus	31-2	-912.70	-841.12	-845.87	-866.57		ppb
Potassium	39-2	34.48	39.22	33.59	35.76	8.47	ppb
Rhodium	103-1				96		%
Rhodium	103-2				95		%
Scandium	45-1				92		%
Scandium	45-2				91		%
Selenium	82-1	0.17	-0.48	-0.74	-0.35		ppb
Selenium	77-2	-0.10	-0.10	0.21	0.01	2553.06	ppb
Selenium	78-2	0.65	1.31	0.12	0.69	85.96	ppb
Silicon	28-1	-5.34	-5.63	-5.87	-5.61		ppb
Silver	107-1	0.03	0.02	0.03	0.03	22.90	ppb
Silver	109-1	0.03	0.03	0.03	0.03	4.88	ppb
Sodium	23-2	65.92	64.61	60.54	63.69	4.40	ppb
Strontium	86-1	0.02	0.04	0.06	0.04	50.61	ppb
Strontium	88-1	0.01	0.02	0.01	0.01	39.44	ppb
Sulfur	34-1	-10276.16	-10907.13	-10132.67	-10438.65		ppb
Terbium	159-1				100		%
Terbium	159-2				95		%
Thallium	203-1	0.08	0.07	0.07	0.07	8.43	ppb
Thallium	205-1	0.08	0.07	0.08	0.07	4.69	ppb
Tin	118-1	-0.01	-0.13	-0.09	-0.07		ppb
Titanium	47-1	0.11	0.21	0.15	0.16	32.35	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:50:32 DataFile Name : 024CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.01	0.01	0.01	1.95	ppb
Vanadium	51-2	0.01	0.01	0.01	0.01	28.65	ppb
Yttrium	89-1				95		%
Yttrium	89-2				93		%
Zinc	66-2	0.43	0.46	0.50	0.46	8.37	ppb
Zirconium	90-1	0.07	0.06	0.08	0.07	16.60	ppb
Zirconium	91-1	0.04	0.05	0.09	0.06	38.47	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:53:49 DataFile Name : 025LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	22.96	24.46	23.50	23.64	3.21	ppb
Antimony	121-1	1.86	1.91	2.08	1.95	5.82	ppb
Arsenic	75-2	0.90	1.18	1.09	1.05	13.70	ppb
Barium	135-1	8.69	9.02	9.01	8.91	2.08	ppb
Barium	137-1	8.84	8.95	9.14	8.98	1.69	ppb
Beryllium	9-1	0.93	1.07	1.01	1.01	6.61	ppb
Bismuth	209-1				98		%
Bismuth	209-2				94		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.96	0.88	0.93	0.92	4.48	ppb
Cadmium	106-1	-0.37	-0.53	-0.54	-0.48		ppb
Cadmium	111-1	0.82	0.89	0.83	0.85	4.26	ppb
Calcium	43-1	476.16	483.36	504.98	488.17	3.07	ppb
Calcium	44-1	466.01	476.66	485.54	476.07	2.05	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1.97	2.01	1.94	1.97	1.70	ppb
Cobalt	59-2	1.01	1.04	1.00	1.02	1.87	ppb
Copper	63-2	1.97	1.98	1.88	1.94	2.75	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				97		%
Holmium	165-2				95		%
Indium	115-1				97		%
Indium	115-2				92		%
Iron	56-2	54.45	54.47	53.56	54.16	0.97	ppb
Iron	57-2	55.34	53.69	55.63	54.89	1.91	ppb
Iron	54-2	57.08	54.71	54.31	55.37	2.70	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:53:49 DataFile Name : 025LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.82	0.87	0.82	0.84	3.69	ppb
Lead	207-1	0.83	0.82	0.84	0.83	1.55	ppb
Lead	208-1	0.79	0.82	0.84	0.81	2.87	ppb
Lithium	6-1				89		%
Magnesium	24-2	452.74	455.28	451.71	453.24	0.41	ppb
Manganese	55-2	1.05	0.93	1.02	1.00	6.22	ppb
Molybdenum	94-1	5.42	5.68	5.73	5.61	2.95	ppb
Molybdenum	95-1	4.64	4.62	4.88	4.72	3.08	ppb
Molybdenum	96-1	4.72	4.67	4.89	4.76	2.38	ppb
Molybdenum	97-1	4.64	4.75	4.78	4.72	1.65	ppb
Molybdenum	98-1	4.54	4.75	4.87	4.72	3.64	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.90	0.99	0.79	0.90	11.41	ppb
Phosphorus	31-2	695.34	852.65	924.04	824.01	14.20	ppb
Potassium	39-2	494.44	515.41	494.16	501.34	2.43	ppb
Rhodium	103-1				95		%
Rhodium	103-2				96		%
Scandium	45-1				93		%
Scandium	45-2				91		%
Selenium	82-1	4.55	3.16	3.69	3.80	18.42	ppb
Selenium	77-2	4.30	3.72	4.34	4.12	8.38	ppb
Selenium	78-2	5.13	6.91	5.44	5.83	16.30	ppb
Silicon	28-1	-0.83	-5.93	-2.16	-2.97		ppb
Silver	107-1	1.00	1.01	1.06	1.02	3.16	ppb
Silver	109-1	1.02	1.04	1.01	1.02	1.33	ppb
Sodium	23-2	501.87	505.25	487.66	498.26	1.87	ppb
Strontium	86-1	0.93	0.98	1.02	0.98	4.34	ppb
Strontium	88-1	0.94	0.96	0.97	0.95	1.54	ppb
Sulfur	34-1	-8392.47	-9436.18	-6938.34	-8255.66		ppb
Terbium	159-1				98		%
Terbium	159-2				94		%
Thallium	203-1	0.94	0.94	1.03	0.97	5.37	ppb
Thallium	205-1	0.95	0.97	1.01	0.98	2.93	ppb
Tin	118-1	4.25	4.24	4.42	4.30	2.37	ppb
Titanium	47-1	4.84	4.99	5.10	4.98	2.70	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:53:49 DataFile Name : 025LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.79	0.81	0.87	0.82	4.82	ppb
Vanadium	51-2	4.95	4.72	4.46	4.71	5.15	ppb
Yttrium	89-1				94		%
Yttrium	89-2				92		%
Zinc	66-2	4.97	5.44	4.90	5.10	5.79	ppb
Zirconium	90-1	1.00	1.04	1.02	1.02	1.93	ppb
Zirconium	91-1	1.03	1.12	1.02	1.06	4.94	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BL Instrumnet Name : P7
Client Sample ID : PB170330BL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:57:09 DataFile Name : 026CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.33	-0.06	0.58	0.06	767.93	ppb
Antimony	121-1	0.02	0.03	0.04	0.03	32.06	ppb
Arsenic	75-2	-0.03	0.01	0.03	0.00	2222.53	ppb
Barium	135-1	0.02	0.02	0.01	0.02	26.12	ppb
Barium	137-1	0.03	0.02	0.00	0.02	83.33	ppb
Beryllium	9-1	0.01	0.01	0.00	0.01	104.36	ppb
Bismuth	209-1				104		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.02	0.02	-0.05	0.00		ppb
Cadmium	106-1	-1.55	-1.81	-2.40	-1.92		ppb
Cadmium	111-1	-0.09	-0.10	-0.16	-0.12		ppb
Calcium	43-1	7.58	0.01	1.84	3.14	125.77	ppb
Calcium	44-1	-4.81	-4.57	-4.97	-4.78		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.01	0.03	0.00	0.01	402.48	ppb
Cobalt	59-2	0.00	0.00	0.01	0.00	102.03	ppb
Copper	63-2	0.16	0.11	0.14	0.14	16.76	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				106		%
Holmium	165-2				101		%
Indium	115-1				105		%
Indium	115-2				98		%
Iron	56-2	1.65	1.64	1.02	1.44	25.17	ppb
Iron	57-2	-1.01	2.39	3.72	1.70	143.13	ppb
Iron	54-2	-0.37	-0.59	0.23	-0.24		ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BL Instrumnet Name : P7
Client Sample ID : PB170330BL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:57:09 DataFile Name : 026CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.03	0.04	0.02	0.03	43.27	ppb
Lead	207-1	0.03	0.03	0.04	0.03	24.43	ppb
Lead	208-1	0.03	0.03	0.02	0.03	14.16	ppb
Lithium	6-1				97		%
Magnesium	24-2	1.82	2.40	1.93	2.05	15.13	ppb
Manganese	55-2	0.06	0.05	0.10	0.07	42.42	ppb
Molybdenum	94-1	0.11	0.10	0.09	0.10	13.21	ppb
Molybdenum	95-1	0.11	0.08	0.06	0.08	34.20	ppb
Molybdenum	96-1	0.11	0.08	0.07	0.09	27.31	ppb
Molybdenum	97-1	0.09	0.12	0.04	0.08	43.88	ppb
Molybdenum	98-1	0.10	0.09	0.06	0.09	23.75	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.02	0.01	-0.02	-0.01		ppb
Phosphorus	31-2	-825.48	-901.50	-922.83	-883.27		ppb
Potassium	39-2	3.04	3.27	1.79	2.70	29.40	ppb
Rhodium	103-1				103		%
Rhodium	103-2				102		%
Scandium	45-1				99		%
Scandium	45-2				97		%
Selenium	82-1	0.12	-0.06	-0.87	-0.27		ppb
Selenium	77-2	-0.10	0.50	-0.10	0.10	336.14	ppb
Selenium	78-2	2.37	0.12	1.77	1.42	82.35	ppb
Silicon	28-1	-14.94	-16.14	-12.21	-14.43		ppb
Silver	107-1	0.01	0.02	0.01	0.02	20.22	ppb
Silver	109-1	0.02	0.02	0.01	0.02	12.07	ppb
Sodium	23-2	26.56	26.51	25.52	26.20	2.25	ppb
Strontium	86-1	-0.03	0.00	-0.03	-0.02		ppb
Strontium	88-1	0.01	0.00	0.01	0.01	48.51	ppb
Sulfur	34-1	-14563.33	-14053.16	-12789.47	-13801.98		ppb
Terbium	159-1				107		%
Terbium	159-2				100		%
Thallium	203-1	0.04	0.03	0.03	0.03	15.21	ppb
Thallium	205-1	0.03	0.04	0.04	0.04	10.06	ppb
Tin	118-1	0.07	0.03	0.04	0.05	45.69	ppb
Titanium	47-1	0.10	0.12	0.09	0.10	16.57	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BL Instrumnet Name : P7
Client Sample ID : PB170330BL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:57:09 DataFile Name : 026CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	52.18	ppb
Vanadium	51-2	0.00	0.01	0.00	0.00	179.20	ppb
Yttrium	89-1				102		%
Yttrium	89-2				97		%
Zinc	66-2	0.14	0.72	0.38	0.41	70.19	ppb
Zirconium	90-1	0.02	0.00	0.01	0.01	63.28	ppb
Zirconium	91-1	0.00	0.00	0.00	0.00		ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BS Instrumnet Name : P7
Client Sample ID : PB170330BS Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:00:27 DataFile Name : 027LCSS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10122.89	9776.14	9782.97	9894.00	2.00	ppb
Antimony	121-1	520.95	524.12	526.29	523.79	0.51	ppb
Arsenic	75-2	511.69	512.90	511.65	512.08	0.14	ppb
Barium	135-1	2486.02	2506.46	2547.55	2513.34	1.25	ppb
Barium	137-1	2526.60	2535.27	2535.74	2532.54	0.20	ppb
Beryllium	9-1	506.35	502.58	512.67	507.20	1.00	ppb
Bismuth	209-1				98		%
Bismuth	209-2				92		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	500.36	507.58	512.85	506.93	1.24	ppb
Cadmium	106-1	492.35	504.04	515.49	503.96	2.30	ppb
Cadmium	111-1	501.82	508.41	514.28	508.17	1.23	ppb
Calcium	43-1	52041.82	51993.65	52591.87	52209.11	0.64	ppb
Calcium	44-1	50689.13	50938.47	52190.30	51272.63	1.57	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	515.81	510.71	502.01	509.51	1.37	ppb
Cobalt	59-2	526.45	523.39	504.48	518.10	2.30	ppb
Copper	63-2	5184.71	5087.37	5218.11	5163.39	1.32	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				95		%
Indium	115-1				92		%
Indium	115-2				90		%
Iron	56-2	27027.00	26493.87	26202.33	26574.40	1.57	ppb
Iron	57-2	27502.07	26789.80	26531.65	26941.17	1.87	ppb
Iron	54-2	27847.97	27167.03	26853.19	27289.40	1.86	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BS Instrumnet Name : P7
Client Sample ID : PB170330BS Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:00:27 DataFile Name : 027LCSS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2400.96	2538.12	2469.04	2469.37	2.78	ppb
Lead	207-1	2445.72	2573.34	2449.49	2489.52	2.92	ppb
Lead	208-1	2432.26	2550.44	2461.82	2481.50	2.48	ppb
Lithium	6-1				90		%
Magnesium	24-2	50762.49	49283.82	49880.89	49975.73	1.49	ppb
Manganese	55-2	5081.69	5116.77	4984.33	5060.93	1.36	ppb
Molybdenum	94-1	5015.00	4916.08	5084.44	5005.17	1.69	ppb
Molybdenum	95-1	4950.94	5034.31	5028.27	5004.51	0.93	ppb
Molybdenum	96-1	4943.08	4982.28	4897.22	4940.86	0.86	ppb
Molybdenum	97-1	5031.53	4997.29	5063.93	5030.92	0.66	ppb
Molybdenum	98-1	4971.27	4983.30	5138.36	5030.98	1.85	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	528.51	511.65	513.39	517.85	1.79	ppb
Phosphorus	31-2	23141.92	21302.26	21971.85	22138.68	4.21	ppb
Potassium	39-2	26013.40	25348.69	25141.47	25501.18	1.79	ppb
Rhodium	103-1				91		%
Rhodium	103-2				93		%
Scandium	45-1				92		%
Scandium	45-2				91		%
Selenium	82-1	521.98	509.58	516.55	516.04	1.20	ppb
Selenium	77-2	516.78	507.22	534.53	519.51	2.67	ppb
Selenium	78-2	526.08	517.61	496.99	513.56	2.91	ppb
Silicon	28-1	1230.13	1263.45	1256.22	1249.93	1.40	ppb
Silver	107-1	507.17	512.67	524.53	514.79	1.72	ppb
Silver	109-1	507.77	520.51	516.58	514.95	1.27	ppb
Sodium	23-2	51408.57	50849.64	50481.72	50913.31	0.92	ppb
Strontium	86-1	511.30	496.55	509.27	505.71	1.58	ppb
Strontium	88-1	503.36	506.10	508.85	506.10	0.54	ppb
Sulfur	34-1	19674.90	19125.21	18588.14	19129.42	2.84	ppb
Terbium	159-1				98		%
Terbium	159-2				94		%
Thallium	203-1	488.24	522.90	500.66	503.93	3.48	ppb
Thallium	205-1	486.53	531.13	506.61	508.09	4.40	ppb
Tin	118-1	507.78	508.17	519.21	511.72	1.27	ppb
Titanium	47-1	5057.74	5115.55	4922.97	5032.09	1.96	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BS Instrumnet Name : P7
Client Sample ID : PB170330BS Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:00:27 DataFile Name : 027LCSS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	462.28	486.87	467.99	472.38	2.72	ppb
Vanadium	51-2	512.19	502.46	502.21	505.62	1.13	ppb
Yttrium	89-1				93		%
Yttrium	89-2				90		%
Zinc	66-2	5379.68	5251.90	5192.98	5274.85	1.81	ppb
Zirconium	90-1	520.92	499.44	508.88	509.75	2.11	ppb
Zirconium	91-1	501.92	495.74	495.83	497.83	0.71	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOIL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:06:41 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	93852.04	93769.62	94117.42	93913.03	0.19	ppb
Antimony	121-1	502.18	478.29	501.11	493.86	2.73	ppb
Arsenic	75-2	1360.81	1338.42	1382.92	1360.72	1.64	ppb
Barium	135-1	5116.04	4963.02	4816.13	4965.06	3.02	ppb
Barium	137-1	5060.75	4844.85	4871.39	4925.66	2.39	ppb
Beryllium	9-1	614.87	571.07	531.04	572.33	7.33	ppb
Bismuth	209-1				110		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	1598.54	1549.94	1556.39	1568.29	1.68	ppb
Cadmium	106-1	1591.09	1540.02	1584.17	1571.76	1.76	ppb
Cadmium	111-1	1773.02	1735.82	1762.88	1757.24	1.09	ppb
Calcium	43-1	141501.88	150347.19	147333.67	146394.25	3.07	ppb
Calcium	44-1	143096.49	151982.78	146615.07	147231.44	3.04	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1954.71	1897.46	1905.25	1919.14	1.62	ppb
Cobalt	59-2	3547.29	3421.69	3536.23	3501.74	1.99	ppb
Copper	63-2	2948.79	2913.89	2877.13	2913.27	1.23	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				102		%
Holmium	165-2				97		%
Indium	115-1				92		%
Indium	115-2				91		%
Iron	56-2	152058.48	150715.27	150132.44	150968.73	0.65	ppb
Iron	57-2	150414.78	149224.63	146875.01	148838.14	1.21	ppb
Iron	54-2	151962.12	153282.61	152461.01	152568.58	0.44	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOIL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:06:41 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1950.13	1936.09	1852.15	1912.79	2.77	ppb
Lead	207-1	1864.87	1849.92	1827.89	1847.56	1.01	ppb
Lead	208-1	1901.59	1870.73	1848.42	1873.58	1.42	ppb
Lithium	6-1				145		%
Magnesium	24-2	102513.76	103150.77	104114.19	103259.57	0.78	ppb
Manganese	55-2	2290.40	2237.00	2330.60	2286.00	2.05	ppb
Molybdenum	94-1	1192.02	1135.36	1141.83	1156.40	2.68	ppb
Molybdenum	95-1	1182.80	1239.18	1190.74	1204.24	2.53	ppb
Molybdenum	96-1	1234.91	1155.55	1191.36	1193.94	3.33	ppb
Molybdenum	97-1	1217.30	1182.89	1188.33	1196.17	1.55	ppb
Molybdenum	98-1	1242.04	1180.11	1189.22	1203.79	2.78	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	862.22	859.42	860.69	860.78	0.16	ppb
Phosphorus	31-2	52175.33	52431.37	53167.19	52591.29	0.98	ppb
Potassium	39-2	127909.80	123013.93	127136.31	126020.01	2.09	ppb
Rhodium	103-1				91		%
Rhodium	103-2				92		%
Scandium	45-1				99		%
Scandium	45-2				101		%
Selenium	82-1	3005.72	2939.55	2875.67	2940.32	2.21	ppb
Selenium	77-2	2972.66	2955.60	2989.76	2972.67	0.57	ppb
Selenium	78-2	2915.85	2862.73	2914.79	2897.79	1.05	ppb
Silicon	28-1	13915.05	14476.75	13941.95	14111.25	2.25	ppb
Silver	107-1	1056.70	1014.79	1035.71	1035.73	2.02	ppb
Silver	109-1	1034.05	1028.99	1038.82	1033.95	0.48	ppb
Sodium	23-2	152547.85	147501.73	150485.73	150178.44	1.69	ppb
Strontium	86-1	841.14	830.77	817.02	829.64	1.46	ppb
Strontium	88-1	859.69	834.02	830.16	841.29	1.91	ppb
Sulfur	34-1	13352.69	14259.44	10146.37	12586.17	17.17	ppb
Terbium	159-1				100		%
Terbium	159-2				96		%
Thallium	203-1	1521.66	1532.47	1515.43	1523.19	0.57	ppb
Thallium	205-1	1527.65	1563.36	1515.13	1535.38	1.63	ppb
Tin	118-1	1874.21	1852.11	1864.11	1863.47	0.59	ppb
Titanium	47-1	1298.18	1366.51	1332.62	1332.43	2.56	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOIL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:06:41 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	508.45	510.31	505.86	508.21	0.44	ppb
Vanadium	51-2	1322.70	1352.54	1347.35	1340.86	1.19	ppb
Yttrium	89-1				113		%
Yttrium	89-2				110		%
Zinc	66-2	1949.12	1958.08	1944.56	1950.58	0.35	ppb
Zirconium	90-1	90.25	89.31	89.13	89.56	0.68	ppb
Zirconium	91-1	92.05	90.35	88.95	90.45	1.72	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10DLX5 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOILD Dilution Factor : 5
Date & Time Acquired : 2025-11-05 14:12:55 DataFile Name : 029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	21201.51	20908.59	20850.17	20986.76	0.90	ppb
Antimony	121-1	97.94	99.07	98.35	98.45	0.58	ppb
Arsenic	75-2	327.13	318.20	333.27	326.20	2.32	ppb
Barium	135-1	953.16	971.62	962.76	962.51	0.96	ppb
Barium	137-1	991.94	1013.25	997.01	1000.73	1.11	ppb
Beryllium	9-1	179.23	177.18	175.83	177.41	0.96	ppb
Bismuth	209-1				118		%
Bismuth	209-2				110		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	333.61	340.46	339.32	337.80	1.09	ppb
Cadmium	106-1	333.64	327.82	332.16	331.21	0.91	ppb
Cadmium	111-1	359.39	367.13	366.53	364.35	1.18	ppb
Calcium	43-1	33207.76	33159.90	32730.40	33032.69	0.80	ppb
Calcium	44-1	32404.43	32394.84	31450.51	32083.26	1.71	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	421.31	419.80	418.17	419.76	0.38	ppb
Cobalt	59-2	777.02	785.18	754.95	772.39	2.03	ppb
Copper	63-2	655.65	651.11	649.00	651.92	0.52	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				118		%
Holmium	165-2				109		%
Indium	115-1				111		%
Indium	115-2				103		%
Iron	56-2	33425.37	33407.23	32841.12	33224.57	1.00	ppb
Iron	57-2	33148.80	32840.81	32919.06	32969.56	0.49	ppb
Iron	54-2	33807.04	34026.19	32908.99	33580.74	1.76	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10DLX5 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOILD Dilution Factor : 5
Date & Time Acquired : 2025-11-05 14:12:55 DataFile Name : 029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	419.59	386.30	441.38	415.76	6.67	ppb
Lead	207-1	374.57	371.57	387.93	378.02	2.30	ppb
Lead	208-1	400.78	388.62	420.34	403.24	3.97	ppb
Lithium	6-1				112		%
Magnesium	24-2	23260.03	22987.28	22938.37	23061.89	0.75	ppb
Manganese	55-2	493.76	501.87	489.75	495.13	1.25	ppb
Molybdenum	94-1	262.26	262.26	273.28	265.94	2.39	ppb
Molybdenum	95-1	270.86	274.11	281.76	275.58	2.03	ppb
Molybdenum	96-1	268.67	268.24	281.24	272.72	2.71	ppb
Molybdenum	97-1	274.77	278.33	286.07	279.72	2.06	ppb
Molybdenum	98-1	271.47	273.94	281.19	275.53	1.83	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	191.89	193.56	192.15	192.53	0.47	ppb
Phosphorus	31-2	10785.61	10620.31	11204.91	10870.28	2.77	ppb
Potassium	39-2	27485.16	27383.74	27699.35	27522.75	0.59	ppb
Rhodium	103-1				110		%
Rhodium	103-2				105		%
Scandium	45-1				106		%
Scandium	45-2				105		%
Selenium	82-1	725.90	719.44	743.38	729.57	1.70	ppb
Selenium	77-2	738.47	742.80	746.47	742.58	0.54	ppb
Selenium	78-2	740.17	721.26	741.54	734.32	1.54	ppb
Silicon	28-1	3094.33	3112.24	3103.34	3103.30	0.29	ppb
Silver	107-1	212.67	215.15	212.26	213.36	0.73	ppb
Silver	109-1	211.27	212.43	210.84	211.51	0.39	ppb
Sodium	23-2	32956.68	32823.37	32250.99	32677.01	1.15	ppb
Strontium	86-1	193.88	193.52	196.29	194.56	0.78	ppb
Strontium	88-1	200.87	197.25	203.13	200.42	1.48	ppb
Sulfur	34-1	-20270.38	-20052.16	-21164.63	-20495.72		ppb
Terbium	159-1				116		%
Terbium	159-2				107		%
Thallium	203-1	309.61	331.24	349.42	330.09	6.04	ppb
Thallium	205-1	328.61	324.45	349.23	334.10	3.97	ppb
Tin	118-1	366.90	384.82	373.26	374.99	2.42	ppb
Titanium	47-1	292.14	302.84	293.41	296.13	1.97	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10DLX5 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOILD Dilution Factor : 5
Date & Time Acquired : 2025-11-05 14:12:55 DataFile Name : 029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	107.97	105.72	107.29	106.99	1.08	ppb
Vanadium	51-2	287.67	289.94	286.92	288.17	0.55	ppb
Yttrium	89-1				114		%
Yttrium	89-2				109		%
Zinc	66-2	462.80	466.94	463.29	464.34	0.49	ppb
Zirconium	90-1	20.67	20.80	21.38	20.95	1.79	ppb
Zirconium	91-1	20.94	21.18	21.61	21.24	1.61	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:16:41 DataFile Name : 030CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	48666.94	49343.10	48233.31	48747.79	1.15	ppb
Antimony	121-1	463.26	459.34	458.02	460.21	0.59	ppb
Arsenic	75-2	478.27	483.66	477.49	479.81	0.70	ppb
Barium	135-1	2418.12	2355.74	2395.00	2389.62	1.32	ppb
Barium	137-1	2369.23	2408.66	2358.93	2378.94	1.10	ppb
Beryllium	9-1	458.48	462.17	466.20	462.28	0.84	ppb
Bismuth	209-1				99		%
Bismuth	209-2				92		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	453.50	465.21	446.61	455.11	2.07	ppb
Cadmium	106-1	458.53	469.20	446.30	458.01	2.50	ppb
Cadmium	111-1	456.83	463.99	454.27	458.36	1.10	ppb
Calcium	43-1	243838.27	249504.73	252860.00	248734.34	1.83	ppb
Calcium	44-1	244649.71	249937.18	246109.16	246898.68	1.11	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	497.89	500.75	496.19	498.28	0.46	ppb
Cobalt	59-2	497.36	488.21	493.00	492.86	0.93	ppb
Copper	63-2	4840.07	4819.85	4838.05	4832.66	0.23	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				98		%
Indium	115-1				96		%
Indium	115-2				91		%
Iron	56-2	128423.73	128219.93	127004.24	127882.63	0.60	ppb
Iron	57-2	123422.79	125659.75	124734.30	124605.61	0.90	ppb
Iron	54-2	126004.97	127714.37	128608.96	127442.77	1.04	ppb
Krypton	83-1						cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:16:41 DataFile Name : 030CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2445.89	2455.12	2446.98	2449.33	0.21	ppb
Lead	207-1	2390.39	2476.35	2448.81	2438.52	1.80	ppb
Lead	208-1	2409.63	2471.33	2444.74	2441.90	1.27	ppb
Lithium	6-1				90		%
Magnesium	24-2	247262.40	249386.38	244544.62	247064.47	0.98	ppb
Manganese	55-2	4854.69	4834.61	4784.03	4824.44	0.75	ppb
Molybdenum	94-1	4844.63	4859.51	4858.71	4854.28	0.17	ppb
Molybdenum	95-1	4935.02	4954.72	4813.29	4901.01	1.56	ppb
Molybdenum	96-1	4766.03	4863.70	4753.50	4794.41	1.26	ppb
Molybdenum	97-1	4849.15	4936.26	4868.57	4884.66	0.94	ppb
Molybdenum	98-1	4852.82	4916.62	4811.12	4860.19	1.09	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	485.80	490.86	492.68	489.78	0.73	ppb
Phosphorus	31-2	5909.60	6008.35	5927.12	5948.36	0.89	ppb
Potassium	39-2	122659.71	123267.87	120498.34	122141.97	1.19	ppb
Rhodium	103-1				92		%
Rhodium	103-2				94		%
Scandium	45-1				91		%
Scandium	45-2				93		%
Selenium	82-1	459.35	465.20	455.40	459.98	1.07	ppb
Selenium	77-2	457.32	464.55	458.22	460.03	0.86	ppb
Selenium	78-2	461.68	475.61	445.19	460.83	3.30	ppb
Silicon	28-1	273.89	297.03	291.14	287.35	4.18	ppb
Silver	107-1	471.32	464.47	456.14	463.98	1.64	ppb
Silver	109-1	464.44	472.86	458.14	465.14	1.59	ppb
Sodium	23-2	244269.90	251814.49	248030.23	248038.21	1.52	ppb
Strontium	86-1	481.34	489.77	485.27	485.46	0.87	ppb
Strontium	88-1	484.20	490.82	496.68	490.57	1.27	ppb
Sulfur	34-1	-3806.84	-1706.63	-2754.01	-2755.83		ppb
Terbium	159-1				104		%
Terbium	159-2				97		%
Thallium	203-1	503.49	514.10	496.00	504.53	1.80	ppb
Thallium	205-1	494.49	512.73	496.45	501.22	2.00	ppb
Tin	118-1	471.16	482.25	465.01	472.80	1.85	ppb
Titanium	47-1	4882.38	4942.61	4941.50	4922.16	0.70	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:16:41 DataFile Name : 030CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	479.37	497.70	482.04	486.37	2.04	ppb
Vanadium	51-2	486.48	492.87	489.50	489.62	0.65	ppb
Yttrium	89-1				96		%
Yttrium	89-2				92		%
Zinc	66-2	4620.22	4759.58	4820.83	4733.54	2.17	ppb
Zirconium	90-1	491.55	497.28	484.30	491.04	1.32	ppb
Zirconium	91-1	479.92	487.45	481.80	483.06	0.81	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:20:34 DataFile Name : 031CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.65	0.12	0.22	0.33	85.46	ppb
Antimony	121-1	0.27	0.31	0.34	0.31	10.39	ppb
Arsenic	75-2	0.05	0.00	0.03	0.03	99.69	ppb
Barium	135-1	0.09	0.08	0.06	0.08	19.07	ppb
Barium	137-1	0.07	0.09	0.05	0.07	25.02	ppb
Beryllium	9-1	0.02	0.02	0.05	0.03	58.19	ppb
Bismuth	209-1				99		%
Bismuth	209-2				93		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.15	0.06	0.03	0.08	77.85	ppb
Cadmium	106-1	-2.62	-2.06	-1.77	-2.15		ppb
Cadmium	111-1	-0.13	-0.09	-0.06	-0.09		ppb
Calcium	43-1	6.68	6.70	3.68	5.69	30.58	ppb
Calcium	44-1	-0.18	-1.27	2.14	0.23	764.22	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.17	0.18	0.12	0.16	21.08	ppb
Cobalt	59-2	0.03	0.04	0.03	0.03	14.82	ppb
Copper	63-2	0.33	0.35	0.37	0.35	6.25	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				98		%
Holmium	165-2				96		%
Indium	115-1				95		%
Indium	115-2				90		%
Iron	56-2	4.56	4.29	4.20	4.35	4.35	ppb
Iron	57-2	4.01	6.48	5.85	5.45	23.59	ppb
Iron	54-2	4.65	4.48	4.03	4.39	7.32	ppb
Krypton	83-1						cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:20:34 DataFile Name : 031CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.10	0.09	0.11	0.10	5.75	ppb
Lead	207-1	0.12	0.08	0.09	0.10	22.48	ppb
Lead	208-1	0.10	0.09	0.09	0.09	6.55	ppb
Lithium	6-1				87		%
Magnesium	24-2	5.40	5.82	6.18	5.80	6.71	ppb
Manganese	55-2	0.19	0.17	0.16	0.17	9.14	ppb
Molybdenum	94-1	0.32	0.29	0.30	0.30	3.81	ppb
Molybdenum	95-1	0.20	0.18	0.17	0.18	9.36	ppb
Molybdenum	96-1	0.21	0.20	0.25	0.22	11.58	ppb
Molybdenum	97-1	0.19	0.19	0.19	0.19	1.99	ppb
Molybdenum	98-1	0.24	0.21	0.19	0.21	11.70	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.09	0.15	0.21	0.15	39.90	ppb
Phosphorus	31-2	-906.86	-911.55	-952.13	-923.51		ppb
Potassium	39-2	19.77	20.36	24.71	21.61	12.48	ppb
Rhodium	103-1				93		%
Rhodium	103-2				94		%
Scandium	45-1				90		%
Scandium	45-2				89		%
Selenium	82-1	-0.59	-0.38	-0.32	-0.43		ppb
Selenium	77-2	-0.10	0.23	-0.10	0.01	1423.87	ppb
Selenium	78-2	-0.53	-1.14	0.82	-0.28		ppb
Silicon	28-1	-5.21	-9.59	-9.73	-8.18		ppb
Silver	107-1	0.07	0.06	0.06	0.06	10.40	ppb
Silver	109-1	0.06	0.05	0.05	0.05	5.21	ppb
Sodium	23-2	47.69	49.89	48.10	48.56	2.40	ppb
Strontium	86-1	-0.04	0.02	0.02	0.00		ppb
Strontium	88-1	0.01	0.02	0.01	0.01	16.63	ppb
Sulfur	34-1	-7488.42	-10125.15	-9516.11	-9043.23		ppb
Terbium	159-1				98		%
Terbium	159-2				94		%
Thallium	203-1	0.12	0.09	0.09	0.10	18.94	ppb
Thallium	205-1	0.12	0.11	0.10	0.11	13.13	ppb
Tin	118-1	-0.03	-0.10	-0.16	-0.10		ppb
Titanium	47-1	0.11	0.03	0.13	0.09	63.05	ppb

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:20:34 DataFile Name : 031CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.02	0.01	0.02	0.02	7.36	ppb
Vanadium	51-2	0.02	0.02	0.03	0.02	34.54	ppb
Yttrium	89-1				93		%
Yttrium	89-2				90		%
Zinc	66-2	0.58	0.51	0.35	0.48	23.83	ppb
Zirconium	90-1	0.10	0.10	0.07	0.09	18.07	ppb
Zirconium	91-1	0.08	0.09	0.11	0.09	13.81	ppb

