

DATA PACKAGE METALS

PROJECT NAME : AE1-CTY 3.2.Z-PR-DOCK-DES-ODC - 60693795-1719206

AECOM

605 3rd Avenue

29th Floor

New York, NY - 10158

Phone No: 212-973-2900

ORDER ID : Q3376

ATTENTION : Rob Forstner



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q3376

Project ID : AE1-CTY 3.2.Z-PR-DOCK-Des-ODC - 60693795-1719206

Client : AECOM

Lab Sample Number

Q3376-01
Q3376-02
Q3376-03
Q3376-04
Q3376-05
Q3376-07

Client Sample Number

PR132-S05-057082-20251016
PR132-DP01-20251016
PR132-COMP2-20251016
PR132-S12-047072-20251016
PR132-S12-020047-20251016
PR132-FB01-20251016

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

Signature : _____

Date: 10/31/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

AECOM

Project Name: AE1-CTY 3.2.Z-PR-DOCK-Des-ODC - 60693795-1719206

Project # N/A

Order ID # Q3376

Test Name: Mercury, Metals ICP-TAL

A. Number of Samples and Date of Receipt:

5 Solid samples were received on 10/16/2025.

1 Water sample was received on 10/16/2025.

B. Parameters:

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

C. Analytical Techniques:

The analysis of Metals ICP-TAL was based on method 6010D, digestion based on method 3010 (waters). The analysis and digestion of Mercury was based on method 7470A.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all compounds.

The Duplicate analysis met criteria for all compounds.

The Matrix Spike (4090MS) analysis met criteria for all compounds except for Mercury due to matrix interference.

The Matrix Spike Duplicate (4090MSD) analysis met criteria for all compounds except for Mercury due to matrix interference.

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

The Calibration met the requirements.

The Serial Dilution met criteria for all compounds.

E. Additional Comments:



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

Signature_____

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DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following “ Results Qualifiers” are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers “P” for ICP instrument “PM” for ICP when Microwave Digestion is used “CV” for Manual Cold Vapor AA “AV” for automated Cold Vapor AA “CA” for MIDI-Distillation Spectrophotometric “AS” for Semi -Automated Spectrophotometric “C” for Manual Spectrophotometric “T” for Titrimetric “NR” for analyte not required to be analyzed
OR	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q3376

MATRIX: Water

METHOD: 6010D,7470A

	NA	NO	YES
1. Calibration Summary met criteria.			✓
2. ICP Interference Check Sample Results Summary Submitted.			✓
3. Serial Dilution Summary (if applicable) Submitted.			✓
The Serial Dilution met criteria for all compounds.			
4. Laboratory Control Sample Summary (if applicable) Submitted.			✓
5. Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
6. Matrix Spike/Matrix Spike Duplicate Recoveries Met Criteria		✓	
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
The Matrix Spike (4090MS) analysis met criteria for all compounds except for Mercury due to matrix interference. The Matrix Spike Duplicate (4090MSD) analysis met criteria for all compounds except for Mercury due to matrix interference.			
7. Sample Duplicate Analysis Met QC Criteria			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
8. Digestion Holding Time Met			✓
If not met, list number of days exceeded for each sample:			
9. Analysis Holding Time Met			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			

ADDITIONAL COMMENTS:

QA REVIEW

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q3376

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody

✓

Were the samples received within hold time

✓

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

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 10/31/2025

LAB CHRONICLE

OrderID:	Q3376	OrderDate:	10/17/2025 10:34:00 AM
Client:	AECOM	Project:	AE1-CTY 3.2.Z-PR-DOCK-Des-ODC -
Contact:	Rob Forstner	Location:	DOCK-Des-ODC Soil, VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3376-07	PR132-FB01-2025101 6	Water			10/16/25			10/16/25
			Mercury	7470A		10/20/25	10/20/25	
			Metals ICP-TAL	6010D		10/21/25	10/21/25	

Hit Summary Sheet
SW-846

SDG No.:	Q3376	Order ID:	Q3376
Client:	AECOM	Project ID:	AE1-CTY 3.2.Z-PR-DOCK-Des-ODC - 60

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : PR132-FB01-20251016								
Q3376-07	PR132-FB01-20251016	Water	Aluminum	12.5	J	5.67	50.0	ug/L
Q3376-07	PR132-FB01-20251016	Water	Iron	11.7	J	11.7	50.0	ug/L



SAMPLE DATA

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Report of Analysis

Client: AECOM
Project: AE1-CTY 3.2.Z-PR-DOCK-Des-ODC - 60693795-1719206
Client Sample ID: PR132-FB01-20251016
Lab Sample ID: Q3376-07
Level (low/med): low

Date Collected: 10/16/25
Date Received: 10/16/25
SDG No.: Q3376
Matrix: Water
% Solid: 0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	12.5	J	1	5.67	50.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-36-0	Antimony	25.0	U	1	3.38	25.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-38-2	Arsenic	10.0	U	1	2.56	10.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-39-3	Barium	50.0	U	1	7.28	50.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-41-7	Beryllium	3.00	UN	1	0.28	3.00	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-43-9	Cadmium	3.00	UNQ1		0.25	3.00	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-70-2	Calcium	1000	U	1	117	1000	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-47-3	Chromium	5.00	U	1	1.06	5.00	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-48-4	Cobalt	15.0	U	1	1.13	15.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-50-8	Copper	10.0	U	1	2.30	10.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7439-89-6	Iron	11.7	J	1	11.7	50.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7439-92-1	Lead	6.00	UN	1	1.15	6.00	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7439-95-4	Magnesium	1000	U	1	122	1000	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7439-96-5	Manganese	10.0	U	1	2.97	10.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7439-97-6	Mercury	0.20	UN	1	0.076	0.20	ug/L	10/20/25 09:30	10/20/25 12:25	7470A	7470A
7440-02-0	Nickel	20.0	U	1	1.53	20.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-09-7	Potassium	1000	U	1	459	1000	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7782-49-2	Selenium	10.0	U	1	4.82	10.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-22-4	Silver	5.00	U	1	0.81	5.00	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-23-5	Sodium	1000	U	1	434	1000	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-28-0	Thallium	20.0	UN	1	2.19	20.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-62-2	Vanadium	20.0	U	1	3.13	20.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010
7440-66-6	Zinc	20.0	U	1	8.33	20.0	ug/L	10/21/25 16:10	10/21/25 18:40	6010D	SW3010

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N = Spiked sample recovery not within control limits



METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM

SDG No.: Q3376

Contract: AECO02

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
ICV78	Mercury	4.20	4.0	105	90 - 110	CV	10/20/2025	12:01	LB137583

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM
Contract: AECO02
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

SDG No.: Q3376
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV54	Mercury	5.12	5.0	102	90 - 110	CV	10/20/2025	12:06	LB137583
CCV55	Mercury	5.24	5.0	105	90 - 110	CV	10/20/2025	12:41	LB137583
CCV56	Mercury	4.86	5.0	97	90 - 110	CV	10/20/2025	12:58	LB137583

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM

Contract: AECO02

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

SDG No.: Q3376

Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	7550	8000	94	90 - 110	P	10/21/2025	12:40	LB137613
	Antimony	3880	4000	97	90 - 110	P	10/21/2025	12:40	LB137613
	Arsenic	3800	4000	95	90 - 110	P	10/21/2025	12:40	LB137613
	Barium	7500	8000	94	90 - 110	P	10/21/2025	12:40	LB137613
	Beryllium	194	200	97	90 - 110	P	10/21/2025	12:40	LB137613
	Cadmium	1890	2000	94	90 - 110	P	10/21/2025	12:40	LB137613
	Calcium	18800	20000	94	90 - 110	P	10/21/2025	12:40	LB137613
	Chromium	784	800	98	90 - 110	P	10/21/2025	12:40	LB137613
	Cobalt	1900	2000	95	90 - 110	P	10/21/2025	12:40	LB137613
	Copper	976	1000	98	90 - 110	P	10/21/2025	12:40	LB137613
	Iron	3800	4000	95	90 - 110	P	10/21/2025	12:40	LB137613
	Lead	3700	4000	92	90 - 110	P	10/21/2025	12:40	LB137613
	Magnesium	18800	20000	94	90 - 110	P	10/21/2025	12:40	LB137613
	Manganese	1860	2000	93	90 - 110	P	10/21/2025	12:40	LB137613
	Nickel	1910	2000	95	90 - 110	P	10/21/2025	12:40	LB137613
	Potassium	18900	20000	94	90 - 110	P	10/21/2025	12:40	LB137613
	Selenium	3850	4000	96	90 - 110	P	10/21/2025	12:40	LB137613
	Silver	956	1000	96	90 - 110	P	10/21/2025	12:40	LB137613
	Sodium	18300	20000	92	90 - 110	P	10/21/2025	12:40	LB137613
	Thallium	3840	4000	96	90 - 110	P	10/21/2025	12:40	LB137613
	Vanadium	1880	2000	94	90 - 110	P	10/21/2025	12:40	LB137613
	Zinc	1920	2000	96	90 - 110	P	10/21/2025	12:40	LB137613

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	110	100	110	80 - 120	P	10/21/2025	12:44	LB137613
	Antimony	52.1	50.0	104	80 - 120	P	10/21/2025	12:44	LB137613
	Arsenic	20.1	20.0	100	80 - 120	P	10/21/2025	12:44	LB137613
	Barium	95.0	100	95	80 - 120	P	10/21/2025	12:44	LB137613
	Beryllium	6.21	6.0	104	80 - 120	P	10/21/2025	12:44	LB137613
	Cadmium	5.68	6.0	95	80 - 120	P	10/21/2025	12:44	LB137613
	Calcium	1990	2000	100	80 - 120	P	10/21/2025	12:44	LB137613
	Chromium	9.98	10.0	100	80 - 120	P	10/21/2025	12:44	LB137613
	Cobalt	28.8	30.0	96	80 - 120	P	10/21/2025	12:44	LB137613
	Copper	21.5	20.0	107	80 - 120	P	10/21/2025	12:44	LB137613
	Iron	109	100	109	80 - 120	P	10/21/2025	12:44	LB137613
	Lead	11.0	12.0	92	80 - 120	P	10/21/2025	12:44	LB137613
	Magnesium	2060	2000	103	80 - 120	P	10/21/2025	12:44	LB137613
	Manganese	19.7	20.0	98	80 - 120	P	10/21/2025	12:44	LB137613
	Nickel	38.9	40.0	97	80 - 120	P	10/21/2025	12:44	LB137613
	Potassium	1980	2000	99	80 - 120	P	10/21/2025	12:44	LB137613
	Selenium	23.1	20.0	115	80 - 120	P	10/21/2025	12:44	LB137613
	Silver	10.3	10.0	103	80 - 120	P	10/21/2025	12:44	LB137613
	Sodium	1790	2000	90	80 - 120	P	10/21/2025	12:44	LB137613
	Thallium	41.7	40.0	104	80 - 120	P	10/21/2025	12:44	LB137613
	Vanadium	34.8	40.0	87	80 - 120	P	10/21/2025	12:44	LB137613
	Zinc	41.7	40.0	104	80 - 120	P	10/21/2025	12:44	LB137613

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM
Contract: AECO02
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

SDG No.: Q3376
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9780	10000	98	90 - 110	P	10/21/2025	13:45	LB137613
	Antimony	4830	5000	97	90 - 110	P	10/21/2025	13:45	LB137613
	Arsenic	4820	5000	96	90 - 110	P	10/21/2025	13:45	LB137613
	Barium	9660	10000	97	90 - 110	P	10/21/2025	13:45	LB137613
	Beryllium	242	250	97	90 - 110	P	10/21/2025	13:45	LB137613
	Cadmium	2420	2500	97	90 - 110	P	10/21/2025	13:45	LB137613
	Calcium	24200	25000	97	90 - 110	P	10/21/2025	13:45	LB137613
	Chromium	976	1000	98	90 - 110	P	10/21/2025	13:45	LB137613
	Cobalt	2410	2500	96	90 - 110	P	10/21/2025	13:45	LB137613
	Copper	1220	1250	98	90 - 110	P	10/21/2025	13:45	LB137613
	Iron	4750	5000	95	90 - 110	P	10/21/2025	13:45	LB137613
	Lead	4800	5000	96	90 - 110	P	10/21/2025	13:45	LB137613
	Magnesium	24300	25000	97	90 - 110	P	10/21/2025	13:45	LB137613
	Manganese	2410	2500	96	90 - 110	P	10/21/2025	13:45	LB137613
	Nickel	2410	2500	97	90 - 110	P	10/21/2025	13:45	LB137613
	Potassium	23800	25000	95	90 - 110	P	10/21/2025	13:45	LB137613
	Selenium	4820	5000	96	90 - 110	P	10/21/2025	13:45	LB137613
	Silver	1200	1250	96	90 - 110	P	10/21/2025	13:45	LB137613
	Sodium	23900	25000	96	90 - 110	P	10/21/2025	13:45	LB137613
	Thallium	5230	5000	104	90 - 110	P	10/21/2025	13:45	LB137613
	Vanadium	2430	2500	97	90 - 110	P	10/21/2025	13:45	LB137613
	Zinc	2430	2500	97	90 - 110	P	10/21/2025	13:45	LB137613
CCV02	Aluminum	9530	10000	95	90 - 110	P	10/21/2025	15:03	LB137613
	Antimony	4980	5000	100	90 - 110	P	10/21/2025	15:03	LB137613
	Arsenic	4830	5000	97	90 - 110	P	10/21/2025	15:03	LB137613
	Barium	9800	10000	98	90 - 110	P	10/21/2025	15:03	LB137613
	Beryllium	227	250	91	90 - 110	P	10/21/2025	15:03	LB137613
	Cadmium	2310	2500	92	90 - 110	P	10/21/2025	15:03	LB137613
	Calcium	23700	25000	95	90 - 110	P	10/21/2025	15:03	LB137613
	Chromium	934	1000	93	90 - 110	P	10/21/2025	15:03	LB137613
	Cobalt	2340	2500	94	90 - 110	P	10/21/2025	15:03	LB137613
	Copper	1210	1250	96	90 - 110	P	10/21/2025	15:03	LB137613
	Iron	4910	5000	98	90 - 110	P	10/21/2025	15:03	LB137613
	Lead	4660	5000	93	90 - 110	P	10/21/2025	15:03	LB137613

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: <u>AECOM</u>	SDG No.: <u>Q3376</u>
Contract: <u>AECO02</u>	Lab Code: <u>ACE</u>
Initial Calibration Source: <u>EPA</u>	
Continuing Calibration Source: <u>Inorganic Ventures</u>	

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Magnesium	23200	25000	93	90 - 110	P	10/21/2025	15:03	LB137613
	Manganese	2380	2500	95	90 - 110	P	10/21/2025	15:03	LB137613
	Nickel	2330	2500	93	90 - 110	P	10/21/2025	15:03	LB137613
	Potassium	24700	25000	99	90 - 110	P	10/21/2025	15:03	LB137613
	Selenium	4920	5000	98	90 - 110	P	10/21/2025	15:03	LB137613
	Silver	1200	1250	96	90 - 110	P	10/21/2025	15:03	LB137613
	Sodium	24800	25000	99	90 - 110	P	10/21/2025	15:03	LB137613
	Thallium	4950	5000	99	90 - 110	P	10/21/2025	15:03	LB137613
	Vanadium	2390	2500	96	90 - 110	P	10/21/2025	15:03	LB137613
	Zinc	2370	2500	95	90 - 110	P	10/21/2025	15:03	LB137613
CCV03	Aluminum	9580	10000	96	90 - 110	P	10/21/2025	15:56	LB137613
	Antimony	4900	5000	98	90 - 110	P	10/21/2025	15:56	LB137613
	Arsenic	4820	5000	96	90 - 110	P	10/21/2025	15:56	LB137613
	Barium	9710	10000	97	90 - 110	P	10/21/2025	15:56	LB137613
	Beryllium	233	250	93	90 - 110	P	10/21/2025	15:56	LB137613
	Cadmium	2330	2500	93	90 - 110	P	10/21/2025	15:56	LB137613
	Calcium	23800	25000	95	90 - 110	P	10/21/2025	15:56	LB137613
	Chromium	941	1000	94	90 - 110	P	10/21/2025	15:56	LB137613
	Cobalt	2360	2500	94	90 - 110	P	10/21/2025	15:56	LB137613
	Copper	1210	1250	96	90 - 110	P	10/21/2025	15:56	LB137613
	Iron	4850	5000	97	90 - 110	P	10/21/2025	15:56	LB137613
	Lead	4680	5000	94	90 - 110	P	10/21/2025	15:56	LB137613
	Magnesium	23400	25000	94	90 - 110	P	10/21/2025	15:56	LB137613
	Manganese	2380	2500	95	90 - 110	P	10/21/2025	15:56	LB137613
	Nickel	2350	2500	94	90 - 110	P	10/21/2025	15:56	LB137613
	Potassium	25200	25000	101	90 - 110	P	10/21/2025	15:56	LB137613
	Selenium	4870	5000	97	90 - 110	P	10/21/2025	15:56	LB137613
	Silver	1200	1250	96	90 - 110	P	10/21/2025	15:56	LB137613
	Sodium	25300	25000	101	90 - 110	P	10/21/2025	15:56	LB137613
	Thallium	5060	5000	101	90 - 110	P	10/21/2025	15:56	LB137613
	Vanadium	2400	2500	96	90 - 110	P	10/21/2025	15:56	LB137613
	Zinc	2390	2500	96	90 - 110	P	10/21/2025	15:56	LB137613
CCV04	Aluminum	9280	10000	93	90 - 110	P	10/21/2025	16:48	LB137613
	Antimony	4870	5000	98	90 - 110	P	10/21/2025	16:48	LB137613

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM
Contract: AECO02
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

SDG No.: Q3376
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Arsenic	4750	5000	95	90 - 110	P	10/21/2025	16:48	LB137613
	Barium	9490	10000	95	90 - 110	P	10/21/2025	16:48	LB137613
	Beryllium	232	250	93	90 - 110	P	10/21/2025	16:48	LB137613
	Cadmium	2300	2500	92	90 - 110	P	10/21/2025	16:48	LB137613
	Calcium	23200	25000	93	90 - 110	P	10/21/2025	16:48	LB137613
	Chromium	934	1000	93	90 - 110	P	10/21/2025	16:48	LB137613
	Cobalt	2330	2500	93	90 - 110	P	10/21/2025	16:48	LB137613
	Copper	1190	1250	96	90 - 110	P	10/21/2025	16:48	LB137613
	Iron	4840	5000	97	90 - 110	P	10/21/2025	16:48	LB137613
	Lead	4640	5000	93	90 - 110	P	10/21/2025	16:48	LB137613
	Magnesium	22900	25000	92	90 - 110	P	10/21/2025	16:48	LB137613
	Manganese	2350	2500	94	90 - 110	P	10/21/2025	16:48	LB137613
	Nickel	2330	2500	93	90 - 110	P	10/21/2025	16:48	LB137613
	Potassium	24100	25000	96	90 - 110	P	10/21/2025	16:48	LB137613
	Selenium	4830	5000	97	90 - 110	P	10/21/2025	16:48	LB137613
	Silver	1210	1250	97	90 - 110	P	10/21/2025	16:48	LB137613
	Sodium	24000	25000	96	90 - 110	P	10/21/2025	16:48	LB137613
	Thallium	4900	5000	98	90 - 110	P	10/21/2025	16:48	LB137613
	Vanadium	2330	2500	93	90 - 110	P	10/21/2025	16:48	LB137613
	Zinc	2400	2500	96	90 - 110	P	10/21/2025	16:48	LB137613
CCV05	Aluminum	9540	10000	95	90 - 110	P	10/21/2025	17:37	LB137613
	Antimony	5030	5000	101	90 - 110	P	10/21/2025	17:37	LB137613
	Arsenic	4900	5000	98	90 - 110	P	10/21/2025	17:37	LB137613
	Barium	9470	10000	95	90 - 110	P	10/21/2025	17:37	LB137613
	Beryllium	234	250	94	90 - 110	P	10/21/2025	17:37	LB137613
	Cadmium	2370	2500	95	90 - 110	P	10/21/2025	17:37	LB137613
	Calcium	23800	25000	95	90 - 110	P	10/21/2025	17:37	LB137613
	Chromium	964	1000	96	90 - 110	P	10/21/2025	17:37	LB137613
	Cobalt	2390	2500	96	90 - 110	P	10/21/2025	17:37	LB137613
	Copper	1220	1250	98	90 - 110	P	10/21/2025	17:37	LB137613
	Iron	4840	5000	97	90 - 110	P	10/21/2025	17:37	LB137613
	Lead	4780	5000	96	90 - 110	P	10/21/2025	17:37	LB137613
	Magnesium	23600	25000	94	90 - 110	P	10/21/2025	17:37	LB137613
	Manganese	2360	2500	94	90 - 110	P	10/21/2025	17:37	LB137613

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM
Contract: AECO02
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

SDG No.: Q3376
Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Nickel	2390	2500	96	90 - 110	P	10/21/2025	17:37	LB137613
	Potassium	23700	25000	95	90 - 110	P	10/21/2025	17:37	LB137613
	Selenium	5030	5000	100	90 - 110	P	10/21/2025	17:37	LB137613
	Silver	1210	1250	97	90 - 110	P	10/21/2025	17:37	LB137613
	Sodium	23100	25000	92	90 - 110	P	10/21/2025	17:37	LB137613
	Thallium	5030	5000	100	90 - 110	P	10/21/2025	17:37	LB137613
	Vanadium	2390	2500	96	90 - 110	P	10/21/2025	17:37	LB137613
	Zinc	2430	2500	97	90 - 110	P	10/21/2025	17:37	LB137613
CCV06	Aluminum	9220	10000	92	90 - 110	P	10/21/2025	18:27	LB137613
	Antimony	4900	5000	98	90 - 110	P	10/21/2025	18:27	LB137613
	Arsenic	4750	5000	95	90 - 110	P	10/21/2025	18:27	LB137613
	Barium	9370	10000	94	90 - 110	P	10/21/2025	18:27	LB137613
	Beryllium	226	250	90	90 - 110	P	10/21/2025	18:27	LB137613
	Cadmium	2270	2500	91	90 - 110	P	10/21/2025	18:27	LB137613
	Calcium	23000	25000	92	90 - 110	P	10/21/2025	18:27	LB137613
	Chromium	905	1000	90	90 - 110	P	10/21/2025	18:27	LB137613
	Cobalt	2310	2500	92	90 - 110	P	10/21/2025	18:27	LB137613
	Copper	1180	1250	95	90 - 110	P	10/21/2025	18:27	LB137613
	Iron	4730	5000	95	90 - 110	P	10/21/2025	18:27	LB137613
	Lead	4610	5000	92	90 - 110	P	10/21/2025	18:27	LB137613
	Magnesium	22800	25000	91	90 - 110	P	10/21/2025	18:27	LB137613
	Manganese	2330	2500	93	90 - 110	P	10/21/2025	18:27	LB137613
	Nickel	2300	2500	92	90 - 110	P	10/21/2025	18:27	LB137613
	Potassium	24100	25000	96	90 - 110	P	10/21/2025	18:27	LB137613
	Selenium	4870	5000	97	90 - 110	P	10/21/2025	18:27	LB137613
	Silver	1170	1250	94	90 - 110	P	10/21/2025	18:27	LB137613
	Sodium	24400	25000	98	90 - 110	P	10/21/2025	18:27	LB137613
	Thallium	4850	5000	97	90 - 110	P	10/21/2025	18:27	LB137613
	Vanadium	2320	2500	93	90 - 110	P	10/21/2025	18:27	LB137613
	Zinc	2320	2500	93	90 - 110	P	10/21/2025	18:27	LB137613
CCV07	Aluminum	9650	10000	96	90 - 110	P	10/21/2025	19:18	LB137613
	Antimony	4900	5000	98	90 - 110	P	10/21/2025	19:18	LB137613
	Arsenic	4770	5000	95	90 - 110	P	10/21/2025	19:18	LB137613
	Barium	9640	10000	96	90 - 110	P	10/21/2025	19:18	LB137613

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM

Contract: AECO02

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

SDG No.: Q3376

Lab Code: ACE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV07	Beryllium	236	250	94	90 - 110	P	10/21/2025	19:18	LB137613
	Cadmium	2320	2500	93	90 - 110	P	10/21/2025	19:18	LB137613
	Calcium	24100	25000	96	90 - 110	P	10/21/2025	19:18	LB137613
	Chromium	945	1000	94	90 - 110	P	10/21/2025	19:18	LB137613
	Cobalt	2350	2500	94	90 - 110	P	10/21/2025	19:18	LB137613
	Copper	1200	1250	96	90 - 110	P	10/21/2025	19:18	LB137613
	Iron	4820	5000	96	90 - 110	P	10/21/2025	19:18	LB137613
	Lead	4680	5000	94	90 - 110	P	10/21/2025	19:18	LB137613
	Magnesium	23800	25000	95	90 - 110	P	10/21/2025	19:18	LB137613
	Manganese	2410	2500	96	90 - 110	P	10/21/2025	19:18	LB137613
	Nickel	2350	2500	94	90 - 110	P	10/21/2025	19:18	LB137613
	Potassium	23500	25000	94	90 - 110	P	10/21/2025	19:18	LB137613
	Selenium	4850	5000	97	90 - 110	P	10/21/2025	19:18	LB137613
	Silver	1190	1250	95	90 - 110	P	10/21/2025	19:18	LB137613
	Sodium	22700	25000	91	90 - 110	P	10/21/2025	19:18	LB137613
	Thallium	4820	5000	96	90 - 110	P	10/21/2025	19:18	LB137613
	Vanadium	2430	2500	97	90 - 110	P	10/21/2025	19:18	LB137613
	Zinc	2370	2500	95	90 - 110	P	10/21/2025	19:18	LB137613
CCV08	Aluminum	9520	10000	95	90 - 110	P	10/21/2025	20:03	LB137613
	Antimony	5000	5000	100	90 - 110	P	10/21/2025	20:03	LB137613
	Arsenic	4850	5000	97	90 - 110	P	10/21/2025	20:03	LB137613
	Barium	9610	10000	96	90 - 110	P	10/21/2025	20:03	LB137613
	Beryllium	234	250	94	90 - 110	P	10/21/2025	20:03	LB137613
	Cadmium	2330	2500	93	90 - 110	P	10/21/2025	20:03	LB137613
	Calcium	23700	25000	95	90 - 110	P	10/21/2025	20:03	LB137613
	Chromium	915	1000	92	90 - 110	P	10/21/2025	20:03	LB137613
	Cobalt	2360	2500	94	90 - 110	P	10/21/2025	20:03	LB137613
	Copper	1210	1250	97	90 - 110	P	10/21/2025	20:03	LB137613
	Iron	4830	5000	97	90 - 110	P	10/21/2025	20:03	LB137613
	Lead	4730	5000	94	90 - 110	P	10/21/2025	20:03	LB137613
	Magnesium	23600	25000	94	90 - 110	P	10/21/2025	20:03	LB137613
	Manganese	2410	2500	96	90 - 110	P	10/21/2025	20:03	LB137613
	Nickel	2350	2500	94	90 - 110	P	10/21/2025	20:03	LB137613
	Potassium	23100	25000	93	90 - 110	P	10/21/2025	20:03	LB137613

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client:	<u>AECOM</u>	SDG No.:	<u>Q3376</u>
Contract:	<u>AECO02</u>	Lab Code:	<u>ACE</u>
Initial Calibration Source:	<u>EPA</u>		
Continuing Calibration Source:	<u>Inorganic Ventures</u>		

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV08	Selenium	4970	5000	100	90 - 110	P	10/21/2025	20:03	LB137613
	Silver	1190	1250	95	90 - 110	P	10/21/2025	20:03	LB137613
	Sodium	23300	25000	93	90 - 110	P	10/21/2025	20:03	LB137613
	Thallium	5050	5000	101	90 - 110	P	10/21/2025	20:03	LB137613
	Vanadium	2400	2500	96	90 - 110	P	10/21/2025	20:03	LB137613
	Zinc	2340	2500	94	90 - 110	P	10/21/2025	20:03	LB137613

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **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
CRA	Mercury	0.22	0.2	108	70 - 130	CV	10/20/2025	12:10	LB137583
CRI01	Aluminum	110	100	110	65 - 135	P	10/21/2025	12:54	LB137613
	Antimony	49.9	50.0	100	65 - 135	P	10/21/2025	12:54	LB137613
	Arsenic	22.2	20.0	111	65 - 135	P	10/21/2025	12:54	LB137613
	Barium	98.1	100	98	65 - 135	P	10/21/2025	12:54	LB137613
	Beryllium	6.23	6.0	104	65 - 135	P	10/21/2025	12:54	LB137613
	Cadmium	5.59	6.0	93	65 - 135	P	10/21/2025	12:54	LB137613
	Calcium	2030	2000	101	65 - 135	P	10/21/2025	12:54	LB137613
	Chromium	9.94	10.0	99	65 - 135	P	10/21/2025	12:54	LB137613
	Cobalt	28.8	30.0	96	65 - 135	P	10/21/2025	12:54	LB137613
	Copper	21.6	20.0	108	65 - 135	P	10/21/2025	12:54	LB137613
	Iron	107	100	107	65 - 135	P	10/21/2025	12:54	LB137613
	Lead	11.9	12.0	99	65 - 135	P	10/21/2025	12:54	LB137613
	Magnesium	2090	2000	105	65 - 135	P	10/21/2025	12:54	LB137613
	Manganese	20.9	20.0	104	65 - 135	P	10/21/2025	12:54	LB137613
	Nickel	38.6	40.0	96	65 - 135	P	10/21/2025	12:54	LB137613
	Potassium	1860	2000	93	65 - 135	P	10/21/2025	12:54	LB137613
	Selenium	24.3	20.0	121	65 - 135	P	10/21/2025	12:54	LB137613
	Silver	9.95	10.0	100	65 - 135	P	10/21/2025	12:54	LB137613
	Sodium	1870	2000	93	65 - 135	P	10/21/2025	12:54	LB137613
	Thallium	42.8	40.0	107	65 - 135	P	10/21/2025	12:54	LB137613
	Vanadium	35.6	40.0	89	65 - 135	P	10/21/2025	12:54	LB137613
	Zinc	41.9	40.0	105	65 - 135	P	10/21/2025	12:54	LB137613



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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB78	Mercury	0.076	+/-0.2	U	0.20	CV	10/20/2025	12:03	LB137583

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB54	Mercury	0.076	+/-0.2	U	0.20	CV	10/20/2025	12:08	LB137583
CCB55	Mercury	0.076	+/-0.2	U	0.20	CV	10/20/2025	12:43	LB137583
CCB56	Mercury	0.076	+/-0.2	U	0.20	CV	10/20/2025	13:00	LB137583

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	11.3	+/-50	U	100	P	10/21/2025	12:50	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	12:50	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	12:50	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	12:50	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	12:50	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	12:50	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	12:50	LB137613
	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	12:50	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	12:50	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	12:50	LB137613
	Iron	23.4	+/-50	U	100	P	10/21/2025	12:50	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	12:50	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	12:50	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	12:50	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	12:50	LB137613
	Potassium	918	+/-1000	U	2000	P	10/21/2025	12:50	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	12:50	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	12:50	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	12:50	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	12:50	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	12:50	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	12:50	LB137613

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM SDG No.: Q3376
Contract: AECO02 Lab Code: ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	11.3	+/-50	U	100	P	10/21/2025	13:54	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	13:54	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	13:54	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	13:54	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	13:54	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	13:54	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	13:54	LB137613
	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	13:54	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	13:54	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	13:54	LB137613
	Iron	23.4	+/-50	U	100	P	10/21/2025	13:54	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	13:54	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	13:54	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	13:54	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	13:54	LB137613
	Potassium	918	+/-1000	U	2000	P	10/21/2025	13:54	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	13:54	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	13:54	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	13:54	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	13:54	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	13:54	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	13:54	LB137613
CCB02	Aluminum	11.3	+/-50	U	100	P	10/21/2025	15:07	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	15:07	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	15:07	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	15:07	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	15:07	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	15:07	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	15:07	LB137613
	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	15:07	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	15:07	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	15:07	LB137613
	Iron	36.0	+/-50	J	100	P	10/21/2025	15:07	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	15:07	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	15:07	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	15:07	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	15:07	LB137613
	Potassium	918	+/-1000	U	2000	P	10/21/2025	15:07	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	15:07	LB137613

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	1.62	+/-5	U	10.0	P	10/21/2025	15:07	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	15:07	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	15:07	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	15:07	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	15:07	LB137613
CCB03	Aluminum	41.4	+/-50	J	100	P	10/21/2025	16:00	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	16:00	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	16:00	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	16:00	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	16:00	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	16:00	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	16:00	LB137613
	Chromium	2.83	+/-5	J	10.0	P	10/21/2025	16:00	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	16:00	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	16:00	LB137613
	Iron	43.3	+/-50	J	100	P	10/21/2025	16:00	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	16:00	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	16:00	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	16:00	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	16:00	LB137613
	Potassium	918	+/-1000	U	2000	P	10/21/2025	16:00	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	16:00	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	16:00	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	16:00	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	16:00	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	16:00	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	16:00	LB137613
CCB04	Aluminum	11.3	+/-50	U	100	P	10/21/2025	16:52	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	16:52	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	16:52	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	16:52	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	16:52	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	16:52	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	16:52	LB137613
	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	16:52	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	16:52	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	16:52	LB137613
	Iron	23.4	+/-50	U	100	P	10/21/2025	16:52	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	16:52	LB137613

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:	AECOM	SDG No.:	Q3376
Contract:	AECO02	Lab Code:	ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	244	+/-1000	U	2000	P	10/21/2025	16:52	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	16:52	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	16:52	LB137613
	Potassium	918	+/-1000	U	2000	P	10/21/2025	16:52	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	16:52	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	16:52	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	16:52	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	16:52	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	16:52	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	16:52	LB137613
CCB05	Aluminum	16.1	+/-50	J	100	P	10/21/2025	17:41	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	17:41	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	17:41	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	17:41	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	17:41	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	17:41	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	17:41	LB137613
	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	17:41	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	17:41	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	17:41	LB137613
	Iron	23.4	+/-50	U	100	P	10/21/2025	17:41	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	17:41	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	17:41	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	17:41	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	17:41	LB137613
	Potassium	918	+/-1000	U	2000	P	10/21/2025	17:41	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	17:41	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	17:41	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	17:41	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	17:41	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	17:41	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	17:41	LB137613
CCB06	Aluminum	11.4	+/-50	J	100	P	10/21/2025	18:31	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	18:31	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	18:31	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	18:31	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	18:31	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	18:31	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	18:31	LB137613

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	18:31	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	18:31	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	18:31	LB137613
	Iron	23.4	+/-50	U	100	P	10/21/2025	18:31	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	18:31	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	18:31	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	18:31	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	18:31	LB137613
	Potassium	956	+/-1000	J	2000	P	10/21/2025	18:31	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	18:31	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	18:31	LB137613
	Sodium	1000	+/-1000	J	2000	P	10/21/2025	18:31	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	18:31	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	18:31	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	18:31	LB137613
CCB07	Aluminum	11.3	+/-50	U	100	P	10/21/2025	19:22	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	19:22	LB137613
	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	19:22	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	19:22	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	19:22	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	19:22	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	19:22	LB137613
	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	19:22	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	19:22	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	19:22	LB137613
	Iron	23.4	+/-50	U	100	P	10/21/2025	19:22	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	19:22	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	19:22	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	19:22	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	19:22	LB137613
CCB08	Potassium	918	+/-1000	U	2000	P	10/21/2025	19:22	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	19:22	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	19:22	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	19:22	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	19:22	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	19:22	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	19:22	LB137613
	Aluminum	11.3	+/-50	U	100	P	10/21/2025	20:07	LB137613
	Antimony	6.76	+/-25	U	50.0	P	10/21/2025	20:07	LB137613

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Arsenic	5.12	+/-10	U	20.0	P	10/21/2025	20:07	LB137613
	Barium	14.6	+/-50	U	100	P	10/21/2025	20:07	LB137613
	Beryllium	0.56	+/-3	U	6.00	P	10/21/2025	20:07	LB137613
	Cadmium	0.50	+/-3	U	6.00	P	10/21/2025	20:07	LB137613
	Calcium	234	+/-1000	U	2000	P	10/21/2025	20:07	LB137613
	Chromium	2.12	+/-5	U	10.0	P	10/21/2025	20:07	LB137613
	Cobalt	2.26	+/-15	U	30.0	P	10/21/2025	20:07	LB137613
	Copper	4.60	+/-10	U	20.0	P	10/21/2025	20:07	LB137613
	Iron	23.4	+/-50	U	100	P	10/21/2025	20:07	LB137613
	Lead	2.30	+/-6	U	12.0	P	10/21/2025	20:07	LB137613
	Magnesium	244	+/-1000	U	2000	P	10/21/2025	20:07	LB137613
	Manganese	5.94	+/-10	U	20.0	P	10/21/2025	20:07	LB137613
	Nickel	3.06	+/-20	U	40.0	P	10/21/2025	20:07	LB137613
	Potassium	918	+/-1000	U	2000	P	10/21/2025	20:07	LB137613
	Selenium	9.64	+/-10	U	20.0	P	10/21/2025	20:07	LB137613
	Silver	1.62	+/-5	U	10.0	P	10/21/2025	20:07	LB137613
	Sodium	868	+/-1000	U	2000	P	10/21/2025	20:07	LB137613
	Thallium	4.38	+/-20	U	40.0	P	10/21/2025	20:07	LB137613
	Vanadium	6.26	+/-20	U	40.0	P	10/21/2025	20:07	LB137613
	Zinc	16.7	+/-20	U	40.0	P	10/21/2025	20:07	LB137613

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: AECOM

SDG No.: Q3376

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB170157BL		WATER		Batch Number:	PB170157		Prep Date:	10/20/2025	
	Mercury	0.076	<0.2	U	0.20	CV	10/20/2025	12:20	LB137583

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: AECOM

SDG No.: Q3376

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB170192BL	WATER			Batch Number:	PB170192		Prep Date:	10/21/2025	
	Aluminum	5.67	<25	U	50.0	P	10/21/2025	17:28	LB137613
	Antimony	3.38	<12.5	U	25.0	P	10/21/2025	17:28	LB137613
	Arsenic	2.56	<5	U	10.0	P	10/21/2025	17:28	LB137613
	Barium	7.28	<25	U	50.0	P	10/21/2025	17:28	LB137613
	Beryllium	0.28	<1.5	U	3.00	P	10/21/2025	17:28	LB137613
	Cadmium	0.25	<1.5	U	3.00	P	10/21/2025	17:28	LB137613
	Calcium	117	<500	U	1000	P	10/21/2025	17:28	LB137613
	Chromium	1.06	<2.5	U	5.00	P	10/21/2025	17:28	LB137613
	Cobalt	1.13	<7.5	U	15.0	P	10/21/2025	17:28	LB137613
	Copper	2.30	<5	U	10.0	P	10/21/2025	17:28	LB137613
	Iron	11.7	<25	U	50.0	P	10/21/2025	17:28	LB137613
	Lead	1.15	<3	U	6.00	P	10/21/2025	17:28	LB137613
	Magnesium	122	<500	U	1000	P	10/21/2025	17:28	LB137613
	Manganese	2.97	<5	U	10.0	P	10/21/2025	17:28	LB137613
	Nickel	1.53	<10	U	20.0	P	10/21/2025	17:28	LB137613
	Potassium	459	<500	U	1000	P	10/21/2025	17:28	LB137613
	Selenium	4.82	<5	U	10.0	P	10/21/2025	17:28	LB137613
	Silver	0.81	<2.5	U	5.00	P	10/21/2025	17:28	LB137613
	Sodium	434	<500	U	1000	P	10/21/2025	17:28	LB137613
	Thallium	2.19	<10	U	20.0	P	10/21/2025	17:28	LB137613
	Vanadium	3.13	<10	U	20.0	P	10/21/2025	17:28	LB137613
	Zinc	8.33	<10	U	20.0	P	10/21/2025	17:28	LB137613

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: <u>AECOM</u>	SDG No.: <u>Q3376</u>
Contract: <u>AECO02</u>	Lab Code: <u>ACE</u>
ICS Source: <u>EPA</u>	Instrument ID: <u>P4</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
ICSA01	Aluminum	231000	255000	91	216000	294000	10/21/2025	12:59	LB137613
	Antimony	-1.70			-50	50	10/21/2025	12:59	LB137613
	Arsenic	7.43			-20	20	10/21/2025	12:59	LB137613
	Barium	0.21	6.0	4	-94	106	10/21/2025	12:59	LB137613
	Beryllium	1.68			-6	6	10/21/2025	12:59	LB137613
	Cadmium	1.42	1.0	142	-5	7	10/21/2025	12:59	LB137613
	Calcium	219000	245000	89	208000	282000	10/21/2025	12:59	LB137613
	Chromium	43.7	52.0	84	42	62	10/21/2025	12:59	LB137613
	Cobalt	1.87			-30	30	10/21/2025	12:59	LB137613
	Copper	17.8	2.0	890	-18	22	10/21/2025	12:59	LB137613
	Iron	91400	101000	90	85600	116500	10/21/2025	12:59	LB137613
	Lead	-3.56			-12	12	10/21/2025	12:59	LB137613
	Magnesium	231000	255000	91	216000	294000	10/21/2025	12:59	LB137613
	Manganese	5.70	7.0	81	-13	27	10/21/2025	12:59	LB137613
	Nickel	3.80	2.0	190	-38	42	10/21/2025	12:59	LB137613
	Potassium	251			0	0	10/21/2025	12:59	LB137613
	Selenium	6.37			-20	20	10/21/2025	12:59	LB137613
	Silver	-2.89			-10	10	10/21/2025	12:59	LB137613
	Sodium	51.5			0	0	10/21/2025	12:59	LB137613
	Thallium	15.4			-40	40	10/21/2025	12:59	LB137613
	Vanadium	3.58			-40	40	10/21/2025	12:59	LB137613
	Zinc	3.44			-40	40	10/21/2025	12:59	LB137613
ICSAB01	Aluminum	242000	247000	98	209000	285000	10/21/2025	13:03	LB137613
	Antimony	578	618	94	525	711	10/21/2025	13:03	LB137613
	Arsenic	103	104	99	88.4	120	10/21/2025	13:03	LB137613
	Barium	471	537	88	437	637	10/21/2025	13:03	LB137613
	Beryllium	498	495	101	420	570	10/21/2025	13:03	LB137613
	Cadmium	974	972	100	826	1120	10/21/2025	13:03	LB137613
	Calcium	228000	235000	97	199000	271000	10/21/2025	13:03	LB137613
	Chromium	536	542	99	460	624	10/21/2025	13:03	LB137613
	Cobalt	490	476	103	404	548	10/21/2025	13:03	LB137613
	Copper	479	511	94	434	588	10/21/2025	13:03	LB137613
	Iron	97500	99300	98	84400	114500	10/21/2025	13:03	LB137613
	Lead	45.8	49.0	94	37	61	10/21/2025	13:03	LB137613
	Magnesium	242000	248000	98	210000	286000	10/21/2025	13:03	LB137613
	Manganese	469	507	92	430	584	10/21/2025	13:03	LB137613
	Nickel	973	954	102	810	1100	10/21/2025	13:03	LB137613
	Potassium	242			0	0	10/21/2025	13:03	LB137613
	Selenium	55.1	46.0	120	26	66	10/21/2025	13:03	LB137613
	Silver	203	201	101	170	232	10/21/2025	13:03	LB137613
	Sodium	95.7			0	0	10/21/2025	13:03	LB137613
	Thallium	110	108	102	68	148	10/21/2025	13:03	LB137613

Metals
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INTERFERENCE CHECK SAMPLE

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE
ICS Source: EPA **Instrument ID:** P4

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	Vanadium	469	491	96	417	565	10/21/2025	13:03	LB137613
	Zinc	1020	952	107	809	1095	10/21/2025	13:03	LB137613



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metals
- 5a -
MATRIX SPIKE SUMMARY

client: AECOM **level:** low **sdg no.:** Q3376
contract: AECO02 **lab code:** ACE
matrix: Water **sample id:** Q3370-01 **client id:** WATER-TREATMENT DISCHARGEMS
Percent Solids for Sample: NA **Spiked ID:** Q3370-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	1590		663		1000	93		P
Antimony	ug/L	75 - 125	396		25.0	U	400	99		P
Arsenic	ug/L	75 - 125	382		10.0	U	400	96		P
Barium	ug/L	75 - 125	115		23.9	J	100	91		P
Beryllium	ug/L	75 - 125	85.9		3.00	U	100	86		P
Cadmium	ug/L	75 - 125	87.9		3.00	U	100	88		P
Calcium	ug/L	75 - 125	26000		25100		500	182		P
Chromium	ug/L	75 - 125	202		15.2		200	93		P
Cobalt	ug/L	75 - 125	91.5		15.0	U	100	92		P
Copper	ug/L	75 - 125	157		17.7		150	93		P
Iron	ug/L	75 - 125	1660		185		1500	98		P
Lead	ug/L	75 - 125	423		6.00	U	500	85		P
Magnesium	ug/L	75 - 125	9690		8620		1000	107		P
Manganese	ug/L	75 - 125	101		10.6		100	90		P
Nickel	ug/L	75 - 125	244		16.9	J	250	91		P
Potassium	ug/L	75 - 125	16600		11700		5000	98		P
Selenium	ug/L	75 - 125	958		10.0	U	1000	96		P
Silver	ug/L	75 - 125	33.2		5.00	U	37.5	88		P
Sodium	ug/L	75 - 125	102000		101000		1500	37		P
Thallium	ug/L	75 - 125	828		20.0	U	1000	83		P
Vanadium	ug/L	75 - 125	139		20.0	U	150	93		P
Zinc	ug/L	75 - 125	777		661		100	116		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: AECOM **level:** low **sdg no.:** Q3376
contract: AECO02 **lab code:** ACE
matrix: Water **sample id:** Q3370-01 **client id:** WATER-TREATMENT DISCHARGEMSD
Percent Solids for Sample: NA **Spiked ID:** Q3370-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	1590		663		1000	92		P
Antimony	ug/L	75 - 125	399		25.0	U	400	100		P
Arsenic	ug/L	75 - 125	383		10.0	U	400	96		P
Barium	ug/L	75 - 125	117		23.9	J	100	93		P
Beryllium	ug/L	75 - 125	87.4		3.00	U	100	87		P
Cadmium	ug/L	75 - 125	88.5		3.00	U	100	88		P
Calcium	ug/L	75 - 125	25600		25100		500	103		P
Chromium	ug/L	75 - 125	200		15.2		200	93		P
Cobalt	ug/L	75 - 125	92.2		15.0	U	100	92		P
Copper	ug/L	75 - 125	158		17.7		150	93		P
Iron	ug/L	75 - 125	1680		185		1500	100		P
Lead	ug/L	75 - 125	427		6.00	U	500	85		P
Magnesium	ug/L	75 - 125	9570		8620		1000	95		P
Manganese	ug/L	75 - 125	104		10.6		100	93		P
Nickel	ug/L	75 - 125	245		16.9	J	250	91		P
Potassium	ug/L	75 - 125	16400		11700		5000	94		P
Selenium	ug/L	75 - 125	961		10.0	U	1000	96		P
Silver	ug/L	75 - 125	33.5		5.00	U	37.5	89		P
Sodium	ug/L	75 - 125	102000		101000		1500	18		P
Thallium	ug/L	75 - 125	817		20.0	U	1000	82		P
Vanadium	ug/L	75 - 125	142		20.0	U	150	95		P
Zinc	ug/L	75 - 125	761		661		100	100		P

metals
- 5a -
MATRIX SPIKE SUMMARY

client: <u>AECOM</u>	level: <u>low</u>	sdg no.: <u>Q3376</u>
contract: <u>AECO02</u>		lab code: <u>ACE</u>
matrix: <u>Water</u>	sample id: <u>Q3390-07</u>	client id: <u>4090MS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q3390-07MS</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	2.97		0.20	U	4.0	74	N	CV

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>AECOM</u>	level: <u>low</u>	sdg no.: <u>Q3376</u>
contract: <u>AECO02</u>		lab code: <u>ACE</u>
matrix: <u>Water</u>	sample id: <u>Q3390-07</u>	client id: <u>4090MSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q3390-07MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	2.74		0.20	U	4.0	68	N	CV

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: <u>AECOM</u>	SDG No.: <u>Q3376</u>
Contract: <u>AECO02</u>	Lab Code: <u>ACE</u>
Matrix: <u>Water</u>	Client ID: <u>4090A</u>
Sample ID: <u>Q3390-07</u>	Spiked ID: <u>Q3390-07A</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	3.98		0.20	U	4.00	100		CV

Metals

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DUPLICATE SAMPLE SUMMARY

Client: AECOM **Level:** LOW **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE
Matrix: Water **Sample ID:** Q3370-01 **Client ID:** WATER-TREATMENT DISCHARGEDU
Percent Solids for Sample: NA **Duplicate ID** Q3370-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	663		656		1		P
Antimony	ug/L	20	25.0	U	25.0	U			P
Arsenic	ug/L	20	10.0	U	10.0	U			P
Barium	ug/L	20	23.9	J	22.8	J	5		P
Beryllium	ug/L	20	3.00	U	3.00	U			P
Cadmium	ug/L	20	3.00	U	3.00	U			P
Calcium	ug/L	20	25100		24600		2		P
Chromium	ug/L	20	15.2		15.3		1		P
Cobalt	ug/L	20	15.0	U	15.0	U			P
Copper	ug/L	20	17.7		17.6		1		P
Iron	ug/L	20	185		183		1		P
Lead	ug/L	20	6.00	U	6.00	U			P
Magnesium	ug/L	20	8620		8490		2		P
Manganese	ug/L	20	10.6		9.99	J	6		P
Nickel	ug/L	20	16.9	J	17.3	J	2		P
Potassium	ug/L	20	11700		11500		2		P
Selenium	ug/L	20	10.0	U	10.0	U			P
Silver	ug/L	20	5.00	U	5.00	U			P
Sodium	ug/L	20	101000		97600		3		P
Thallium	ug/L	20	20.0	U	20.0	U			P
Vanadium	ug/L	20	20.0	U	20.0	U			P
Zinc	ug/L	20	661		667		1		P

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

Metals

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DUPLICATE SAMPLE SUMMARY

Client: AECOM **Level:** LOW **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE
Matrix: Water **Sample ID:** Q3370-01MS **Client ID:** WATER-TREATMENT DISCHARGEMS
Percent Solids for Sample: NA **Duplicate ID** Q3370-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	1590		1590		0		P
Antimony	ug/L	20	396		399		1		P
Arsenic	ug/L	20	382		383		0		P
Barium	ug/L	20	115		117		2		P
Beryllium	ug/L	20	85.9		87.4		2		P
Cadmium	ug/L	20	87.9		88.5		1		P
Calcium	ug/L	20	26000		25600		2		P
Chromium	ug/L	20	202		200		1		P
Cobalt	ug/L	20	91.5		92.2		1		P
Copper	ug/L	20	157		158		1		P
Iron	ug/L	20	1660		1680		1		P
Lead	ug/L	20	423		427		1		P
Magnesium	ug/L	20	9690		9570		1		P
Manganese	ug/L	20	101		104		3		P
Nickel	ug/L	20	244		245		0		P
Potassium	ug/L	20	16600		16400		1		P
Selenium	ug/L	20	958		961		0		P
Silver	ug/L	20	33.2		33.5		1		P
Sodium	ug/L	20	102000		102000		0		P
Thallium	ug/L	20	828		817		1		P
Vanadium	ug/L	20	139		142		2		P
Zinc	ug/L	20	777		761		2		P

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

Metals

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DUPLICATE SAMPLE SUMMARY

Client: <u>AECOM</u>	Level: <u>LOW</u>	SDG No.: <u>Q3376</u>
Contract: <u>AECO02</u>		Lab Code: <u>ACE</u>
Matrix: <u>Water</u>	Sample ID: <u>Q3390-07</u>	Client ID: <u>4090DUP</u>
Percent Solids for Sample: <u>NA</u>	Duplicate ID <u>Q3390-07DUP</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	0.20	U	0.20	U			CV

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

Metals

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DUPLICATE SAMPLE SUMMARY

Client: <u>AECOM</u>	Level: <u>LOW</u>	SDG No.: <u>Q3376</u>
Contract: <u>AECO02</u>		Lab Code: <u>ACE</u>
Matrix: <u>Water</u>	Sample ID: <u>Q3390-07MS</u>	Client ID: <u>4090MSD</u>
Percent Solids for Sample: <u>NA</u>	Duplicate ID <u>Q3390-07MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	2.97		2.74		8		CV

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

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB170157BS Mercury	ug/L	4.0	3.27		82	80 - 120	CV

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client:	<u>AECOM</u>	SDG No.:	<u>Q3376</u>
Contract:	<u>AECO02</u>	Lab Code:	<u>ACE</u>

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB170192BS							
Aluminum	ug/L	1000	920		92	80 - 120	P
Antimony	ug/L	400	383		96	80 - 120	P
Arsenic	ug/L	400	367		92	80 - 120	P
Barium	ug/L	100	89.5		90	80 - 120	P
Beryllium	ug/L	100	93.8		94	80 - 120	P
Cadmium	ug/L	100	86.0		86	80 - 120	P
Calcium	ug/L	500	467	J	93	80 - 120	P
Chromium	ug/L	200	186		93	80 - 120	P
Cobalt	ug/L	100	89.0		89	80 - 120	P
Copper	ug/L	150	145		97	80 - 120	P
Iron	ug/L	1500	1380		92	80 - 120	P
Lead	ug/L	500	436		87	80 - 120	P
Magnesium	ug/L	1000	919	J	92	80 - 120	P
Manganese	ug/L	100	94.2		94	80 - 120	P
Nickel	ug/L	250	224		90	80 - 120	P
Potassium	ug/L	5000	4350		87	80 - 120	P
Selenium	ug/L	1000	947		95	80 - 120	P
Silver	ug/L	37.5	33.4		89	80 - 120	P
Sodium	ug/L	1500	1400		93	80 - 120	P
Thallium	ug/L	1000	898		90	80 - 120	P
Vanadium	ug/L	150	137		91	80 - 120	P
Zinc	ug/L	100	95.3		95	80 - 120	P

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

WATER-TREATMENT DISCHARGEL

Lab Name: Alliance **Contract:** AEEO02
Lab Code: ACE **Lb No.:** lb137613 **Lab Sample ID :** Q3370-01L **SDG No.:** Q3376
Matrix (soil/water): Water **Level (low/med):** LOW
Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Differ- ence	Q	M
Aluminum	663		686		4		P
Antimony	25.0	U	125	U			P
Arsenic	10.0	U	50.0	U			P
Barium	23.9	J	250	U	100.0		P
Beryllium	3.00	U	15.0	U			P
Cadmium	3.00	U	15.0	U			P
Calcium	25100		25700		3		P
Chromium	15.2		14.7	J	3		P
Cobalt	15.0	U	75.0	U			P
Copper	17.7		18.7	J	6		P
Iron	185		179	J	3		P
Lead	6.00	U	30.0	U			P
Magnesium	8620		8820		2		P
Manganese	10.6		50.0	U	100.0		P
Nickel	16.9	J	17.0	J	0		P
Potassium	11700		15100		29		P
Selenium	10.0	U	50.0	U			P
Silver	5.00	U	25.0	U			P
Sodium	101000		102000		1		P
Thallium	20.0	U	100	U			P
Vanadium	20.0	U	100	U			P
Zinc	661		669		1		P

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

4090L

Lab Name: Alliance **Contract:** AECO02
Lab Code: ACE **Lb No.:** lb137583 **Lab Sample ID :** Q3390-07L **SDG No.:** Q3376
Matrix (soil/water): Water **Level (low/med):** LOW
Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Mercury	0.20 U	1.00 U			CV



METAL PREPARATION & INSTRUMENT DATA

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Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Al	Ca	Fe	Mg	Ag
Aluminum	396.100	0.0000000	-0.0002060	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	-0.0000440	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	-0.0075970	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0007850	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001440	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001490	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001050	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		As	Ba	Be	Cd	Co
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0002870
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0009530
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	-0.0039600
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0003570
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0054900
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Cr	Cu	K	Mn	Mo
Aluminum	396.100	0.0000000	0.0000000	0.0000590	0.0000000	0.0396900
Antimony	206.833	0.0122000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	-0.0029000	0.0000000	0.0000000	0.0000000	0.0004900
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	-0.0000710	-0.0003400
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000070	0.0002200	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	-0.0007860
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0006510	0.0020500
Iron	240.488	0.0000000	0.0000000	0.0000730	0.0000000	-0.0015250
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0007460	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000120
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0017400	-0.0100400
Vanadium	292.402	-0.0025100	0.0000000	0.0000000	0.0000000	-0.0072000
Zinc	213.800	0.0000000	0.0009010	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Na	Ni	Pb	Sb	Se
Aluminum	396.100	0.0000000	0.0000000	0.0012800	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0047000	0.0036100	0.0000000	0.0000000
Iron	240.488	0.0000000	-0.0017000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0003330	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0067600	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMEN CORRECTION FACTORS

Client: AECOM

SDG No.: Q3376

Contract: AECO02

Lab Code: ACE

Instrument ID: _____

Date: _____

Interement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interement Correction Factors For:				
		Sn	Ti	Tl	V	Zn
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	-0.0035600	-0.0007970	0.0000000	-0.0018900	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000630	0.0001280	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0001110	0.0000000
Cobalt	228.616	0.0000000	0.0018800	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0003840	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	-0.0007420	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0039700	0.0000000	-0.0115600	0.0000000
Vanadium	292.402	0.0000000	0.0005320	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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Metals
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SAMPLE PREPARATION SUMMARY

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE **Method:** _____

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB170157							
PB170157BL	PB170157BL	MB	WATER	10/20/2025	30.0	30.0	
PB170157BS	PB170157BS	LCS	WATER	10/20/2025	30.0	30.0	
Q3376-07	PR132-FB01-20251016	SAM	WATER	10/20/2025	30.0	30.0	
Q3390-07DUP	4090DUP	DUP	WATER	10/20/2025	30.0	30.0	
Q3390-07MS	4090MS	MS	WATER	10/20/2025	30.0	30.0	
Q3390-07MSD	4090MSD	MSD	WATER	10/20/2025	30.0	30.0	

Metals
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SAMPLE PREPARATION SUMMARY

Client: AECOM **SDG No.:** Q3376
Contract: AECO02 **Lab Code:** ACE **Method:** _____