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:32:37 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	727	630	630	662	8.43	cps
Antimony	121-1	23	27	13	21	32.88	cps
Arsenic	75-2	20	3	13	12	68.66	cps
Barium	135-1	37	17	20	24	43.83	cps
Barium	137-1	37	70	47	51	33.46	cps
Beryllium	9-1	13	0	20	11	91.66	cps
Bismuth	209-1	3198242	3215974	3201822	3205346	0.29	cps
Bismuth	209-2	2680203	2617088	2566930	2621407	2.17	cps
Bromine	81-1	8339	8289	7919	8182	2.81	cps
Bromine	81-2	157	153	120	143	14.15	cps
Cadmium	108-1	3	7	3	4	43.40	cps
Cadmium	106-1	1613	1653	1543	1603	3.47	cps
Cadmium	111-1	1130	1153	1088	1124	2.92	cps
Calcium	43-1	147	130	177	151	15.65	cps
Calcium	44-1	8783	9486	8983	9084	3.99	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1037	1037	1033	1036	0.19	cps
Cobalt	59-2	50	37	27	38	30.98	cps
Copper	63-2	630	557	677	621	9.74	cps
Dysprosium	156-1	3	7	3	4	43.40	cps
Dysprosium	156-2	0	3	0	1	173.21	cps
Erbium	164-1	23	27	23	24	7.89	cps
Erbium	164-2	10	17	17	14	26.66	cps
Gadolinium	160-1	13	23	30	22	37.76	cps
Gadolinium	160-2	197	223	227	216	7.63	cps
Holmium	165-1	4831746	4746858	4772136	4783580	0.91	cps
Holmium	165-2	3410066	3282344	3293305	3328571	2.13	cps
Indium	115-1	3786377	3829391	3886500	3834089	1.31	cps
Indium	115-2	1340855	1338736	1324916	1334836	0.65	cps
Iron	56-2	12699	13239	13211	13050	2.33	cps
Iron	57-2	937	847	893	892	5.04	cps
Iron	54-2	1597	1573	1510	1560	2.87	cps
Krypton	83-1	353	373	327	351	6.67	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:32:37 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	230	287	230	249	13.14	cps
Lead	207-1	170	190	230	197	15.53	cps
Lead	208-1	937	1090	1000	1009	7.64	cps
Lithium	6-1	464936	458851	452168	458652	1.39	cps
Magnesium	24-2	133	190	157	160	17.80	cps
Manganese	55-2	657	700	590	649	8.54	cps
Molybdenum	94-1	150	203	187	180	15.16	cps
Molybdenum	95-1	83	127	187	132	39.25	cps
Molybdenum	96-1	177	220	153	183	18.45	cps
Molybdenum	97-1	77	80	73	77	4.35	cps
Molybdenum	98-1	197	190	160	182	10.72	cps
Neodymium	150-1	7	13	0	7	99.98	cps
Neodymium	150-2	3	3	3	3	0.00	cps
Nickel	60-2	253	307	353	304	16.44	cps
Phosphorus	31-2	357	373	287	339	13.57	cps
Potassium	39-2	42860	42549	42376	42595	0.58	cps
Rhodium	103-1	3791896	3717540	3693696	3734377	1.37	cps
Rhodium	103-2	2364329	2362013	2301290	2342544	1.53	cps
Scandium	45-1	2362046	2266554	2309605	2312735	2.07	cps
Scandium	45-2	217619	217788	216320	217242	0.37	cps
Selenium	82-1	138	116	172	142	20.07	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	257	253	257	256	0.75	cps
Silicon	28-1	600825	604093	600276	601731	0.34	cps
Silver	107-1	40	43	60	48	22.43	cps
Silver	109-1	13	23	17	18	28.64	cps
Sodium	23-2	15805	15878	15792	15825	0.30	cps
Strontium	86-1	603	630	587	607	3.60	cps
Strontium	88-1	190	140	120	150	24.04	cps
Sulfur	34-1	164508	163342	162760	163537	0.54	cps
Terbium	159-1	4932868	4892441	4878039	4901116	0.58	cps
Terbium	159-2	3350662	3288923	3289712	3309765	1.07	cps
Thallium	203-1	67	43	33	48	35.81	cps
Thallium	205-1	103	143	110	119	18.03	cps
Tin	118-1	2230	2130	2114	2158	2.92	cps
Titanium	47-1	47	50	57	51	9.96	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:32:37 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	30	17	10	19	53.91	cps
Vanadium	51-2	13	20	3	12	68.66	cps
Yttrium	89-1	6740192	6811872	6800689	6784251	0.57	cps
Yttrium	89-2	1800692	1818637	1817386	1812239	0.55	cps
Zinc	66-2	1283	1290	1273	1282	0.65	cps
Zirconium	90-1	263	277	257	266	3.83	cps
Zirconium	91-1	67	73	50	63	18.98	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:35:55 DataFile Name : 005CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2757	2667	2637	2687	2.32	cps
Antimony	121-1	7699	8042	8066	7936	2.59	cps
Arsenic	75-2	310	277	337	308	9.77	cps
Barium	135-1	8679	8813	8920	8804	1.37	cps
Barium	137-1	14631	15649	14928	15069	3.47	cps
Beryllium	9-1	780	717	710	736	5.25	cps
Bismuth	209-1	3048847	2978634	3056138	3027873	1.41	cps
Bismuth	209-2	2481326	2568935	2439206	2496489	2.65	cps
Bromine	81-1	8062	8396	7909	8122	3.07	cps
Bromine	81-2	163	140	163	156	8.66	cps
Cadmium	108-1	77	77	83	79	4.87	cps
Cadmium	106-1	1690	1450	1583	1575	7.64	cps
Cadmium	111-1	2259	2058	2140	2153	4.70	cps
Calcium	43-1	5648	5841	5818	5769	1.83	cps
Calcium	44-1	97736	98068	99547	98450	0.98	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4961	4908	4827	4899	1.37	cps
Cobalt	59-2	3277	3150	3250	3226	2.07	cps
Copper	63-2	5468	5174	4951	5198	4.99	cps
Dysprosium	156-1	7	0	7	4	86.60	cps
Dysprosium	156-2	3	7	3	4	43.40	cps
Erbium	164-1	10	23	30	21	48.24	cps
Erbium	164-2	10	20	0	10	100.00	cps
Gadolinium	160-1	13	23	27	21	32.88	cps
Gadolinium	160-2	217	203	217	212	3.63	cps
Holmium	165-1	4561013	4519551	4535869	4538811	0.46	cps
Holmium	165-2	3232113	3186838	3185408	3201453	0.83	cps
Indium	115-1	3596778	3590600	3601742	3596373	0.16	cps
Indium	115-2	1286549	1277451	1270675	1278225	0.62	cps
Iron	56-2	104033	106203	104967	105068	1.04	cps
Iron	57-2	3300	3447	3460	3403	2.61	cps
Iron	54-2	6635	6822	6608	6688	1.74	cps
Krypton	83-1	320	293	360	324	10.34	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S2 Instrumnet Name : P7
Client Sample ID : S2 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:35:55 DataFile Name : 005CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2980	2860	2710	2850	4.75	cps
Lead	207-1	2684	2630	2420	2578	5.40	cps
Lead	208-1	11935	11899	11342	11725	2.84	cps
Lithium	6-1	434620	435743	436889	435750	0.26	cps
Magnesium	24-2	98064	97960	96776	97600	0.73	cps
Manganese	55-2	2304	2290	2257	2284	1.05	cps
Molybdenum	94-1	8336	8743	8366	8481	2.67	cps
Molybdenum	95-1	9687	9910	9953	9850	1.45	cps
Molybdenum	96-1	10948	11471	10958	11125	2.69	cps
Molybdenum	97-1	6178	6421	6065	6221	2.93	cps
Molybdenum	98-1	15515	15849	15882	15749	1.29	cps
Neodymium	150-1	3	7	3	4	43.40	cps
Neodymium	150-2	0	3	0	1	173.21	cps
Nickel	60-2	1107	1070	1073	1083	1.87	cps
Phosphorus	31-2	1937	1950	1937	1941	0.40	cps
Potassium	39-2	144391	146026	144095	144837	0.72	cps
Rhodium	103-1	3494631	3562389	3489472	3515497	1.16	cps
Rhodium	103-2	2232917	2226285	2262077	2240426	0.85	cps
Scandium	45-1	2216328	2209055	2195209	2206864	0.49	cps
Scandium	45-2	207295	208415	208532	208080	0.33	cps
Selenium	82-1	659	654	556	623	9.30	cps
Selenium	77-2	57	50	63	57	11.76	cps
Selenium	78-2	460	387	443	430	8.94	cps
Silicon	28-1	613711	626766	616969	619149	1.10	cps
Silver	107-1	5564	5715	5654	5644	1.34	cps
Silver	109-1	5241	5348	5394	5328	1.48	cps
Sodium	23-2	166827	168129	164715	166557	1.03	cps
Strontium	86-1	1783	1873	1703	1787	4.76	cps
Strontium	88-1	10494	11018	10697	10736	2.46	cps
Sulfur	34-1	168231	169613	171247	169697	0.89	cps
Terbium	159-1	4532223	4632755	4552333	4572437	1.16	cps
Terbium	159-2	3177388	3171848	3185124	3178120	0.21	cps
Thallium	203-1	3974	4024	3971	3990	0.75	cps
Thallium	205-1	9323	9690	9593	9536	1.99	cps
Tin	118-1	17144	16983	17594	17240	1.84	cps
Titanium	47-1	2760	2694	2870	2775	3.22	cps

LB Number :LB138073Operator :Jaswal

Lab Sample ID :S2Instrumnet Name :P7

Client Sample ID :S2Dilution Factor :1

Date & Time Acquired :2025-11-05 11:35:55DataFile Name :005CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	11895	11969	11902	11922	0.34	cps
Vanadium	51-2	7782	8079	7829	7897	2.02	cps
Yttrium	89-1	6213230	6427406	6570749	6403795	2.81	cps
Yttrium	89-2	1761872	1697217	1717152	1725414	1.92	cps
Zinc	66-2	3771	3647	3744	3720	1.75	cps
Zirconium	90-1	7082	7105	7372	7186	2.24	cps
Zirconium	91-1	1533	1593	1657	1595	3.87	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:39:16 DataFile Name : 006CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	116854	116132	116680	116555	0.32	cps
Antimony	121-1	199215	204315	202251	201927	1.27	cps
Arsenic	75-2	13710	13600	13693	13668	0.43	cps
Barium	135-1	232487	233513	240163	235388	1.77	cps
Barium	137-1	406085	406733	411229	408016	0.69	cps
Beryllium	9-1	38093	38103	37946	38048	0.23	cps
Bismuth	209-1	3035867	3077533	3190480	3101293	2.58	cps
Bismuth	209-2	2464699	2440311	2562869	2489293	2.61	cps
Bromine	81-1	8019	8052	8639	8237	4.24	cps
Bromine	81-2	160	153	127	147	12.03	cps
Cadmium	108-1	4327	4344	4604	4425	3.51	cps
Cadmium	106-1	7629	7729	7435	7598	1.96	cps
Cadmium	111-1	61722	61550	62990	62087	1.27	cps
Calcium	43-1	59757	60902	61477	60712	1.44	cps
Calcium	44-1	961896	978701	977947	972848	0.98	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	103744	103301	103576	103540	0.22	cps
Cobalt	59-2	162319	160792	159922	161011	0.75	cps
Copper	63-2	1280979	1280464	1260953	1274132	0.90	cps
Dysprosium	156-1	10	3	17	10	66.70	cps
Dysprosium	156-2	10	17	30	19	53.91	cps
Erbium	164-1	20	13	10	14	35.26	cps
Erbium	164-2	17	23	27	22	22.91	cps
Gadolinium	160-1	20	23	33	26	27.15	cps
Gadolinium	160-2	183	203	177	188	7.39	cps
Holmium	165-1	4613684	4518388	4684351	4605475	1.81	cps
Holmium	165-2	3200125	3157595	3207540	3188420	0.85	cps
Indium	115-1	3725156	3636214	3721438	3694269	1.36	cps
Indium	115-2	1288502	1277804	1279247	1281851	0.45	cps
Iron	56-2	4760916	4792994	4778734	4777548	0.34	cps
Iron	57-2	124783	126165	124135	125028	0.83	cps
Iron	54-2	279251	275808	278600	277886	0.66	cps
Krypton	83-1	377	430	340	382	11.84	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:39:16 DataFile Name : 006CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	793834	798467	806583	799628	0.81	cps
Lead	207-1	685825	700104	696100	694010	1.06	cps
Lead	208-1	3169398	3229357	3328507	3242421	2.48	cps
Lithium	6-1	445995	442118	452936	447016	1.23	cps
Magnesium	24-2	1055196	1048833	1045850	1049960	0.45	cps
Manganese	55-2	855432	847584	842102	848373	0.79	cps
Molybdenum	94-1	734276	730000	747740	737339	1.26	cps
Molybdenum	95-1	1037846	1053907	1058709	1050154	1.04	cps
Molybdenum	96-1	1122049	1148244	1155246	1141846	1.53	cps
Molybdenum	97-1	649775	664122	675644	663180	1.95	cps
Molybdenum	98-1	1681036	1697034	1733747	1703939	1.59	cps
Neodymium	150-1	13	20	27	20	33.35	cps
Neodymium	150-2	10	3	0	4	114.60	cps
Nickel	60-2	42600	42323	43172	42698	1.01	cps
Phosphorus	31-2	1700	1497	1667	1621	6.73	cps
Potassium	39-2	595004	585198	590298	590167	0.83	cps
Rhodium	103-1	3510562	3522948	3484788	3506099	0.56	cps
Rhodium	103-2	2264902	2218337	2233950	2239063	1.06	cps
Scandium	45-1	2157932	2225255	2230538	2204575	1.84	cps
Scandium	45-2	210211	208770	210470	209817	0.44	cps
Selenium	82-1	5275	5093	5239	5202	1.85	cps
Selenium	77-2	563	477	517	519	8.36	cps
Selenium	78-2	2107	2043	2244	2131	4.80	cps
Silicon	28-1	918649	954816	942427	938631	1.96	cps
Silver	107-1	287340	285391	294044	288925	1.57	cps
Silver	109-1	267871	272767	272751	271130	1.04	cps
Sodium	23-2	1690890	1626079	1668203	1661724	1.98	cps
Strontium	86-1	63399	64949	65442	64597	1.65	cps
Strontium	88-1	558460	564064	574099	565541	1.40	cps
Sulfur	34-1	171645	171483	173458	172196	0.64	cps
Terbium	159-1	4730152	4705798	4751670	4729206	0.49	cps
Terbium	159-2	3179134	3106730	3124117	3136660	1.20	cps
Thallium	203-1	196958	202035	198401	199131	1.31	cps
Thallium	205-1	459260	473218	469109	467195	1.54	cps
Tin	118-1	170400	172663	170846	171303	0.70	cps
Titanium	47-1	276569	281172	283805	280515	1.31	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S3 Instrumnet Name : P7
Client Sample ID : S3 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:39:16 DataFile Name : 006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	625390	643381	635396	634722	1.42	cps
Vanadium	51-2	85681	85001	84786	85156	0.55	cps
Yttrium	89-1	6483142	6346026	6515192	6448120	1.39	cps
Yttrium	89-2	1699913	1712207	1693267	1701796	0.56	cps
Zinc	66-2	253362	251149	252802	252438	0.46	cps
Zirconium	90-1	352174	355964	355255	354464	0.57	cps
Zirconium	91-1	77815	78344	78871	78343	0.67	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:42:30 DataFile Name : 007CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	290017	290174	286492	288894	0.72	cps
Antimony	121-1	501741	504906	510811	505819	0.91	cps
Arsenic	75-2	32940	33829	33491	33420	1.34	cps
Barium	135-1	582929	589589	589451	587323	0.65	cps
Barium	137-1	1022184	1032266	1029603	1028018	0.51	cps
Beryllium	9-1	95213	93254	94465	94311	1.05	cps
Bismuth	209-1	3104276	3059385	3086732	3083464	0.73	cps
Bismuth	209-2	2572073	2468998	2500978	2514016	2.10	cps
Bromine	81-1	7742	7615	7735	7698	0.93	cps
Bromine	81-2	127	97	110	111	13.53	cps
Cadmium	108-1	10841	10807	11071	10906	1.32	cps
Cadmium	106-1	16423	17107	16343	16624	2.53	cps
Cadmium	111-1	152754	155891	153951	154199	1.03	cps
Calcium	43-1	148049	148542	150085	148892	0.71	cps
Calcium	44-1	2318783	2344475	2331886	2331715	0.55	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	253780	253267	252015	253021	0.36	cps
Cobalt	59-2	398832	389124	391780	393246	1.28	cps
Copper	63-2	3241840	3206939	3191101	3213293	0.81	cps
Dysprosium	156-1	17	33	27	26	32.81	cps
Dysprosium	156-2	30	53	33	39	32.45	cps
Erbium	164-1	57	17	50	41	52.12	cps
Erbium	164-2	27	27	23	26	7.55	cps
Gadolinium	160-1	43	27	40	37	24.04	cps
Gadolinium	160-2	203	217	203	208	3.70	cps
Holmium	165-1	4776158	4614580	4729378	4706705	1.77	cps
Holmium	165-2	3180547	3188611	3181672	3183610	0.14	cps
Indium	115-1	3594103	3651221	3650373	3631899	0.90	cps
Indium	115-2	1268384	1268023	1255029	1263812	0.60	cps
Iron	56-2	11945584	12059501	11854393	11953159	0.86	cps
Iron	57-2	310873	308897	304843	308204	1.00	cps
Iron	54-2	693840	693771	687920	691844	0.49	cps
Krypton	83-1	320	300	307	309	3.30	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:42:30 DataFile Name : 007CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2101826	2142729	2122380	2122312	0.96	cps
Lead	207-1	1883347	1899932	1915155	1899478	0.84	cps
Lead	208-1	8532688	8719248	8708127	8653354	1.21	cps
Lithium	6-1	450370	454589	450148	451702	0.55	cps
Magnesium	24-2	2634963	2646467	2539604	2607011	2.25	cps
Manganese	55-2	2113388	2152603	2088141	2118044	1.53	cps
Molybdenum	94-1	1888540	1901840	1820797	1870392	2.32	cps
Molybdenum	95-1	2649640	2641839	2699826	2663768	1.18	cps
Molybdenum	96-1	2868046	2917331	2891318	2892232	0.85	cps
Molybdenum	97-1	1620096	1650306	1646635	1639012	1.01	cps
Molybdenum	98-1	4147432	4241484	4195354	4194756	1.12	cps
Neodymium	150-1	10	43	20	24	69.97	cps
Neodymium	150-2	3	10	10	8	49.52	cps
Nickel	60-2	106368	104394	104773	105178	1.00	cps
Phosphorus	31-2	12455	12535	12492	12494	0.32	cps
Potassium	39-2	1329378	1350387	1329077	1336280	0.91	cps
Rhodium	103-1	3605901	3610691	3570846	3595813	0.60	cps
Rhodium	103-2	2254989	2216119	2172685	2214598	1.86	cps
Scandium	45-1	2228562	2214745	2214983	2219430	0.36	cps
Scandium	45-2	205783	204672	202780	204412	0.74	cps
Selenium	82-1	12892	13235	13098	13075	1.32	cps
Selenium	77-2	1403	1293	1350	1349	4.08	cps
Selenium	78-2	4591	4531	4704	4609	1.91	cps
Silicon	28-1	4574223	4649388	4632310	4618640	0.85	cps
Silver	107-1	721551	739748	731550	730950	1.25	cps
Silver	109-1	677894	694922	687618	686811	1.24	cps
Sodium	23-2	4081424	4077224	4026882	4061844	0.75	cps
Strontium	86-1	161722	167506	165230	164819	1.77	cps
Strontium	88-1	1444727	1442976	1423868	1437190	0.81	cps
Sulfur	34-1	204188	204926	201479	203531	0.89	cps
Terbium	159-1	4779535	4868069	4656414	4768006	2.23	cps
Terbium	159-2	3166272	3196709	3180242	3181074	0.48	cps
Thallium	203-1	498978	499963	505672	501538	0.72	cps
Thallium	205-1	1180928	1189252	1187651	1185944	0.37	cps
Tin	118-1	418749	428153	425213	424038	1.13	cps
Titanium	47-1	690713	703311	693059	695694	0.96	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S4 Instrumnet Name : P7
Client Sample ID : S4 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:42:30 DataFile Name : 007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1604369	1735101	1610399	1649956	4.47	cps
Vanadium	51-2	208533	205789	205667	206663	0.78	cps
Yttrium	89-1	6341005	6322535	6407925	6357155	0.71	cps
Yttrium	89-2	1651346	1664231	1654523	1656700	0.41	cps
Zinc	66-2	617850	612677	610115	613548	0.64	cps
Zirconium	90-1	885403	904680	901390	897158	1.15	cps
Zirconium	91-1	196733	198848	197725	197769	0.53	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:45:35 DataFile Name : 008CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	576993	573879	580148	577007	0.54	cps
Antimony	121-1	1012724	1034841	1028727	1025431	1.11	cps
Arsenic	75-2	65768	66722	66907	66466	0.92	cps
Barium	135-1	1170899	1207813	1193437	1190716	1.56	cps
Barium	137-1	2130943	2157595	2174316	2154285	1.02	cps
Beryllium	9-1	187315	194306	192893	191505	1.93	cps
Bismuth	209-1	3105296	3091519	3088709	3095174	0.29	cps
Bismuth	209-2	2430405	2445356	2457167	2444309	0.55	cps
Bromine	81-1	7295	7115	7705	7372	4.10	cps
Bromine	81-2	130	107	117	118	9.94	cps
Cadmium	108-1	22414	22437	21920	22257	1.31	cps
Cadmium	106-1	31297	31962	31975	31745	1.22	cps
Cadmium	111-1	309068	312319	311739	311042	0.56	cps
Calcium	43-1	297492	300359	297317	298389	0.57	cps
Calcium	44-1	4660881	4678671	4612766	4650773	0.73	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	509578	510116	503347	507680	0.74	cps
Cobalt	59-2	784705	786613	784613	785310	0.14	cps
Copper	63-2	6331045	6332091	6414349	6359162	0.75	cps
Dysprosium	156-1	33	23	33	30	19.25	cps
Dysprosium	156-2	93	90	73	86	12.53	cps
Erbium	164-1	80	57	70	69	16.99	cps
Erbium	164-2	30	47	33	37	24.06	cps
Gadolinium	160-1	50	23	43	39	35.69	cps
Gadolinium	160-2	180	173	267	207	25.19	cps
Holmium	165-1	4661323	4594507	4583641	4613157	0.91	cps
Holmium	165-2	3185656	3169834	3187867	3181119	0.31	cps
Indium	115-1	3559431	3495644	3508578	3521218	0.96	cps
Indium	115-2	1237522	1230406	1238578	1235502	0.36	cps
Iron	56-2	23841119	23915673	23972364	23909719	0.28	cps
Iron	57-2	614490	618340	613327	615386	0.43	cps
Iron	54-2	1344343	1340745	1317863	1334317	1.08	cps
Krypton	83-1	337	297	433	356	19.76	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:45:35 DataFile Name : 008CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4333110	4361769	4326362	4340414	0.43	cps
Lead	207-1	3870964	3963605	4018635	3951068	1.89	cps
Lead	208-1	17643812	17808040	17986566	17812806	0.96	cps
Lithium	6-1	452887	453972	448064	451641	0.70	cps
Magnesium	24-2	5357855	5237563	5322473	5305964	1.17	cps
Manganese	55-2	4215981	4179053	4165588	4186874	0.62	cps
Molybdenum	94-1	3756724	3747223	3808291	3770746	0.87	cps
Molybdenum	95-1	5294265	5493961	5343943	5377390	1.93	cps
Molybdenum	96-1	5769261	5900245	5967584	5879030	1.72	cps
Molybdenum	97-1	3293987	3355565	3274818	3308123	1.28	cps
Molybdenum	98-1	8371627	8572336	8517693	8487219	1.22	cps
Neodymium	150-1	73	57	53	61	17.53	cps
Neodymium	150-2	10	3	10	8	49.52	cps
Nickel	60-2	213064	209530	209842	210812	0.93	cps
Phosphorus	31-2	18725	18955	18708	18796	0.73	cps
Potassium	39-2	2612155	2660744	2626557	2633152	0.95	cps
Rhodium	103-1	3370535	3498069	3447031	3438545	1.87	cps
Rhodium	103-2	2170393	2191135	2129650	2163726	1.45	cps
Scandium	45-1	2158114	2173473	2129147	2153578	1.05	cps
Scandium	45-2	199146	202549	199672	200455	0.91	cps
Selenium	82-1	26296	26739	26014	26350	1.39	cps
Selenium	77-2	2537	2574	2764	2625	4.64	cps
Selenium	78-2	9590	9310	9513	9471	1.53	cps
Silicon	28-1	6181222	6167116	6131120	6159819	0.42	cps
Silver	107-1	1436413	1485460	1456827	1459566	1.69	cps
Silver	109-1	1360494	1384382	1377806	1374227	0.90	cps
Sodium	23-2	8258282	8236951	8415913	8303716	1.18	cps
Strontium	86-1	328396	331999	328922	329772	0.59	cps
Strontium	88-1	2882918	2841618	2878875	2867804	0.79	cps
Sulfur	34-1	211885	215315	213230	213477	0.81	cps
Terbium	159-1	4723486	4759350	4680824	4721220	0.83	cps
Terbium	159-2	3254392	3118428	3085455	3152758	2.84	cps
Thallium	203-1	1006103	1043996	1045748	1031949	2.17	cps
Thallium	205-1	2550328	2705500	2624735	2626854	2.95	cps
Tin	118-1	851625	855974	856473	854691	0.31	cps
Titanium	47-1	1418751	1379146	1384881	1394259	1.54	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S5 Instrumnet Name : P7
Client Sample ID : S5 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:45:35 DataFile Name : 008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	3634255	3643836	3620933	3633008	0.32	cps
Vanadium	51-2	413388	414272	412879	413513	0.17	cps
Yttrium	89-1	6176860	6263261	6255028	6231717	0.77	cps
Yttrium	89-2	1657607	1674734	1691165	1674502	1.00	cps
Zinc	66-2	1231492	1245354	1242187	1239678	0.59	cps
Zirconium	90-1	1835527	1820715	1836637	1830960	0.49	cps
Zirconium	91-1	396189	400435	401117	399247	0.67	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:48:31 DataFile Name : 009CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1081973	1079586	1103330	1088297	1.20	cps
Antimony	121-1	2036547	2050207	2029421	2038725	0.52	cps
Arsenic	75-2	129073	127015	129221	128436	0.96	cps
Barium	135-1	2352340	2422924	2460677	2411981	2.28	cps
Barium	137-1	4118356	4166132	4246870	4177119	1.56	cps
Beryllium	9-1	364579	375031	375243	371618	1.64	cps
Bismuth	209-1	3114870	3135390	3076305	3108855	0.96	cps
Bismuth	209-2	2446555	2474204	2455316	2458691	0.57	cps
Bromine	81-1	6982	7305	6975	7087	2.66	cps
Bromine	81-2	100	100	93	98	3.94	cps
Cadmium	108-1	41904	42823	42312	42346	1.09	cps
Cadmium	106-1	59434	59465	58919	59273	0.52	cps
Cadmium	111-1	588296	600192	592416	593635	1.02	cps
Calcium	43-1	570049	582916	574715	575894	1.13	cps
Calcium	44-1	9050306	9072121	9013105	9045177	0.33	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	964747	970386	967462	967532	0.29	cps
Cobalt	59-2	1552844	1511753	1515386	1526661	1.49	cps
Copper	63-2	12301099	12298016	12193994	12264370	0.50	cps
Dysprosium	156-1	63	37	43	48	29.04	cps
Dysprosium	156-2	170	143	183	166	12.30	cps
Erbium	164-1	67	100	80	82	20.40	cps
Erbium	164-2	33	47	47	42	18.24	cps
Gadolinium	160-1	83	77	63	74	13.68	cps
Gadolinium	160-2	203	187	247	212	14.59	cps
Holmium	165-1	4564273	4677298	4727357	4656309	1.79	cps
Holmium	165-2	3174523	3163047	3171244	3169605	0.19	cps
Indium	115-1	3520417	3469215	3550505	3513379	1.17	cps
Indium	115-2	1205997	1187191	1207642	1200277	0.95	cps
Iron	56-2	45576838	45199954	45595711	45457501	0.49	cps
Iron	57-2	1165896	1164160	1167016	1165691	0.12	cps
Iron	54-2	2550109	2572625	2567726	2563487	0.46	cps
Krypton	83-1	320	330	377	342	8.84	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:48:31 DataFile Name : 009CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	8776994	8463220	8462907	8567707	2.12	cps
Lead	207-1	7792173	7636421	7609829	7679474	1.28	cps
Lead	208-1	35459778	35220971	34867216	35182655	0.85	cps
Lithium	6-1	451114	452097	453391	452201	0.25	cps
Magnesium	24-2	10162958	10086116	10317813	10188962	1.16	cps
Manganese	55-2	8221150	7974013	8047374	8080846	1.57	cps
Molybdenum	94-1	7270758	7195048	7196599	7220802	0.60	cps
Molybdenum	95-1	10274678	10288298	10413419	10325465	0.74	cps
Molybdenum	96-1	11305587	11524785	11355315	11395229	1.01	cps
Molybdenum	97-1	6595031	6454560	6535143	6528245	1.08	cps
Molybdenum	98-1	16229249	16716468	16647050	16530922	1.59	cps
Neodymium	150-1	73	67	117	86	31.73	cps
Neodymium	150-2	23	17	13	18	28.64	cps
Nickel	60-2	397077	398383	398915	398125	0.24	cps
Phosphorus	31-2	12449	12162	12866	12492	2.83	cps
Potassium	39-2	4955828	4966289	5021532	4981216	0.71	cps
Rhodium	103-1	3449557	3397028	3462418	3436334	1.01	cps
Rhodium	103-2	2163991	2099750	2087346	2117029	1.94	cps
Scandium	45-1	2128727	2157721	2108841	2131763	1.15	cps
Scandium	45-2	196248	198083	198642	197658	0.63	cps
Selenium	82-1	50268	50761	50673	50567	0.52	cps
Selenium	77-2	5424	5138	5181	5248	2.95	cps
Selenium	78-2	17784	17761	17914	17820	0.46	cps
Silicon	28-1	3910169	3855641	3963977	3909929	1.39	cps
Silver	107-1	2802995	2825087	2825216	2817766	0.45	cps
Silver	109-1	2659623	2691889	2608618	2653377	1.58	cps
Sodium	23-2	15760680	15696724	16135320	15864241	1.49	cps
Strontium	86-1	617684	624885	625475	622681	0.70	cps
Strontium	88-1	5433020	5521911	5447866	5467599	0.87	cps
Sulfur	34-1	187525	187940	188220	187895	0.19	cps
Terbium	159-1	4640529	4643327	4721721	4668525	0.99	cps
Terbium	159-2	3101266	3152226	3144096	3132529	0.87	cps
Thallium	203-1	2222700	2159818	2182561	2188360	1.45	cps
Thallium	205-1	5136552	5178819	5226868	5180746	0.87	cps
Tin	118-1	1715840	1726113	1742901	1728285	0.79	cps
Titanium	47-1	2729366	2685077	2731165	2715203	0.96	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S6 Instrumnet Name : P7
Client Sample ID : S6 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:48:31 DataFile Name : 009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7056794	7157389	7097995	7104059	0.71	cps
Vanadium	51-2	798935	796768	800071	798591	0.21	cps
Yttrium	89-1	6208454	6200384	6199161	6202666	0.08	cps
Yttrium	89-2	1650533	1613213	1651272	1638339	1.33	cps
Zinc	66-2	2368578	2389720	2364208	2374168	0.57	cps
Zirconium	90-1	3448017	3499573	3483984	3477191	0.76	cps
Zirconium	91-1	746780	774574	764298	761884	1.84	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:51:23 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2234128	2219366	2254528	2236007	0.79	cps
Antimony	121-1	4034680	4123119	4070402	4076067	1.09	cps
Arsenic	75-2	256393	250976	257806	255059	1.41	cps
Barium	135-1	4712728	4827718	4880469	4806972	1.78	cps
Barium	137-1	8383191	8484786	8282240	8383406	1.21	cps
Beryllium	9-1	726137	746524	734867	735843	1.39	cps
Bismuth	209-1	3050352	3101363	3093204	3081640	0.89	cps
Bismuth	209-2	2536567	2355648	2401975	2431397	3.87	cps
Bromine	81-1	7035	7052	7185	7091	1.16	cps
Bromine	81-2	103	113	133	117	13.10	cps
Cadmium	108-1	80680	84531	84431	83214	2.64	cps
Cadmium	106-1	114585	116443	119843	116957	2.28	cps
Cadmium	111-1	1151735	1176087	1187724	1171849	1.57	cps
Calcium	43-1	1131744	1145790	1129342	1135625	0.78	cps
Calcium	44-1	18266260	18198288	18185482	18216677	0.24	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1942009	1913343	1921394	1925582	0.77	cps
Cobalt	59-2	3112109	3024366	3077371	3071282	1.44	cps
Copper	63-2	24253807	24221067	24175939	24216938	0.16	cps
Dysprosium	156-1	87	137	83	102	29.23	cps
Dysprosium	156-2	210	227	313	250	22.19	cps
Erbium	164-1	120	133	137	130	6.79	cps
Erbium	164-2	67	93	57	72	26.24	cps
Gadolinium	160-1	73	53	70	66	16.35	cps
Gadolinium	160-2	227	210	253	230	9.50	cps
Holmium	165-1	4702365	4596375	4641821	4646854	1.14	cps
Holmium	165-2	3224449	3192919	3250527	3222632	0.90	cps
Indium	115-1	3495929	3491970	3518941	3502280	0.42	cps
Indium	115-2	1212214	1187283	1191817	1197105	1.11	cps
Iron	56-2	91549125	89017445	90297372	90287981	1.40	cps
Iron	57-2	2287817	2197515	2269555	2251629	2.12	cps
Iron	54-2	4993758	5027714	5127237	5049570	1.37	cps
Krypton	83-1	340	300	410	350	15.91	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:51:23 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	16944279	17288968	17451798	17228349	1.50	cps
Lead	207-1	15230844	15577209	15176864	15328306	1.42	cps
Lead	208-1	69167935	70797259	69998458	69987884	1.16	cps
Lithium	6-1	460521	452350	457931	456934	0.91	cps
Magnesium	24-2	20552342	20413246	20326866	20430818	0.56	cps
Manganese	55-2	15923496	16062634	16481334	16155821	1.80	cps
Molybdenum	94-1	14204965	14689527	14174472	14356321	2.01	cps
Molybdenum	95-1	20338301	21043760	20422136	20601399	1.87	cps
Molybdenum	96-1	22367881	22940332	22619511	22642575	1.27	cps
Molybdenum	97-1	12648400	13098942	12717855	12821732	1.89	cps
Molybdenum	98-1	32756859	33258064	33519030	33177984	1.17	cps
Neodymium	150-1	153	183	120	152	20.81	cps
Neodymium	150-2	20	40	40	33	34.64	cps
Nickel	60-2	795178	772561	774420	780720	1.61	cps
Phosphorus	31-2	13026	13239	13589	13285	2.14	cps
Potassium	39-2	9799524	9928542	9659155	9795740	1.38	cps
Rhodium	103-1	3375676	3308303	3402940	3362306	1.45	cps
Rhodium	103-2	2135433	2161781	2089504	2128906	1.72	cps
Scandium	45-1	2159137	2125461	2102899	2129166	1.33	cps
Scandium	45-2	199452	197806	196257	197838	0.81	cps
Selenium	82-1	98782	100157	100542	99827	0.93	cps
Selenium	77-2	10023	10544	10390	10319	2.59	cps
Selenium	78-2	34537	35152	34704	34798	0.91	cps
Silicon	28-1	3309642	3386235	3348465	3348114	1.14	cps
Silver	107-1	5493745	5466734	5549407	5503296	0.77	cps
Silver	109-1	5215093	5283284	5335398	5277925	1.14	cps
Sodium	23-2	31291604	31394130	31838344	31508026	0.92	cps
Strontium	86-1	1214594	1242206	1258229	1238343	1.78	cps
Strontium	88-1	10491840	11002085	11235996	10909973	3.49	cps
Sulfur	34-1	179760	179834	177003	178866	0.90	cps
Terbium	159-1	4699170	4640867	4824243	4721427	1.98	cps
Terbium	159-2	3141355	3192747	3194005	3176036	0.95	cps
Thallium	203-1	4279543	4320960	4439984	4346829	1.92	cps
Thallium	205-1	10012886	10445669	10347055	10268537	2.21	cps
Tin	118-1	3351294	3527814	3357941	3412350	2.93	cps
Titanium	47-1	5340599	5436488	5438458	5405182	1.03	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S7 Instrumnet Name : P7
Client Sample ID : S7 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:51:23 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	14569772	14662041	14370988	14534267	1.02	cps
Vanadium	51-2	1615368	1590492	1605413	1603758	0.78	cps
Yttrium	89-1	6200466	6204932	6126357	6177252	0.71	cps
Yttrium	89-2	1669852	1606127	1633535	1636505	1.95	cps
Zinc	66-2	4612392	4599369	4628891	4613551	0.32	cps
Zirconium	90-1	6850666	7063333	6986626	6966875	1.55	cps
Zirconium	91-1	1513812	1545100	1566247	1541720	1.71	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:54:07 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	11062637	10855085	11083976	11000566	1.15	cps
Antimony	121-1	9817	10214	10898	10309	5.30	cps
Arsenic	75-2	420	510	483	471	9.81	cps
Barium	135-1	7425	7872	7822	7707	3.18	cps
Barium	137-1	13119	13320	13894	13444	2.99	cps
Beryllium	9-1	290	270	287	282	3.80	cps
Bismuth	209-1	2742369	2763813	2807497	2771226	1.20	cps
Bismuth	209-2	2257200	2222639	2258914	2246251	0.91	cps
Bromine	81-1	7389	7225	7552	7389	2.21	cps
Bromine	81-2	177	260	230	222	18.99	cps
Cadmium	108-1	80	83	63	76	14.18	cps
Cadmium	106-1	1607	1567	1500	1558	3.46	cps
Cadmium	111-1	1675	1562	1556	1598	4.22	cps
Calcium	43-1	5300931	5278940	5395865	5325245	1.17	cps
Calcium	44-1	84523312	87124132	87518905	86388783	1.88	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	34506	34810	33905	34407	1.34	cps
Cobalt	59-2	10390	10280	10097	10256	1.45	cps
Copper	63-2	8036	8376	8352	8255	2.30	cps
Dysprosium	156-1	253	187	253	231	16.65	cps
Dysprosium	156-2	183	163	180	176	6.10	cps
Erbium	164-1	437	510	440	462	8.96	cps
Erbium	164-2	260	310	353	308	15.17	cps
Gadolinium	160-1	223	227	260	237	8.57	cps
Gadolinium	160-2	380	510	397	429	16.49	cps
Holmium	165-1	4390743	4543933	4605297	4513324	2.45	cps
Holmium	165-2	3069791	3081744	3127133	3092889	0.98	cps
Indium	115-1	3303187	3448479	3401940	3384536	2.19	cps
Indium	115-2	1195009	1186891	1199657	1193852	0.54	cps
Iron	56-2	438745353	426591567	439626220	434987714	1.67	cps
Iron	57-2	10946099	10978469	10938953	10954507	0.19	cps
Iron	54-2	23904491	24347051	23984555	24078699	0.98	cps
Krypton	83-1	383	353	380	372	4.42	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:54:07 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	6698	7272	6852	6941	4.28	cps
Lead	207-1	6358	5985	6365	6236	3.49	cps
Lead	208-1	28335	28355	28752	28481	0.83	cps
Lithium	6-1	425385	429725	428711	427940	0.53	cps
Magnesium	24-2	103149932	103225275	103395538	103256915	0.12	cps
Manganese	55-2	14774	15174	15071	15006	1.38	cps
Molybdenum	94-1	7572	7615	7856	7681	1.99	cps
Molybdenum	95-1	8966	9136	8706	8936	2.43	cps
Molybdenum	96-1	12322	11942	12712	12325	3.13	cps
Molybdenum	97-1	5901	5594	5775	5757	2.68	cps
Molybdenum	98-1	14074	14611	14040	14241	2.25	cps
Neodymium	150-1	83	110	70	88	23.20	cps
Neodymium	150-2	70	33	63	56	35.16	cps
Nickel	60-2	10584	10194	10651	10476	2.36	cps
Phosphorus	31-2	390	290	327	336	15.08	cps
Potassium	39-2	49204874	49483339	49997573	49561929	0.81	cps
Rhodium	103-1	3150205	3160977	3090780	3133987	1.21	cps
Rhodium	103-2	2020961	1996677	2058680	2025439	1.54	cps
Scandium	45-1	2016797	2044544	2098882	2053408	2.03	cps
Scandium	45-2	200473	196954	197459	198296	0.96	cps
Selenium	82-1	187	185	194	189	2.54	cps
Selenium	77-2	3	10	7	7	50.03	cps
Selenium	78-2	360	287	320	322	11.40	cps
Silicon	28-1	607673	610307	613928	610636	0.51	cps
Silver	107-1	5641	5658	5631	5643	0.24	cps
Silver	109-1	5131	5451	5424	5335	3.33	cps
Sodium	23-2	157507571	155570388	156746134	156608031	0.62	cps
Strontium	86-1	16559	17170	17421	17050	2.60	cps
Strontium	88-1	142072	142288	144954	143105	1.12	cps
Sulfur	34-1	135652	134075	134377	134701	0.62	cps
Terbium	159-1	4512282	4463800	4587897	4521326	1.38	cps
Terbium	159-2	3141730	3053854	3156188	3117257	1.78	cps
Thallium	203-1	5858	6018	6021	5966	1.57	cps
Thallium	205-1	14061	13604	14458	14041	3.04	cps
Tin	118-1	5915	5578	5855	5782	3.11	cps
Titanium	47-1	1037	977	883	966	8.00	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : S8 Instrumnet Name : P7
Client Sample ID : S8 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 11:54:07 DataFile Name : 011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	957	893	897	916	3.89	cps
Vanadium	51-2	3010	2790	2997	2933	4.21	cps
Yttrium	89-1	5910910	5846370	5984350	5913877	1.17	cps
Yttrium	89-2	1635769	1608105	1666722	1636866	1.79	cps
Zinc	66-2	17377	17861	17697	17645	1.40	cps
Zirconium	90-1	6488	6702	6628	6606	1.64	cps
Zirconium	91-1	1367	1287	1560	1405	10.01	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:19:02 DataFile Name : 016ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	189402	189379	189426	189402	0.01	cps
Antimony	121-1	2027606	2033302	2037775	2032894	0.25	cps
Arsenic	75-2	124376	123986	125258	124540	0.52	cps
Barium	135-1	1823582	1766629	1814420	1801544	1.70	cps
Barium	137-1	3108187	3169284	3083074	3120182	1.42	cps
Beryllium	9-1	34144	33837	33059	33680	1.66	cps
Bismuth	209-1	3609779	3554336	3585991	3583368	0.78	cps
Bismuth	209-2	2846624	2795114	2802044	2814594	0.99	cps
Bromine	81-1	7732	7669	7896	7765	1.51	cps
Bromine	81-2	133	143	110	129	13.27	cps
Cadmium	108-1	22257	22928	23309	22831	2.33	cps
Cadmium	106-1	33893	33181	33131	33402	1.28	cps
Cadmium	111-1	294845	297933	288421	293733	1.65	cps
Calcium	43-1	57381	57987	57576	57648	0.54	cps
Calcium	44-1	914109	907722	887153	902995	1.56	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	353636	350235	350367	351413	0.55	cps
Cobalt	59-2	1395420	1395113	1421704	1404079	1.09	cps
Copper	63-2	506701	505229	510320	507417	0.52	cps
Dysprosium	156-1	17	37	13	22	56.80	cps
Dysprosium	156-2	97	83	123	101	20.15	cps
Erbium	164-1	30	20	23	24	20.83	cps
Erbium	164-2	23	17	33	24	34.31	cps
Gadolinium	160-1	33	27	13	24	41.66	cps
Gadolinium	160-2	253	243	250	249	2.05	cps
Holmium	165-1	5364843	5291755	5278659	5311752	0.87	cps
Holmium	165-2	3618901	3548635	3631921	3599819	1.24	cps
Indium	115-1	4164109	4116761	4154421	4145097	0.60	cps
Indium	115-2	1393464	1392515	1381669	1389216	0.47	cps
Iron	56-2	1665449	1634595	1646891	1648978	0.94	cps
Iron	57-2	44071	43597	43509	43726	0.69	cps
Iron	54-2	106503	104664	105832	105667	0.88	cps
Krypton	83-1	387	407	367	387	5.17	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:19:02 DataFile Name : 016ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	1508710	1528815	1507299	1514942	0.79	cps
Lead	207-1	1308793	1312036	1295879	1305569	0.65	cps
Lead	208-1	6292534	6340448	6107985	6246989	1.96	cps
Lithium	6-1	493702	490467	485067	489745	0.89	cps
Magnesium	24-2	900616	887158	896215	894663	0.77	cps
Manganese	55-2	727356	720305	724239	723967	0.49	cps
Molybdenum	94-1	8386324	8329435	8253594	8323118	0.80	cps
Molybdenum	95-1	11956882	12044831	11729274	11910329	1.37	cps
Molybdenum	96-1	12781189	12873671	13095955	12916939	1.25	cps
Molybdenum	97-1	7475452	7347882	7451064	7424800	0.91	cps
Molybdenum	98-1	19137573	19222653	18951803	19104010	0.73	cps
Neodymium	150-1	47	30	63	47	35.71	cps
Neodymium	150-2	3	10	17	10	66.70	cps
Nickel	60-2	368724	362068	369245	366679	1.09	cps
Phosphorus	31-2	247	223	313	261	17.89	cps
Potassium	39-2	969090	968642	971787	969840	0.18	cps
Rhodium	103-1	4230292	4113145	3975048	4106162	3.11	cps
Rhodium	103-2	2445650	2501706	2479126	2475494	1.14	cps
Scandium	45-1	2549623	2492530	2499131	2513761	1.24	cps
Scandium	45-2	225712	226570	226103	226128	0.19	cps
Selenium	82-1	52626	51971	51651	52083	0.95	cps
Selenium	77-2	5398	5258	5154	5270	2.32	cps
Selenium	78-2	17904	17898	17631	17811	0.88	cps
Silicon	28-1	1795474	1773716	1794327	1787839	0.68	cps
Silver	107-1	1189911	1184124	1174243	1182760	0.67	cps
Silver	109-1	1116795	1130451	1107465	1118237	1.03	cps
Sodium	23-2	1439510	1408654	1413972	1420712	1.16	cps
Strontium	86-1	740184	735492	733454	736376	0.47	cps
Strontium	88-1	6694953	6509455	6424825	6543077	2.11	cps
Sulfur	34-1	141612	136987	134250	137616	2.70	cps
Terbium	159-1	5396078	5473909	5352966	5407651	1.13	cps
Terbium	159-2	3531653	3577676	3510942	3540090	0.96	cps
Thallium	203-1	1967734	1996575	1995639	1986649	0.82	cps
Thallium	205-1	4718584	4619257	4653938	4663926	1.08	cps
Tin	118-1	1883025	1935001	1880971	1899666	1.61	cps
Titanium	47-1	3019697	3040410	3056179	3038762	0.60	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICV01 Instrumnet Name : P7
Client Sample ID : ICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:19:02 DataFile Name : 016ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	8308159	8467491	8428039	8401230	0.99	cps
Vanadium	51-2	725634	721989	720426	722683	0.37	cps
Yttrium	89-1	7480124	7402184	7237338	7373215	1.68	cps
Yttrium	89-2	1917677	1875209	1882669	1891852	1.20	cps
Zinc	66-2	208478	206784	205050	206771	0.83	cps
Zirconium	90-1	3988565	3983487	4122420	4031491	1.95	cps
Zirconium	91-1	873111	886159	876131	878467	0.78	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:25:22 DataFile Name : 018LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2900	2484	2777	2720	7.87	cps
Antimony	121-1	7695	7932	8436	8021	4.71	cps
Arsenic	75-2	287	233	343	288	19.11	cps
Barium	135-1	8716	9136	8836	8896	2.43	cps
Barium	137-1	15432	15435	15142	15336	1.10	cps
Beryllium	9-1	773	680	780	744	7.51	cps
Bismuth	209-1	3082902	3035409	3075348	3064553	0.83	cps
Bismuth	209-2	2480499	2467317	2424912	2457576	1.18	cps
Bromine	81-1	7962	8026	7782	7923	1.59	cps
Bromine	81-2	83	93	83	87	6.66	cps
Cadmium	108-1	73	63	63	67	8.66	cps
Cadmium	106-1	1417	1440	1420	1426	0.89	cps
Cadmium	111-1	2010	2047	1983	2014	1.60	cps
Calcium	43-1	5521	5668	5608	5599	1.32	cps
Calcium	44-1	93751	96112	96143	95335	1.44	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4747	4741	4857	4782	1.37	cps
Cobalt	59-2	3094	3110	3194	3133	1.71	cps
Copper	63-2	4974	5064	5018	5019	0.90	cps
Dysprosium	156-1	3	13	7	8	65.47	cps
Dysprosium	156-2	0	3	0	1	173.21	cps
Erbium	164-1	20	17	33	23	37.78	cps
Erbium	164-2	13	20	23	19	26.96	cps
Gadolinium	160-1	30	17	40	29	40.51	cps
Gadolinium	160-2	197	223	213	211	6.38	cps
Holmium	165-1	4445320	4627009	4603962	4558764	2.17	cps
Holmium	165-2	3094630	3086890	3118211	3099911	0.53	cps
Indium	115-1	3548971	3593280	3568003	3570084	0.62	cps
Indium	115-2	1217943	1233435	1222045	1224474	0.66	cps
Iron	56-2	101358	101416	101694	101490	0.18	cps
Iron	57-2	3147	3200	3304	3217	2.48	cps
Iron	54-2	6508	6535	6455	6499	0.63	cps
Krypton	83-1	353	343	273	323	13.48	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:25:22 DataFile Name : 018LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2957	3194	3164	3105	4.15	cps
Lead	207-1	2810	2734	2727	2757	1.68	cps
Lead	208-1	12192	12769	12516	12492	2.31	cps
Lithium	6-1	419646	424935	430413	424998	1.27	cps
Magnesium	24-2	95649	94482	94307	94813	0.77	cps
Manganese	55-2	2334	2107	2210	2217	5.12	cps
Molybdenum	94-1	8503	8553	8609	8555	0.62	cps
Molybdenum	95-1	10077	9923	10280	10094	1.77	cps
Molybdenum	96-1	11001	11204	11114	11107	0.92	cps
Molybdenum	97-1	6078	6101	6038	6072	0.53	cps
Molybdenum	98-1	15722	15999	15935	15885	0.91	cps
Neodymium	150-1	10	10	7	9	21.63	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	997	1020	930	982	4.76	cps
Phosphorus	31-2	1837	1690	1760	1762	4.16	cps
Potassium	39-2	137208	136304	137474	136995	0.45	cps
Rhodium	103-1	3462541	3476419	3538283	3492414	1.15	cps
Rhodium	103-2	2201027	2123196	2179513	2167912	1.85	cps
Scandium	45-1	2096242	2133379	2172422	2134015	1.79	cps
Scandium	45-2	195606	195951	196958	196172	0.36	cps
Selenium	82-1	538	544	661	581	11.94	cps
Selenium	77-2	30	50	27	36	35.49	cps
Selenium	78-2	450	463	483	466	3.60	cps
Silicon	28-1	569809	569997	590012	576606	2.01	cps
Silver	107-1	5965	6238	6188	6130	2.38	cps
Silver	109-1	5388	5618	5548	5518	2.14	cps
Sodium	23-2	161572	161084	163162	161939	0.67	cps
Strontium	86-1	1630	1740	1797	1722	4.92	cps
Strontium	88-1	10217	10561	10691	10489	2.33	cps
Sulfur	34-1	139614	141912	142530	141352	1.09	cps
Terbium	159-1	4488041	4547151	4556990	4530727	0.82	cps
Terbium	159-2	3009052	3063543	3127760	3066785	1.94	cps
Thallium	203-1	4124	4167	4087	4126	0.97	cps
Thallium	205-1	9737	10004	9877	9873	1.35	cps
Tin	118-1	17688	18088	17454	17743	1.81	cps
Titanium	47-1	2550	2797	2784	2710	5.12	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : LLICV01 Instrumnet Name : P7
Client Sample ID : LLICV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:25:22 DataFile Name : 018LLIC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	12206	11829	12049	12028	1.57	cps
Vanadium	51-2	7849	7685	7775	7770	1.05	cps
Yttrium	89-1	6171024	6240797	6079570	6163797	1.31	cps
Yttrium	89-2	1636399	1619195	1649600	1635065	0.93	cps
Zinc	66-2	3470	3787	3687	3648	4.44	cps
Zirconium	90-1	7752	7882	7509	7714	2.46	cps
Zirconium	91-1	1737	1803	1640	1727	4.76	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:28:43 DataFile Name : 019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	377	353	350	360	4.04	cps
Antimony	121-1	127	160	173	153	15.68	cps
Arsenic	75-2	3	7	3	4	43.40	cps
Barium	135-1	47	33	27	36	28.64	cps
Barium	137-1	43	57	47	49	14.20	cps
Beryllium	9-1	20	3	7	10	88.20	cps
Bismuth	209-1	3011122	3017532	3053953	3027535	0.76	cps
Bismuth	209-2	2407587	2540516	2387458	2445187	3.40	cps
Bromine	81-1	8159	7922	7959	8013	1.59	cps
Bromine	81-2	100	110	73	94	20.07	cps
Cadmium	108-1	7	3	17	9	78.08	cps
Cadmium	106-1	1430	1513	1437	1460	3.17	cps
Cadmium	111-1	1006	1074	1004	1028	3.85	cps
Calcium	43-1	147	137	133	139	4.99	cps
Calcium	44-1	7185	7142	7559	7295	3.14	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	953	1133	1153	1080	10.20	cps
Cobalt	59-2	43	27	53	41	32.76	cps
Copper	63-2	660	527	550	579	12.30	cps
Dysprosium	156-1	3	0	7	3	100.05	cps
Dysprosium	156-2	0	0	0	0	0.00	cps
Erbium	164-1	23	23	20	22	8.65	cps
Erbium	164-2	17	7	23	16	53.90	cps
Gadolinium	160-1	23	17	17	19	20.36	cps
Gadolinium	160-2	160	180	197	179	10.26	cps
Holmium	165-1	4353741	4571498	4580610	4501950	2.85	cps
Holmium	165-2	3082716	3180204	3038337	3100419	2.34	cps
Indium	115-1	3525196	3558111	3600458	3561255	1.06	cps
Indium	115-2	1222969	1216707	1218754	1219477	0.26	cps
Iron	56-2	12555	11965	12025	12182	2.67	cps
Iron	57-2	883	837	860	860	2.71	cps
Iron	54-2	1650	1477	1327	1485	10.90	cps
Krypton	83-1	300	307	373	327	12.41	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:28:43 DataFile Name : 019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	363	360	330	351	5.23	cps
Lead	207-1	303	240	307	283	13.26	cps
Lead	208-1	1457	1313	1360	1377	5.31	cps
Lithium	6-1	428399	421149	421862	423804	0.94	cps
Magnesium	24-2	177	120	180	159	21.22	cps
Manganese	55-2	557	543	487	529	7.03	cps
Molybdenum	94-1	230	310	337	292	19.00	cps
Molybdenum	95-1	233	313	270	272	14.71	cps
Molybdenum	96-1	337	330	360	342	4.60	cps
Molybdenum	97-1	113	140	160	138	16.99	cps
Molybdenum	98-1	433	460	437	443	3.28	cps
Neodymium	150-1	3	3	7	4	43.40	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	297	300	287	294	2.36	cps
Phosphorus	31-2	290	300	290	293	1.97	cps
Potassium	39-2	39555	38382	38261	38733	1.84	cps
Rhodium	103-1	3467067	3400238	3513930	3460412	1.65	cps
Rhodium	103-2	2146191	2213407	2184002	2181200	1.54	cps
Scandium	45-1	2141956	2148388	2128152	2139499	0.48	cps
Scandium	45-2	196890	198862	197407	197720	0.52	cps
Selenium	82-1	130	128	93	117	17.50	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	277	287	343	302	11.90	cps
Silicon	28-1	552554	558071	549846	553490	0.76	cps
Silver	107-1	87	130	87	101	24.74	cps
Silver	109-1	93	93	107	98	7.88	cps
Sodium	23-2	16155	16185	15708	16016	1.67	cps
Strontium	86-1	570	513	570	551	5.94	cps
Strontium	88-1	167	180	193	180	7.41	cps
Sulfur	34-1	139563	139375	139045	139328	0.19	cps
Terbium	159-1	4505710	4619311	4615218	4580080	1.41	cps
Terbium	159-2	3093436	3026345	3016431	3045404	1.38	cps
Thallium	203-1	127	103	110	113	10.60	cps
Thallium	205-1	263	267	313	281	9.94	cps
Tin	118-1	1833	1543	1707	1695	8.58	cps
Titanium	47-1	50	117	83	83	40.00	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICB01 Instrumnet Name : P7
Client Sample ID : ICB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:28:43 DataFile Name : 019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	63	90	77	77	17.39	cps
Vanadium	51-2	10	20	7	12	56.76	cps
Yttrium	89-1	6257979	6078641	6216898	6184506	1.52	cps
Yttrium	89-2	1625126	1675217	1638563	1646302	1.57	cps
Zinc	66-2	1217	1197	1193	1202	1.05	cps
Zirconium	90-1	523	607	500	543	10.32	cps
Zirconium	91-1	87	80	120	96	22.43	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:32:04 DataFile Name : 020ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	9967681	10052085	10058432	10026066	0.51	cps
Antimony	121-1	4244	4574	4818	4545	6.33	cps
Arsenic	75-2	97	133	120	117	15.91	cps
Barium	135-1	1450	1290	1450	1397	6.61	cps
Barium	137-1	2297	2410	2470	2392	3.68	cps
Beryllium	9-1	210	207	180	199	8.27	cps
Bismuth	209-1	3022215	3067939	3033744	3041299	0.78	cps
Bismuth	209-2	2414357	2396564	2387782	2399568	0.56	cps
Bromine	81-1	8629	9176	10114	9306	8.07	cps
Bromine	81-2	577	637	597	603	5.06	cps
Cadmium	108-1	613	597	613	608	1.58	cps
Cadmium	106-1	1393	1467	1353	1405	4.09	cps
Cadmium	111-1	1353	1362	1251	1322	4.65	cps
Calcium	43-1	1082362	1090908	1098522	1090597	0.74	cps
Calcium	44-1	16733575	17216973	17451147	17133898	2.14	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	38309	38349	39034	38564	1.06	cps
Cobalt	59-2	3657	3951	3967	3858	4.52	cps
Copper	63-2	17293	17183	17577	17351	1.17	cps
Dysprosium	156-1	17	20	17	18	10.81	cps
Dysprosium	156-2	7	7	20	11	69.25	cps
Erbium	164-1	30	33	50	38	28.37	cps
Erbium	164-2	27	30	33	30	11.10	cps
Gadolinium	160-1	53	27	23	34	47.73	cps
Gadolinium	160-2	160	190	213	188	14.24	cps
Holmium	165-1	4558001	4694550	4723773	4658775	1.90	cps
Holmium	165-2	3158720	3118421	3187067	3154736	1.09	cps
Indium	115-1	3383901	3498483	3472878	3451754	1.74	cps
Indium	115-2	1188939	1181853	1193508	1188100	0.49	cps
Iron	56-2	171003271	172345721	171614194	171654395	0.39	cps
Iron	57-2	4244635	4209152	4276377	4243388	0.79	cps
Iron	54-2	9445584	9454180	9485457	9461740	0.22	cps
Krypton	83-1	330	323	350	334	4.15	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:32:04 DataFile Name : 020ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	14808	15676	15359	15281	2.87	cps
Lead	207-1	11361	12022	12616	12000	5.23	cps
Lead	208-1	55942	57430	58957	57443	2.62	cps
Lithium	6-1	417761	421121	421640	420174	0.50	cps
Magnesium	24-2	18307273	18724640	18541898	18524604	1.13	cps
Manganese	55-2	12132	11888	11601	11874	2.24	cps
Molybdenum	94-1	2199316	2211478	2269330	2226708	1.68	cps
Molybdenum	95-1	3866647	3890183	3917685	3891505	0.66	cps
Molybdenum	96-1	4118017	4218770	4125616	4154134	1.35	cps
Molybdenum	97-1	2394150	2474109	2451871	2440043	1.69	cps
Molybdenum	98-1	6103801	6252677	6217541	6191340	1.26	cps
Neodymium	150-1	27	23	17	22	22.91	cps
Neodymium	150-2	7	20	13	13	49.99	cps
Nickel	60-2	4811	4471	4437	4573	4.52	cps
Phosphorus	31-2	612133	609336	609314	610261	0.27	cps
Potassium	39-2	19369113	19328378	19000348	19232613	1.05	cps
Rhodium	103-1	3263002	3340357	3336743	3313367	1.32	cps
Rhodium	103-2	2145062	2121087	2062274	2109474	2.02	cps
Scandium	45-1	2074955	2009748	2107285	2063996	2.41	cps
Scandium	45-2	192768	195081	193738	193862	0.60	cps
Selenium	82-1	127	106	99	111	12.86	cps
Selenium	77-2	0	10	0	3	173.21	cps
Selenium	78-2	250	280	337	289	15.24	cps
Silicon	28-1	552911	557630	567464	559335	1.33	cps
Silver	107-1	367	253	303	308	18.45	cps
Silver	109-1	390	217	217	274	36.46	cps
Sodium	23-2	30221654	30307820	30138160	30222545	0.28	cps
Strontium	86-1	40910	42822	42301	42011	2.35	cps
Strontium	88-1	352257	357138	362379	357258	1.42	cps
Sulfur	34-1	2008270	1970959	2024952	2001394	1.38	cps
Terbium	159-1	4673933	4701085	4786558	4720525	1.25	cps
Terbium	159-2	3083878	3095726	3090713	3090106	0.19	cps
Thallium	203-1	310	233	290	278	14.32	cps
Thallium	205-1	637	767	783	729	11.02	cps
Tin	118-1	2617	2657	2534	2602	2.42	cps
Titanium	47-1	1028737	1034957	1047245	1036980	0.91	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSA01 Instrumnet Name : P7
Client Sample ID : ICSA01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:32:04 DataFile Name : 020ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	320	383	330	344	9.88	cps
Vanadium	51-2	357	317	317	330	7.00	cps
Yttrium	89-1	6072674	6124303	6160542	6119173	0.72	cps
Yttrium	89-2	1631701	1580619	1623860	1612060	1.71	cps
Zinc	66-2	6708	6785	6725	6739	0.60	cps
Zirconium	90-1	703	763	743	737	4.15	cps
Zirconium	91-1	127	153	143	141	9.55	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:42:34 DataFile Name : 022ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	11713386	11519957	11817482	11683608	1.29	cps
Antimony	121-1	101042	100572	101250	100955	0.34	cps
Arsenic	75-2	6088	6305	5978	6124	2.72	cps
Barium	135-1	23790	23700	23900	23797	0.42	cps
Barium	137-1	41287	42072	41905	41755	0.99	cps
Beryllium	9-1	15488	16339	15952	15926	2.67	cps
Bismuth	209-1	3664494	3488695	3553191	3568793	2.49	cps
Bismuth	209-2	2749053	2781864	2778975	2769964	0.66	cps
Bromine	81-1	9003	9960	10864	9942	9.36	cps
Bromine	81-2	640	617	683	647	5.23	cps
Cadmium	108-1	2794	2670	2704	2723	2.34	cps
Cadmium	106-1	4751	4534	4384	4556	4.05	cps
Cadmium	111-1	29598	29298	29133	29343	0.80	cps
Calcium	43-1	1281729	1243895	1261125	1262250	1.50	cps
Calcium	44-1	20759000	20142643	20213358	20371667	1.66	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	91767	91737	90999	91501	0.48	cps
Cobalt	59-2	76470	74427	75395	75431	1.36	cps
Copper	63-2	72712	73510	71567	72596	1.35	cps
Dysprosium	156-1	13	20	20	18	21.66	cps
Dysprosium	156-2	10	20	13	14	35.26	cps
Erbium	164-1	27	63	30	40	50.68	cps
Erbium	164-2	30	53	37	40	30.04	cps
Gadolinium	160-1	33	33	47	38	20.39	cps
Gadolinium	160-2	177	243	193	204	16.97	cps
Holmium	165-1	5511094	5354778	5560029	5475300	1.96	cps
Holmium	165-2	3631292	3658418	3654339	3648016	0.40	cps
Indium	115-1	4274717	4162798	4182227	4206581	1.42	cps
Indium	115-2	1386401	1391959	1383101	1387154	0.32	cps
Iron	56-2	208077157	206764377	202968604	205936712	1.29	cps
Iron	57-2	5098984	5080614	5101054	5093551	0.22	cps
Iron	54-2	11335374	11467407	11359212	11387331	0.62	cps
Krypton	83-1	310	283	400	331	18.46	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:42:34 DataFile Name : 022ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	95187	94053	95678	94973	0.88	cps
Lead	207-1	79002	80513	79437	79651	0.98	cps
Lead	208-1	369787	368664	371552	370001	0.39	cps
Lithium	6-1	467977	450496	446943	455139	2.47	cps
Magnesium	24-2	21383377	21829777	20891551	21368235	2.20	cps
Manganese	55-2	47391	48017	48441	47950	1.10	cps
Molybdenum	94-1	3038060	3014782	2969238	3007360	1.16	cps
Molybdenum	95-1	4921229	4913148	4942945	4925774	0.31	cps
Molybdenum	96-1	5162247	5276540	5299878	5246222	1.40	cps
Molybdenum	97-1	3074870	3053879	3121365	3083372	1.12	cps
Molybdenum	98-1	7790176	7881976	8002092	7891415	1.35	cps
Neodymium	150-1	23	17	20	20	16.65	cps
Neodymium	150-2	13	17	7	12	41.65	cps
Nickel	60-2	24206	24146	23946	24099	0.57	cps
Phosphorus	31-2	725222	734990	732242	730818	0.69	cps
Potassium	39-2	23132021	22945278	22553863	22877054	1.29	cps
Rhodium	103-1	3958942	4094143	4026683	4026589	1.68	cps
Rhodium	103-2	2450914	2451317	2458247	2453493	0.17	cps
Scandium	45-1	2478922	2381595	2362158	2407558	2.60	cps
Scandium	45-2	225111	231672	227033	227938	1.48	cps
Selenium	82-1	2567	2549	2525	2547	0.82	cps
Selenium	77-2	260	227	213	233	10.30	cps
Selenium	78-2	1073	1123	1087	1095	2.37	cps
Silicon	28-1	713957	708143	704029	708710	0.70	cps
Silver	107-1	126829	128171	127519	127506	0.53	cps
Silver	109-1	119606	121888	120920	120805	0.95	cps
Sodium	23-2	35655335	36411659	36041564	36036186	1.05	cps
Strontium	86-1	126825	125564	124609	125666	0.88	cps
Strontium	88-1	1099800	1090783	1097785	1096123	0.43	cps
Sulfur	34-1	2325605	2374319	2274862	2324928	2.14	cps
Terbium	159-1	5520907	5762792	5479973	5587891	2.74	cps
Terbium	159-2	3682245	3483753	3712945	3626314	3.43	cps
Thallium	203-1	96208	98326	98171	97568	1.21	cps
Thallium	205-1	229804	228729	228340	228958	0.33	cps
Tin	118-1	206535	212417	211233	210061	1.48	cps
Titanium	47-1	1296399	1281381	1253372	1277050	1.71	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : ICSAB01 Instrumnet Name : P7
Client Sample ID : ICSAB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:42:34 DataFile Name : 022ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	725502	750697	753945	743381	2.09	cps
Vanadium	51-2	38152	37707	37139	37666	1.35	cps
Yttrium	89-1	7392859	7421779	7165446	7326695	1.92	cps
Yttrium	89-2	1871154	1891811	1873060	1878675	0.61	cps
Zinc	66-2	17884	17303	17060	17416	2.43	cps
Zirconium	90-1	402329	408168	410516	407004	1.04	cps
Zirconium	91-1	88498	90524	89434	89485	1.13	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:46:30 DataFile Name : 023CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	5633889	5729501	5605264	5656218	1.15	cps
Antimony	121-1	2128025	2094655	2091670	2104783	0.96	cps
Arsenic	75-2	128333	129009	126945	128095	0.82	cps
Barium	135-1	2506869	2513815	2485385	2502023	0.59	cps
Barium	137-1	4433331	4347987	4472466	4417928	1.44	cps
Beryllium	9-1	329830	333286	335828	332981	0.90	cps
Bismuth	209-1	3197389	3187233	3148418	3177680	0.81	cps
Bismuth	209-2	2477431	2475862	2477860	2477051	0.04	cps
Bromine	81-1	8546	8616	8473	8545	0.84	cps
Bromine	81-2	197	240	223	220	9.93	cps
Cadmium	108-1	42308	42740	43221	42756	1.07	cps
Cadmium	106-1	59712	59000	60007	59573	0.87	cps
Cadmium	111-1	588608	594410	594133	592384	0.55	cps
Calcium	43-1	2824658	2871139	2878339	2858045	1.02	cps
Calcium	44-1	44984913	45881939	46213378	45693410	1.39	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1022218	1025354	1016933	1021502	0.42	cps
Cobalt	59-2	1571283	1586064	1603675	1587007	1.02	cps
Copper	63-2	12150974	12233042	12425229	12269748	1.15	cps
Dysprosium	156-1	160	137	137	144	9.32	cps
Dysprosium	156-2	197	280	257	244	17.59	cps
Erbium	164-1	280	230	237	249	10.91	cps
Erbium	164-2	200	177	130	169	21.10	cps
Gadolinium	160-1	123	183	167	158	19.63	cps
Gadolinium	160-2	327	317	243	296	15.39	cps
Holmium	165-1	5063628	4892023	5027027	4994226	1.81	cps
Holmium	165-2	3456427	3419063	3311758	3395749	2.21	cps
Indium	115-1	3742785	3788404	3744434	3758541	0.69	cps
Indium	115-2	1260590	1254099	1266313	1260334	0.48	cps
Iron	56-2	231110463	236271210	231125537	232835737	1.28	cps
Iron	57-2	5918571	5926039	5894727	5913112	0.28	cps
Iron	54-2	13163231	13073900	12815781	13017637	1.39	cps
Krypton	83-1	357	387	357	367	4.72	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:46:30 DataFile Name : 023CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9066641	8729555	8841603	8879266	1.93	cps
Lead	207-1	7827558	7655331	7816897	7766595	1.24	cps
Lead	208-1	35701735	35065626	35583265	35450209	0.95	cps
Lithium	6-1	419136	420341	421579	420352	0.29	cps
Magnesium	24-2	53470236	53764903	53720228	53651789	0.30	cps
Manganese	55-2	8351590	8188556	8279019	8273055	0.99	cps
Molybdenum	94-1	7401269	7700406	7644643	7582106	2.10	cps
Molybdenum	95-1	10666366	11096849	10931671	10898296	1.99	cps
Molybdenum	96-1	11728425	11814211	11942700	11828446	0.91	cps
Molybdenum	97-1	6694356	6735698	6886344	6772133	1.49	cps
Molybdenum	98-1	17652778	17302783	17798991	17584851	1.45	cps
Neodymium	150-1	157	137	90	128	26.77	cps
Neodymium	150-2	37	50	43	43	15.38	cps
Nickel	60-2	410345	406887	404710	407314	0.70	cps
Phosphorus	31-2	6948	6792	7002	6914	1.58	cps
Potassium	39-2	25666625	25729542	26503612	25966593	1.80	cps
Rhodium	103-1	3481840	3494245	3567127	3514404	1.31	cps
Rhodium	103-2	2201582	2250833	2219688	2224034	1.12	cps
Scandium	45-1	2157721	2203071	2206462	2189085	1.24	cps
Scandium	45-2	212038	209734	210063	210612	0.59	cps
Selenium	82-1	49838	49902	49531	49757	0.40	cps
Selenium	77-2	4944	4914	4764	4874	1.98	cps
Selenium	78-2	17167	17213	17183	17188	0.14	cps
Silicon	28-1	2016652	2002253	2057821	2025575	1.42	cps
Silver	107-1	2874512	2842351	2845870	2854244	0.62	cps
Silver	109-1	2713677	2679230	2692721	2695209	0.64	cps
Sodium	23-2	82622367	81837400	81888834	82116200	0.53	cps
Strontium	86-1	644250	656180	656458	652296	1.07	cps
Strontium	88-1	5881114	5678388	5772210	5777237	1.76	cps
Sulfur	34-1	151870	152976	152236	152361	0.37	cps
Terbium	159-1	4996391	4958405	5056252	5003682	0.99	cps
Terbium	159-2	3323792	3351000	3265151	3313314	1.32	cps
Thallium	203-1	2277789	2237931	2297412	2271044	1.33	cps
Thallium	205-1	5441322	5366555	5367476	5391784	0.80	cps
Tin	118-1	1809560	1742465	1813096	1788374	2.23	cps
Titanium	47-1	2763298	2705436	2788631	2752455	1.55	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV01 Instrumnet Name : P7
Client Sample ID : CCV01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:46:30 DataFile Name : 023CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7232512	7594392	7316126	7381010	2.57	cps
Vanadium	51-2	834897	829581	831023	831834	0.33	cps
Yttrium	89-1	6556599	6543704	6579927	6560077	0.28	cps
Yttrium	89-2	1740607	1724230	1761461	1742099	1.07	cps
Zinc	66-2	2304304	2272132	2315899	2297445	0.99	cps
Zirconium	90-1	3709283	3613725	3700621	3674543	1.44	cps
Zirconium	91-1	790362	799848	808392	799534	1.13	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:50:32 DataFile Name : 024CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	777	883	997	886	12.42	cps
Antimony	121-1	930	940	1053	974	7.03	cps
Arsenic	75-2	20	17	13	17	20.01	cps
Barium	135-1	83	80	67	77	11.50	cps
Barium	137-1	137	110	143	130	13.57	cps
Beryllium	9-1	10	7	17	11	45.82	cps
Bismuth	209-1	3236495	3245923	3211729	3231382	0.55	cps
Bismuth	209-2	2568471	2483838	2462403	2504904	2.24	cps
Bromine	81-1	8266	8666	8152	8361	3.23	cps
Bromine	81-2	197	150	120	156	24.84	cps
Cadmium	108-1	10	10	7	9	21.63	cps
Cadmium	106-1	1430	1327	1277	1345	5.82	cps
Cadmium	111-1	1017	945	929	964	4.88	cps
Calcium	43-1	223	297	247	256	14.66	cps
Calcium	44-1	8903	8709	8799	8804	1.10	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1220	1000	1133	1118	9.91	cps
Cobalt	59-2	77	100	100	92	14.61	cps
Copper	63-2	1230	1177	1160	1189	3.08	cps
Dysprosium	156-1	0	10	0	3	173.21	cps
Dysprosium	156-2	3	0	7	3	100.05	cps
Erbium	164-1	40	17	17	24	55.10	cps
Erbium	164-2	10	20	23	18	39.03	cps
Gadolinium	160-1	13	23	20	19	26.96	cps
Gadolinium	160-2	213	160	213	196	15.75	cps
Holmium	165-1	4797566	4927938	4802065	4842523	1.53	cps
Holmium	165-2	3230225	3175381	3163657	3189754	1.11	cps
Indium	115-1	3741346	3685455	3671498	3699433	1.00	cps
Indium	115-2	1257055	1241535	1237749	1245447	0.82	cps
Iron	56-2	22437	23943	24026	23468	3.81	cps
Iron	57-2	1053	1043	1180	1092	6.98	cps
Iron	54-2	1943	2157	2147	2082	5.78	cps
Krypton	83-1	317	337	363	339	6.91	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:50:32 DataFile Name : 024CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	417	533	453	468	12.75	cps
Lead	207-1	453	450	437	447	1.97	cps
Lead	208-1	1903	2040	1940	1961	3.61	cps
Lithium	6-1	416134	413070	417946	415717	0.59	cps
Magnesium	24-2	1793	1937	2030	1920	6.21	cps
Manganese	55-2	707	677	713	699	2.79	cps
Molybdenum	94-1	597	697	623	639	8.11	cps
Molybdenum	95-1	600	560	517	559	7.46	cps
Molybdenum	96-1	670	560	660	630	9.65	cps
Molybdenum	97-1	373	353	423	383	9.41	cps
Molybdenum	98-1	940	890	1003	944	6.01	cps
Neodymium	150-1	7	0	0	2	173.21	cps
Neodymium	150-2	3	0	0	1	173.21	cps
Nickel	60-2	357	313	380	350	9.67	cps
Phosphorus	31-2	267	327	327	307	11.30	cps
Potassium	39-2	45956	46304	45785	46015	0.57	cps
Rhodium	103-1	3560460	3613147	3536528	3570045	1.10	cps
Rhodium	103-2	2226724	2227044	2233433	2229067	0.17	cps
Scandium	45-1	2133856	2150084	2123303	2135748	0.63	cps
Scandium	45-2	199371	196832	199399	198534	0.74	cps
Selenium	82-1	155	84	58	99	50.79	cps
Selenium	77-2	0	0	3	1	173.21	cps
Selenium	78-2	263	283	243	263	7.59	cps
Silicon	28-1	529815	532421	524671	528969	0.75	cps
Silver	107-1	247	177	193	206	17.79	cps
Silver	109-1	180	197	180	186	5.19	cps
Sodium	23-2	35294	34435	33603	34444	2.45	cps
Strontium	86-1	610	630	653	631	3.44	cps
Strontium	88-1	230	340	293	288	19.19	cps
Sulfur	34-1	135961	135662	135588	135737	0.15	cps
Terbium	159-1	4927047	4950293	4825971	4901104	1.35	cps
Terbium	159-2	3180749	3111199	3094262	3128736	1.46	cps
Thallium	203-1	403	350	367	373	7.31	cps
Thallium	205-1	947	880	930	919	3.78	cps
Tin	118-1	2147	1730	1820	1899	11.55	cps
Titanium	47-1	107	163	130	133	21.36	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB01 Instrumnet Name : P7
Client Sample ID : CCB01 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:50:32 DataFile Name : 024CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	173	173	167	171	2.25	cps
Vanadium	51-2	23	27	20	23	14.29	cps
Yttrium	89-1	6538553	6451565	6442012	6477377	0.82	cps
Yttrium	89-2	1699835	1677997	1695256	1691030	0.68	cps
Zinc	66-2	1377	1377	1413	1389	1.52	cps
Zirconium	90-1	760	703	870	778	10.90	cps
Zirconium	91-1	127	147	197	157	23.01	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:53:49 DataFile Name : 025LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3150	3260	3224	3211	1.74	cps
Antimony	121-1	7809	8029	8593	8143	4.96	cps
Arsenic	75-2	247	317	293	286	12.48	cps
Barium	135-1	8596	8950	8786	8777	2.02	cps
Barium	137-1	15268	15515	15572	15452	1.04	cps
Beryllium	9-1	630	717	683	677	6.46	cps
Bismuth	209-1	3185131	3152165	3051393	3129563	2.23	cps
Bismuth	209-2	2512445	2420819	2462966	2465410	1.86	cps
Bromine	81-1	8272	8236	8032	8180	1.58	cps
Bromine	81-2	100	117	110	109	7.71	cps
Cadmium	108-1	87	80	83	83	4.00	cps
Cadmium	106-1	1537	1523	1497	1519	1.34	cps
Cadmium	111-1	2098	2187	2083	2123	2.65	cps
Calcium	43-1	5471	5624	5658	5584	1.78	cps
Calcium	44-1	93010	96186	94288	94495	1.69	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4777	4781	4754	4771	0.30	cps
Cobalt	59-2	3160	3187	3140	3163	0.74	cps
Copper	63-2	5398	5328	5204	5310	1.84	cps
Dysprosium	156-1	0	0	0	0	0.00	cps
Dysprosium	156-2	0	0	3	1	173.21	cps
Erbium	164-1	20	20	17	19	10.18	cps
Erbium	164-2	20	13	7	13	49.99	cps
Gadolinium	160-1	20	3	20	14	66.64	cps
Gadolinium	160-2	193	180	170	181	6.47	cps
Holmium	165-1	4586482	4692701	4675963	4651715	1.23	cps
Holmium	165-2	3229005	3154679	3129134	3170939	1.64	cps
Indium	115-1	3760922	3729148	3634544	3708205	1.77	cps
Indium	115-2	1221865	1222134	1232619	1225540	0.50	cps
Iron	56-2	107498	105726	106377	106533	0.84	cps
Iron	57-2	3264	3137	3290	3230	2.54	cps
Iron	54-2	6978	6635	6738	6784	2.60	cps
Krypton	83-1	333	400	353	362	9.44	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:53:49 DataFile Name : 025LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	3154	3314	3030	3166	4.49	cps
Lead	207-1	2824	2754	2744	2774	1.57	cps
Lead	208-1	12436	12686	12559	12560	1.00	cps
Lithium	6-1	409175	408692	409282	409049	0.08	cps
Magnesium	24-2	94166	93100	94350	93872	0.72	cps
Manganese	55-2	2314	2080	2264	2219	5.54	cps
Molybdenum	94-1	8272	8689	8463	8475	2.46	cps
Molybdenum	95-1	10070	10060	10250	10127	1.06	cps
Molybdenum	96-1	11284	11214	11311	11270	0.44	cps
Molybdenum	97-1	6265	6451	6258	6325	1.74	cps
Molybdenum	98-1	15779	16590	16416	16261	2.63	cps
Neodymium	150-1	3	0	0	1	173.21	cps
Neodymium	150-2	0	3	7	3	100.05	cps
Nickel	60-2	997	1050	910	986	7.17	cps
Phosphorus	31-2	1710	1820	1923	1818	5.87	cps
Potassium	39-2	137609	139398	138134	138380	0.66	cps
Rhodium	103-1	3497069	3554933	3606392	3552798	1.54	cps
Rhodium	103-2	2263042	2254199	2215418	2244220	1.13	cps
Scandium	45-1	2154470	2182708	2103950	2147043	1.86	cps
Scandium	45-2	199471	196112	200313	198632	1.12	cps
Selenium	82-1	606	464	501	524	14.07	cps
Selenium	77-2	47	40	47	44	8.66	cps
Selenium	78-2	420	477	427	441	7.02	cps
Silicon	28-1	556727	539039	537379	544382	1.97	cps
Silver	107-1	5728	5841	6001	5857	2.35	cps
Silver	109-1	5534	5665	5431	5543	2.11	cps
Sodium	23-2	172734	170874	168967	170858	1.10	cps
Strontium	86-1	1777	1847	1827	1817	1.98	cps
Strontium	88-1	10777	11068	10751	10865	1.62	cps
Sulfur	34-1	141262	140875	140956	141031	0.14	cps
Terbium	159-1	4833312	4850550	4768513	4817458	0.90	cps
Terbium	159-2	3130051	3124343	3100064	3118152	0.51	cps
Thallium	203-1	4251	4217	4464	4311	3.11	cps
Thallium	205-1	10244	10277	10371	10297	0.64	cps
Tin	118-1	17040	17047	17394	17160	1.18	cps
Titanium	47-1	2697	2817	2777	2764	2.21	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CRI Instrumnet Name : P7
Client Sample ID : CRI Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:53:49 DataFile Name : 025LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	11762	12002	12376	12047	2.57	cps
Vanadium	51-2	8016	7512	7262	7596	5.05	cps
Yttrium	89-1	6412653	6439909	6212154	6354905	1.96	cps
Yttrium	89-2	1679761	1656588	1663429	1666593	0.71	cps
Zinc	66-2	3507	3667	3490	3555	2.74	cps
Zirconium	90-1	7472	7789	7375	7545	2.87	cps
Zirconium	91-1	1713	1857	1643	1738	6.26	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BL Instrumnet Name : P7
Client Sample ID : PB170330BL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:57:09 DataFile Name : 026CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	607	637	713	652	8.43	cps
Antimony	121-1	127	153	213	164	26.99	cps
Arsenic	75-2	3	13	20	12	68.66	cps
Barium	135-1	43	50	40	44	11.46	cps
Barium	137-1	120	83	63	89	32.33	cps
Beryllium	9-1	17	20	10	16	32.73	cps
Bismuth	209-1	3440078	3284529	3279597	3334734	2.74	cps
Bismuth	209-2	2595673	2552895	2598524	2582364	0.99	cps
Bromine	81-1	8576	8289	7869	8245	4.31	cps
Bromine	81-2	100	143	137	127	18.42	cps
Cadmium	108-1	7	7	0	4	86.60	cps
Cadmium	106-1	1517	1490	1393	1467	4.42	cps
Cadmium	111-1	1090	1075	982	1049	5.59	cps
Calcium	43-1	240	150	170	187	25.32	cps
Calcium	44-1	8082	8139	7976	8066	1.03	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	987	1070	1003	1020	4.32	cps
Cobalt	59-2	47	40	70	52	30.16	cps
Copper	63-2	1017	897	980	964	6.38	cps
Dysprosium	156-1	3	7	7	6	34.70	cps
Dysprosium	156-2	3	3	3	3	0.00	cps
Erbium	164-1	30	20	17	22	31.22	cps
Erbium	164-2	17	10	7	11	45.82	cps
Gadolinium	160-1	7	10	17	11	45.82	cps
Gadolinium	160-2	177	203	190	190	7.02	cps
Holmium	165-1	5152271	5089421	4999806	5080499	1.51	cps
Holmium	165-2	3433723	3329486	3330802	3364670	1.78	cps
Indium	115-1	4074629	3983288	3963352	4007090	1.48	cps
Indium	115-2	1310600	1311159	1297795	1306518	0.58	cps
Iron	56-2	15812	15748	14607	15389	4.41	cps
Iron	57-2	823	980	1043	949	11.94	cps
Iron	54-2	1483	1457	1543	1495	2.97	cps
Krypton	83-1	337	313	410	353	14.28	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BL Instrumnet Name : P7
Client Sample ID : PB170330BL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:57:09 DataFile Name : 026CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	397	400	310	369	13.83	cps
Lead	207-1	307	297	340	314	7.22	cps
Lead	208-1	1560	1503	1390	1484	5.83	cps
Lithium	6-1	450342	447577	436195	444705	1.69	cps
Magnesium	24-2	557	683	580	607	11.11	cps
Manganese	55-2	733	713	810	752	6.78	cps
Molybdenum	94-1	373	337	327	346	7.11	cps
Molybdenum	95-1	407	313	270	330	21.16	cps
Molybdenum	96-1	480	387	357	408	15.77	cps
Molybdenum	97-1	207	243	143	198	25.58	cps
Molybdenum	98-1	583	523	427	511	15.47	cps
Neodymium	150-1	3	10	10	8	49.52	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	277	303	277	286	5.39	cps
Phosphorus	31-2	367	293	273	311	15.80	cps
Potassium	39-2	42202	42128	41861	42064	0.43	cps
Rhodium	103-1	3867620	3850461	3840407	3852829	0.36	cps
Rhodium	103-2	2406946	2389225	2339099	2378424	1.48	cps
Scandium	45-1	2292102	2295255	2270744	2286034	0.58	cps
Scandium	45-2	211950	211343	211564	211619	0.15	cps
Selenium	82-1	161	136	48	115	51.58	cps
Selenium	77-2	0	7	0	2	173.21	cps
Selenium	78-2	343	253	310	302	15.06	cps
Silicon	28-1	519711	514256	528803	520923	1.41	cps
Silver	107-1	143	167	127	146	13.80	cps
Silver	109-1	127	123	103	118	10.72	cps
Sodium	23-2	24336	24249	23942	24176	0.86	cps
Strontium	86-1	583	613	580	592	3.10	cps
Strontium	88-1	247	180	227	218	15.71	cps
Sulfur	34-1	136389	137727	139076	137731	0.98	cps
Terbium	159-1	5246144	5270648	5195896	5237562	0.73	cps
Terbium	159-2	3324656	3292847	3274990	3297498	0.76	cps
Thallium	203-1	240	197	183	207	14.34	cps
Thallium	205-1	490	543	523	519	5.19	cps
Tin	118-1	2574	2437	2427	2479	3.31	cps
Titanium	47-1	107	120	100	109	9.35	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BL Instrumnet Name : P7
Client Sample ID : PB170330BL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 13:57:09 DataFile Name : 026CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	93	53	47	64	39.16	cps
Vanadium	51-2	10	37	13	20	72.66	cps
Yttrium	89-1	7038779	6823854	6959079	6940571	1.57	cps
Yttrium	89-2	1793496	1765705	1735772	1764991	1.64	cps
Zinc	66-2	1320	1603	1440	1455	9.78	cps
Zirconium	90-1	397	300	330	342	14.46	cps
Zirconium	91-1	60	70	57	62	11.15	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BS Instrumnet Name : P7
Client Sample ID : PB170330BS Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:00:27 DataFile Name : 027LCSS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1094417	1078367	1082207	1084997	0.77	cps
Antimony	121-1	2165037	2199595	2176375	2180335	0.81	cps
Arsenic	75-2	130267	131867	130422	130852	0.67	cps
Barium	135-1	2435711	2479858	2483598	2466389	1.08	cps
Barium	137-1	4320036	4377448	4314140	4337208	0.81	cps
Beryllium	9-1	338484	339585	343043	340371	0.70	cps
Bismuth	209-1	3177451	3068313	3184049	3143271	2.07	cps
Bismuth	209-2	2397644	2449909	2406883	2418145	1.15	cps
Bromine	81-1	8169	7792	7835	7932	2.60	cps
Bromine	81-2	100	110	73	94	20.07	cps
Cadmium	108-1	42749	43793	43599	43380	1.28	cps
Cadmium	106-1	59649	61627	62069	61115	2.11	cps
Cadmium	111-1	603307	617221	615200	611909	1.23	cps
Calcium	43-1	574113	575982	577962	576019	0.33	cps
Calcium	44-1	9068231	9150940	9300852	9173341	1.29	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	980620	990602	976539	982587	0.74	cps
Cobalt	59-2	1589859	1612637	1558815	1587103	1.70	cps
Copper	63-2	12410749	12424531	12780260	12538513	1.67	cps
Dysprosium	156-1	57	33	47	46	25.70	cps
Dysprosium	156-2	197	130	113	147	30.06	cps
Erbium	164-1	93	73	63	77	19.93	cps
Erbium	164-2	37	57	50	48	21.31	cps
Gadolinium	160-1	70	77	37	61	35.07	cps
Gadolinium	160-2	227	260	173	220	19.87	cps
Holmium	165-1	4728329	4895283	4729511	4784375	2.01	cps
Holmium	165-2	3151419	3149455	3156032	3152302	0.11	cps
Indium	115-1	3539740	3546471	3529937	3538716	0.23	cps
Indium	115-2	1197926	1202248	1206536	1202236	0.36	cps
Iron	56-2	46273123	46279793	45901563	46151493	0.47	cps
Iron	57-2	1186153	1178868	1170856	1178626	0.65	cps
Iron	54-2	2641859	2629521	2606595	2625992	0.68	cps
Krypton	83-1	407	320	313	347	15.02	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BS Instrumnet Name : P7
Client Sample ID : PB170330BS Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:00:27 DataFile Name : 027LCSS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	8506084	8683160	8765421	8651555	1.53	cps
Lead	207-1	7728558	7852534	7756556	7779216	0.84	cps
Lead	208-1	35094422	35535555	35594720	35408232	0.77	cps
Lithium	6-1	412202	416648	412611	413820	0.59	cps
Magnesium	24-2	10286880	10189622	10342563	10273022	0.75	cps
Manganese	55-2	8090462	8311381	8119420	8173754	1.47	cps
Molybdenum	94-1	7287621	7369437	7507522	7388193	1.50	cps
Molybdenum	95-1	10313227	10818022	10643027	10591425	2.42	cps
Molybdenum	96-1	11321342	11771441	11396985	11496590	2.10	cps
Molybdenum	97-1	6538196	6698755	6686282	6641077	1.34	cps
Molybdenum	98-1	16639721	17206661	17476014	17107465	2.50	cps
Neodymium	150-1	100	93	90	94	5.39	cps
Neodymium	150-2	20	23	17	20	16.65	cps
Nickel	60-2	409094	404078	406610	406594	0.62	cps
Phosphorus	31-2	21328	20117	20774	20740	2.92	cps
Potassium	39-2	5094928	5066342	5039618	5066963	0.55	cps
Rhodium	103-1	3403239	3455154	3382869	3413754	1.09	cps
Rhodium	103-2	2212863	2174387	2173284	2186845	1.03	cps
Scandium	45-1	2122659	2131543	2114544	2122915	0.40	cps
Scandium	45-2	194644	198589	199157	197463	1.24	cps
Selenium	82-1	52866	53244	53160	53090	0.37	cps
Selenium	77-2	5328	5281	5518	5375	2.33	cps
Selenium	78-2	18435	18321	17450	18069	2.98	cps
Silicon	28-1	6411065	6597273	6510336	6506225	1.43	cps
Silver	107-1	2868091	2927696	2951519	2915769	1.47	cps
Silver	109-1	2741064	2837475	2774772	2784437	1.76	cps
Sodium	23-2	15827518	15972841	15902731	15901030	0.46	cps
Strontium	86-1	641680	642867	649426	644658	0.65	cps
Strontium	88-1	5556702	5763370	5707761	5675944	1.88	cps
Sulfur	34-1	197714	197391	194701	196602	0.84	cps
Terbium	159-1	4801748	4848916	4777901	4809522	0.75	cps
Terbium	159-2	3100646	3108551	3085399	3098199	0.38	cps
Thallium	203-1	2179556	2254098	2239625	2224426	1.78	cps
Thallium	205-1	5150320	5429336	5374035	5317897	2.78	cps
Tin	118-1	1771427	1790208	1802267	1787967	0.87	cps
Titanium	47-1	2729919	2772678	2647022	2716539	2.35	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : PB170330BS Instrumnet Name : P7
Client Sample ID : PB170330BS Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:00:27 DataFile Name : 027LCSS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	6877129	6994213	6976553	6949298	0.91	cps
Vanadium	51-2	808368	809086	810991	809482	0.17	cps
Yttrium	89-1	6237716	6434676	6338185	6336859	1.55	cps
Yttrium	89-2	1629199	1645342	1631288	1635276	0.54	cps
Zinc	66-2	2464043	2454288	2433711	2450681	0.63	cps
Zirconium	90-1	3667932	3627787	3640869	3645530	0.56	cps
Zirconium	91-1	780087	794803	783034	785975	0.99	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOIL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:06:41 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	11365678	11465988	11320548	11384071	0.65	cps
Antimony	121-1	2039154	2083387	2181205	2101249	3.46	cps
Arsenic	75-2	427481	424103	423048	424877	0.55	cps
Barium	135-1	4897549	5096576	4942101	4978742	2.10	cps
Barium	137-1	8454514	8682449	8723593	8620185	1.68	cps
Beryllium	9-1	623531	620025	605388	616315	1.56	cps
Bismuth	209-1	3417205	3560330	3611152	3529563	2.85	cps
Bismuth	209-2	2694967	2688634	2614492	2666031	1.68	cps
Bromine	81-1	65274	66305	67805	66461	1.92	cps
Bromine	81-2	10977	11361	11461	11267	2.27	cps
Cadmium	108-1	133435	138787	139263	137162	2.36	cps
Cadmium	106-1	184917	192052	197364	191444	3.26	cps
Cadmium	111-1	2080007	2184487	2216886	2160460	3.31	cps
Calcium	43-1	1698536	1758620	1757535	1738230	1.98	cps
Calcium	44-1	27842784	28816170	28349790	28336248	1.72	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4161749	4079122	4028961	4089944	1.64	cps
Cobalt	59-2	12005294	11692696	11886744	11861578	1.33	cps
Copper	63-2	7910722	7893020	7666159	7823300	1.74	cps
Dysprosium	156-1	107102	115262	116388	112917	4.49	cps
Dysprosium	156-2	102861	103626	101915	102801	0.83	cps
Erbium	164-1	100301	104635	107071	104002	3.30	cps
Erbium	164-2	70293	70869	69452	70205	1.02	cps
Gadolinium	160-1	108870	114588	114987	112815	3.03	cps
Gadolinium	160-2	81234	82070	80286	81197	1.10	cps
Holmium	165-1	4725565	4913259	5047196	4895340	3.30	cps
Holmium	165-2	3187524	3260326	3232189	3226680	1.14	cps
Indium	115-1	3415675	3618999	3596338	3543671	3.14	cps
Indium	115-2	1219423	1223593	1206651	1216556	0.73	cps
Iron	56-2	291698942	291930402	286051956	289893767	1.15	cps
Iron	57-2	7266246	7278773	7047169	7197396	1.81	cps
Iron	54-2	16149056	16447581	16092235	16229624	1.18	cps
Krypton	83-1	530	543	547	540	1.63	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOIL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:06:41 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	7430238	7685731	7457456	7524475	1.86	cps
Lead	207-1	6337746	6550292	6564648	6484228	1.96	cps
Lead	208-1	29508033	30245144	30311012	30021396	1.48	cps
Lithium	6-1	625322	669493	702962	665926	5.85	cps
Magnesium	24-2	23281090	23653275	23484262	23472876	0.79	cps
Manganese	55-2	4086934	4030427	4130471	4082611	1.23	cps
Molybdenum	94-1	2034275	2069165	2113893	2072444	1.93	cps
Molybdenum	95-1	2893441	3237189	3159910	3096847	5.82	cps
Molybdenum	96-1	3321526	3319130	3476144	3372267	2.67	cps
Molybdenum	97-1	1857593	1927663	1967179	1917478	2.89	cps
Molybdenum	98-1	4882131	4953684	5070908	4968907	1.92	cps
Neodymium	150-1	213583	223019	224952	220518	2.76	cps
Neodymium	150-2	126519	125410	126004	125978	0.44	cps
Nickel	60-2	747750	752563	741363	747225	0.75	cps
Phosphorus	31-2	52400	53162	53011	52858	0.76	cps
Potassium	39-2	27908015	27102140	27551465	27520540	1.47	cps
Rhodium	103-1	3309601	3396186	3459155	3388314	2.22	cps
Rhodium	103-2	2157234	2152693	2155327	2155085	0.11	cps
Scandium	45-1	2310012	2251027	2295647	2285562	1.35	cps
Scandium	45-2	218135	220253	216656	218348	0.83	cps
Selenium	82-1	356757	372598	370274	366543	2.33	cps
Selenium	77-2	37812	37922	37033	37589	1.29	cps
Selenium	78-2	124798	123595	121485	123293	1.36	cps
Silicon	28-1	72722339	73702362	72408679	72944460	0.93	cps
Silver	107-1	5838680	6014859	6134383	5995974	2.48	cps
Silver	109-1	5454058	5822105	5873369	5716511	4.00	cps
Sodium	23-2	52602791	51357274	51540154	51833406	1.30	cps
Strontium	86-1	1239215	1307044	1305766	1284009	3.02	cps
Strontium	88-1	11144505	11545830	11674293	11454876	2.41	cps
Sulfur	34-1	200816	197694	192335	196948	2.18	cps
Terbium	159-1	4691640	5032837	5029138	4917871	3.98	cps
Terbium	159-2	3212388	3166365	3134351	3171035	1.24	cps
Thallium	203-1	7305271	7665321	7688310	7552967	2.84	cps
Thallium	205-1	17391392	18543310	18227874	18054192	3.30	cps
Tin	118-1	6382819	6766298	6805118	6651412	3.51	cps
Titanium	47-1	762577	782215	777937	774243	1.33	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOIL Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:06:41 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	8134703	8506348	8552667	8397906	2.73	cps
Vanadium	51-2	2339470	2415485	2366913	2373956	1.62	cps
Yttrium	89-1	7324994	7822368	7946182	7697848	4.27	cps
Yttrium	89-2	2010444	2027931	1957782	1998719	1.83	cps
Zinc	66-2	1001311	1015681	992199	1003064	1.18	cps
Zirconium	90-1	746524	788836	799724	778362	3.61	cps
Zirconium	91-1	168054	176162	176171	173462	2.70	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10DLX5 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOILD Dilution Factor : 5
Date & Time Acquired : 2025-11-05 14:12:55 DataFile Name : 029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2706414	2640122	2662265	2669600	1.26	cps
Antimony	121-1	484151	486669	486195	485672	0.28	cps
Arsenic	75-2	100353	99763	100625	100247	0.44	cps
Barium	135-1	1110747	1125231	1122000	1119326	0.68	cps
Barium	137-1	2017276	2047812	2027700	2030929	0.76	cps
Beryllium	9-1	147184	148853	147605	147881	0.59	cps
Bismuth	209-1	3749490	3893987	3722268	3788582	2.44	cps
Bismuth	209-2	2847373	2931703	2881047	2886708	1.47	cps
Bromine	81-1	19540	20658	20464	20221	2.96	cps
Bromine	81-2	2504	2454	2494	2484	1.07	cps
Cadmium	108-1	33903	34384	34484	34257	0.91	cps
Cadmium	106-1	48678	47564	48474	48239	1.23	cps
Cadmium	111-1	514277	522061	524496	520278	1.03	cps
Calcium	43-1	426170	418708	414257	419711	1.43	cps
Calcium	44-1	6746462	6635940	6457904	6613436	2.20	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	946196	932580	939378	939385	0.72	cps
Cobalt	59-2	2771437	2770203	2693403	2745014	1.63	cps
Copper	63-2	1854180	1821395	1835851	1837142	0.89	cps
Dysprosium	156-1	25961	27587	27280	26943	3.21	cps
Dysprosium	156-2	23243	24061	23617	23640	1.73	cps
Erbium	164-1	23904	24368	24622	24298	1.50	cps
Erbium	164-2	15392	15862	15599	15618	1.51	cps
Gadolinium	160-1	26308	26806	27013	26709	1.36	cps
Gadolinium	160-2	18379	18155	18482	18339	0.91	cps
Holmium	165-1	5561459	5661787	5749801	5657682	1.67	cps
Holmium	165-2	3625935	3576772	3647896	3616867	1.01	cps
Indium	115-1	4201227	4286372	4266412	4251337	1.05	cps
Indium	115-2	1385559	1369957	1365297	1373605	0.77	cps
Iron	56-2	67586262	66817914	66422321	66942166	0.88	cps
Iron	57-2	1688362	1654566	1677100	1673343	1.03	cps
Iron	54-2	3787520	3770770	3687905	3748732	1.42	cps
Krypton	83-1	350	383	463	399	14.60	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10DLX5 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOILD Dilution Factor : 5
Date & Time Acquired : 2025-11-05 14:12:55 DataFile Name : 029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	1754374	1677445	1832062	1754627	4.41	cps
Lead	207-1	1396945	1439161	1436269	1424125	1.66	cps
Lead	208-1	6824733	6872782	7105870	6934462	2.17	cps
Lithium	6-1	506360	518015	517608	513994	1.29	cps
Magnesium	24-2	5567117	5442245	5491551	5500304	1.14	cps
Manganese	55-2	929066	934081	921761	928302	0.67	cps
Molybdenum	94-1	481080	475789	481636	479502	0.67	cps
Molybdenum	95-1	712080	712702	711693	712158	0.07	cps
Molybdenum	96-1	776654	766867	781095	774872	0.94	cps
Molybdenum	97-1	450613	451422	450734	450923	0.10	cps
Molybdenum	98-1	1146747	1144424	1141232	1144134	0.24	cps
Neodymium	150-1	51400	51788	51982	51723	0.57	cps
Neodymium	150-2	28072	28238	28793	28368	1.33	cps
Nickel	60-2	175634	175238	175911	175594	0.19	cps
Phosphorus	31-2	12408	12105	12845	12453	2.99	cps
Potassium	39-2	6355319	6263445	6406148	6341637	1.14	cps
Rhodium	103-1	4178956	4011805	4094863	4095208	2.04	cps
Rhodium	103-2	2436579	2448492	2503285	2462786	1.44	cps
Scandium	45-1	2468987	2429257	2434960	2444401	0.88	cps
Scandium	45-2	229887	227397	229946	229077	0.64	cps
Selenium	82-1	92703	90869	91209	91594	1.07	cps
Selenium	77-2	9173	9430	9126	9243	1.77	cps
Selenium	78-2	31139	31019	30705	30955	0.72	cps
Silicon	28-1	17784075	17595546	17588254	17655958	0.63	cps
Silver	107-1	1430451	1438167	1427788	1432135	0.38	cps
Silver	109-1	1356507	1355471	1353806	1355261	0.10	cps
Sodium	23-2	11989768	11811990	11736423	11846060	1.10	cps
Strontium	86-1	307463	303501	299068	303344	1.38	cps
Strontium	88-1	2798120	2717466	2718674	2744753	1.68	cps
Sulfur	34-1	133069	131449	129096	131205	1.52	cps
Terbium	159-1	5711137	5675649	5711437	5699408	0.36	cps
Terbium	159-2	3516125	3594744	3486081	3532317	1.59	cps
Thallium	203-1	1630968	1812145	1827323	1756812	6.22	cps
Thallium	205-1	4104875	4209126	4330853	4214951	2.68	cps
Tin	118-1	1523060	1587407	1549491	1553319	2.08	cps
Titanium	47-1	183464	187117	181716	184099	1.50	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : Q3483-10DLX5 Instrumnet Name : P7
Client Sample ID : HW1025-PT-MET-SOILD Dilution Factor : 5
Date & Time Acquired : 2025-11-05 14:12:55 DataFile Name : 029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1895381	1927426	1869872	1897560	1.52	cps
Vanadium	51-2	536217	534601	534963	535260	0.16	cps
Yttrium	89-1	7870720	7784091	7562123	7738978	2.06	cps
Yttrium	89-2	1963077	2006303	1932176	1967186	1.89	cps
Zinc	66-2	251598	251085	251925	251536	0.17	cps
Zirconium	90-1	183969	183047	182769	183262	0.34	cps
Zirconium	91-1	41134	41148	40793	41025	0.49	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:16:41 DataFile Name : 030CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	5534137	5523011	5396282	5484477	1.40	cps
Antimony	121-1	2034342	2006142	2048025	2029503	1.05	cps
Arsenic	75-2	125792	124199	125680	125224	0.71	cps
Barium	135-1	2503382	2425559	2524667	2484536	2.10	cps
Barium	137-1	4280422	4328014	4339548	4315995	0.73	cps
Beryllium	9-1	305957	309146	311243	308782	0.86	cps
Bismuth	209-1	3199429	3131602	3230792	3187275	1.59	cps
Bismuth	209-2	2440872	2406413	2384951	2410745	1.17	cps
Bromine	81-1	9266	8676	8759	8901	3.59	cps
Bromine	81-2	293	237	277	269	10.83	cps
Cadmium	108-1	40941	41770	41055	41255	1.09	cps
Cadmium	106-1	58812	59816	58333	58987	1.28	cps
Cadmium	111-1	580431	586313	587721	584822	0.66	cps
Calcium	43-1	2705612	2702113	2790023	2732583	1.82	cps
Calcium	44-1	43998404	43871551	44013346	43961100	0.18	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	996057	986057	976633	986249	0.98	cps
Cobalt	59-2	1580501	1527096	1541357	1549651	1.78	cps
Copper	63-2	12191329	11949989	11989506	12043608	1.07	cps
Dysprosium	156-1	153	110	167	143	20.67	cps
Dysprosium	156-2	193	227	257	226	14.04	cps
Erbium	164-1	260	290	237	262	10.20	cps
Erbium	164-2	213	180	203	199	8.60	cps
Gadolinium	160-1	163	93	147	134	27.20	cps
Gadolinium	160-2	230	293	270	264	12.11	cps
Holmium	165-1	5046033	4923744	4972450	4980742	1.24	cps
Holmium	165-2	3278664	3230359	3293362	3267462	1.01	cps
Indium	115-1	3689386	3664268	3659070	3670908	0.44	cps
Indium	115-2	1211651	1209877	1211348	1210959	0.08	cps
Iron	56-2	231320283	227330803	225070303	227907130	1.39	cps
Iron	57-2	5598443	5610496	5566579	5591839	0.41	cps
Iron	54-2	12573286	12543955	12625907	12581049	0.33	cps
Krypton	83-1	350	350	370	357	3.24	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:16:41 DataFile Name : 030CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	8725189	8572449	8814656	8704098	1.41	cps
Lead	207-1	7605967	7712439	7868212	7728873	1.71	cps
Lead	208-1	35008491	35143623	35866657	35339591	1.31	cps
Lithium	6-1	411498	412461	411673	411878	0.12	cps
Magnesium	24-2	52725184	52344014	51303788	52124329	1.41	cps
Manganese	55-2	8133024	7972342	7885253	7996873	1.57	cps
Molybdenum	94-1	7299652	7316662	7390854	7335723	0.66	cps
Molybdenum	95-1	10659154	10693803	10495615	10616191	1.00	cps
Molybdenum	96-1	11318372	11541804	11396558	11418911	0.99	cps
Molybdenum	97-1	6533568	6646023	6622455	6600682	0.90	cps
Molybdenum	98-1	16842221	17051031	16857143	16916798	0.69	cps
Neodymium	150-1	123	107	107	112	8.58	cps
Neodymium	150-2	47	63	73	61	22.04	cps
Nickel	60-2	395710	393552	394826	394696	0.27	cps
Phosphorus	31-2	6561	6548	6471	6527	0.74	cps
Potassium	39-2	25130213	24858505	24289526	24759415	1.73	cps
Rhodium	103-1	3468401	3396238	3421328	3428656	1.07	cps
Rhodium	103-2	2197967	2204336	2188212	2196839	0.37	cps
Scandium	45-1	2135411	2084218	2123471	2114367	1.27	cps
Scandium	45-2	204817	201604	201510	202644	0.93	cps
Selenium	82-1	48255	48833	48298	48462	0.66	cps
Selenium	77-2	4871	4831	4884	4862	0.57	cps
Selenium	78-2	16743	16833	16166	16581	2.18	cps
Silicon	28-1	1868040	1931447	1939793	1913093	2.05	cps
Silver	107-1	2816335	2760341	2775321	2783999	1.04	cps
Silver	109-1	2649163	2682575	2660904	2664214	0.64	cps
Sodium	23-2	79079515	80242897	79000294	79440902	0.88	cps
Strontium	86-1	626394	636884	637543	633607	0.99	cps
Strontium	88-1	5542309	5613972	5739499	5631927	1.77	cps
Sulfur	34-1	149634	150348	150994	150325	0.45	cps
Terbium	159-1	5073733	5046168	5166266	5095389	1.23	cps
Terbium	159-2	3291740	3168882	3191114	3217245	2.03	cps
Thallium	203-1	2263153	2261855	2251346	2258785	0.29	cps
Thallium	205-1	5270790	5349330	5343546	5321222	0.82	cps
Tin	118-1	1736928	1768101	1745545	1750192	0.92	cps
Titanium	47-1	2651102	2619465	2668203	2646256	0.93	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCV02 Instrumnet Name : P7
Client Sample ID : CCV02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:16:41 DataFile Name : 030CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7180642	7297273	7291434	7256450	0.91	cps
Vanadium	51-2	807922	805685	799809	804472	0.52	cps
Yttrium	89-1	6467737	6462961	6529571	6486756	0.57	cps
Yttrium	89-2	1683149	1643339	1684425	1670304	1.40	cps
Zinc	66-2	2226955	2258111	2286085	2257050	1.31	cps
Zirconium	90-1	3588799	3627932	3569658	3595463	0.83	cps
Zirconium	91-1	773395	784956	783851	780734	0.82	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:20:34 DataFile Name : 031CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	667	603	610	627	5.55	cps
Antimony	121-1	1127	1327	1420	1291	11.61	cps
Arsenic	75-2	23	10	20	18	39.03	cps
Barium	135-1	113	103	87	101	13.32	cps
Barium	137-1	160	200	140	167	18.33	cps
Beryllium	9-1	23	23	43	30	38.49	cps
Bismuth	209-1	3083277	3218159	3178825	3160087	2.20	cps
Bismuth	209-2	2472008	2458852	2359290	2430050	2.54	cps
Bromine	81-1	8516	8106	8189	8270	2.62	cps
Bromine	81-2	200	140	113	151	29.38	cps
Cadmium	108-1	17	10	7	11	45.82	cps
Cadmium	106-1	1233	1343	1367	1315	5.42	cps
Cadmium	111-1	925	1010	1035	990	5.84	cps
Calcium	43-1	203	210	177	197	8.97	cps
Calcium	44-1	7959	8022	8603	8195	4.33	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1260	1260	1140	1220	5.68	cps
Cobalt	59-2	130	157	130	139	11.09	cps
Copper	63-2	1353	1397	1437	1396	2.99	cps
Dysprosium	156-1	3	3	0	2	86.60	cps
Dysprosium	156-2	3	7	0	3	100.05	cps
Erbium	164-1	17	30	40	29	40.51	cps
Erbium	164-2	7	27	7	13	86.58	cps
Gadolinium	160-1	10	3	13	9	57.30	cps
Gadolinium	160-2	183	183	150	172	11.18	cps
Holmium	165-1	4648169	4743999	4698172	4696780	1.02	cps
Holmium	165-2	3215833	3158930	3198333	3191032	0.91	cps
Indium	115-1	3567618	3769211	3582461	3639763	3.09	cps
Indium	115-2	1215650	1200976	1192765	1203130	0.96	cps
Iron	56-2	19590	18935	18672	19066	2.48	cps
Iron	57-2	977	1073	1040	1030	4.77	cps
Iron	54-2	1847	1813	1760	1807	2.42	cps
Krypton	83-1	353	327	343	341	3.95	cps