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB170192							
PB170192BL	PB170192BL	MB	WATER	10/21/2025	50.0	25.0	
PB170192BS	PB170192BS	LCS	WATER	10/21/2025	50.0	25.0	
Q3370-01DUP	WATER-TREATMENT DISCHARGEDUP	DUP	WATER	10/21/2025	50.0	25.0	
Q3370-01MS	WATER-TREATMENT DISCHARGEMS	MS	WATER	10/21/2025	50.0	25.0	
Q3370-01MSD	WATER-TREATMENT DISCHARGEMSD	MSD	WATER	10/21/2025	50.0	25.0	
Q3376-07	PR132-FB01-20251016	SAM	WATER	10/21/2025	50.0	25.0	

metals
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ANALYSIS RUN LOG

Client: AECOM

Contract: AECO02

Lab code: ACE

Sdg no.: Q3376

Instrument id number: _____

Method: _____

Run number: LB137583

Start date: 10/20/2025

End date: 10/20/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1141	HG
S0.2	S0.2	1	1143	HG
S2.5	S2.5	1	1145	HG
S5	S5	1	1148	HG
S7.5	S7.5	1	1150	HG
S10	S10	1	1155	HG
ICV78	ICV78	1	1201	HG
ICB78	ICB78	1	1203	HG
CCV54	CCV54	1	1206	HG
CCB54	CCB54	1	1208	HG
CRA	CRA	1	1210	HG
PB170157BL	PB170157BL	1	1220	HG
PB170157BS	PB170157BS	1	1222	HG
Q3376-07	PR132-FB01-20251016	1	1225	HG
Q3390-07DUP	4090DUP	1	1234	HG
CCV55	CCV55	1	1241	HG
CCB55	CCB55	1	1243	HG
Q3390-07MS	4090MS	1	1246	HG
Q3390-07MSD	4090MSD	1	1248	HG
Q3390-07L	4090L	5	1250	HG
Q3390-07A	4090A	1	1253	HG
CCV56	CCV56	1	1258	HG
CCB56	CCB56	1	1300	HG

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ANALYSIS RUN LOG

Client: AECOM

Contract: AECO02

Lab code: ACE

Sdg no.: Q3376

Instrument id number: _____

Method: _____

Run number: LB137613

Start date: 10/21/2025

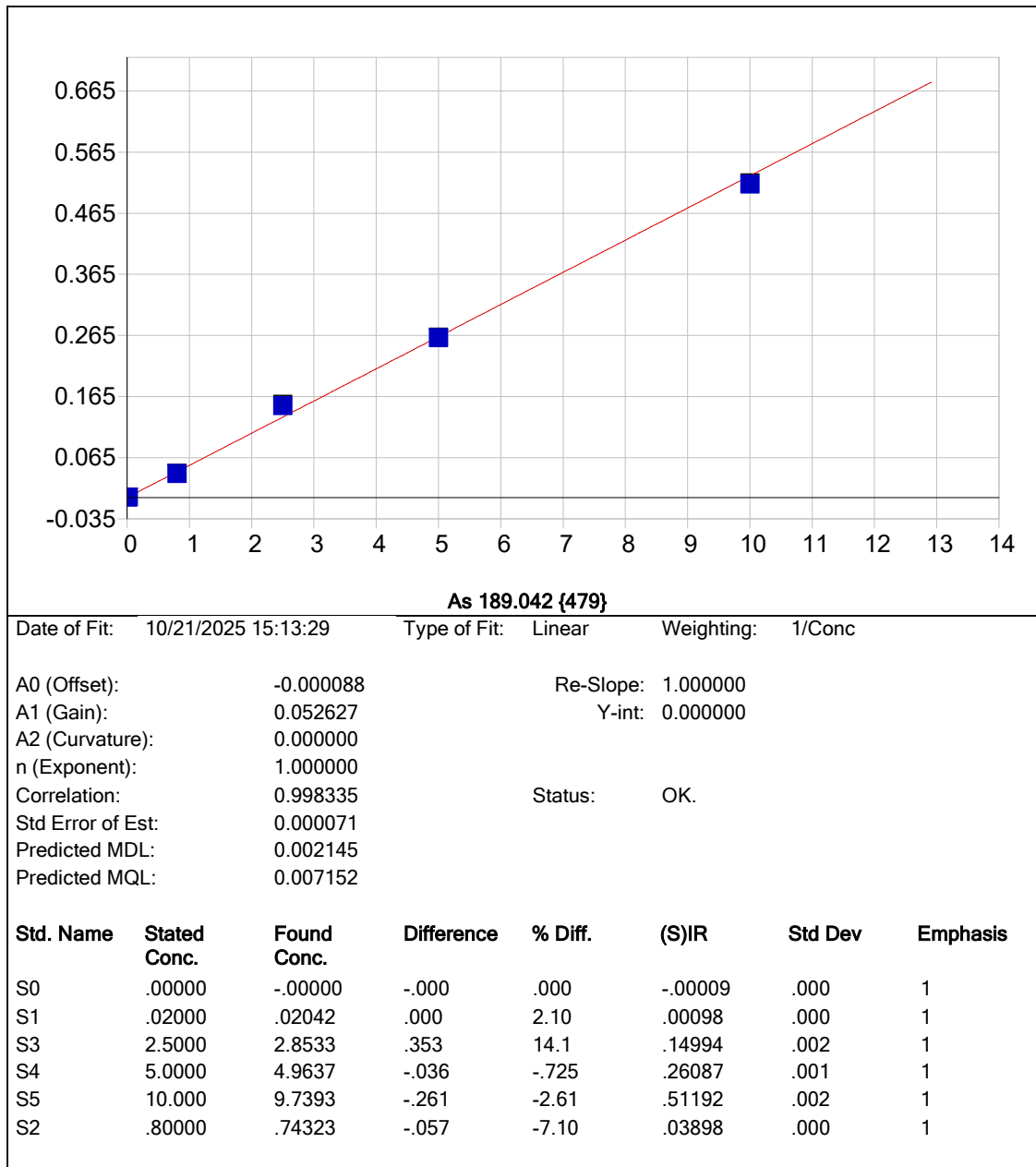
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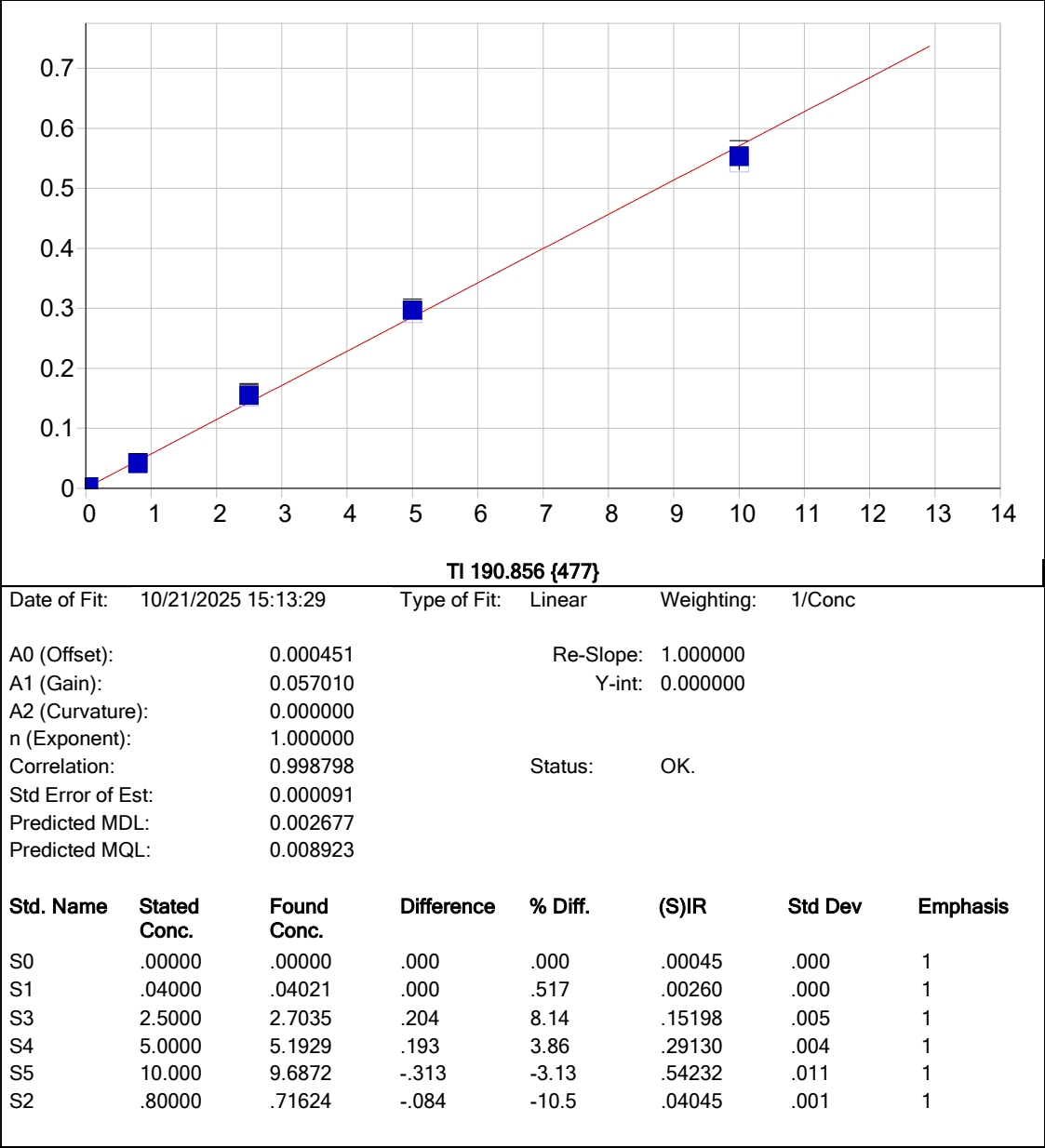
Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1203	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1208	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1212	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1216	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1221	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1225	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1240	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1244	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1250	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1254	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1259	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1303	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1345	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1354	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1503	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1507	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1556	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1600	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1648	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1652	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB170192BL	PB170192BL	1	1728	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB170192BS	PB170192BS	1	1733	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV05	CCV05	1	1737	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB05	CCB05	1	1741	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q3370-01DUP	WATER-TREATMENT DISCH#	1	1811	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q3370-01L	WATER-TREATMENT DISCH#	5	1815	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q3370-01MS	WATER-TREATMENT DISCH#	1	1819	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q3370-01MSD	WATER-TREATMENT DISCH#	1	1823	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV06	CCV06	1	1827	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB06	CCB06	1	1831	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q3376-07	PR132-FB01-20251016	1	1840	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV07	CCV07	1	1918	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB07	CCB07	1	1922	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV08	CCV08	1	2003	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB08	CCB08	1	2007	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

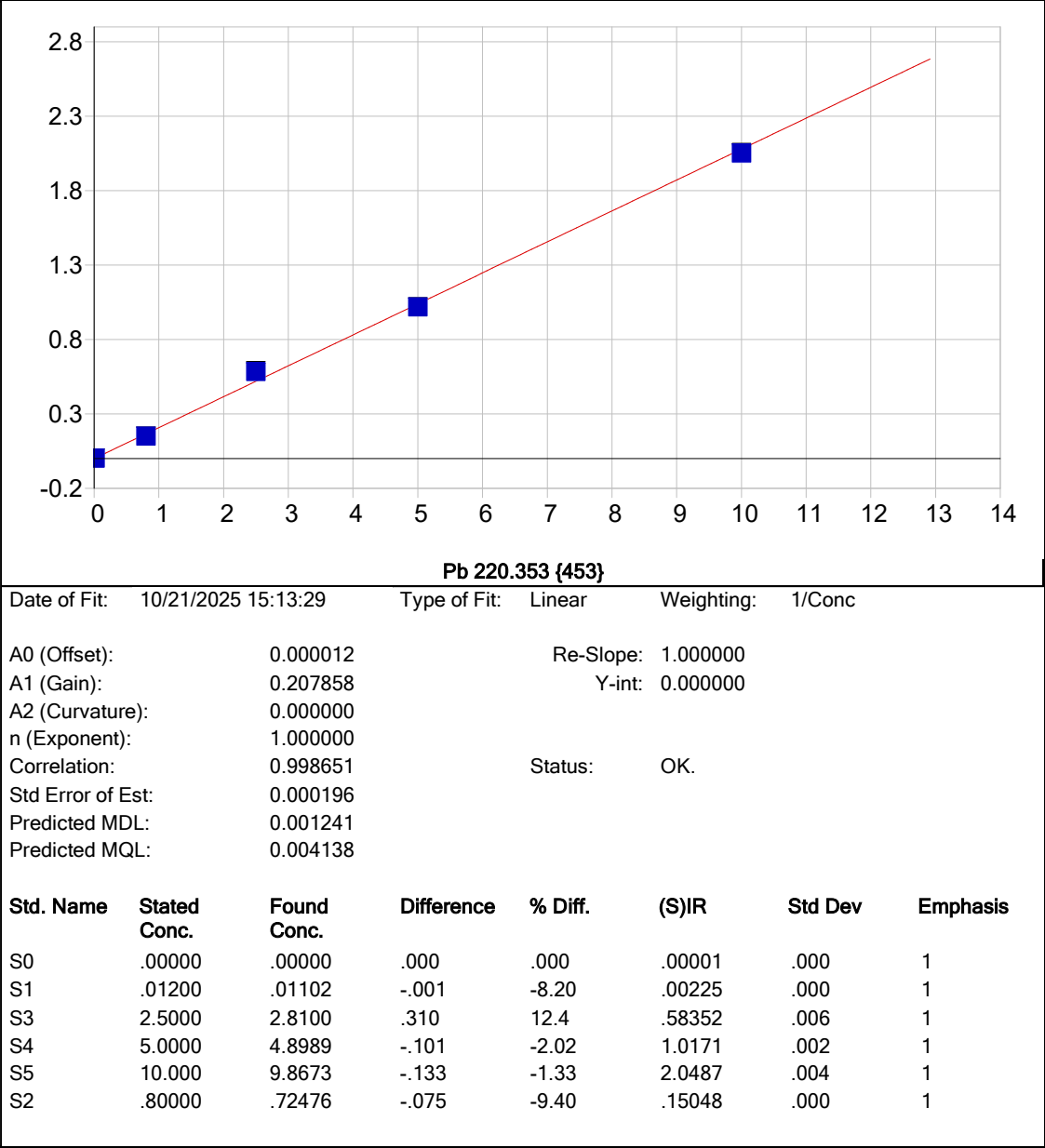


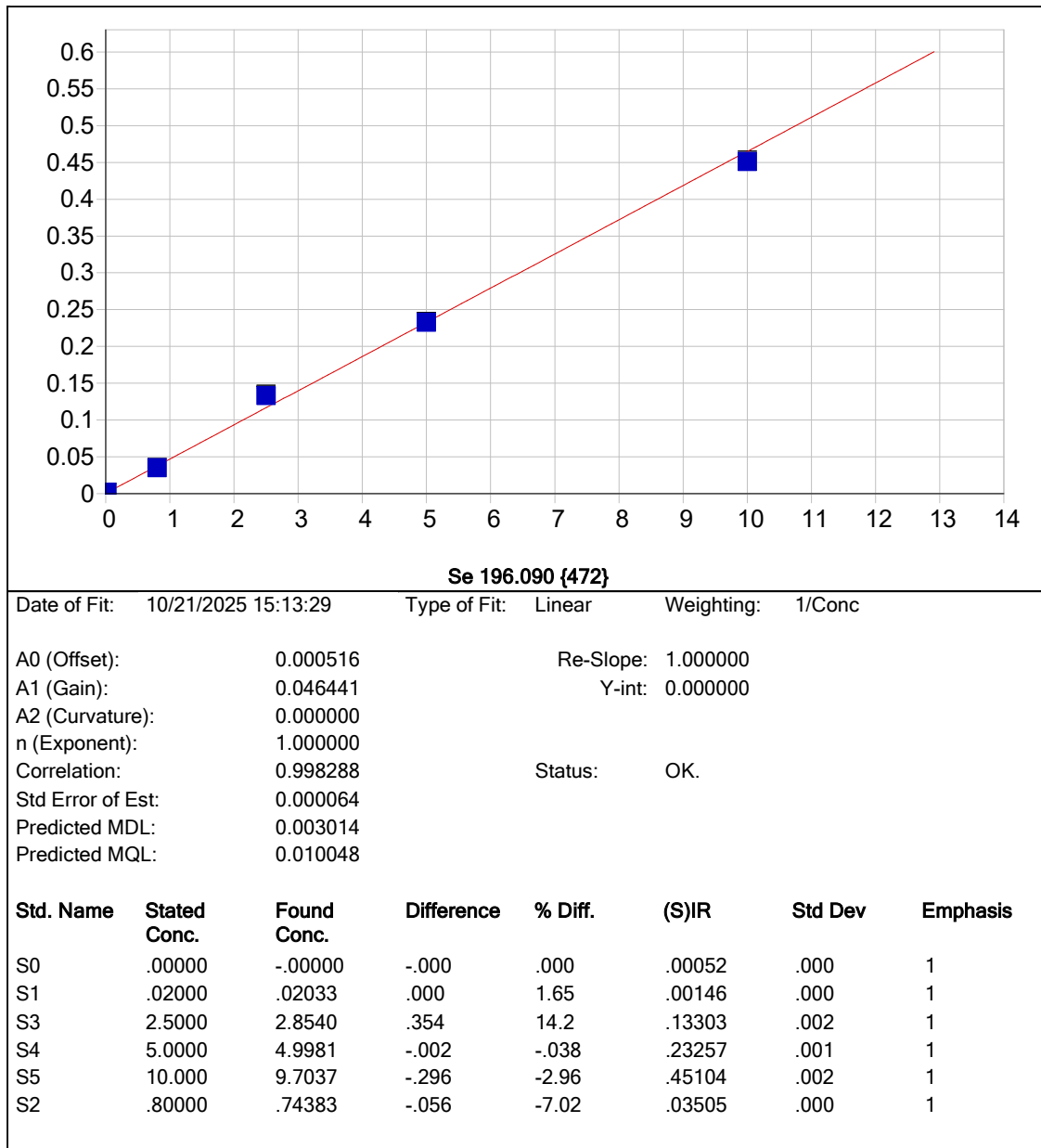
METAL RAW DATA

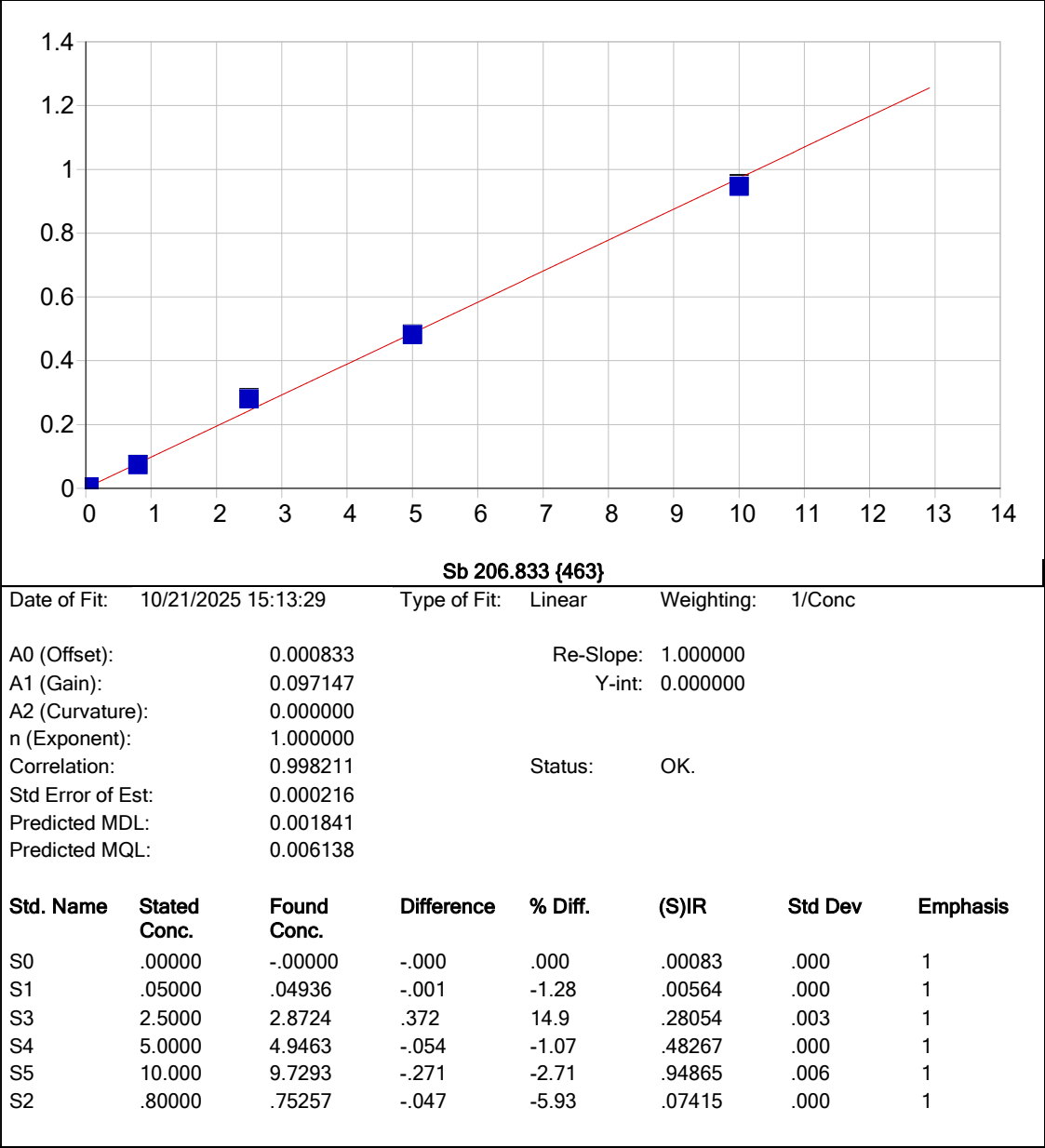
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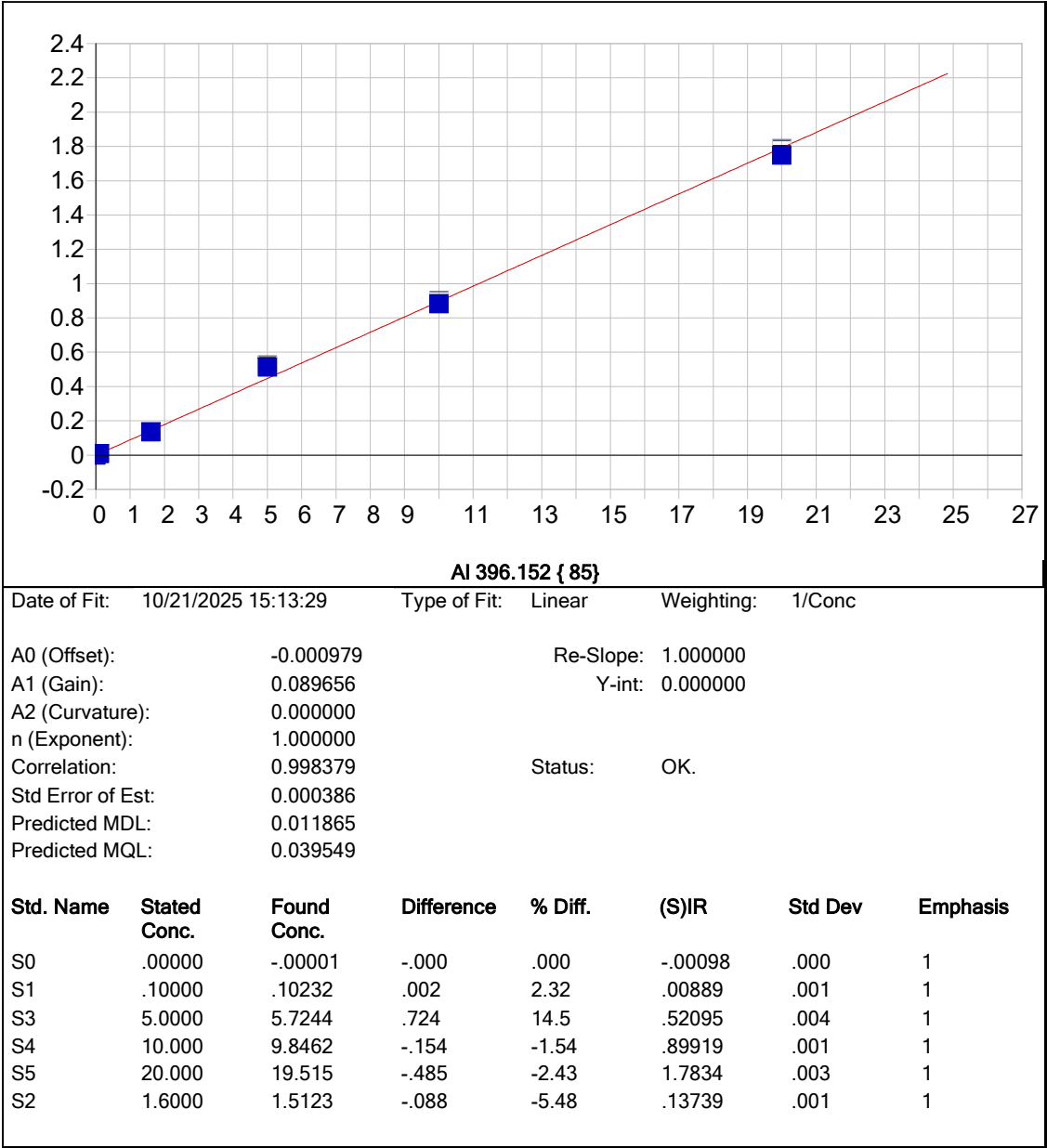