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LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:20:34 DataFile Name : 031CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	580	587	620	596	3.60	cps
Lead	207-1	557	450	473	493	11.37	cps
Lead	208-1	2347	2273	2353	2325	1.91	cps
Lithium	6-1	397069	402658	393832	397853	1.12	cps
Magnesium	24-2	1243	1317	1380	1313	5.21	cps
Manganese	55-2	887	850	823	853	3.73	cps
Molybdenum	94-1	620	600	620	613	1.88	cps
Molybdenum	95-1	533	507	480	507	5.26	cps
Molybdenum	96-1	640	640	760	680	10.19	cps
Molybdenum	97-1	310	327	327	321	3.00	cps
Molybdenum	98-1	947	873	813	878	7.61	cps
Neodymium	150-1	0	7	13	7	99.98	cps
Neodymium	150-2	0	3	3	2	86.60	cps
Nickel	60-2	343	390	430	388	11.19	cps
Phosphorus	31-2	267	260	223	250	9.33	cps
Potassium	39-2	42198	41904	42496	42200	0.70	cps
Rhodium	103-1	3467383	3514211	3454470	3478688	0.90	cps
Rhodium	103-2	2244760	2221525	2154631	2206972	2.12	cps
Scandium	45-1	2032647	2097784	2092655	2074362	1.75	cps
Scandium	45-2	195530	193639	192509	193893	0.79	cps
Selenium	82-1	70	93	101	88	18.26	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	217	187	260	221	16.68	cps
Silicon	28-1	505255	500861	498976	501697	0.64	cps
Silver	107-1	433	373	403	403	7.44	cps
Silver	109-1	320	303	303	309	3.12	cps
Sodium	23-2	28981	29371	28657	29003	1.23	cps
Strontium	86-1	497	587	600	561	10.02	cps
Strontium	88-1	277	323	280	293	8.88	cps
Sulfur	34-1	135080	133974	134899	134651	0.44	cps
Terbium	159-1	4692616	4856220	4817239	4788692	1.78	cps
Terbium	159-2	3127948	3088460	3119329	3111912	0.67	cps
Thallium	203-1	577	440	463	493	14.82	cps
Thallium	205-1	1390	1250	1137	1259	10.08	cps
Tin	118-1	1953	1777	1550	1760	11.49	cps
Titanium	47-1	103	60	117	93	31.74	cps

LB Number : LB138073 Operator : Jaswal
Lab Sample ID : CCB02 Instrumnet Name : P7
Client Sample ID : CCB02 Dilution Factor : 1
Date & Time Acquired : 2025-11-05 14:20:34 DataFile Name : 031CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	247	233	263	248	6.07	cps
Vanadium	51-2	37	43	60	47	25.75	cps
Yttrium	89-1	6168726	6302206	6398225	6289719	1.83	cps
Yttrium	89-2	1670370	1597411	1640682	1636154	2.24	cps
Zinc	66-2	1420	1373	1297	1363	4.57	cps
Zirconium	90-1	917	930	750	866	11.59	cps
Zirconium	91-1	187	193	230	203	11.48	cps

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SOP ID : M3050B-Digestion-20

SDG No : N/A

Matrix : SOIL

Pipette ID: ICP A

Balance ID : M SC-2

Filter paper ID : N/A

pH Strip ID : N/A

Hood ID : #3

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

Start Digest Date: 10/30/2025 Time : 10:30 Temp : 95 °C

End Digest Date: 10/30/2025 Time : 12:32 Temp : 95 °C

Digestion tube ID: M6054

Block thermometer ID: MET-DIG. #2

Dig Technician Signature: *SLY*

Supervisor Signature: *[Signature]*

Temp : 1. 95°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
Spike Sol 1	1.00	MP87570
Spike Sol 2	2.00	MP87575
Spike Sol 3	2.00	MP87578
Spike Sol 4	2.00	MP87581
Spike Sol 5	2.00	MP87582

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HNO3	10.00	MP86978
30% H2O2	3.00	M6170
PTFE Boiling Stones	N/A	M5581
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK#2 CELL#35 96 C
X*MP87578,MP87581,MP87582

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/30/25 13:32	<i>SLY met d19</i>	<i>[Signature]</i>
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Weight (g)	Final Vol (ml)	Color Before	Color After	Texture	Artifact	Comment	Prep Pos
PB170330BL	PBS330	N/A	1.00	100	Colorless	Colorless	Medium	No	N/A	1
PB170330BS	LCS330	N/A	1.00	100	Colorless	Colorless	Medium	No	MP87570,MP87575,X*	2
Q3483-10	HW1025-PT-MET-SOIL	N/A	1.31	100	Colorless	Colorless	Medium	No	N/A	3

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WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB170330

Worklist ID : 192786

Department : Digestion

Date : 10-30-2025 10:10:21

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3483-10	HW1025-PT-MET-SOIL	Solid	Metals Group3	Cool 4 deg C	ALL103	QA Of	10/27/2025	6020B

Date/Time 10/30/25 10:15

Raw Sample Received by: CPCS m)

Raw Sample Relinquished by: SO (metals lab)

Date/Time 10/30/25 11:15

Raw Sample Received by: SO (metals lab)

Raw Sample Relinquished by: SCS met.dig

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/30/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:15
In Date: 10/29/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:20
Out Date: 10/30/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137700

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q3368-13	OUTSIDE-DUMPSTER	1	1.12	10.63	11.75	8.28	67.4	
Q3368-14	PRESS-SLUDGE	2	1.18	10.30	11.48	7.89	65.1	
Q3482-01	WC-1	37	1.00	1.00	2.00	2.00	100.0	Concreate sample
Q3482-02	WC-2	38	1.00	1.00	2.00	2.00	100.0	Concreate sample
Q3482-03	WC-3	39	1.00	1.00	2.00	2.00	100.0	Concreate sample
Q3482-04	WC-4	40	1.00	1.00	2.00	2.00	100.0	Concreate sample
Q3482-05	WC-5	41	1.00	1.00	2.00	2.00	100.0	Concreate sample
Q3482-06	WC-6	42	1.00	1.00	2.00	2.00	100.0	Concreate sample
Q3482-07	WC-7	43	1.00	1.00	2.00	2.00	100.0	Concreate sample
Q3483-01	HW1025-PT-AN-SOIL	3	1.00	1.00	2.00	2.00	100.0	
Q3483-02	HW1025-PT-CORR-SOIL	4	1.00	1.00	2.00	2.00	100.0	
Q3483-03	HW1025-PT-CN-SOIL	5	1.00	1.00	2.00	2.00	100.0	
Q3483-04	HW1025-PT-CN-SOIL	6	1.00	1.00	2.00	2.00	100.0	
Q3483-05	HW1025-PT-FP-SOIL	7	1.00	1.00	2.00	2.00	100.0	
Q3483-06	HW1025-PT-CR6-SOIL	8	1.00	1.00	2.00	2.00	100.0	
Q3483-07	HW1025-PT-NUT-SOIL	9	1.00	1.00	2.00	2.00	100.0	
Q3483-08	HW1025-PT-NUT-SOIL	10	1.00	1.00	2.00	2.00	100.0	
Q3483-09	HW1025-PT-OGF-SOIL	11	1.00	1.00	2.00	2.00	100.0	
Q3483-10	HW1025-PT-MET-SOIL	12	1.00	1.00	2.00	2.00	100.0	
Q3483-11	HW1025-PT-BNA-SOIL	13	1.00	1.00	2.00	2.00	100.0	
Q3483-12	HW1025-PT-TRIAZINE-SOIL	14	1.00	1.00	2.00	2.00	100.0	
Q3483-13	HW1025-PT-PAH-SOIL	15	1.00	1.00	2.00	2.00	100.0	
Q3483-14	HW1025-PT-DIES-SOIL	16	1.00	1.00	2.00	2.00	100.0	
Q3483-15	HW1025-PT-GAS-SOIL	17	1.00	1.00	2.00	2.00	100.0	
Q3483-16	HW1025-PT-NJEPH-SOIL	18	1.00	1.00	2.00	2.00	100.0	
Q3483-17	HW1025-PT-HERB-SOIL	19	1.00	1.00	2.00	2.00	100.0	
Q3483-18	HW1025-PT-PCB-SOIL	20	1.00	1.00	2.00	2.00	100.0	
Q3483-19	HW1025-PT-PCBO-SOIL	21	1.00	1.00	2.00	2.00	100.0	

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/30/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:15
In Date: 10/29/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:20
Out Date: 10/30/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137700

Lab ID	Client SampleID	Dish #	Dish Wt (g) (A)	Sample Wt (g)	Dish + Sample Wt (g) (B)	Dish+Dry Sample Wt (g) (C)	% Solid	Comments
Q3483-20	HW1025-PT-PEST-SOIL	22	1.00	1.00	2.00	2.00	100.0	
Q3483-21	HW1025-PT-CHLOR-SOIL	23	1.00	1.00	2.00	2.00	100.0	
Q3483-22	HW1025-PT-TXP-SOIL	24	1.00	1.00	2.00	2.00	100.0	
Q3483-23	HW1025-PT-VOA-SOIL	25	1.00	1.00	2.00	2.00	100.0	
Q3483-25	HW1025-PT-NO2-SOIL	26	1.00	1.00	2.00	2.00	100.0	
Q3485-01	TR-04-102924	27	1.15	10.30	11.45	10.84	94.1	
Q3485-02	TR-04-102924-E2	28	1.19	10.30	11.49	10.77	93.0	
Q3486-01	TP3	29	1.17	10.45	11.62	11.07	94.7	
Q3486-02	TP3-E2	30	1.18	10.40	11.58	11.11	95.5	
Q3486-03	TP4	31	1.19	10.23	11.42	9.93	85.4	
Q3486-04	TP4-E2	32	1.17	10.52	11.69	10.09	84.8	
Q3486-05	TP5	33	1.17	10.65	11.82	10.02	83.1	
Q3486-06	TP5-E2	34	1.17	10.15	11.32	9.39	81.0	
Q3486-07	TP6	35	1.13	10.25	11.38	10.16	88.1	
Q3486-08	TP6-E2	36	1.16	10.48	11.64	10.32	87.4	

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

WORKLIST(Hardcopy Internal Chain)

b 137100

WorkList Name : %1-102925 WorkList ID : 192745 Department : Wet-Chemistry Date : 10-29-2025 07:47:12

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3368-13	OUTSIDE-DUMPSTER	Solid	Percent Solids	Cool 4 deg C	ARAM01	D41	10/16/2025	Chemtech -SO
Q3368-14	PRESS-SLUDGE	Solid	Percent Solids	Cool 4 deg C	ARAM01	D41	10/16/2025	Chemtech -SO
Q3482-01	WC-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/24/2025	Chemtech -SO
Q3482-02	WC-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/24/2025	Chemtech -SO
Q3482-03	WC-3	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/24/2025	Chemtech -SO
Q3482-04	WC-4	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/24/2025	Chemtech -SO
Q3482-05	WC-5	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/24/2025	Chemtech -SO
Q3482-06	WC-6	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/24/2025	Chemtech -SO
Q3482-07	WC-7	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/24/2025	Chemtech -SO
Q3483-01	HW1025-PT-AN-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-02	HW1025-PT-CORR-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-03	HW1025-PT-CN-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-04	HW1025-PT-CN-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-05	HW1025-PT-FP-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-06	HW1025-PT-CR6-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-07	HW1025-PT-NUT-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-08	HW1025-PT-NUT-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-09	HW1025-PT-OGR-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-10	HW1025-PT-MET-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-11	HW1025-PT-BNA-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-12	HW1025-PT-TRIAZINE-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO

Date/Time 10/29/25 15:00

Raw Sample Received by: SWC

Raw Sample Relinquished by: ACSM

Date/Time

10/29/25

Raw Sample Received by:

ACSMT

Raw Sample Relinquished by:

SWC

WORKLIST(Hardcopy Internal Chain)

8137700

WorkList Name : %1-102925

WorkList ID : 192745

Department : Wet-Chemistry

Date : 10-29-2025 07:47:12

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3483-13	HW1025-PT-PAH-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-14	HW1025-PT-DIES-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-15	HW1025-PT-GAS-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-16	HW1025-PT-NJEPH-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-17	HW1025-PT-HERB-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-18	HW1025-PT-PCB-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-19	HW1025-PT-PCBO-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-20	HW1025-PT-PEST-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-21	HW1025-PT-CHLOR-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-22	HW1025-PT-TXP-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-23	HW1025-PT-VOA-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3483-25	HW1025-PT-NO2-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3485-01	TR-04-102924	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	10/29/2025	Chemtech -SO
Q3485-02	TR-04-102924-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	10/29/2025	Chemtech -SO
Q3486-01	TP3	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3486-02	TP3-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3486-03	TP4	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3486-04	TP4-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3486-05	TP5	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3486-06	TP5-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3486-07	TP6	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO

Date/Time

10/29/25 13:00

Raw Sample Received by:

SB WVC

Raw Sample Relinquished by:

CH(SM)

Date/Time

10/29/25

Raw Sample Received by:

CH(SM)

Raw Sample Relinquished by:

SB COC

WORKLIST(Hardcopy Internal Chain)

10/29/25

WorkList Name : %1-102925

WorkList ID : 192745

Department : Wet-Chemistry

Date : 10-29-2025 07:47:12

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3486-08	TP6-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO

Date/Time 10/29/25 15:00

Raw Sample Received by: SA WWC

Raw Sample Relinquished by: Cpl Sm

Date/Time

Raw Sample Received by: Cpl Sm

Raw Sample Relinquished by: SA ADC

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/31/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:15
In Date: 10/30/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:20
Out Date: 10/31/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137714

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q3483-24	HW1025-PT-SOL-SOIL	1	1.16	10.70	11.86	9.24	75.5	
Q3487-01	KZZ294Z-A	2	1.00	1.00	2.00	2.00	100.0	PILC
Q3487-02	KZZ294Z-B	3	1.00	1.00	2.00	2.00	100.0	PILC
Q3487-03	KZZ256R-A	4	1.00	1.00	2.00	2.00	100.0	PILC
Q3487-04	KZZ256R-B	5	1.00	1.00	2.00	2.00	100.0	PILC
Q3487-05	JEH623H-A	6	1.00	1.00	2.00	2.00	100.0	PILC
Q3487-06	JEH623H-B	7	1.00	1.00	2.00	2.00	100.0	PILC
Q3487-07	M3-A	8	1.00	1.00	2.00	2.00	100.0	PILC
Q3487-08	M3-B	9	1.00	1.00	2.00	2.00	100.0	PILC
Q3488-01	MOO-25-0294-0298	10	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3488-02	MOO-25-0299	11	1.15	10.33	11.48	10.88	94.2	
Q3488-04	MOO-25-0302-0310	12	1.18	10.45	11.63	10.08	85.2	
Q3488-05	MOO-25-0302-0310	13	1.15	10.46	11.61	10.7	91.3	
Q3488-06	MOO-25-0311-0313	46	1.15	10.37	11.52	10.64	91.5	
Q3489-01	245F72-A	14	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-02	245F72-B	15	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-03	L54-A	16	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-04	L54-B	17	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-05	L55-A	18	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-06	L55-A	19	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-07	L56-A	20	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-08	L56-B	21	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-09	L57-A	22	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-10	L57-B	23	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-11	L58-A	24	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-12	L58-2	25	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-13	L59-A	26	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-14	L59-B	27	1.00	1.00	2.00	2.00	100.0	PILC

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/31/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:15
In Date: 10/30/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:20
Out Date: 10/31/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137714

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q3489-15	L60-A	28	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-16	L60-B	29	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-17	L61-A	30	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-18	L61-B	31	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-19	L62-A	32	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-20	L62-B	33	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-21	L63-A	34	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-22	L63-B	35	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-23	L64-A	36	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-24	L64-B	37	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-25	L65-A	38	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-26	L65-B	39	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-27	STC21-A	40	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-28	STC21-B	41	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-29	STF24-A	42	1.00	1.00	2.00	2.00	100.0	PILC
Q3489-30	STF24-B	43	1.00	1.00	2.00	2.00	100.0	PILC
Q3490-01	LAW-25-0151	44	1.00	1.00	2.00	2.00	100.0	oily-debris
Q3491-01	SOIL-CUTTINGS-COMP	45	1.18	10.80	11.98	9.13	73.6	
Q3495-01	SB-1025-1	47	1.19	10.24	11.43	8.99	76.2	
Q3495-02	SB-1025-2	48	1.14	10.43	11.57	8.97	75.1	
Q3496-01	DRILL-CUTTINGS	49	1.19	10.61	11.8	10.33	86.1	
Q3496-02	DRILL-CUTTINGS-E2	50	1.13	10.49	11.62	10.11	85.6	
Q3497-01	OK-01-103025	51	1.13	10.93	12.06	10.37	84.5	
Q3497-02	OK-01-103025-E2	52	1.19	10.59	11.78	10.25	85.6	

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

WORKLIST(Hardcopy Internal Chain)

W 13 f 7 h

WorkList Name : %1-103025 WorkList ID : 192793 Department : Wet-Chemistry Date : 10-30-2025 10:50:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3483-24	HW1025-PT-SOL-SOIL	Solid	Percent Solids	Cool 4 deg C	ALLI03	QA Of	10/27/2025	Chemtech -SO
Q3487-01	KZZ294Z-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3487-02	KZZ294Z-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3487-03	KZZ256R-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3487-04	KZZ256R-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3487-05	JEH623H-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3487-06	JEH623H-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3487-07	M3-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3487-08	M3-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/29/2025	Chemtech -SO
Q3488-01	MOO-25-0294-0298	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3488-02	MOO-25-0299	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3488-04	MOO-25-0302-0310	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3488-05	MOO-25-0302-0310	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3488-06	MOO-25-0311-0313	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-01	245F72-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-02	245F72-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-03	L54-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-04	L54-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-05	L55-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-06	L55-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-07	L56-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO

Date/Time 10/30/25 15:00
Raw Sample Received by: JG (wvc)
Raw Sample Relinquished by: RS c (1711-126)

Date/Time 10/30/25 17:30
Raw Sample Received by: RS-1151-126
Raw Sample Relinquished by: JG (wvc)

WORKLIST(Hardcopy Internal Chain)

WB 137714

WorkList Name : %1-103025 WorkList ID : 192793 Department : Wet-Chemistry Date : 10-30-2025 10:50:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3489-08	L56-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-09	L57-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-10	L57-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-11	L58-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-12	L58-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-13	L59-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-14	L59-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-15	L60-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-16	L60-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-17	L61-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-18	L61-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-19	L62-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-20	L62-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-21	L63-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-22	L63-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-23	L64-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-24	L64-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-25	L65-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-26	L65-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-27	STC21-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-28	STC21-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO

Date/Time 10/30/25 15:30
Raw Sample Received by: sg wvc
Raw Sample Relinquished by: RS C EIT-1266

Date/Time 10/30/25 17:30
Raw Sample Received by: RS C EIT-1266
Raw Sample Relinquished by: sg wvc

WORKLIST(Hardcopy Internal Chain)

UB 13FF14

WorkList Name : %1-103025 WorkList ID : 192793 Department : Wet-Chemistry Date : 10-30-2025 10:50:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3489-29	STF24-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3489-30	STF24-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3490-01	LAW-25-0151	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3491-01	SOIL-CUTTINGS-COMP	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/29/2025	Chemtech -SO
Q3495-01	SB-1025-1	Solid	Percent Solids	Cool 4 deg C	REMI02	D51	10/27/2025	Chemtech -SO
Q3495-02	SB-1025-2	Solid	Percent Solids	Cool 4 deg C	REMI02	D51	10/27/2025	Chemtech -SO
Q3496-01	DRILL-CUTTINGS	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/30/2025	Chemtech -SO
Q3496-02	DRILL-CUTTINGS-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/30/2025	Chemtech -SO
Q3497-01	OK-01-103025	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	10/30/2025	Chemtech -SO
Q3497-02	OK-01-103025-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	10/30/2025	Chemtech -SO

Date/Time 10/30/25 15:00
Raw Sample Received by: SB WWC
Raw Sample Relinquished by: RS C (EIT-1066)

Date/Time 10/30/25 17:30
Raw Sample Received by: RS C (EIT-1066)
Raw Sample Relinquished by: SB WWC

Instrument ID: P7

Daily Analysis Runlog For Sequence/QC Batch ID # LB138073

Review By	Janvi	Review On	12/4/2025 9:47:32 AM
Supervise By	mohan	Supervise On	12/8/2025 1:36:26 PM
STD. NAME	STD REF.#		
ICAL Standard	MP87545,MP87554,MP87553,MP87551,MP87550,MP87549,MP87548,MP87547,MP87546		
ICV Standard	MP87566,MP87554		
CCV Standard	MP87555		
ICSA Standard	MP87556,MP87557		
CRI Standard	MP87554		
LCS Standard			
Chk Standard	MP87559,MP87560		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	TUNE	TUNE	TUNE	11/05/25 10:57		Jaswal	OK
2	S0	S0	CAL1	11/05/25 11:32		Jaswal	OK
3	S2	S2	CAL3	11/05/25 11:35		Jaswal	OK
4	S3	S3	CAL4	11/05/25 11:39		Jaswal	OK
5	S4	S4	CAL5	11/05/25 11:42		Jaswal	OK
6	S5	S5	CAL6	11/05/25 11:45		Jaswal	OK
7	S6	S6	CAL7	11/05/25 11:48		Jaswal	OK
8	S7	S7	CAL8	11/05/25 11:51		Jaswal	OK
9	S8	S8	CAL9	11/05/25 11:54		Jaswal	OK
10	ICV01	ICV01	ICV	11/05/25 13:19		Jaswal	OK
11	LLICV01	LLICV01	LLICV	11/05/25 13:25		Jaswal	OK
12	ICB01	ICB01	ICB	11/05/25 13:28		Jaswal	OK
13	ICSA01	ICSA01	ICSA	11/05/25 13:32		Jaswal	OK
14	ICSAB01	ICSAB01	ICSAB	11/05/25 13:42		Jaswal	OK
15	CCV01	CCV01	CCV	11/05/25 13:46		Jaswal	OK
16	CCB01	CCB01	CCB	11/05/25 13:50		Jaswal	OK
17	CRI	CRI	CRDL	11/05/25 13:53		Jaswal	OK
18	PB170330BL	PB170330BL	MB	11/05/25 13:57		Jaswal	OK

Instrument ID: P7

Daily Analysis Runlog For Sequence/QC Batch ID # LB138073

Review By	Janvi	Review On	12/4/2025 9:47:32 AM
Supervise By	mohan	Supervise On	12/8/2025 1:36:26 PM
STD. NAME	STD REF.#		
ICAL Standard	MP87545,MP87554,MP87553,MP87551,MP87550,MP87549,MP87548,MP87547,MP87546		
ICV Standard	MP87566,MP87554		
CCV Standard	MP87555		
ICSA Standard	MP87556,MP87557		
CRI Standard	MP87554		
LCS Standard			
Chk Standard	MP87559,MP87560		

19	PB170330BS	PB170330BS	LCS	11/05/25 14:00		Jaswal	OK
20	Q3483-10	HW1025-PT-MET-SO	SAM	11/05/25 14:06	INT_STD 6Li Fail, As,Cd,Cr,Co,Se,Ag,Tl,Sn,V High	Jaswal	Dilution
21	Q3483-10DL	HW1025-PT-MET-SO	SAM	11/05/25 14:12	5X For INT_STD 6Li , 5X For As,Cd,Cr,Co,Se,Ag,Tl,Sn,V	Jaswal	Confirms
22	CCV02	CCV02	CCV	11/05/25 14:16		Jaswal	OK
23	CCB02	CCB02	CCB	11/05/25 14:20		Jaswal	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3483
Test : Metals Group3

Prepbatch ID : PB170330,
Sequence ID/Qc Batch ID: LB138073,

Standard ID :
MP86978,MP87545,MP87546,MP87547,MP87548,MP87549,MP87550,MP87551,MP87552,MP87553,MP87554,MP87555,MP87556,MP87557,MP87558,MP87559,MP87560,MP87566,MP87570,MP87575,MP87578,MP87581,MP87582,

Chemical ID :
M5245,M5581,M5658,M5697,M5739,M5798,M5799,M5800,M5801,M5815,M5817,M5962,M5979,M5981,M6021,M6023,M6025,M6026,M6027,M6028,M6030,M6032,M6055,M6079,M6086,M6128,M6137,M6140,M6142,M6145,M6153,M6158,M6159,M6160,M6162,M6163,M6164,M6165,M6170,M6171,M6172,M6175,M6176,M6178,M6185,M6187,M6200,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>
169	1:1HNO3	MP86978	08/28/2025	11/27/2025	Sagar Kanani	None	None	Sarabjit Jaswal
								08/28/2025

FROM 1250.00000ml of M6162 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP87545	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIP ETTE_1 (ICP A)	Sarabjit Jaswal
								10/16/2025

FROM 25.00000ml of M6200 + 4925.00000ml of W3112 + 50.00000ml of M6187 = Final Quantity: 5000.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2902	S8 ICPMS	MP87546	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
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 MP87545 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3947	S7(SFAM,6020,200.8)	MP87547	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 0.10000ml of M6153 + 1.00000ml of M5799 + 1.00000ml of M5981 + 1.00000ml of M6079 + 1.00000ml of M6137 + 1.90000ml of M6159 + 10.00000ml of M5697 + 10.00000ml of M5979 + 10.00000ml of M6128 + 10.00000ml of M6145 + 10.00000ml of M6178 + 10.00000ml of M6187 + 2.00000ml of M5815 + 2.00000ml of M5817 + 4.00000ml of M6025 + 4.00000ml of M6032 + 4.90000ml of M6140 + 4.90000ml of M6142 + 5.00000ml of M6200 + 50.00000ml of M6175 + 827.50000ml of W3112 + 9.90000ml of M6086 + 9.90000ml of M6171 + 9.90000ml of M6172 = 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>
3948	S6(SFAM,6020,200.8)	MP87548	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 0.50000ml of M6200 + 1.00000ml of M6187 + 48.50000ml of W3112 + 50.00000ml of MP87547 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3949	S5(SFAM,6020,200.8)	MP87549	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 0.50000ml of M6200 + 1.00000ml of M6187 + 73.50000ml of W3112 + 25.00000ml of MP87547 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3954	S4(SFAM,6020,200.8)	MP87550	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 0.50000ml of M6200 + 1.00000ml of M6187 + 86.00000ml of W3112 + 12.50000ml of MP87547 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3951	S3(SFAM, 6020,200.8)	MP87551	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 0.50000ml of M6200 + 1.00000ml of M6187 + 88.50000ml of W3112 + 10.00000ml of MP87548 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3955	S2CONC(SFAM,6020,200.8)	MP87552	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIP ETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
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 M6159 + 0.10000ml of M6160 + 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 M6200 + 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								

<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)	MP87553	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIP ETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 0.50000ml of M6200 + 1.00000ml of M6187 + 98.00000ml of W3112 + 0.50000ml of MP87552 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3957	S1(SFAM,6020,200.8)	MP87554	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 10.00000ml of M6187 + 5.00000ml of M6200 + 824.10000ml of W3112 + 10.00000ml of MP87553 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3961	CCV	MP87555	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
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 M6200 + 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	MP87556	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP	Sarabjit Jaswal

A)

FROM 10.00000ml of M6185 + 90.00000ml of MP87545 = 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	MP87557	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP	Sarabjit Jaswal

A)

FROM 10.00000ml of M5245 + 10.00000ml of M6185 + 80.00000ml of MP87545 = 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	MP87558	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025

FROM 0.01000ml of M6171 + 9.99000ml of MP87545 = 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	MP87559	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025

FROM 2.00000ml of M6055 + 2.00000ml of MP87558 + 96.00000ml of MP87545 = 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	MP87560	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025

FROM 5.00000ml of M6187 + 75.00000ml of M5739 + 170.00000ml of MP87545 = 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>
4213	NEW ICV-6020B	MP87566	10/07/2025	11/21/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025

FROM 0.00800ml of M6164 + 0.00800ml of M6165 + 0.01600ml of M6163 + 49.96800ml of MP87545 = 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>
3880	M&B SPIKE-1	MP87570	10/07/2025	11/30/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
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 M6160 + 5.00000ml of M6176 + 35.00000ml of MP87545 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3881	M&B SPIKE-2	MP87575	10/07/2025	11/30/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
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 MP87545 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3882	M&B SPIKE-3	MP87578	10/07/2025	11/30/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 0.62500ml of M6026 + 12.50000ml of M5697 + 12.50000ml of M6128 + 12.50000ml of M6145 + 11.87500ml of MP87545 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3900	M&B SPIKE-4	MP87581	10/07/2025	11/30/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/16/2025
FROM 6.25000ml of M6086 + 6.25000ml of M6171 + 6.25000ml of M6172 + 6.25000ml of MP87545 = Final Quantity: 25.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4025	M&B SPIKE-5	MP87582	10/07/2025	11/30/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
FROM 15.00000ml of M5979 + 15.00000ml of M6178 + 20.00000ml of MP87545 = Final Quantity: 50.000 ml								