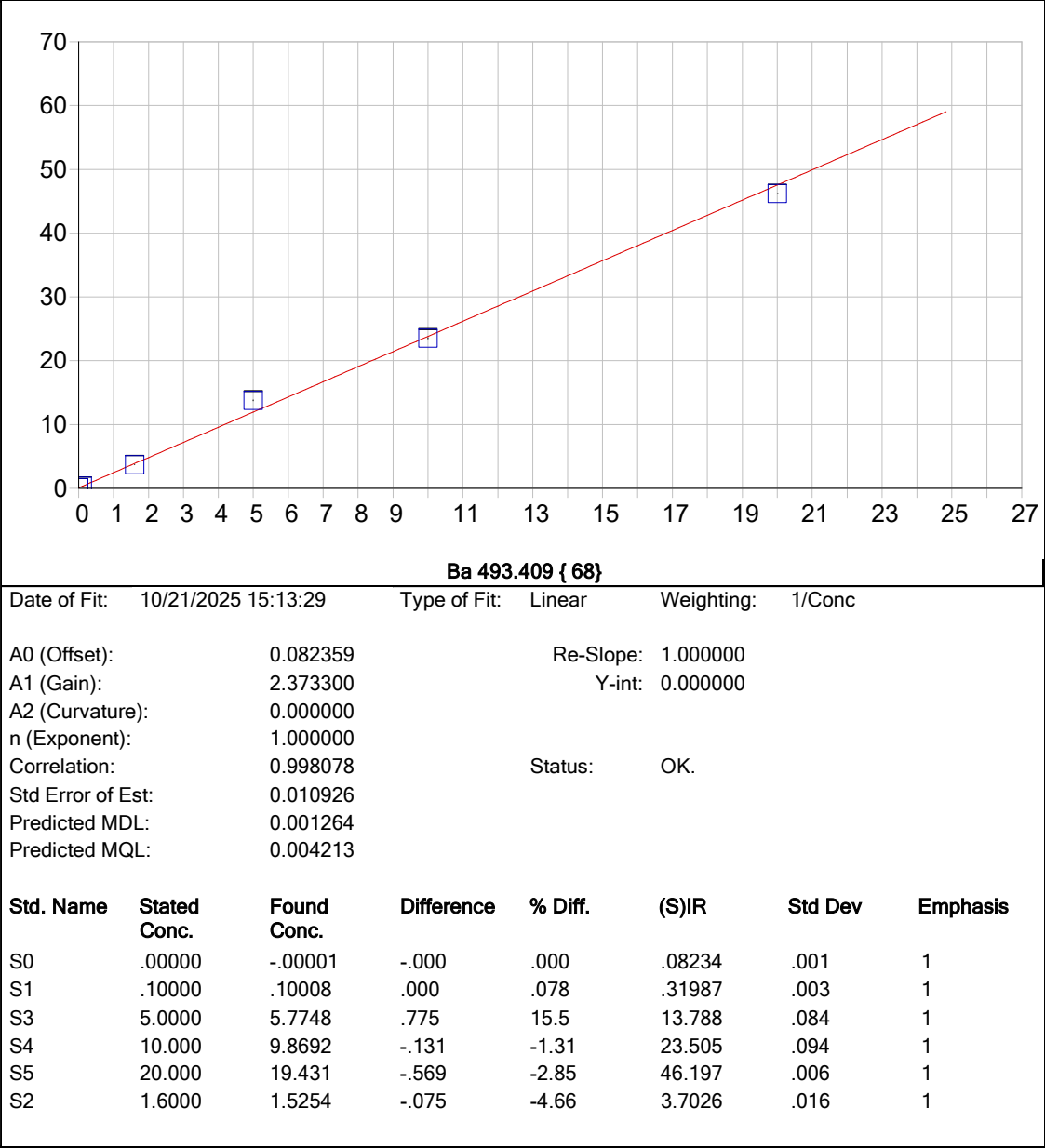


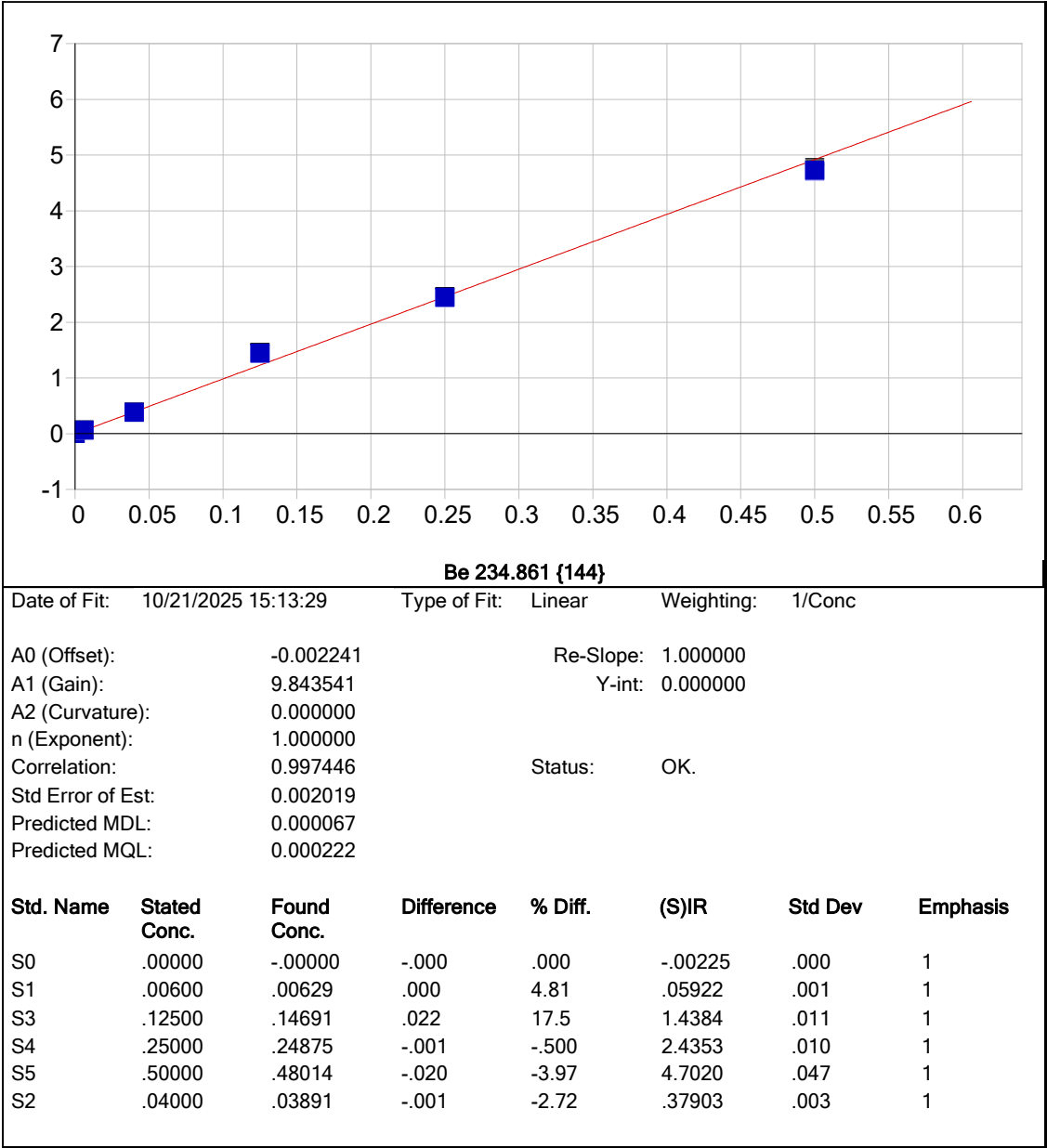


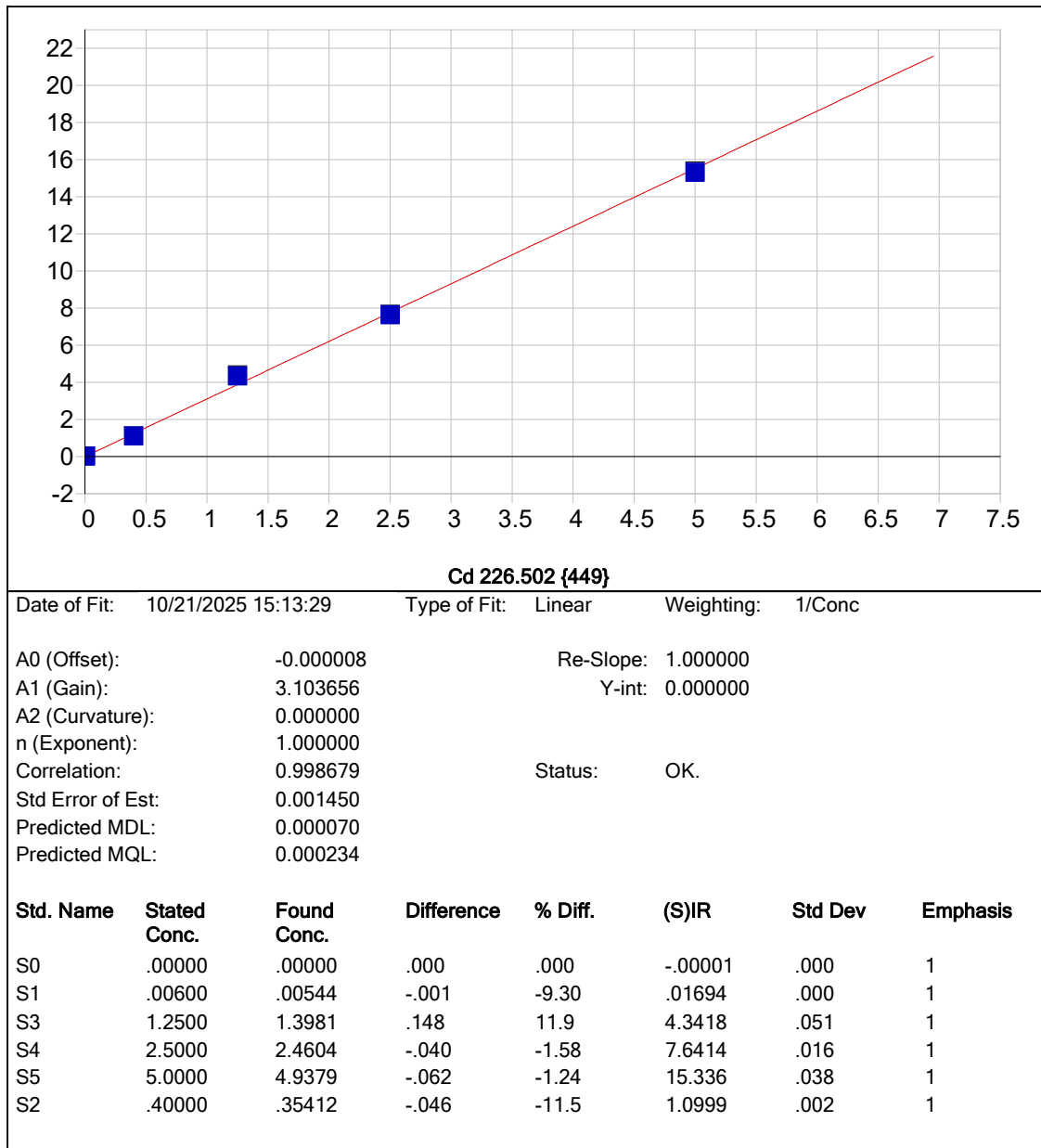


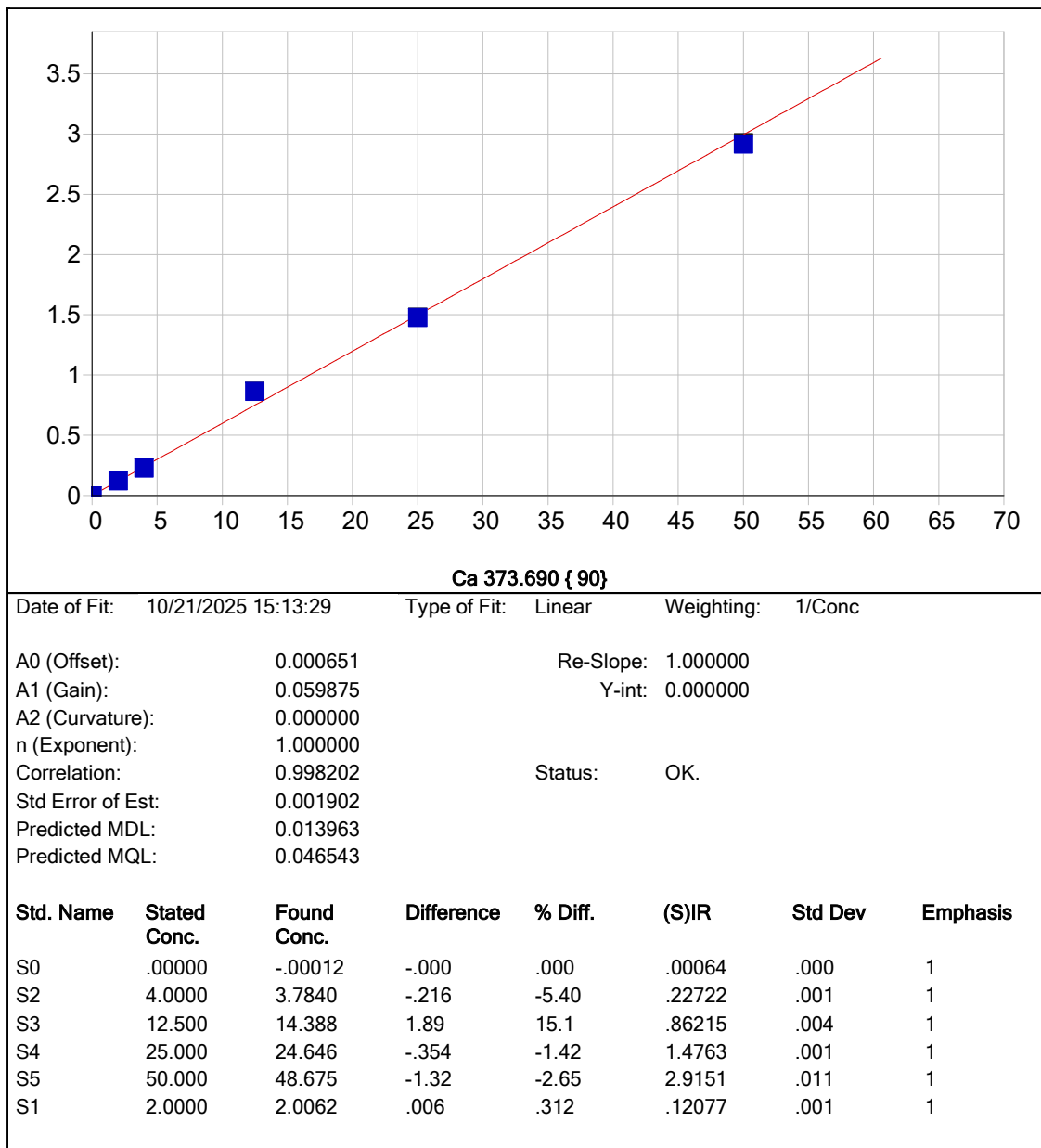


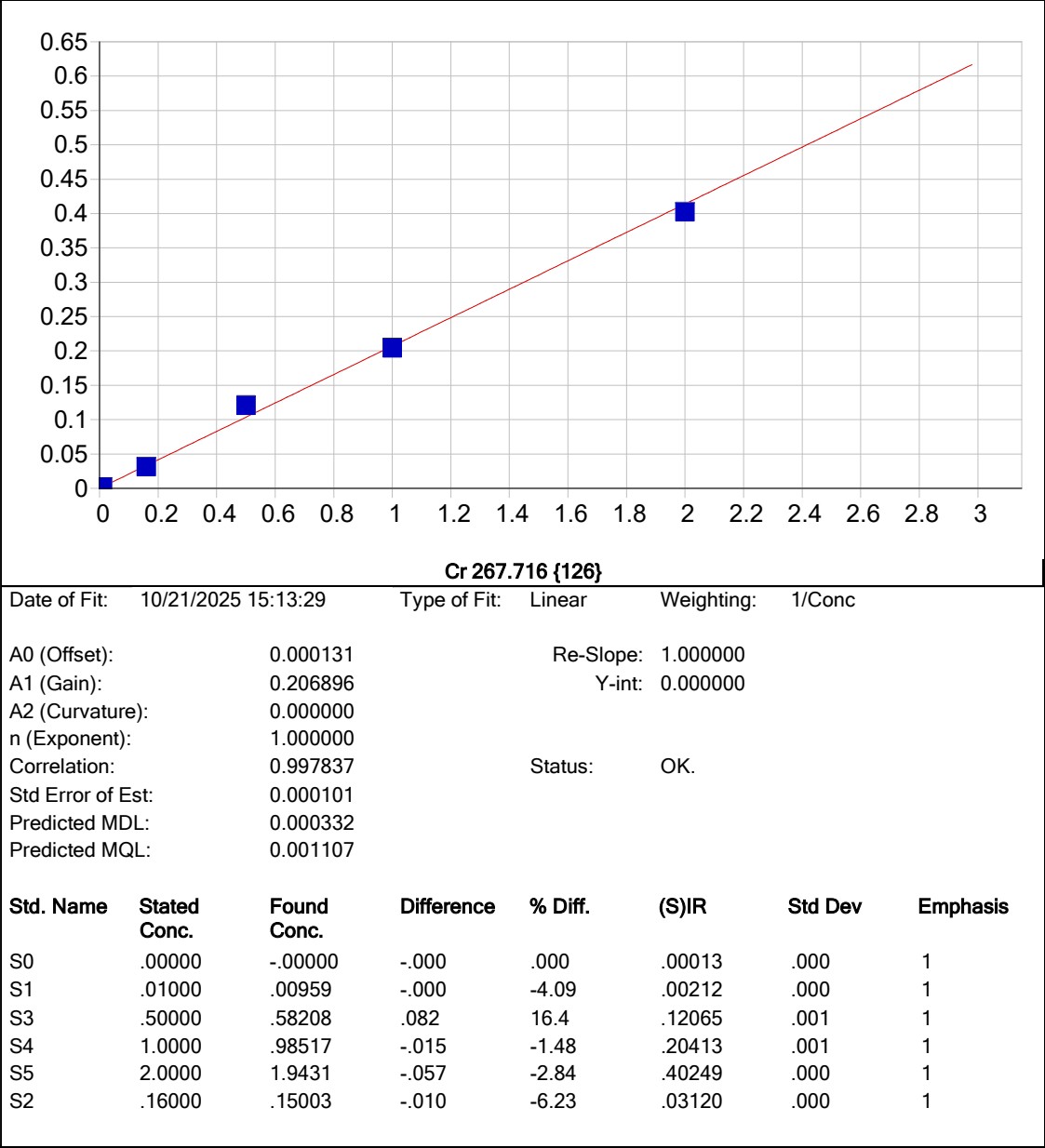


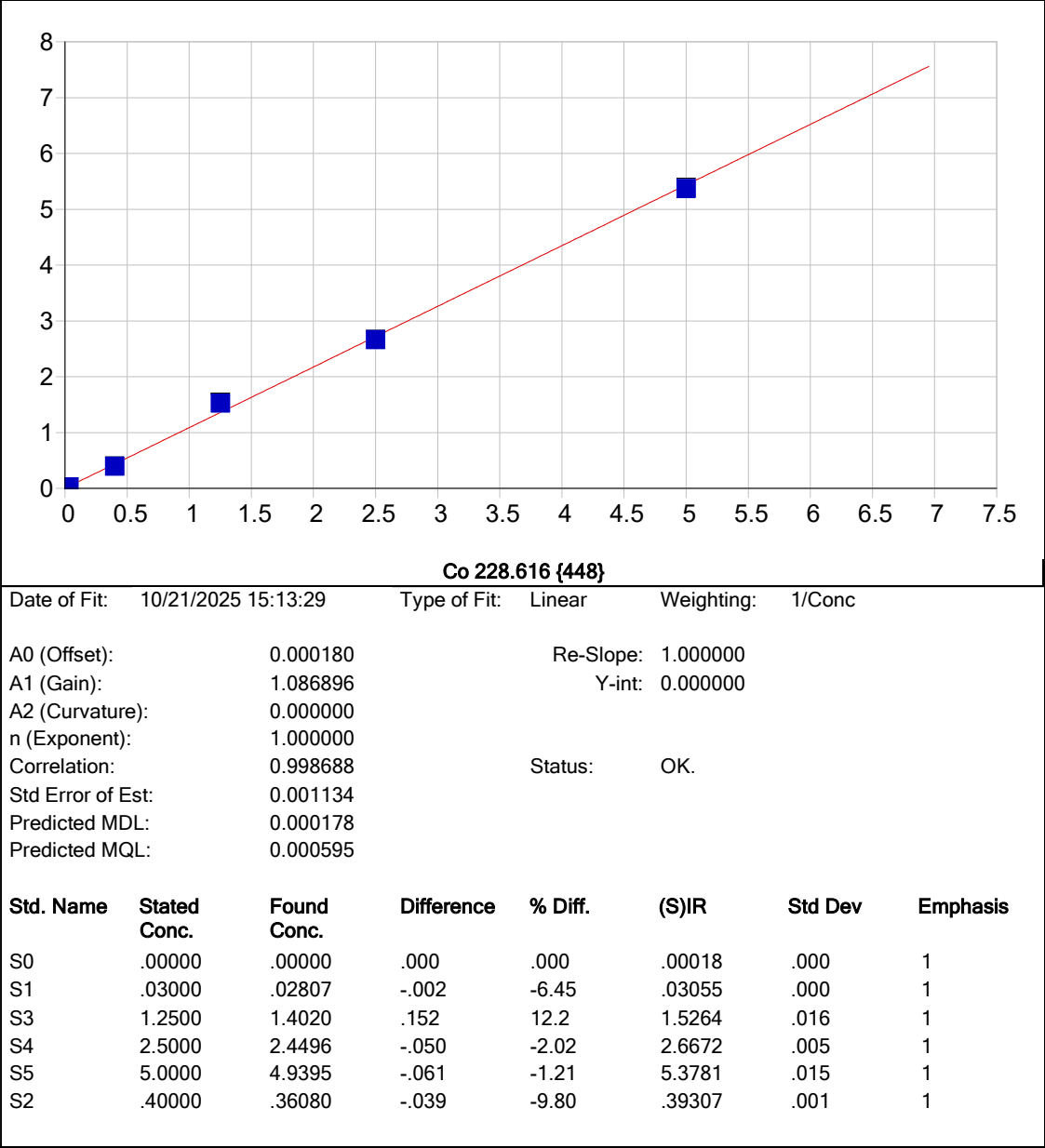


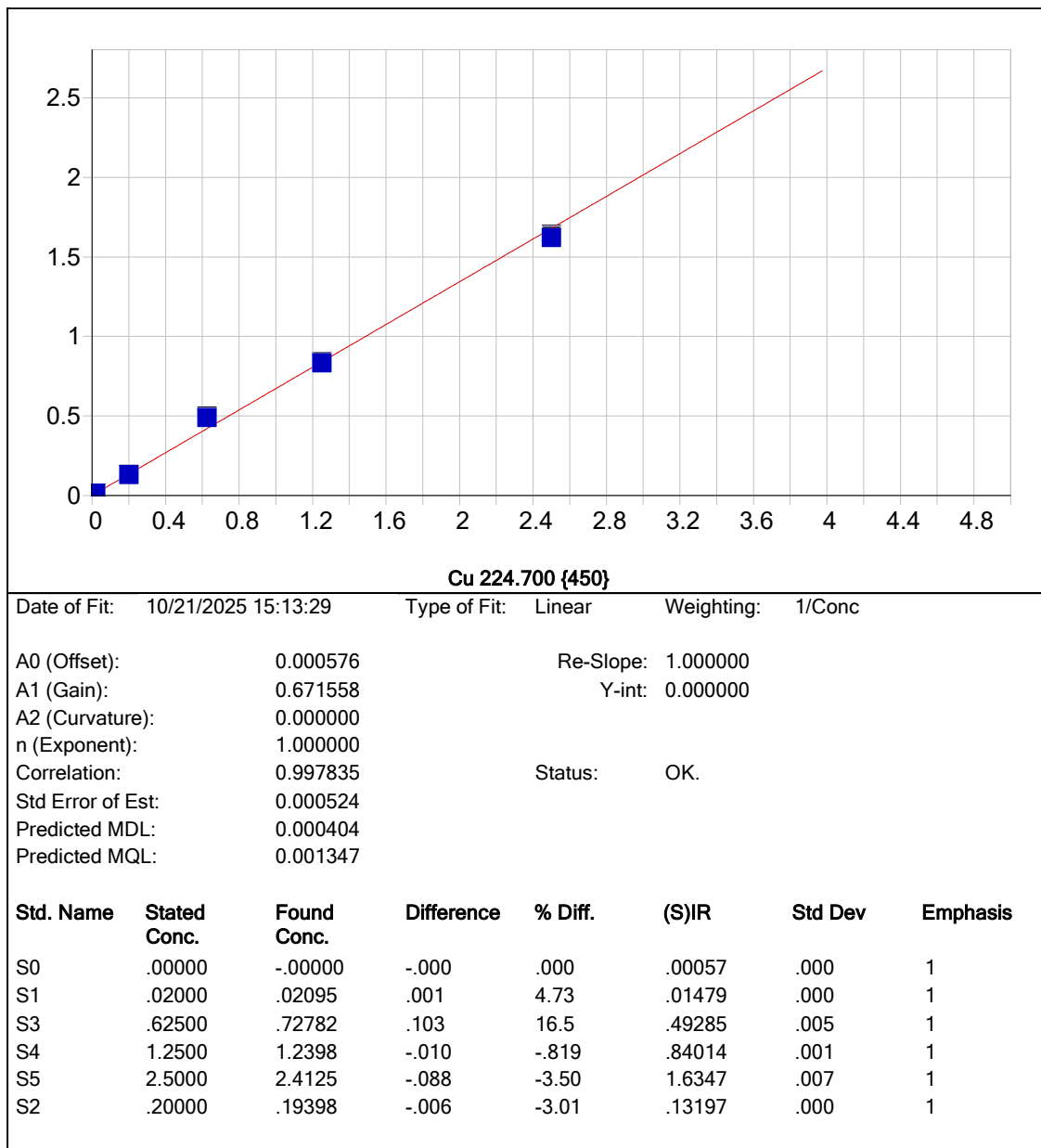


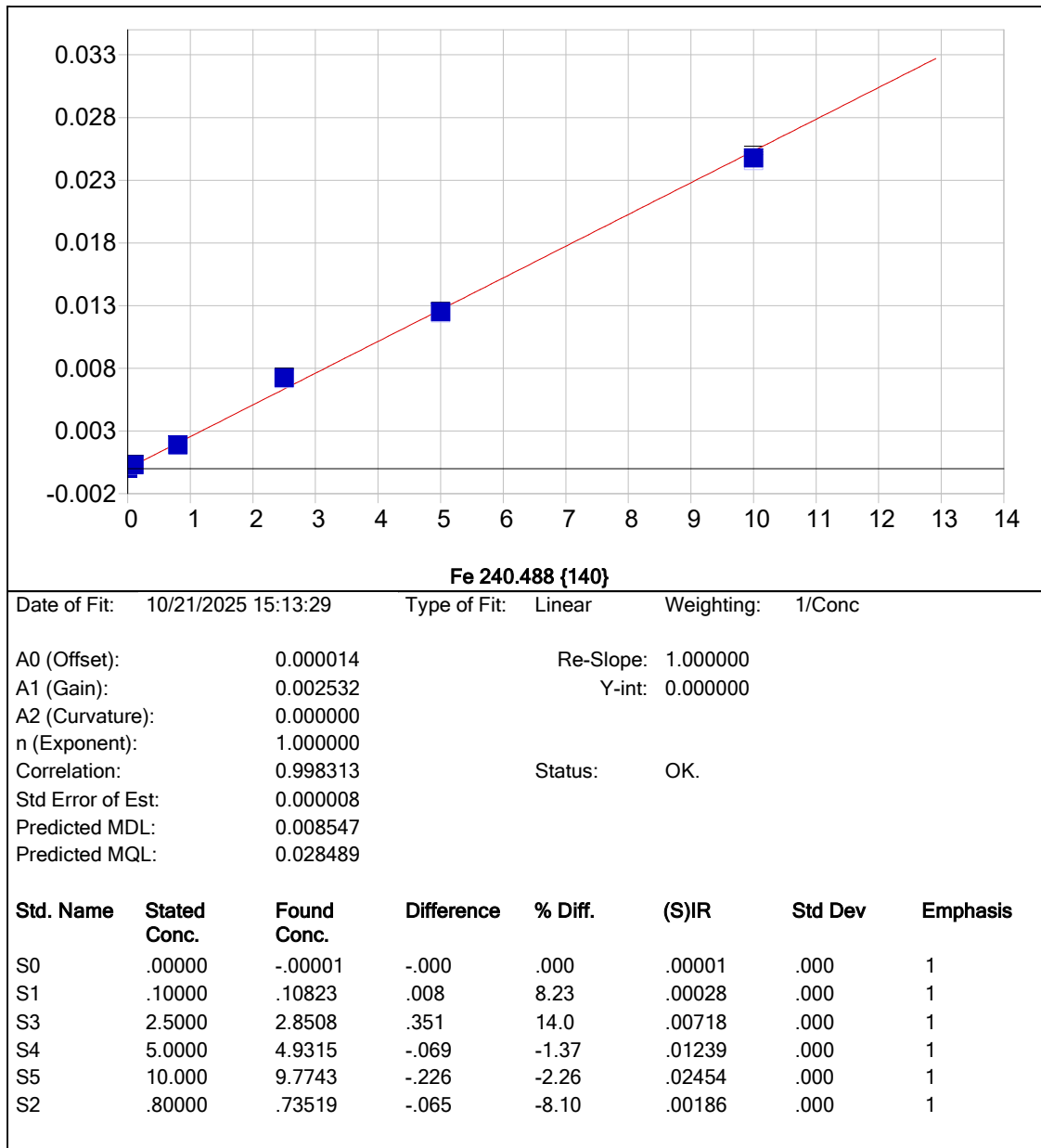


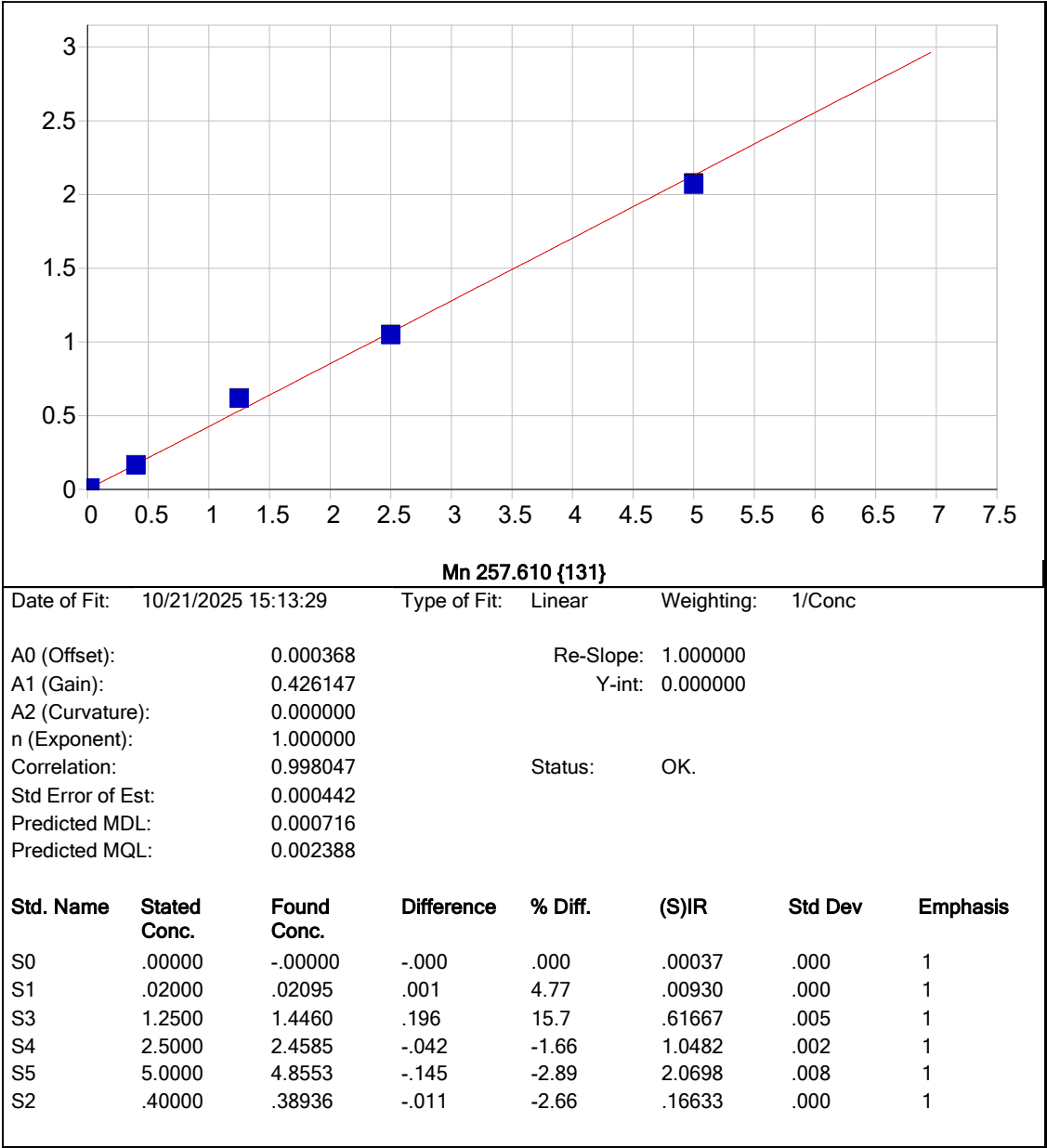


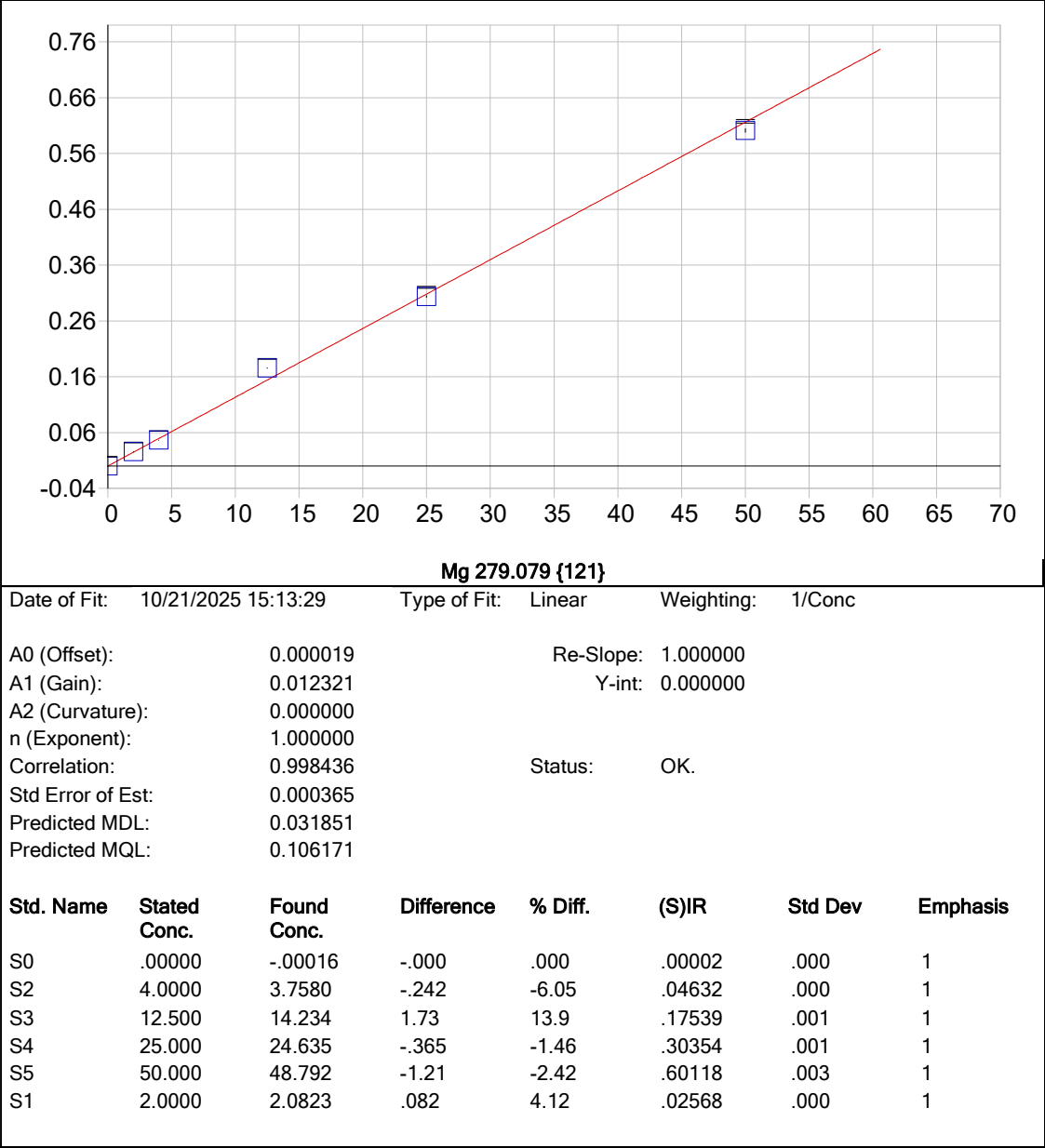


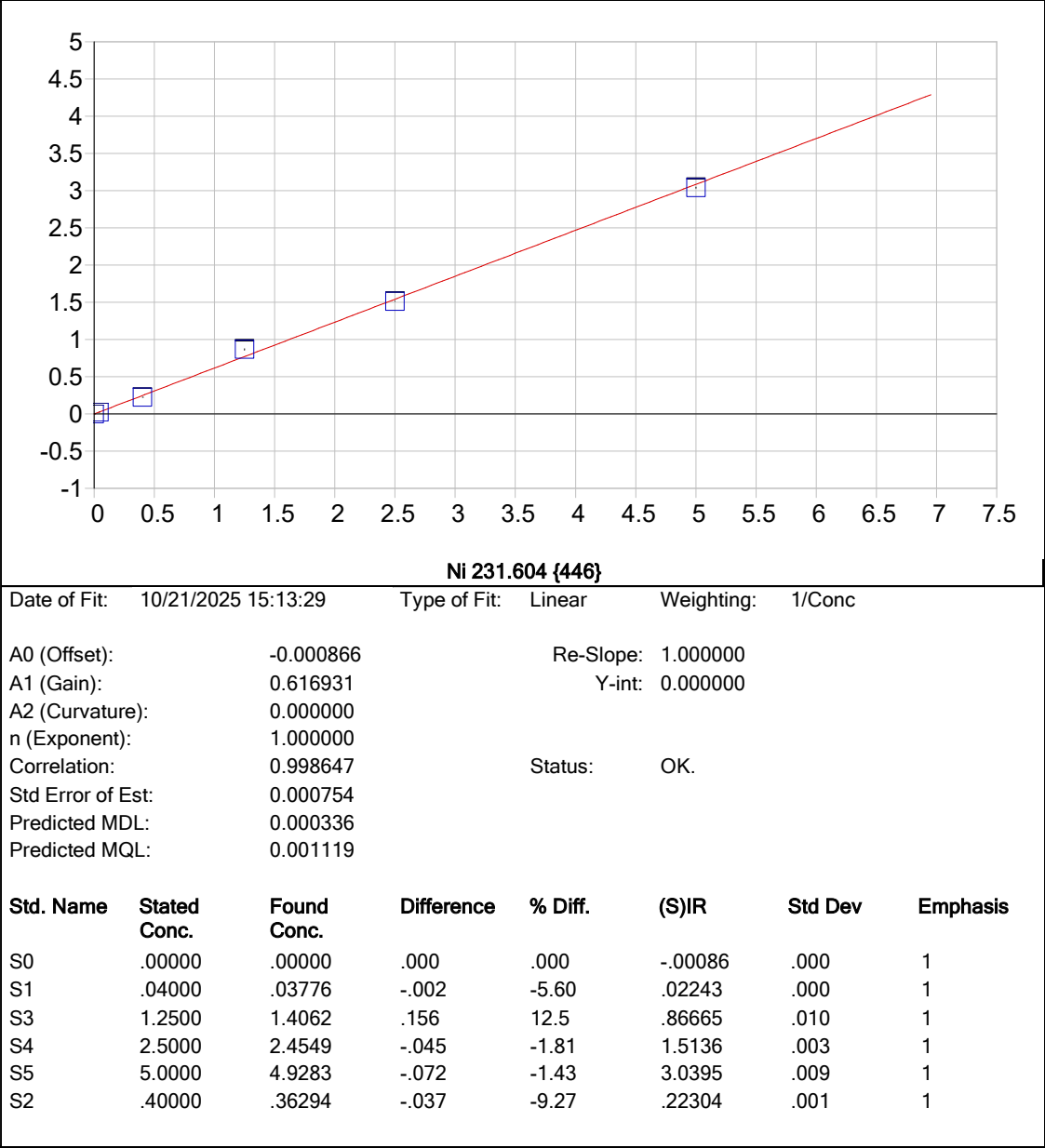


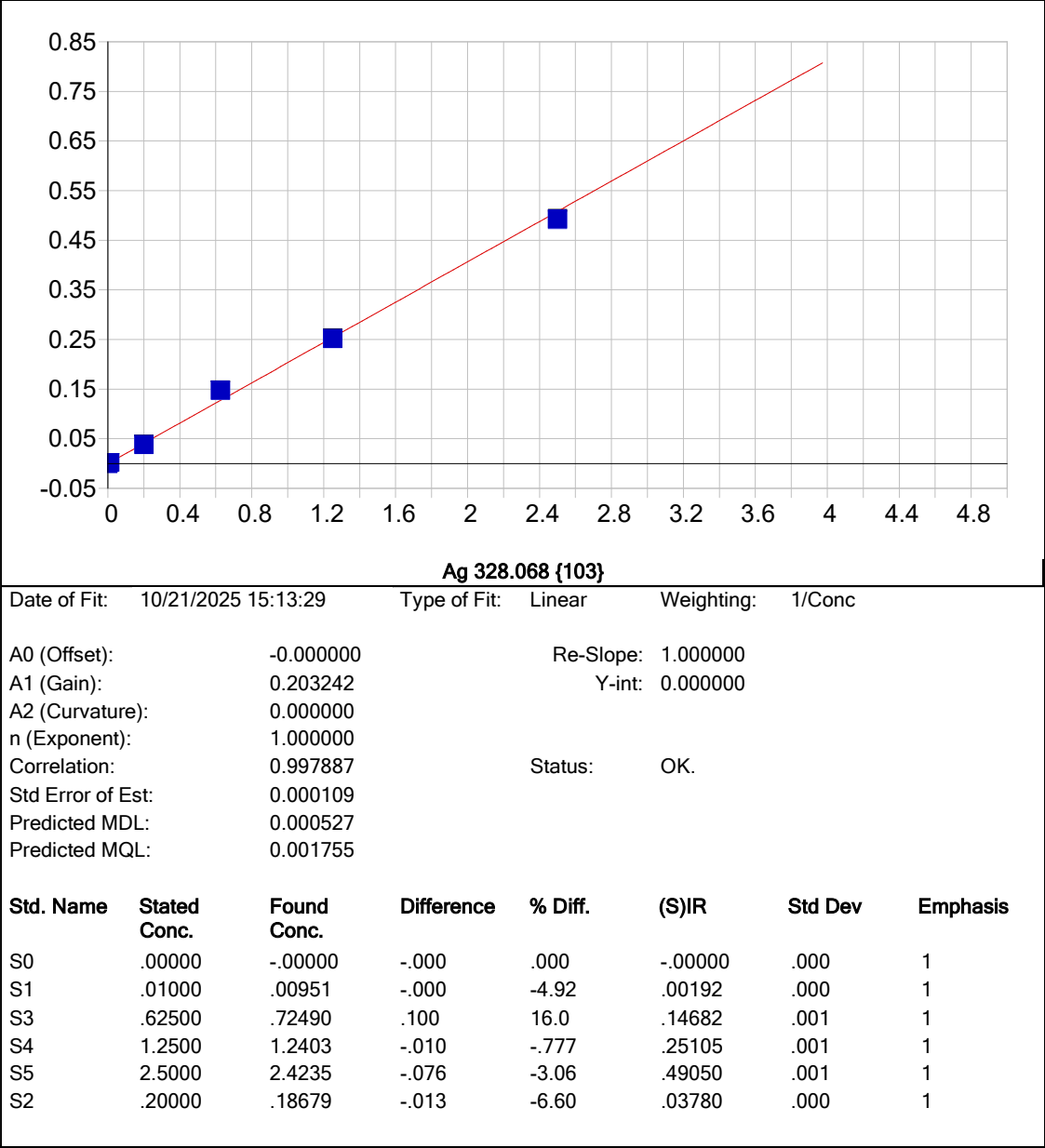


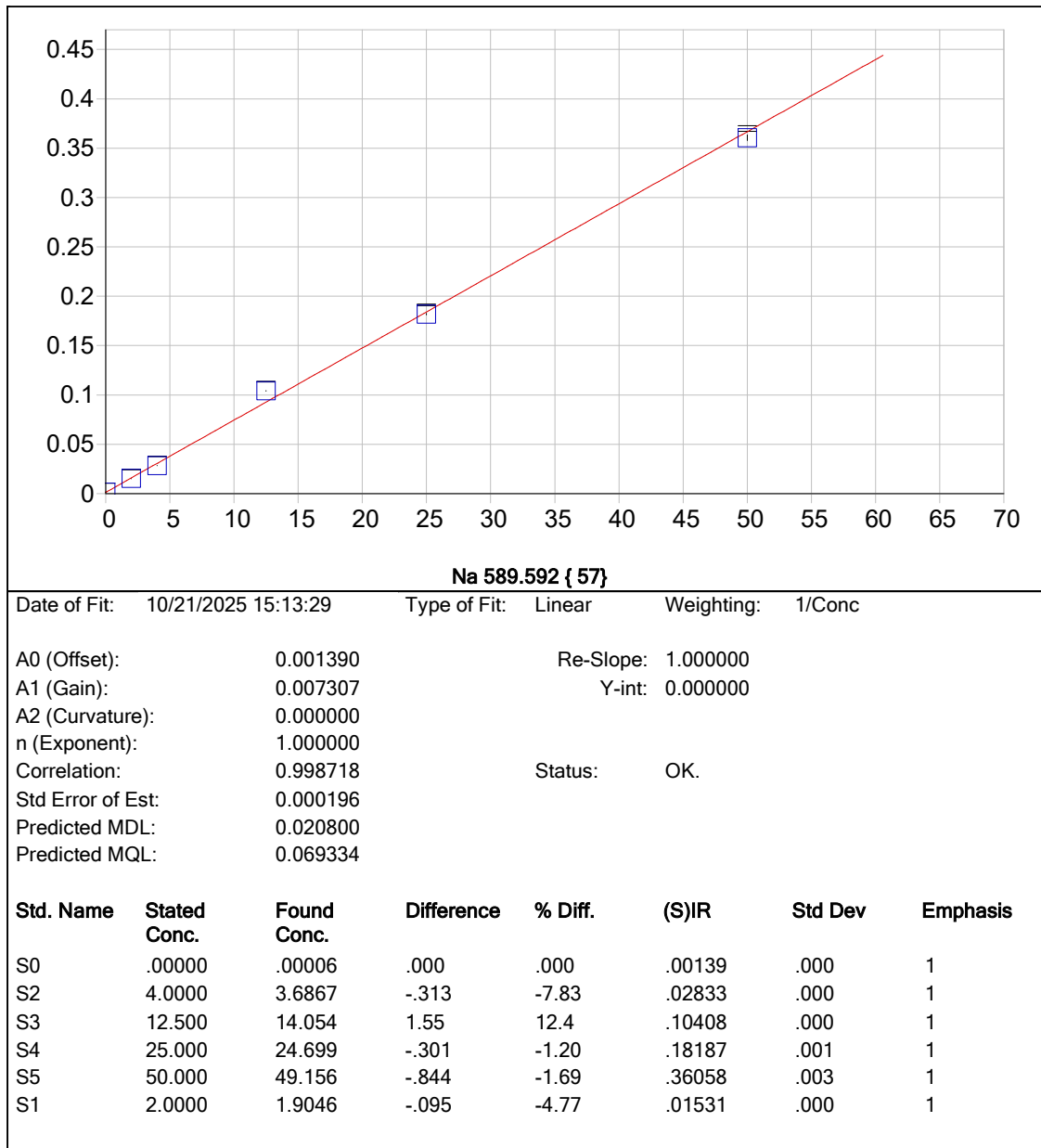


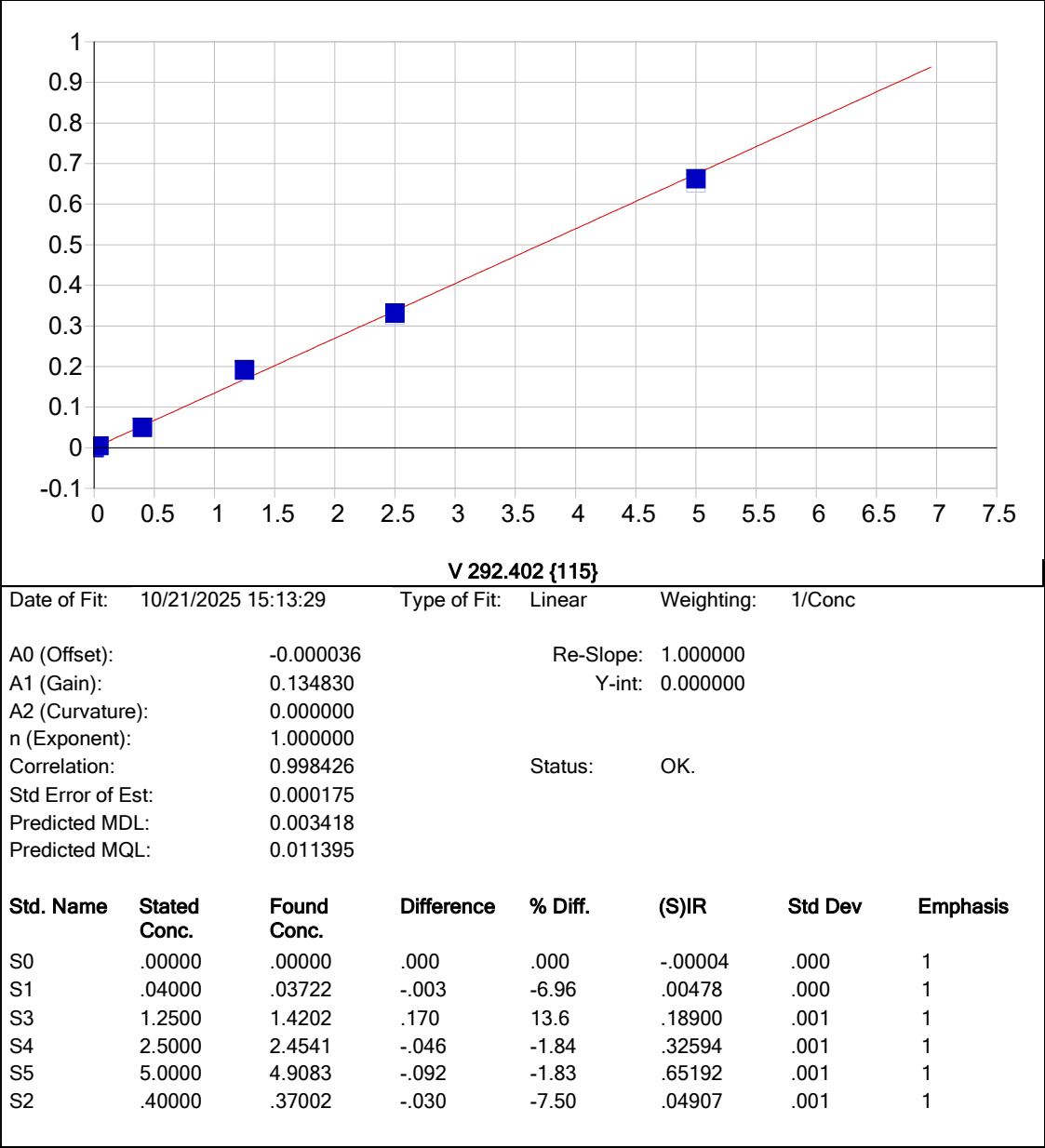


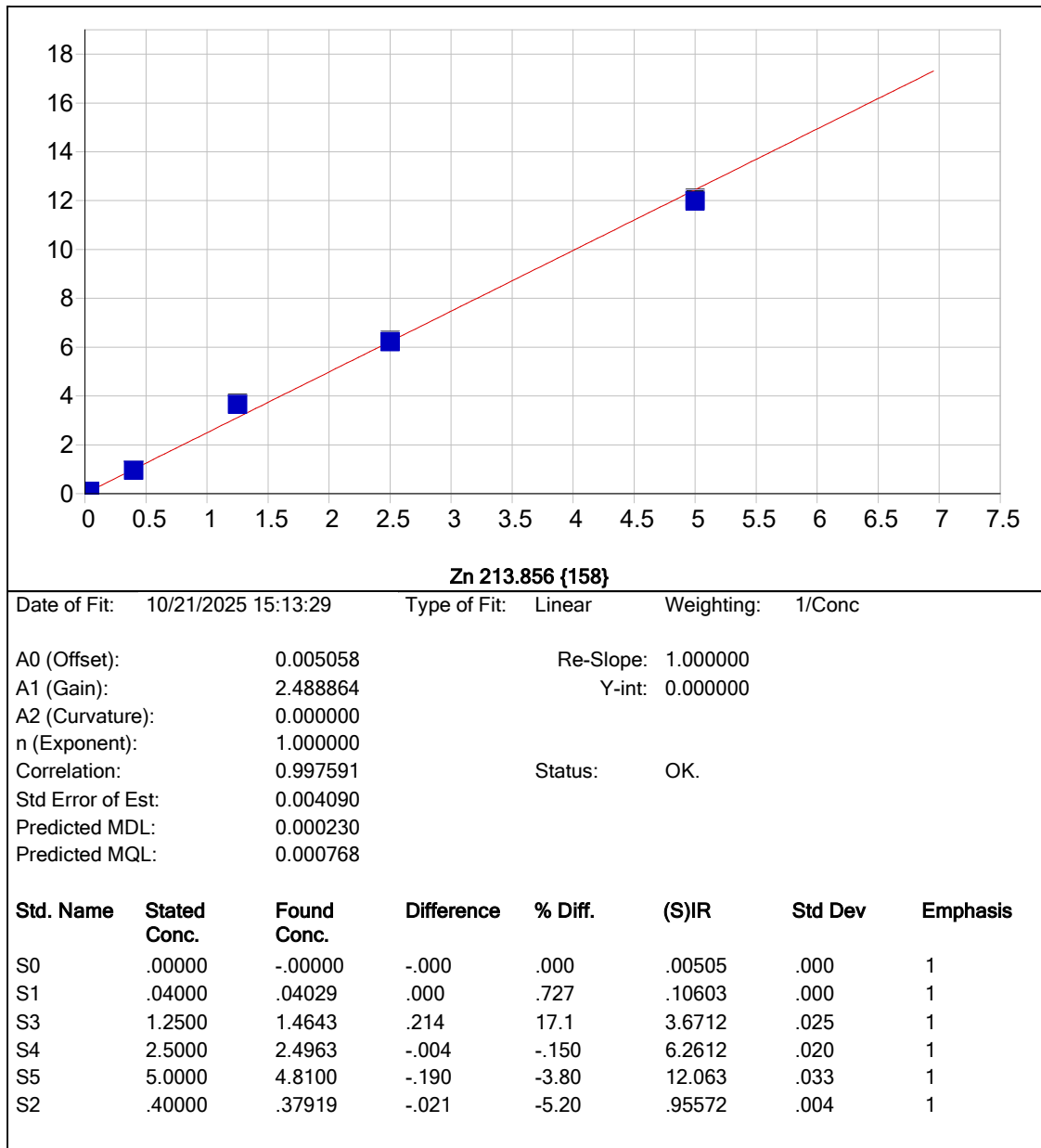


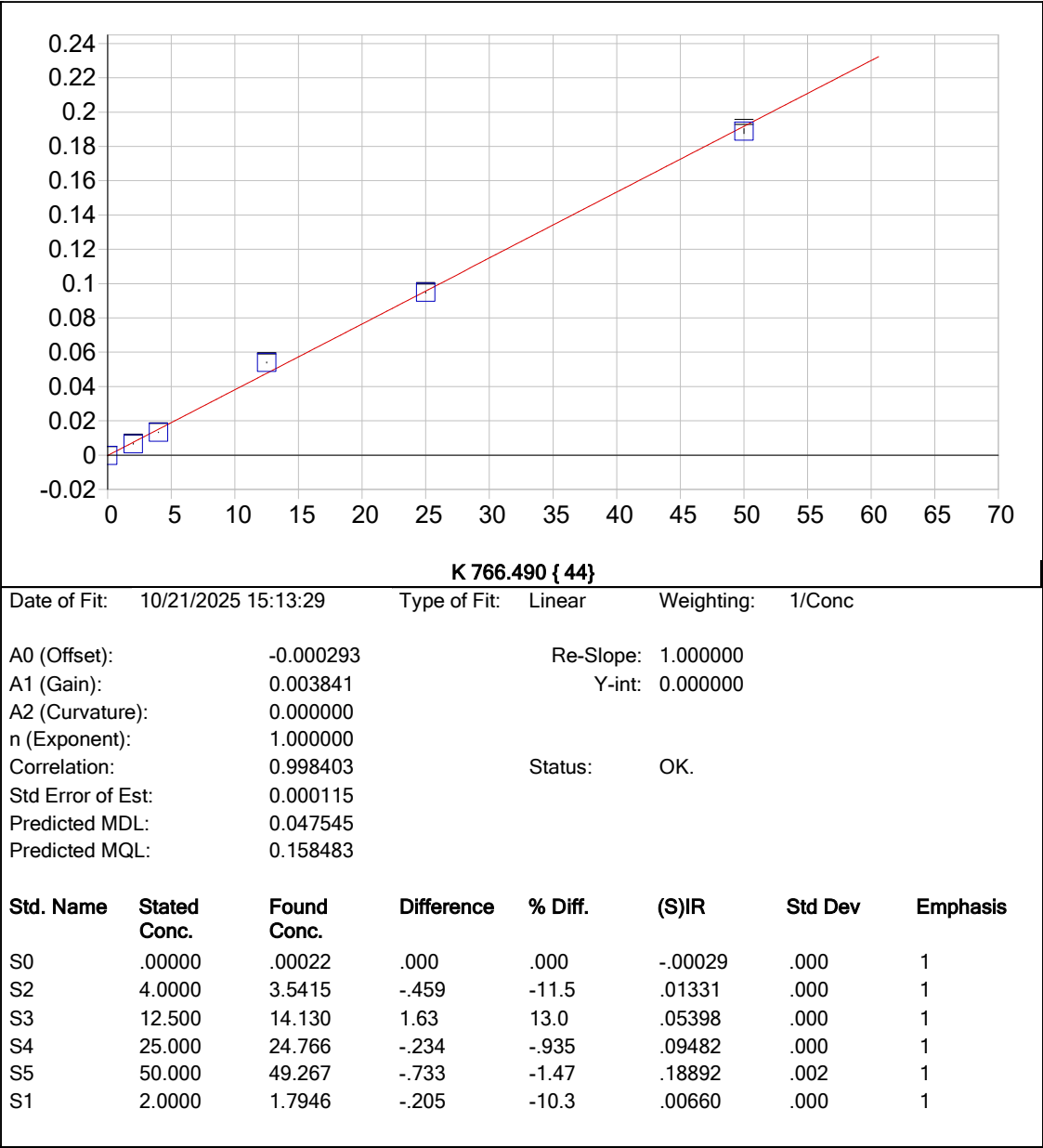


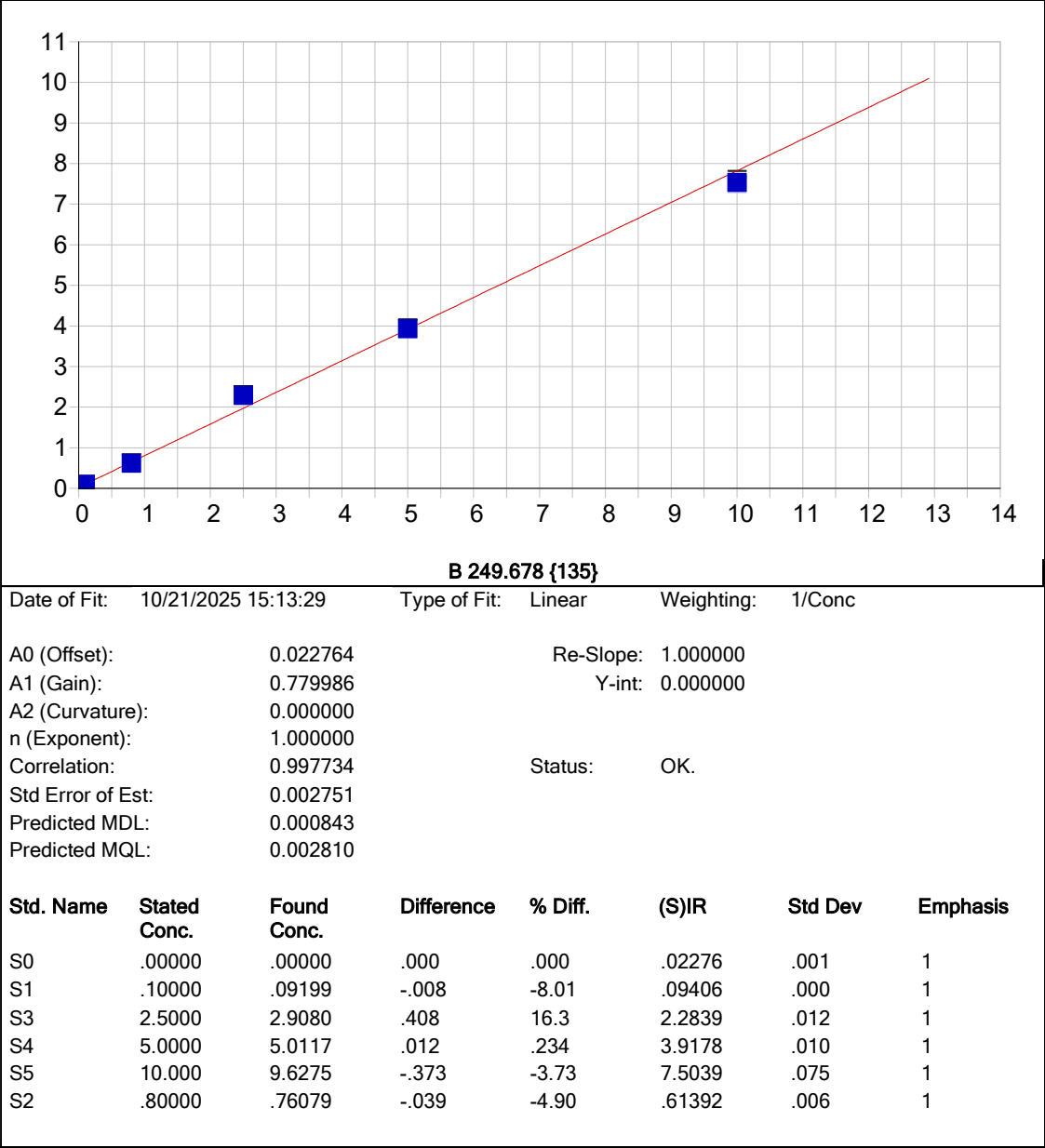


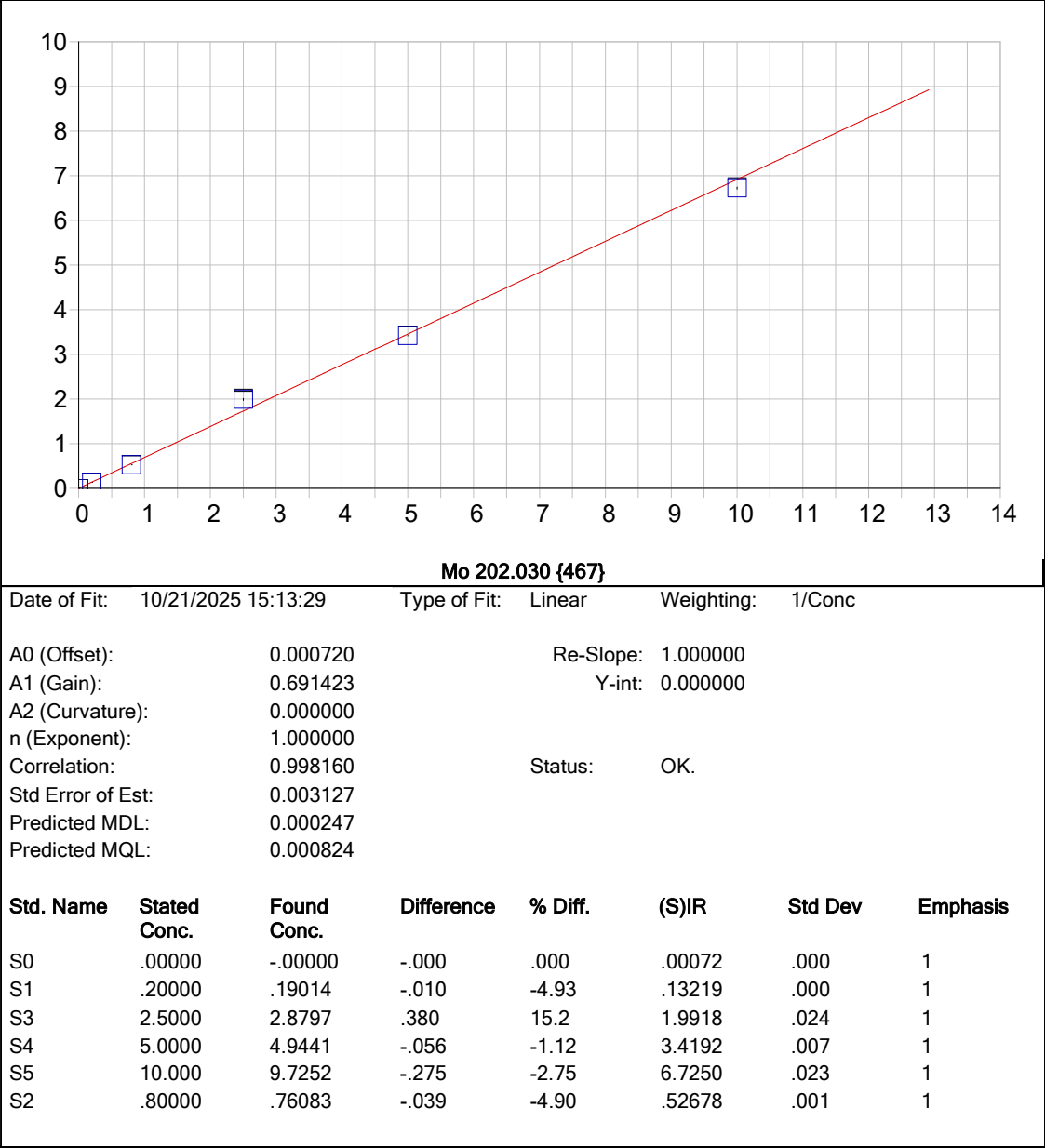


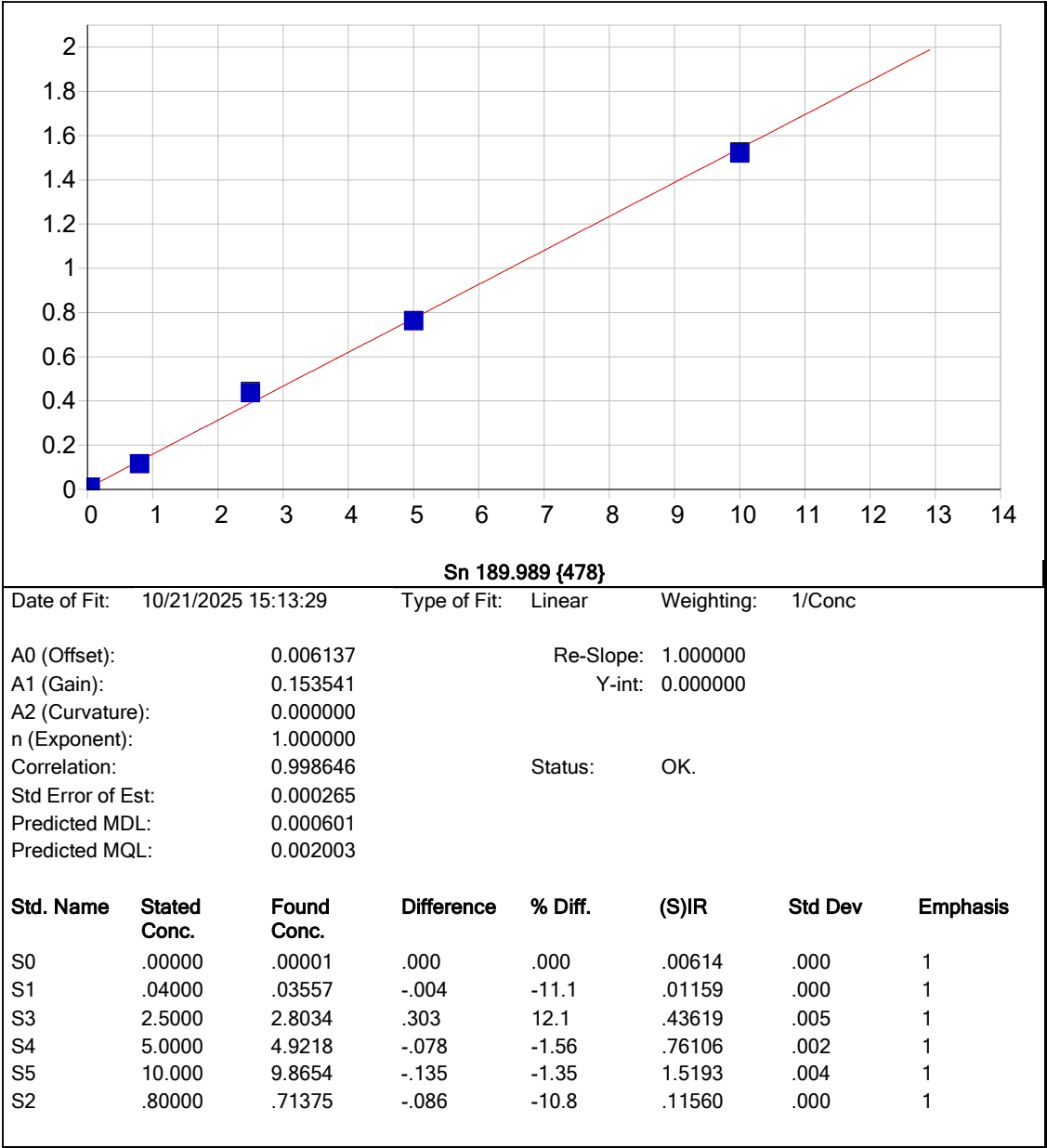


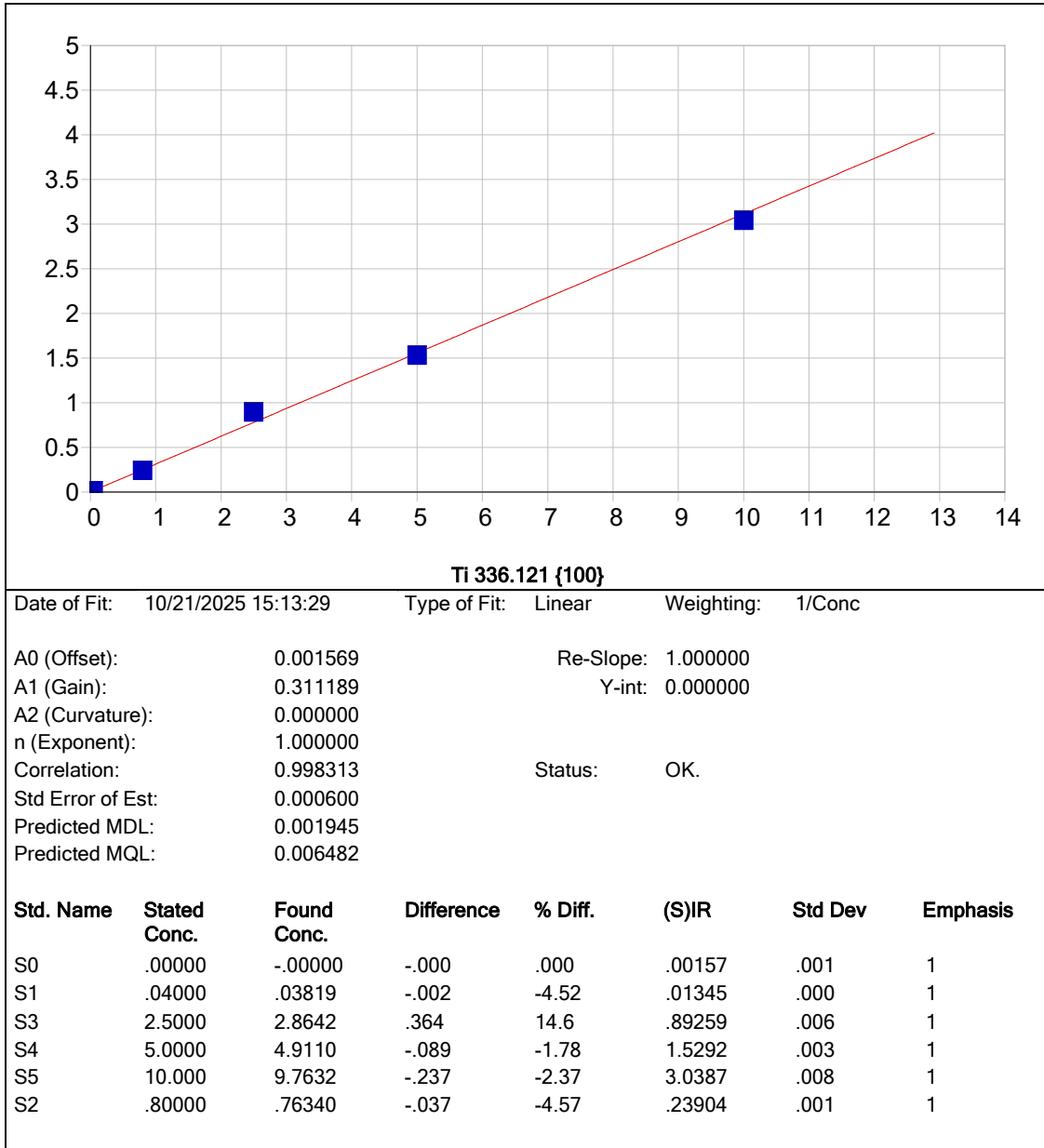


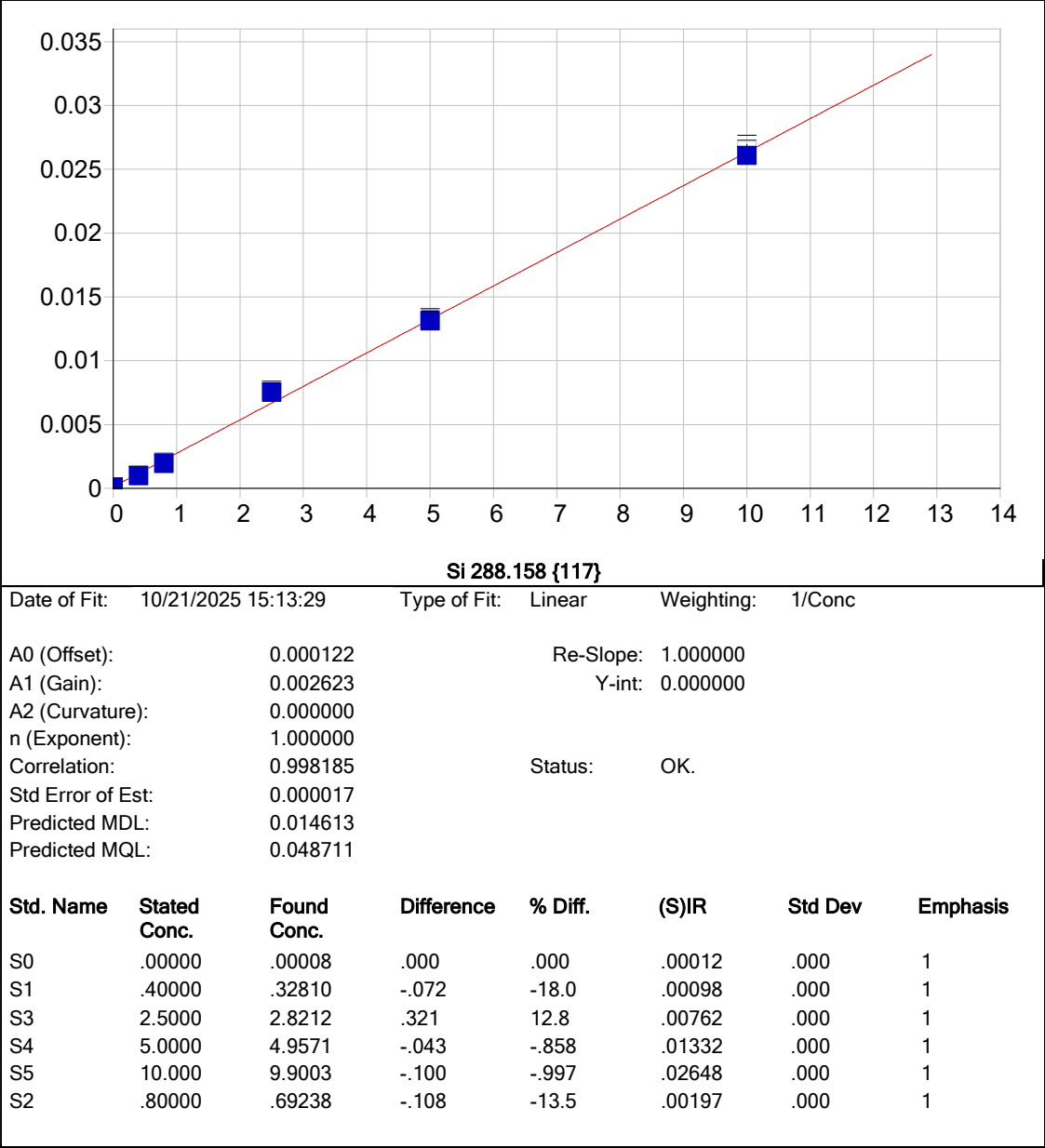


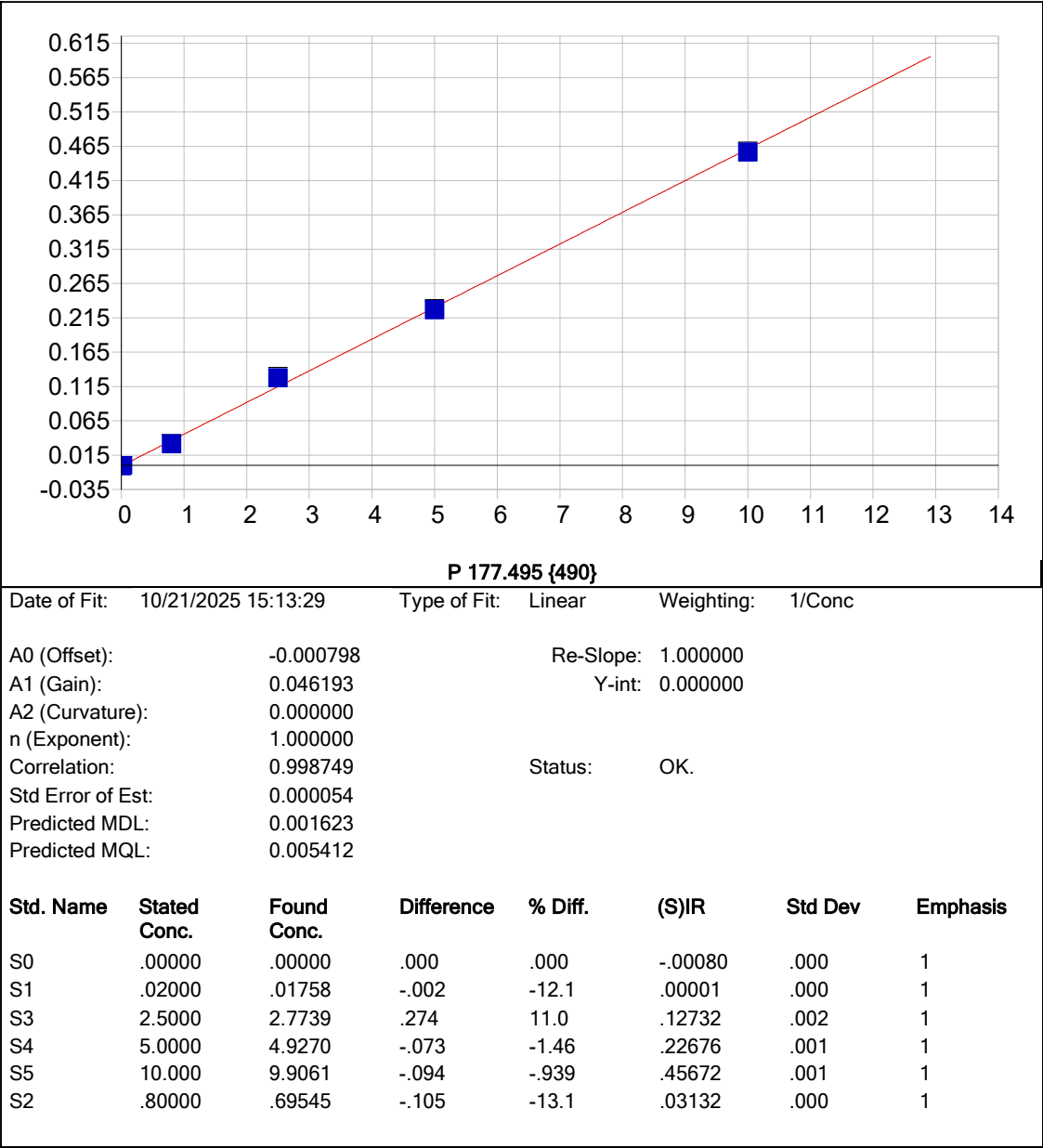


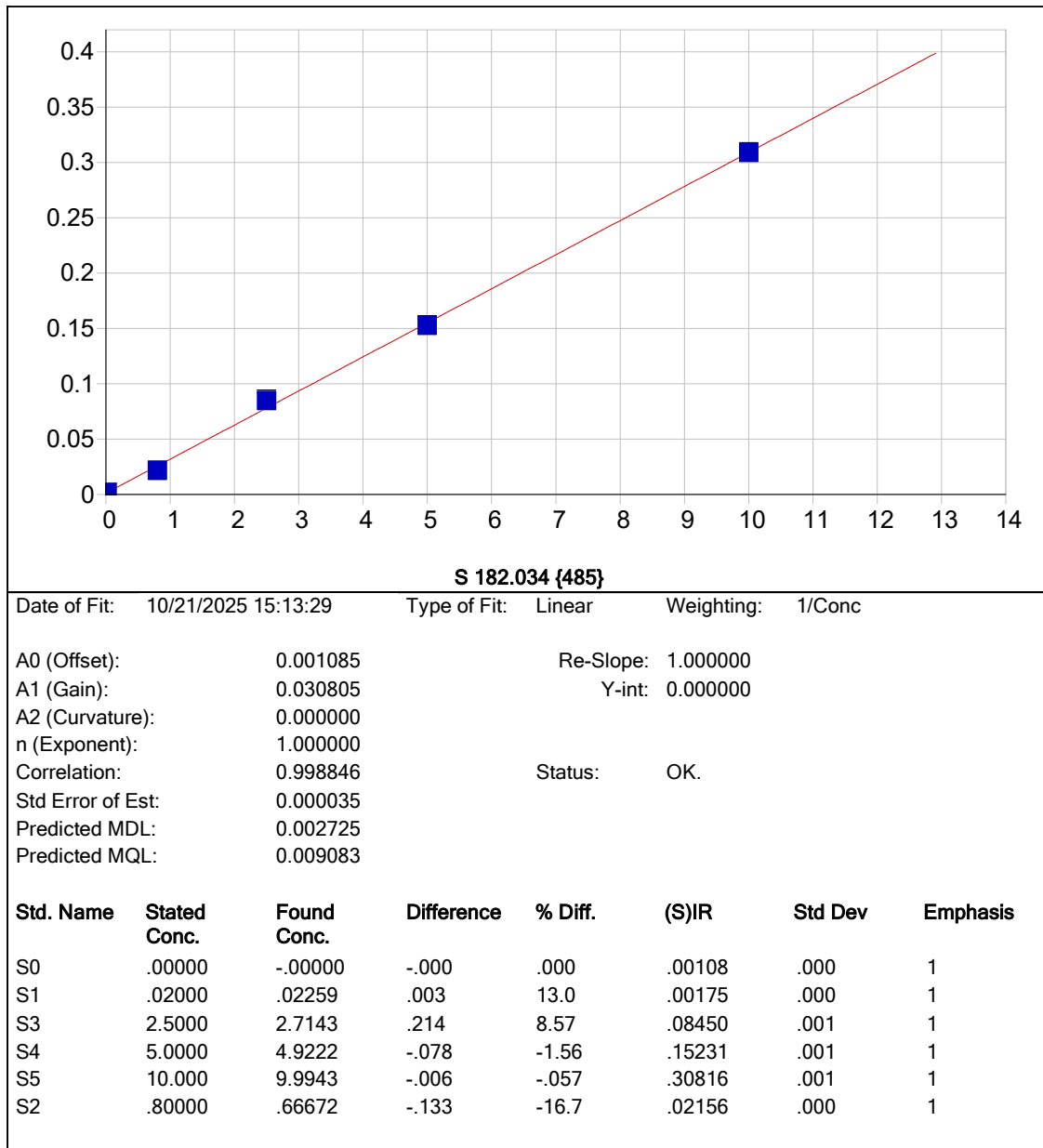


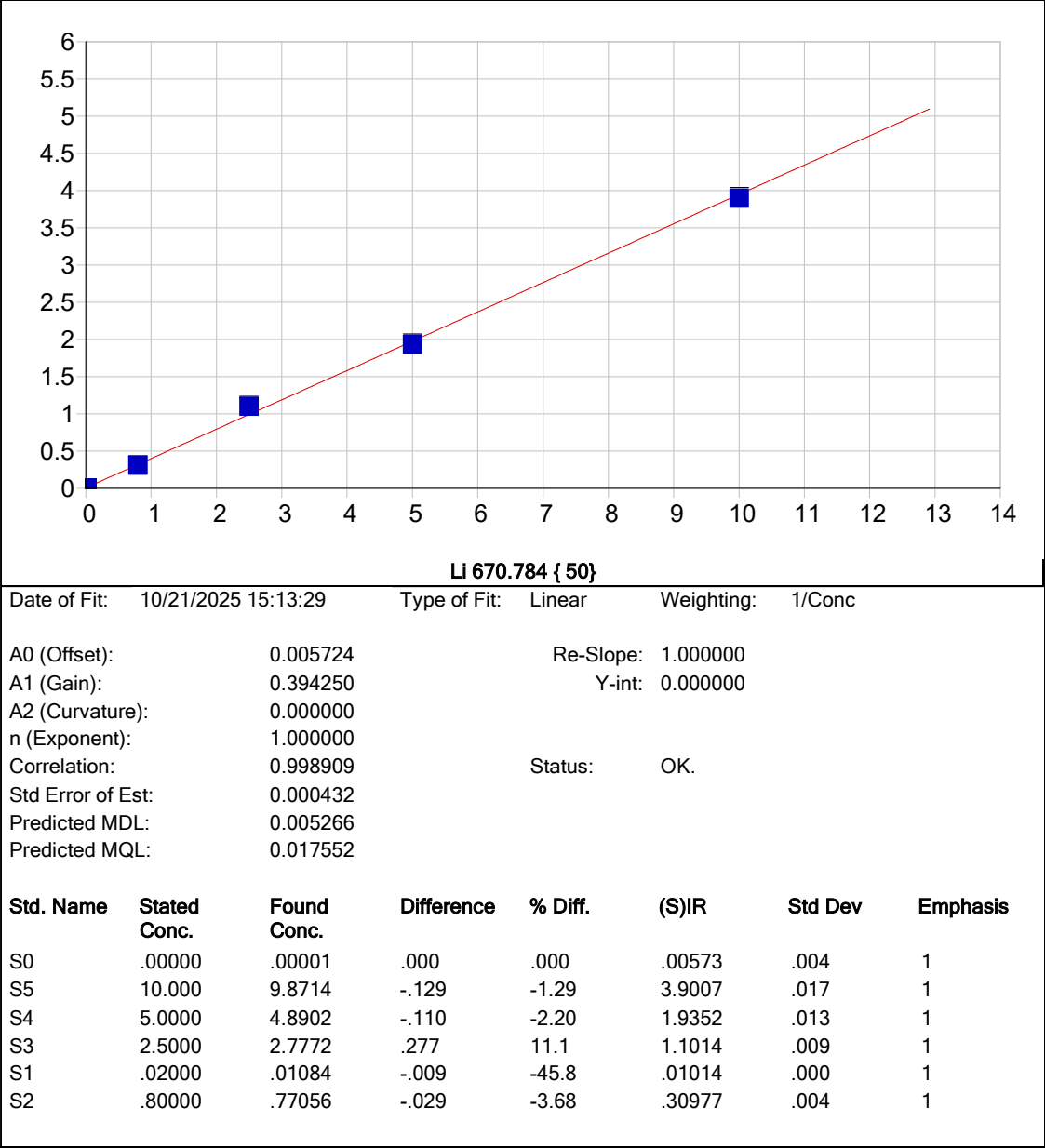


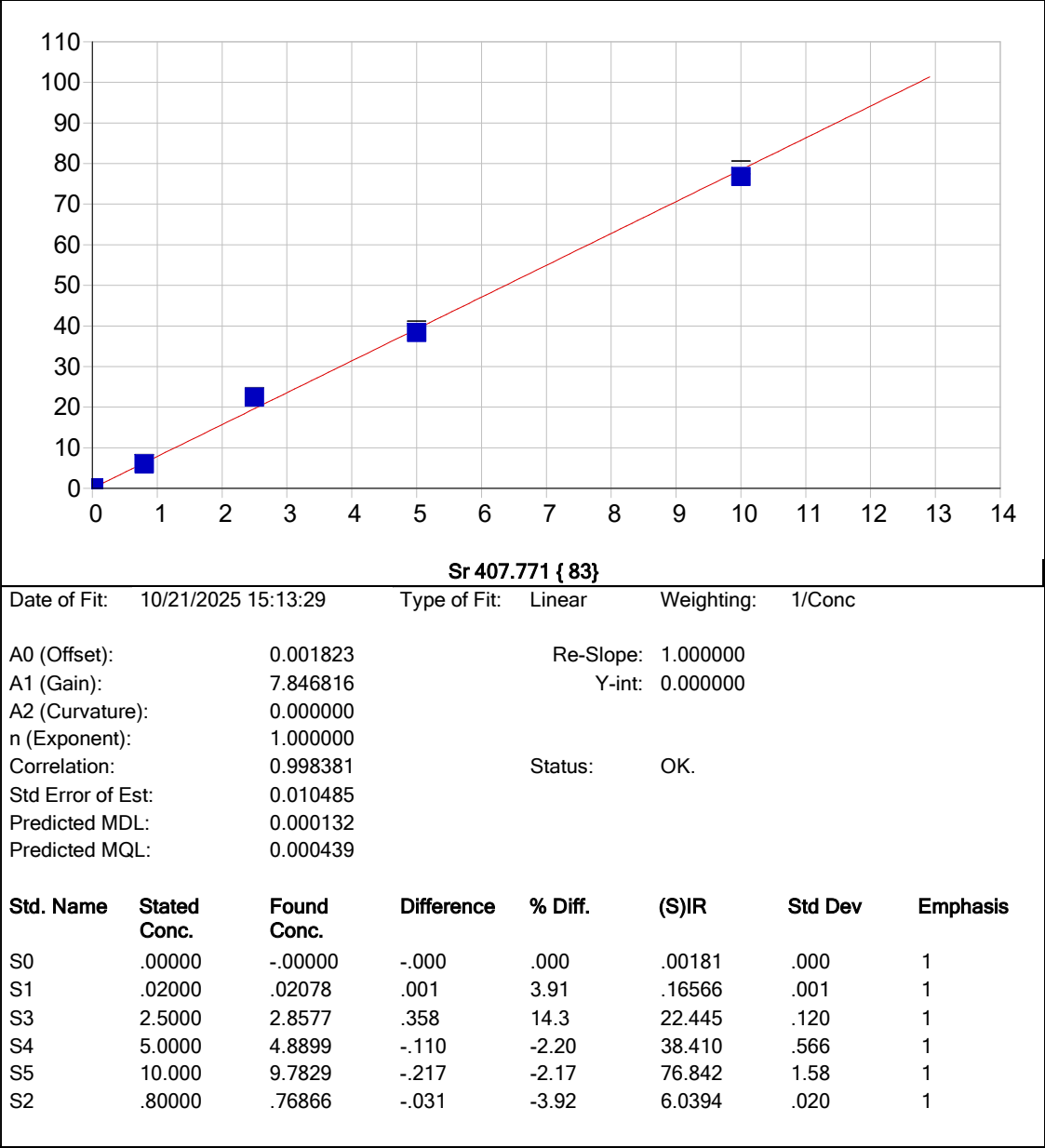


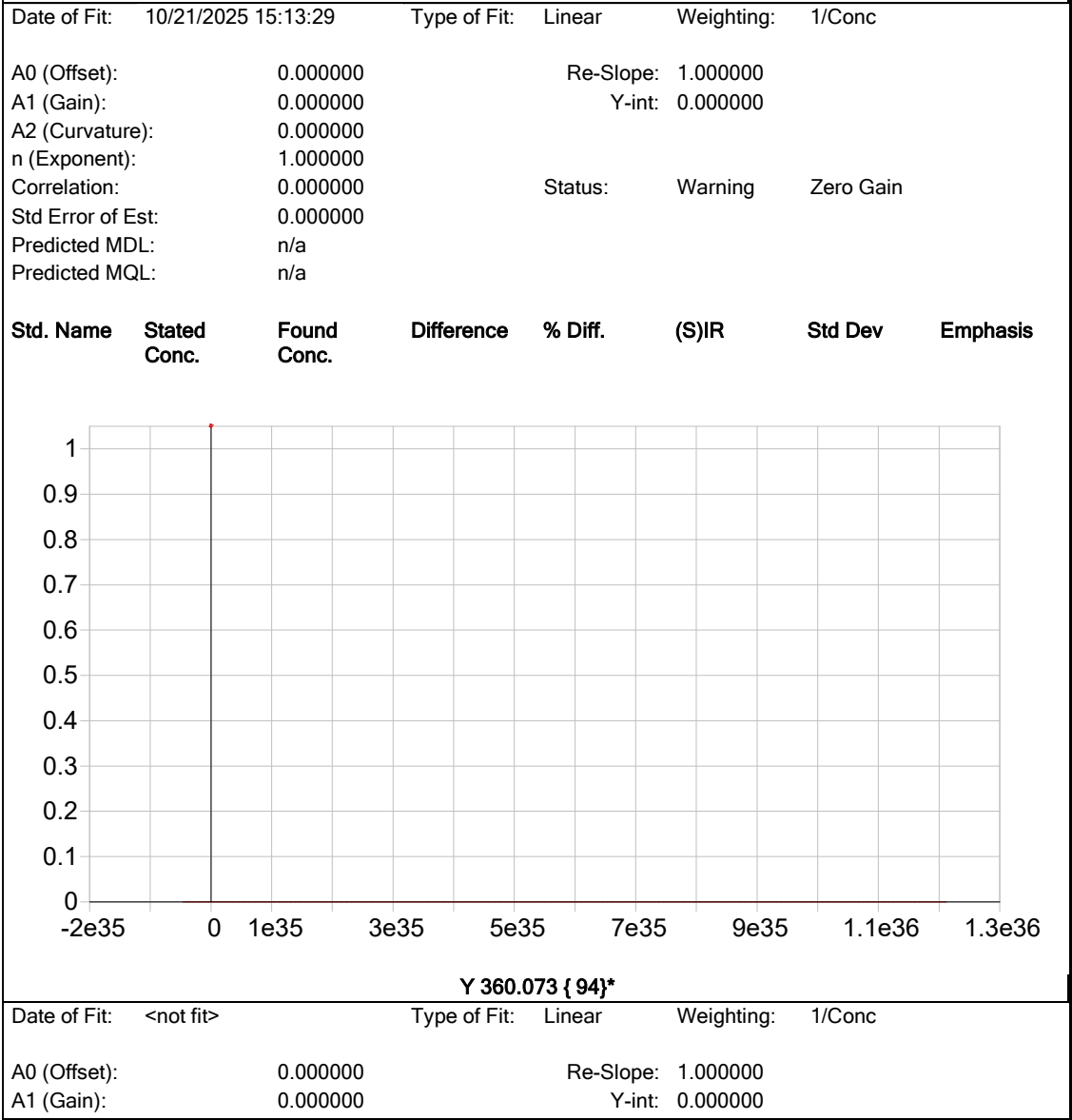
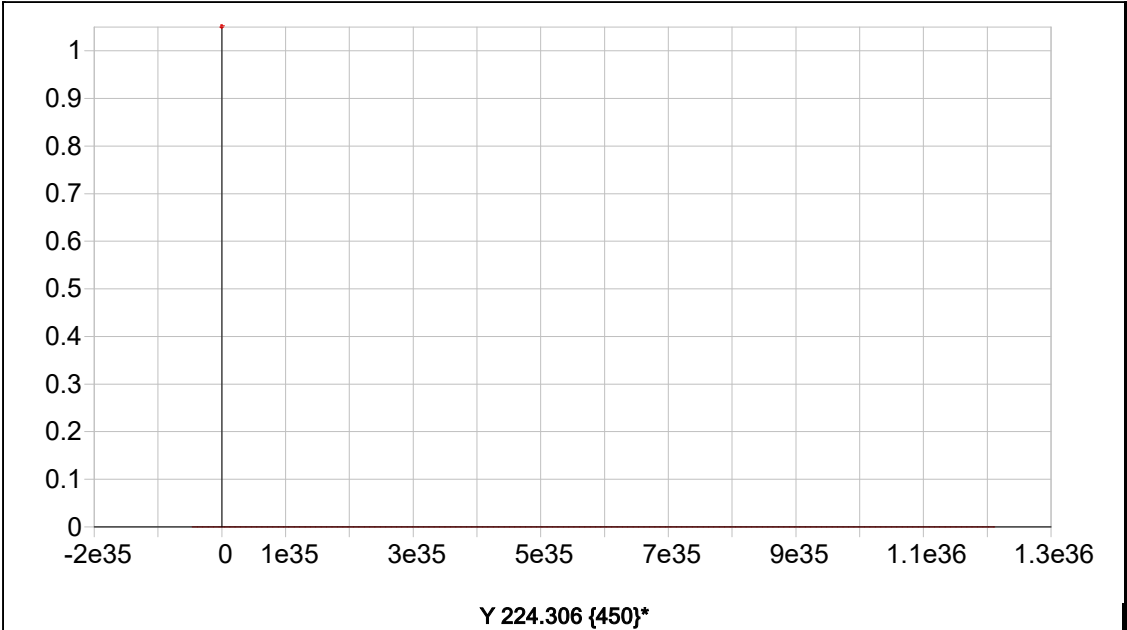