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 #
PCI Scientific Supply, Inc.	26397-103 / PTFE BOILING STONES	W126678	03/19/2026	03/20/2025 / jaswal	06/12/2023 / jaswal	M5581

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSR10 / Strontium (SR), 125mL 10,000ppm	V2-SR754329	02/28/2026	02/28/2025 / JANVI	01/07/2025 / JANVI	M6153

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	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 #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	03/24/2025 / kareem	10/18/2024 / kareem	M6160

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	11/27/2025	05/27/2025 / Sagar	04/27/2025 / Sagar	M6162

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 #
Seidler Chemical	BA-2186-03 / Hydrogen Peroxide (cs/4x4L)	24D1961001	12/24/2025	06/25/2025 / jaswal	05/20/2025 / Sagar	M6170

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

CHEMICAL RECEIPT LOG BOOK

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

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	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	24D1562005	02/10/2026	09/11/2025 / Sagar	08/25/2025 / Sagar	M6200

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



M6032

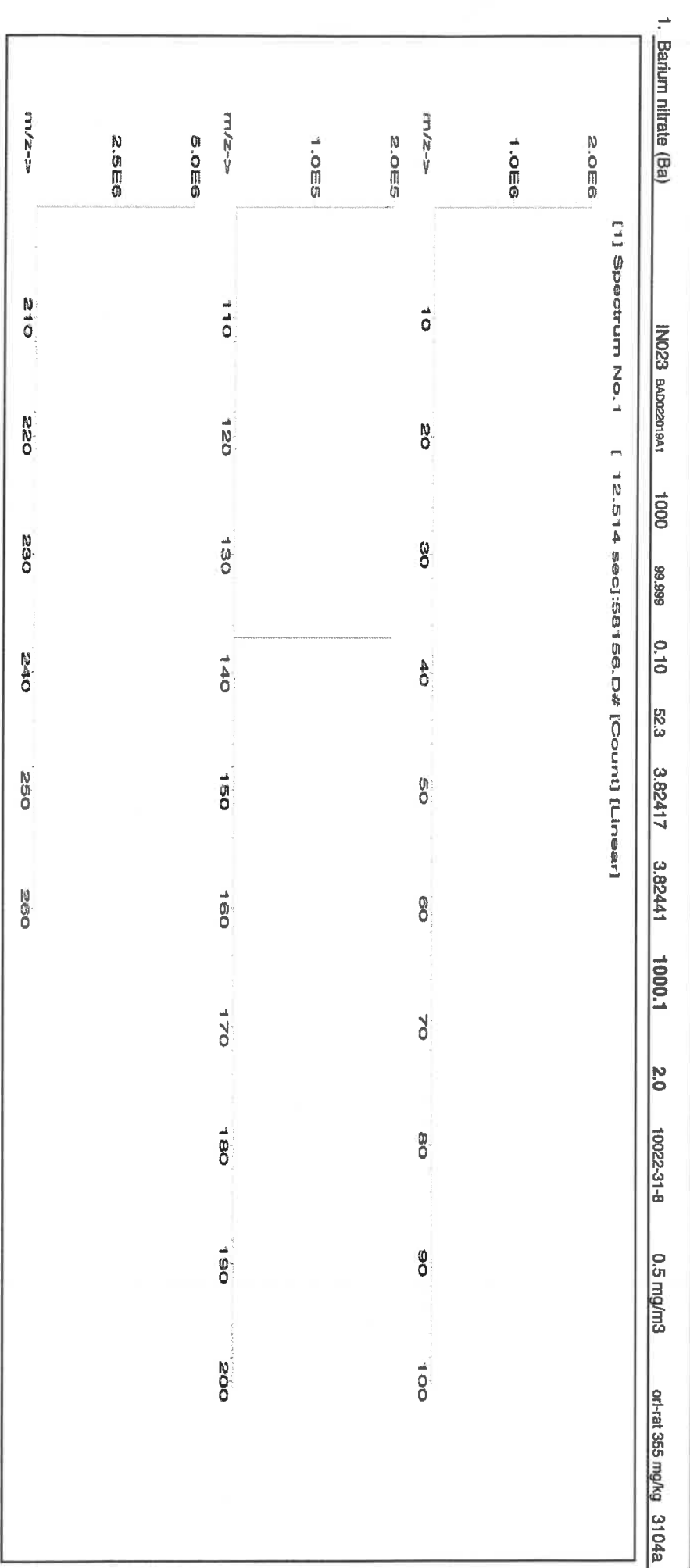


CERTIFIED WEIGHT REPORT:

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

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

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

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

Solvent: 24002546 Nitric Acid
Lot #

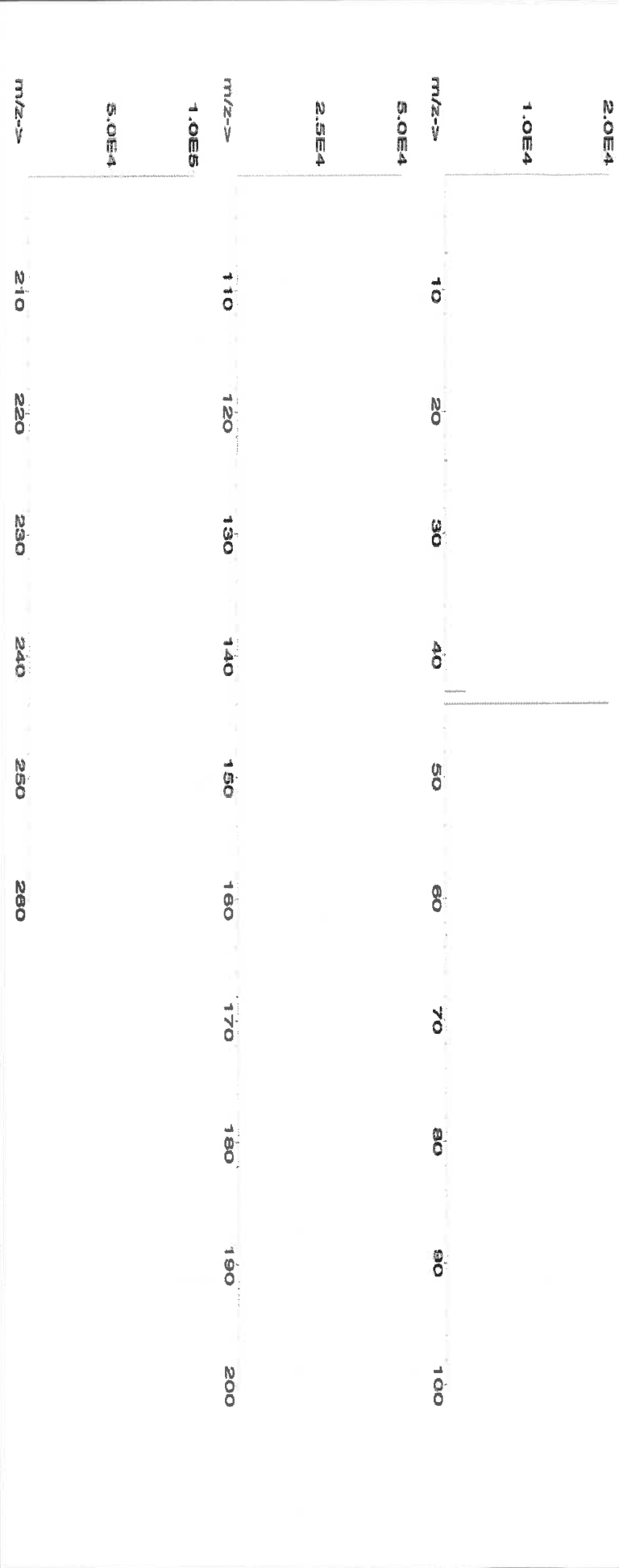
Giovanni Esposito
Formulated By: Giovanni Esposito 082324

Pedro L. Rentas
Reviewed By: Pedro L. Rentas 082324

Expiration Date: 082327
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.1 0.15 Flask Uncertainty

SDS Information									
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)
1. Calcium carbonate (Ca)	IN014	CAD03202383	10000	99.999	0.10	39.9	100.2537	100.2656	10001.2
							20.0	471.34-1	5 mg/m3
								ort-rat >2000mg/kg	3109a

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





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	30	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Su	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



M6028



CERTIFIED WEIGHT REPORT:

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

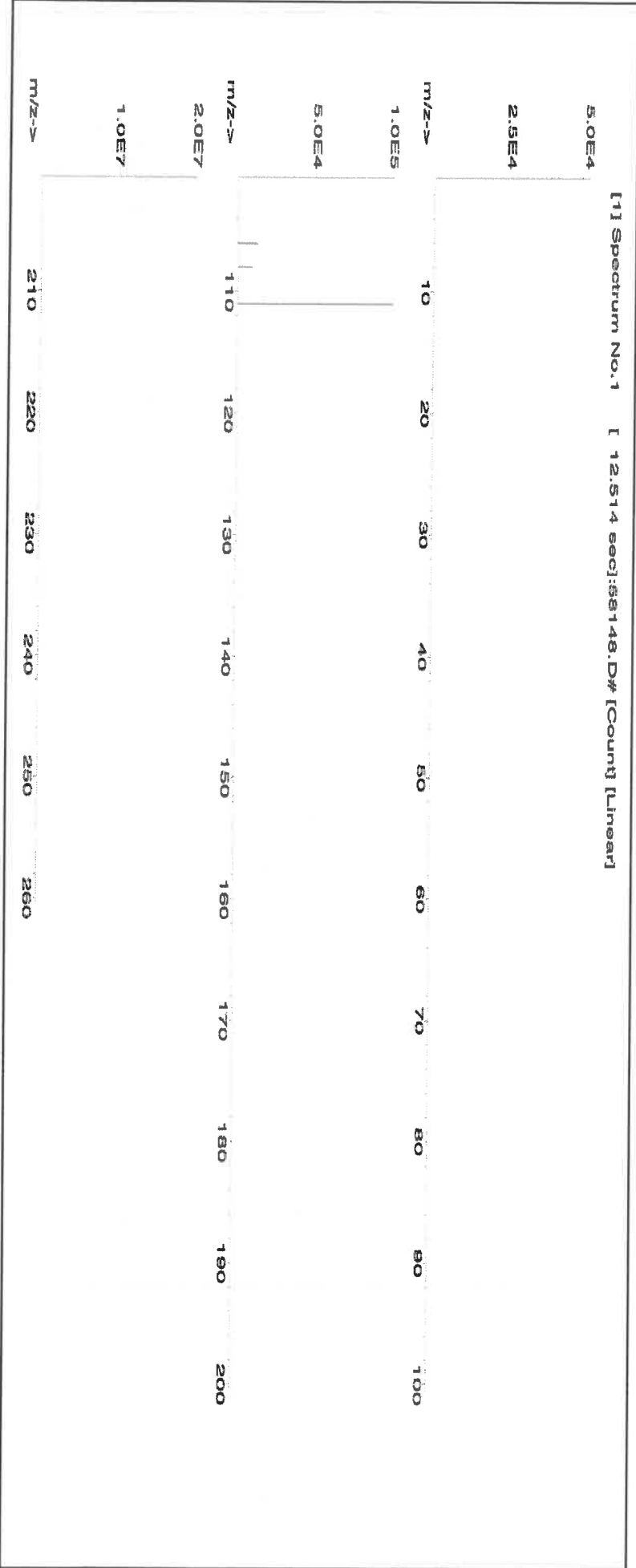
Solvent: 24002546 Nitric Acid

Expiration Date: 070127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.07
SE-05 Balance Uncertainty 0.100
Flask Uncertainty

2% 40.0 (mL) Nitric Acid

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

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. Cadmium nitrate tetrahydrate (Cd)	INO24 CDM09221A1	1000	99.999	0.10	36.5	5.4797	5.4804	1000.1	2.0
									10022-68-1
									0.01 mg/m3
									or rat 60.2mg/kg
									3108





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 Reference Material CRM



CERTIFIED WEIGHT REPORT:

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

Lot #
Solvent: **24002546 Nitric Acid**

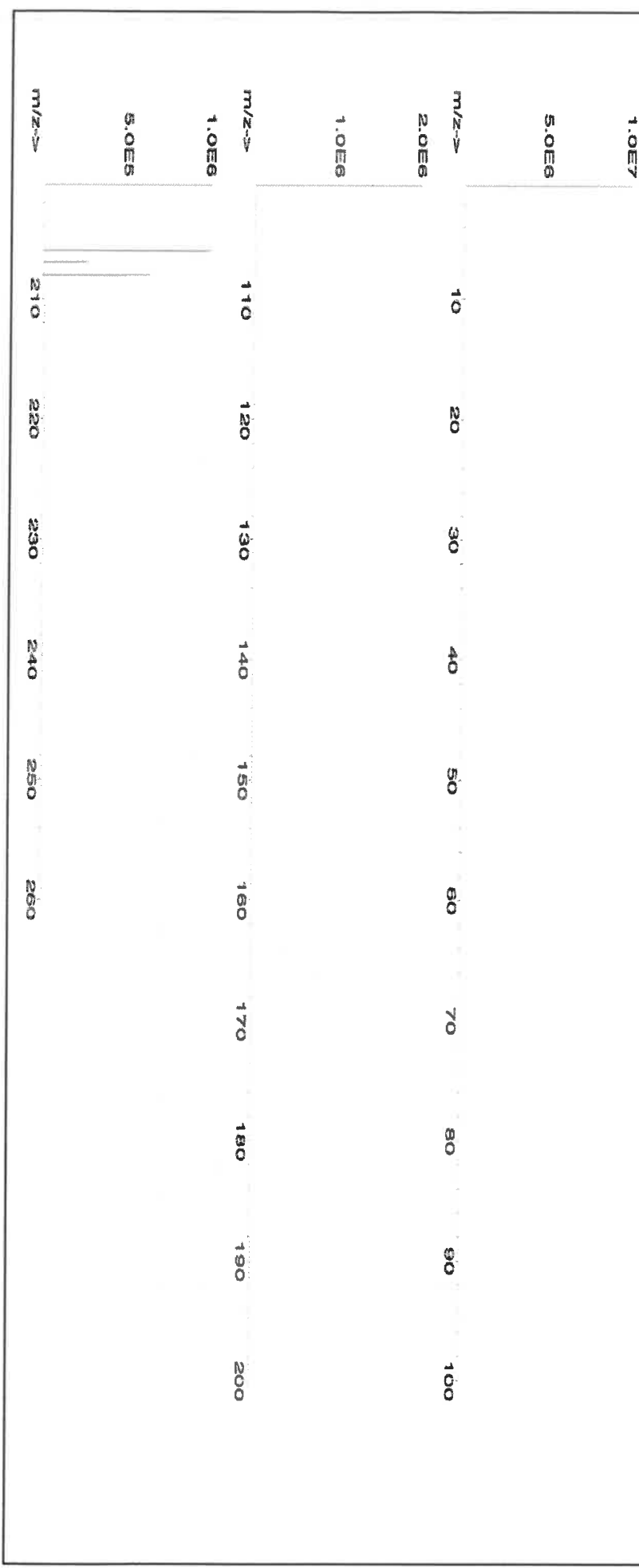
Expiration Date: **110926**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **10000**
NIST Test Number: **6UTB**
Weight shown below was diluted to (mL): **2000.02**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

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

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

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





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	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

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)

Solvent: 24002546 Nitric Acid

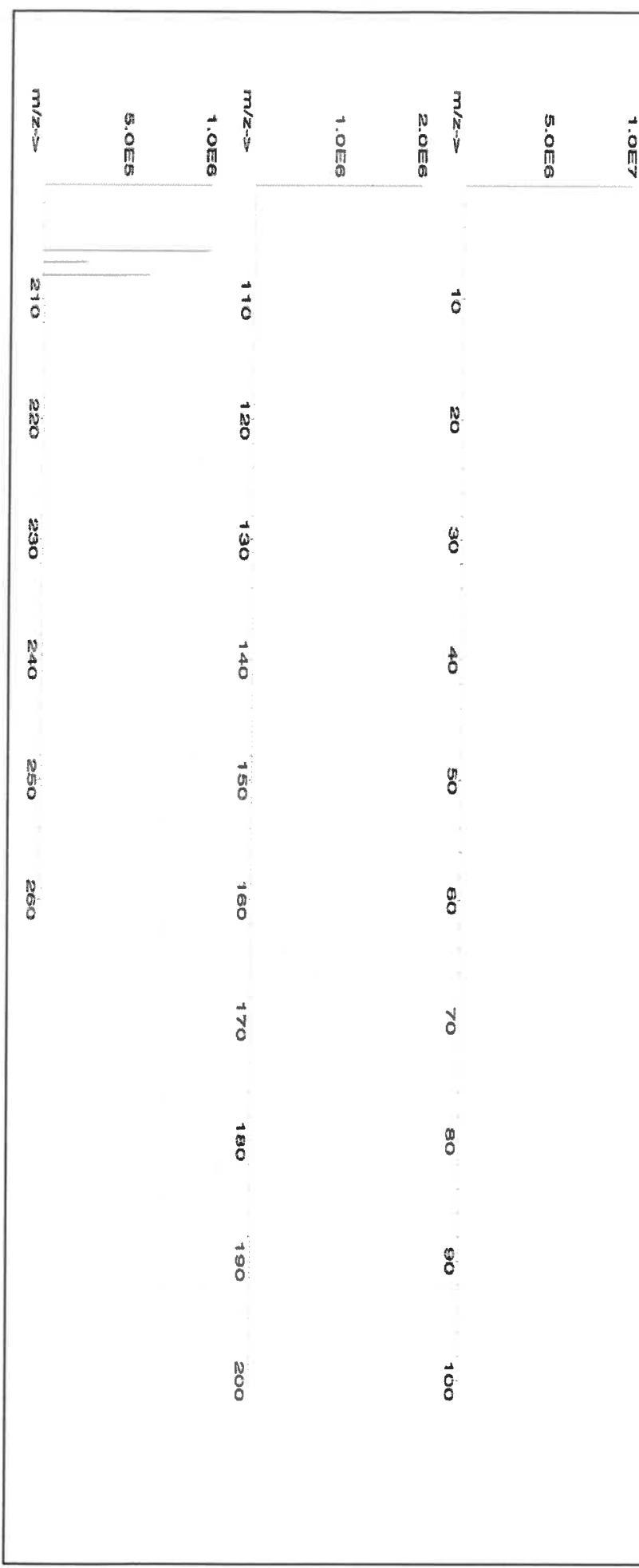
Expiration Date: 110926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

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

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

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





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	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.
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- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



MATERIAL CERTIFICATE OF COMPLIANCE

DATE: JUNE 12, 2023

CUSTOMER: PCI SCIENTIFIC SUPPLY, INC

PURCHASE ORDER NO. 6054931

CATALOG NO. BOI5021-450L

PRODUCT DESCRIPTION: BOILING STONES, TFE, 454GMS

QUANTITY: 10 EACH

LOT NO. W126678

SPECIFICATION (S): Made from Virgin PTFE Resin

We certify that we have complied with the terms and conditions of the above Purchase Order and the Part Specifications in the manufacturing of the above product.



Laura Valencia
Quality Assurance Inspector

F:\J:\A\CF\PCISCI\COC-55118-BOI5021-061223



CERTIFIED WEIGHT REPORT:

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

Lot # 2110221 **Solvent:** Nitric Acid

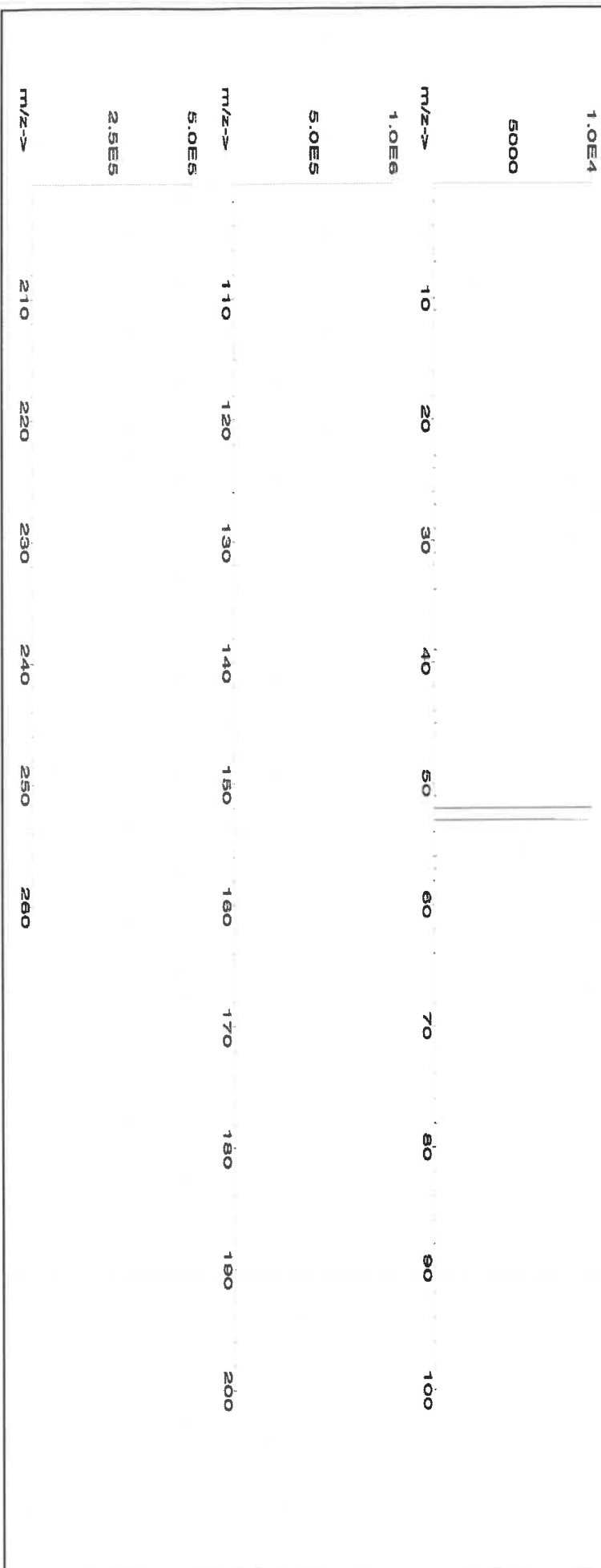
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

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

1. Chromium(III) nitrate nonahydrate (Cr) 58124 071122 0.1000 200.0 0.084 1000 10000.1 1000.0 2.2 7789-02-8 0.5 mg(Cr)/m3 or rat 3250 mg/kg 3112a

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * 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: **58029**
Lot Number: **102523**
Description: **Copper (Cu)**

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

Expiration Date: **102526**

2.0%

40.0 (mL)

Nitric Acid

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

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

NIST Test Number: **6UTB**

5E-05 Balance Uncertainty

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

0.058 Flask Uncertainty

Formulated By: *[Signature]* Benson Chan 102523

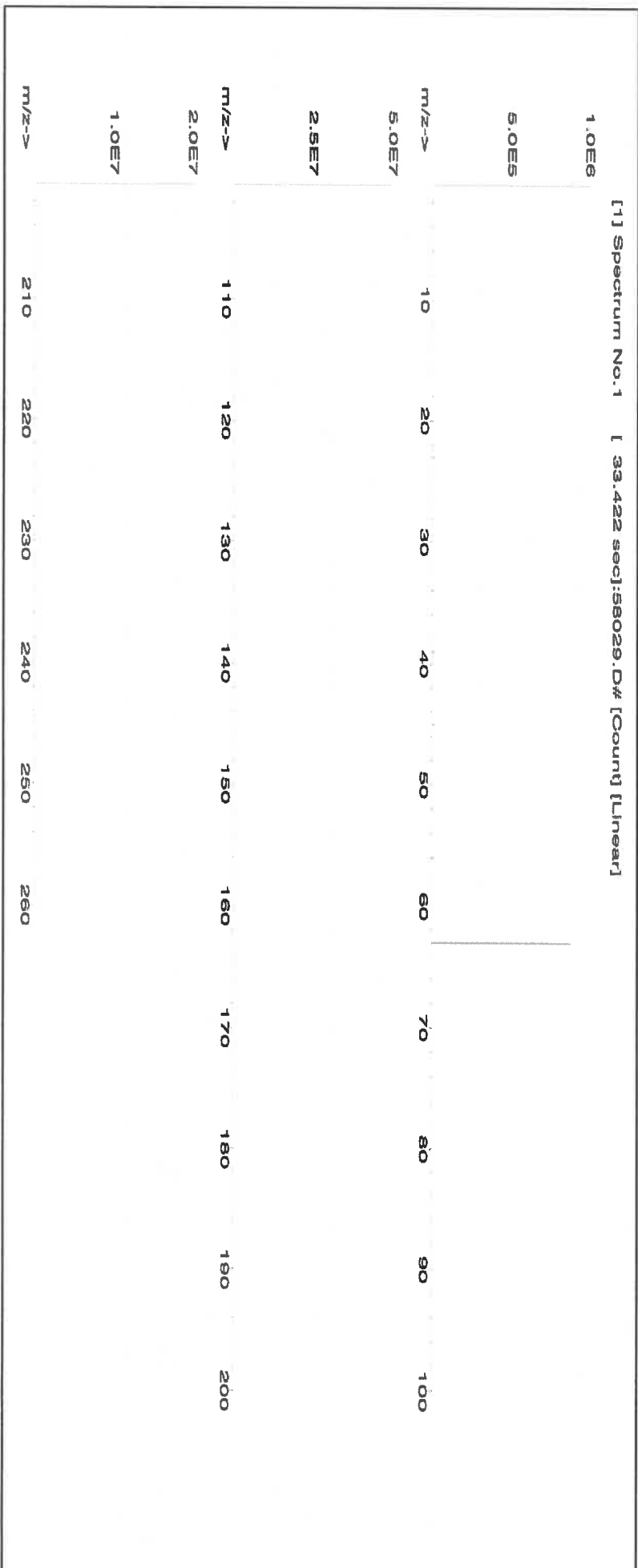
Reviewed By: *[Signature]* Pedro L. Rentas 102523

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

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

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





Certified Reference Material CRM

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

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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
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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: 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

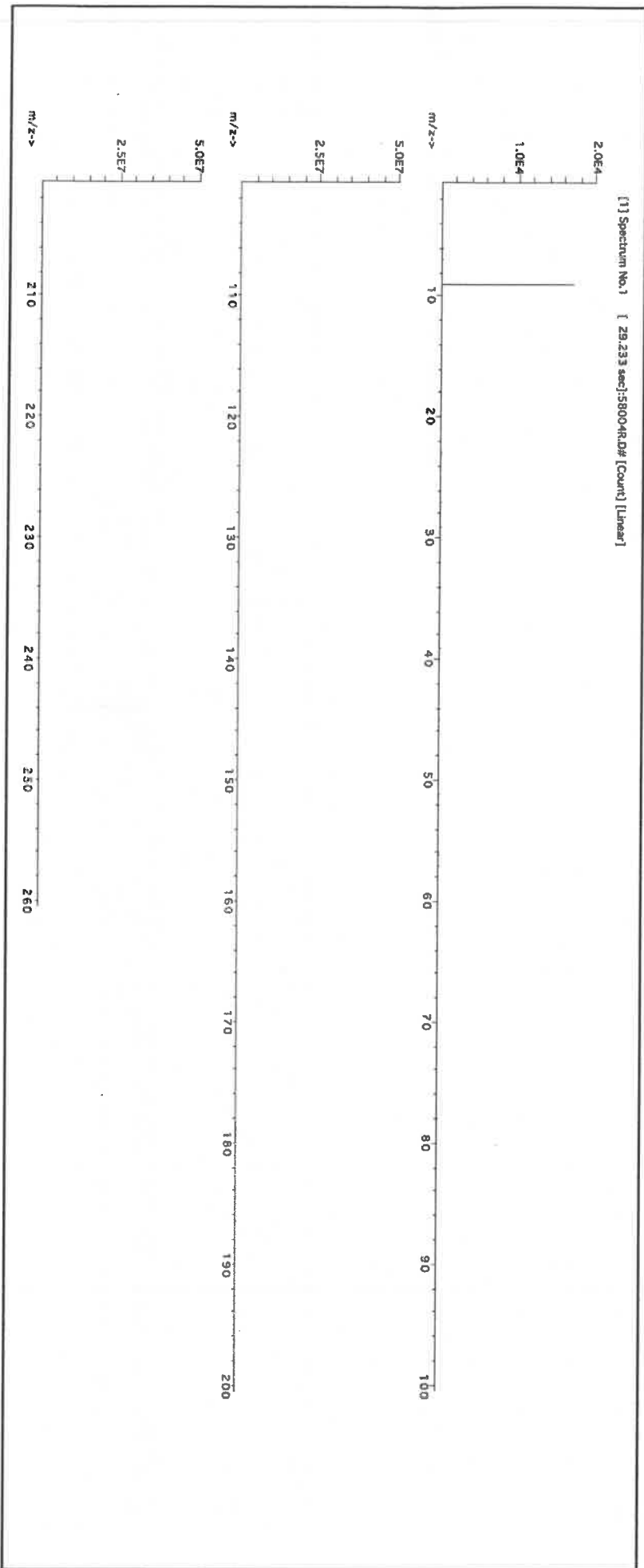
0.058 Flask Uncertainty

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	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Ta	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

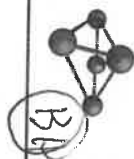
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

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):

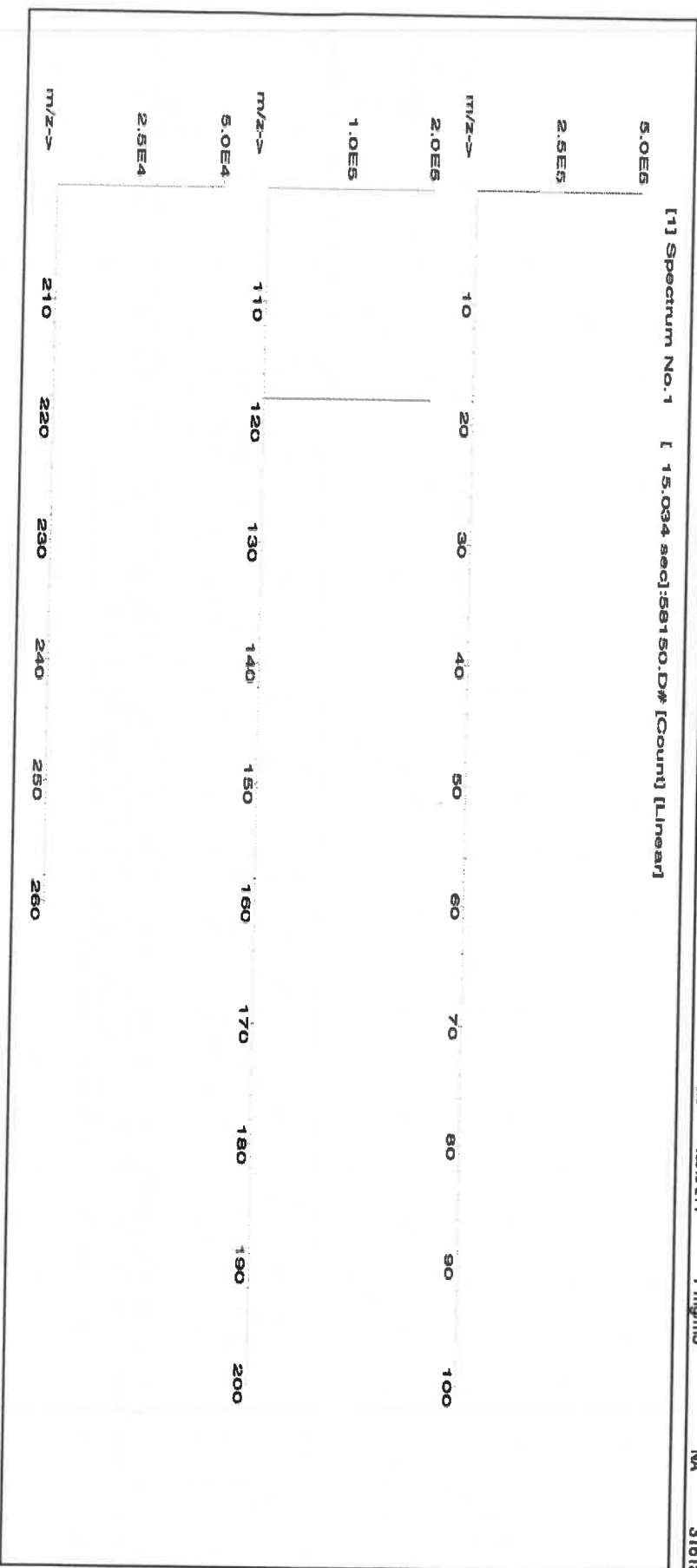
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

Compound		Lot		Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information		
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM	NIST

1. Ammonium hexafluoroantimonate(V) (Sn) IN010 SMD042023A1 1000 99.999 0.10 44.2 1.13107 1.13286 1001.6 2.0 16919-24-7 7 mg/m3 NA 3161a

[1] Spectrum No. 1 [15.034 sec]:56150.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Ta	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



R: 02/09/24 115800 (54)

CERTIFIED WEIGHT REPORT:

Part Number: 57027
Lot Number: 091923
Description: Cobalt (Co)

Expiration Date: 091926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02

Lot # 24002546
Solvent: Nitric Acid

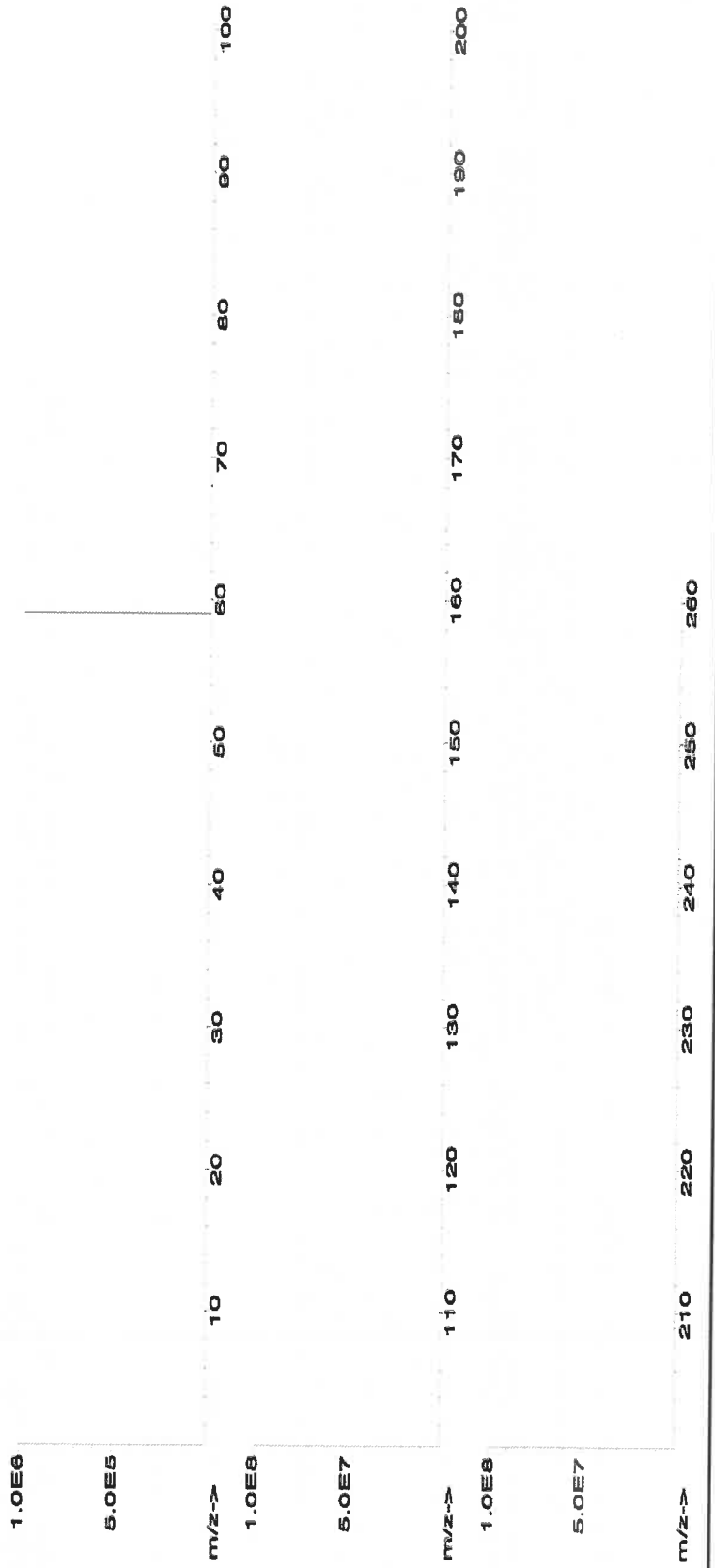
Formulated By: Lawrence Barry 091923
Reviewed By: Pedro L. Rentas 091923

SDS Information

Expanded Uncertainty +/- (µg/mL) 2.2
(Solvent Safety Info. On Attached pg.)
NIST SRM LD50 CAS# OSHA PEL (TWA)

1. Cobalt(II) nitrate hexahydrate (Co) 58127 050923 0.1000 200.0 0.084 1000 10000.0 1000.0 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 ($\mu\text{g/mL}$)

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	Eu	<0.02	In	<0.02	Mg	<0.01	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	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Gé	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

Ben. F.