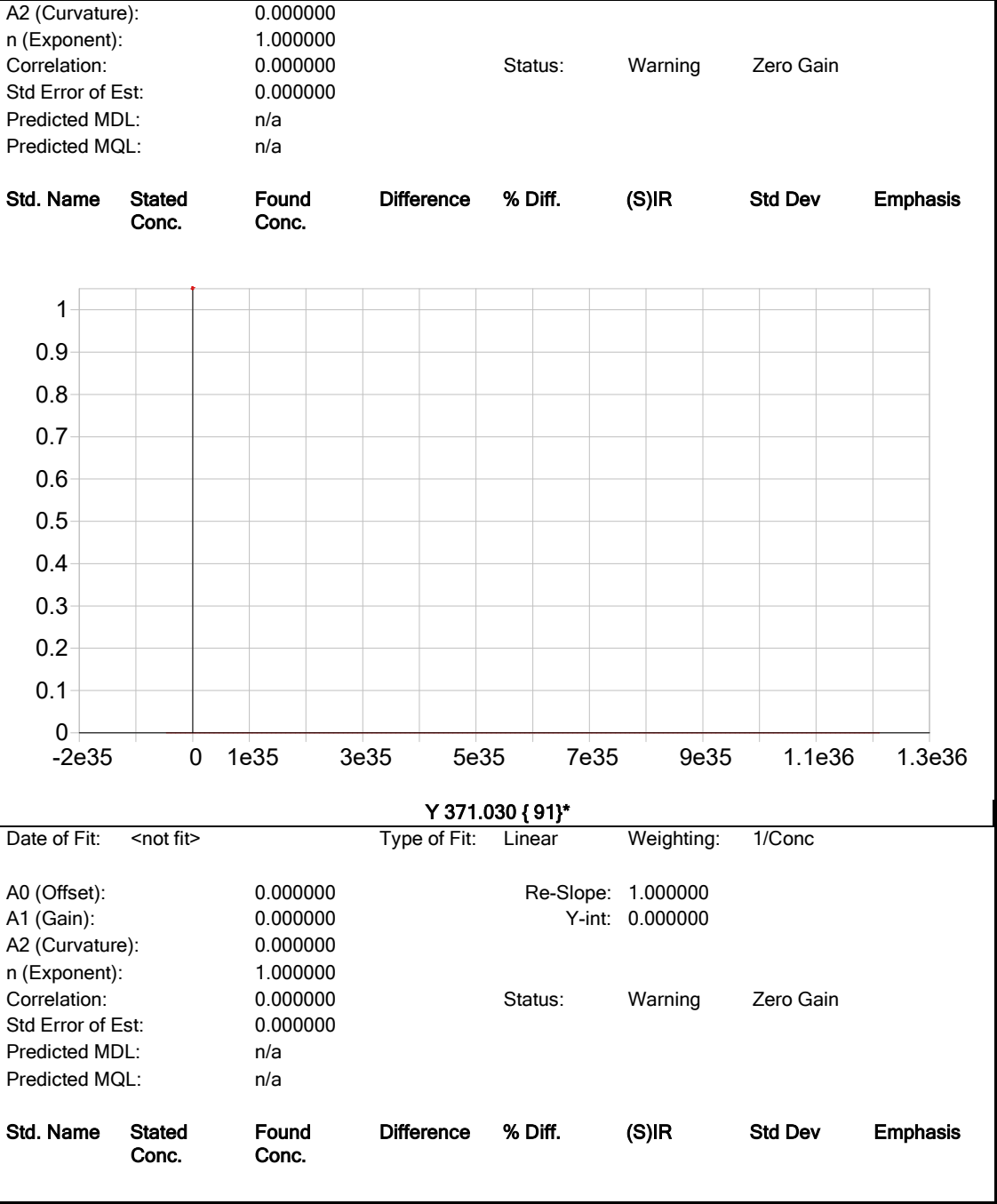


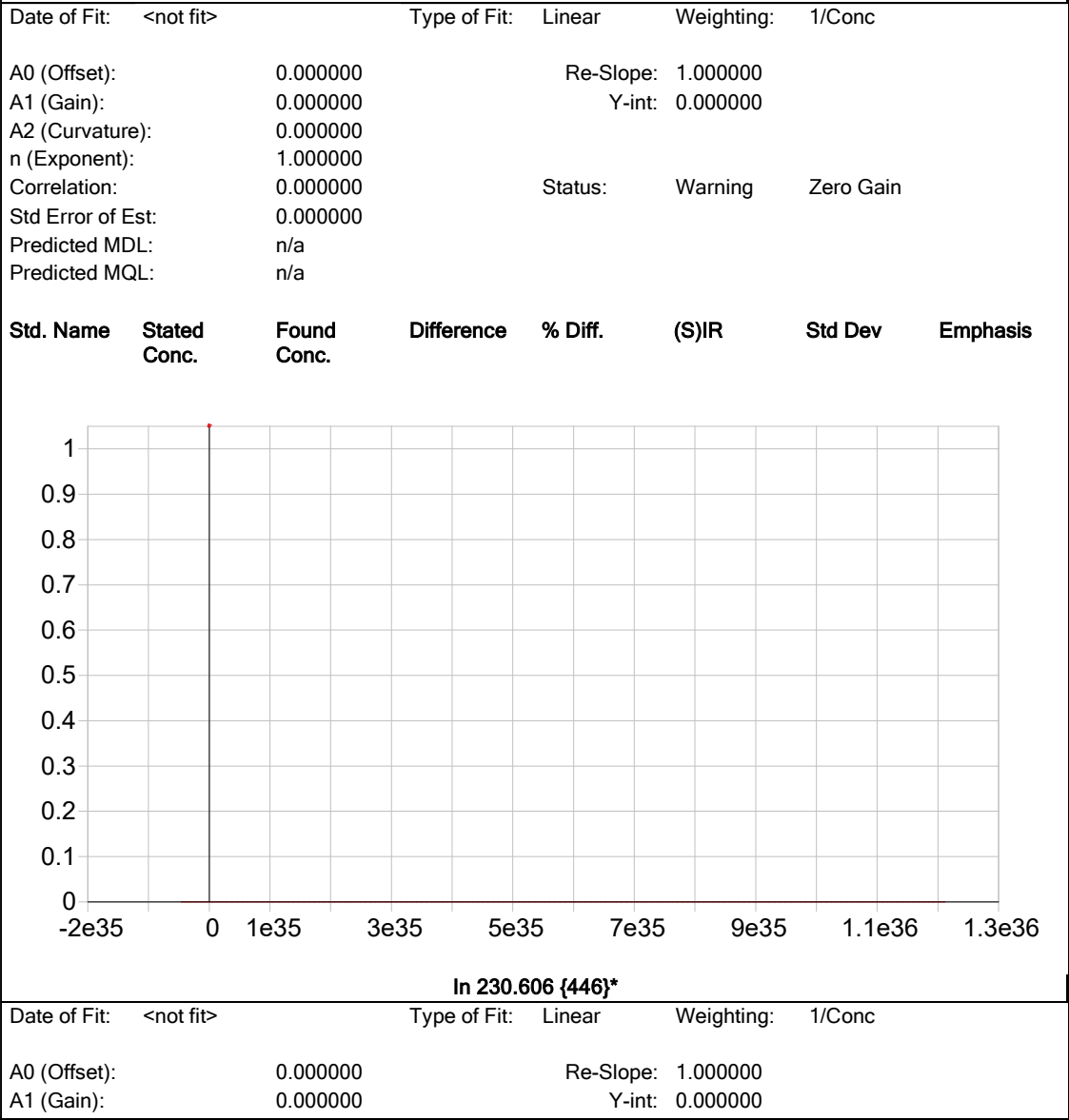
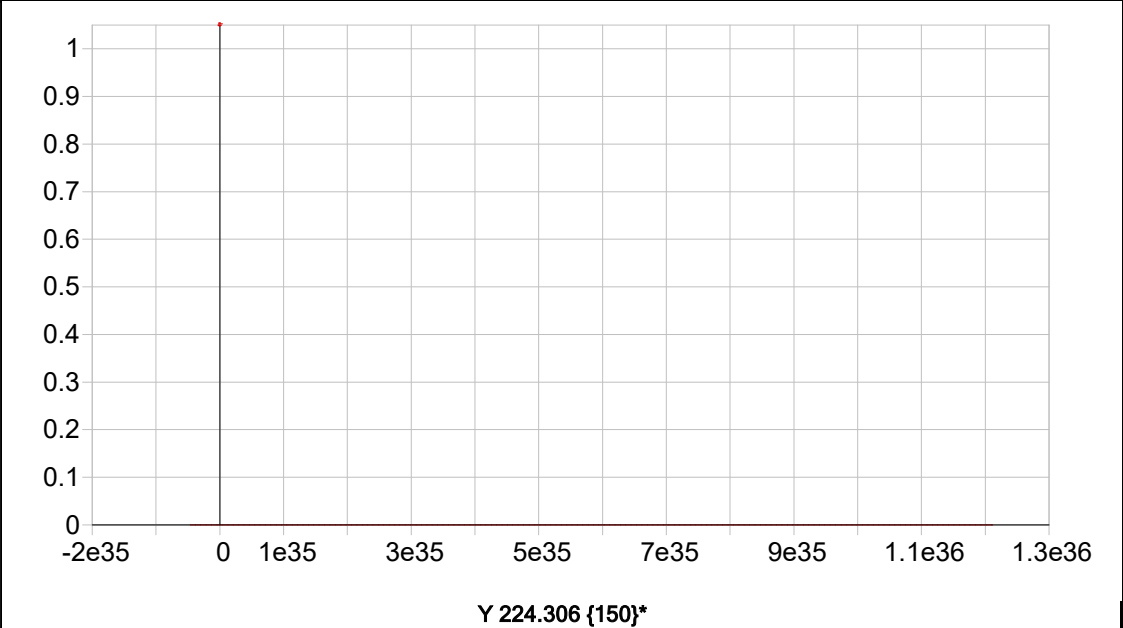












A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.000000		Status:	Warning	Zero Gain	
Std Error of Est:		0.000000					
Predicted MDL:		n/a					
Predicted MQL:		n/a					
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis

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

Sample Name: S0 Acquired: 10/21/2025 12:03:57 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00009	.00045	.00001	.00052	.00083	-.00098	.08234	-.00225
Stddev	.00004	.00006	.00006	.00023	.00018	.00036	.00114	.00039
%RSD	50.806	13.322	467.36	44.267	21.776	36.581	1.3785	17.400
#1	-.00014	.00042	-.00003	.00073	.00089	-.00063	.08106	-.00261
#2	-.00008	.00041	.00008	.00027	.00063	-.00135	.08277	-.00183
#3	-.00005	.00052	-.00001	.00055	.00098	-.00096	.08321	-.00231
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00001	.00064	.00013	.00018	.00057	.00001	.00037	.00002
Stddev	.00007	.00029	.00003	.00013	.00013	.00002	.00017	.00032
%RSD	1077.1	45.707	19.368	72.313	22.149	138.42	45.755	1893.3
#1	.00007	.00097	.00016	.00015	.00044	-.00001	.00053	-.00014
#2	-.00005	.00057	.00013	.00007	.00059	.00002	.00038	.00038
#3	-.00004	.00040	.00011	.00033	.00070	.00003	.00019	-.00019
Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00086	-.00000	.00139	-.00004	.00505	-.00029	.02276	.00072
Stddev	.00017	.00006	.00007	.00021	.00030	.00011	.00085	.00001
%RSD	19.821	57840.	5.2966	593.75	6.0316	36.840	3.7455	1.2850
#1	-.00082	-.00003	.00131	-.00027	.00484	-.00042	.02364	.00073
#2	-.00105	-.00003	.00143	.00002	.00491	-.00022	.02272	.00072
#3	-.00072	.00006	.00144	.00014	.00540	-.00025	.02194	.00071
Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.00614	.00157	.00012	-.00080	.00108	.00573	.00181	
Stddev	.00005	.00051	.00001	.00004	.00007	.00353	.00038	
%RSD	.86670	32.518	9.7885	5.2418	6.5707	61.688	21.259	
#1	.00612	.00187	.00014	-.00084	.00101	.00165	.00141	
#2	.00620	.00186	.00012	-.00079	.00115	.00796	.00184	
#3	.00610	.00098	.00011	-.00076	.00110	.00757	.00217	

Sample Name: S0 Acquired: 10/21/2025 12:03:57 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5798.9	95766.	7259.2	4626.3	7435.5
Stddev	3.2	677.	30.9	24.5	5.6
%RSD	.05524	.70671	.42531	.52855	.07595
#1	5800.4	96209.	7261.9	4636.4	7429.9
#2	5795.3	96102.	7227.1	4644.0	7435.5
#3	5801.2	94987.	7288.7	4598.4	7441.2

Sample Name: S1 Acquired: 10/21/2025 12:08:22 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00098	.00260	.00225	.00146	.00564	.00889	.31987	.05922
Stddev	.00002	.00009	.00030	.00009	.00004	.00082	.00262	.00090
%RSD	2.3908	3.5985	13.539	6.0272	.78622	9.2765	.81837	1.5232
#1	.00096	.00264	.00214	.00142	.00559	.00890	.32024	.05892
#2	.00100	.00266	.00260	.00156	.00567	.00971	.31710	.05851
#3	.00099	.00249	.00202	.00140	.00565	.00806	.32229	.06024
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01694	.12077	.00212	.03055	.01479	.00028	.00930	.02568
Stddev	.00005	.00098	.00007	.00014	.00004	.00002	.00015	.00042
%RSD	.27395	.81314	3.1609	.44882	.27489	5.3962	1.5694	1.6465
#1	.01694	.12187	.00208	.03070	.01483	.00028	.00926	.02537
#2	.01699	.11998	.00220	.03045	.01475	.00027	.00946	.02550
#3	.01690	.12046	.00208	.03048	.01481	.00030	.00918	.02616
Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02243	.00192	.01531	.00478	.10603	.00660	.09406	.13219
Stddev	.00011	.00009	.00018	.00020	.00015	.00020	.00035	.00047
%RSD	.48030	4.6222	1.1655	4.0939	.13872	3.0162	.37138	.35891
#1	.02245	.00196	.01522	.00460	.10620	.00637	.09418	.13255
#2	.02231	.00182	.01551	.00499	.10592	.00672	.09366	.13236
#3	.02252	.00198	.01519	.00475	.10599	.00671	.09433	.13165
Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.01159	.01345	.00098	.00001	.00175	.01014	.16566	
Stddev	.00010	.00040	.00001	.00003	.00009	.00048	.00072	
%RSD	.85273	3.0024	1.4702	215.99	4.8459	4.7280	.43620	
#1	.01167	.01384	.00100	-.00001	.00184	.01064	.16602	
#2	.01162	.01346	.00098	.00001	.00175	.00969	.16613	
#3	.01148	.01303	.00097	.00005	.00167	.01008	.16482	

Sample Name: S1 Acquired: 10/21/2025 12:08:22 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5775.7	95019.	7076.9	4632.0	7272.7
Stddev	15.1	140.	3.6	22.9	16.6
%RSD	.26162	.14682	.05031	.49423	.22859
#1	5760.0	94920.	7079.8	4622.0	7253.9
#2	5776.8	94958.	7072.9	4658.2	7278.6
#3	5790.2	95179.	7077.9	4615.8	7285.5

Sample Name: S2 Acquired: 10/21/2025 12:12:41 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.03898	.04045	.15048	.03505	.07415	.13739	3.7026	.37903
Stddev	.00021	.00128	.00032	.00014	.00010	.00131	.0157	.00322
%RSD	.54423	3.1685	.21287	.39178	.13031	.95037	.42399	.84917

#1	.03874	.03914	.15075	.03501	.07421	.13797	3.6998	.38160
#2	.03908	.04051	.15012	.03494	.07421	.13589	3.6886	.37542
#3	.03913	.04171	.15056	.03520	.07404	.13830	3.7196	.38007

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.0999	.22722	.03120	.39307	.13197	.00186	.16633	.04632
Stddev	.0025	.00122	.00005	.00083	.00043	.00002	.00041	.00031
%RSD	.22529	.53858	.17024	.21017	.32266	.92964	.24924	.66030

#1	1.1015	.22858	.03114	.39356	.13224	.00186	.16662	.04610
#2	1.0970	.22685	.03125	.39212	.13148	.00184	.16585	.04620
#3	1.1011	.22622	.03121	.39354	.13218	.00187	.16650	.04667

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.22304	.03780	.02833	.04907	.95572	.01331	.61392	.52678
Stddev	.00071	.00013	.00017	.00061	.00377	.00023	.00605	.00071
%RSD	.31652	.34769	.59482	1.2506	.39439	1.7007	.98565	.13464

#1	.22332	.03765	.02817	.04950	.95148	.01324	.61931	.52663
#2	.22224	.03788	.02832	.04836	.95868	.01312	.60737	.52616
#3	.22357	.03787	.02850	.04934	.95701	.01356	.61509	.52755

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.11560	.23904	.00197	.03132	.02156	.30977	6.0394	
Stddev	.00043	.00056	.00007	.00012	.00019	.00421	.0204	
%RSD	.37343	.23589	3.5246	.37797	.85915	1.3604	.33799	

#1	.11519	.23848	.00189	.03145	.02138	.30930	6.0411	
#2	.11557	.23903	.00199	.03121	.02154	.30581	6.0182	
#3	.11605	.23961	.00203	.03130	.02175	.31420	6.0589	

Sample Name: S2 Acquired: 10/21/2025 12:12:41 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5750.4	94486.	7087.3	4600.4	7067.0
Stddev	15.9	489.	12.8	20.3	23.4
%RSD	.27711	.51764	.18124	.44053	.33100
#1	5732.6	95019.	7079.4	4617.5	7043.4
#2	5763.4	94057.	7102.2	4578.0	7090.2
#3	5755.2	94384.	7080.5	4605.8	7067.3

Sample Name: S3 Acquired: 10/21/2025 12:16:50 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.14994	.15198	.58352	.13303	.28054	.52095	13.788	1.4384
Stddev	.00215	.00464	.00575	.00174	.00308	.00389	.084	.0114
%RSD	1.4324	3.0526	.98503	1.3074	1.0993	.74744	.60918	.79168
#1	.14910	.14727	.58167	.13199	.27859	.52426	13.871	1.4506
#2	.14833	.15212	.57892	.13206	.27894	.52192	13.788	1.4364
#3	.15238	.15655	.58996	.13504	.28409	.51666	13.703	1.4281
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.3418	.86215	.12065	1.5264	.49285	.00718	.61667	.17539
Stddev	.0513	.00416	.00070	.0158	.00531	.00006	.00525	.00054
%RSD	1.1818	.48244	.58250	1.0329	1.0765	.82490	.85107	.30830
#1	4.3192	.86604	.12108	1.5207	.49100	.00719	.62273	.17598
#2	4.3058	.86263	.12103	1.5142	.48872	.00723	.61353	.17530
#3	4.4006	.85777	.11983	1.5442	.49883	.00711	.61376	.17491
Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.86665	.14682	.10408	.18900	3.6712	.05398	2.2839	1.9918
Stddev	.00994	.00061	.00041	.00128	.0248	.00030	.0120	.0245
%RSD	1.1466	.41219	.39136	.67925	.67632	.56261	.52703	1.2280
#1	.86288	.14725	.10431	.19044	3.6975	.05400	2.2977	1.9776
#2	.85915	.14707	.10433	.18855	3.6677	.05426	2.2788	1.9778
#3	.87792	.14613	.10361	.18799	3.6482	.05366	2.2753	2.0201
Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.43619	.89259	.00762	.12732	.08450	1.1014	22.445	
Stddev	.00520	.00551	.00005	.00184	.00124	.0090	.120	
%RSD	1.1911	.61698	.70696	1.4450	1.4707	.81313	.53530	
#1	.43395	.89777	.00765	.12625	.08387	1.1102	22.522	
#2	.43248	.89320	.00765	.12627	.08370	1.1017	22.306	
#3	.44212	.88681	.00756	.12944	.08593	1.0923	22.506	

Sample Name: S3 Acquired: 10/21/2025 12:16:50 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5767.3	92853.	7292.0	4460.8	6794.7
Stddev	41.8	380.	44.4	25.1	49.7
%RSD	.72513	.40920	.60891	.56330	.73125
#1	5771.3	92510.	7240.9	4434.2	6792.0
#2	5806.9	92787.	7313.2	4464.1	6845.7
#3	5723.5	93261.	7321.8	4484.2	6746.5

Sample Name: S4 Acquired: 10/21/2025 12:21:01 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.26087	.29130	1.0171	.23257	.48267	.89919	23.505	2.4353
Stddev	.00090	.00375	.0017	.00089	.00041	.00059	.094	.0098
%RSD	.34497	1.2880	.16466	.38462	.08418	.06587	.39995	.40082
#1	.26112	.29519	1.0158	.23239	.48276	.89985	23.478	2.4406
#2	.26161	.29098	1.0190	.23354	.48302	.89871	23.427	2.4240
#3	.25987	.28771	1.0166	.23178	.48223	.89901	23.609	2.4413
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7.6414	1.4763	.20413	2.6672	.84014	.01239	1.0482	.30354
Stddev	.0159	.0010	.00063	.0052	.00142	.00003	.0024	.00141
%RSD	.20811	.06826	.30892	.19434	.16922	.26320	.23311	.46338
#1	7.6267	1.4774	.20466	2.6630	.83854	.01239	1.0479	.30466
#2	7.6583	1.4753	.20343	2.6730	.84126	.01243	1.0460	.30401
#3	7.6392	1.4763	.20429	2.6657	.84062	.01236	1.0509	.30196
Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.5136	.25105	.18187	.32594	6.2612	.09482	3.9178	3.4192
Stddev	.0028	.00087	.00082	.00118	.0204	.00043	.0100	.0070
%RSD	.18621	.34841	.45204	.36057	.32566	.45486	.25541	.20538
#1	1.5108	.25029	.18162	.32698	6.2388	.09446	3.9175	3.4186
#2	1.5164	.25086	.18120	.32617	6.2659	.09471	3.9079	3.4265
#3	1.5137	.25200	.18279	.32466	6.2788	.09530	3.9279	3.4125
Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.76106	1.5292	.01332	.22676	.15231	1.9352	38.410	
Stddev	.00153	.0026	.00004	.00115	.00056	.0127	.566	
%RSD	.20087	.16716	.31141	.50580	.36848	.65410	1.4730	
#1	.75973	1.5274	.01336	.22592	.15222	1.9386	38.977	
#2	.76273	1.5281	.01333	.22807	.15291	1.9213	37.846	
#3	.76070	1.5322	.01328	.22628	.15180	1.9459	38.406	

Sample Name: S4 Acquired: 10/21/2025 12:21:01 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5366.3	86820.	6920.5	4135.3	6171.5
Stddev	6.0	536.	48.0	5.6	10.7
%RSD	.11127	.61690	.69355	.13527	.17417
#1	5373.2	86204.	6865.4	4138.0	6183.8
#2	5363.2	87083.	6953.4	4139.1	6163.8
#3	5362.5	87173.	6942.7	4128.9	6167.0

Sample Name: S5 Acquired: 10/21/2025 12:25:05 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.51192	.54232	2.0487	.45104	.94865	1.7834	46.197	4.7020
Stddev	.00215	.01128	.0042	.00172	.00638	.0033	.006	.0473
%RSD	.41966	2.0803	.20638	.38132	.67264	.18424	.01396	1.0064

#1	.51432	.53001	2.0535	.45272	.95425	1.7836	46.190	4.7392
#2	.51128	.54477	2.0454	.45114	.94999	1.7866	46.199	4.7180
#3	.51017	.55217	2.0472	.44928	.94170	1.7800	46.202	4.6487

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	15.336	2.9151	.40249	5.3781	1.6347	.02454	2.0698	.60118
Stddev	.038	.0106	.00032	.0146	.0067	.00023	.0083	.00330
%RSD	.24943	.36393	.07850	.27097	.41294	.93569	.40216	.54924

#1	15.371	2.9204	.40214	5.3949	1.6420	.02431	2.0721	.60332
#2	15.295	2.9220	.40276	5.3683	1.6333	.02456	2.0768	.60285
#3	15.340	2.9029	.40256	5.3711	1.6287	.02477	2.0606	.59738

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.0395	.49050	.36058	.65192	12.063	.18892	7.5039	6.7250
Stddev	.0087	.00094	.00296	.00104	.033	.00152	.0753	.0233
%RSD	.28608	.19208	.82056	.15982	.27148	.80363	1.0029	.34637

#1	3.0495	.48944	.35773	.65245	12.044	.18739	7.5566	6.7513
#2	3.0337	.49123	.36037	.65260	12.101	.18895	7.5375	6.7164
#3	3.0354	.49083	.36364	.65072	12.044	.19042	7.4177	6.7071

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.5193	3.0387	.02648	.45672	.30816	3.9007	76.842
Stddev	.0044	.0079	.00046	.00088	.00081	.0172	1.581
%RSD	.28901	.25936	1.7367	.19259	.26285	.44048	2.0573

#1	1.5220	3.0351	.02600	.45767	.30855	3.9089	78.317
#2	1.5142	3.0477	.02654	.45594	.30723	3.9122	77.036
#3	1.5217	3.0332	.02691	.45655	.30870	3.8809	75.173

Sample Name: S5 Acquired: 10/21/2025 12:25:05 Type: Cal
Method: 6010-200.7 NEW(v304) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5351.5	88048.	6979.0	4171.7	5966.0
Stddev	8.5	3.	75.8	10.9	14.3
%RSD	.15947	.00339	1.0867	.26091	.23903
#1	5342.5	88051.	6915.2	4182.2	5962.1
#2	5359.5	88045.	6958.9	4160.4	5981.8
#3	5352.6	88047.	7062.8	4172.5	5954.1

Sample Name: ICV01 Acquired: 10/21/2025 12:40:04 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.801620	3.836830	3.701719	3.853213	3.884862	7.546449
Stddev	.007512	.179180	.009030	.021855	.001906	.033558
%RSD	.1975896	4.669989	.2439540	.5671802	.0490637	.4446894

#1	3.794778	3.665426	3.699257	3.829448	3.883814	7.507713
#2	3.800423	3.822179	3.694175	3.857742	3.887062	7.564938
#3	3.809658	4.022886	3.711725	3.872448	3.883711	7.566697

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.504786	.1936554	1.887248	18.78462	.7835728	1.904038
Stddev	.015203	.0012481	.006819	.01194	.0033102	.004936
%RSD	.2025744	.6444750	.3613201	.0635591	.4224549	.2592339

#1	7.495874	.1922389	1.881084	18.79569	.7806388	1.900464
#2	7.522340	.1945936	1.886087	18.78619	.7871615	1.901980
#3	7.496143	.1941336	1.894573	18.77197	.7829183	1.909669

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9757574	3.804992	1.857045	18.82488	1.906140	.9556081
Stddev	.0014391	.009815	.004345	.05372	.003375	.0017561
%RSD	.1474838	.2579611	.2339500	.2853810	.1770486	.1837642

#1	.9741325	3.813947	1.852392	18.85716	1.903574	.9538009
#2	.9768709	3.794498	1.860995	18.76287	1.904884	.9557154
#3	.9762689	3.806532	1.857749	18.85462	1.909963	.9573081

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.31319	1.879473	1.922675	18.86119	3.729372	3.847311
Stddev	.09444	.003235	.006766	.11506	.025683	.011896
%RSD	.5157022	.1721031	.3519140	.6100171	.6886659	.3091976

#1	18.39997	1.875864	1.914892	18.99257	3.699769	3.835693
#2	18.32698	1.882112	1.925978	18.81260	3.742645	3.846772
#3	18.21261	1.880441	1.927155	18.77840	3.745703	3.859467

Sample Name: ICV01 Acquired: 10/21/2025 12:40:04 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.783219	3.721680	F 3.557712	F .0054436	F .0303306	F 3.369123
Stddev	.017059	.008037	.016517	.0016015	.0033823	.007432
%RSD	.4509054	.2159400	.4642486	29.41994	11.15147	.2205793

#1	3.771049	3.719211	3.566371	.0050882	.0336021	3.372506
#2	3.775891	3.730661	3.568098	.0040497	.0268474	3.374261
#3	3.802718	3.715167	3.538666	.0071930	.0305425	3.360602

Elem	Sr4077
Units	ppm
Avg	3.801734
Stddev	.030220
%RSD	.7949048

#1	3.774823
#2	3.795953
#3	3.834428

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5563.982	90468.16	7282.105	4308.941	6464.981
Stddev	7.275	132.44	26.520	13.394	12.883
%RSD	.1307549	.1463920	.3641799	.3108439	.1992757

#1	5570.682	90408.64	7310.140	4324.334	6474.335
#2	5565.020	90375.92	7257.418	4299.945	6470.322
#3	5556.243	90619.91	7278.757	4302.544	6450.287

Sample Name: LLICV01 Acquired: 10/21/2025 12:44:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0200935	.0416540	.0109795	.0230714	.0520651	.1101974
Stddev	.0027285	.0013325	.0008753	.0003999	.0009594	.0041528
%RSD	13.57892	3.198899	7.971785	1.733320	1.842618	3.768539
#1	.0191925	.0431019	.0100412	.0229285	.0522964	.1106988
#2	.0231585	.0404793	.0111236	.0235232	.0528876	.1058167
#3	.0179295	.0413808	.0117738	.0227626	.0510112	.1140768
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0950069	.0062074	.0056790	1.994871	.0099830	.0288495
Stddev	.0002733	.0000483	.0001232	.022285	.0002707	.0001003
%RSD	.2876432	.7773782	2.169976	1.117135	2.711708	.3476838
#1	.0947146	.0062228	.0057439	2.009044	.0100493	.0289641
#2	.0950499	.0062461	.0055368	1.969184	.0096853	.0288069
#3	.0952560	.0061533	.0057561	2.006385	.0102144	.0287775
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0214594	.1090099	.0197038	2.061612	.0389386	.0102849
Stddev	.0004669	.0086900	.0005906	.013759	.0002470	.0004898
%RSD	2.175968	7.971792	2.997293	.6674063	.6342821	4.762353
#1	.0217080	.1007117	.0203805	2.047456	.0391367	.0103747
#2	.0217495	.1082730	.0192924	2.062445	.0386619	.0107236
#3	.0209207	.1180449	.0194384	2.074937	.0390172	.0097564
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.790000	.0347633	.0417254	1.980475	.0934535	.1985323
Stddev	.030520	.0022999	.0001966	.020879	.0003070	.0000765
%RSD	1.705049	6.615900	.4712684	1.054222	.3285118	.0385238
#1	1.821824	.0353543	.0415716	1.956459	.0931006	.1984683
#2	1.760976	.0322256	.0416576	1.990655	.0936586	.1985117
#3	1.787201	.0367101	.0419469	1.994311	.0936014	.1986170

Sample Name: LLICV01 Acquired: 10/21/2025 12:44:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0370023	.0377455	.3434312	.0163392	.0233007	F .0095657
Stddev	.0003512	.0028011	.0027848	.0007396	.0007606	.0073048
%RSD	.9491359	7.420993	.8108842	4.526459	3.264107	76.36444
#1	.0368987	.0361224	.3425770	.0155782	.0225942	.0019629
#2	.0367145	.0409799	.3465431	.0170553	.0241057	.0165307
#3	.0373936	.0361342	.3411735	.0163841	.0232023	.0102034
Elem	Sr4077					
Units	ppm					
Avg	.0202346					
Stddev	.0001023					
%RSD	.5056574					
#1	.0202369					
#2	.0201312					
#3	.0203358					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	5705.413	94409.16	7415.770	4446.190	7233.483	
Stddev	1.584	180.40	21.121	4.356	9.048	
%RSD	.0277594	.1910792	.2848122	.0979725	.1250832	
#1	5704.825	94292.43	7436.398	4444.842	7223.357	
#2	5704.206	94318.12	7416.726	4451.061	7236.319	
#3	5707.206	94616.94	7394.188	4442.667	7240.773	

Sample Name: ICB01 Acquired: 10/21/2025 12:50:28 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000657	.0007260	-.000022	.0016661	.0008136	.0092587	.0015768
Stddev	.001552	.0009024	.000762	.0029099	.0021624	.0039515	.0041825
%RSD	236.1735	124.2975	3395.914	174.6561	265.7897	42.67905	265.2615

#1	-.002438	-.000213	-.000791	.0034557	.0025185	.0066625	-.001076
#2	.000063	.000804	.000733	.0032340	-.001619	.0138063	.006398
#3	.000404	.001587	-.000009	-.001692	.001541	.0073072	-.000592

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000255	-.000059	.0046926	-.000107	-.000115	.0001938	.0096223
Stddev	.0000434	.000025	.0043580	.000350	.000079	.0001118	.0035549
%RSD	170.0642	42.70912	92.86875	327.9350	68.74740	57.71126	36.94443

#1	.0000736	-.000042	-.000267	.000099	-.000108	.0002213	.0121564
#2	-.000011	-.000047	.006435	-.000511	-.000039	.0002893	.0111520
#3	.000014	-.000088	.007910	.000092	-.000197	.0000708	.0055586

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000197	.0125593	-.000070	-.000025	-.051070	-.001512	.0001988
Stddev	.000545	.0268069	.000084	.000216	.036737	.004767	.0002105
%RSD	276.0197	213.4424	120.2710	849.2376	71.93436	315.2843	105.8875

#1	-.000063	.0273329	-.000152	.000224	-.067245	.003464	.0003602
#2	-.000797	.0287292	.000017	-.000152	-.076945	-.001962	-.000039
#3	.000268	-.018384	-.000075	-.000148	-.009021	-.006038	.000276

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.061255	-.009094	-.000415	-.010728	.0011672	-.011736	-.001932
Stddev	.042479	.002037	.000107	.000249	.0025116	.012242	.000752
%RSD	69.34788	22.39552	25.72564	2.318042	215.1791	104.3125	38.90604

#1	-.102828	-.009937	-.000384	-.010851	-.000814	-.023020	-.002786
#2	-.017925	-.006771	-.000534	-.010442	.003992	.001279	-.001370
#3	-.063011	-.010574	-.000327	-.010891	.000324	-.013466	-.001641

Sample Name: ICB01 Acquired: 10/21/2025 12:50:28 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0026762	-.008893	-.000073
Stddev	.0027678	.003851	.000100
%RSD	103.4224	43.30390	136.9210

#1	.0005721	-.004487	-.000156
#2	.0058115	-.010580	.000037
#3	.0016450	-.011613	-.000099

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5596.288	90410.60	6749.930	4251.766	7180.883
Stddev	8.192	115.78	581.219	6.898	11.902
%RSD	.1463849	.1280573	8.610746	.1622320	.1657434

#1	5587.729	90486.78	7084.530	4248.543	7171.573
#2	5597.078	90277.37	6078.797	4259.685	7176.784
#3	5604.056	90467.66	7086.463	4247.070	7194.293

Sample Name: CRI01 Acquired: 10/21/2025 12:54:47 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0222154	.0428091	.0118845	.0242795	.0498868	.1101083
Stddev	.0012658	.0010363	.0007385	.0014371	.0028011	.0108464
%RSD	5.697745	2.420850	6.213630	5.918933	5.615007	9.850639
#1	.0230019	.0436570	.0114103	.0249649	.0518117	.1071956
#2	.0207552	.0431165	.0115078	.0226281	.0511753	.1221137
#3	.0228890	.0416539	.0127353	.0252457	.0466732	.1010157
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0981445	.0062259	.0055922	2.025391	.0099436	.0288329
Stddev	.0015378	.0000485	.0000588	.010907	.0000692	.0001166
%RSD	1.566864	.7787637	1.051845	.5385043	.6959599	.4044205
#1	.0991686	.0062403	.0056478	2.037953	.0099761	.0288548
#2	.0963762	.0061719	.0055982	2.018327	.0099906	.0287069
#3	.0988888	.0062656	.0055306	2.019894	.0098642	.0289370
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0216132	.1071350	.0208790	2.093070	.0385872	.0099476
Stddev	.0004354	.0056717	.0004859	.024007	.0003277	.0004499
%RSD	2.014559	5.294012	2.327255	1.146991	.8492870	4.522665
#1	.0214657	.1135458	.0210356	2.120768	.0382388	.0094283
#2	.0212707	.1027697	.0203342	2.080198	.0386333	.0101945
#3	.0221032	.1050897	.0212674	2.078243	.0388894	.0102201
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.867670	.0355517	.0418813	1.862944	.0884837	.1961754
Stddev	.008811	.0026075	.0001467	.049817	.0008572	.0009147
%RSD	.4717629	7.334498	.3503383	2.674120	.9687938	.4662565
#1	1.866259	.0385517	.0419737	1.835748	.0889965	.1959577
#2	1.877101	.0342735	.0417122	1.920441	.0889606	.1953892
#3	1.859650	.0338298	.0419582	1.832645	.0874941	.1971793

Sample Name: CRI01 Acquired: 10/21/2025 12:54:47 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0372747	.0383629	.3254299	.0196118	.0252300	F .0102393
Stddev	.0003447	.0006692	.0127318	.0008401	.0013483	.0046723
%RSD	.9248032	1.744353	3.912300	4.283671	5.343939	45.63103

#1	.0374438	.0378276	.3197788	.0189871	.0237666	.0148799
#2	.0368780	.0391131	.3400091	.0192815	.0264218	.0055359
#3	.0375021	.0381480	.3165019	.0205669	.0255018	.0103022

Elem	Sr4077
Units	ppm
Avg	.0208013
Stddev	.0002967
%RSD	1.426580

#1	.0205868
#2	.0211400
#3	.0206772

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5600.906	92551.51	7107.468	4429.651	7094.094
Stddev	14.260	322.86	30.072	24.965	22.296
%RSD	.2545960	.3488430	.4231078	.5635905	.3142925

#1	5585.575	92257.14	7087.409	4415.160	7073.119
#2	5613.773	92896.81	7142.045	4458.478	7117.510
#3	5603.369	92500.57	7092.951	4415.314	7091.652

Sample Name: ICSA01 Acquired: 10/21/2025 12:59:03 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074308	.0153864	-.003563	.0063739	-.001702	230.6471
Stddev	.0006532	.0036640	.001246	.0018735	.002961	.5292
%RSD	8.790128	23.81336	34.97161	29.39373	173.9370	.2294357

#1	.0073550	.0162451	-.004141	.0065812	.001276	231.1027
#2	.0068189	.0113692	-.002133	.0081351	-.001738	230.0666
#3	.0081186	.0185447	-.004414	.0044053	-.004645	230.7719

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002084	.0016766	.0014228	218.9252	.0436948	.0018651
Stddev	.0016883	.0000532	.0001491	.7922	.0002355	.0001019
%RSD	810.2101	3.172151	10.47825	.3618476	.5390507	5.465711

#1	-.000690	.0017259	.0012514	219.8350	.0435656	.0019533
#2	-.000841	.0016203	.0014948	218.3883	.0439666	.0017535
#3	.002156	.0016836	.0015223	218.5522	.0435521	.0018885

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0178074	91.44059	.0057005	231.4650	.0038040	-.002887
Stddev	.0001605	.28932	.0006748	.7593	.0002807	.000676
%RSD	.9013465	.3164005	11.83834	.3280427	7.379669	23.40810

#1	.0179755	91.76811	.0061685	232.3165	.0040480	-.002518
#2	.0177911	91.33385	.0060062	230.8583	.0038670	-.002476
#3	.0176557	91.21980	.0049269	231.2203	.0034972	-.003667

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0514709	.0035814	.0034432	.2514901	.0354631	-.000455
Stddev	.0081079	.0009966	.0000724	.0213638	.0010634	.000116
%RSD	15.75234	27.82798	2.101619	8.494872	2.998685	25.49649

#1	.0458119	.0043590	.0033737	.2276913	.0343555	-.000558
#2	.0607595	.0024579	.0035181	.2690131	.0364760	-.000476
#3	.0478413	.0039272	.0034378	.2577658	.0355578	-.000329

Sample Name: ICSA01 Acquired: 10/21/2025 12:59:03 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.014496	-.003795	-.000076	.0031529	.0007825	F .0738910
Stddev	.000959	.000816	.003485	.0003465	.0037682	.0014705
%RSD	6.616059	21.49837	4599.228	10.99055	481.5386	1.990038
#1	-.015369	-.003640	.000782	.0028825	.0037203	.0722291
#2	-.013470	-.004677	.002901	.0030327	.0020933	.0744202
#3	-.014649	-.003067	-.003910	.0035435	-.003466	.0750235
Elem	Sr4077					
Units	ppm					
Avg	.0044392					
Stddev	.0005209					
%RSD	11.73512					
#1	.0049505					
#2	.0044581					
#3	.0039091					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	5471.175	87479.13	7304.827	4240.012	5969.665	
Stddev	9.331	142.44	30.228	13.111	14.215	
%RSD	.1705531	.1628281	.4138036	.3092238	.2381273	
#1	5466.774	87347.13	7270.635	4226.136	5958.820	
#2	5464.859	87630.11	7315.852	4241.707	5964.418	
#3	5481.893	87460.15	7327.995	4252.193	5985.759	

Sample Name: ICSAB01 Acquired: 10/21/2025 13:03:15 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1033486	.1102201	.0457954	.0550946	.5781575	241.6358
Stddev	.0015365	.0099197	.0006371	.0035810	.0028149	.6100
%RSD	1.486698	8.999943	1.391226	6.499663	.4868709	.2524545

#1	.1030306	.1203007	.0454841	.0524594	.5803131	242.2448
#2	.1019960	.1098899	.0465283	.0536527	.5749729	241.0248
#3	.1050192	.1004695	.0453738	.0591718	.5791865	241.6378

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4714585	.4977050	.9738577	227.8420	.5355575	.4904860
Stddev	.0032949	.0056134	.0025981	.7899	.0016222	.0020549
%RSD	.6988690	1.127861	.2667801	.3466898	.3029032	.4189443

#1	.4702428	.5013564	.9754574	227.9638	.5337568	.4901362
#2	.4689443	.4912413	.9708600	226.9983	.5360111	.4886285
#3	.4751886	.5005173	.9752557	228.5640	.5369046	.4926934

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4786767	97.53143	.4686490	241.9801	.9729978	.2033112
Stddev	.0024073	.98062	.0049475	1.2341	.0036401	.0001965
%RSD	.5029022	1.005437	1.055689	.5099890	.3741101	.0966538

#1	.4804186	96.40189	.4677140	242.5796	.9740530	.2031282
#2	.4759297	98.02750	.4642358	240.5607	.9689467	.2032864
#3	.4796816	98.16489	.4739973	242.7998	.9759938	.2035189

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0957185	.4692826	1.020125	.2421139	.9433871	.9554289
Stddev	.0070639	.0027551	.004506	.0567925	.0065485	.0053076
%RSD	7.379876	.5870910	.4416659	23.45692	.6941468	.5555190

#1	.0992063	.4662378	1.015466	.1765480	.9477273	.9603582
#2	.1003601	.4700064	1.020450	.2760004	.9358546	.9498103
#3	.0875890	.4716035	1.024459	.2737932	.9465793	.9561183

Sample Name: ICSAB01 Acquired: 10/21/2025 13:03:15 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9547255	.9262747	.9781966	F .0054967	F .0094046	F .0817108
Stddev	.0046664	.0066073	.0079852	.0015913	.0020831	.0040816
%RSD	.4887656	.7133152	.8163175	28.94940	22.15011	4.995133

#1	.9600790	.9260671	.9851397	.0068920	.0070193	.0861489
#2	.9525781	.9197737	.9799794	.0037637	.0108657	.0781182
#3	.9515194	.9329833	.9694707	.0058345	.0103289	.0808654

Elem	Sr4077
Units	ppm
Avg	F .0014955
Stddev	.0009903
%RSD	66.21729

#1	.0023741
#2	.0004224
#3	.0016900

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5222.805	82065.39	7109.203	3907.715	5669.717
Stddev	23.321	304.96	63.858	26.807	18.454
%RSD	.4465280	.3716106	.8982438	.6859945	.3254795

#1	5214.895	82411.30	7072.646	3938.653	5665.669
#2	5249.052	81949.56	7182.939	3893.120	5689.858
#3	5204.467	81835.32	7072.025	3891.373	5653.623

Sample Name: ICSA01 Acquired: 10/21/2025 13:07:15 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000465	-.000469	.0007215	.0020080	-.000268	11.47551	-.002645
Stddev	.001799	.001086	.0009177	.0018314	.000330	.03043	.001097
%RSD	386.5640	231.6975	127.1960	91.20139	123.3235	.2652078	41.47028
#1	-.001495	-.001718	-.000252	.0021879	-.000069	11.50875	-.001568
#2	-.001513	.000237	.000845	.0037428	-.000085	11.46874	-.002606
#3	.001612	.000076	.001571	.0000934	-.000649	11.44903	-.003761
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001532	-.000022	11.28942	.0023462	.0000317	.0035054	4.521286
Stddev	.0000349	.000049	.04798	.0002689	.0000406	.0002965	.026238
%RSD	22.80122	220.1270	.4249883	11.46215	128.1274	8.456894	.5803233
#1	.0001421	-.000053	11.31797	.0020784	.0000583	.0037863	4.504203
#2	.0001923	.000034	11.31626	.0026163	.0000519	.0031955	4.508158
#3	.0001251	-.000048	11.23403	.0023437	-.000015	.0035345	4.551497
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000005	11.67764	.0002377	-.000126	-.048491	.0016329	.0019240
Stddev	.000400	.03362	.0002669	.000126	.021228	.0030100	.0003820
%RSD	7284.275	.2879376	112.2866	99.77478	43.77739	184.3353	19.85553
#1	.000304	11.71486	.0004663	-.000258	-.072021	-.000844	.0019324
#2	-.000457	11.66862	.0003022	-.000007	-.042675	.000759	.0015379
#3	.000137	11.64945	-.000056	-.000113	-.030777	.004983	.0023018
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.026314	-.015616	-.000394	-.012687	-.000911	-.009586	-.001073
Stddev	.028613	.000972	.000157	.000453	.002186	.007257	.000966
%RSD	108.7347	6.221366	39.84496	3.573453	239.9285	75.70851	90.04136
#1	.005957	-.014594	-.000574	-.012287	-.000907	-.014622	-.000072
#2	-.048582	-.016527	-.000286	-.013179	.001273	-.001267	-.001999
#3	-.036317	-.015726	-.000321	-.012595	-.003099	-.012868	-.001147

Sample Name: ICSA01 Acquired: 10/21/2025 13:07:15 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0038076	-.008214	.0002348
Stddev	.0008811	.003058	.0001195
%RSD	23.14045	37.22759	50.88473
#1	.0045720	-.009072	.0003522
#2	.0028439	-.010750	.0001134
#3	.0040069	-.004818	.0002387

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5872.355	95736.81	7616.183	4523.820	7209.072
Stddev	3.066	196.47	32.149	4.029	5.650
%RSD	.0522134	.2052188	.4221123	.0890542	.0783688
#1	5868.815	95914.48	7595.587	4519.168	7203.229
#2	5874.106	95770.13	7599.733	4526.186	7209.482
#3	5874.145	95525.81	7653.228	4526.105	7214.506

Sample Name: ICSAB01 Acquired: 10/21/2025 13:11:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060364	.0077472	.0016534	.0024465	.0274670	11.64982	.0226345
Stddev	.0011859	.0028102	.0003270	.0024716	.0013418	.08398	.0000477
%RSD	19.64524	36.27438	19.77640	101.0233	4.885223	.7209030	.2107357
#1	.0055015	.0052970	.0016035	.0033579	.0283914	11.55301	.0225857
#2	.0073955	.0071298	.0020025	.0043330	.0259280	11.69329	.0226810
#3	.0052123	.0108148	.0013543	-.000351	.0280817	11.70316	.0226368
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0246664	.0450207	11.45782	.0263510	.0226473	.0250251	4.541858
Stddev	.0003224	.0000673	.10085	.0002574	.0000481	.0005611	.031440
%RSD	1.307219	.1494705	.8802170	.9768655	.2123082	2.241999	.6922222
#1	.0243347	.0450737	11.34262	.0264403	.0226002	.0252706	4.575913
#2	.0249787	.0449450	11.50067	.0260608	.0226963	.0243831	4.513939
#3	.0246857	.0450435	11.53018	.0265518	.0226453	.0254215	4.535720
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0241452	11.86471	.0456800	.0092509	-.056402	.0220981	.0488915
Stddev	.0003667	.08990	.0001232	.0007378	.010807	.0013597	.0001113
%RSD	1.518612	.7577333	.2696422	7.975126	19.16062	6.152895	.2275566
#1	.0242743	11.78369	.0457667	.0097187	-.068408	.0235345	.0490198
#2	.0244298	11.84901	.0455390	.0084004	-.047453	.0219288	.0488221
#3	.0237314	11.96143	.0457343	.0096335	-.053344	.0208310	.0488326
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.035343	.0336393	.0511662	.0367559	.0496422	.0209582	-.000102
Stddev	.031262	.0009050	.0001052	.0003476	.0017507	.0137494	.000520
%RSD	88.45293	2.690328	.2055920	.9457744	3.526670	65.60386	511.4739
#1	-.066791	.0330971	.0512497	.0370753	.0511095	.0055882	-.000036
#2	-.034967	.0346841	.0510481	.0363857	.0501129	.0251983	.000382
#3	-.004271	.0331367	.0512009	.0368068	.0477043	.0320881	-.000652

Sample Name: ICSAB01 Acquired: 10/21/2025 13:11:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0043203	-.005156	.0003020
Stddev	.0013908	.003080	.0000458
%RSD	32.19161	59.73951	15.14621

#1	.0056428	-.004675	.0002785
#2	.0028700	-.008449	.0002728
#3	.0044481	-.002345	.0003547

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5706.886	93373.76	7302.620	4457.593	6985.546
Stddev	12.388	254.70	93.316	16.787	17.197
%RSD	.2170776	.2727778	1.277840	.3765826	.2461865

#1	5699.158	93162.27	7405.640	4438.475	6972.258
#2	5721.175	93656.51	7223.761	4464.383	7004.970
#3	5700.324	93302.51	7278.458	4469.921	6979.410

Sample Name: CCV01 Acquired: 10/21/2025 13:45:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.822491	5.227069	4.795726	4.824523	4.831624	9.781940	9.659796
Stddev	.021654	.150844	.022783	.004958	.018277	.037262	.060514
%RSD	.4490278	2.885821	.4750704	.1027599	.3782774	.3809296	.6264478

#1	4.819115	5.394757	4.786046	4.824186	4.815403	9.788115	9.701645
#2	4.802723	5.184021	4.779381	4.819743	4.828043	9.815729	9.687331
#3	4.845635	5.102429	4.821751	4.829641	4.851427	9.741976	9.590411

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2420607	2.422163	24.23300	.9762486	2.410188	1.223560	4.747322
Stddev	.0014584	.006998	.10787	.0024210	.008663	.004011	.033745
%RSD	.6024794	.2889050	.4451400	.2479923	.3594123	.3278161	.7108162

#1	.2437103	2.420004	24.33706	.9752642	2.406919	1.220588	4.708466
#2	.2415291	2.416499	24.24027	.9744749	2.403636	1.221969	4.769276
#3	.2409428	2.429986	24.12168	.9790068	2.420009	1.228122	4.764224

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.407138	24.28133	2.413848	1.201943	23.87266	2.428151	2.425732
Stddev	.012778	.04937	.008615	.002172	.05796	.008857	.006251
%RSD	.5308219	.2033411	.3568996	.1807438	.2427772	.3647475	.2576956

#1	2.409302	24.33145	2.410464	1.199492	23.87757	2.422327	2.419566
#2	2.418695	24.27979	2.407440	1.202709	23.92800	2.438343	2.425567
#3	2.393416	24.23274	2.423642	1.203629	23.81240	2.423784	2.432065

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.76980	4.829537	4.932925	4.814095	4.839600	4.874925	4.814313
Stddev	.14594	.018181	.009188	.021137	.014303	.051726	.004944
%RSD	.6139588	.3764592	.1862503	.4390591	.2955439	1.061056	.1027018

#1	23.61712	4.848704	4.931923	4.815282	4.845493	4.815885	4.817131
#2	23.90790	4.827373	4.924279	4.792389	4.850015	4.912267	4.808604
#3	23.78438	4.812535	4.942572	4.834612	4.823292	4.896625	4.817204

Sample Name: CCV01 Acquired: 10/21/2025 13:45:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.704946	4.804899	4.752184
Stddev	.028391	.049507	.063522
%RSD	.6034328	1.030347	1.336691

#1	4.734629	4.838847	4.807814
#2	4.678053	4.827758	4.765768
#3	4.702155	4.748093	4.682968

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5543.212	90941.06	7138.558	4298.952	6421.995
Stddev	8.138	267.73	52.246	6.068	16.939
%RSD	.1468127	.2943963	.7318797	.1411486	.2637725

#1	5544.133	90739.19	7078.851	4304.404	6417.179
#2	5550.850	91244.76	7160.934	4300.039	6440.821
#3	5534.653	90839.23	7175.889	4292.415	6407.985

Sample Name: CCB01 Acquired: 10/21/2025 13:54:01 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000732	-.000332	.0000346	.0014506	.0013324	.0083114	.0009341
Stddev	.000378	.000884	.0008174	.0027018	.0010432	.0139751	.0010716
%RSD	51.66679	266.2167	2359.519	186.2514	78.29003	168.1440	114.7201

#1	-.000504	-.000826	.0002478	-.001606	.0001471	-.007601	.0002488
#2	-.000522	-.000859	.0007244	.002439	.0021106	.013941	.0003846
#3	-.001168	.000689	-.000868	.003519	.0017396	.018593	.0021691

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000010	-.000060	.0083190	.0001150	-.000188	.0000655	-.003188
Stddev	.000036	.000027	.0066308	.0002700	.000079	.0001801	.005020
%RSD	360.2314	44.51557	79.70683	234.7630	41.89207	274.9986	157.4543

#1	-.000036	-.000085	.0107190	.0004220	-.000098	.0000821	-.006467
#2	-.000024	-.000032	.0008224	-.000086	-.000222	.0002367	-.005687
#3	.000031	-.000062	.0134156	.000009	-.000244	-.000122	.002591

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000302	-.006251	-.000262	-.000045	-.091017	.0000467	.0000128
Stddev	.000284	.015740	.000170	.000069	.016243	.0036068	.0001479
%RSD	93.83561	251.7895	64.78559	153.7759	17.84623	7729.965	1154.150

#1	-.000045	.001051	-.000300	-.000010	-.073808	-.000688	.0001498
#2	-.000607	.004512	-.000409	-.000000	-.093162	-.003137	-.000144
#3	-.000255	-.024316	-.000076	-.000125	-.106081	.003964	.000033

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.112671	-.011685	-.000293	-.011503	-.000151	-.003860	-.000334
Stddev	.026180	.001221	.000093	.000054	.002975	.009298	.000448
%RSD	23.23551	10.44769	31.69981	.4682056	1976.819	240.8640	134.1198

#1	-.106067	-.012907	-.000386	-.011563	.001842	.004438	-.000752
#2	-.141520	-.011683	-.000200	-.011460	.001277	-.013909	.000139
#3	-.090425	-.010465	-.000292	-.011485	-.003570	-.002109	-.000389

Sample Name: CCB01 Acquired: 10/21/2025 13:54:01 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0049078	-.004902	.0000600
Stddev	.0018266	.002458	.0000698
%RSD	37.21883	50.14097	116.2913
#1	.0066397	-.002626	.0001406
#2	.0029993	-.004571	.0000187
#3	.0050844	-.007508	.0000207

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5664.002	93319.68	7041.265	4455.728	7326.882
Stddev	.620	211.23	42.553	10.211	6.421
%RSD	.0109493	.2263496	.6043384	.2291633	.0876348
#1	5664.686	93076.62	7088.086	4455.629	7319.651
#2	5663.477	93423.57	7030.762	4445.566	7329.081
#3	5663.843	93458.83	7004.947	4465.987	7331.915

Sample Name: LR-1 Acquired: 10/21/2025 13:57:53 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051930	.0158169	-.003180	-.013955	.0260306	.4910741	.0206954
Stddev	.0049620	.0039238	.003336	.007345	.0045680	.0161258	.0010566
%RSD	95.55181	24.80763	104.8962	52.63362	17.54856	3.283773	5.105732

#1	.0105664	.0129867	-.006992	-.006612	.0300055	.4777000	.0215894
#2	.0042285	.0141679	-.001755	-.013952	.0210404	.4865411	.0195294
#3	.0007841	.0202961	-.000793	-.021302	.0270458	.5089813	.0209675

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009636	.0012373	2194.718	.0577044	.0069947	.0109616	.9198065
Stddev	.0000809	.0000714	16.093	.0003767	.0002710	.0005716	.0102504
%RSD	8.389966	5.766264	.7332542	.6527267	3.874489	5.214928	1.114406

#1	.0010304	.0012319	2212.163	.0575200	.0068027	.0105229	.9081016
#2	.0009868	.0011688	2191.540	.0574554	.0073047	.0107539	.9241372
#3	.0008737	.0013112	2180.451	.0581377	.0068768	.0116080	.9271808

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0303397	2247.183	.0431992	.0031713	2355.182	.0084399	.0825493
Stddev	.0007786	5.361	.0003216	.0002547	21.176	.0038310	.0003397
%RSD	2.566174	.2385840	.7445061	8.031272	.8991257	45.39138	.4115572

#1	.0312181	2246.866	.0435046	.0032377	2338.429	.0044740	.0828447
#2	.0300661	2241.987	.0428635	.0033862	2348.133	.0121200	.0826252
#3	.0297348	2252.696	.0432295	.0028900	2378.983	.0087256	.0821781

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.189719	-.004984	.0112235	-.028789	-.092065	-.036340	.0155190
Stddev	.306404	.000042	.0004764	.001318	.005473	.008236	.0039058
%RSD	9.605983	.8419495	4.244298	4.578373	5.944386	22.66416	25.16768

#1	2.848227	-.005031	.0108410	-.027696	-.087128	-.036104	.0166958
#2	3.280339	-.004969	.0110725	-.028418	-.091116	-.044692	.0187011
#3	3.440593	-.004952	.0117571	-.030253	-.097950	-.028225	.0111601

Sample Name: LR-1 Acquired: 10/21/2025 13:57:53 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2490148	.9843569	.0591179
Stddev	.0066813	.0217765	.0003365
%RSD	2.683076	2.212252	.5692263
#1	.2442565	.9655955	.0589187
#2	.2461349	.9792385	.0589286
#3	.2566531	1.008237	.0595064

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3682.655	62012.04	6168.270	2911.225	3883.841
Stddev	34.143	82.07	33.048	13.600	32.576
%RSD	.9271203	.1323394	.5357715	.4671719	.8387611
#1	3714.220	61967.00	6148.702	2897.360	3913.191
#2	3687.327	62106.77	6206.426	2911.772	3889.541
#3	3646.416	61962.36	6149.683	2924.544	3848.791

Sample Name: LR-2 Acquired: 10/21/2025 14:02:22 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1148138	-.048526	.0692306	.0452964	-.152772	1916.001	.0230828
Stddev	.0038303	.011932	.0057678	.0067645	.003987	6.126	.0009503
%RSD	3.336076	24.58794	8.331300	14.93379	2.610043	.3197102	4.117154

#1	.1191852	-.035583	.0731375	.0496221	-.149727	1916.718	.0221127
#2	.1132106	-.050909	.0626060	.0487660	-.157286	1921.736	.0240121
#3	.1120457	-.059087	.0719484	.0375011	-.151305	1909.548	.0231235

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0442066	.0387003	6.062658	-.284708	.0777439	.3987937	2530.271
Stddev	.0004373	.0021540	.165226	.000925	.0002544	.0051695	8.722
%RSD	.9891577	5.565745	2.725300	.3249382	.3272212	1.296290	.3447086

#1	.0447089	.0387943	6.236839	-.283809	.0776818	.4039586	2520.777
#2	.0440000	.0365009	6.042986	-.284659	.0780236	.3988029	2532.107
#3	.0439110	.0408057	5.908149	-.285658	.0775263	.3936196	2537.928

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.252676	1.079826	.0500173	^ *****	3.287825	.0656327	.0614071
Stddev	.000625	.042509	.0008652	-----	.027124	.0010564	.0020721
%RSD	.2473370	3.936641	1.729739	-----	.8249717	1.609502	3.374402

#1	-.252021	1.073067	.0490208	^ -----	3.318138	.0644452	.0637067
#2	-.253267	1.125310	.0505763	^ -----	3.265846	.0664679	.0608297
#3	-.252739	1.041102	.0504549	^ -----	3.279492	.0659850	.0596849

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1826.835	^ *****	-.017275	.0009102	.0038311	.4482043	.0879342
Stddev	13.620	-----	.000357	.0031216	.0006174	.0096726	.0048259
%RSD	.7455712	-----	2.064916	342.9535	16.11476	2.158090	5.488079

#1	1839.780	^ -----	-.016955	-.002440	.0033215	.4374022	.0909716
#2	1812.627	^ -----	-.017659	.003737	.0045176	.4511463	.0823695
#3	1828.099	^ -----	-.017210	.001433	.0036543	.4560643	.0904614

Sample Name: LR-2 Acquired: 10/21/2025 14:02:22 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.391503	.2716969	-2.42571
Stddev	.009280	.0036046	.00837
%RSD	2.370362	1.326689	.3449513
#1	-.398068	.2702641	-2.41658
#2	-.380886	.2690290	-2.42751
#3	-.395554	.2757976	-2.43302

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4837.232	75890.78	6728.821	3711.626	4294.166
Stddev	5.076	284.32	41.006	34.578	6.347
%RSD	.1049380	.3746481	.6094121	.9316060	.1478147
#1	4840.887	75568.21	6681.542	3679.631	4287.311
#2	4839.374	75999.14	6754.707	3706.937	4299.840
#3	4831.436	76104.99	6750.215	3748.308	4295.346

Sample Name: PB170187BL Acquired: 10/21/2025 14:11:44 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008509	.0002390	.0014827	-.000365	-.000444	.0137354	-.002143
Stddev	.0010454	.0005508	.0006534	.001582	.001420	.0086190	.001628
%RSD	122.8491	230.4243	44.06358	433.6896	319.9632	62.75038	75.98183
#1	.0014066	.0000464	.0022249	-.001627	.000984	.0133206	-.002646
#2	-.000355	.0008603	.0012288	.001410	-.001857	.0225544	-.000322
#3	.001501	-.000190	.0009945	-.000878	-.000459	.0053313	-.003460
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000570	-.000059	.0102053	.0001363	-.000066	.0000723	.0192003
Stddev	.0000169	.000063	.0136175	.0002164	.000042	.0002367	.0062832
%RSD	29.62683	107.9869	133.4356	158.7837	63.75759	327.5427	32.72441
#1	.0000756	-.000107	.0096771	.0003711	-.000093	-.000187	.0232390
#2	.0000428	.000013	.0240792	-.000055	-.000087	.000127	.0119613
#3	.0000525	-.000082	-.003140	.000093	-.000017	.000277	.0224007
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002086	-.021295	.0000242	-.000072	.1841160	-.001728	.0007670
Stddev	.0003496	.001626	.0001075	.000681	.0144060	.001521	.0003054
%RSD	167.6169	7.635270	444.9149	951.3651	7.824416	88.00757	39.81415
#1	.0000578	-.019511	-.000078	.000164	.1691327	-.001556	.0009716
#2	-.000040	-.022694	.000014	.000460	.1853501	-.000301	.0009133
#3	.000608	-.021680	.000136	-.000839	.1978653	-.003328	.0004160
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5598152	-.021237	-.000334	-.004943	-.000474	-.025467	-.000821
Stddev	.0529238	.000535	.000168	.000445	.000465	.011072	.001275
%RSD	9.453791	2.518775	50.40106	8.993392	98.19738	43.47805	155.2899
#1	.5122111	-.021832	-.000528	-.005436	-.001011	-.028409	-.001717
#2	.5504310	-.020796	-.000255	-.004820	-.000203	-.034770	-.001384
#3	.6168033	-.021084	-.000220	-.004573	-.000207	-.013220	.000638

Sample Name: PB170187BL Acquired: 10/21/2025 14:11:44 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0020103	-.000364	-.000095
Stddev	.0014885	.003260	.000061
%RSD	74.04469	896.0162	64.81437

#1	.0003899	-.004067	-.000026
#2	.0023240	.002070	-.000115
#3	.0033169	.000905	-.000143

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5716.353	94368.22	7436.369	4405.648	7409.406
Stddev	8.346	89.56	9.493	14.871	10.011
%RSD	.1460057	.0949023	.1276536	.3375476	.1351100

#1	5724.597	94449.62	7427.707	4388.983	7420.294
#2	5707.908	94382.76	7446.517	4410.394	7400.599
#3	5716.553	94272.28	7434.882	4417.566	7407.324

Sample Name: PB170187BS Acquired: 10/21/2025 14:16:03 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7694021	1.964099	.9182276	1.964357	.8009881	1.964232
Stddev	.0027006	.065619	.0002182	.004999	.0011762	.006929
%RSD	.3510056	3.340911	.0237655	.2544811	.1468444	.3527369
#1	.7708104	1.965789	.9182120	1.965947	.7996545	1.968399
#2	.7662884	2.028856	.9180176	1.968367	.8018773	1.968062
#3	.7711075	1.897651	.9184532	1.958756	.8014326	1.956234
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1921441	.1963798	.1819600	.9877741	.3887697	.1879171
Stddev	.0015842	.0011822	.0002017	.0058647	.0005844	.0002344
%RSD	.8244854	.6019824	.1108230	.5937259	.1503226	.1247260
#1	.1937879	.1962896	.1821927	.9905322	.3894290	.1881841
#2	.1906272	.1952453	.1818370	.9917512	.3883153	.1878218
#3	.1920172	.1976045	.1818502	.9810388	.3885650	.1877454
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3040813	2.971001	.1985864	1.920374	.4722489	.0706932
Stddev	.0007365	.014419	.0017109	.015959	.0001677	.0002582
%RSD	.2422043	.4853384	.8615521	.8310379	.0355034	.3652088
#1	.3033698	2.963221	.1985628	1.919440	.4722476	.0704115
#2	.3040337	2.987639	.1968874	1.904902	.4724172	.0707494
#3	.3048405	2.962142	.2003090	1.936779	.4720818	.0709186
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.001860	.2900945	.2079155	9.824607	.2701450	.3980168
Stddev	.027780	.0026945	.0001192	.029458	.0023795	.0008368
%RSD	.9254300	.9288411	.0573392	.2998380	.8808031	.2102446
#1	3.020628	.2892257	.2080315	9.846557	.2688121	.3982251
#2	3.015006	.2879416	.2079215	9.836137	.2687307	.3987298
#3	2.969947	.2931162	.2077933	9.791129	.2728921	.3970955

Sample Name: PB170187BS Acquired: 10/21/2025 14:16:03 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6418134	.1912884	.8435538	5.382448	F .0041768	.1826968
Stddev	.0025572	.0018190	.0101645	.012582	.0008326	.0052269
%RSD	.3984393	.9509247	1.204958	.2337558	19.93287	2.860985

#1	.6443091	.1893590	.8544804	5.385905	.0042556	.1767541
#2	.6391987	.1929720	.8418017	5.368499	.0033076	.1847552
#3	.6419324	.1915341	.8343793	5.392940	.0049671	.1865812

Elem	Sr4077
Units	ppm
Avg	.1917900
Stddev	.0005915
%RSD	.3084332

#1	.1920059
#2	.1911208
#3	.1922432

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5745.359	95112.88	7475.295	4491.977	7143.405
Stddev	4.184	256.89	54.030	10.546	6.578
%RSD	.0728159	.2700860	.7227842	.2347638	.0920833

#1	5745.909	94833.97	7473.424	4480.621	7136.541
#2	5749.241	95339.79	7530.237	4493.849	7149.654
#3	5740.928	95164.88	7422.225	4501.462	7144.019

Sample Name: PB170183BL Acquired: 10/21/2025 14:25:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000275	-.000465	.0001895	-.001641	-.000538	.0246144
Stddev	.001005	.001344	.0002644	.000367	.001268	.0013422
%RSD	365.0179	289.2998	139.5027	22.38382	235.5786	5.452897

#1	-.001177	-.002013	-.000012	-.001936	-.001915	.0261022
#2	-.000456	.000390	.000489	-.001756	-.000283	.0234947
#3	.000808	.000230	.000092	-.001230	.000583	.0242463

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002864	.0000568	-.000065	.0168955	.0000063	-.000207
Stddev	.000506	.0000164	.000067	.0108916	.0001501	.000075
%RSD	17.66829	28.87601	103.8524	64.46434	2386.746	36.53663

#1	-.003191	.0000412	-.000135	.0058952	.0000883	-.000160
#2	-.003119	.0000553	-.000001	.0276750	.0000975	-.000294
#3	-.002281	.0000739	-.000058	.0171164	-.000167	-.000166

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001160	.0139917	-.000211	-.007762	.0000334	-.000087
Stddev	.0002000	.0077553	.000510	.014480	.0002802	.000225
%RSD	172.3753	55.42775	241.9313	186.5516	838.3055	257.4383

#1	.0003469	.0064985	-.000657	.005363	.0000260	-.000295
#2	.0000016	.0134918	-.000321	-.023294	-.000243	-.000119
#3	-.000000	.0219850	.000346	-.005353	.000317	.000152

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0063540	-.000951	.0001360	.2153448	-.022260	-.000503
Stddev	.0174358	.001107	.0000798	.0438962	.000614	.000286
%RSD	274.4045	116.4120	58.66649	20.38412	2.760070	56.85546

#1	.0032007	.000272	.0001601	.1743605	-.021968	-.000832
#2	-.009290	-.001885	.0002011	.2100088	-.021847	-.000322
#3	.025151	-.001241	.0000470	.2616650	-.022966	-.000354

Sample Name: PB170183BL Acquired: 10/21/2025 14:25:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015654	-.000243	-.016577	.0006112	.0096508	F -.010189
Stddev	.0002090	.001643	.007082	.0006574	.0025070	.006433
%RSD	13.34905	675.6489	42.71840	107.5593	25.97726	63.13146

#1	.0016610	.000831	-.023318	-.000120	.0123390	-.016050
#2	.0013257	.000574	-.017216	.001153	.0092368	-.003307
#3	.0017094	-.002135	-.009198	.000800	.0073766	-.011211

Elem	Sr4077
Units	ppm
Avg	-.000028
Stddev	.000077
%RSD	271.8859

#1	-.000111
#2	.000040
#3	-.000014

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5719.166	94674.80	7402.775	4424.378	7408.759
Stddev	15.388	265.14	39.661	11.503	18.763
%RSD	.2690688	.2800575	.5357528	.2599947	.2532518

#1	5701.879	94493.24	7362.219	4419.195	7387.665
#2	5731.370	94552.10	7441.475	4416.378	7415.029
#3	5724.248	94979.07	7404.633	4437.561	7423.585

Sample Name: PB170183BS Acquired: 10/21/2025 14:29:57 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7815455	2.015385	.9281044	2.002633	.8134290	1.973291
Stddev	.0022703	.082026	.0011939	.013859	.0043404	.005534
%RSD	.2904917	4.069982	.1286345	.6920356	.5335932	.2804531

#1	.7789333	2.092111	.9270986	2.013618	.8100575	1.974360
#2	.7826605	1.928928	.9294237	1.987062	.8119032	1.978213
#3	.7830427	2.025116	.9277909	2.007218	.8183263	1.967300

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1859195	.2006547	.1844407	.9916475	.3949434	.1899139
Stddev	.0013725	.0002955	.0002920	.0165431	.0010963	.0003817
%RSD	.7382381	.1472641	.1582945	1.668241	.2775858	.2009694

#1	.1874745	.2003287	.1841880	.9732573	.3936855	.1896852
#2	.1848766	.2009050	.1843736	.9963679	.3954493	.1897021
#3	.1854075	.2007304	.1847603	1.005317	.3956954	.1903545

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3079369	3.058116	.1941188	1.908623	.4763679	.0744148
Stddev	.0002354	.011167	.0016791	.009431	.0016562	.0001424
%RSD	.0764383	.3651715	.8650033	.4941158	.3476748	.1913585

#1	.3076728	3.064035	.1933500	1.914154	.4747574	.0745372
#2	.3081247	3.045235	.1929617	1.897734	.4762798	.0744487
#3	.3080131	3.065078	.1960447	1.913981	.4780663	.0742586

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.883463	.2909375	.2161136	9.919614	.2789922	.4046064
Stddev	.008147	.0010193	.0007611	.084964	.0009661	.0010033
%RSD	.2825575	.3503390	.3521911	.8565242	.3462827	.2479673

#1	2.892790	.2915504	.2167323	9.941027	.2778835	.4039345
#2	2.879860	.2915012	.2152637	9.825993	.2794396	.4041249
#3	2.877737	.2897609	.2163450	9.991824	.2796535	.4057596

Sample Name: PB170183BS Acquired: 10/21/2025 14:29:57 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6479224	.1878552	.8690414	5.333735	F .0051624	.1666953
Stddev	.0020116	.0007871	.0138695	.006198	.0012601	.0026340
%RSD	.3104613	.4189930	1.595957	.1162044	24.40897	1.580148

#1	.6482189	.1871647	.8779559	5.329232	.0065464	.1693905
#2	.6457790	.1887123	.8530619	5.340804	.0040817	.1665684
#3	.6497692	.1876886	.8761064	5.331169	.0048590	.1641271

Elem	Sr4077
Units	ppm
Avg	.1892547
Stddev	.0009048
%RSD	.4781003

#1	.1896045
#2	.1882272
#3	.1899324

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5741.700	92692.70	7586.860	4300.396	7160.832
Stddev	8.374	270.99	18.918	12.439	13.191
%RSD	.1458396	.2923568	.2493492	.2892452	.1842113

#1	5751.369	92390.98	7607.018	4292.566	7176.061
#2	5736.939	92771.72	7569.493	4293.883	7152.966
#3	5736.792	92915.40	7584.068	4314.739	7153.469

Sample Name: LR-3 Acquired: 10/21/2025 14:33:58 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0904995	.0365043	224.2780	.0084994	.1331988	.0723744	-.002561
Stddev	.0024551	.0031807	1.6449	.0025433	.0059746	.0075755	.000554
%RSD	2.712861	8.713093	.7334247	29.92329	4.485497	10.46708	21.63038

#1	.0931723	.0386432	223.3096	.0108952	.1264153	.0762378	-.003096
#2	.0899814	.0328492	223.3473	.0087724	.1355020	.0636461	-.001990
#3	.0883448	.0380205	226.1773	.0058306	.1376790	.0772392	-.002597

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005854	-.000968	.4603277	23.59961	.0059078	52.80641	.1238098
Stddev	.000075	.000074	.0083550	.13447	.0001537	.16321	.0007585
%RSD	1.288641	7.686595	1.815023	.5697868	2.601663	.3090699	.6126114

#1	-.005771	-.001050	.4684241	23.75173	.0060848	52.72031	.1231114
#2	-.005872	-.000948	.4608229	23.49662	.0058305	52.70428	.1237012
#3	-.005919	-.000905	.4517360	23.55047	.0058082	52.99464	.1246166

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	52.41660	-.008672	23.35425	.0026848	1.134179	-.026037	29.46047
Stddev	.81852	.016522	.07735	.0002011	.026884	.002962	.57987
%RSD	1.561557	190.5293	.3311839	7.491189	2.370355	11.37711	1.968286

#1	53.21494	-.027366	23.32627	.0028880	1.162958	-.029426	30.02040
#2	52.45556	.003973	23.29479	.0024859	1.109710	-.023941	29.49848
#3	51.57930	-.002622	23.44170	.0026805	1.129869	-.024744	28.86254

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2086514	-.020033	-.016058	-.018317	-.041671	-.145259	.2018029
Stddev	.0221932	.000714	.000433	.000208	.000948	.001555	.0021470
%RSD	10.63652	3.565609	2.699190	1.133561	2.274966	1.070817	1.063917

#1	.2322558	-.020724	-.015561	-.018525	-.042535	-.143594	.2015579
#2	.2054900	-.020078	-.016360	-.018109	-.041821	-.146675	.1997890
#3	.1882084	-.019297	-.016252	-.018317	-.040657	-.145507	.2040620

Sample Name: LR-3 Acquired: 10/21/2025 14:33:58 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0681896	-.011115	.0005217
Stddev	.0045907	.006643	.0000906
%RSD	6.732230	59.76373	17.37012
#1	.0659133	-.009956	.0005153
#2	.0651819	-.005128	.0006153
#3	.0734736	-.018261	.0004344

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5184.642	93377.36	7402.571	4198.892	6860.668
Stddev	18.307	514.18	44.095	23.769	25.645
%RSD	.3531094	.5506524	.5956647	.5660690	.3737907
#1	5204.080	92810.78	7453.477	4171.541	6886.004
#2	5182.121	93814.36	7376.214	4210.594	6861.272
#3	5167.726	93506.95	7378.023	4214.540	6834.726

Sample Name: Q3381-02 Acquired: 10/21/2025 14:39:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001348	-.004823	.0043211	.0038992	.0016998	.1445932	.1335706
Stddev	.000858	.002470	.0007620	.0032924	.0010153	.0031257	.0010783
%RSD	63.64908	51.21594	17.63366	84.43913	59.72721	2.161692	.8072789
#1	-.000840	-.004146	.0034414	.0047696	.0012921	.1409844	.1347472
#2	-.002338	-.002762	.0047489	.0002590	.0009518	.1463511	.1326296
#3	-.000865	-.007561	.0047731	.0066690	.0028556	.1464442	.1333350
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002051	.0004716	6.495710	.0012467	.0006059	.0056527	.0294426
Stddev	.0000114	.0000373	.037279	.0002612	.0001340	.0002897	.0005893
%RSD	5.560401	7.913495	.5739086	20.95058	22.11777	5.125786	2.001661
#1	.0002176	.0005121	6.526774	.0009824	.0005939	.0055309	.0291867
#2	.0002025	.0004639	6.454370	.0012531	.0007455	.0059834	.0301166
#3	.0001952	.0004387	6.505985	.0015046	.0004783	.0054436	.0290244
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0836807	1.960293	.0034115	-.000252	262.7123	-.002537	.1972758
Stddev	.0005497	.023538	.0001233	.000303	4.9473	.000603	.0008729
%RSD	.6568424	1.200760	3.613131	120.1485	1.883179	23.78225	.4424859
#1	.0842848	1.964678	.0035351	-.000585	267.8500	-.003175	.1963658
#2	.0832101	1.934870	.0034109	.000010	262.3066	-.002461	.1981062
#3	.0835471	1.981331	.0032886	-.000182	257.9803	-.001976	.1973553
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4597151	-.017005	.0001998	-.038517	-.000172	.2320370	.0120082
Stddev	.0363351	.000475	.0001590	.000091	.002082	.0080397	.0016427
%RSD	7.903830	2.791544	79.60628	.2367719	1214.050	3.464840	13.67951
#1	.5016389	-.017488	.0003123	-.038618	-.001893	.2269972	.0101741
#2	.4373254	-.016988	.0000178	-.038440	-.000764	.2413087	.0125068
#3	.4401811	-.016539	.0002692	-.038494	.002143	.2278050	.0133439

Sample Name: Q3381-02 Acquired: 10/21/2025 14:39:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4248674	-.017213	.0425811
Stddev	.0039897	.000647	.0000789
%RSD	.9390470	3.757558	.1852072

#1	.4227181	-.017690	.0426585
#2	.4224132	-.016477	.0425009
#3	.4294710	-.017471	.0425841

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5498.669	90640.51	7504.156	4333.311	6468.759
Stddev	20.165	301.98	49.888	17.554	27.869
%RSD	.3667338	.3331603	.6648059	.4050901	.4308302

#1	5477.351	90363.44	7480.309	4347.162	6441.664
#2	5501.214	90962.39	7561.492	4313.569	6467.268
#3	5517.441	90595.69	7470.666	4339.201	6497.343

Sample Name: Q3381-04 Acquired: 10/21/2025 14:43:34 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001671	-.004692	.0031271	.0037684	.0010131	.1218589	.2097982
Stddev	.001958	.001984	.0022574	.0008867	.0018253	.0124984	.0005420
%RSD	117.1772	42.28025	72.18707	23.52999	180.1686	10.25643	.2583241

#1	-.000326	-.005044	.0055580	.0044312	.0030019	.1114543	.2095599
#2	-.000770	-.002555	.0010970	.0027612	.0006232	.1357225	.2104185
#3	-.003918	-.006476	.0027263	.0041129	-.000586	.1184000	.2094163

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000227	.0004293	14.58255	.0012493	.0003676	.0039504	.0435989
Stddev	.0000595	.0001030	.07019	.0004202	.0000369	.0001964	.0005508
%RSD	261.8089	23.99426	.4813260	33.63589	10.03003	4.970497	1.263424

#1	-.000030	.0005283	14.50211	.0010354	.0003906	.0041732	.0432119
#2	.000087	.0003227	14.61415	.0009791	.0003250	.0038754	.0442296
#3	.000011	.0004370	14.63138	.0017334	.0003870	.0038026	.0433554

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1404154	2.276113	.0014886	.0000600	349.9033	-.001796	.0736524
Stddev	.0010745	.020171	.0003010	.0004211	5.7564	.004184	.0006244
%RSD	.7652294	.8862006	20.21727	701.3863	1.645141	232.9097	.8477919

#1	.1391999	2.273316	.0014638	.0005417	356.5358	-.003291	.0730038
#2	.1412385	2.297536	.0018012	-.000123	346.2092	-.005028	.0742495
#3	.1408080	2.257486	.0012009	-.000238	346.9648	.002930	.0737040

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4389920	-.015301	.0001954	-.038352	.0012977	.6854866	.0220777
Stddev	.0654408	.000595	.0003277	.000688	.0017341	.0191841	.0012775
%RSD	14.90705	3.886455	167.7273	1.794339	133.6262	2.798612	5.786622

#1	.5082005	-.015787	.0001576	-.038533	.0017950	.6724856	.0210081
#2	.4306583	-.014638	.0005402	-.038931	-.000631	.6764546	.0217326
#3	.3781173	-.015479	-.000112	-.037591	.002729	.7075197	.0234923

Sample Name: Q3381-04 Acquired: 10/21/2025 14:43:34 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2136526	-.007060	.0942362
Stddev	.0008338	.003229	.0005418
%RSD	.3902533	45.74370	.5748917

#1	.2126916	-.003906	.0936192
#2	.2140835	-.010360	.0946340
#3	.2141828	-.006914	.0944553

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5392.768	89428.73	7444.043	4248.726	6348.712
Stddev	3.931	98.89	41.022	24.331	11.867
%RSD	.0728854	.1105769	.5510752	.5726683	.1869250

#1	5392.025	89360.83	7452.461	4274.134	6338.233
#2	5397.017	89383.17	7399.464	4225.638	6361.598
#3	5389.262	89542.18	7480.203	4246.407	6346.304

Sample Name: Q3381-06 Acquired: 10/21/2025 14:47:59 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003018	-.004520	.0046494	.0060656	.0028396	.2430956	.1953506
Stddev	.001222	.003591	.0016892	.0019273	.0010298	.0167872	.0040501
%RSD	40.50849	79.44274	36.33233	31.77439	36.26431	6.905580	2.073275

#1	-.002251	-.002493	.0052651	.0059562	.0019949	.2581330	.1921605
#2	-.004428	-.008666	.0027387	.0041953	.0025372	.2249837	.1939841
#3	-.002375	-.002401	.0059445	.0080452	.0039867	.2461702	.1999073

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000953	.0002748	11.96038	.0008127	.0067430	.0049058	.1240708
Stddev	.0000253	.0000703	.21262	.0002201	.0000314	.0003263	.0089683
%RSD	26.52775	25.57596	1.777737	27.07968	.4664026	6.651229	7.228366

#1	.0000768	.0002157	11.81150	.0005744	.0067232	.0048049	.1225857
#2	.0001241	.0003525	11.86575	.0010084	.0067793	.0052706	.1159378
#3	.0000849	.0002562	12.20389	.0008554	.0067266	.0046418	.1336889

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8808089	3.251961	.0044841	.0000360	295.8056	-.002351	.0582275
Stddev	.0196259	.082510	.0003171	.0001113	2.5267	.001111	.0003899
%RSD	2.228165	2.537236	7.071373	309.3973	.8541919	47.24724	.6696638

#1	.8649121	3.157941	.0042005	.0000536	297.1699	-.002581	.0581050
#2	.8747700	3.285632	.0048265	-.000083	292.8900	-.001143	.0579135
#3	.9027446	3.312312	.0044253	.000137	297.3570	-.003329	.0586640

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7704163	-.012687	.0002915	-.037844	.0062929	.8072956	.0116989
Stddev	.0276579	.000389	.0001250	.000321	.0015099	.0224840	.0025222
%RSD	3.589999	3.064467	42.89841	.8472661	23.99403	2.785102	21.55896

#1	.8015926	-.012239	.0001471	-.037821	.0061593	.8268874	.0093780
#2	.7488290	-.012934	.0003640	-.037535	.0078651	.8122526	.0143829
#3	.7608271	-.012888	.0003632	-.038175	.0048542	.7827467	.0113358

Sample Name: Q3381-06 Acquired: 10/21/2025 14:47:59 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3237204	-.013034	.0750686
Stddev	.0002340	.004871	.0016720
%RSD	.0722763	37.36729	2.227250

#1	.3234786	-.017875	.0740268
#2	.3237369	-.013095	.0741818
#3	.3239457	-.008134	.0769972

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5247.324	86640.45	7187.899	4062.605	6203.475
Stddev	17.202	585.34	139.164	30.941	16.043
%RSD	.3278329	.6756020	1.936094	.7615935	.2586125

#1	5236.468	86004.88	7326.792	4028.788	6187.890
#2	5238.346	86759.08	7188.441	4089.494	6202.596
#3	5267.158	87157.40	7048.465	4069.534	6219.940

Sample Name: CCV02 Acquired: 10/21/2025 15:03:25 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.829580	4.949762	4.658899	4.923539	4.976611	9.531458	9.799214
Stddev	.004862	.119009	.002928	.002708	.007081	.005365	.059416
%RSD	.1006778	2.404342	.0628374	.0550013	.1422781	.0562847	.6063376
#1	4.824343	4.829583	4.656152	4.920417	4.984627	9.527975	9.864299
#2	4.830446	4.952137	4.658567	4.925256	4.971208	9.528764	9.785465
#3	4.833951	5.067566	4.661979	4.924943	4.973999	9.537636	9.747877
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2271099	2.305405	23.66899	.9341959	2.340352	1.205012	4.911865
Stddev	.0020687	.003469	.06371	.0030520	.002197	.000387	.026871
%RSD	.9108789	.1504725	.2691870	.3266982	.0938959	.0320879	.5470603
#1	.2285686	2.301469	23.60923	.9309840	2.339342	1.204622	4.888654
#2	.2280189	2.306727	23.73603	.9370578	2.338841	1.205021	4.905639
#3	.2247424	2.308018	23.66170	.9345458	2.342873	1.205395	4.941302
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.384015	23.19182	2.331949	1.202691	24.76564	2.390383	2.367760
Stddev	.002304	.06073	.004096	.002134	.18688	.003378	.007194
%RSD	.0966389	.2618690	.1756517	.1774618	.7546095	.1413072	.3038388
#1	2.382114	23.16859	2.328282	1.204153	24.57838	2.389941	2.376063
#2	2.386577	23.26074	2.331197	1.203677	24.76642	2.393959	2.363378
#3	2.383353	23.14613	2.336370	1.200242	24.95214	2.387247	2.363841
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.70866	4.615341	4.847097	4.669661	4.798888	4.834758	4.686644
Stddev	.22878	.039316	.001626	.009165	.013925	.043066	.031286
%RSD	.9259062	.8518464	.0335396	.1962672	.2901613	.8907613	.6675604
#1	24.46978	4.644021	4.848094	4.659089	4.790127	4.791393	4.650694
#2	24.73041	4.631478	4.847976	4.674538	4.814944	4.835363	4.707705
#3	24.92578	4.570525	4.845221	4.675357	4.791593	4.877519	4.701534

Sample Name: CCV02 Acquired: 10/21/2025 15:03:25 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.718580	4.818642	4.849028
Stddev	.028825	.016757	.089427
%RSD	.6108848	.3477450	1.844230
#1	4.688274	4.817698	4.873145
#2	4.721815	4.835851	4.923924
#3	4.745651	4.802377	4.750016

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5690.654	95385.01	7813.975	4432.797	6673.509
Stddev	11.891	546.91	50.723	2.479	5.063
%RSD	.2089544	.5733735	.6491362	.0559194	.0758670
#1	5680.787	96006.81	7806.735	4430.066	6673.338
#2	5687.317	94978.51	7767.260	4433.423	6668.534
#3	5703.856	95169.72	7867.929	4434.903	6678.655

Sample Name: CCB02 Acquired: 10/21/2025 15:07:30 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000554	-.000472	.0002838	.0026684	.0005244	.0101060	-.003940
Stddev	.0019073	.000661	.0009732	.0010018	.0026456	.0070596	.001162
%RSD	3440.589	139.8925	342.8843	37.54276	504.5552	69.85478	29.50272

#1	-.001615	-.001235	-.000798	.0016784	.0020623	.0182392	-.004877
#2	-.000353	-.000080	.001087	.0036816	-.002531	.0065154	-.002639
#3	.002134	-.000102	.000563	.0026453	.002041	.0055635	-.004304

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000048	-.000051	.0047543	-.000063	-.000103	.0005172	.0359650
Stddev	.000065	.000049	.0074019	.000155	.000137	.0002532	.0099587
%RSD	133.2230	95.99088	155.6902	245.1225	133.4887	48.95098	27.69009

#1	-.000074	-.000107	.0117371	.000060	-.000124	.0007592	.0348876
#2	-.000096	-.000022	.0055313	-.000237	.000044	.0005384	.0265888
#3	.000025	-.000024	-.003006	-.000012	-.000228	.0002541	.0464186

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000313	-.013317	.0002999	.0001797	.0237761	-.003522	.0002219
Stddev	.000089	.021948	.0003167	.0002908	.0011153	.003361	.0000972
%RSD	28.29376	164.8134	105.6305	161.8224	4.690946	95.43483	43.82392

#1	-.000318	-.036850	.0002660	.0003973	.0230180	-.004887	.0001683
#2	-.000400	-.009697	.0000014	.0002925	.0250567	-.005986	.0001632
#3	-.000222	.006596	.0006321	-.000151	.0232534	.000307	.0003341

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2123196	-.016319	.0000756	-.010555	-.001690	-.011165	.0011589
Stddev	.0194621	.001184	.0001526	.000617	.002141	.002885	.0010176
%RSD	9.166424	7.256952	201.7488	5.848302	126.6622	25.84002	87.80819

#1	.1905155	-.015580	.0002084	-.010059	-.002389	-.008918	.0000937
#2	.2279345	-.015692	.0001097	-.011246	.000713	-.014418	.0021211
#3	.2185089	-.017685	-.000091	-.010359	-.003395	-.010159	.0012620

Sample Name: CCB02 Acquired: 10/21/2025 15:07:30 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0081682	-.002095	-.000024
Stddev	.0008738	.001985	.000113
%RSD	10.69704	94.73317	474.9537
#1	.0078364	-.000532	.000095
#2	.0091593	-.001425	-.000129
#3	.0075090	-.004328	-.000038

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5647.897	94945.44	7430.394	4414.741	7346.345
Stddev	10.065	379.51	37.081	20.090	6.842
%RSD	.1782010	.3997136	.4990444	.4550600	.0931404
#1	5636.581	94535.83	7391.863	4391.576	7338.922
#2	5651.263	95285.13	7433.488	4425.272	7352.401
#3	5655.848	95015.36	7465.831	4427.377	7347.713

Sample Name: Q3381-08 Acquired: 10/21/2025 15:11:50 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002439	-.003972	.0197313	.0059525	.0022706	.2371112	.1028116
Stddev	.000702	.003375	.0007215	.0027216	.0012427	.0162140	.0023934
%RSD	28.79077	84.97079	3.656740	45.72128	54.72761	6.838130	2.327955

#1	-.001763	-.007513	.0189089	.0028296	.0028841	.2231190	.1053753
#2	-.002388	-.000791	.0202578	.0078177	.0030873	.2548802	.1024238
#3	-.003165	-.003613	.0200273	.0072103	.0008405	.2333345	.1006358

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000010	.0002727	3.859240	.0037802	.0000454	.0045565	.0288746
Stddev	.000040	.0000219	.051798	.0003122	.0002367	.0002608	.0070523
%RSD	387.4616	8.043142	1.342181	8.257689	521.3427	5.723320	24.42376

#1	.000031	.0002612	3.912943	.0035350	.0003174	.0047970	.0343343
#2	-.000013	.0002590	3.855192	.0041316	-.000067	.0042793	.0313772
#3	-.000048	.0002981	3.809585	.0036740	-.000114	.0045930	.0209124

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0203321	.5463670	.0028275	-.000221	345.1371	-.001086	.0709180
Stddev	.0004858	.0334218	.0002187	.000341	1.5746	.001362	.0009121
%RSD	2.389132	6.117103	7.732865	153.9459	.4562148	125.5076	1.286091

#1	.0202483	.5391801	.0028987	-.000075	346.8377	-.000658	.0700800
#2	.0198936	.5171232	.0025821	.000022	344.8439	.000012	.0707846
#3	.0208543	.5827976	.0030017	-.000611	343.7298	-.002611	.0718894

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5332682	-.015915	.0004283	-.038523	.0014051	.1798804	.0125091
Stddev	.0303938	.000303	.0001211	.000259	.0006841	.0161289	.0023189
%RSD	5.699540	1.903647	28.26788	.6729316	48.68859	8.966472	18.53785

#1	.5487741	-.015578	.0004574	-.038490	.0021926	.1745210	.0148039
#2	.4982488	-.016163	.0002953	-.038282	.0009569	.1980067	.0101668
#3	.5527817	-.016005	.0005321	-.038797	.0010658	.1671134	.0125566

Sample Name: Q3381-08 Acquired: 10/21/2025 15:11:50 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3084672	-.010527	.0234140
Stddev	.0058987	.003008	.0002780
%RSD	1.912253	28.57408	1.187233

#1	.3142131	-.007782	.0236840
#2	.3087616	-.010056	.0234292
#3	.3024268	-.013742	.0231287

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5278.784	89563.95	7571.866	4169.222	6262.354
Stddev	73.849	229.62	129.984	25.490	91.040
%RSD	1.398969	.2563762	1.716670	.6113942	1.453774

#1	5203.451	89662.05	7434.858	4198.446	6170.515
#2	5281.848	89728.23	7587.291	4157.651	6263.973
#3	5351.053	89301.58	7693.449	4151.570	6352.574

Sample Name: Q3369-04 Acquired: 10/21/2025 15:16:16 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030656	-.004433	.0002968	.0052131	.0042451	.0579614	.0795994
Stddev	.0034474	.000830	.0017503	.0044052	.0008480	.0088267	.0003687
%RSD	112.4557	18.71469	589.6895	84.50299	19.97641	15.22850	.4631405
#1	-.000883	-.005369	-.000812	.0024556	.0051752	.0603001	.0800142
#2	.004606	-.003789	-.000613	.0102937	.0035148	.0653832	.0794749
#3	.005474	-.004141	.002315	.0028900	.0040453	.0482009	.0793091
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000095	.0003430	212.4286	.0012027	.0094709	.0046161	.0211410
Stddev	.000020	.0000105	.1289	.0003207	.0002749	.0004559	.0091581
%RSD	21.14965	3.060466	.0606707	26.66620	2.902101	9.876556	43.31920
#1	-.000117	.0003542	212.5773	.0011170	.0094723	.0041451	.0192615
#2	-.000078	.0003413	212.3596	.0015576	.0091953	.0050553	.0130684
#3	-.000089	.0003334	212.3489	.0009336	.0097450	.0046478	.0310930
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1982228	2.976444	.0033093	-.000345	403.0741	.0034585	.0349713
Stddev	.0010713	.021681	.0002048	.000546	4.1924	.0011638	.0001011
%RSD	.5404372	.7284305	6.189385	158.0745	1.040105	33.65029	.2891922
#1	.1994472	3.001286	.0031672	-.000022	401.9050	.0047458	.0350454
#2	.1977632	2.961330	.0032168	-.000976	399.5903	.0031489	.0348561
#3	.1974580	2.966718	.0035441	-.000038	407.7269	.0024809	.0350124
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.841254	.0058442	.0019225	-.039730	-.006171	2.024483	.0972211
Stddev	.040005	.0006317	.0005163	.000443	.000831	.027209	.0004994
%RSD	1.408002	10.80896	26.85344	1.115477	13.46344	1.343998	.5136929
#1	2.884739	.0064982	.0015130	-.039466	-.005274	2.038355	.0977974
#2	2.806015	.0052375	.0017520	-.040242	-.006324	2.041960	.0969136
#3	2.833006	.0057969	.0025024	-.039482	-.006914	1.993134	.0969524

Sample Name: Q3369-04 Acquired: 10/21/2025 15:16:16 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.621914	.0670491	.8867282
Stddev	.014350	.0013940	.0019107
%RSD	.1491374	2.079100	.2154758

#1	9.611379	.0678545	.8855617
#2	9.638258	.0654395	.8889333
#3	9.616106	.0678535	.8856897

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4930.071	82660.04	7316.451	3786.745	5744.549
Stddev	8.188	288.34	23.020	13.799	14.536
%RSD	.1660739	.3488317	.3146352	.3643947	.2530321

#1	4921.354	82398.87	7308.518	3775.456	5727.923
#2	4931.260	82611.77	7298.446	3782.651	5750.872
#3	4937.599	82969.47	7342.388	3802.127	5754.853

Sample Name: Q3369-08 Acquired: 10/21/2025 15:20:42 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002505	-.003007	.0004018	.0070211	.0015264	.3424462	.1063034
Stddev	.001632	.002099	.0014218	.0010214	.0008913	.0062685	.0019772
%RSD	65.13147	69.80802	353.8889	14.54768	58.39218	1.830500	1.859955

#1	-.001388	-.005054	.0013250	.0076059	.0017619	.3385012	.1085142
#2	-.001750	-.000859	.0011159	.0076157	.0005410	.3391630	.1047045
#3	-.004378	-.003107	-.001236	.0058417	.0022764	.3496743	.1056915

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001168	.0000361	3.137608	.0008903	.0039215	.0091759	.0188065
Stddev	.0000360	.0000632	.012229	.0003279	.0001565	.0001802	.0090227
%RSD	30.84486	174.8053	.3897471	36.82870	3.989731	1.964314	47.97625

#1	.0001394	.0001075	3.151517	.0008888	.0040672	.0092488	.0103526
#2	.0000753	-.000013	3.132762	.0012190	.0039412	.0093083	.0177602
#3	.0001359	.000014	3.128545	.0005632	.0037561	.0089707	.0283066

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.137693	.5668480	.0028795	-.000100	288.0348	-.002496	.0367073
Stddev	.003495	.0273409	.0001708	.000752	1.7521	.001049	.0001207
%RSD	.3072243	4.823312	5.932806	748.9321	.6082961	42.03366	.3288437

#1	1.136815	.5982923	.0027932	.000749	286.3958	-.002622	.0365709
#2	1.134721	.5535682	.0027691	-.000370	289.8815	-.003477	.0368002
#3	1.141544	.5486836	.0030763	-.000681	287.8269	-.001390	.0367508

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4602641	-.013302	.0001378	-.038725	.0002926	.1366234	.0115437
Stddev	.0564557	.000658	.0000383	.000543	.0012521	.0167970	.0026384
%RSD	12.26593	4.943015	27.82940	1.401270	427.9656	12.29435	22.85571

#1	.4751233	-.013471	.0001586	-.039140	.0009582	.1198741	.0091546
#2	.5078041	-.013859	.0000935	-.038111	-.001152	.1534676	.0111011
#3	.3978651	-.012577	.0001612	-.038924	.001071	.1365285	.0143754

Sample Name: Q3369-08 Acquired: 10/21/2025 15:20:42 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4068861	-.017823	.0192144
Stddev	.0021509	.002369	.0000564
%RSD	.5286116	13.29484	.2936075

#1	.4044235	-.016705	.0191501
#2	.4078382	-.020544	.0192374
#3	.4083966	-.016219	.0192557

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5432.324	90887.84	8101.831	4254.407	6401.736
Stddev	15.413	245.18	19.150	14.013	14.396
%RSD	.2837212	.2697581	.2363636	.3293665	.2248824

#1	5416.165	91162.34	8079.961	4245.896	6385.821
#2	5433.946	90690.61	8109.937	4246.746	6405.534
#3	5446.862	90810.56	8115.594	4270.580	6413.853

Sample Name: Q3374-04 Acquired: 10/21/2025 15:25:08 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001738	-.005972	.0005583	.0039891	.0030106	.0343359	.1318425
Stddev	.001062	.001843	.0003265	.0014717	.0017245	.0036640	.0015484
%RSD	61.13937	30.86550	58.47717	36.89346	57.28058	10.67096	1.174417
#1	-.000686	-.007770	.0009352	.0025318	.0045939	.0385237	.1304466
#2	-.001717	-.004087	.0003787	.0039609	.0011732	.0317211	.1335079
#3	-.002810	-.006059	.0003611	.0054748	.0032647	.0327628	.1315730
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000114	-.000030	8.254235	.0009001	-.000188	.0021941	.0259754
Stddev	.000025	.000011	.053968	.0001691	.000024	.0001608	.0076698
%RSD	21.84740	38.24181	.6538180	18.78748	12.54626	7.327095	29.52699
#1	-.000085	-.000041	8.215896	.0007220	-.000173	.0020192	.0171479
#2	-.000132	-.000030	8.315950	.0009197	-.000216	.0023353	.0310068
#3	-.000123	-.000018	8.230861	.0010585	-.000176	.0022278	.0297716
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2099872	1.040942	.0005123	-.000336	308.4436	-.003128	.0254708
Stddev	.0006951	.035345	.0001706	.000264	3.2561	.001564	.0001561
%RSD	.3309973	3.395479	33.29503	78.43015	1.055641	50.00896	.6127186
#1	.2099088	1.051233	.0006280	-.000174	309.4314	-.001483	.0253229
#2	.2107181	1.070000	.0003164	-.000640	304.8080	-.004597	.0254557
#3	.2093347	1.001594	.0005926	-.000194	311.0913	-.003304	.0256339
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8326181	-.014091	.0021166	-.037577	.0008842	.5364454	.0847568
Stddev	.0373961	.000675	.0001360	.000111	.0012286	.0046124	.0008530
%RSD	4.491382	4.789815	6.425498	.2959155	138.9545	.8598014	1.006419
#1	.7972937	-.014402	.0022209	-.037616	-.000336	.5390721	.0843252
#2	.8287719	-.013317	.0021661	-.037663	.002121	.5391445	.0842059
#3	.8717886	-.014555	.0019627	-.037451	.000868	.5311197	.0857394

Sample Name: Q3374-04 Acquired: 10/21/2025 15:25:08 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4379948	-.009629	.0605602
Stddev	.0022057	.006693	.0002501
%RSD	.5036023	69.50783	.4129762

#1	.4377697	-.004179	.0604216
#2	.4359103	-.007608	.0608489
#3	.4403045	-.017100	.0604102

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5597.279	93982.95	8089.896	4435.970	6656.691
Stddev	14.441	124.53	59.737	5.652	7.943
%RSD	.2580086	.1325040	.7384140	.1274167	.1193250

#1	5602.308	93947.27	8075.264	4430.051	6659.167
#2	5580.995	94121.43	8038.835	4441.311	6647.804
#3	5608.533	93880.15	8155.590	4436.548	6663.101

Sample Name: Q3374-08 Acquired: 10/21/2025 15:29:36 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000208	-.004347	.0002509	.0057054	.0020885	.1043335	.1688366
Stddev	.002355	.003117	.0010923	.0017878	.0011392	.0020030	.0007110
%RSD	1133.213	71.70079	435.3727	31.33530	54.54484	1.919847	.4211151

#1	.000754	-.007881	-.000796	.0036581	.0018920	.1041443	.1692751
#2	.001515	-.001991	.001384	.0069582	.0010604	.1064244	.1692184
#3	-.002892	-.003170	.000164	.0065000	.0033131	.1024318	.1680162

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000053	-.000043	6.007509	.0005515	.0055654	.0055596	4.856613
Stddev	.0000131	.000006	.010896	.0001804	.0001912	.0001502	.030249
%RSD	245.8172	13.94236	.1813707	32.71942	3.435911	2.701392	.6228345

#1	.0000169	-.000040	6.018807	.0007276	.0053745	.0055141	4.847549
#2	.0000081	-.000039	6.006653	.0005598	.0057569	.0057273	4.890357
#3	-.000009	-.000050	5.997066	.0003670	.0055647	.0054374	4.831932

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.373387	.9096507	.0026859	-.000120	364.4544	-.002046	.0220212
Stddev	.002392	.0215739	.0000226	.000258	1.8659	.002513	.0002262
%RSD	.1741565	2.371664	.8397859	213.8111	.5119631	122.8334	1.026992

#1	1.375369	.8898297	.0026701	-.000135	363.6196	-.004892	.0218781
#2	1.370730	.9064930	.0027117	.000144	363.1516	-.000130	.0219036
#3	1.374061	.9326294	.0026759	-.000371	366.5919	-.001117	.0222819

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9299181	-.015159	.0000560	-.037817	.0007405	.3032448	.0186177
Stddev	.0368548	.000430	.0002797	.000163	.0005223	.0092552	.0017380
%RSD	3.963229	2.838426	499.4868	.4317488	70.53479	3.052065	9.335245

#1	.9204299	-.014662	-.000217	-.037959	.0003235	.2935071	.0206216
#2	.8987351	-.015402	.000043	-.037639	.0005717	.3119270	.0175213
#3	.9705893	-.015412	.000342	-.037852	.0013263	.3043004	.0177102

Sample Name: Q3374-08 Acquired: 10/21/2025 15:29:36 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1032589	-.010657	.0419249
Stddev	.0018035	.004844	.0001156
%RSD	1.746578	45.45699	.2756771

#1	.1038919	-.008040	.0418838
#2	.1046607	-.007684	.0418355
#3	.1012243	-.016247	.0420554

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5447.013	91034.64	7635.257	4308.663	6428.654
Stddev	5.467	194.77	29.258	1.981	11.666
%RSD	.1003747	.2139476	.3831949	.0459724	.1814701

#1	5442.693	90811.59	7603.003	4307.698	6418.515
#2	5445.187	91171.08	7660.089	4307.349	6426.042
#3	5453.160	91121.25	7642.679	4310.941	6441.405

Sample Name: Q3388-02 Acquired: 10/21/2025 15:34:01 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002326	-.001807	.0452550	.0053048	.0015872	.1582598	.1017123
Stddev	.000372	.001235	.0004462	.0008611	.0016597	.0097835	.0025734
%RSD	15.99138	68.36088	.9858765	16.23188	104.5723	6.181911	2.530046

#1	-.002282	-.003182	.0457689	.0056203	.0031140	.1685705	.1046668
#2	-.001978	-.001448	.0449663	.0043305	-.000179	.1571025	.1005100
#3	-.002718	-.000791	.0450298	.0059637	.001827	.1491065	.0999602

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000048	.0000007	23.70839	.0013272	.0007980	.0014573	.5400147
Stddev	.000042	.0000564	.04291	.0003923	.0000046	.0002181	.0094989
%RSD	88.67295	8132.692	.1810050	29.55661	.5747914	14.96905	1.759015

#1	-.000027	.0000262	23.70394	.0009042	.0007988	.0017078	.5475334
#2	-.000096	.0000398	23.75336	.0013983	.0008021	.0013097	.5293393
#3	-.000020	-.000064	23.66788	.0016790	.0007931	.0013543	.5431715

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1287052	1.590189	.0033121	-.000066	214.1158	-.001703	.7974167
Stddev	.0003890	.018148	.0001556	.000346	.9666	.002281	.0023432
%RSD	.3022176	1.141272	4.697987	524.5307	.4514186	133.9074	.2938471

#1	.1289957	1.604820	.0031440	.000219	215.2247	-.004159	.7947651
#2	.1282633	1.595866	.0033411	.000034	213.6704	-.001300	.7982765
#3	.1288566	1.569881	.0034512	-.000451	213.4522	.000349	.7992086

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9183625	-.005380	.0003313	-.038865	.0000773	1.056000	.0344775
Stddev	.0117442	.000520	.0000979	.000236	.0020584	.015997	.0008209
%RSD	1.278819	9.660821	29.56806	.6076843	2663.167	1.514883	2.380867

#1	.9249602	-.004788	.0002185	-.039052	.0006016	1.070573	.0342452
#2	.9048031	-.005762	.0003799	-.038600	.0018229	1.058543	.0353894
#3	.9253243	-.005589	.0003954	-.038945	-.002193	1.038884	.0337978