- * 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

AR: 02/09/24

M5801

BA



CERTIFIED WEIGHT REPORT:

Part Number: 57033
Lot Number: 111323
Description: Arsenic (As)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 111326

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6LUTB

Volume shown below was diluted to (mL): 4000.0

Balance Uncertainty: 5E-05
Flask Uncertainty: 0.06

2.0%

80.0 (mL)

Nitric Acid

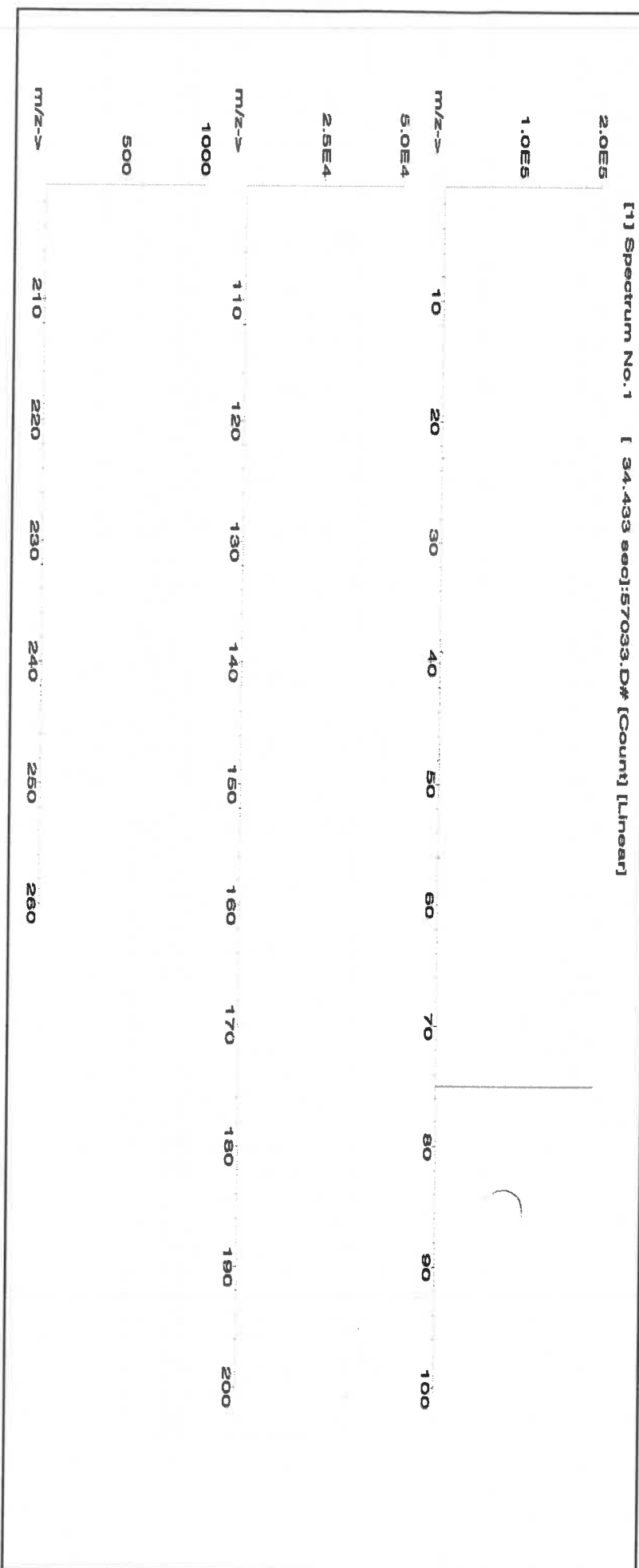
Formulated By:	Lawrence Barry
Reviewed By:	
	Pedro L. Rendas
	111323

SDS Information

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

[1] Spectrum No.1 [34.433 sec]:57033.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number:
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

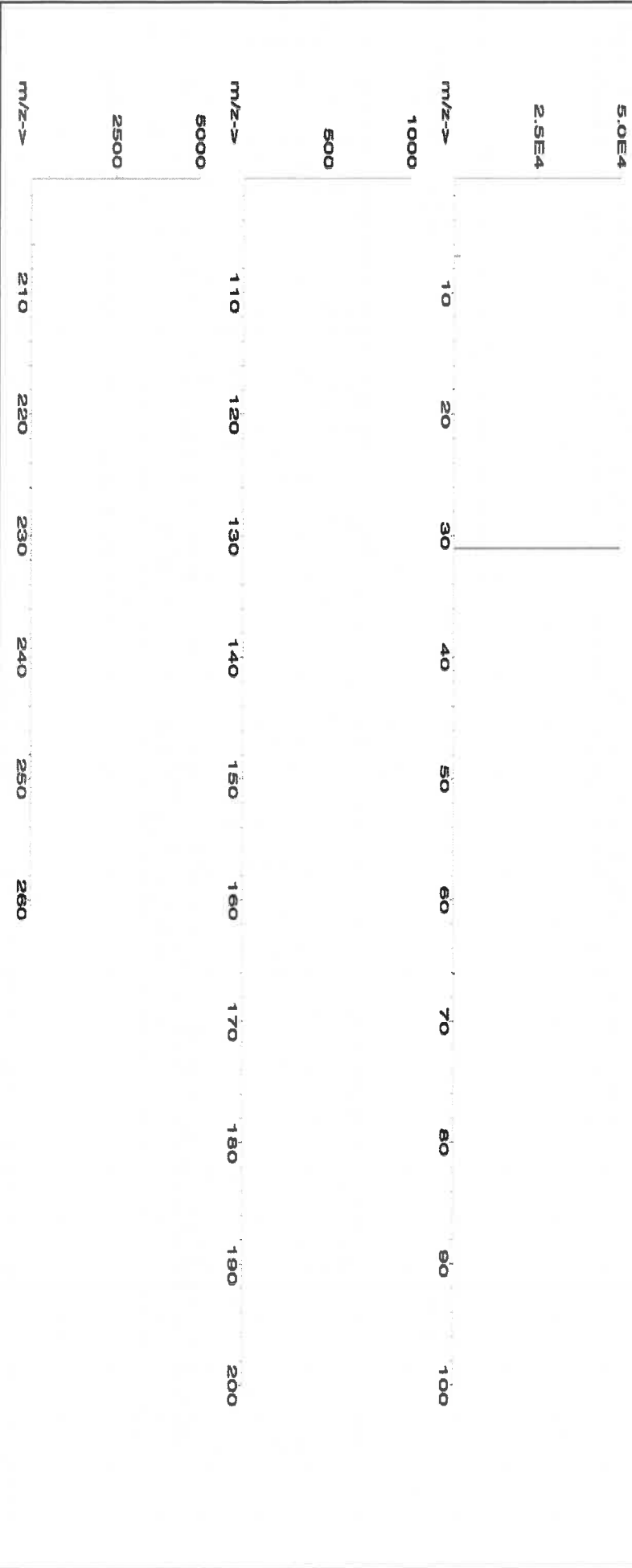
Formulated By:	Lawrence Barry
	041723
Reviewed By:	Pedro L. Rentas
	041723

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 P082019A1 10000 99.999 0.10 27.5 72.7287 72.7289 10000.0 20.0 7722-76-1 5 mg/m3 or-hal->2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

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

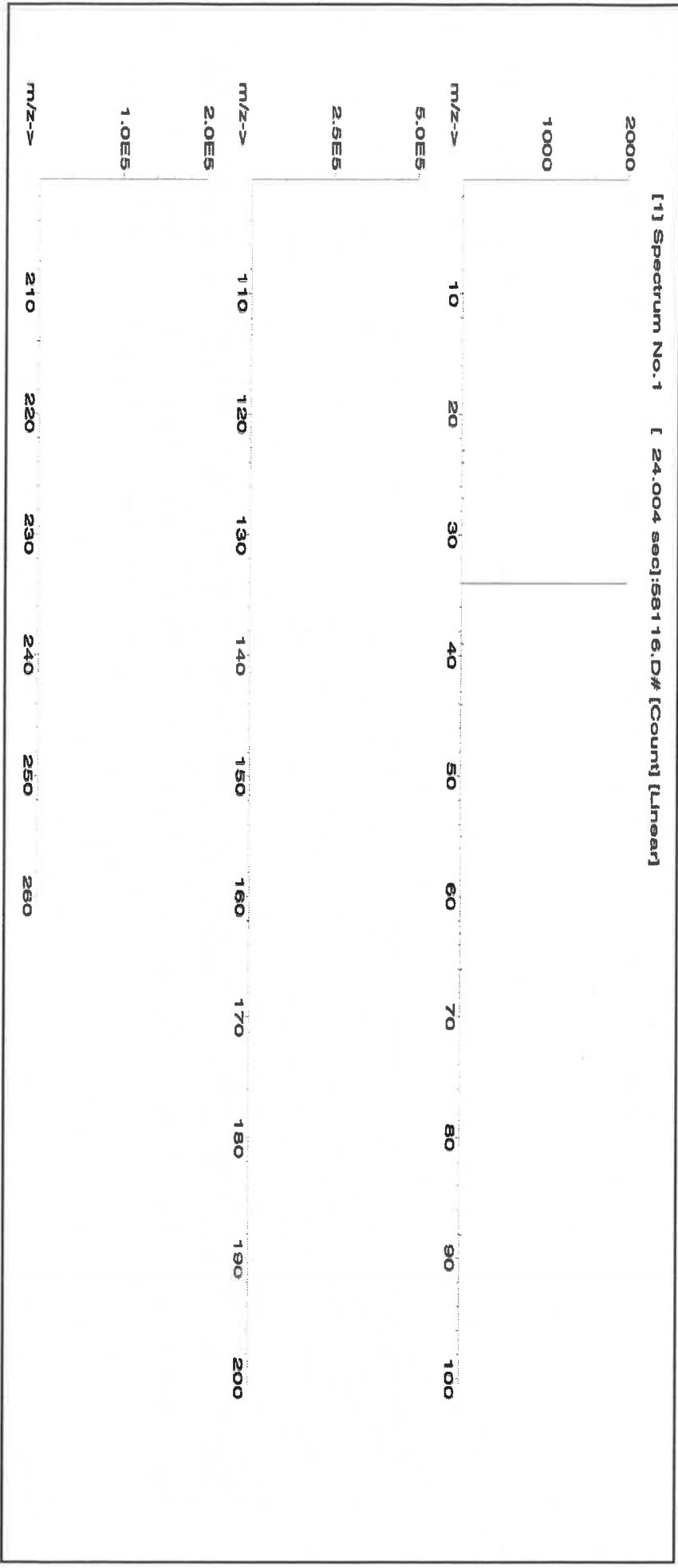
Solvent: **071123** Lot #
ASTM Type 1 Water

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

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

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)
									CAS# OSHA PEL (TWA) LD50 SRM

1. Ammonium sulfate (S)	IN117	SLBR725V	10000	99.9	0.10	24.3	82.4675	82.4692	10000.1	20.0	7783-20-2	NA	oral 4250mg/kg	3181
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

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

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

Physical Characterization:

(T)= Target analyte

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
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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 #

24002546

Solvent:

Nitric Acid

Lot Number:

060624

Description:

Selenium (Se)

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

2.0%

40.0

(mL)

Nitric Acid

Formulated By: Benson Chan 060624

Reviewed By:

Pedro L. Rantas

060624

SDS Information

Compound

Part Number Lot Number Dilution Factor

Initial Vol. (mL) Uncertainty Pipette (mL) Conc. (µg/mL)

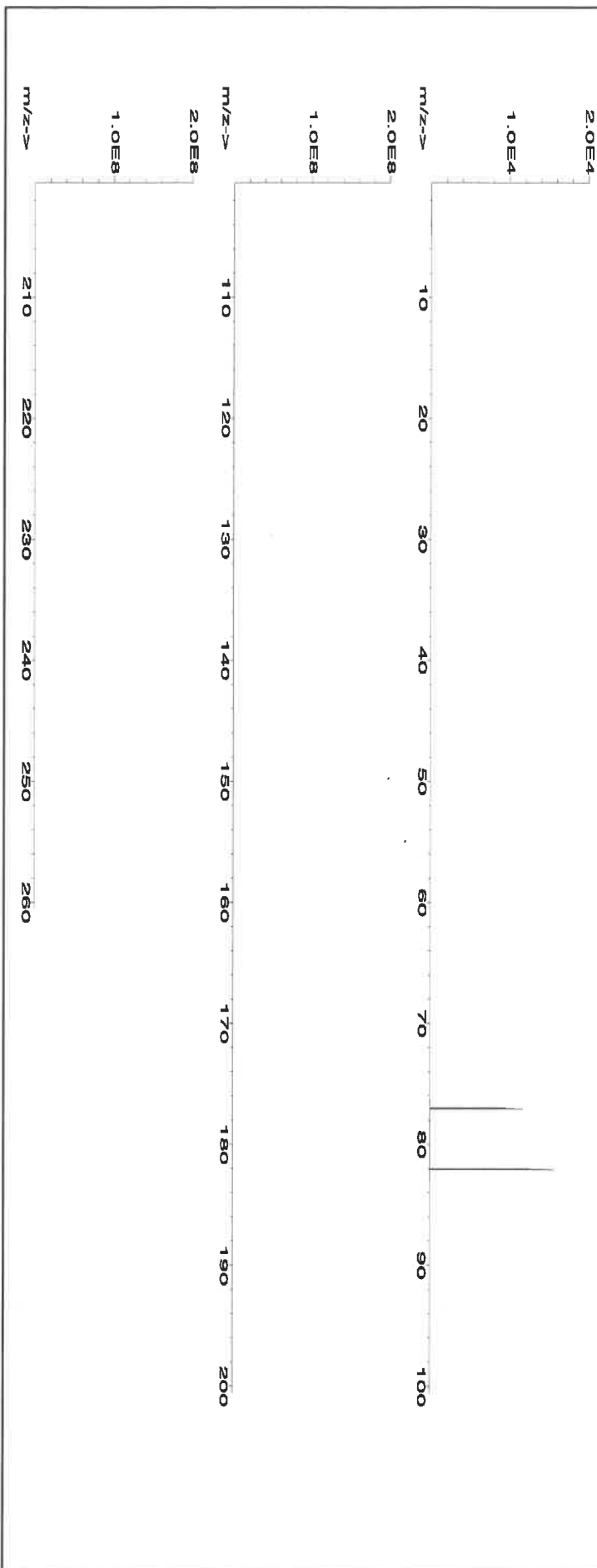
Nominal Initial Final Conc. (µg/mL) Conc. (µg/mL)

Expanded Uncertainty +/- (µg/mL)

(Solvent Safety Info. On Attached pg.) CAS# OSHA PEL (TWA) LD50 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-lr-ai 6700 mg/kg 3149

[1] Spectrum No. 1 [33.702 sec]:58034.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

MS978, MS979

P: 800-669-679/540-585-3030
F: 540-585-3012
info@inorganicventures.com



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).

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%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 1002 ± 4 µg/mL

ICP Assay NIST SRM 3162a Lot Number: 130925

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

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

Characterization of CRM/RM by Two or More Methods

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

$X_{CRM/RM} = (k_p / v_{char,p})$

k_p = mean of Assay Method A with

$v_{char,p}$ = the standard uncertainty of characterization Method A

k = coverage factor = 2

$v_{char,p} = [(2/v_p)^2 (v_{CRM/RM})^2 + v_{char,p}^2 + v_{rep}^2 + v_{lab}^2 + v_{stb}^2]^{1/2}$

$v_{char,p}$ = the mean of Assay Method A with

$v_{char,p}$ = the standard uncertainty of characterization Method A

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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	<	0.000268			
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.

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 1% HNO3 / 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); K2S2O7 - 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.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N,
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	14N17N2, 36Ar12C,
ICP-OES 334.941 nm	0.0038 / 0.00028 µg/mL	1	48Ca, 196X=2
ICP-OES 336.121 nm	0.0053 / 0.00034 µg/mL	1	W, Mo, Co
			Nb, Ta, Cr, U
			Ce, Ar, Ni
			Ru]]
			(where X = Zr, Mo,

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

- 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.

10.1 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 aluminum 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.

Certificate Approved By:

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)

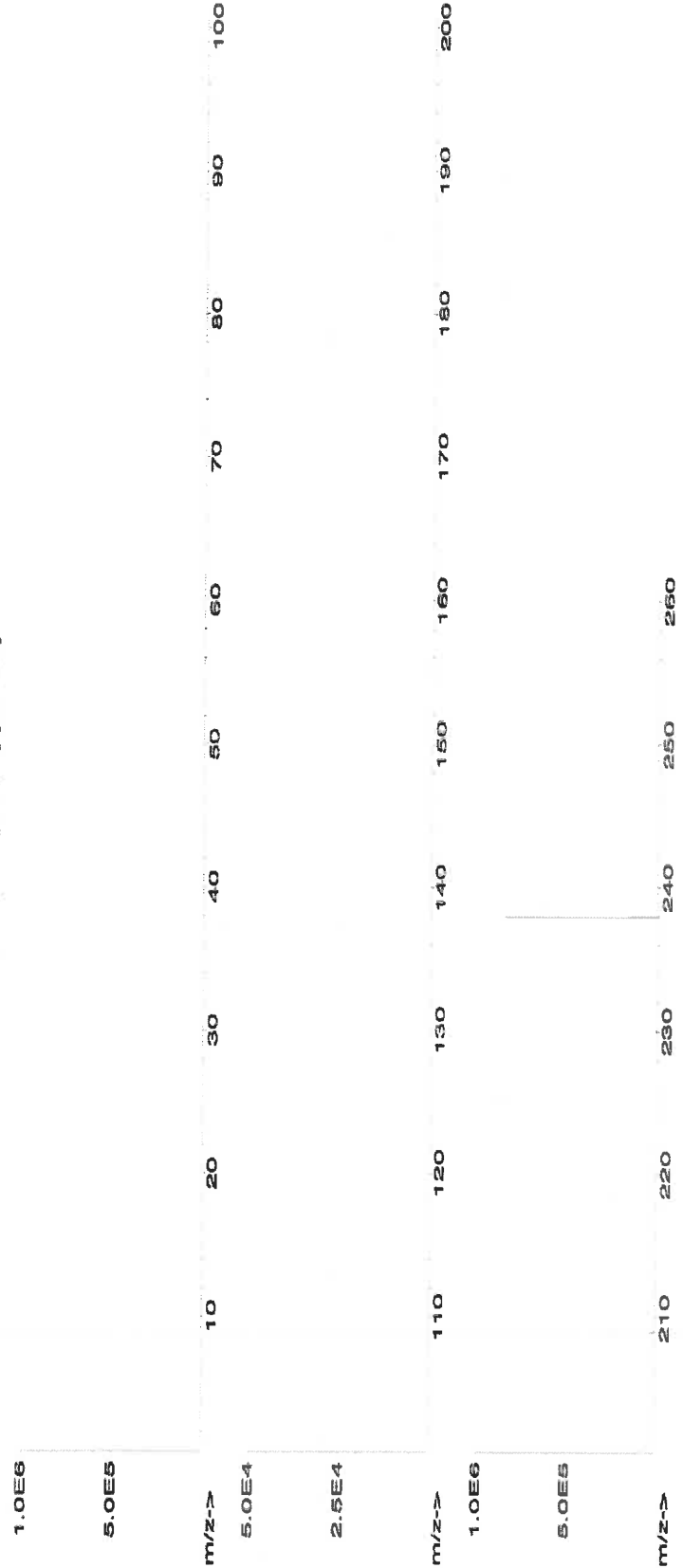
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas

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).

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R: 8/19/24, M6055

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:

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

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

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

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

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





Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: **57040**
Lot Number: **071423**
Description: **Zirconium (Zr)**

Lot # **21110221**
Solvent: **Nitric Acid**

Expiration Date: **071426**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Volume shown below was diluted to (mL): **2000.02**
SE-05 Balance Uncertainty
0.058 Flask Uncertainty

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty		CAS#	OSHA PEL (TWA)	LD50	NIST SRM
									+/-	(µg/mL)				

1. **Zirconium chloride octahydrate (Zr)** 58140 070621 0.1000 200.0 0.084 1000 10000.3 1000.0 2.2 13520-82-8 NA NA NA

[1] Spectrum No. 1 [41.163 sec]: 57040.DW [Count] [Linear]

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



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:



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



CERTIFIED WEIGHT REPORT:

Part Number: **58025**
Lot Number: **101124**
Description: **Manganese (Mn)**

R-71113128

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

2%

80.0 (mL)
Nitric Acid

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 **0.10** **Flask Uncertainty**

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
	101124
<i>Pedro L. Renteria</i>	
Reviewed By:	Pedro L. Renteria
	101124

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. 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

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M6137
R-71013124

1.0 ACCREDITATION / REGISTRATION

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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-113125
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

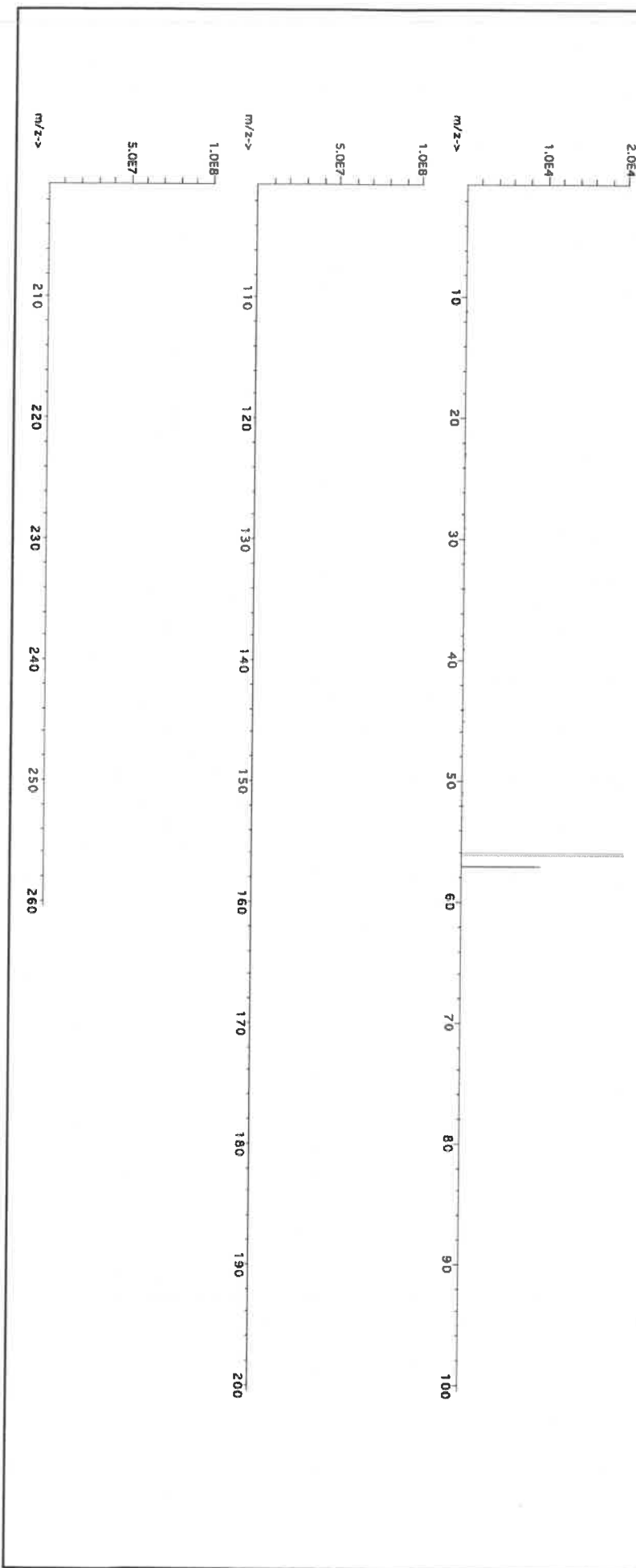
Formulated By:	Benson Chan	011025
Reviewed By:	Pedro L. Renteria	011025

Compound

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.)	SFM

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	Bu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Ru	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	T	Hg	<0.2	P	<0.02	Sr	<0.02		<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. Renteria
	103024

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

103027
Ambient (20 °C)
10000

M6141
M6142
M6143

2%
80.0
(mL)
Nitric Acid

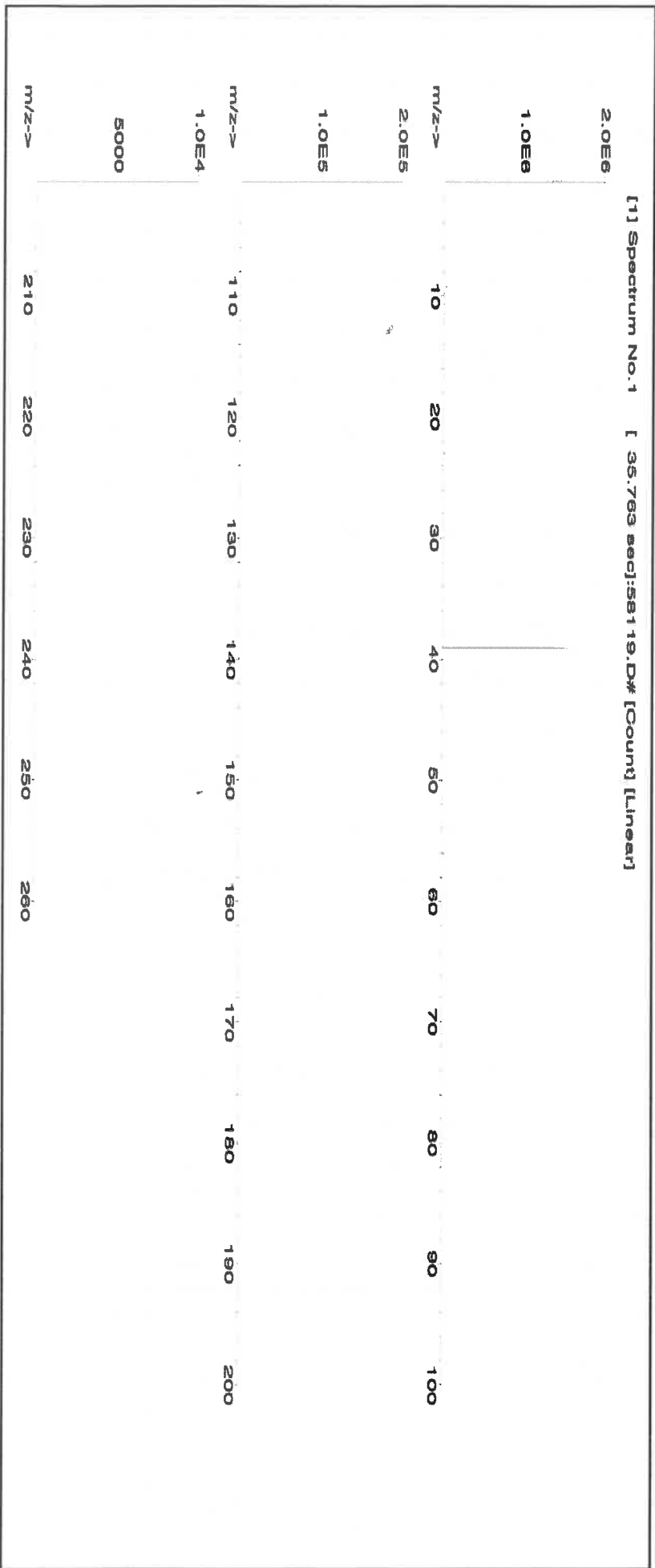
Weight shown below was diluted to (mL):

4000.1
0.15
Flask Uncertainty

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

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)

Lot #

R → 11/13/25 Solvent: 24012496 Nitric Acid

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

M6145

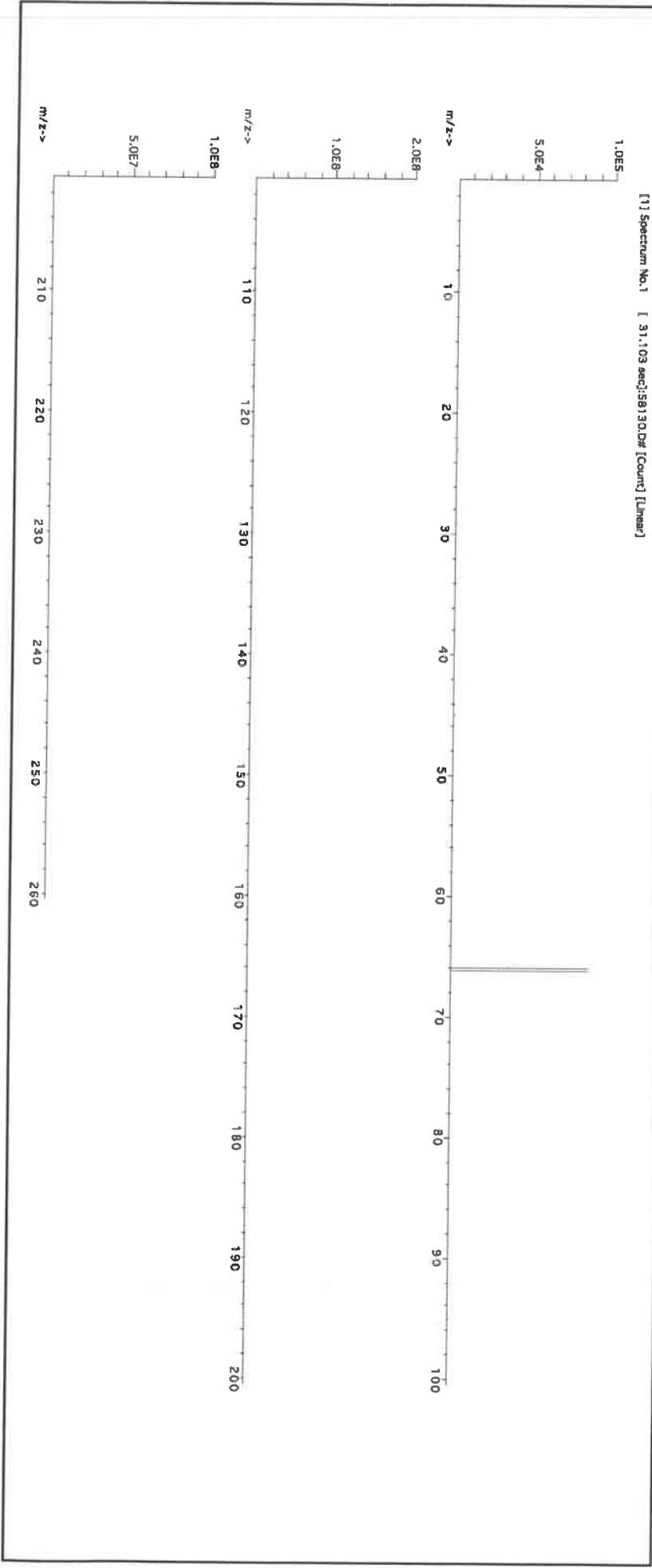
2% 40.0 (mL) Nitric Acid

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

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-----	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Zinc nitrate hexahydrate (Zn) IN016 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).