Sample Name: Q3388-02 Acquired: 10/21/2025 15:34:01 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3871726	-.002663	.1272407
Stddev	.0025321	.001746	.0005600
%RSD	.6539839	65.56866	.4400848

#1	.3879715	-.002800	.1278711
#2	.3843375	-.004336	.1268009
#3	.3892088	-.000852	.1270501

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5596.523	94540.87	7861.115	4435.667	6682.790
Stddev	14.260	165.52	29.686	11.521	18.519
%RSD	.2548069	.1750754	.3776310	.2597453	.2771181

#1	5607.220	94351.71	7889.283	4429.667	6703.550
#2	5580.333	94659.10	7830.114	4448.950	6667.968
#3	5602.015	94611.82	7863.947	4428.384	6676.851

Sample Name: Q3390-02 Acquired: 10/21/2025 15:38:26 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001075	-.001889	.0102597	.0099489	.0155798	.1210055	.1104016
Stddev	.000847	.002475	.0013743	.0009266	.0011086	.0119418	.0020788
%RSD	78.81938	131.0529	13.39496	9.313491	7.115862	9.868818	1.882914

#1	-.000245	-.001772	.0088999	.0089394	.0167813	.1288360	.1127533
#2	-.001041	-.004420	.0116481	.0101466	.0153619	.1269198	.1096423
#3	-.001939	.000526	.0102311	.0107606	.0145964	.1072608	.1088092

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000182	.0012363	4.402659	.0018657	-.000086	.1270616	.0458187
Stddev	.000048	.0000239	.077136	.0002458	.000105	.0007241	.0019719
%RSD	26.66817	1.937415	1.752023	13.17687	121.9013	.5698761	4.303615

#1	-.000159	.0012357	4.491474	.0016934	-.000001	.1265898	.0471486
#2	-.000149	.0012606	4.352435	.0021472	-.000203	.1266998	.0467543
#3	-.000237	.0012127	4.364069	.0017565	-.000054	.1278953	.0435532

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0367183	.2270957	.0023064	-.000257	258.8863	-.002014	1.574727
Stddev	.0009610	.0343535	.0002228	.000360	3.8575	.000788	.000972
%RSD	2.617109	15.12732	9.661248	140.0780	1.490031	39.14267	.0617335

#1	.0378253	.2599853	.0024410	.000158	263.1076	-.001119	1.575651
#2	.0362298	.2298570	.0024291	-.000478	255.5446	-.002318	1.574815
#3	.0360996	.1914449	.0020492	-.000451	258.0067	-.002605	1.573713

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.57930	.2784850	.3318288	-.029593	.0000841	.1732326	.0909031
Stddev	.16627	.0061870	.0006125	.000596	.0013432	.0028177	.0002659
%RSD	.6764435	2.221664	.1845851	2.014797	1597.915	1.626559	.2925351

#1	24.66122	.2853678	.3314857	-.028926	.0016314	.1704705	.0907727
#2	24.68871	.2733855	.3314648	-.029783	-.000597	.1731245	.0907275
#3	24.38797	.2767017	.3325360	-.030072	-.000782	.1761028	.0912091

Sample Name: Q3390-02 Acquired: 10/21/2025 15:38:26 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.502748	-.006478	.0176151
Stddev	.006467	.007733	.0004129
%RSD	.4303278	119.3808	2.344159

#1	1.496251	-.005821	.0180916
#2	1.502811	-.014518	.0173907
#3	1.509184	.000906	.0173629

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5472.009	92142.74	7517.018	4278.949	6623.850
Stddev	12.108	68.86	118.353	15.372	9.677
%RSD	.2212780	.0747297	1.574474	.3592511	.1461001

#1	5460.109	92138.77	7381.363	4295.736	6615.278
#2	5484.315	92075.96	7599.189	4265.561	6634.344
#3	5471.603	92213.50	7570.503	4275.551	6621.926

Sample Name: Q3392-04 Acquired: 10/21/2025 15:42:49 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001641	-.005240	.0054636	.0076222	.0034868	.2003082	.2126864
Stddev	.000171	.002086	.0002867	.0032963	.0010549	.0075689	.0013182
%RSD	10.42473	39.79955	5.247845	43.24653	30.25302	3.778613	.6198051

#1	-.001597	-.005590	.0054424	.0106017	.0028835	.1986655	.2111919
#2	-.001497	-.003002	.0051881	.0040812	.0047049	.2085636	.2131831
#3	-.001831	-.007129	.0057604	.0081835	.0028721	.1936956	.2136840

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000033	.0001061	5.503978	.0026602	.0072137	.0043502	.2148657
Stddev	.000086	.0000603	.018421	.0001805	.0000422	.0005227	.0079613
%RSD	258.8844	56.86752	.3346854	6.784902	.5856136	12.01520	3.705245

#1	.000040	.0000610	5.510107	.0028409	.0072584	.0047247	.2105518
#2	-.000013	.0001746	5.483273	.0024799	.0071745	.0037531	.2099924
#3	-.000127	.0000826	5.518553	.0026599	.0072081	.0045728	.2240530

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.451071	.9014239	.0038381	-.000095	315.9448	-.002299	.0494150
Stddev	.002937	.0195395	.0001698	.000316	3.4256	.002816	.0003835
%RSD	.2024275	2.167624	4.424515	330.5427	1.084225	122.5215	.7759885

#1	1.449329	.8977295	.0039464	-.000458	319.8837	-.005529	.0490002
#2	1.449423	.8839954	.0036424	.000055	313.6614	-.001008	.0494881
#3	1.454463	.9225469	.0039256	.000117	314.2894	-.000359	.0497566

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5957240	-.007803	.0004900	-.038446	.0012990	.6459698	.0145148
Stddev	.0399422	.000690	.0000582	.000501	.0008309	.0202943	.0006516
%RSD	6.704818	8.846641	11.87592	1.302003	63.96102	3.141678	4.488952

#1	.5735912	-.008597	.0004267	-.037919	.0014888	.6693476	.0151961
#2	.6418330	-.007471	.0005021	-.038504	.0003897	.6328775	.0138977
#3	.5717478	-.007342	.0005412	-.038915	.0020186	.6356844	.0144506

Sample Name: Q3392-04 Acquired: 10/21/2025 15:42:49 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1799645	-.009172	.0272628
Stddev	.0024855	.002053	.0000139
%RSD	1.381115	22.38352	.0510533

#1	.1796190	-.006886	.0272657
#2	.1826047	-.010858	.0272477
#3	.1776699	-.009772	.0272751

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5442.966	90534.55	7866.792	4174.811	6479.247
Stddev	12.170	445.85	22.849	9.731	25.487
%RSD	.2235851	.4924668	.2904507	.2330794	.3933674

#1	5429.211	90031.79	7888.485	4164.915	6455.782
#2	5447.356	90689.99	7868.950	4184.368	6475.596
#3	5452.332	90881.88	7842.940	4175.151	6506.362

Sample Name: Q3392-08 Acquired: 10/21/2025 15:47:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013994	-.002855	.0068452	.0071937	.0018994	.2942201	.2859892
Stddev	.0014387	.002298	.0006300	.0034882	.0009891	.0066706	.0024378
%RSD	102.8100	80.50986	9.203516	48.48979	52.07352	2.267221	.8524215

#1	.0006713	-.002902	.0064865	.0042932	.0026928	.2865194	.2835971
#2	.0004702	-.000533	.0075726	.0110643	.0007912	.2982181	.2884703
#3	.0030566	-.005129	.0064764	.0062237	.0022142	.2979227	.2859003

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000260	.0000839	10.67615	.0012682	.0084009	.0029325	5.378869
Stddev	.0000069	.0000144	.02555	.0000347	.0000261	.0001512	.029950
%RSD	26.41408	17.17344	.2392882	2.738189	.3100582	5.155327	.5568163

#1	.0000216	.0000688	10.64665	.0012950	.0083753	.0028603	5.345203
#2	.0000225	.0000975	10.69054	.0012806	.0084001	.0028310	5.402556
#3	.0000339	.0000855	10.69125	.0012290	.0084274	.0031063	5.388849

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.323579	1.351426	.0037019	-.000266	401.1867	-.000593	.0729909
Stddev	.004083	.041581	.0003484	.000493	2.4636	.001294	.0003136
%RSD	.1757403	3.076793	9.410758	185.0887	.6140862	218.3389	.4296332

#1	2.325840	1.377770	.0038656	-.000281	402.2053	-.001110	.0729294
#2	2.318865	1.373017	.0033018	-.000752	402.9778	-.001548	.0733306
#3	2.326033	1.303491	.0039383	.000234	398.3772	.000880	.0727126

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9012261	-.001128	.0001767	-.038534	.0009421	.9347310	.0144248
Stddev	.0104752	.000350	.0002809	.000116	.0002177	.0263655	.0003175
%RSD	1.162326	31.00922	158.9825	.3014758	23.11142	2.820654	2.200946

#1	.9055583	-.000786	.0003737	-.038654	.0010830	.9067291	.0147889
#2	.9088403	-.001114	-.000145	-.038422	.0006913	.9383847	.0142793
#3	.8892798	-.001485	.000301	-.038526	.0010521	.9590791	.0142061

Sample Name: Q3392-08 Acquired: 10/21/2025 15:47:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1839437	-.006620	.0529628
Stddev	.0009708	.000058	.0001100
%RSD	.5277534	.8816705	.2077368

#1	.1840566	-.006682	.0528467
#2	.1848532	-.006566	.0529763
#3	.1829215	-.006612	.0530655

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5525.985	91848.30	7923.670	4286.399	6468.144
Stddev	17.596	214.12	22.860	17.275	4.796
%RSD	.3184262	.2331277	.2884965	.4030160	.0741496

#1	5509.718	91612.29	7905.317	4266.575	6464.230
#2	5523.576	91902.46	7916.418	4294.398	6466.708
#3	5544.662	92030.14	7949.276	4298.225	6473.494

Sample Name: Q3392-08DUP Acquired: 10/21/2025 15:51:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010954	-.001639	.0075324	.0078061	.0024021	.3018533	.2864846
Stddev	.0011115	.003069	.0005786	.0021525	.0010310	.0063423	.0027205
%RSD	101.4757	187.2454	7.681739	27.57491	42.91940	2.101134	.9496197
#1	.0013832	.000543	.0077185	.0099122	.0033246	.3041956	.2862326
#2	-.000132	-.005148	.0079951	.0078962	.0025926	.3066913	.2893224
#3	.002035	-.000312	.0068836	.0056100	.0012892	.2946729	.2838989
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000008	.0001741	10.75606	.0011507	.0084010	.0034492	5.435981
Stddev	.000035	.0000503	.00342	.0001884	.0001366	.0003480	.026612
%RSD	427.5698	28.87257	.0317545	16.36999	1.625826	10.08805	.4895574
#1	-.000006	.0001360	10.75533	.0012472	.0084452	.0031918	5.410242
#2	.000026	.0001552	10.75978	.0009336	.0082478	.0033107	5.434311
#3	-.000044	.0002311	10.75306	.0012713	.0085100	.0038451	5.463388
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.333588	1.368062	.0035133	-.000173	391.5821	-.001702	.0739364
Stddev	.011813	.002525	.0001731	.000362	5.2238	.000976	.0004854
%RSD	.5062017	.1845536	4.926184	209.4607	1.334015	57.30967	.6565051
#1	2.331938	1.370484	.0033153	-.000428	386.5479	-.000834	.0734106
#2	2.346139	1.365445	.0035889	.000241	396.9768	-.002758	.0740312
#3	2.322687	1.368256	.0036356	-.000331	391.2215	-.001515	.0743675
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9718366	-.000589	.0003607	-.038493	.0006873	.9309236	.0154400
Stddev	.0373775	.000538	.0001489	.000420	.0001780	.0166592	.0012669
%RSD	3.846068	91.43003	41.26792	1.091403	25.90192	1.789530	8.205531
#1	.9956697	-.000368	.0005312	-.038014	.0007709	.9244525	.0160932
#2	.9910819	-.000196	.0002562	-.038665	.0008081	.9184710	.0139798
#3	.9287581	-.001203	.0002949	-.038800	.0004828	.9498475	.0162471

Sample Name: Q3392-08DUP Acquired: 10/21/2025 15:51:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1871788	-.011293	.0532034
Stddev	.0043574	.002004	.0001850
%RSD	2.327958	17.74215	.3476875

#1	.1842591	-.009003	.0531392
#2	.1850899	-.012149	.0534119
#3	.1921875	-.012726	.0530591

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5382.320	90195.88	7812.772	4251.620	6304.891
Stddev	55.140	594.98	21.952	31.164	65.838
%RSD	1.024465	.6596545	.2809786	.7329924	1.044241

#1	5405.896	90691.90	7795.034	4277.897	6338.210
#2	5421.754	90359.54	7805.959	4259.774	6347.409
#3	5319.312	89536.20	7837.323	4217.190	6229.053

Sample Name: CCV03 Acquired: 10/21/2025 15:56:03 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.819318	5.062552	4.679718	4.867644	4.904858	9.575080	9.708672
Stddev	.013474	.063390	.010024	.021824	.015435	.235842	.236815
%RSD	.2795784	1.252137	.2141931	.4483571	.3146960	2.463081	2.439208

#1	4.832628	5.003816	4.687647	4.853024	4.889441	9.847204	9.981626
#2	4.805686	5.054094	4.668451	4.857178	4.904821	9.429911	9.557938
#3	4.819640	5.129747	4.683055	4.892731	4.920311	9.448126	9.586452

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2327493	2.332434	23.83667	.9411816	2.357681	1.206360	4.847143
Stddev	.0060742	.011262	.54335	.0017204	.008013	.004547	.004719
%RSD	2.609760	.4828328	2.279472	.1827957	.3398787	.3769303	.0973542

#1	.2395660	2.345016	24.46128	.9398389	2.366480	1.210300	4.850193
#2	.2279109	2.323297	23.47306	.9405850	2.350803	1.201385	4.841708
#3	.2307709	2.328989	23.57569	.9431209	2.355760	1.207396	4.849529

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.384177	23.38121	2.352200	1.203323	25.31468	2.400631	2.389718
Stddev	.065033	.52433	.009333	.001893	.26728	.057465	.001175
%RSD	2.727676	2.242527	.3967762	.1573536	1.055816	2.393765	.0491808

#1	2.459109	23.98259	2.362107	1.205210	25.52645	2.466543	2.388366
#2	2.342453	23.01984	2.343573	1.203335	25.40322	2.361049	2.390490
#3	2.350969	23.14121	2.350922	1.201423	25.01437	2.374299	2.390299

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.15203	4.727087	4.859953	4.704509	4.803407	4.760688	4.738039
Stddev	.11826	.122344	.014826	.011147	.110892	.006384	.016737
%RSD	.4701643	2.588149	.3050626	.2369524	2.308621	.1341064	.3532412

#1	25.22928	4.866538	4.874549	4.716410	4.931383	4.767074	4.753555
#2	25.21092	4.637789	4.844907	4.694310	4.735696	4.754306	4.720303
#3	25.01589	4.676932	4.860402	4.702808	4.743144	4.760686	4.740257

Sample Name: CCV03 Acquired: 10/21/2025 15:56:03 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.720979	4.683008	4.812997
Stddev	.012426	.130082	.145383
%RSD	.2632024	2.777739	3.020629

#1	4.719212	4.833169	4.966175
#2	4.709531	4.604754	4.676922
#3	4.734193	4.611102	4.795894

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5720.721	95406.69	7675.572	4486.465	6672.312
Stddev	8.256	126.06	190.445	14.593	16.823
%RSD	.1443172	.1321242	2.481183	.3252670	.2521298

#1	5711.687	95308.51	7457.593	4499.894	6652.948
#2	5727.874	95362.72	7809.725	4470.936	6680.650
#3	5722.601	95548.84	7759.398	4488.565	6683.337

Sample Name: CCB03 Acquired: 10/21/2025 16:00:38 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006957	.0011348	.0005022	.0023568	-.000807	.0413599
Stddev	.0016619	.0018572	.0012980	.0006607	.000176	.0011878
%RSD	238.8699	163.6645	258.4500	28.03307	21.78934	2.871781
#1	.0019508	-.000618	-.000431	.0020180	-.000960	.0422041
#2	.0013253	.003081	-.000047	.0019343	-.000846	.0400017
#3	-.001189	.000941	.001985	.0031182	-.000615	.0418739
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003254	.0000224	-.000028	.0298501	.0028256	-.000063
Stddev	.001337	.0000689	.000062	.0128229	.0001492	.000014
%RSD	41.08994	306.9191	216.9064	42.95770	5.281782	21.94033
#1	-.004250	.0000943	-.000088	.0439795	.0026689	-.000078
#2	-.003778	.0000159	-.000032	.0189516	.0028420	-.000060
#3	-.001734	-.000043	.000035	.0266193	.0029660	-.000050
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004867	.0432844	.0002022	-.002260	.0012393	-.000109
Stddev	.0001358	.0064398	.0004081	.021936	.0002171	.000580
%RSD	27.90100	14.87793	201.8151	970.6656	17.51898	531.7681
#1	.0005887	.0430562	.0002040	-.013662	.0011507	-.000419
#2	.0003325	.0498353	.0006095	.023029	.0010806	.000560
#3	.0005388	.0369617	-.000207	-.016146	.0014868	-.000468
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5777426	.0003202	.0014578	.6918635	-.017754	-.000164
Stddev	.0235099	.0008094	.0002013	.0473973	.000489	.000219
%RSD	4.069271	252.7842	13.80957	6.850680	2.753828	133.3586
#1	.5532880	.0002720	.0012356	.6382177	-.017691	-.000302
#2	.5797621	.0011527	.0016280	.7093001	-.018271	.000088
#3	.6001775	-.000464	.0015098	.7280727	-.017299	-.000279

Sample Name: CCB03 Acquired: 10/21/2025 16:00:38 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008019	.0000408	-.018939	.0017802	F .0173381	F .0190780
Stddev	.000638	.0017844	.006276	.0020332	.0015002	.0055260
%RSD	7.950400	4372.620	33.14071	114.2104	8.652308	28.96498

#1	-.008219	.0016719	-.022164	-.000553	.0185722	.0217299
#2	-.007305	-.001865	-.022946	.003171	.0177738	.0127260
#3	-.008532	.000316	-.011705	.002723	.0156684	.0227782

Elem	Sr4077
Units	ppm
Avg	-.000024
Stddev	.000064
%RSD	271.0819

#1	-.000089
#2	.000040
#3	-.000022

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5723.714	97370.90	7523.617	4561.075	7403.120
Stddev	66.403	247.36	61.997	12.641	81.778
%RSD	1.160131	.2540426	.8240323	.2771496	1.104640

#1	5798.854	97085.68	7519.686	4546.493	7495.703
#2	5672.923	97526.84	7587.486	4567.799	7340.738
#3	5699.365	97500.17	7463.679	4568.933	7372.919

Sample Name: Q3392-08LX5 Acquired: 10/21/2025 16:04:57 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002877	.0015470	.0007474	.0020753	.0001934	.0738286	.0547448
Stddev	.0017803	.0026789	.0004309	.0043366	.0007788	.0048495	.0019922
%RSD	618.8596	173.1726	57.65283	208.9645	402.7189	6.568544	3.639086

#1	-.001470	.0008348	.0002753	.0053482	-.000105	.0682468	.0544607
#2	.002090	-.000704	.0011195	-.002843	.001077	.0770074	.0529099
#3	.000243	.004510	.0008473	.003721	-.000392	.0762315	.0568638

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000005	.0000082	2.194638	.0002311	.0016972	.0007750	1.051625
Stddev	.0000463	.0000228	.025838	.0000567	.0000616	.0004000	.004336
%RSD	9948.822	277.9429	1.177324	24.56137	3.626346	51.61855	.4122866

#1	.0000512	.0000209	2.196350	.0002388	.0016547	.0003776	1.053319
#2	-.000040	.0000218	2.167986	.0002835	.0017678	.0011777	1.046698
#3	-.000010	-.000018	2.219577	.0001708	.0016691	.0007697	1.054857

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4743222	.2666701	.0007131	-.000099	75.16227	-.002821	.0144466
Stddev	.0082541	.0216377	.0000900	.000464	.49444	.003939	.0000732
%RSD	1.740196	8.114044	12.62865	470.1749	.6578338	139.6365	.5065950

#1	.4712498	.2545573	.0007664	-.000634	75.72664	-.000360	.0143622
#2	.4680449	.2538015	.0006091	.000164	74.95491	-.007364	.0144934
#3	.4836719	.2916514	.0007637	.000174	74.80528	-.000739	.0144841

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6588086	-.017311	-.000218	-.016971	-.000260	.1735142	.0028567
Stddev	.0400080	.000108	.000120	.000254	.000083	.0062178	.0007246
%RSD	6.072785	.6212603	55.12439	1.494683	31.74828	3.583436	25.36640

#1	.6127759	-.017202	-.000170	-.017074	-.000341	.1804024	.0036786
#2	.6784499	-.017417	-.000129	-.016682	-.000176	.1718238	.0025815
#3	.6851999	-.017315	-.000354	-.017157	-.000263	.1683165	.0023099

Sample Name: Q3392-08LX5 Acquired: 10/21/2025 16:04:57 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0496493	.0007864	.0106717
Stddev	.0033190	.0028447	.0001123
%RSD	6.684805	361.7624	1.052003
#1	.0492140	.0016599	.0105802
#2	.0531644	.0030918	.0106380
#3	.0465694	-.002393	.0107970

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5734.717	95537.71	7847.194	4467.935	7006.184
Stddev	4.681	621.22	93.138	20.197	3.291
%RSD	.0816230	.6502305	1.186897	.4520432	.0469796
#1	5737.077	94894.33	7858.506	4445.133	7009.756
#2	5729.326	95584.68	7934.160	4483.575	7005.523
#3	5737.749	96134.10	7748.917	4475.097	7003.273

Sample Name: Q3392-08MS Acquired: 10/21/2025 16:09:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8038625	1.810394	.9115321	2.024501	.7944422	2.258855	.4841356
Stddev	.0046547	.030161	.0036925	.002993	.0044614	.010828	.0027068
%RSD	.5790384	1.666006	.4050867	.1478318	.5615795	.4793415	.5590915

#1	.8037013	1.805494	.9097629	2.027134	.7991016	2.256814	.4846033
#2	.8085956	1.782982	.9157763	2.025122	.7940154	2.270558	.4865781
#3	.7992905	1.842705	.9090571	2.021246	.7902094	2.249194	.4812255

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1830426	.1906372	11.72200	.3996518	.2028662	.2917767	8.419664
Stddev	.0002648	.0003659	.03867	.0004982	.0003703	.0004452	.051124
%RSD	.1446486	.1919185	.3298854	.1246719	.1825374	.1525742	.6071978

#1	.1828004	.1902478	11.72443	.4000169	.2027071	.2922350	8.452404
#2	.1833253	.1909737	11.75940	.3990842	.2032894	.2917490	8.445834
#3	.1830023	.1906901	11.68217	.3998543	.2026019	.2913460	8.360753

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.535350	3.257832	.4871825	.0697590	390.6040	.2960252	.2748322
Stddev	.012535	.015284	.0007871	.0004925	5.7447	.0014233	.0017681
%RSD	.4943951	.4691460	.1615567	.7060336	1.470722	.4807983	.6433448

#1	2.530308	3.240361	.4870340	.0701857	388.5761	.2956746	.2763985
#2	2.549621	3.264410	.4880333	.0698713	386.1482	.2975910	.2751830
#3	2.526122	3.268726	.4864803	.0692201	397.0876	.2948100	.2729149

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.71317	.2513819	.4103311	.6284942	.1915225	1.821406	5.759214
Stddev	.12144	.0011220	.0007763	.0023077	.0001022	.010172	.008581
%RSD	1.036809	.4463181	.1891777	.3671824	.0533491	.5584966	.1490036

#1	11.73156	.2514074	.4105654	.6284251	.1915279	1.814036	5.765475
#2	11.82437	.2524908	.4109632	.6308356	.1916218	1.817169	5.749432
#3	11.58358	.2502473	.4094647	.6262218	.1914177	1.833012	5.762735

Sample Name: Q3392-08MS Acquired: 10/21/2025 16:09:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1770977	.1857112	.2417624
Stddev	.0020757	.0021657	.0007684
%RSD	1.172072	1.166167	.3178480

#1	.1784264	.1833456	.2414933
#2	.1781610	.1861915	.2426292
#3	.1747058	.1875964	.2411647

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5298.717	88142.26	7453.302	4169.722	6117.906
Stddev	7.424	253.44	12.408	18.872	11.457
%RSD	.1401020	.2875395	.1664774	.4525864	.1872653

#1	5304.007	87849.87	7454.706	4149.677	6129.175
#2	5290.230	88299.17	7464.949	4187.146	6106.270
#3	5301.912	88277.75	7440.252	4172.345	6118.274

Sample Name: Q3392-08MSD Acquired: 10/21/2025 16:13:22 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7496507	1.663984	.8461648	1.874390	.7557280	2.084257	.4586400
Stddev	.0011626	.024293	.0003818	.004456	.0027118	.006694	.0029065
%RSD	.1550798	1.459935	.0451171	.2377410	.3588275	.3211585	.6337235
#1	.7496826	1.688353	.8457240	1.873214	.7526114	2.086003	.4553074
#2	.7507970	1.639768	.8463880	1.879316	.7575489	2.076864	.4599626
#3	.7484725	1.663832	.8463824	1.870639	.7570237	2.089905	.4606500
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1727717	.1761814	11.18959	.3658242	.1879504	.2715805	7.865833
Stddev	.0010545	.0003303	.04002	.0005957	.0000654	.0005653	.064379
%RSD	.6103400	.1874921	.3576168	.1628465	.0348129	.2081325	.8184690
#1	.1739842	.1763254	11.15010	.3651786	.1878888	.2721759	7.791497
#2	.1722627	.1758036	11.18857	.3663526	.1880191	.2710512	7.902420
#3	.1720683	.1764154	11.23011	.3659415	.1879435	.2715142	7.903582
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.428150	3.064818	.4509710	.0646483	367.9900	.2756614	.2581563
Stddev	.009456	.024454	.0006172	.0003397	7.6413	.0025478	.0002027
%RSD	.3894262	.7978983	.1368554	.5255085	2.076486	.9242370	.0785025
#1	2.417370	3.067102	.4516647	.0650352	360.4087	.2766519	.2580736
#2	2.435045	3.039303	.4507655	.0643986	367.8712	.2727671	.2583872
#3	2.432034	3.088051	.4504827	.0645112	375.6899	.2775651	.2580081
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.66642	.2356898	.3899784	.5984865	.1828772	1.695119	5.367333
Stddev	.11239	.0005116	.0007451	.0002926	.0010762	.011293	.008392
%RSD	1.053695	.2170428	.1910488	.0488865	.5885100	.6662109	.1563453
#1	10.54422	.2362789	.3893419	.5984067	.1828833	1.683149	5.373633
#2	10.76537	.2354318	.3907979	.5988108	.1817979	1.705585	5.357808
#3	10.68968	.2353586	.3897954	.5982422	.1839504	1.696623	5.370559

Sample Name: Q3392-08MSD Acquired: 10/21/2025 16:13:22 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1687944	.1750152	.2270779
Stddev	.0013498	.0030447	.0017442
%RSD	.7996567	1.739703	.7681141

#1	.1694846	.1721841	.2251041
#2	.1696596	.1746255	.2277181
#3	.1672391	.1782361	.2284116

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5455.510	90566.36	7514.743	4318.942	6316.056
Stddev	14.325	243.31	30.562	8.560	13.760
%RSD	.2625757	.2686593	.4066934	.1981894	.2178648

#1	5471.901	90722.96	7480.012	4322.910	6328.898
#2	5449.240	90286.04	7526.693	4309.118	6317.738
#3	5445.389	90690.07	7537.525	4324.797	6301.532

Sample Name: Q3392-08A Acquired: 10/21/2025 16:17:30 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7858924	1.868670	.8921231	1.974243	.7784454	2.164403	.4768381
Stddev	.0026627	.042476	.0022660	.001405	.0030826	.010897	.0005167
%RSD	.3388067	2.273035	.2539973	.0711551	.3959925	.5034437	.1083673
#1	.7832275	1.881415	.8899163	1.972710	.7775927	2.154082	.4762631
#2	.7858969	1.903314	.8920091	1.974550	.7758789	2.163330	.4769875
#3	.7885528	1.821281	.8944439	1.975468	.7818645	2.175796	.4772637
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1804267	.1855713	11.71421	.3791967	.1977253	.2848596	8.246040
Stddev	.0014735	.0005323	.05625	.0017680	.0008511	.0009406	.026176
%RSD	.8166640	.2868210	.4802079	.4662457	.4304679	.3301929	.3174424
#1	.1787657	.1854138	11.69840	.3780403	.1971401	.2843630	8.273164
#2	.1809380	.1851357	11.66754	.3812319	.1973340	.2842714	8.244031
#3	.1815764	.1861646	11.77667	.3783180	.1987017	.2859444	8.220927
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.531703	3.181834	.4757942	.0684565	376.7313	.2861207	.2699852
Stddev	.009933	.018578	.0012345	.0012154	2.8041	.0015786	.0012227
%RSD	.3923263	.5838907	.2594521	1.775474	.7443222	.5517373	.4528899
#1	2.520602	3.181563	.4756416	.0673353	378.2829	.2872180	.2713123
#2	2.534759	3.163392	.4746431	.0697481	373.4943	.2868328	.2697391
#3	2.539749	3.200546	.4770978	.0682861	378.4166	.2843115	.2689042
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.14423	.2491286	.4015883	.6232074	.1879468	1.766253	5.701544
Stddev	.02596	.0018526	.0009530	.0022544	.0009744	.008401	.008860
%RSD	.2329567	.7436209	.2373026	.3617401	.5184334	.4756408	.1553973
#1	11.17130	.2476839	.4008145	.6219708	.1868868	1.769949	5.698349
#2	11.11954	.2484848	.4012978	.6218420	.1881500	1.756638	5.694724
#3	11.14187	.2512173	.4026528	.6258095	.1888035	1.772172	5.711558

Sample Name: Q3392-08A Acquired: 10/21/2025 16:17:30 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1824368	.1698822	.2375720
Stddev	.0027159	.0019659	.0003183
%RSD	1.488658	1.157203	.1339821
#1	.1852998	.1687740	.2372135
#2	.1821138	.1687206	.2376813
#3	.1798969	.1721520	.2378213

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5377.614	89686.89	7441.513	4267.267	6211.275
Stddev	15.321	352.32	71.733	1.520	11.553
%RSD	.2849117	.3928355	.9639581	.0356316	.1859988
#1	5384.872	90029.88	7524.283	4266.609	6214.935
#2	5387.958	89325.93	7402.856	4269.006	6220.555
#3	5360.012	89704.86	7397.399	4266.187	6198.335

Sample Name: PB170147TB Acquired: 10/21/2025 16:21:38 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000392	-.003733	-.000183	.0041534	.0011693	.0057623	-.007003
Stddev	.001088	.002269	.000311	.0030932	.0021337	.0031759	.001765
%RSD	277.6124	60.79719	169.8708	74.47411	182.4799	55.11486	25.19835

#1	-.001447	-.006351	-.000290	.0075653	.0017019	.0091430	-.006971
#2	-.000454	-.002338	-.000426	.0033628	.0029863	.0028413	-.008784
#3	.000725	-.002508	.000167	.0015323	-.001180	.0053025	-.005255

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000132	-.000174	.0344413	.0032047	-.000215	.0003553	.0202394
Stddev	.000090	.000064	.0093635	.0003033	.000084	.0000316	.0033632
%RSD	67.73579	36.86230	27.18673	9.465312	39.01586	8.892749	16.61684

#1	-.000083	-.000229	.0452504	.0034346	-.000259	.0003613	.0230437
#2	-.000236	-.000188	.0288204	.0028609	-.000118	.0003834	.0211638
#3	-.000078	-.000104	.0292531	.0033186	-.000267	.0003211	.0165107

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0063748	-.022067	.0008187	-.000058	260.6676	-.002206	.0014812
Stddev	.0000983	.030220	.0001708	.000108	3.1734	.002859	.0000961
%RSD	1.542221	136.9489	20.85708	185.6897	1.217400	129.6073	6.488695

#1	.0062784	-.056046	.0006338	-.000092	263.2143	-.002452	.0014189
#2	.0064749	.001799	.0008517	-.000145	261.6760	.000768	.0014327
#3	.0063712	-.011952	.0009705	.000063	257.1126	-.004935	.0015918

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.083560	-.023011	.0002071	-.037353	-.000086	-.002020	.0085722
Stddev	.022874	.000217	.0000890	.000453	.000732	.005642	.0005609
%RSD	27.37420	.9426242	42.96350	1.214084	856.2808	279.2877	6.543337

#1	-.082568	-.023091	.0002478	-.037075	-.000130	-.002528	.0079332
#2	-.106914	-.022765	.0002685	-.037108	-.000795	.003858	.0088000
#3	-.061199	-.023176	.0001051	-.037876	.000668	-.007391	.0089834

Sample Name: PB170147TB Acquired: 10/21/2025 16:21:38 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0324397	-.012847	.0000686
Stddev	.0011039	.002261	.0000826
%RSD	3.402846	17.60297	120.4021

#1	.0315989	-.013038	.0001638
#2	.0320303	-.015006	.0000155
#3	.0336897	-.010495	.0000265

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5604.821	93451.26	7827.210	4439.981	6706.602
Stddev	6.076	255.24	80.383	20.406	5.569
%RSD	.1084098	.2731310	1.026967	.4595976	.0830386

#1	5605.531	93720.39	7777.982	4451.714	6707.497
#2	5610.511	93212.64	7919.970	4416.418	6711.669
#3	5598.421	93420.76	7783.679	4451.811	6700.640

Sample Name: Q3411-01 Acquired: 10/21/2025 16:26:06 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003719	-.001701	-.003949	.0081904	.0062500	.0782728
Stddev	.000514	.000892	.001270	.0014563	.0021161	.0083557
%RSD	13.82058	52.43064	32.16689	17.78085	33.85669	10.67506

#1	-.003165	-.002727	-.004864	.0067307	.0046402	.0785537
#2	-.004180	-.001111	-.004485	.0096433	.0086468	.0864844
#3	-.003812	-.001266	-.002499	.0081971	.0054630	.0697802

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0876902	-.000160	-.000220	186.5312	.0077917	.0133356
Stddev	.0005817	.000085	.000061	2.1990	.0001069	.0002655
%RSD	.6633827	53.09116	27.74229	1.178899	1.372308	1.991209

#1	.0881075	-.000216	-.000222	186.8389	.0077253	.0134608
#2	.0870257	-.000202	-.000279	188.5601	.0077348	.0130306
#3	.0879373	-.000062	-.000158	184.1945	.0079150	.0135153

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2743234	.0646253	.0034883	56.17612	.0919439	.0001267
Stddev	.0017025	.0031666	.0007553	.61749	.0008138	.0004277
%RSD	.6206261	4.899964	21.65314	1.099205	.8850455	337.4548

#1	.2723619	.0668041	.0041747	56.24620	.0910057	-.000290
#2	.2751905	.0660791	.0026791	56.75557	.0923695	.000564
#3	.2754179	.0609929	.0036111	55.52657	.0924567	.000106

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 4528.033	-.000031	.0521027	14.16960	.0484587	.1788374
Stddev	8.400	.002728	.0004147	.45309	.0017105	.0015244
%RSD	.1855100	8832.840	.7958786	3.197642	3.529893	.8523762

#1	4532.246	-.000634	.0524904	13.65634	.0504279	.1771109
#2	4533.492	-.002406	.0516655	14.33843	.0476074	.1794039
#3	4518.360	.002948	.0521523	14.51405	.0473409	.1799974

Sample Name: Q3411-01 Acquired: 10/21/2025 16:26:06 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.039258	-.004817	F 19.25197	.2316026	F 278.1085	.0443829
Stddev	.000433	.002793	.24682	.0025630	2.5219	.0034835
%RSD	1.101844	57.98238	1.282074	1.106620	.9068019	7.848812

#1	-.039511	-.001746	19.05841	.2292465	275.2902	.0483913
#2	-.038758	-.005500	19.52992	.2343316	280.1523	.0426690
#3	-.039503	-.007206	19.16759	.2312298	278.8830	.0420883

Elem	Sr4077
Units	ppm
Avg	.5354088
Stddev	.0086886
%RSD	1.622789

#1	.5355607
#2	.5440204
#3	.5266452

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4063.456	67679.91	6578.959	3358.330	4287.811
Stddev	21.181	293.33	41.663	8.494	29.352
%RSD	.5212577	.4334107	.6332777	.2529186	.6845489

#1	4087.528	67873.67	6530.863	3350.872	4321.672
#2	4055.170	67823.61	6603.922	3356.545	4272.157
#3	4047.671	67342.43	6602.094	3367.575	4269.605

Sample Name: Q3401-01 Acquired: 10/21/2025 16:30:27 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0556244	.0174461	.0190382	.0019036	.0048768	182.1072
Stddev	.0015873	.0015409	.0016577	.0047396	.0021374	.2233
%RSD	2.853552	8.832558	8.707221	248.9832	43.82736	.1226251

#1	.0572748	.0156773	.0197948	.0061759	.0072181	182.3139
#2	.0541089	.0181631	.0171372	.0027295	.0030299	182.1374
#3	.0554893	.0184979	.0201826	-.003195	.0043825	181.8704

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.489601	.0213845	.0037915	1526.076	.2947208	.0341043
Stddev	.002481	.0000957	.0000321	21.749	.0016238	.0001021
%RSD	.1665517	.4475534	.8455606	1.425127	.5509704	.2992343

#1	1.488620	.0214890	.0037790	1550.504	.2939411	.0339948
#2	1.492422	.0213635	.0037676	1508.819	.2936339	.0341968
#3	1.487760	.0213010	.0038280	1518.904	.2965874	.0341212

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0955706	100.9895	6.676647	172.4252	.1299184	-.000150
Stddev	.0006557	.8536	.008936	.5926	.0001816	.000525
%RSD	.6860424	.8452544	.1338444	.3436990	.1397989	350.2346

#1	.0962439	100.0606	6.670990	172.5152	.1301249	-.000443
#2	.0955338	101.1682	6.686949	172.9677	.1298464	.000456
#3	.0949341	101.7396	6.672002	171.7928	.1297837	-.000462

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.03644	.1979499	.2446313	21.52495	.2348987	.0108436
Stddev	.00469	.0012473	.0013874	.23307	.0017693	.0000323
%RSD	.0333893	.6301039	.5671263	1.082768	.7532073	.2979029

#1	14.03916	.1977792	.2446437	21.31207	.2328666	.0108719
#2	14.03102	.1967967	.2432378	21.48881	.2360972	.0108504
#3	14.03913	.1992738	.2460124	21.77398	.2357323	.0108084

Sample Name: Q3401-01 Acquired: 10/21/2025 16:30:27 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.014767	8.466833	3.179924	2.191027	F 74.11209	.7520355
Stddev	.000596	.003305	.001535	.003748	.31309	.0046187
%RSD	4.033453	.0390349	.0482816	.1710743	.4224550	.6141623

#1	-.014122	8.467591	3.181278	2.186701	73.97427	.7468771
#2	-.015296	8.469693	3.180239	2.193296	73.89156	.7534421
#3	-.014883	8.463214	3.178256	2.193084	74.47045	.7557875

Elem	Sr4077
Units	ppm
Avg	3.313288
Stddev	.006294
%RSD	.1899583

#1	3.314534
#2	3.306465
#3	3.318866

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5993.781	96889.85	8834.549	4675.697	4941.600
Stddev	4.671	420.99	41.428	32.823	7.840
%RSD	.0779246	.4345073	.4689314	.7019863	.1586607

#1	5989.161	97364.69	8804.116	4699.949	4932.584
#2	5993.681	96742.60	8817.804	4688.794	4945.402
#3	5998.501	96562.26	8881.729	4638.348	4946.815

Sample Name: Q3402-01 Acquired: 10/21/2025 16:34:47 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0751884	-.001565	.2271974	.0110031	-.011824	153.0153
Stddev	.0013005	.002489	.0021575	.0016630	.001690	.4807
%RSD	1.729663	159.0034	.9496053	15.11369	14.29345	.3141559

#1	.0765579	-.002916	.2248484	.0091490	-.013700	152.5507
#2	.0739701	.001307	.2290906	.0114977	-.010421	152.9848
#3	.0750371	-.003088	.2276532	.0123627	-.011352	153.5106

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5263462	.0075826	.0038644	40.56982	.1545560	.0637250
Stddev	.0018894	.0000929	.0000428	.12472	.0007356	.0000671
%RSD	.3589598	1.224747	1.106555	.3074313	.4759667	.1053332

#1	.5241681	.0075724	.0039133	40.42988	.1538256	.0636792
#2	.5275426	.0076802	.0038342	40.61030	.1545457	.0638021
#3	.5273279	.0074953	.0038458	40.66927	.1552967	.0636937

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1760043	183.9047	2.168350	29.37085	.1485804	-.006789
Stddev	.0005608	1.0788	.008290	.09388	.0001785	.000282
%RSD	.3186271	.5866182	.3823207	.3196422	.1201014	4.161233

#1	.1756398	183.0453	2.158823	29.33300	.1486389	-.006736
#2	.1757230	183.5535	2.172300	29.30179	.1487222	-.007094
#3	.1766501	185.1154	2.173926	29.47774	.1483800	-.006537

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.03199	.2883754	.4677696	10.52723	.1444544	.0041946
Stddev	.08862	.0013309	.0014809	.12429	.0062799	.0000944
%RSD	.4656305	.4615066	.3165971	1.180678	4.347304	2.250062

#1	18.94021	.2897992	.4667669	10.39785	.1386272	.0040918
#2	19.03869	.2881642	.4694706	10.53812	.1436303	.0042774
#3	19.11706	.2871627	.4670713	10.64572	.1511056	.0042145

Sample Name: Q3402-01 Acquired: 10/21/2025 16:34:47 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004809	1.775281	F 16.95880	3.843773	F 65.32736	.1639410
Stddev	.000142	.009000	.11368	.007035	.44583	.0031317
%RSD	2.961622	.5069604	.6703090	.1830316	.6824541	1.910287

#1	-.004768	1.769870	16.82853	3.836910	64.84598	.1603695
#2	-.004691	1.770303	17.03786	3.843440	65.41002	.1652358
#3	-.004967	1.785671	17.01002	3.850969	65.72607	.1662177

Elem	Sr4077
Units	ppm
Avg	.0909801
Stddev	.0004511
%RSD	.4958606

#1	.0910926
#2	.0913644
#3	.0904834

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6221.520	103624.0	8848.654	4810.215	6411.555
Stddev	5.399	312.7	13.675	44.125	7.945
%RSD	.0867756	.3017569	.1545447	.9173185	.1239135

#1	6224.874	103806.1	8850.286	4859.018	6419.741
#2	6224.394	103802.9	8834.236	4798.491	6411.048
#3	6215.292	103262.9	8861.440	4773.136	6403.876

Sample Name: Q3402-04 Acquired: 10/21/2025 16:40:02 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0750536	-.005448	.2941755	.0062687	-.006695	73.63143
Stddev	.0018132	.003034	.0026069	.0025067	.002640	5.88242
%RSD	2.415841	55.69093	.8861593	39.98658	39.43801	7.989011

#1	.0768944	-.008951	.2971835	.0081356	-.009063	76.98655
#2	.0749970	-.003692	.2927697	.0034197	-.007173	77.06858
#3	.0732693	-.003700	.2925733	.0072509	-.003848	66.83916

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3917561	.0056363	.0025663	32.11176	.1180580	.0468416
Stddev	.0330534	.0003550	.0003769	2.48428	.0040913	.0005251
%RSD	8.437248	6.298827	14.68714	7.736353	3.465459	1.121006

#1	.4122271	.0058925	.0022991	33.54495	.1223889	.0474468
#2	.4094173	.0057853	.0024024	33.54717	.1175267	.0465069
#3	.3536237	.0052311	.0029974	29.24316	.1142583	.0465710

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1945354	125.2992	3.091989	19.50467	.1224881	-.004557
Stddev	.0014961	5.3098	.243191	1.46302	.0015168	.000368
%RSD	.7690881	4.237671	7.865202	7.500890	1.238304	8.066767

#1	.1956103	130.3146	3.234713	20.33006	.1242356	-.004245
#2	.1928267	125.8457	3.230064	20.36850	.1217151	-.004464
#3	.1951692	119.7374	2.811188	17.81546	.1215136	-.004962

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.38642	.1988264	.5352573	7.001659	.1042541	.0070087
Stddev	.51020	.0164206	.0194669	.258107	.0063562	.0001868
%RSD	3.811353	8.258774	3.636917	3.686372	6.096815	2.665197

#1	13.89629	.2087471	.5567332	7.257386	.1089905	.0072108
#2	13.38711	.2078598	.5302678	7.006356	.0970304	.0069728
#3	12.87588	.1798724	.5187708	6.741236	.1067413	.0068424

Sample Name: Q3402-04 Acquired: 10/21/2025 16:40:02 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008228	1.499385	F 10.73922	4.393196	F 47.42506	.1228322
Stddev	.000603	.138038	.67085	.047017	.39643	.0035722
%RSD	7.334676	9.206316	6.246754	1.070224	.8359177	2.908226

#1	-.007807	1.576075	11.35929	4.444485	47.84201	.1255656
#2	-.007957	1.582050	10.83128	4.382969	47.38021	.1241408
#3	-.008919	1.340029	10.02710	4.352135	47.05296	.1187902

Elem	Sr4077
Units	ppm
Avg	.1280148
Stddev	.0147964
%RSD	11.55834

#1	.1352020
#2	.1378447
#3	.1109977

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6226.561	102295.9	9152.103	4777.043	6766.471
Stddev	59.273	2826.5	606.628	122.751	65.721
%RSD	.9519381	2.763102	6.628287	2.569599	.9712721

#1	6158.132	99346.7	8815.905	4639.516	6690.588
#2	6259.603	102559.6	8788.012	4816.100	6803.668
#3	6261.947	104981.3	9852.391	4875.513	6805.157

Sample Name: Q3402-07 Acquired: 10/21/2025 16:44:05 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1493091	-.004621	.7525855	.0049830	-.014581	128.8277
Stddev	.0010854	.002330	.0093479	.0006953	.000712	.1707
%RSD	.7269744	50.41549	1.242100	13.95381	4.882866	.1324792

#1	.1480716	-.002859	.7421433	.0055256	-.014309	128.7243
#2	.1497559	-.003742	.7601737	.0052243	-.015389	129.0247
#3	.1500998	-.007263	.7554394	.0041992	-.014045	128.7341

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8387833	.0131198	.0125445	13.65590	.3404019	.1315633
Stddev	.0056692	.0000490	.0006115	.02035	.0034326	.0014986
%RSD	.6758834	.3737251	4.874533	.1490136	1.008384	1.139055

#1	.8453034	.0131593	.0118450	13.66359	.3412974	.1298358
#2	.8350170	.0130649	.0128105	13.67129	.3432980	.1325147
#3	.8360295	.0131352	.0129779	13.63283	.3366104	.1323393

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4912712	204.3782	4.514772	29.79148	.2994677	-.006219
Stddev	.0059194	1.6491	.020834	.05864	.0034891	.000166
%RSD	1.204915	.8068837	.4614593	.1968218	1.165111	2.665157

#1	.4844361	206.2400	4.538824	29.77183	.2954827	-.006046
#2	.4947029	203.7932	4.502343	29.85742	.3019742	-.006235
#3	.4946745	203.1013	4.503149	29.74519	.3009461	-.006376

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.06260	.3581540	.5901707	12.00210	.1427366	.0062001
Stddev	.22959	.0016634	.0010840	.12359	.0083064	.0001671
%RSD	1.345596	.4644424	.1836706	1.029740	5.819418	2.694434

#1	17.32739	.3595284	.5892643	12.13407	.1514341	.0060807
#2	16.94155	.3586289	.5898763	11.98314	.1418895	.0061286
#3	16.91886	.3563048	.5913714	11.88908	.1348861	.0063910

Sample Name: Q3402-07 Acquired: 10/21/2025 16:44:05 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1208457	2.051482	F 13.55676	6.672013	F 26.61259	.1543204
Stddev	.0014112	.009471	.15921	.089775	.34506	.0007398
%RSD	1.167783	.4616508	1.174432	1.345542	1.296611	.4794086

#1	.1192806	2.060298	13.74061	6.568363	26.21628	.1535724
#2	.1212357	2.041470	13.46536	6.722416	26.84636	.1543368
#3	.1220210	2.052679	13.46431	6.725260	26.77514	.1550518

Elem	Sr4077
Units	ppm
Avg	-.000374
Stddev	.000428
%RSD	114.2773

#1	-.000229
#2	-.000856
#3	-.000038

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	8913.842	147487.5	12307.85	7035.108	6419.423
Stddev	63.337	746.0	46.92	58.105	66.784
%RSD	.7105424	.5057874	.3812360	.8259303	1.040345

#1	8986.883	147013.0	12344.82	6997.503	6496.155
#2	8880.533	147102.2	12255.06	7005.789	6374.409
#3	8874.111	148347.3	12323.65	7102.031	6387.704

Sample Name: CCV04 Acquired: 10/21/2025 16:48:07 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.747916	4.898956	4.641232	4.829853	4.873127	9.282997	9.485549
Stddev	.003339	.050152	.010612	.010341	.004098	.234587	.197822
%RSD	.0703326	1.023730	.2286432	.2141159	.0840850	2.527061	2.085511
#1	4.751197	4.912781	4.629261	4.832479	4.877340	9.371703	9.572502
#2	4.744521	4.940746	4.644949	4.838629	4.872887	9.016993	9.259143
#3	4.748031	4.843342	4.649485	4.818452	4.869155	9.460297	9.625001
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2322612	2.299357	23.22915	.9342016	2.330104	1.193594	4.842334
Stddev	.0045660	.005909	.53446	.0158433	.002977	.001933	.081977
%RSD	1.965892	.2569726	2.300811	1.695913	.1277584	.1619484	1.692919
#1	.2338615	2.293379	23.49794	.9261993	2.326746	1.191454	4.845129
#2	.2271105	2.299498	22.61365	.9239556	2.331149	1.194115	4.758995
#3	.2358117	2.305193	23.57586	.9524498	2.332418	1.195214	4.922877
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.345253	22.89816	2.325845	1.212983	23.98568	2.330956	2.397765
Stddev	.050031	.56488	.005322	.015743	.29218	.053437	.039779
%RSD	2.133293	2.466935	.2288263	1.297853	1.218146	2.292484	1.658994
#1	2.370584	23.20101	2.319731	1.203032	23.88643	2.355637	2.373272
#2	2.287622	22.24643	2.329441	1.204784	23.75605	2.269640	2.376360
#3	2.377552	23.24703	2.328362	1.231133	24.31455	2.367592	2.443663
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.10389	4.748302	4.779771	4.641483	4.693423	4.762825	4.714746
Stddev	.35619	.087795	.005733	.010765	.100674	.072054	.007752
%RSD	1.477731	1.848983	.1199364	.2319195	2.145000	1.512831	.1644281
#1	23.93473	4.780731	4.773197	4.631251	4.738304	4.735028	4.705926
#2	23.86381	4.648905	4.782386	4.652711	4.578114	4.708811	4.720480
#3	24.51314	4.815269	4.783730	4.640488	4.763850	4.844637	4.717832

Sample Name: CCV04 Acquired: 10/21/2025 16:48:07 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.686248	4.629016	4.731907
Stddev	.020182	.070259	.110819
%RSD	.4306630	1.517800	2.341944

#1	4.676911	4.670780	4.788109
#2	4.709408	4.547900	4.604248
#3	4.672427	4.668370	4.803364

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5705.719	94166.23	7679.938	4462.871	6663.303
Stddev	13.268	1605.95	175.723	78.350	14.867
%RSD	.2325353	1.705437	2.288081	1.755596	.2231107

#1	5720.956	94845.42	7617.904	4514.916	6680.469
#2	5699.482	95320.99	7878.264	4500.936	6654.695
#3	5696.719	92332.29	7543.645	4372.761	6654.744

Sample Name: CCB04 Acquired: 10/21/2025 16:52:09 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001723	-.000997	-.000848	.0021834	-.000411	.0067250
Stddev	.0004811	.003045	.000421	.0021188	.001247	.0112326
%RSD	279.1089	305.3864	49.69930	97.04192	303.5728	167.0258

#1	.0000617	-.003863	-.000590	-.000216	-.001374	.0183257
#2	.0006991	-.001328	-.000619	.002967	.000998	-.004099
#3	-.000244	.002200	-.001334	.003798	-.000856	.005948

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004631	.0000245	-.000006	-.001127	-.000353	-.000112
Stddev	.001487	.0000399	.000013	.014672	.000068	.000075
%RSD	32.10866	162.8708	198.4382	1301.679	19.28098	66.93986

#1	-.005510	.0000109	-.000008	-.011718	-.000405	-.000066
#2	-.002914	-.000007	-.000018	.015620	-.000380	-.000199
#3	-.005467	.000069	.000007	-.007283	-.000276	-.000072

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002348	.0042069	-.000401	.0006251	-.000095	-.000269
Stddev	.0001367	.0039634	.000399	.0199368	.000262	.000274
%RSD	58.21246	94.21291	99.27559	3189.590	277.3282	102.1404

#1	.0000796	.0001128	-.000233	.0158407	.000178	-.000504
#2	.0003372	.0080253	-.000115	-.021944	-.000345	.000033
#3	.0002877	.0044826	-.000857	.007978	-.000117	-.000334

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5895308	-.002180	-.000134	.6227154	-.018146	-.000193
Stddev	.0216102	.001674	.000281	.0618062	.000486	.000197
%RSD	3.665660	76.79093	209.2148	9.925279	2.677194	102.3628

#1	.5895166	-.003730	-.000334	.5963947	-.018228	-.000162
#2	.5679277	-.000405	.000187	.5784263	-.017625	-.000404
#3	.6111481	-.002404	-.000255	.6933251	-.018586	-.000013

Sample Name: CCB04 Acquired: 10/21/2025 16:52:09 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.012147	.0012412	-.013770	.0018420	F .0195636	-.002926
Stddev	.000166	.0008802	.016025	.0006497	.0004697	.006261
%RSD	1.369113	70.91471	116.3772	35.27289	2.400694	213.9615

#1	-.011956	.0022365	-.003121	.0014887	.0191039	.001400
#2	-.012259	.0009217	-.032201	.0025918	.0200426	-.010106
#3	-.012226	.0005654	-.005989	.0014455	.0195443	-.000072

Elem	Sr4077
Units	ppm
Avg	.0000276
Stddev	.0000227
%RSD	82.35968

#1	.0000052
#2	.0000506
#3	.0000270

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5743.670	96621.53	7689.657	4502.634	7529.439
Stddev	4.252	210.05	32.159	8.589	5.710
%RSD	.0740287	.2173923	.4182162	.1907564	.0758388

#1	5748.074	96401.02	7693.269	4509.573	7535.005
#2	5743.347	96644.32	7719.857	4505.302	7523.595
#3	5739.588	96819.26	7655.843	4493.028	7529.718

Sample Name: Q3402-10 Acquired: 10/21/2025 16:56:28 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1219788	-.005019	.5967346	.0082135	-.007186	102.2391
Stddev	.0018038	.003306	.0011534	.0022617	.001979	.0358
%RSD	1.478769	65.86489	.1932804	27.53580	27.53829	.0350035

#1	.1234430	-.006828	.5958215	.0104059	-.005006	102.2441
#2	.1225296	-.001203	.5980308	.0058884	-.008870	102.2010
#3	.1199638	-.007025	.5963515	.0083462	-.007683	102.2721

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5421028	.0086346	.0054113	17.31288	.3210088	.0917601
Stddev	.0010751	.0000285	.0000994	.01033	.0002037	.0006976
%RSD	.1983173	.3298157	1.836974	.0596632	.0634465	.7602384

#1	.5426560	.0086375	.0054500	17.30997	.3208752	.0909688
#2	.5427887	.0086048	.0054855	17.32435	.3209080	.0920255
#3	.5408638	.0086615	.0052984	17.30432	.3212432	.0922861

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3639203	169.7210	2.415391	33.47722	.1998945	-.004597
Stddev	.0017970	.4068	.006100	.02889	.0006488	.000604
%RSD	.4938005	.2396970	.2525554	.0862888	.3245881	13.13768

#1	.3620733	170.0988	2.414513	33.44471	.1994729	-.004563
#2	.3640248	169.7737	2.421883	33.49994	.1995689	-.004010
#3	.3656628	169.2903	2.409778	33.48701	.2006417	-.005217

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.07073	.2738863	1.050180	12.43478	.1567647	.0060764
Stddev	.13121	.0008208	.002034	.06563	.0019368	.0001097
%RSD	.5687300	.2996710	.1937286	.5277787	1.235465	1.804929

#1	23.19819	.2747158	1.050151	12.51055	.1579353	.0061640
#2	23.07792	.2730746	1.052229	12.39778	.1545292	.0059534
#3	22.93607	.2738683	1.048160	12.39600	.1578297	.0061117

Sample Name: Q3402-10 Acquired: 10/21/2025 16:56:28 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0959033	2.290260	F 16.51851	4.877992	F 66.63799	.1574966
Stddev	.0001243	.022862	.33031	.016498	.28553	.0018199
%RSD	.1296328	.9982193	1.999619	.3382201	.4284735	1.155521

#1	.0959111	2.297607	16.86739	4.896963	66.95015	.1557789
#2	.0960236	2.308544	16.47756	4.870010	66.39004	.1573071
#3	.0957753	2.264628	16.21060	4.867002	66.57376	.1594039

Elem	Sr4077
Units	ppm
Avg	.0217567
Stddev	.0006542
%RSD	3.006909

#1	.0216975
#2	.0224384
#3	.0211341

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6714.810	111719.8	9405.731	5210.428	6652.741
Stddev	13.288	180.2	49.039	19.744	10.788
%RSD	.1978846	.1612950	.5213686	.3789327	.1621643

#1	6729.113	111918.1	9461.261	5231.363	6665.142
#2	6712.467	111675.2	9387.565	5207.778	6647.562
#3	6702.850	111566.1	9368.368	5192.143	6645.519

Sample Name: Q3403-01 Acquired: 10/21/2025 17:00:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0364807	-.007171	.1618602	.0011394	-.014193	102.7066
Stddev	.0012777	.002510	.0007914	.0047439	.000331	.3581
%RSD	3.502505	34.99783	.4889486	416.3439	2.333339	.3487040

#1	.0362659	-.004569	.1624934	-.003640	-.014379	103.1197
#2	.0378522	-.009577	.1621143	.001212	-.013811	102.5159
#3	.0353240	-.007367	.1609730	.005847	-.014389	102.4841