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

R → 1/7/23
M6153

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGSR10
Lot Number: V2-SR745329
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Strontium
Starting Material: Strontium Carbonate
Starting Material Lot#: 2647
Starting Material Purity: 99.9960%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10081 ± 39 µg/mL
Density: 1.030 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **10059 ± 50 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **10087 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000960	M	Eu	<	0.000480	O	Na		0.002964	M	Se	<	0.042000	M	Zn		0.004560
M	Al		0.003420	O	Fe		0.013225	M	Nb	<	0.000480	O	Si		0.012997	M	Zr		0.001847
M	As	<	0.007200	M	Ga	<	0.002900	M	Nd	<	0.000480	M	Sm	<	0.000480				
M	Au	<	0.003900	M	Gd	<	0.000480	O	Ni		0.001482	M	Sn	<	0.000480				
O	B	<	0.003200	M	Ge	<	0.004800	M	Os	<	0.001500	s	Sr	<					
M	Ba		0.638494	M	Hf	<	0.000480	O	P	<	0.017000	M	Ta	<	0.000480				
O	Be	<	0.000450	M	Hg	<	0.000960	M	Pb		0.010717	M	Tb	<	0.000480				
M	Bi	<	0.002000	M	Ho	<	0.000480	M	Pd	<	0.002000	M	Te	<	0.016000				
O	Ca		0.025083	M	In	<	0.008600	M	Pr		0.000547	M	Th	<	0.000480				
M	Cd	<	0.000960	M	Ir	<	0.000480	M	Pt	<	0.000480	M	Ti		0.004560				
M	Ce		0.000661	O	K		0.025083	M	Rb	<	0.003400	M	Tl	<	0.000480				
M	Co		0.001527	M	La	<	0.000480	M	Re	<	0.000480	M	Tm		0.004332				
O	Cr	<	0.004700	O	Li	<	0.005600	O	Rh	<	0.013000	M	U	<	0.000480				
M	Cs	<	0.000480	M	Lu	<	0.000480	M	Ru	<	0.000960	M	V	<	0.000960				
O	Cu	<	0.003800	O	Mg		0.001048	O	S	<	0.045000	M	W	<	0.002400				
M	Dy	<	0.000960	O	Mn		0.000319	M	Sb	<	0.009600	O	Y	<	0.001200				
M	Er	<	0.000480	M	Mo	<	0.002900	M	Sc	<	0.001500	M	Yb	<	0.000480				

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 Sr(H₂O)₆+2

Chemical Compatibility - Soluble in HCl, and HNO₃. Avoid H₂SO₄, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO₃ / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO₃); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 26, 2024

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

11.2 Lot Expiration Date

- August 26, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Nitric Acid 69%
CMOS

avantor™



R- 0210212025

m - 6158

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

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™



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

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

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

Nitric Acid 69%
CMOS



m-6162

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

R. Date :- 04/27/2025

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

avantor™



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 >>>



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 Christiansburg, VA 24073 USA
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 F: 540-585-3012
 info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



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

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 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



Hydrogen Peroxide, 30%

CMOS

(Stabilized)

M-6170

avantor™



R.Date . 8-05/20/2025

Material No.: 2190-03

Batch No.: 24D1961001

Test	Specification	Result
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Niobium (Nb)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 600.0 ppb	176.7 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 50.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	190.0 – 500.0 ppb	272.3 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)	≤ 50 ppb	< 1 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.2 µm and greater	≤ 1175 par/ml	202 par/ml
Particle Count – 0.5 µm and greater	≤ 100 par/ml	33 par/ml

>>> Continued on page 3 >>>

Hydrogen Peroxide, 30%
CMOS
(Stabilized)

avantor™



Material No.: 2190-03
Batch No.: 24D1961001

Test	Specification	Result
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For Microelectronic Use

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

Michelle Bales

Michelle Bales
Sr. Manager, Quality Assurance

Hydrogen Peroxide, 30%
CMOS
(Stabilized)

avantor™



Material No.: 2190-03
Batch No.: 24D1961001
Manufactured Date: 2024-04-17
Expiration Date: 2025-10-16
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (H ₂ O ₂)	30.0 – 32.0 %	31.6 %
Color (APHA)	≤ 10	< 5
Free Acid (μeq/g)	≤ 0.2	0.1
Residue after Evaporation	≤ 10 ppm	2 ppm
Ammonium (NH ₄)	≤ 3 ppm	< 3 ppm
Chloride (Cl)	≤ 0.2 ppm	< 0.2 ppm
Nitrate (NO ₃)	≤ 2 ppm	< 2 ppm
Phosphate (PO ₄)	≤ 1 ppm	1 ppm
Sulfate (SO ₄)	≤ 3 ppm	< 3 ppm
Trace Impurities – Aluminum (Al)	≤ 70.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Barium (Ba)	≤ 20.0 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)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Chromium (Cr)	≤ 20.0 ppb	1.5 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)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	< 5.0 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 250.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	4.6 ppb
Trace Impurities – Lead (Pb)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>



Certified Reference Material CRM



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

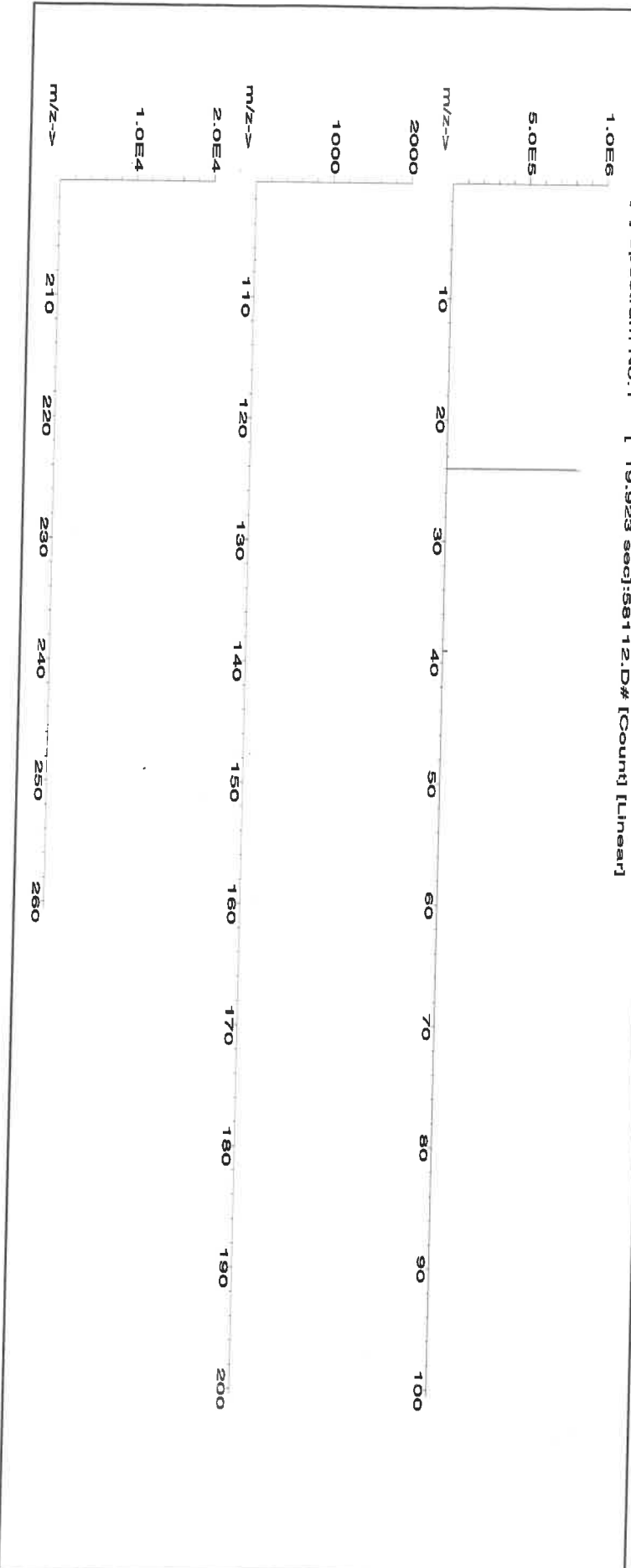
CERTIFIED WEIGHT REPORT:

Part Number: 58112 **Lot #** M 6171
Lot Number: 011525 **Solvent:** 24012496 Nitric Acid
Description: Magnesium (Mg)
Expiration Date: 011528
Recommended Storage: Ambient (20 °C) 2% 40.0 Nitric Acid (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	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: 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 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 < 0.000860	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 **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 0.100 Flask Uncertainty

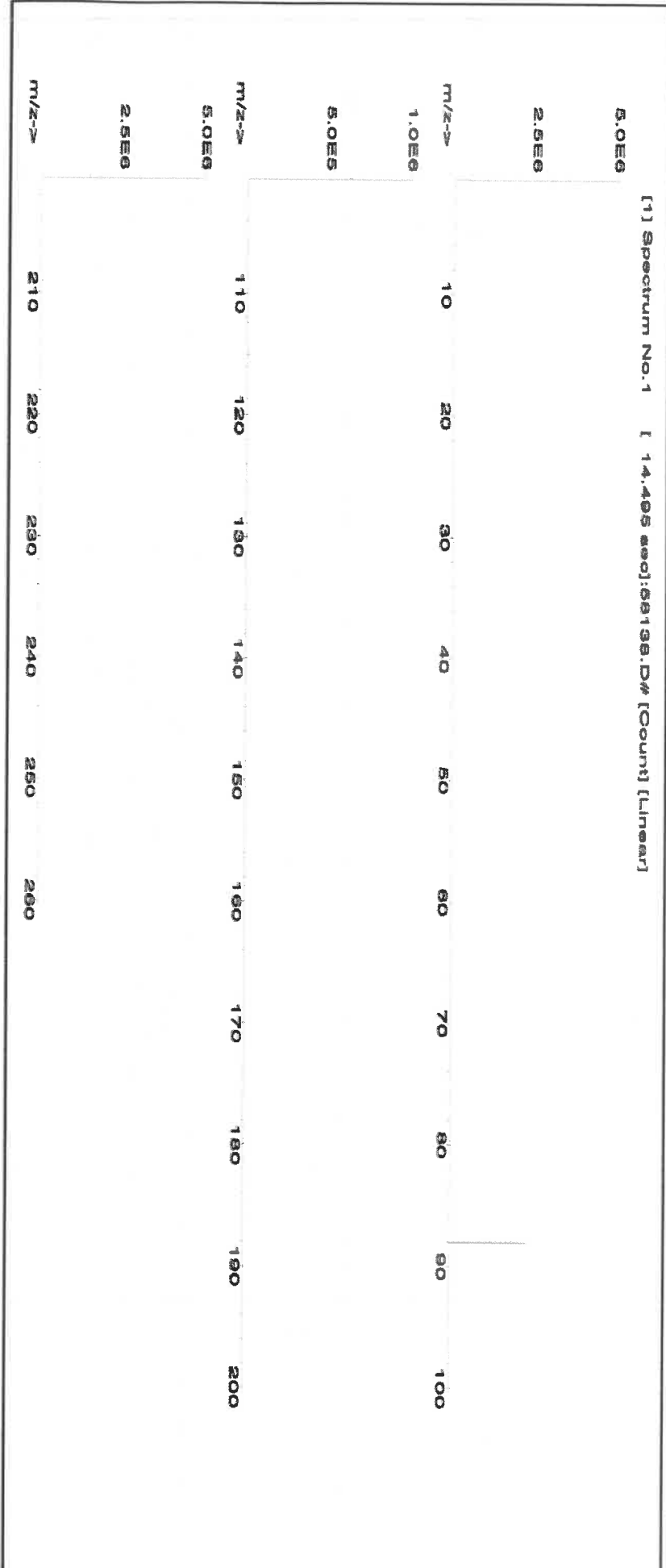
Handwritten: R-5816125
M6176
2% 40.0 (mL) Nitric Acid

<i>Signature</i>	
Formulated By:	Benson Chan 092724
<i>Signature</i>	
Reviewed By:	Pedro L. Rentas 092724

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	SRM
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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 Reference Material CRM



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

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

0.10 Flask Uncertainty

2%

40.0 (mL)

Nitric Acid

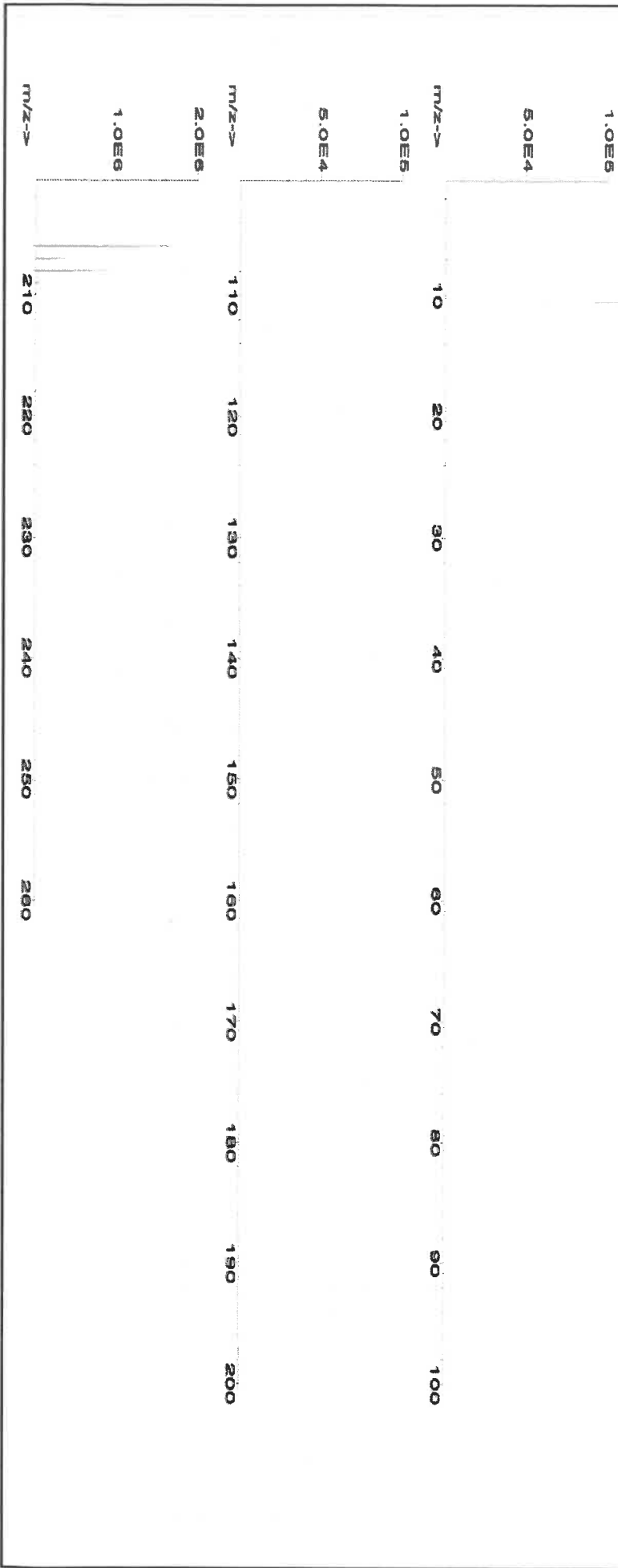
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
	031525
Reviewed By:	<i>Pedro L. Renteria</i>
	Pedro L. Renteria
	031525

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	Intramuscular 83 mg/kg	3128
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[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 (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	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	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	Se	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

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.

M6183
ICSA

Nitric Acid 69%
CMOS

avantor™



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 >>>

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



M6200
R.O → 08/25/25

Material No.: 9530-33
Batch No.: 24D1562005
Manufactured Date: 2024-03-18
Retest Date: 2029-03-17
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.192
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	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	2.2 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	31.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	0.2 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	< 0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	3 ppb

>>> Continued on page 2 >>>

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



Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.2 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	0.2 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 1.0 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	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.0 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.4 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

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



Material No.: 9530-33
Batch No.: 24D1562005

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 Croak
Director Quality Operations, Bioscience Production



Certified Reference Material CRM

M6027



CERTIFIED WEIGHT REPORT:

Part Number: **57028**
Lot Number: **062024**
Description: **Nickel (NI)**

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

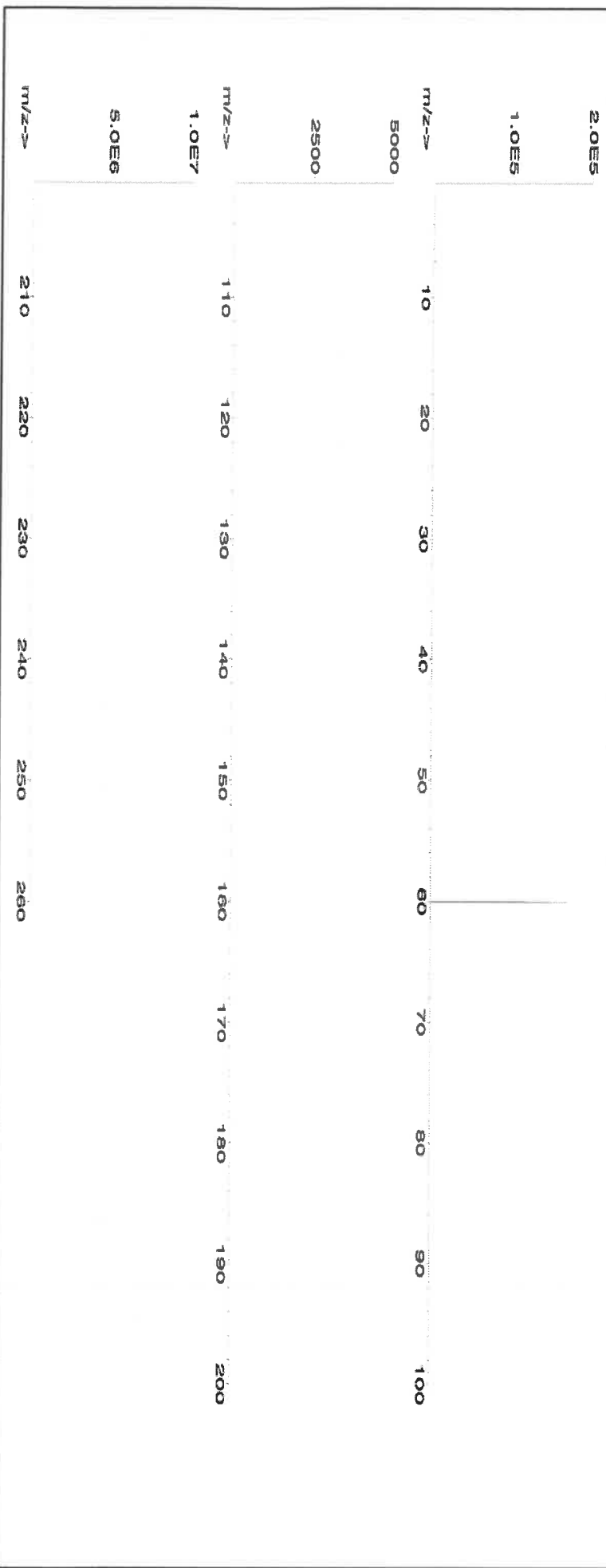
Formulated By:	Benson Chan
062024	
Reviewed By:	Pedro L. Rentes
062024	

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

[1] 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



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

CERTIFIED WEIGHT REPORT:

Part Number: **57047**
Lot Number: **122823**
Description: **Silver (Ag)**

Lot #
Solvent: 24002546 Nitric Acid

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2% 80.0 (mL) Nitric Acid

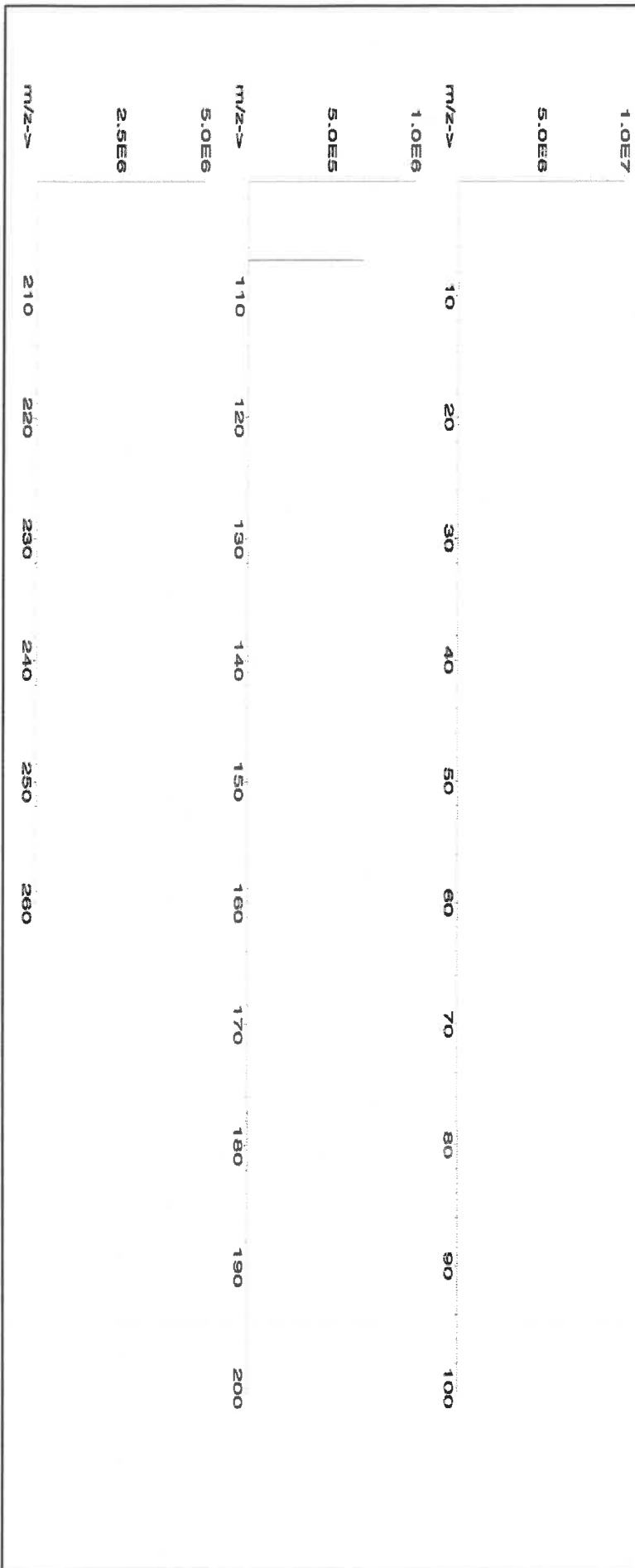
Weight shown below was diluted to (mL): 4000.30 0.058 Balance Uncertainty Flask Uncertainty

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
122823	

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

1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9996	0.10	63.7	6.27992	6.27998	1000.0
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[1] Spectrum No. 1 [14.044 sec]:58147.D# [Count] [Linear]





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

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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)

NG160

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 071727

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.26

5E-05 Balance Uncertainty

0.058 Flask Uncertainty

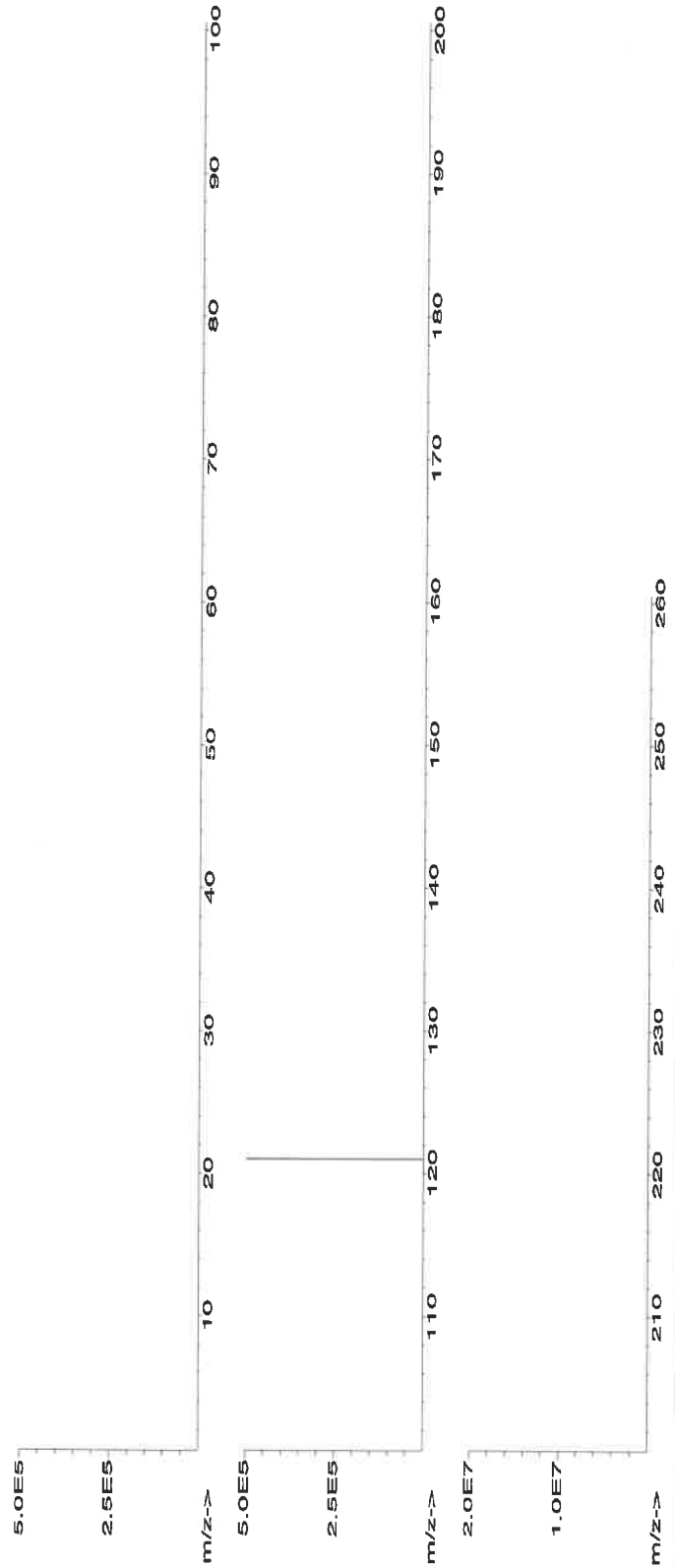
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
071724	

SDS Information

Expanded	Uncertainty	(Solvent Safety Info, On Attached pg.)	NIST
Conc. (µg/mL)	+/- (µg/mL)	CAS#	OSHA PEL (TWA)
Final	Initial	Nominal	Uncertainty
Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)
1000.0	10001.4	1000	0.084
2.2	7440-36-0	0.5 mg/m3	or-rat 7000 mg/kg
3102a			

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)	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

[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 ($\mu\text{g/mL}$)

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	T	Ca	<0.2	Er	<0.02	Ho	<0.02	La	<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	<0.2	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	<0.2	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:

Ben P.

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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Certified Reference Material CRM

M6023



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

CERTIFIED WEIGHT REPORT:

Part Number: 57081
Lot Number: 062724
Description: Thallium (TI)

Solvent: 24002546 Nitric Acid

Lot #

2% 40.0 Nitric Acid (mL)

Expiration Date:

062727

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL): 2000.1 0.10 Balance Uncertainty Flask Uncertainty

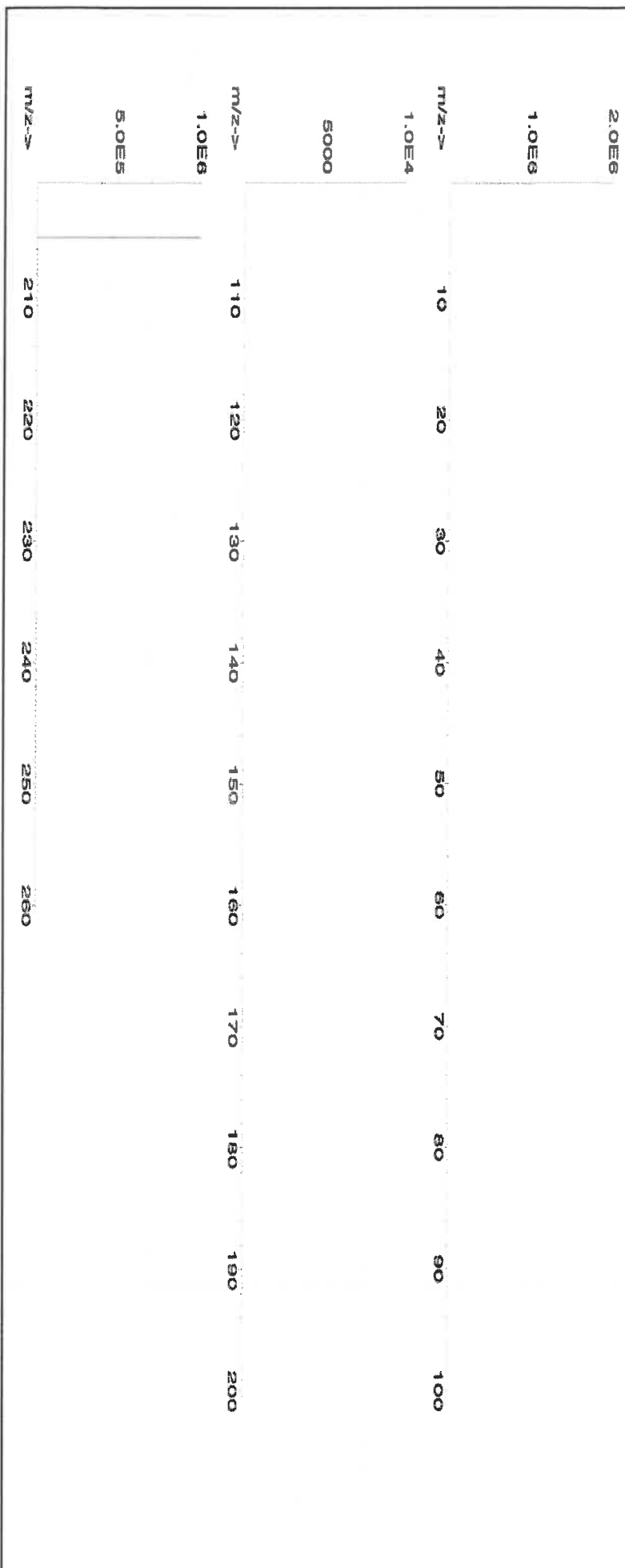
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Renteria</i>
	Pedro L. Renteria
	062724

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	------------	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

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 orl-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:

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Certified Reference Material CRM

M6021



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

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57023
062424
Vanadium (V)

Lot #
Solvent:

24002546
Nitric Acid

2.0%

40.0
(mL)

Nitric Acid

Formulated By:

Aleah O'Brady

062424

Expiration Date:
Recommended Storage:

062427
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

Expanded

Uncertainty

+/- (µg/mL)

CAS#

OSHA PEL (TWA)

LD50

NIST

SRM

SDS Information

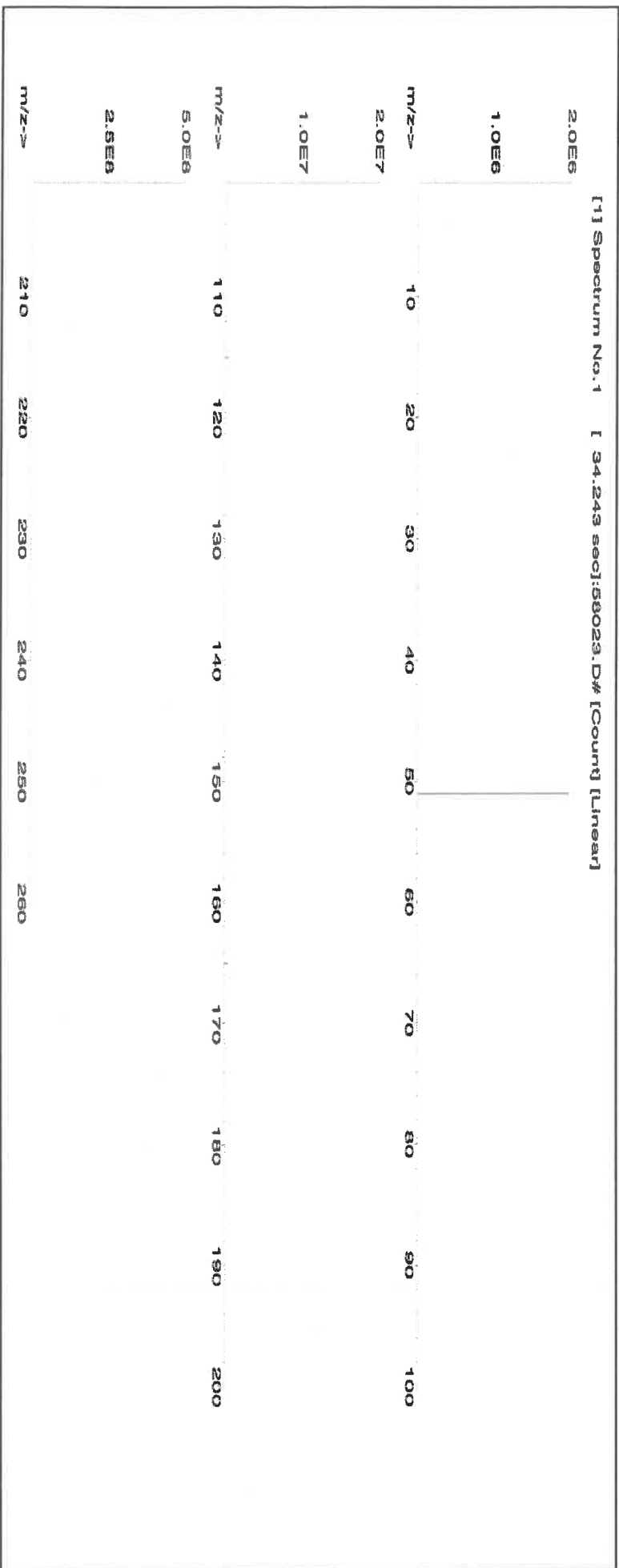
(Solvent Safety Info. On Attached pg.)

Reviewed By:	Pedro L. Rantas	062424
--------------	-----------------	--------

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 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 ($\mu\text{g/mL}$)

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

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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 #
10/27/2025	333294



Ship To

Alliance Tech Group - Newark
ATTN: Sohil Jodhani
284 Sheffield St., #1
Mountainside, NJ 07092
USA

Received by: SJ
10/29/2025 12:30

Customer PO #	Terms	PT Acct #	Customer #	Ship Via	F.O.B.
PO2-3469	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-MET-SOIL	SOIL/HW Trace Metals	HW1025	7102-04B
1	1	0	PT-CR6-SOIL	SOIL/HW Hexavalent Chromium	HW1025	7102-05A2
1	1	0	PT-CN-SOIL	SOIL/HW Cyanide	HW1025	7102-06
1	1	0	PT-CORR-SOIL	SOIL/HW Corrosivity/pH	HW1025	7102-11
1	1	0	PT-FP-SOIL	SOIL/HW Flash Point	HW1025	7102-10
1	1	0	PT-AN-SOIL	SOIL/HW Anions	HW1025	7102-08
1	1	0	PT-NUT-SOIL	SOIL/HW Nutrients	HW1025	7102-09
1	1	0	PT-SOL-SOIL	SOIL/HW Solids	HW1025	7102-31
1	1	0	PT-NO2-SOIL	SOIL/HW Nitrite as N	HW1025	7102-71
1	1	0	PT-GAS-SOIL	SOIL/HW Gasoline	HW1025	7102-96
1	1	0	PT-DIES-SOIL	SOIL/HW Diesel in Soil	HW1025	7102-100
1	1	0	PT-OGR-SOIL	SOIL/HW Oil and Grease	HW1025	7102-94B
1	1	0	PT-VOA-SOIL	SOIL/HW Volatiles	HW1025	7102-12
1	1	0	PT-BNA-SOIL	SOIL/HW BNAs	HW1025	7102-13
1	1	0	PT-PEST-SOIL	SOIL/HW Pesticides	HW1025	7102-14
1	1	0	PT-CHLR-SOIL	SOIL/HW Chlordane	HW1025	7102-15
1	1	0	PT-TXP-SOIL	SOIL/HW Toxaphene	HW1025	7102-16
1	1	0	PT-PCB-SOIL	SOIL/HW PCBs	HW1025	7102-17
1	1	0	PT-PCBO-SOIL	SOIL/HW PCBs in Oil	HW1025	7102-88
1	1	0	PT-HERB-SOIL	SOIL/HW Herbicides	HW1025	7102-18
1	1	0	PT-PAH-SOIL	SOIL/HW PAHs	HW1025	7102-22
1	1	0	PT-TRIAZINE-SOIL	SOIL/HW Triazine Pesticides	HW1025	7102-106

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info@phenova.com
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Date	Order #
10/27/2025	333294



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USA

Received by: SJ
10/29/2025 12:30

Customer PO #		Terms	PT Acct #	Customer #	Ship Via	F.O.B.
PO2-3469		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-NJEPH-SOIL	NJ EPH in SOIL	HW1025	7102-105

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