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5802202	.0081703	.0027191	13.22831	.1235263	.0905561
Stddev	.0050802	.0001338	.0000642	.07290	.0004683	.0001282
%RSD	.8755608	1.637120	2.361530	.5510981	.3791259	.1415509

#1	.5859102	.0082220	.0026709	13.29422	.1238138	.0905640
#2	.5786103	.0082705	.0027920	13.24070	.1237793	.0906802
#3	.5761400	.0080184	.0026944	13.15001	.1229859	.0904242

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1717109	204.1300	4.363929	20.57658	.1469828	-.009742
Stddev	.0005610	.5381	.031591	.10121	.0005892	.000457
%RSD	.3266885	.2635978	.7239026	.4918680	.4008927	4.694951

#1	.1714863	204.3896	4.397536	20.65477	.1465833	-.009999
#2	.1723494	203.5113	4.359409	20.61272	.1467057	-.009214
#3	.1712971	204.4890	4.334841	20.46227	.1476596	-.010014

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.052070	.2424272	.3363128	8.794488	.1411394	.0009377
Stddev	.008516	.0014915	.0002478	.072252	.0053131	.0001290
%RSD	.2790289	.6152541	.0736700	.8215624	3.764407	13.75833

#1	3.049910	.2411277	.3363267	8.734790	.1401800	.0008080
#2	3.044841	.2440558	.3365533	8.773864	.1363713	.0010660
#3	3.061458	.2420982	.3360584	8.874810	.1468667	.0009390

Sample Name: Q3403-01 Acquired: 10/21/2025 17:00:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.017663	2.971764	F 19.72217	4.495950	.6480700	.0860214
Stddev	.000173	.008900	.08466	.005031	.0034487	.0055555
%RSD	.9800524	.2994923	.4292483	.1118991	.5321448	6.458217

#1	-.017465	2.967780	19.76153	4.490534	.6463608	.0820614
#2	-.017742	2.981960	19.62500	4.500478	.6520394	.0836308
#3	-.017783	2.965552	19.77997	4.496836	.6458097	.0923720

Elem	Sr4077
Units	ppm
Avg	-.135152
Stddev	.000454
%RSD	.3356954

#1	-.134866
#2	-.134914
#3	-.135675

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6418.119	105948.3	8685.910	5006.914	6584.369
Stddev	5.367	231.7	65.231	9.450	14.313
%RSD	.0836241	.2187162	.7509931	.1887395	.2173785

#1	6424.196	106199.3	8643.220	5008.286	6598.652
#2	6414.025	105742.5	8653.512	5015.603	6584.428
#3	6416.137	105903.0	8760.997	4996.853	6570.026

Sample Name: Q3397-01 Acquired: 10/21/2025 17:04:34 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0428046	-.003728	.2063694	.0012922	-.019135	124.4675
Stddev	.0016737	.002888	.0021481	.0032217	.000733	14.5451
%RSD	3.909981	77.47506	1.040887	249.3204	3.830966	11.68582
#1	.0409209	-.003762	.2077097	-.002359	-.018464	126.7560
#2	.0433723	-.006599	.2038918	.003735	-.019917	108.9139
#3	.0441206	-.000823	.2075068	.002501	-.019022	137.7327
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8061884	.0105965	.0060310	26.13899	.1678466	.1150405
Stddev	.0979135	.0010456	.0005658	3.00349	.0052135	.0007698
%RSD	12.14524	9.867396	9.382116	11.49045	3.106128	.6691808
#1	.8250832	.0108075	.0066839	26.66195	.1631611	.1152579
#2	.7002045	.0094615	.0057252	22.90837	.1734628	.1156781
#3	.8932776	.0115205	.0056838	28.84665	.1669158	.1141853
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3380878	236.0614	4.207546	49.15286	.2569477	-.013516
Stddev	.0028387	4.4068	.482547	5.72866	.0004069	.001054
%RSD	.8396227	1.866796	11.46862	11.65479	.1583706	7.795270
#1	.3407158	231.0948	4.304936	50.04084	.2573435	-.013339
#2	.3384704	237.5857	3.683731	43.03205	.2569693	-.014646
#3	.3350773	239.5037	4.633970	54.38568	.2565305	-.012561
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.202238	.2730958	.5805099	18.49156	.1905135	.0038257
Stddev	.053905	.0323232	.0158208	.28384	.0436697	.0001011
%RSD	1.683351	11.83584	2.725325	1.534962	22.92209	2.641298
#1	3.140030	.2792585	.5647174	18.16930	.1740539	.0039023
#2	3.235180	.2381349	.5963588	18.70442	.2400210	.0037112
#3	3.231504	.3018939	.5804534	18.60097	.1574656	.0038635

Sample Name: Q3397-01 Acquired: 10/21/2025 17:04:34 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.015738	3.591984	F 10.50832	4.974156	.9146064	.2579625
Stddev	.000570	.403773	.28064	.004354	.0084057	.0311930
%RSD	3.622967	11.24096	2.670643	.0875329	.9190473	12.09208

#1	-.015083	3.666059	10.20729	4.979109	.9227620	.2612940
#2	-.016004	3.156301	10.55496	4.972425	.9150860	.2252375
#3	-.016126	3.953590	10.76272	4.970933	.9059712	.2873561

Elem	Sr4077
Units	ppm
Avg	-.083069
Stddev	.016951
%RSD	20.40617

#1	-.074669
#2	-.102580
#3	-.071958

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6690.143	109190.3	9319.109	5196.431	6374.794
Stddev	9.169	2918.9	939.091	112.473	4.458
%RSD	.1370577	2.673199	10.07704	2.164428	.0699368

#1	6700.128	111947.7	9106.424	5292.422	6376.493
#2	6682.101	106133.1	10346.30	5072.676	6369.735
#3	6688.200	109490.1	8504.60	5224.194	6378.152

Sample Name: Q3397-01DUP Acquired: 10/21/2025 17:08:36 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0503021	-.009268	.2291617	.0048918	-.017876	144.4158
Stddev	.0016328	.005414	.0015568	.0030106	.000223	.6230
%RSD	3.246000	58.41672	.6793580	61.54264	1.245753	.4314039
#1	.0521143	-.015518	.2277118	.0083209	-.017644	144.2608
#2	.0489453	-.006300	.2289662	.0036721	-.018088	143.8850
#3	.0498468	-.005988	.2308070	.0026825	-.017897	145.1017
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9417182	.0119318	.0053012	24.25334	.1997477	.1317889
Stddev	.0040166	.0002151	.0012894	.12682	.0141636	.0003368
%RSD	.4265144	1.802350	24.32293	.5228898	7.090750	.2555570
#1	.9393425	.0121722	.0038123	24.20594	.2160410	.1314115
#2	.9394564	.0117578	.0060475	24.15705	.1928266	.1318966
#3	.9463556	.0118652	.0060438	24.39703	.1903754	.1320588
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3932757	277.5543	4.744033	57.21956	.2895692	-.013741
Stddev	.0096907	14.2884	.026399	.21049	.0010851	.001798
%RSD	2.464091	5.147977	.5564610	.3678602	.3747314	13.08689
#1	.3821315	294.0488	4.733908	57.26689	.2885498	-.015815
#2	.3979740	268.9794	4.724195	56.98944	.2894479	-.012617
#3	.3997217	269.6347	4.773995	57.40236	.2907098	-.012790
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.007109	.3111100	.6442053	20.14587	.2742946	.0038865
Stddev	.198549	.0035769	.0461190	1.01257	.0338568	.0001461
%RSD	4.954928	1.149725	7.159049	5.026175	12.34323	3.758386
#1	4.235434	.3081473	.6974375	21.31252	.3132432	.0040471
#2	3.874983	.3100991	.6188981	19.49558	.2518984	.0037617
#3	3.910910	.3150836	.6162804	19.62951	.2577422	.0038505

Sample Name: Q3397-01DUP Acquired: 10/21/2025 17:08:36 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.014132	3.788139	F 12.70390	5.745059	.9114756	.3233008
Stddev	.000851	.015956	.80776	.030677	.0049031	.0016211
%RSD	6.022898	.4212064	6.358330	.5339649	.5379319	.5014122

#1	-.013151	3.789541	13.62174	5.763501	.9058675	.3214398
#2	-.014563	3.771528	12.38862	5.709647	.9136075	.3240563
#3	-.014681	3.803347	12.10132	5.762030	.9149520	.3244061

Elem	Sr4077
Units	ppm
Avg	-.120613
Stddev	.013839
%RSD	11.47405

#1	-.136585
#2	-.113074
#3	-.112180

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6764.249	108707.6	9307.620	5169.158	6292.732
Stddev	21.625	5929.2	40.828	294.781	13.495
%RSD	.3196912	5.454263	.4386488	5.702683	.2144484

#1	6781.628	101861.8	9273.790	4828.825	6304.331
#2	6771.088	112051.0	9352.970	5334.276	6295.945
#3	6740.032	112210.1	9296.099	5344.374	6277.921

Sample Name: Q3397-01LX5 Acquired: 10/21/2025 17:12:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0103818	.0023720	.0422335	-.000044	-.004616	30.13017	.1876792
Stddev	.0016524	.0014476	.0004070	.001758	.000546	.16376	.0026319
%RSD	15.91640	61.03006	.9637166	4006.002	11.82922	.5435223	1.402326

#1	.0116855	.0010005	.0422843	.001578	-.004156	30.14977	.1904095
#2	.0085234	.0022302	.0418035	.000202	-.005219	29.95749	.1851583
#3	.0109366	.0038853	.0426127	-.001912	-.004472	30.28325	.1874700

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025947	.0003355	6.322104	.0399210	.0224105	.0836627	54.13596
Stddev	.0000355	.0000046	.042468	.0002076	.0001770	.0002633	.19937
%RSD	1.369273	1.381038	.6717391	.5199213	.7897047	.3146775	.3682724

#1	.0025537	.0003408	6.322012	.0397416	.0222931	.0834076	54.19652
#2	.0026159	.0003322	6.279682	.0398730	.0226141	.0836469	53.91333
#3	.0026146	.0003335	6.364618	.0401483	.0223244	.0839334	54.29801

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.029177	11.99951	.0511158	-.002938	.9730847	.0663214	.1314457
Stddev	.003790	.07003	.0001495	.000137	.0159983	.0009879	.0004077
%RSD	.3682972	.5835971	.2924748	4.649801	1.644077	1.489608	.3101494

#1	1.032978	11.98980	.0510926	-.002790	.9549775	.0660438	.1318621
#2	1.025397	11.93484	.0509793	-.002966	.9789696	.0674184	.1314275
#3	1.029157	12.07388	.0512756	-.003058	.9853070	.0655019	.1310474

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.249401	.0255256	.0004456	-.013143	.8690626	2.526902	.9531209
Stddev	.057388	.0011432	.0001291	.000130	.0057463	.068409	.0046527
%RSD	1.350504	4.478790	28.96989	.9879237	.6612049	2.707234	.4881508

#1	4.187366	.0267598	.0003098	-.013204	.8756902	2.580325	.9478517
#2	4.260239	.0245029	.0005667	-.012994	.8660246	2.449799	.9566630
#3	4.300597	.0253139	.0004604	-.013231	.8654730	2.550581	.9548482

Sample Name: Q3397-01LX5 Acquired: 10/21/2025 17:12:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1856000	.0617764	-.017250
Stddev	.0045438	.0022296	.000331
%RSD	2.448143	3.609197	1.917828

#1	.1837756	.0635928	-.016959
#2	.1907724	.0624482	-.017182
#3	.1822520	.0592881	-.017610

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5983.604	99766.77	8025.417	4671.936	7022.039
Stddev	2.697	758.98	65.737	33.645	12.835
%RSD	.0450683	.7607506	.8191117	.7201500	.1827795

#1	5981.976	100032.1	8033.800	4678.029	7007.253
#2	5982.120	100357.5	8086.561	4702.118	7028.551
#3	5986.717	98910.8	7955.891	4635.661	7030.312

Sample Name: Q3397-01MS Acquired: 10/21/2025 17:16:49 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6342803	1.654121	1.074105	1.431569	.3368527	166.0915
Stddev	.0046768	.019251	.003811	.006047	.0057289	2.5247
%RSD	.7373425	1.163826	.3547991	.4223832	1.700724	1.520091

#1	.6289265	1.675728	1.070631	1.424673	.3306431	168.9693
#2	.6375697	1.638796	1.073503	1.434068	.3379824	164.2488
#3	.6363446	1.647838	1.078181	1.435966	.3419326	165.0564

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.213310	.1567459	.1818150	24.95683	.4979153	.3203779
Stddev	.021535	.0033651	.0004766	.40325	.0024362	.0011322
%RSD	1.774928	2.146883	.2621440	1.615799	.4892714	.3533977

#1	1.238123	.1605671	.1812671	25.41884	.4983871	.3190914
#2	1.199489	.1554460	.1821344	24.67557	.4952778	.3208201
#3	1.202318	.1542246	.1820434	24.77608	.5000811	.3212223

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6080936	277.4685	5.466530	64.12425	.7498262	.0406269
Stddev	.0015672	1.9428	.091978	1.28534	.0023042	.0008171
%RSD	.2577234	.7001983	1.682572	2.004456	.3073014	2.011303

#1	.6062972	276.7300	5.572725	65.59481	.7472127	.0401353
#2	.6091810	276.0031	5.412008	63.21519	.7507005	.0401752
#3	.6088027	279.6723	5.414858	63.56276	.7515652	.0415701

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.206384	.5480940	.8089512	30.04871	.4414837	.2985540
Stddev	.053343	.0104745	.0007893	.24670	.0095594	.0010171
%RSD	.8594934	1.911073	.0975679	.8209917	2.165285	.3406676

#1	6.174305	.5599743	.8088673	29.95556	.4320113	.2976510
#2	6.176886	.5401894	.8082073	29.86216	.4413120	.2996558
#3	6.267962	.5441184	.8097791	30.32842	.4511278	.2983553

Sample Name: Q3397-01MS Acquired: 10/21/2025 17:16:49 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5873346	4.274788	F 10.14851	F 10.54704	.9847444	.4762492
Stddev	.0018354	.048623	.13487	.01475	.0026738	.0044949
%RSD	.3124970	1.137433	1.328975	.1398625	.2715230	.9438048

#1	.5867985	4.330877	10.02550	10.53126	.9816642	.4811379
#2	.5858269	4.244589	10.12729	10.56047	.9861012	.4753147
#3	.5893783	4.248897	10.29273	10.54940	.9864677	.4722951

Elem	Sr4077
Units	ppm
Avg	.0316773
Stddev	.0057986
%RSD	18.30527

#1	.0381881
#2	.0297752
#3	.0270687

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6771.941	112751.7	9369.745	5234.950	6309.443
Stddev	10.932	393.1	179.200	14.370	15.147
%RSD	.1614275	.3486675	1.912535	.2745095	.2400699

#1	6783.323	112926.5	9165.680	5221.113	6322.362
#2	6770.977	113027.1	9442.106	5249.800	6313.196
#3	6761.523	112301.5	9501.450	5233.936	6292.773

Sample Name: Q3397-01MSD Acquired: 10/21/2025 17:20:47 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6369587	1.669264	1.085947	1.421703	.3372900	163.9676
Stddev	.0066831	.070290	.001446	.001833	.0027144	.6984
%RSD	1.049224	4.210827	.1331352	.1289634	.8047629	.4259673

#1	.6414195	1.713007	1.087496	1.421932	.3404045	164.4715
#2	.6292748	1.706601	1.085710	1.423411	.3354283	163.1704
#3	.6401818	1.588185	1.084634	1.419766	.3360371	164.2611

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.165278	.1597254	.1833695	24.97420	.4986577	.3221836
Stddev	.006661	.0000078	.0008155	.14797	.0015463	.0009437
%RSD	.5716347	.0048900	.4447282	.5924769	.3101005	.2928953

#1	1.167286	.1597190	.1842088	25.09197	.4969728	.3232152
#2	1.157844	.1597341	.1833194	24.80812	.5000121	.3219715
#3	1.170704	.1597231	.1825801	25.02251	.4989883	.3213640

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6034414	284.3066	5.192818	64.13527	.7592791	.0421120
Stddev	.0003315	1.1724	.032255	.34967	.0012517	.0003018
%RSD	.0549324	.4123835	.6211432	.5452051	.1648488	.7166302

#1	.6037472	284.3983	5.215435	64.37558	.7602257	.0421969
#2	.6030891	283.0911	5.155883	63.73412	.7597516	.0417768
#3	.6034879	285.4305	5.207135	64.29610	.7578599	.0423622

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.223922	.5561784	.7963208	30.12571	.4439873	.3015981
Stddev	.026704	.0032193	.0023258	.13797	.0053826	.0001649
%RSD	.4290583	.5788187	.2920730	.4579682	1.212337	.0546780

#1	6.224291	.5586699	.7936446	30.12418	.4454327	.3017798
#2	6.197036	.5525435	.7974642	29.98851	.4380295	.3015565
#3	6.250440	.5573218	.7978536	30.26443	.4484996	.3014579

Sample Name: Q3397-01MSD Acquired: 10/21/2025 17:20:47 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5978616	4.320281	F 10.76469	F 10.72582	.8903429	.4898968
Stddev	.0015719	.025364	.17890	.06909	.0083261	.0015438
%RSD	.2629247	.5870881	1.661894	.6441733	.9351568	.3151195

#1	.5995969	4.333291	10.96056	10.78892	.8990617	.4916496
#2	.5974548	4.291052	10.60993	10.73656	.8894921	.4893014
#3	.5965330	4.336500	10.72358	10.65199	.8824749	.4887395

Elem	Sr4077
Units	ppm
Avg	.0272172
Stddev	.0009941
%RSD	3.652385

#1	.0283331
#2	.0264262
#3	.0268923

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6821.414	112757.1	9335.731	5297.257	6303.809
Stddev	2.772	94.6	26.526	13.286	12.742
%RSD	.0406415	.0839037	.2841344	.2508069	.2021294

#1	6821.831	112809.0	9308.307	5312.545	6290.315
#2	6818.457	112647.9	9337.628	5290.725	6305.478
#3	6823.954	112814.3	9361.257	5288.502	6315.634

Sample Name: Q3397-01A Acquired: 10/21/2025 17:24:44 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6534809	1.660152	1.067693	1.504769	.6221831	131.2785
Stddev	.0018303	.051337	.000875	.004520	.0014971	.3766
%RSD	.2800786	3.092298	.0819959	.3003451	.2406147	.2868555

#1	.6542103	1.634277	1.068441	1.502854	.6230930	131.5891
#2	.6548339	1.626902	1.066730	1.501522	.6204553	130.8596
#3	.6513984	1.719278	1.067908	1.509930	.6230010	131.3868

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.008508	.1614296	.1807127	27.78716	.4670543	.2959716
Stddev	.005703	.0004743	.0003493	.03587	.0024288	.0002867
%RSD	.5654614	.2937785	.1933035	.1291032	.5200315	.0968617

#1	1.014867	.1619716	.1804827	27.81273	.4697941	.2960454
#2	1.003848	.1610912	.1811146	27.74616	.4662036	.2962141
#3	1.006808	.1612259	.1805407	27.80260	.4651653	.2956552

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5543090	241.5407	4.579466	52.62742	.7032567	.0453721
Stddev	.0010222	.9502	.010960	.03280	.0009194	.0003615
%RSD	.1844002	.3933787	.2393281	.0623182	.1307408	.7967306

#1	.5548402	242.6308	4.592120	52.66078	.7041875	.0457071
#2	.5531307	240.8878	4.572966	52.59522	.7032336	.0454203
#3	.5549562	241.1035	4.573311	52.62627	.7023491	.0449889

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.702572	.5127899	.7132402	26.77008	.4397877	.3229044
Stddev	.032438	.0005223	.0053092	.18177	.0034765	.0004284
%RSD	.5688336	.1018653	.7443792	.6790050	.7904985	.1326599

#1	5.727052	.5129300	.7193619	26.97162	.4437005	.3224102
#2	5.665781	.5132279	.7098933	26.61854	.4386080	.3231709
#3	5.714884	.5122117	.7104655	26.72007	.4370545	.3231320

Sample Name: Q3397-01A Acquired: 10/21/2025 17:24:44 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6262805	3.967126	F 13.10245	F 10.08436	.8567157	.4321044
Stddev	.0022294	.013538	.09850	.06950	.0070595	.0041225
%RSD	.3559672	.3412541	.7517527	.6891917	.8240236	.9540602

#1	.6286737	3.981893	13.09482	10.00739	.8503968	.4363791
#2	.6242627	3.955301	13.00800	10.10316	.8554153	.4317812
#3	.6259052	3.964185	13.20455	10.14253	.8643350	.4281531

Elem	Sr4077
Units	ppm
Avg	.0752637
Stddev	.0010107
%RSD	1.342938

#1	.0764028
#2	.0744740
#3	.0749142

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6691.165	110754.0	9127.711	5304.838	6382.024
Stddev	9.114	500.0	27.701	14.685	9.654
%RSD	.1362040	.4514669	.3034808	.2768269	.1512667

#1	6701.004	110274.4	9108.392	5289.748	6388.591
#2	6683.013	111272.2	9159.448	5305.682	6370.940
#3	6689.479	110715.4	9115.293	5319.082	6386.542

Sample Name: PB170192BL Acquired: 10/21/2025 17:28:42 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003502	.0000053	.0000055	.0001752	-.000545	.0081055
Stddev	.0014697	.0021643	.0008965	.0007500	.001170	.0067007
%RSD	419.7031	41009.56	16461.30	428.0715	214.9278	82.66813

#1	.0004793	-.000226	.0007857	.0006395	-.000265	.0156350
#2	.0017511	-.002034	.0002044	.0005761	.000461	.0058835
#3	-.001180	.002276	-.000974	-.000690	-.001830	.0027981

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004662	.0000633	-.000014	-.005205	.0000430	-.000109
Stddev	.000441	.0000233	.000037	.009781	.0001011	.000145
%RSD	9.454712	36.90414	265.9844	187.9169	235.0065	133.3773

#1	-.005156	.0000645	-.000020	-.011316	-.000035	-.000036
#2	-.004522	.0000393	-.000048	.006076	.000157	-.000276
#3	-.004309	.0000860	.000026	-.010374	.000007	-.000014

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002179	.0090931	-.000757	.0026533	.0000417	-.000131
Stddev	.0003139	.0014920	.000488	.0209079	.0001797	.000413
%RSD	144.0400	16.40778	64.51437	787.9945	430.7031	314.3879

#1	.0004558	.0095309	-.000262	-.010023	.0001925	-.000494
#2	-.000138	.0103171	-.000771	.026785	-.000157	.000318
#3	.000336	.0074312	-.001238	-.008802	.000090	-.000219

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1818969	-.000335	-.000157	.0556550	-.023498	-.000437
Stddev	.0205951	.000865	.000223	.0084168	.000589	.000062
%RSD	11.32243	258.0094	142.5085	15.12319	2.505285	14.13367

#1	.1663958	-.000703	.000059	.0511689	-.023113	-.000374
#2	.1740286	.000653	-.000142	.0504315	-.023205	-.000497
#3	.2052662	-.000955	-.000387	.0653645	-.024176	-.000442

Sample Name: PB170192BL Acquired: 10/21/2025 17:28:42 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.011688	.0014462	-.011553	.0004532	F .0157298	-.009177
Stddev	.000494	.0011622	.014149	.0015773	.0008798	.004933
%RSD	4.226028	80.35819	122.4716	348.0660	5.593074	53.75209

#1	-.011296	.0017823	.004298	.0021973	.0160850	-.013422
#2	-.012243	.0024033	-.016049	.0000353	.0147280	-.010345
#3	-.011525	.0001531	-.022907	-.000873	.0163765	-.003765

Elem	Sr4077
Units	ppm
Avg	-.000006
Stddev	.000019
%RSD	302.9459

#1	.000001
#2	-.000028
#3	.000008

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5745.917	96472.75	7468.942	4589.059	7472.133
Stddev	4.436	392.72	73.924	7.985	16.866
%RSD	.0772003	.4070747	.9897453	.1740020	.2257214

#1	5742.838	96284.03	7383.591	4594.602	7455.366
#2	5751.002	96924.21	7510.561	4592.668	7471.938
#3	5743.913	96210.02	7512.675	4579.907	7489.096

Sample Name: PB170192BS Acquired: 10/21/2025 17:33:01 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7341060	1.796765	.8728903	1.894876	.7651243	1.840105
Stddev	.0022879	.010099	.0009671	.007426	.0010634	.008950
%RSD	.3116634	.5620931	.1107950	.3919160	.1389860	.4863856

#1	.7365427	1.785146	.8718792	1.891874	.7660960	1.836126
#2	.7337718	1.801710	.8729851	1.889420	.7652887	1.833835
#3	.7320036	1.803440	.8738065	1.903333	.7639883	1.850355

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1790254	.1875706	.1720140	.9343956	.3722621	.1780799
Stddev	.0012400	.0007374	.0002013	.0161555	.0019060	.0003434
%RSD	.6926406	.3931441	.1169943	1.728979	.5120024	.1928231

#1	.1776033	.1867257	.1721709	.9306658	.3704851	.1783608
#2	.1798810	.1880848	.1720840	.9204312	.3742751	.1776971
#3	.1795919	.1879013	.1717871	.9520898	.3720261	.1781818

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2909647	2.764187	.1883217	1.837297	.4476580	.0668079
Stddev	.0000886	.011026	.0006918	.046880	.0010550	.0005385
%RSD	.0304584	.3988886	.3673440	2.551563	.2356802	.8060280

#1	.2909931	2.776651	.1881327	1.800368	.4464708	.0662140
#2	.2910355	2.760210	.1890883	1.821484	.4484884	.0672643
#3	.2908653	2.755702	.1877440	1.890038	.4480147	.0669454

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.793029	.2735773	.1905021	8.693762	.2527337	.3766962
Stddev	.012522	.0037920	.0006567	.052445	.0012768	.0003684
%RSD	.4483442	1.386074	.3447178	.6032534	.5052127	.0977995

#1	2.803360	.2754831	.1897446	8.720537	.2514976	.3762986
#2	2.779102	.2760383	.1909117	8.633333	.2540477	.3767642
#3	2.796626	.2692104	.1908499	8.727415	.2526557	.3770259

Sample Name: PB170192BS Acquired: 10/21/2025 17:33:01 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5954838	.1801292	.7983008	5.054426	F .0124861	.1747847
Stddev	.0025482	.0020136	.0059067	.019531	.0014235	.0036969
%RSD	.4279233	1.117862	.7399079	.3864159	11.40055	2.115099

#1	.5980478	.1778293	.8051132	5.075900	.0109042	.1751870
#2	.5954520	.1809840	.7951801	5.049659	.0136637	.1709031
#3	.5929517	.1815744	.7946089	5.037720	.0128904	.1782639

Elem	Sr4077
Units	ppm
Avg	.1801980
Stddev	.0005952
%RSD	.3303018

#1	.1808159
#2	.1796284
#3	.1801497

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5833.625	97504.50	7603.405	4547.512	7338.895
Stddev	5.920	264.78	43.261	37.801	4.259
%RSD	.1014880	.2715525	.5689632	.8312398	.0580272

#1	5837.159	97660.67	7641.285	4591.157	7335.357
#2	5836.926	97198.79	7556.264	4526.205	7337.706
#3	5826.790	97654.04	7612.665	4525.175	7343.621

Sample Name: CCV05 Acquired: 10/21/2025 17:37:02 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.897744	5.027411	4.784460	5.026489	5.028917	9.542710
Stddev	.015593	.025671	.004369	.027705	.016542	.035437
%RSD	.3183672	.5106169	.0913066	.5511840	.3289282	.3713559

#1	4.915658	5.053361	4.780726	5.057314	5.047477	9.582961
#2	4.890354	5.002028	4.783391	5.003665	5.015728	9.516202
#3	4.887220	5.026843	4.789264	5.018488	5.023546	9.528968

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.473177	2.339196	2.366262	23.76265	9.9639638	2.391349
Stddev	.043111	.0015805	.004833	.09417	.0001080	.003161
%RSD	.4550853	.6756602	.2042379	.3963047	.0112000	.1321642

#1	9.514803	2.357112	2.360928	23.85075	9.9638533	2.387877
#2	9.476008	2.333250	2.367507	23.77381	9.9640690	2.392112
#3	9.428720	2.327226	2.370350	23.66340	9.9639693	2.394058

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.222766	4.837056	2.362544	23.56058	2.388650	1.209460
Stddev	.002267	.010964	.011809	.09186	.003103	.001804
%RSD	.1854125	.2266575	.4998332	.3898989	.1299051	.1491980

#1	1.220711	4.828334	2.373096	23.66446	2.385346	1.210704
#2	1.222389	4.849364	2.364748	23.49006	2.389099	1.210285
#3	1.225198	4.833471	2.349789	23.52721	2.391503	1.207390

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.05586	2.393705	2.425461	23.65760	4.671826	4.890791
Stddev	.05450	.006291	.006604	.02595	.031241	.003593
%RSD	.2363853	.2627958	.2722639	.1096842	.6687118	.0734685

#1	23.00632	2.400348	2.428391	23.63080	4.707700	4.890481
#2	23.11424	2.392926	2.430093	23.65939	4.657175	4.887363
#3	23.04702	2.387840	2.417900	23.68261	4.650603	4.894530

Sample Name: CCV05 Acquired: 10/21/2025 17:37:02 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.755388	4.765126	4.911614	4.794664	4.854642	F 4.482659
Stddev	.008461	.021198	.016386	.022613	.004008	.027192
%RSD	.1779271	.4448542	.3336217	.4716241	.0825608	.6065933

#1	4.749552	4.788045	4.920436	4.770096	4.856753	4.507793
#2	4.751521	4.761110	4.921699	4.814606	4.850020	4.486389
#3	4.765092	4.746224	4.892707	4.799292	4.857154	4.453795

Elem	Sr4077
Units	ppm
Avg	4.761058
Stddev	.147160
%RSD	3.090905

#1	4.928836
#2	4.700491
#3	4.653847

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5600.145	93477.38	7615.844	4358.054	6539.855
Stddev	5.618	209.98	60.530	10.203	11.253
%RSD	.1003237	.2246346	.7947940	.2341162	.1720656

#1	5605.873	93236.41	7547.672	4355.633	6552.572
#2	5599.919	93621.15	7636.578	4349.280	6535.808
#3	5594.644	93574.59	7663.283	4369.250	6531.186

Sample Name: CCB05 Acquired: 10/21/2025 17:41:04 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004961	.0020716	.0000921	.0009185	.0003499	.0160656
Stddev	.0019198	.0008313	.0006567	.0002910	.0009501	.0084356
%RSD	386.9614	40.12861	712.7069	31.68450	271.5357	52.50709

#1	-.001565	.0027278	.0005094	.0011535	-.000291	.0130035
#2	.000819	.0011368	.0004319	.0010089	-.000100	.0095887
#3	.002234	.0023502	-.000665	.0005930	.001441	.0256045

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004162	.0000254	-.000074	.0074142	-.000153	-.000079
Stddev	.000443	.0000252	.000009	.0168297	.000214	.000023
%RSD	10.63863	98.99537	12.51884	226.9916	139.7063	28.99306

#1	-.004398	.0000311	-.000085	.0243145	.000036	-.000105
#2	-.004437	.0000473	-.000071	-.009344	-.000110	-.000072
#3	-.003651	-.000002	-.000067	.007272	-.000385	-.000060

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002471	.0060405	-.000041	-.023207	-.000043	-.000207
Stddev	.0003440	.0019153	.000208	.022126	.000103	.000155
%RSD	139.2489	31.70851	506.4686	95.34296	241.3601	75.07300

#1	.0004167	.0043210	-.000026	-.026351	-.000083	-.000028
#2	-.000149	.0081048	.000159	.000323	.000074	-.000290
#3	.000473	.0056956	-.000256	-.043592	-.000119	-.000303

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1130142	.0004551	.0003980	.0662729	-.017649	.0000897
Stddev	.0133090	.0013373	.0001824	.0469872	.000304	.0000432
%RSD	11.77644	293.8513	45.82987	70.89961	1.724188	48.13111

#1	.1008709	.0018884	.0001902	.0163336	-.017412	.0001119
#2	.1109289	-.000759	.0005315	.0728754	-.017544	.0001172
#3	.1272428	.000236	.0004725	.1096096	-.017992	.0000399

Sample Name: CCB05 Acquired: 10/21/2025 17:41:04 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.012640	.0007573	-.014232	.0022059	F .0123004	-.007739
Stddev	.000505	.0010370	.015662	.0010858	.0012557	.002993
%RSD	3.995744	136.9334	110.0510	49.22315	10.20897	38.67251

#1	-.012220	.0017653	.003408	.0011704	.0131351	-.009483
#2	-.012501	-.000306	-.026506	.0021115	.0108563	-.009451
#3	-.013200	.000813	-.019597	.0033359	.0129099	-.004283

Elem	Sr4077
Units	ppm
Avg	.0000872
Stddev	.0000622
%RSD	71.31294

#1	.0001556
#2	.0000721
#3	.0000340

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5806.527	97324.46	7505.620	4547.075	7605.380
Stddev	5.126	217.21	205.848	34.040	3.521
%RSD	.0882816	.2231795	2.742581	.7486097	.0463022

#1	5801.845	97434.69	7270.919	4543.018	7603.099
#2	5805.732	97074.24	7655.526	4515.245	7603.605
#3	5812.005	97464.46	7590.414	4582.961	7609.435

Sample Name: Q3365-01 Acquired: 10/21/2025 17:45:23 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0458830	-.003676	.0238254	.0023201	.0059661	11.27633
Stddev	.0029585	.001467	.0023202	.0020257	.0037077	.08046
%RSD	6.447877	39.89573	9.738185	87.31040	62.14560	.7135400

#1	.0489638	-.005003	.0212604	.0028073	.0056535	11.20571
#2	.0456208	-.003925	.0244382	.0040578	.0098202	11.36392
#3	.0430643	-.002101	.0257777	.0000952	.0024247	11.25934

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3382388	.0008145	.0267162	313.0686	.0163403	.0112661
Stddev	.0021651	.0000096	.0001597	.9376	.0008048	.0002353
%RSD	.6401204	1.173279	.5975822	.2994847	4.925190	2.088156

#1	.3372716	.0008099	.0265741	312.3204	.0171192	.0109996
#2	.3407190	.0008255	.0268890	314.1203	.0155119	.0114447
#3	.3367260	.0008081	.0266857	312.7649	.0163897	.0113542

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1328502	49.35990	2.285715	45.62166	.0360480	-.000773
Stddev	.0005671	.12759	.016819	.06053	.0004094	.000473
%RSD	.4268852	.2584870	.7358284	.1326765	1.135590	61.09822

#1	.1333336	49.31518	2.266398	45.57548	.0364973	-.000962
#2	.1329911	49.50382	2.297115	45.59933	.0359501	-.000236
#3	.1322259	49.26068	2.293630	45.69019	.0356964	-.001123

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 4278.177	.0311330	1.135927	66.15730	.1946438	.0198009
Stddev	49.052	.0031163	.004747	.70729	.0005452	.0001769
%RSD	1.146556	10.00952	.4178630	1.069100	.2800994	.8933709

#1	4333.306	.0279781	1.136053	65.36581	.1950564	.0199663
#2	4261.868	.0312120	1.140610	66.37864	.1948493	.0196144
#3	4239.357	.0342091	1.131119	66.72745	.1940257	.0198218

Sample Name: Q3365-01 Acquired: 10/21/2025 17:45:23 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.036522	.5363999	F 36.01516	1.170745	F 152.5485	.1528312
Stddev	.000723	.0084995	.17973	.003277	.6105	.0029423
%RSD	1.979882	1.584539	.4990396	.2798815	.4001945	1.925185

#1	-.037341	.5453809	36.22221	1.174417	152.7177	.1496018
#2	-.036250	.5284820	35.92397	1.169701	153.0565	.1535320
#3	-.035974	.5353368	35.89931	1.168118	151.8712	.1553599

Elem	Sr4077
Units	ppm
Avg	1.438551
Stddev	.011318
%RSD	.7867491

#1	1.427957
#2	1.450475
#3	1.437221

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4361.410	72121.09	7241.082	3429.751	4374.566
Stddev	15.527	285.51	8.871	26.510	15.306
%RSD	.3560087	.3958697	.1225048	.7729527	.3498772

#1	4349.307	71847.11	7236.062	3425.200	4364.054
#2	4356.006	72416.87	7251.324	3405.811	4367.519
#3	4378.917	72099.29	7235.859	3458.243	4392.126

Sample Name: Q3365-02 Acquired: 10/21/2025 17:49:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0269111	-.015814	.0137467	.0037379	-.002898	3.414651
Stddev	.0040761	.003790	.0008441	.0034257	.001422	.055252
%RSD	15.14639	23.96668	6.140182	91.64724	49.07730	1.618080

#1	.0279159	-.011683	.0145047	-.000078	-.002915	3.388350
#2	.0303907	-.016630	.0128371	.004743	-.001467	3.478140
#3	.0224266	-.019130	.0138982	.006549	-.004312	3.377463

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2519819	.0025727	.0078602	232.8615	-.013913	.0115569
Stddev	.0025911	.0000694	.0005189	2.3626	.000102	.0003772
%RSD	1.028285	2.697380	6.601867	1.014602	.7325590	3.263700

#1	.2508576	.0025993	.0074283	230.8044	-.013982	.0115595
#2	.2549453	.0026249	.0077164	235.4419	-.013796	.0111784
#3	.2501429	.0024940	.0084358	232.3382	-.013961	.0119328

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0780634	208.3505	2.105519	30.80407	.0270625	-.005669
Stddev	.0046393	2.0221	.022710	.33848	.0009658	.000348
%RSD	5.943014	.9705076	1.078600	1.098800	3.568743	6.142201

#1	.0731211	210.5607	2.085421	30.44434	.0261887	-.006032
#2	.0787448	207.8974	2.130156	31.11627	.0268995	-.005338
#3	.0823244	206.5935	2.100979	30.85160	.0280995	-.005635

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 3423.793	.0129574	.4092869	53.71911	.3728293	.0169272
Stddev	60.913	.0010797	.0041786	.27050	.0114318	.0003317
%RSD	1.779105	8.332650	1.020943	.5035387	3.066225	1.959825

#1	3468.811	.0121724	.4141030	53.95814	.3858330	.0167619
#2	3448.086	.0125110	.4071337	53.42548	.3682930	.0167106
#3	3354.482	.0141887	.4066242	53.77372	.3643618	.0173091

Sample Name: Q3365-02 Acquired: 10/21/2025 17:49:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.039073	.1391794	F 18.38294	1.247631	F 103.1829	.1188552
Stddev	.000293	.0043673	.24964	.017816	1.6133	.0060404
%RSD	.7508996	3.137887	1.357987	1.427982	1.563575	5.082146

#1	-.039263	.1392511	18.63239	1.229525	101.9947	.1258194
#2	-.039221	.1435104	18.38330	1.248226	102.5344	.1157068
#3	-.038735	.1347767	18.13312	1.265142	105.0196	.1150394

Elem	Sr4077
Units	ppm
Avg	.9210925
Stddev	.0090151
%RSD	.9787357

#1	.9118069
#2	.9298102
#3	.9216605

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4423.009	73122.72	7309.827	3455.831	4566.213
Stddev	54.276	845.64	94.813	28.000	53.818
%RSD	1.227133	1.156472	1.297063	.8102108	1.178612

#1	4468.604	72311.95	7377.560	3426.340	4616.613
#2	4437.451	73056.83	7201.471	3459.103	4572.495
#3	4362.973	73999.39	7350.450	3482.051	4509.529

Sample Name: Q3365-03 Acquired: 10/21/2025 17:53:57 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002108	-.000340	-.000807	.0008359	.0038630	.0280196
Stddev	.002641	.001249	.001093	.0010698	.0022658	.0097483
%RSD	125.2919	367.9635	135.3445	127.9696	58.65404	34.79086

#1	-.003388	-.001711	-.000095	.0016729	.0064788	.0260169
#2	.000929	-.000043	-.002065	.0012043	.0025998	.0194282
#3	-.003866	.000735	-.000261	-.000369	.0025103	.0386136

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0464135	-.000162	-.000173	213.9196	.0007545	-.000411
Stddev	.0021192	.000030	.000036	3.0358	.0000874	.000171
%RSD	4.565936	18.55738	20.55172	1.419132	11.58890	41.57630

#1	.0469873	-.000129	-.000201	214.6485	.0006598	-.000375
#2	.0440665	-.000168	-.000184	210.5857	.0008322	-.000261
#3	.0481868	-.000188	-.000133	216.5246	.0007714	-.000597

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0421932	.0844972	.0134427	76.99581	.0028620	-.000701
Stddev	.0001780	.0009920	.0003963	1.08137	.0005187	.000472
%RSD	.4219095	1.174062	2.948176	1.404457	18.12333	67.39330

#1	.0421411	.0854422	.0134275	77.18901	.0025045	-.000226
#2	.0420471	.0845853	.0130543	75.83086	.0034569	-.001171
#3	.0423915	.0834640	.0138465	77.96757	.0026245	-.000706

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	94.85145	-.000037	.0129152	8.244184	.0575857	.0061536
Stddev	.42404	.004571	.0001890	.063941	.0006572	.0003231
%RSD	.4470598	12274.58	1.463608	.7755888	1.141284	5.250244

#1	95.29295	-.004954	.0130631	8.317701	.0573643	.0062626
#2	94.81407	.000758	.0129803	8.213333	.0570678	.0057901
#3	94.44734	.004084	.0127023	8.201518	.0583250	.0064081

Sample Name: Q3365-03 Acquired: 10/21/2025 17:53:57 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.039275	-.007292	F 22.42471	.0121431	F 14.18041	.0735525
Stddev	.000354	.000738	.05835	.0020356	.03298	.0034306
%RSD	.9023113	10.12322	.2601876	16.76333	.2325962	4.664083

#1	-.039655	-.008053	22.43933	.0117865	14.14750	.0704440
#2	-.038953	-.007243	22.47436	.0143335	14.18027	.0772332
#3	-.039218	-.006580	22.36044	.0103094	14.21347	.0729803

Elem	Sr4077
Units	ppm
Avg	.4462603
Stddev	.0063087
%RSD	1.413688

#1	.4496336
#2	.4389821
#3	.4501653

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5331.255	91089.39	7658.709	4160.089	6328.018
Stddev	19.456	124.07	121.350	10.827	32.418
%RSD	.3649459	.1362081	1.584474	.2602511	.5122860

#1	5318.440	91227.26	7664.005	4164.288	6310.296
#2	5321.682	91054.18	7777.324	4168.188	6308.325
#3	5353.643	90986.73	7534.797	4147.792	6365.433

Sample Name: Q3365-04 Acquired: 10/21/2025 17:58:11 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003592	-.001956	-.000089	.0019278	.0031183	.0355133
Stddev	.001216	.001667	.000475	.0019909	.0004258	.0108358
%RSD	33.86113	85.22677	532.4270	103.2721	13.65572	30.51199

#1	-.004099	-.000058	-.000631	.0033795	.0028726	.0240952
#2	-.002204	-.003181	.000108	-.000342	.0028723	.0456536
#3	-.004472	-.002629	.000255	.002746	.0036100	.0367913

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0856082	-.000201	-.000030	187.9811	.0010403	.0025162
Stddev	.0015233	.000056	.000054	1.2787	.0003273	.0001669
%RSD	1.779385	27.55908	180.3987	.6802293	31.46538	6.633535

#1	.0865751	-.000263	.000012	189.3125	.0008096	.0026052
#2	.0838522	-.000155	-.000090	186.7626	.0014149	.0026196
#3	.0863973	-.000186	-.000011	187.8681	.0008964	.0023236

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1271316	.0440514	.9017756	58.77241	.0149511	-.000543
Stddev	.0009551	.0032785	.0039422	.51953	.0004974	.000095
%RSD	.7512784	7.442501	.4371602	.8839737	3.326871	17.59623

#1	.1276966	.0449522	.9049576	59.36871	.0145623	-.000579
#2	.1276694	.0467853	.8973655	58.41737	.0155116	-.000615
#3	.1260289	.0404166	.9030037	58.53116	.0147794	-.000434

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	252.8404	-.001320	.2036555	9.949887	.0913516	.0076786
Stddev	2.1800	.002038	.0010061	.169373	.0016948	.0000990
%RSD	.8622088	154.4165	.4940022	1.702261	1.855262	1.289782

#1	255.2566	-.003453	.2031524	9.779004	.0929594	.0077904
#2	251.0209	-.001113	.2030002	9.952948	.0895815	.0076436
#3	252.2436	.000607	.2048139	10.11771	.0915140	.0076018

Sample Name: Q3365-04 Acquired: 10/21/2025 17:58:11 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.039087	-.005853	F 21.29341	.0123313	9.954892	.0630075
Stddev	.000661	.000433	.14524	.0015344	.078895	.0032213
%RSD	1.690823	7.397525	.6820772	12.44311	.7925201	5.112615

#1	-.039107	-.006243	21.12571	.0140949	9.965114	.0593250
#2	-.039738	-.005387	21.37569	.0113022	9.871384	.0643951
#3	-.038417	-.005929	21.37882	.0115968	10.02818	.0653026

Elem	Sr4077
Units	ppm
Avg	.4069392
Stddev	.0019749
%RSD	.4853067

#1	.4075331
#2	.4047355
#3	.4085490

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5330.383	89405.50	7867.899	4082.104	6240.234
Stddev	23.060	286.32	110.465	3.482	21.712
%RSD	.4326204	.3202481	1.403993	.0852996	.3479369

#1	5321.783	89707.04	7743.973	4081.574	6232.489
#2	5312.860	89372.15	7956.018	4078.918	6223.457
#3	5356.508	89137.33	7903.706	4085.821	6264.757

Sample Name: Q3365-05 Acquired: 10/21/2025 18:02:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000882	-.000412	-.001418	.0028477	.0045131	.0318582
Stddev	.001695	.001503	.001829	.0049585	.0003820	.0050434
%RSD	192.1731	365.0673	128.9814	174.1248	8.463857	15.83068

#1	-.000259	.000902	.000642	-.002734	.0045575	.0348270
#2	-.002801	-.000086	-.002851	.004534	.0048709	.0347125
#3	.000414	-.002051	-.002043	.006743	.0041108	.0260350

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1663795	-.000221	-.000011	193.1928	.0008057	.0012270
Stddev	.0013631	.000013	.000017	.8361	.0000787	.0001728
%RSD	.8192787	6.057257	152.3956	.4327620	9.768343	14.07892

#1	.1674107	-.000205	-.000030	194.1377	.0008948	.0013589
#2	.1668936	-.000229	-.000003	192.8919	.0007767	.0012907
#3	.1648341	-.000227	.000000	192.5489	.0007457	.0010315

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0840205	.0671678	1.075986	71.67785	.0051653	-.000545
Stddev	.0002253	.0025667	.011403	.11856	.0004479	.000095
%RSD	.2681631	3.821297	1.059811	.1654015	8.670505	17.38369

#1	.0842510	.0667735	1.088394	71.74526	.0050795	-.000471
#2	.0840099	.0648211	1.073600	71.74734	.0056499	-.000511
#3	.0838007	.0699088	1.065964	71.54096	.0047666	-.000651

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	318.3760	-.002151	.0679139	7.478414	.0638621	.0054785
Stddev	4.5173	.001253	.0004660	.065520	.0011437	.0003106
%RSD	1.418854	58.24509	.6861355	.8761251	1.790891	5.669530

#1	318.3235	-.001872	.0675563	7.508000	.0648754	.0051200
#2	322.9192	-.003520	.0677446	7.523925	.0640889	.0056486
#3	313.8851	-.001061	.0684409	7.403319	.0626220	.0056668

Sample Name: Q3365-05 Acquired: 10/21/2025 18:02:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.039621	-.007412	F 18.33529	.0122598	F 17.67523	.0599498
Stddev	.000285	.000652	.01940	.0010563	.17943	.0057882
%RSD	.7198008	8.799301	.1058306	8.615920	1.015134	9.655130

#1	-.039769	-.006665	18.35752	.0134500	17.75093	.0583596
#2	-.039800	-.007868	18.32663	.0114339	17.80439	.0551229
#3	-.039292	-.007703	18.32172	.0118954	17.47035	.0663669

Elem	Sr4077
Units	ppm
Avg	.4316877
Stddev	.0042790
%RSD	.9912342

#1	.4357955
#2	.4320118
#3	.4272559

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5159.670	87179.43	7598.530	4052.236	6021.791
Stddev	5.690	298.18	34.762	10.742	5.004
%RSD	.1102857	.3420356	.4574862	.2650854	.0830911

#1	5153.184	87247.68	7580.575	4058.089	6018.317
#2	5163.822	86853.04	7576.417	4039.838	6027.526
#3	5162.005	87437.58	7638.598	4058.779	6019.531

Sample Name: Q3370-01 Acquired: 10/21/2025 18:06:51 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002351	-.003946	-.000235	.0056557	.0036414	1.325892
Stddev	.002466	.000926	.000438	.0026689	.0005996	.012298
%RSD	104.8663	23.46071	186.4222	47.19024	16.46477	.9275348

#1	-.000617	-.003236	-.000287	.0048404	.0036827	1.314582
#2	-.001263	-.004993	.000227	.0086372	.0030223	1.324110
#3	-.005174	-.003609	-.000645	.0034895	.0042192	1.338984

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0477002	-.000121	-.000077	50.17864	.0303517	.0000090
Stddev	.0018638	.000040	.000019	.29537	.0001590	.0000828
%RSD	3.907274	33.40495	24.99333	.5886436	.5239154	921.2791

#1	.0493148	-.000122	-.000092	50.51155	.0303663	.0000903
#2	.0481252	-.000160	-.000083	50.07642	.0301859	.0000120
#3	.0456607	-.000080	-.000055	49.94795	.0305029	-.000075

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0353789	.3689994	.0212408	17.23545	.0338537	-.000447
Stddev	.0002164	.0076244	.0007067	.09496	.0002113	.000248
%RSD	.6116918	2.066238	3.326949	.5509484	.6242152	55.42028

#1	.0355496	.3602260	.0220551	17.33102	.0336111	-.000301
#2	.0354517	.3740202	.0208785	17.23420	.0339530	-.000308
#3	.0351355	.3727521	.0207887	17.14112	.0339971	-.000734

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	202.9877	-.001099	1.321884	23.43856	.6357199	.0022949
Stddev	1.0506	.001855	.002596	.11413	.0086634	.0001505
%RSD	.5175571	168.8910	.1963745	.4869525	1.362772	6.557964

#1	203.8457	-.000977	1.323682	23.32588	.6444774	.0021999
#2	201.8160	.000693	1.318908	23.43570	.6355286	.0024684
#3	203.3014	-.003012	1.323061	23.55409	.6271538	.0022164

Sample Name: Q3370-01 Acquired: 10/21/2025 18:06:51 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.028626	-.000769	4.116180	1.090323	F 102.2481	.0062403
Stddev	.000237	.002297	.030201	.002539	.3184	.0019052
%RSD	.8275428	298.5733	.7337153	.2328457	.3114039	30.53032
#1	-.028409	-.000420	4.081542	1.087973	101.8862	.0067668
#2	-.028879	.001333	4.129998	1.093016	102.4852	.0078268
#3	-.028591	-.003222	4.137000	1.089978	102.3729	.0041272

Elem	Sr4077
Units	ppm
Avg	.2552686
Stddev	.0019809
%RSD	.7759933
#1	.2575358
#2	.2543970
#3	.2538730

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5499.614	93374.54	7850.058	4366.949	6541.709
Stddev	13.438	128.30	66.381	14.838	19.344
%RSD	.2443394	.1374086	.8456060	.3397695	.2957032
#1	5493.165	93514.03	7778.181	4375.138	6524.425
#2	5490.616	93348.01	7862.939	4375.886	6538.097
#3	5515.061	93261.57	7909.055	4349.821	6562.604

Sample Name: Q3370-01DUP Acquired: 10/21/2025 18:11:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003956	-.003508	.0007579	.0042311	.0030464	1.311242
Stddev	.002364	.002131	.0012534	.0010317	.0000881	.000515
%RSD	59.75351	60.73599	165.3778	24.38432	2.891411	.0392702
#1	-.001416	-.001076	.0021872	.0036171	.0030365	1.311654
#2	-.006092	-.005045	-.000154	.0036540	.0029638	1.310665
#3	-.004360	-.004404	.000240	.0054222	.0031391	1.311408
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0455746	-.000101	-.000091	49.29403	.0306258	.0000642
Stddev	.0029768	.000091	.000089	.21084	.0002885	.0002661
%RSD	6.531655	90.15978	98.50062	.4277117	.9419366	414.7933
#1	.0443114	.000004	-.000184	49.17600	.0307050	-.000214
#2	.0434377	-.000156	-.000082	49.16865	.0303060	.000316
#3	.0489747	-.000153	-.000006	49.53745	.0308664	.000091
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0352056	.3669956	.0199769	16.98159	.0345469	-.000503
Stddev	.0000744	.0060562	.0003276	.06971	.0002237	.000147
%RSD	.2112653	1.650221	1.639733	.4105137	.6474025	29.22817
#1	.0352900	.3737917	.0203368	16.91049	.0347958	-.000666
#2	.0351493	.3650251	.0198977	16.98447	.0343628	-.000462
#3	.0351776	.3621700	.0196962	17.04982	.0344821	-.000380
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	195.1950	-.002866	1.334297	23.04781	.6310087	.0025222
Stddev	2.4829	.002018	.003787	.19326	.0036959	.0000315
%RSD	1.271985	70.42044	.2838154	.8385233	.5857166	1.250604
#1	197.5878	-.002474	1.338657	23.23195	.6267526	.0024860
#2	192.6310	-.005051	1.332408	22.84656	.6328646	.0025369
#3	195.3664	-.001072	1.331826	23.06491	.6334089	.0025437

Sample Name: Q3370-01DUP Acquired: 10/21/2025 18:11:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.028573	-.000366	4.103174	1.090305	F 102.6306	.0053710
Stddev	.001499	.000853	.014882	.006703	.5109	.0017638
%RSD	5.245822	232.6597	.3626860	.6147770	.4977754	32.83898
#1	-.028774	-.000558	4.115940	1.095030	102.4136	.0036261
#2	-.029961	-.001107	4.086830	1.093251	103.2141	.0071531
#3	-.026984	.000566	4.106753	1.082633	102.2640	.0053338

Elem	Sr4077
Units	ppm
Avg	.2471331
Stddev	.0008964
%RSD	.3627230
#1	.2474319
#2	.2461254
#3	.2478419

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5509.287	93020.97	7953.330	4291.215	6576.201
Stddev	6.164	482.51	35.920	13.156	16.091
%RSD	.1118767	.5187115	.4516321	.3065817	.2446838
#1	5513.252	92585.16	7991.470	4279.049	6568.398
#2	5502.186	93539.49	7948.375	4305.177	6565.499
#3	5512.423	92938.26	7920.144	4289.419	6594.706

Sample Name: Q3370-01LX5 Acquired: 10/21/2025 18:15:26 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000212	.0015263	-.000381	.0017329	.0001734	.2745232
Stddev	.000694	.0029433	.000847	.0026355	.0011461	.0061655
%RSD	326.5792	192.8390	222.5507	152.0839	661.0092	2.245895
#1	.000460	.0045311	-.000950	-.000705	.0013757	.2680374
#2	-.000171	-.001351	-.000785	.001374	-.000907	.2752235
#3	-.000926	.001399	.000593	.004529	.000051	.2803086
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067725	.0000828	-.000042	10.29287	.0058931	-.000182
Stddev	.0011047	.0000242	.000014	.00936	.0001645	.000120
%RSD	16.31095	29.16954	32.57515	.0909012	2.790817	66.00678
#1	.0070805	.0000962	-.000037	10.29211	.0060046	-.000317
#2	.0055466	.0000973	-.000032	10.28392	.0059703	-.000083
#3	.0076906	.0000549	-.000058	10.30259	.0057042	-.000148
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074893	.0715947	.0042491	3.527452	.0067984	-.000548
Stddev	.0001226	.0050673	.0003874	.031355	.0000913	.000292
%RSD	1.636987	7.077738	9.116408	.8888963	1.343683	53.32662
#1	.0073887	.0746540	.0044735	3.562294	.0068294	-.000267
#2	.0076258	.0743846	.0038018	3.518557	.0068702	-.000850
#3	.0074533	.0657456	.0044721	3.501505	.0066956	-.000526
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.88751	.0012094	.2677877	6.030667	.1272437	.0000348
Stddev	.28368	.0027035	.0004977	.025235	.0018112	.0000466
%RSD	.6937945	223.5428	.1858522	.4184372	1.423432	133.9984
#1	41.18104	.0032826	.2677827	6.025589	.1269128	.0000878
#2	40.86667	-.001848	.2672926	6.058054	.1256207	.0000002
#3	40.61484	.002194	.2682879	6.008357	.1291975	.0000164

Sample Name: Q3370-01LX5 Acquired: 10/21/2025 18:15:26 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.014975	.0011021	.7824519	.2151348	F 20.86338	.0242365
Stddev	.000735	.0014098	.0140099	.0003676	.07317	.0047604
%RSD	4.908607	127.9188	1.790517	.1708676	.3507261	19.64128
#1	-.015443	.0027236	.7975276	.2147109	20.88485	.0273541
#2	-.014128	.0004160	.7698325	.2153657	20.92341	.0265982
#3	-.015354	.0001666	.7799957	.2153278	20.78187	.0187570

Elem	Sr4077
Units	ppm
Avg	.0514354
Stddev	.0001990
%RSD	.3869950
#1	.0512697
#2	.0513803
#3	.0516562

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5828.132	98668.32	7914.926	4521.172	7243.860
Stddev	18.526	316.98	21.299	16.257	21.490
%RSD	.3178705	.3212541	.2691016	.3595759	.2966600
#1	5810.006	98360.56	7911.978	4505.471	7224.785
#2	5827.356	98650.63	7937.546	4520.111	7239.653
#3	5847.033	98993.77	7895.255	4537.933	7267.142

Sample Name: Q3370-01MS Acquired: 10/21/2025 18:19:41 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7640551	1.655656	.8458001	1.915778	.7929658	3.182036
Stddev	.0042607	.049790	.0043723	.003059	.0022569	.016472
%RSD	.5576417	3.007257	.5169476	.1596678	.2846170	.5176555

#1	.7608551	1.669205	.8431455	1.917547	.7954190	3.194134
#2	.7624188	1.600494	.8434081	1.912246	.7909775	3.163277
#3	.7688913	1.697269	.8508465	1.917542	.7925010	3.188697

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2297730	.1718345	.1758207	51.99686	.4032578	.1830785
Stddev	.0003536	.0015980	.0008280	.11340	.0016875	.0004668
%RSD	.1538995	.9299948	.4709124	.2180917	.4184553	.2549931

#1	.2296605	.1705870	.1749398	52.11136	.4052042	.1825537
#2	.2294893	.1736358	.1759392	51.88459	.4023631	.1832342
#3	.2301692	.1712807	.1765830	51.99463	.4022062	.1834475

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3142038	3.320769	.2019862	19.37508	.4883064	.0664505
Stddev	.0005701	.039220	.0005558	.10975	.0017294	.0004021
%RSD	.1814557	1.181057	.2751701	.5664407	.3541553	.6051208

#1	.3140026	3.334961	.2014212	19.28489	.4863722	.0660014
#2	.3148472	3.276429	.2025323	19.34308	.4888438	.0667770
#3	.3137614	3.350919	.2020051	19.49727	.4897033	.0665732

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	204.1070	.2786693	1.553650	33.28025	.8927916	.4105293
Stddev	3.6690	.0009935	.003657	.41323	.0114760	.0009147
%RSD	1.797602	.3565259	.2354043	1.241681	1.285402	.2228002

#1	208.3140	.2776626	1.554017	33.67479	.8824040	.4094972
#2	202.4364	.2796491	1.557110	32.85056	.9051108	.4108510
#3	201.5705	.2786962	1.549823	33.31538	.8908600	.4112396

Sample Name: Q3370-01MS Acquired: 10/21/2025 18:19:41 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6095755	.1814879	5.096193	6.378145	F 106.0663	.1785345
Stddev	.0022510	.0026939	.085979	.046006	.4975	.0031135
%RSD	.3692707	1.484338	1.687128	.7213137	.4690608	1.743940

#1	.6074659	.1802663	5.169618	6.350309	105.9819	.1774433
#2	.6093154	.1845761	5.001610	6.352878	105.6163	.1820467
#3	.6119453	.1796211	5.117351	6.431248	106.6006	.1761134

Elem	Sr4077
Units	ppm
Avg	.4360897
Stddev	.0016885
%RSD	.3871967

#1	.4374948
#2	.4342165
#3	.4365579

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5482.828	93226.87	7890.777	4320.430	6547.123
Stddev	17.380	499.39	45.740	10.020	28.631
%RSD	.3169916	.5356709	.5796670	.2319278	.4373085

#1	5502.755	92658.18	7911.296	4310.957	6578.461
#2	5474.922	93593.87	7838.370	4319.414	6540.572
#3	5470.806	93428.57	7922.664	4330.920	6522.334

Sample Name: Q3370-01MSD Acquired: 10/21/2025 18:23:45 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7667624	1.633466	.8531688	1.921143	.7988846	3.170325
Stddev	.0014001	.014386	.0017267	.003663	.0023301	.009279
%RSD	.1825969	.8806923	.2023906	.1906693	.2916658	.2926677

#1	.7661681	1.648198	.8538004	1.925291	.7962783	3.163121
#2	.7657576	1.632746	.8512152	1.918353	.8007664	3.180795
#3	.7683617	1.619453	.8544909	1.919785	.7996091	3.167059

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2344598	.1747313	.1770307	51.20708	.4004699	.1844824
Stddev	.0024544	.0015451	.0000876	.12093	.0011024	.0003918
%RSD	1.046847	.8843012	.0494571	.2361606	.2752797	.2123676

#1	.2319073	.1730794	.1769622	51.06913	.4004215	.1840304
#2	.2368028	.1761412	.1770005	51.29478	.4015958	.1846924
#3	.2346693	.1749732	.1771293	51.25735	.3993926	.1847245

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3157735	3.362567	.2078139	19.14072	.4903608	.0670784
Stddev	.0007959	.008658	.0023788	.10476	.0008458	.0005640
%RSD	.2520355	.2574858	1.144687	.5473151	.1724915	.8407373

#1	.3151852	3.362650	.2050676	19.03164	.4898825	.0674344
#2	.3166790	3.353867	.2092346	19.24055	.4898625	.0673727
#3	.3154562	3.371183	.2091396	19.14998	.4913374	.0664282

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	203.5253	.2844435	1.521824	32.87248	.8903170	.4111633
Stddev	.5339	.0014433	.005527	.01781	.0050560	.0005809
%RSD	.2623494	.5074260	.3631680	.0541652	.5678842	.1412916

#1	204.1175	.2836558	1.515448	32.87347	.8845652	.4116366
#2	203.0805	.2861093	1.524774	32.88976	.8940592	.4105150
#3	203.3779	.2835653	1.525249	32.85419	.8923265	.4113384

Sample Name: Q3370-01MSD Acquired: 10/21/2025 18:23:45 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6157559	.1857601	4.979445	6.444378	F 103.4745	.1864976
Stddev	.0010024	.0008786	.013926	.012413	.2862	.0014815
%RSD	.1627891	.4729764	.2796646	.1926102	.2765601	.7943605

#1	.6162486	.1852828	4.982295	6.442500	103.7552	.1848404
#2	.6146026	.1867741	4.964315	6.433011	103.1832	.1876937
#3	.6164166	.1852235	4.991725	6.457622	103.4850	.1869587

Elem	Sr4077
Units	ppm
Avg	.4380588
Stddev	.0029387
%RSD	.6708480

#1	.4351301
#2	.4410075
#3	.4380387

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5448.663	92734.94	7770.327	4316.917	6488.194
Stddev	1.240	133.48	53.159	13.928	.467
%RSD	.0227624	.1439326	.6841312	.3226470	.0072019

#1	5447.234	92774.54	7825.909	4332.926	6487.677
#2	5449.302	92586.14	7719.978	4307.569	6488.316
#3	5449.453	92844.13	7765.094	4310.257	6488.588

Sample Name: CCV06 Acquired: 10/21/2025 18:27:52 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.746412	4.848208	4.605477	4.867807	4.897568	9.222509	9.374038
Stddev	.010861	.093969	.008696	.016550	.001144	.038550	.014645
%RSD	.2288294	1.938227	.1888094	.3399785	.0233574	.4179940	.1562300
#1	4.748775	4.839494	4.598666	4.866737	4.897023	9.178315	9.376038
#2	4.734564	4.758900	4.602493	4.851819	4.898883	9.240001	9.387580
#3	4.755898	4.946231	4.615271	4.884866	4.896799	9.249211	9.358496
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2262833	2.271527	23.00602	.9049063	2.306947	1.184135	4.731394
Stddev	.0002043	.004412	.02570	.0078254	.004851	.000547	.051047
%RSD	.0902687	.1942316	.1117277	.8647700	.2102893	.0461912	1.078908
#1	.2264374	2.267730	22.98146	.9088097	2.306291	1.184685	4.721802
#2	.2260516	2.270484	23.00386	.9100121	2.302457	1.183591	4.786557
#3	.2263609	2.276367	23.03273	.8958970	2.312092	1.184130	4.685823
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.328081	22.75006	2.301557	1.169763	24.40601	2.322260	2.321427
Stddev	.002007	.08903	.004783	.010792	.32617	.011612	.025312
%RSD	.0862233	.3913430	.2078088	.9225689	1.336442	.5000133	1.090362
#1	2.329389	22.78031	2.297957	1.175717	24.57931	2.309227	2.332971
#2	2.329085	22.64984	2.299729	1.176267	24.60895	2.331504	2.338910
#3	2.325770	22.82002	2.306984	1.157306	24.02977	2.326049	2.292401
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.10552	4.603766	4.728417	4.577137	4.667353	4.692239	4.670458
Stddev	.24685	.006284	.006149	.016980	.002251	.051356	.015563
%RSD	1.024019	.1364986	.1300352	.3709782	.0482366	1.094486	.3332154
#1	24.12601	4.610976	4.723662	4.574457	4.666601	4.682004	4.676003
#2	24.34148	4.600869	4.726229	4.561656	4.665574	4.747941	4.652882
#3	23.84907	4.599452	4.735361	4.595297	4.669884	4.646771	4.682489

Sample Name: CCV06 Acquired: 10/21/2025 18:27:52 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.725152	4.601929	4.734936
Stddev	.031766	.010590	.029653
%RSD	.6722727	.2301231	.6262568

#1	4.734380	4.612654	4.723361
#2	4.689794	4.601654	4.712816
#3	4.751283	4.591479	4.768631

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5815.662	99167.93	8001.044	4633.728	6801.241
Stddev	14.164	658.55	26.949	19.544	15.754
%RSD	.2435504	.6640743	.3368144	.4217754	.2316331

#1	5831.076	99003.54	8016.731	4647.135	6819.277
#2	5803.219	98607.15	8016.475	4611.304	6794.273
#3	5812.691	99893.10	7969.927	4642.746	6790.172

Sample Name: CCB06 Acquired: 10/21/2025 18:31:55 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000492	-.000041	.0001165	.0002323	-.000768	.0113791
Stddev	.001704	.001919	.0001116	.0019651	.000630	.0058808
%RSD	346.4807	4711.605	95.83194	845.8822	81.94971	51.68030

#1	.001471	-.001404	.0001613	-.001331	-.000253	.0073195
#2	-.001354	.002154	-.000011	.002438	-.001470	.0181231
#3	-.001592	-.000872	.000199	-.000410	-.000582	.0086949

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003361	.0000627	-.000030	.0004350	.0000259	-.000082
Stddev	.000130	.0000787	.000005	.0046583	.0000768	.000078
%RSD	3.865653	125.5077	17.16520	1070.766	296.0153	95.09999

#1	-.003229	.0000795	-.000029	-.004548	.0000687	-.000039
#2	-.003367	-.000023	-.000026	.001172	-.000063	-.000035
#3	-.003489	.000132	-.000036	.004681	.000072	-.000172

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002209	.0064943	-.001012	-.009307	.0003323	-.000185
Stddev	.0002582	.0052592	.000597	.035752	.0002596	.000014
%RSD	116.8936	80.98175	58.99557	384.1265	78.11506	7.426907

#1	-.000041	.0050538	-.001686	.026074	.0001376	-.000170
#2	.000475	.0123237	-.000804	-.045418	.0006270	-.000196
#3	.000229	.0021055	-.000547	-.008577	.0002323	-.000189

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9995380	-.001244	.0002582	.9558595	-.016062	-.000072
Stddev	.0151421	.000358	.0000749	.0399764	.000141	.000180
%RSD	1.514906	28.76431	29.01883	4.182248	.8779884	247.9979

#1	.9866369	-.000831	.0002911	.9127857	-.015979	.000133
#2	.9957682	-.001435	.0001725	.9917700	-.015983	-.000199
#3	1.016209	-.001466	.0003111	.9630228	-.016225	-.000152

Sample Name: CCB06 Acquired: 10/21/2025 18:31:55 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.012571	.0020305	-.011713	.0020598	F .0243732	.0007825
Stddev	.000126	.0008335	.018444	.0011221	.0006183	.0037357
%RSD	1.002298	41.05009	157.4680	54.47399	2.536891	477.3975

#1	-.012666	.0028854	.000005	.0009766	.0250594	.0047632
#2	-.012620	.0019860	-.002170	.0019859	.0242010	-.002647
#3	-.012428	.0012201	-.032974	.0032171	.0238593	.000231

Elem	Sr4077
Units	ppm
Avg	.0000147
Stddev	.0000432
%RSD	293.2840

#1	-.000034
#2	.000046
#3	.000032

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5917.587	99684.50	7655.918	4608.500	7735.298
Stddev	12.784	318.67	138.494	19.965	21.595
%RSD	.2160399	.3196783	1.808981	.4332243	.2791739

#1	5928.264	100052.1	7496.002	4631.517	7757.895
#2	5903.420	99486.9	7735.057	4598.128	7714.869
#3	5921.077	99514.5	7736.696	4595.857	7733.130

Sample Name: Q3370-01A Acquired: 10/21/2025 18:36:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7628048	1.609232	.8571048	1.903853	.7854201	3.181187
Stddev	.0015197	.020310	.0015229	.001650	.0007033	.014289
%RSD	.1992223	1.262063	.1776739	.0866749	.0895484	.4491569

#1	.7643800	1.632290	.8560029	1.905306	.7859581	3.166181
#2	.7626869	1.594001	.8588425	1.904193	.7846243	3.194629
#3	.7613475	1.601404	.8564690	1.902059	.7856780	3.182752

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2307391	.1793744	.1779193	50.03999	.4033424	.1841089
Stddev	.0010250	.0005378	.0003788	.21331	.0018811	.0003443
%RSD	.4442409	.2998180	.2129173	.4262841	.4663774	.1870324

#1	.2298116	.1792358	.1779775	49.81549	.4040506	.1839776
#2	.2305660	.1789194	.1782656	50.24001	.4047667	.1844995
#3	.2318397	.1799679	.1775147	50.06447	.4012100	.1838495

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3143526	3.316522	.2072396	18.86824	.4910649	.0621667
Stddev	.0003357	.026269	.0010881	.14293	.0006842	.0020741
%RSD	.1067974	.7920751	.5250552	.7575066	.1393273	3.336333

#1	.3146329	3.299011	.2061800	18.70414	.4917206	.0600905
#2	.3144444	3.346728	.2083541	18.93506	.4911187	.0621710
#3	.3139805	3.303827	.2071847	18.96551	.4903554	.0642386

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	203.6527	.2849468	1.519233	32.58226	.8982401	.4063166
Stddev	1.9787	.0016300	.005502	.17810	.0037044	.0002466
%RSD	.9716052	.5720264	.3621605	.5466238	.4124061	.0607025

#1	203.6722	.2833278	1.524503	32.60780	.8968329	.4065995
#2	205.6215	.2865875	1.519671	32.74622	.8954454	.4062035
#3	201.6642	.2849252	1.513525	32.39277	.9024419	.4061467

Sample Name: Q3370-01A Acquired: 10/21/2025 18:36:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6112794	.1817351	5.015867	6.409391	F 100.7108	.1871315
Stddev	.0014658	.0011868	.021666	.019553	.4965	.0072252
%RSD	.2397976	.6530158	.4319412	.3050723	.4929513	3.861032

#1	.6128146	.1811766	5.021366	6.431884	101.2830	.1787899
#2	.6111291	.1809305	5.034254	6.399840	100.4547	.1914333
#3	.6098945	.1830980	4.991982	6.396448	100.3947	.1911712

Elem	Sr4077
Units	ppm
Avg	.4264227
Stddev	.0013935
%RSD	.3267914

#1	.4253392
#2	.4279947
#3	.4259342

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5497.032	90808.26	7678.008	4160.847	6538.191
Stddev	9.324	390.60	10.954	7.213	4.674
%RSD	.1696142	.4301336	.1426646	.1733483	.0714827

#1	5504.014	90598.86	7686.447	4157.559	6538.301
#2	5486.443	90567.01	7681.948	4155.865	6533.463
#3	5500.637	91258.91	7665.629	4169.118	6542.809

Sample Name: Q3376-07 Acquired: 10/21/2025 18:40:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002937	-.003144	-.000277	.0036817	.0037949	.0250045	-.005983
Stddev	.001167	.000632	.000497	.0018912	.0019457	.0153179	.000265
%RSD	39.73680	20.08899	179.5238	51.36624	51.27058	61.26062	4.434988
#1	-.002406	-.002747	.000295	.0052396	.0056937	.0110509	-.006115
#2	-.002129	-.003872	-.000606	.0042280	.0018055	.0225679	-.005678
#3	-.004274	-.002812	-.000521	.0015775	.0038856	.0413946	-.006156
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000209	-.000116	.0847802	.0013314	-.000385	.0006267	.0234494
Stddev	.000035	.000037	.0089804	.0003571	.000068	.0000678	.0066826
%RSD	16.84958	32.11163	10.59260	26.82006	17.70388	10.82210	28.49820
#1	-.000203	-.000073	.0884998	.0009664	-.000311	.0006029	.0288304
#2	-.000247	-.000143	.0913032	.0016800	-.000445	.0005741	.0255485
#3	-.000177	-.000131	.0745376	.0013477	-.000397	.0007033	.0159692
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015439	.0366468	-.000061	-.000444	.1383311	-.001623	.0057283
Stddev	.0002521	.0299781	.000197	.000054	.0024231	.001347	.0003180
%RSD	16.32647	81.80267	320.3227	12.18705	1.751639	82.99549	5.551221
#1	.0018306	.0375309	-.000185	-.000382	.1381020	-.000241	.0054546
#2	.0013571	.0062365	.000165	-.000482	.1360307	-.001695	.0060771
#3	.0014440	.0661731	-.000165	-.000467	.1408606	-.002932	.0056533
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.257827	-.021116	.0003885	-.035192	-.000880	.0205880	.0059166
Stddev	.028694	.000365	.0000509	.000497	.000589	.0133790	.0003792
%RSD	11.12901	1.730117	13.09077	1.412859	66.86646	64.98418	6.409781
#1	-.236756	-.020746	.0003456	-.035076	-.001480	.0076189	.0055837
#2	-.290506	-.021477	.0003753	-.035738	-.000303	.0198029	.0063295
#3	-.246218	-.021125	.0004447	-.034764	-.000858	.0343423	.0058368

Sample Name: Q3376-07 Acquired: 10/21/2025 18:40:14 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0442321	-.011563	.0002134
Stddev	.0021719	.004071	.0000418
%RSD	4.910209	35.20666	19.57122
#1	.0417242	-.008908	.0002028
#2	.0454948	-.009532	.0002595
#3	.0454772	-.016250	.0001780

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5834.990	100133.1	7807.675	4541.898	7720.030
Stddev	11.197	913.1	16.211	47.341	11.282
%RSD	.1918997	.9118571	.2076341	1.042308	.1461447
#1	5834.128	100334.8	7789.784	4569.768	7707.576
#2	5846.593	99136.0	7811.850	4487.238	7729.568
#3	5824.248	100928.5	7821.390	4568.689	7722.946

Sample Name: Q3400-01 Acquired: 10/21/2025 18:44:33 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0267512	-.006480	.0989223	.0072069	-.002097	47.66527
Stddev	.0001467	.001933	.0005441	.0002361	.001876	.12174
%RSD	.5482996	29.83630	.5500259	3.275859	89.46613	.2554163

#1	.0266234	-.007208	.0995191	.0072273	-.003759	47.64281
#2	.0267188	-.007945	.0984540	.0074321	-.000063	47.55632
#3	.0269113	-.004289	.0987936	.0069613	-.002468	47.79668

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3362754	.0041661	.0006756	45.79131	.1345096	.0193809
Stddev	.0023653	.0000805	.0000315	.11827	.0001995	.0000540
%RSD	.7033721	1.932688	4.668019	.2582856	.1483373	.2787467

#1	.3335720	.0042377	.0006811	45.70686	.1347044	.0194334
#2	.3372904	.0041817	.0006417	45.74059	.1343057	.0193255
#3	.3379637	.0040789	.0007041	45.92648	.1345186	.0193839

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1028999	52.99427	2.086783	10.97461	.0495857	-.003744
Stddev	.0005796	.20345	.012503	.00852	.0003083	.000389
%RSD	.5632671	.3839013	.5991703	.0776060	.6217359	10.39097

#1	.1035487	52.77566	2.072349	10.98393	.0496453	-.003895
#2	.1027176	53.02910	2.093725	10.97266	.0498598	-.003302
#3	.1024333	53.17806	2.094275	10.96724	.0492519	-.004035

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	75.63509	.0852612	.1403458	6.378161	.1002710	.0273693
Stddev	.51562	.0021894	.0001570	.006535	.0016455	.0003364
%RSD	.6817153	2.567921	.1118406	.1024552	1.641096	1.229007

#1	75.06197	.0830847	.1405193	6.384363	.0984298	.0277297
#2	76.06132	.0874634	.1402136	6.378781	.1015981	.0273144
#3	75.78197	.0852356	.1403044	6.371338	.1007852	.0270637

Sample Name: Q3400-01 Acquired: 10/21/2025 18:44:33 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.035857	.2431087	F 89.98259	.6112608	F 13.92834	.0301607
Stddev	.000487	.0069270	.21773	.0034768	.06267	.0014096
%RSD	1.358280	2.849353	.2419671	.5687885	.4499432	4.673707

#1	-.036209	.2355971	90.01664	.6072506	13.87191	.0300679
#2	-.035302	.2492448	89.74984	.6131009	13.91732	.0287997
#3	-.036062	.2444842	90.18129	.6134307	13.99579	.0316143

Elem	Sr4077
Units	ppm
Avg	.5165433
Stddev	.0025001
%RSD	.4839962

#1	.5136570
#2	.5180339
#3	.5179389

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6446.898	106609.7	8698.804	5090.303	6819.730
Stddev	2.843	162.5	20.329	13.134	3.287
%RSD	.0440962	.1523831	.2337045	.2580128	.0481937

#1	6444.226	106624.9	8713.117	5102.306	6815.961
#2	6446.584	106764.0	8707.761	5092.329	6821.997
#3	6449.885	106440.1	8675.534	5076.274	6821.232

Sample Name: Q3398-01 Acquired: 10/21/2025 18:48:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	k .2851114	s 4.277026	sF -1.85393	k .0098344	k 2.618176	9.986426
Stddev	.0101555	.027815	.40794	.0086049	.006886	.129393
%RSD	3.561949	.6503375	22.00417	87.49816	.2630236	1.295689

#1	k .2968245	k 4.304717	k -1.65253	k .0193510	k 2.610807	9.885762
#2	k .2797423	s 4.277272	s -2.32341	k .0075498	k 2.619275	9.941141
#3	k .2787675	k 4.249089	k -1.58586	k .0026023	k 2.624448	10.13238

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005219	^ *****	s -.152212	2.154863	k 3.393199	^ *****
Stddev	.001190	----	.024752	.017235	.003371	----
%RSD	22.79828	----	16.26140	.7997976	.0993412	----

#1	-.003868	^ ----	k -.139455	2.171542	k 3.395250	^ ----
#2	-.005677	^ ----	s -.180740	2.137122	k 3.389309	^ ----
#3	-.006111	^ ----	k -.136441	2.155924	k 3.395038	^ ----

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	k 1.634741	k 3.221953	k .0154083	F -13.7198	s .2820401	k -.085409
Stddev	.002548	.030999	.0011962	.0942	.0474866	.001214
%RSD	.1558898	.9621242	7.763134	.6865923	16.83684	1.421544

#1	k 1.632075	k 3.246714	k .0167187	-13.7298	.2596040	k -.085111
#2	k 1.634995	k 3.231959	k .0151314	-13.8087	s .3365877	k -.084372
#3	k 1.637153	k 3.187187	k .0143749	-13.6211	.2499287	k -.086745

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1359.201	^ *****	k .0535780	27.80693	kF 24.35203	F 464.4550
Stddev	9.685	----	.0008573	.17004	.03859	2.8012
%RSD	.7125787	----	1.600025	.6115145	.1584502	.6031221

#1	1348.898	^ ----	k .0527383	27.65938	k 24.35237	467.3456
#2	1368.120	^ ----	k .0544518	27.76852	k 24.31327	464.2668
#3	1360.587	^ ----	k .0535438	27.99289	k 24.39044	461.7526

Sample Name: Q3398-01 Acquired: 10/21/2025 18:48:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	s -.014230	k .0941608	k 4.757159	s .8160201	sF 85.10907	k .0021226
Stddev	.006659	.0013076	.025322	.1393479	13.90236	.0025288
%RSD	46.79657	1.388713	.5322891	17.07653	16.33476	119.1375

#1	k -.015828	k .0927747	k 4.760711	k .7487421	k 78.17796	k .0000436
#2	s -.006917	k .0943353	k 4.730249	s .9762415	s 101.1144	k .0013863
#3	k -.019944	k .0953725	k 4.780518	k .7230768	k 76.0349	k .0049377

Elem	Sr4077
Units	ppm
Avg	k .0168594
Stddev	.0000649
%RSD	.3846980

#1	k .0168800
#2	k .0167868
#3	k .0169115

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3318.102	79508.57	7489.929	2563.970	^ *****
Stddev	10.475	228.30	34.669	17.929	-----
%RSD	.3156984	.2871396	.4628785	.6992761	-----

#1	3306.703	79277.99	7452.127	2574.113	2423.706
#2	3320.299	79513.21	7497.416	2574.529	^ -----
#3	3327.305	79734.52	7520.242	2543.269	2496.291

Sample Name: Q3399-01 Acquired: 10/21/2025 19:01:24 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0356953	-.002248	.0472458	.0036928	-.003746	29.02091	.1094038
Stddev	.0010134	.002440	.0006428	.0028922	.000446	.05794	.0005842
%RSD	2.839059	108.5481	1.360516	78.32070	11.89766	.1996570	.5340104

#1	.0351702	-.004026	.0466865	.0003968	-.003315	28.98592	.1087409
#2	.0368635	-.003251	.0479480	.0058068	-.004205	29.08779	.1098435
#3	.0350523	.000534	.0471029	.0048748	-.003717	28.98901	.1096270

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026671	.0001810	6.373812	.0668869	.0176797	.0732120	69.36372
Stddev	.0000173	.0000154	.005460	.0003203	.0002567	.0002763	.18507
%RSD	.6479972	8.533092	.0856573	.4789301	1.452031	.3774202	.2668131

#1	.0026623	.0001665	6.370833	.0665442	.0176637	.0730257	69.22444
#2	.0026527	.0001792	6.370489	.0671789	.0179440	.0730808	69.57372
#3	.0026862	.0001972	6.380113	.0669377	.0174314	.0735295	69.29298

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.530577	4.484774	.0335979	-.003653	12.93619	.0793324	.1180469
Stddev	.001871	.010512	.0001012	.000366	.07313	.0045228	.0006262
%RSD	.1222157	.2343974	.3011852	10.01203	.5653090	5.701068	.5304954

#1	1.532570	4.473399	.0334921	-.003831	12.97501	.0844792	.1173743
#2	1.530304	4.494130	.0336937	-.003896	12.98173	.0775267	.1186132
#3	1.528859	4.486794	.0336078	-.003233	12.85184	.0759915	.1181531

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.266742	.0403775	.0204577	-.016545	1.003984	6.000203	1.380773
Stddev	.031896	.0019058	.0011656	.000820	.013452	.055271	.010057
%RSD	.9763864	4.719923	5.697434	4.954561	1.339902	.9211546	.7283860

#1	3.247656	.0406105	.0214994	-.017023	1.015710	5.947116	1.392103
#2	3.249007	.0421561	.0206748	-.015598	.989298	6.057426	1.377318
#3	3.303564	.0383660	.0191988	-.017013	1.006944	5.996066	1.372899

Sample Name: Q3399-01 Acquired: 10/21/2025 19:01:24 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.073489	.0228249	-.013204
Stddev	.008304	.0034151	.000096
%RSD	.7735863	14.96212	.7235544
#1	1.083074	.0189981	-.013094
#2	1.068934	.0255628	-.013252
#3	1.068459	.0239137	-.013265

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5992.107	100700.6	8000.875	4741.983	7145.306
Stddev	8.319	278.0	37.914	27.535	14.290
%RSD	.1388409	.2760235	.4738706	.5806657	.1999932
#1	5992.638	100449.5	7958.422	4710.623	7136.709
#2	5983.535	100652.9	8012.839	4753.121	7137.408
#3	6000.149	100999.3	8031.364	4762.203	7161.802

Sample Name: Q3405-01 Acquired: 10/21/2025 19:05:29 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0629600	.0091629	.0906956	-.005173	.0009857	156.1753
Stddev	.0021433	.0027364	.0060871	.001993	.0023589	.1742
%RSD	3.404194	29.86413	6.711514	38.53236	239.3061	.1115231

#1	.0628931	.0119869	.0973236	-.005425	-.001723	156.3170
#2	.0651359	.0089785	.0894073	-.007028	.002089	155.9808
#3	.0608510	.0065233	.0853558	-.003065	.002591	156.2279

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8202696	.0098917	.0046022	1610.156	.2116893	.0608011
Stddev	.0072967	.0000519	.0009721	13.014	.0012952	.0037739
%RSD	.8895457	.5246982	21.12230	.8082506	.6118233	6.207014

#1	.8263869	.0099513	.0057236	1616.874	.2130612	.0651575
#2	.8121934	.0098563	.0040825	1595.155	.2104877	.0587200
#3	.8222283	.0098675	.0040003	1618.437	.2115191	.0585259

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1282235	142.9641	3.586475	83.18860	.1474706	-.006873
Stddev	.0091004	.6384	.023212	.23480	.0075015	.000496
%RSD	7.097267	.4465113	.6472178	.2822516	5.086785	7.213220

#1	.1386883	143.5802	3.603383	83.20158	.1561246	-.007025
#2	.1221647	143.0063	3.560010	82.94758	.1434652	-.006319
#3	.1238177	142.3056	3.596034	83.41664	.1428219	-.007275

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.575105	.1698213	.6907161	8.099441	.3429764	.0116719
Stddev	.012529	.0021907	.0049236	.016044	.0006495	.0008981
%RSD	.2738414	1.290019	.7128227	.1980852	.1893603	7.694644

#1	4.566135	.1675865	.6954150	8.094399	.3429004	.0126956
#2	4.569760	.1719652	.6855950	8.117400	.3436606	.0110165
#3	4.589420	.1699122	.6911384	8.086524	.3423683	.0113035

Sample Name: Q3405-01 Acquired: 10/21/2025 19:05:29 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005375	5.327192	3.288896	5.028470	F 89.59526	.7742944
Stddev	.001269	.023768	.036994	.258030	4.48488	.0030073
%RSD	23.60556	.4461554	1.124827	5.131386	5.005712	.3883979

#1	-.003963	5.350937	3.328931	5.326347	94.76940	.7708730
#2	-.005741	5.303402	3.281785	4.885156	87.19630	.7754907
#3	-.006420	5.327236	3.255974	4.873908	86.82009	.7765196

Elem	Sr4077
Units	ppm
Avg	5.483729
Stddev	.084372
%RSD	1.538589

#1	5.486834
#2	5.397848
#3	5.566506

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5436.674	90433.02	8191.087	4334.233	5058.791
Stddev	199.938	293.88	61.676	28.681	214.684
%RSD	3.677583	.3249669	.7529627	.6617297	4.243772

#1	5205.976	90099.38	8162.926	4303.768	4810.901
#2	5559.700	90546.20	8261.816	4360.714	5184.012
#3	5544.347	90653.47	8148.518	4338.216	5181.462

Sample Name: Q3405-02 Acquired: 10/21/2025 19:09:49 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0237173	.0040787	.0661133	-.010674	.0051792	106.8332
Stddev	.0046121	.0070269	.0027220	.005251	.0018079	.1998
%RSD	19.44622	172.2817	4.117139	49.19384	34.90733	.1870375

#1	.0275152	.0098033	.0641056	-.004669	.0057977	107.0051
#2	.0250516	-.003764	.0650228	-.014400	.0065968	106.6139
#3	.0185852	.006197	.0692114	-.012953	.0031432	106.8806

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5618701	.0048198	.0016803	1717.173	.2883335	.0346246
Stddev	.0040273	.0000243	.0001216	8.585	.0005996	.0001584
%RSD	.7167715	.5052501	7.233986	.4999478	.2079527	.4574374

#1	.5663888	.0048479	.0018171	1711.590	.2877272	.0344464
#2	.5605619	.0048064	.0015847	1712.870	.2883473	.0347493
#3	.5586594	.0048050	.0016392	1727.058	.2889261	.0346782

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1263853	78.91576	2.214444	125.1236	.1840590	-.002617
Stddev	.0001853	.13677	.014708	.4906	.0008739	.000263
%RSD	.1466352	.1733077	.6641708	.3920934	.4748171	10.03937

#1	.1264792	78.75787	2.231332	125.5690	.1836973	-.002428
#2	.1265048	78.99756	2.204441	124.5977	.1850558	-.002916
#3	.1261718	78.99186	2.207561	125.2039	.1834240	-.002506

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.855379	.3531200	1.717194	10.11531	.2216367	.0134670
Stddev	.045459	.0018461	.004690	.11500	.0005502	.0001364
%RSD	1.592052	.5227955	.2731254	1.136870	.2482621	1.012616

#1	2.815110	.3552305	1.717191	9.98424	.2210834	.0133110
#2	2.846354	.3523246	1.712505	10.16239	.2221839	.0135636
#3	2.904674	.3518050	1.721885	10.19929	.2216427	.0135263

Sample Name: Q3405-02 Acquired: 10/21/2025 19:09:49 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006484	4.267341	1.524630	3.454603	F 75.61490	.8423933
Stddev	.000794	.019100	.026689	.023185	.25081	.0130821
%RSD	12.24160	.4475895	1.750546	.6711476	.3316990	1.552963

#1	-.005580	4.289391	1.495666	3.428827	75.38316	.8298625
#2	-.006804	4.256716	1.529994	3.461225	75.58033	.8413529
#3	-.007067	4.255916	1.548230	3.473756	75.88120	.8559645

Elem	Sr4077
Units	ppm
Avg	7.769409
Stddev	.047351
%RSD	.6094555

#1	7.722655
#2	7.768236
#3	7.817336

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5237.962	85981.29	7800.434	4057.904	5058.943
Stddev	6.131	265.75	46.826	15.545	4.239
%RSD	.1170511	.3090763	.6002998	.3830696	.0837849

#1	5233.303	86287.03	7746.952	4073.921	5063.837
#2	5244.908	85851.03	7834.059	4056.913	5056.544
#3	5235.674	85805.80	7820.292	4042.879	5056.449

Sample Name: Q3405-03 Acquired: 10/21/2025 19:14:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0597093	.0052700	.1025075	-.002854	.0032353	189.5570
Stddev	.0014923	.0068540	.0015092	.001529	.0036579	.4344
%RSD	2.499247	130.0563	1.472285	53.59289	113.0638	.2291891

#1	.0613589	-.002641	.1017953	-.001120	.0003951	189.2739
#2	.0593157	.009419	.1042410	-.003430	.0073628	189.3399
#3	.0584533	.009032	.1014862	-.004011	.0019479	190.0572

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.084459	.0100469	.0081177	2090.247	.3739811	.0982859
Stddev	.009010	.0000575	.0000666	13.609	.0013864	.0001384
%RSD	.4322419	.5718249	.8205625	.6510723	.3707124	.1408145

#1	2.074541	.0099821	.0080494	2076.671	.3723806	.0981472
#2	2.086701	.0100917	.0081211	2103.889	.3748123	.0984240
#3	2.092137	.0100670	.0081825	2090.180	.3747504	.0982863

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1973330	207.0998	2.260337	113.5631	.2207244	-.010505
Stddev	.0002601	.5461	.010417	.2882	.0003997	.000499
%RSD	.1318193	.2636732	.4608613	.2538119	.1811050	4.751013

#1	.1976139	206.4832	2.248924	113.3714	.2211448	-.009935
#2	.1972845	207.5223	2.269332	113.8946	.2206793	-.010865
#3	.1971005	207.2940	2.262755	113.4233	.2203491	-.010714

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.122535	.3243447	.6967998	21.94851	.4873488	.0142963
Stddev	.050396	.0005707	.0004700	.21309	.0028079	.0004864
%RSD	.6204515	.1759609	.0674568	.9708614	.5761487	3.402206

#1	8.065739	.3240596	.6971577	21.74406	.4841098	.0144286
#2	8.139962	.3239728	.6962675	21.93217	.4888447	.0147028
#3	8.161906	.3250018	.6969743	22.16930	.4890920	.0137574

Sample Name: Q3405-03 Acquired: 10/21/2025 19:14:10 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.001287	9.864051	3.437529	F 12.91652	F 134.8988	1.117767
Stddev	.001375	.017536	.012787	.02773	.8918	.010260
%RSD	106.8396	.1777781	.3719816	.2147179	.6611153	.9178614

#1	-0.001723	9.848287	3.452144	12.91788	135.6826	1.109184
#2	.000253	9.860928	3.432037	12.88814	133.9284	1.114987
#3	-0.002390	9.882939	3.428405	12.94355	135.0853	1.129130

Elem	Sr4077
Units	ppm
Avg	9.896746
Stddev	.049369
%RSD	.4988396

#1	9.848678
#2	9.947320
#3	9.894239

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5482.554	89576.74	8484.418	4178.347	4792.317
Stddev	3.847	288.39	30.760	5.334	2.280
%RSD	.0701660	.3219483	.3625524	.1276508	.0475851

#1	5486.867	89909.75	8518.353	4184.479	4791.687
#2	5481.321	89409.25	8458.366	4174.783	4794.847
#3	5479.475	89411.23	8476.535	4175.779	4790.418

Sample Name: CCV07 Acquired: 10/21/2025 19:18:28 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.768922	4.816534	4.682064	4.853275	4.900642	9.654312	9.643018
Stddev	.003957	.108948	.009808	.008561	.006117	.314547	.281774
%RSD	.0829810	2.261950	.2094813	.1763898	.1248113	3.258095	2.922054

#1	4.771920	4.939900	4.688807	4.862816	4.902202	9.593472	9.542472
#2	4.770409	4.733517	4.686573	4.846264	4.905828	9.994834	9.961273
#3	4.764436	4.776185	4.670812	4.850746	4.893897	9.374629	9.425308

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2363415	2.321743	24.10834	.9445367	2.349583	1.202144	4.820794
Stddev	.0066419	.001961	.77685	.0023268	.001441	.001760	.016032
%RSD	2.810302	.0844702	3.222330	.2463461	.0613233	.1464194	.3325620

#1	.2364522	2.323830	23.93563	.9466282	2.351105	1.200957	4.804681
#2	.2429274	2.321462	24.95700	.9420304	2.349403	1.204166	4.836744
#3	.2296449	2.319938	23.43237	.9449516	2.348240	1.201308	4.820959

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.405764	23.77690	2.347147	1.189210	22.68502	2.425884	2.370429
Stddev	.072079	.76604	.000640	.000862	.16346	.074783	.001361
%RSD	2.996083	3.221792	.0272662	.0724676	.7205643	3.082728	.0574090

#1	2.382063	23.67835	2.347340	1.189883	22.49845	2.411405	2.370467
#2	2.486708	24.58745	2.347669	1.189508	22.75352	2.506848	2.369050
#3	2.348520	23.06490	2.346433	1.188239	22.80308	2.359398	2.371771

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.50644	4.756415	4.816477	4.660194	4.828072	4.785411	4.704815
Stddev	.19084	.139618	.006069	.011541	.153397	.021193	.021120
%RSD	.8118449	2.935363	.1260054	.2476597	3.177195	.4428581	.4489116

#1	23.29450	4.751885	4.814203	4.673003	4.779615	4.761083	4.704007
#2	23.56013	4.898243	4.823355	4.650602	4.999846	4.795286	4.684109
#3	23.66467	4.619117	4.811874	4.656977	4.704755	4.799863	4.726327

Sample Name: CCV07 Acquired: 10/21/2025 19:18:28 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.684601	4.537908	4.830218
Stddev	.020439	.107603	.138544
%RSD	.4362919	2.371202	2.868286

#1	4.704342	4.502157	4.764129
#2	4.663530	4.658836	4.989432
#3	4.685930	4.452731	4.737093

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5755.883	96068.10	7584.962	4536.486	6721.893
Stddev	7.689	36.04	218.957	15.378	7.557
%RSD	.1335904	.0375136	2.886731	.3389759	.1124244

#1	5764.762	96081.88	7587.325	4522.693	6722.181
#2	5751.361	96027.20	7364.832	4553.067	6729.302
#3	5751.527	96095.21	7802.728	4533.700	6714.196

Sample Name: CCB07 Acquired: 10/21/2025 19:22:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017257	.0010471	.0002634	.0004071	-.000005	.0093877
Stddev	.0010359	.0016546	.0004396	.0021842	.000566	.0106219
%RSD	60.03140	158.0150	166.9203	536.4880	11749.35	113.1469

#1	.0014394	.0000879	.0007615	.0019913	-.000006	.0150488
#2	.0028746	.0000958	-.000070	-.002085	-.000570	-.002866
#3	.0008630	.0029576	.000099	.001315	.000562	.015980

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005770	.0000201	-.000015	-.002499	.0001003	-.000148
Stddev	.000562	.0000415	.000034	.008978	.0002441	.000113
%RSD	9.737020	206.2803	225.6300	359.2842	243.3686	76.76095

#1	-.006000	-.000007	.000024	-.011742	.0000905	-.000216
#2	-.006180	.000068	-.000034	-.001943	.0003491	-.000017
#3	-.005130	-.000000	-.000035	.006188	-.000139	-.000211

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002280	.0059009	-.000167	-.004634	.0000442	-.000307
Stddev	.0002084	.0015747	.001046	.034978	.0003334	.000262
%RSD	91.40510	26.68624	624.5679	754.8169	754.9729	85.38707

#1	.0003180	.0044372	.001000	-.008925	-.000245	-.000574
#2	-.000010	.0075671	-.001017	-.037269	.000409	-.000050
#3	.000376	.0056983	-.000485	.032292	-.000031	-.000297

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4504033	-.002546	.0001715	.4717077	-.012460	.0010939
Stddev	.0163174	.002301	.0000802	.0708176	.000599	.0001416
%RSD	3.622839	90.36216	46.76284	15.01303	4.805635	12.94219

#1	.4390559	-.001231	.0002630	.4079065	-.012049	.0010808
#2	.4430508	-.001205	.0001379	.4593117	-.012183	.0012416
#3	.4691033	-.005202	.0001136	.5479050	-.013147	.0009593

Sample Name: CCB07 Acquired: 10/21/2025 19:22:31 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.012206	.0001753	-.013283	.0008160	F .0184641	-.002257
Stddev	.000602	.0010191	.011471	.0015107	.0039252	.003462
%RSD	4.933518	581.4256	86.35231	185.1375	21.25833	153.3452

#1	-.012796	.0011356	-.008482	.0020851	.0229964	.001164
#2	-.011593	.0002839	-.004994	.0012181	.0161774	-.005758
#3	-.012228	-.000894	-.026374	-.000855	.0162185	-.002179

Elem	Sr4077
Units	ppm
Avg	.0001123
Stddev	.0000775
%RSD	69.00748

#1	.0000233
#2	.0001646
#3	.0001492

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5855.837	98671.13	7666.798	4601.508	7643.065
Stddev	7.878	557.73	38.942	9.459	19.537
%RSD	.1345293	.5652435	.5079358	.2055570	.2556151

#1	5850.043	98139.14	7658.275	4597.286	7624.940
#2	5852.661	98622.80	7632.823	4612.342	7640.495
#3	5864.807	99251.46	7709.296	4594.896	7663.759

Sample Name: Q3405-04 Acquired: 10/21/2025 19:26:51 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0187284	.0168319	.0332270	.0015170	.0073667	166.2583
Stddev	.0011211	.0060443	.0013541	.0058518	.0005421	1.1116
%RSD	5.986106	35.90989	4.075252	385.7467	7.358434	.6686250

#1	.0188982	.0118294	.0321051	.0068507	.0069466	167.4780
#2	.0175321	.0151183	.0347311	-.004742	.0079786	165.3021
#3	.0197549	.0235480	.0328447	.002443	.0071750	165.9947

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.336014	.0119192	.0018990	1346.810	.1493764	.0418296
Stddev	.014701	.0000504	.0000887	10.399	.0005274	.0002812
%RSD	1.100401	.4224821	4.671873	.7721408	.3530459	.6722501

#1	1.352980	.0119394	.0018349	1334.830	.1499714	.0415363
#2	1.327024	.0118619	.0018619	1353.515	.1489666	.0420969
#3	1.328038	.0119563	.0020003	1352.085	.1491912	.0418557

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0653605	63.86354	5.502944	76.52618	.0658656	-.001088
Stddev	.0004567	.27159	.061401	.55266	.0010008	.000312
%RSD	.6987281	.4252610	1.115787	.7221903	1.519485	28.71879

#1	.0648338	64.07765	5.573834	77.16403	.0651435	-.001433
#2	.0656471	63.95493	5.468516	76.19011	.0670080	-.000825
#3	.0656005	63.55805	5.466481	76.22439	.0654452	-.001004

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.396352	.1304905	1.387445	9.552684	.2736615	.0044673
Stddev	.022262	.0030879	.002978	.023544	.0020086	.0003664
%RSD	.5063781	2.366341	.2146318	.2464646	.7339635	8.202504

#1	4.421602	.1340237	1.390395	9.565351	.2759772	.0042210
#2	4.387901	.1291392	1.387499	9.525519	.2723907	.0042925
#3	4.379553	.1283087	1.384440	9.567183	.2726168	.0048884

Sample Name: Q3405-04 Acquired: 10/21/2025 19:26:51 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.011932	7.425053	1.795362	4.818647	F 76.77666	.6400825
Stddev	.002164	.066988	.014836	.030942	.66154	.0056725
%RSD	18.13812	.9021850	.8263510	.6421302	.8616406	.8862190

#1	-.014196	7.502346	1.792870	4.794877	76.03821	.6365882
#2	-.009883	7.383837	1.781930	4.807433	76.97661	.6370318
#3	-.011718	7.388975	1.811287	4.853633	77.31515	.6466276

Elem	Sr4077
Units	ppm
Avg	6.333332
Stddev	.137299
%RSD	2.167878

#1	6.467135
#2	6.340077
#3	6.192786

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5987.761	97496.70	8685.779	4693.701	5291.095
Stddev	18.484	93.47	76.803	19.281	15.673
%RSD	.3086942	.0958684	.8842399	.4107825	.2962169

#1	5991.712	97441.75	8597.978	4671.846	5300.020
#2	6003.950	97443.73	8740.492	4708.308	5300.267
#3	5967.621	97604.62	8718.868	4700.948	5272.997

Sample Name: Q3409-01 Acquired: 10/21/2025 19:31:09 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0405312	.0020422	.0357944	-.005673	-.005698	152.4574
Stddev	.0030812	.0032233	.0023901	.002201	.001519	.5770
%RSD	7.602163	157.8374	6.677253	38.79678	26.65475	.3784889

#1	.0375037	-.000068	.0382195	-.003164	-.004036	152.7667
#2	.0404263	.005753	.0357228	-.007278	-.007013	151.7917
#3	.0436635	.000442	.0334410	-.006578	-.006045	152.8139

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4155449	.0063700	.0032406	920.8918	.1659519	.1097944
Stddev	.0034024	.0000207	.0002366	5.5697	.0011762	.0010830
%RSD	.8187745	.3253836	7.302095	.6048199	.7087334	.9863974

#1	.4168153	.0063800	.0030922	926.8144	.1665104	.1089452
#2	.4116901	.0063461	.0035135	915.7593	.1646005	.1110140
#3	.4181293	.0063837	.0031161	920.1016	.1667447	.1094239

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9980782	195.1918	1.226598	70.26426	.2187485	-.010751
Stddev	.0084781	.6375	.007233	.37208	.0027752	.000556
%RSD	.8494380	.3265844	.5896940	.5295438	1.268668	5.174330

#1	.9888712	194.9656	1.230258	70.62845	.2156567	-.010947
#2	1.005563	194.6983	1.218266	69.88477	.2210239	-.011183
#3	.999800	195.9115	1.231270	70.27956	.2195650	-.010123

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.86736	.9658028	.3041992	9.766054	.2278621	.0074477
Stddev	.05568	.0067259	.0003148	.043067	.0016764	.0003002
%RSD	.4326869	.6964008	.1034871	.4409893	.7357117	4.031210

#1	12.81463	.9713199	.3045392	9.717761	.2290987	.0077631
#2	12.86189	.9583105	.3039179	9.779923	.2285335	.0074144
#3	12.92557	.9677778	.3041405	9.800478	.2259540	.0071655

Sample Name: Q3409-01 Acquired: 10/21/2025 19:31:09 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002184	6.301226	7.500798	6.363186	F 34.78392	.4279643
Stddev	.001293	.029826	.018983	.074731	.22643	.0019590
%RSD	59.20291	.4733295	.2530862	1.174422	.6509636	.4577375

#1	-.002603	6.326592	7.519859	6.287721	34.54804	.4276932
#2	-.000733	6.268369	7.500642	6.437160	34.99954	.4261551
#3	-.003215	6.308717	7.481893	6.364678	34.80419	.4300448

Elem	Sr4077
Units	ppm
Avg	1.024842
Stddev	.003377
%RSD	.3295248

#1	1.024989
#2	1.021393
#3	1.028143

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5636.023	92238.94	8016.116	4330.942	5526.012
Stddev	29.210	312.12	46.261	8.730	41.316
%RSD	.5182779	.3383860	.5770988	.2015654	.7476581

#1	5669.237	92095.50	7984.125	4336.666	5570.215
#2	5614.330	92597.00	8069.159	4320.895	5488.369
#3	5624.503	92024.32	7995.066	4335.266	5519.451

Sample Name: Q3409-02 Acquired: 10/21/2025 19:35:20 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0976558	.0123194	.0315339	-.003343	-.000583	193.0091
Stddev	.0019661	.0057088	.0028198	.002963	.002086	1.0229
%RSD	2.013269	46.33937	8.941980	88.63580	357.9626	.5299668

#1	.0997980	.0058079	.0307376	-.004009	.001684	193.0862
#2	.0972359	.0146863	.0346661	-.000104	-.001010	193.9913
#3	.0959337	.0164640	.0291979	-.005917	-.002422	191.9499

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8880302	.0104682	.0066681	1599.109	.3588766	.1410841
Stddev	.0059268	.0001419	.0000499	14.722	.0016918	.0003647
%RSD	.6674069	1.355369	.7479227	.9206624	.4714104	.2584838

#1	.8875882	.0104009	.0067239	1599.840	.3572299	.1414941
#2	.8941656	.0103725	.0066278	1584.035	.3587898	.1407957
#3	.8823368	.0106312	.0066527	1613.452	.3606101	.1409627

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1418666	179.9281	4.155378	159.9643	.3651814	-.008152
Stddev	.0010059	1.3707	.025358	.8178	.0012087	.000410
%RSD	.7090520	.7618195	.6102496	.5112416	.3309837	5.028494

#1	.1430136	179.2931	4.136604	159.8721	.3646445	-.008531
#2	.1411346	181.5011	4.184225	160.8243	.3665655	-.007717
#3	.1414516	178.9900	4.145306	159.1965	.3643342	-.008209

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.920762	.4603259	.5593008	63.42651	.2835056	.0108979
Stddev	.026713	.0026239	.0006566	.39090	.0051169	.0003857
%RSD	.6813219	.5700151	.1173949	.6163047	1.804860	3.539602

#1	3.890387	.4592481	.5585686	63.25106	.2825716	.0113405
#2	3.940597	.4633172	.5594965	63.87440	.2890252	.0107202
#3	3.931303	.4584126	.5598372	63.15408	.2789201	.0106331

Sample Name: Q3409-02 Acquired: 10/21/2025 19:35:20 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052389	F 10.65182	3.693463	6.015563	F 63.38024	1.040531
Stddev	.0012867	.05363	.035854	.034537	.36849	.017156
%RSD	24.56078	.5035081	.9707427	.5741277	.5813938	1.648794

#1	.0063402	10.63932	3.704656	6.041261	63.57682	1.047641
#2	.0038245	10.71060	3.722385	6.029125	63.60875	1.052989
#3	.0055520	10.60555	3.653348	5.976304	62.95515	1.020963

Elem	Sr4077
Units	ppm
Avg	2.386094
Stddev	.003946
%RSD	.1653634

#1	2.382189
#2	2.386015
#3	2.390079

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6046.426	98511.14	9132.439	4673.951	4981.706
Stddev	4.061	268.71	9.044	18.473	6.302
%RSD	.0671717	.2727722	.0990297	.3952224	.1265088

#1	6042.215	98645.61	9140.875	4694.101	4978.627
#2	6046.743	98201.74	9122.890	4657.817	4977.535
#3	6050.320	98686.07	9133.552	4669.935	4988.956

Sample Name: Q3412-01 Acquired: 10/21/2025 19:39:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0989420	-.010797	2.177387	.0023862	.0044897	163.9083
Stddev	.0015856	.003032	.004090	.0020847	.0009339	3.1385
%RSD	1.602518	28.08414	.1878562	87.36644	20.80107	1.914777

#1	.0979488	-.012422	2.181971	-.000019	.0040317	167.5320
#2	.1007706	-.007299	2.174108	.003671	.0055642	162.1395
#3	.0981067	-.012671	2.176084	.003507	.0038732	162.0534

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.142195	.0153115	.0111893	37.29079	.2171751	.2005190
Stddev	.030200	.0003761	.0003483	.77412	.0009002	.0004977
%RSD	2.644064	2.455967	3.113097	2.075895	.4144990	.2482164

#1	1.177004	.0157422	.0113265	38.18294	.2161440	.2003432
#2	1.122982	.0151442	.0114481	36.79665	.2178048	.2010807
#3	1.126597	.0150482	.0107932	36.89279	.2175764	.2001330

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6657266	407.0514	8.179513	78.02333	.4267695	-.018256
Stddev	.0004221	1.4852	.192878	1.43651	.0002076	.000726
%RSD	.0633977	.3648703	2.358067	1.841133	.0486547	3.977264

#1	.6660862	407.9658	8.399423	79.67060	.4269832	-.018958
#2	.6652619	405.3377	8.039033	77.03104	.4267567	-.018300
#3	.6658318	407.8506	8.100084	77.36835	.4265685	-.017508

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.67044	.4050939	1.056319	26.04403	.3448118	.0066656
Stddev	.05967	.0053578	.001885	.05715	.0063177	.0002183
%RSD	.4709169	1.322613	.1784062	.2194382	1.832210	3.275587

#1	12.73846	.4106219	1.058483	26.10899	.3375282	.0064170
#2	12.64596	.4047355	1.055043	26.02160	.3480997	.0068263
#3	12.62691	.3999242	1.055430	26.00150	.3488074	.0067534

Sample Name: Q3412-01 Acquired: 10/21/2025 19:39:40 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.233602	5.264125	F 10.88037	F 10.94827	1.040580	.3788444
Stddev	.004030	.120676	.08865	.03471	.004587	.0076940
%RSD	.3267197	2.292423	.8147568	.3170509	.4407874	2.030923

#1	1.237360	5.403464	10.95017	10.98077	1.045110	.3875805
#2	1.234100	5.193350	10.78063	10.95233	1.040693	.3758759
#3	1.229346	5.195561	10.91031	10.91170	1.035939	.3730768

Elem	Sr4077
Units	ppm
Avg	-.081796
Stddev	.006556
%RSD	8.014838

#1	-.074278
#2	-.084791
#3	-.086320

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6876.220	115521.9	9744.895	5385.934	6129.200
Stddev	2.883	375.4	167.656	19.071	4.578
%RSD	.0419342	.3249916	1.720451	.3540925	.0746870

#1	6879.516	115944.1	9551.435	5378.172	6127.500
#2	6874.982	115225.6	9847.834	5371.967	6125.716
#3	6874.162	115396.1	9835.415	5407.662	6134.385

Sample Name: Q3412-01DUP Acquired: 10/21/2025 19:43:41 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0989700	-.009375	2.039522	.0015758	.0014408	161.1658
Stddev	.0030936	.001933	.040185	.0045081	.0038530	.2400
%RSD	3.125827	20.61824	1.970301	286.0881	267.4277	.1488928
#1	.0997988	-.008430	2.074858	.0049585	.0053063	161.4225
#2	.1015648	-.011598	2.047898	-.003542	.0014156	161.1279
#3	.0955464	-.008096	1.995809	.003311	-.002400	160.9471
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.148763	.0154291	.0087939	36.94643	.2142128	.1956965
Stddev	.002600	.0001883	.0005012	.07826	.0004146	.0018402
%RSD	.2263675	1.220567	5.699670	.2118221	.1935230	.9403545
#1	1.151757	.0156153	.0092074	37.03615	.2144406	.1974119
#2	1.147065	.0152388	.0089377	36.89222	.2137342	.1959250
#3	1.147468	.0154332	.0082364	36.91091	.2144634	.1937527
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6416955	408.2012	8.207636	76.96027	.4138675	-.016698
Stddev	.0057078	.2152	.019474	.11584	.0039925	.000610
%RSD	.8894816	.0527108	.2372612	.1505154	.9646778	3.654093
#1	.6472954	408.4371	8.229601	77.05199	.4179246	-.016767
#2	.6419055	408.1508	8.200820	76.83010	.4137350	-.016056
#3	.6358856	408.0156	8.192486	76.99873	.4099429	-.017271
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.73753	.3970474	1.043612	26.14607	.3413052	.0066059
Stddev	.02411	.0007363	.002473	.09075	.0097438	.0001712
%RSD	.1892875	.1854530	.2369862	.3470718	2.854869	2.591462
#1	12.76465	.3976172	1.044799	26.24734	.3406955	.0064984
#2	12.71851	.3973088	1.045268	26.07213	.3318805	.0065160
#3	12.72944	.3962160	1.040769	26.11875	.3513395	.0068033

Sample Name: Q3412-01DUP Acquired: 10/21/2025 19:43:41 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.086479	5.250216	F 10.93175	F 10.73611	.9222091	.3803757
Stddev	.045002	.016093	.18090	.14014	.0102614	.0049702
%RSD	4.142006	.3065116	1.654801	1.305283	1.112697	1.306658
#1	1.131723	5.267299	11.05998	10.84781	.9288290	.3793101
#2	1.085992	5.248007	11.01043	10.78165	.9274096	.3760247
#3	1.041723	5.235342	10.72483	10.57887	.9103886	.3857923
Elem	Sr4077					
Units	ppm					
Avg	-.083430					
Stddev	.000697					
%RSD	.8349233					
#1	-.082633					
#2	-.083927					
#3	-.083728					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	6872.118	114183.9	9680.564	5409.028	6157.823	
Stddev	2.416	256.4	37.469	15.100	17.480	
%RSD	.0351516	.2245166	.3870502	.2791552	.2838667	
#1	6872.326	113943.2	9637.557	5416.748	6138.355	
#2	6874.424	114453.5	9706.149	5418.706	6162.945	
#3	6869.606	114155.0	9697.988	5391.629	6172.170	

Sample Name: Q3412-01LX5 Acquired: 10/21/2025 19:47:41 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0229762	-.002066	.4541501	-.000453	.0008331	39.68018	.2729000
Stddev	.0009526	.003547	.0006358	.004045	.0001830	.38588	.0032469
%RSD	4.145932	171.7201	.1399896	892.2295	21.96295	.9724672	1.189792

#1	.0222983	-.003585	.4535850	.003363	.0008265	39.42519	.2705570
#2	.0240653	.001988	.4548385	-.000029	.0006535	40.12412	.2766063
#3	.0225650	-.004601	.4540268	-.004694	.0010192	39.49124	.2715366

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039127	.0006440	9.325538	.0551945	.0398534	.1766739	98.36952
Stddev	.0000594	.0000686	.110951	.0001672	.0001365	.0006721	.30500
%RSD	1.517633	10.65511	1.189754	.3028862	.3424217	.3804321	.3100556

#1	.0039529	.0007212	9.251203	.0551502	.0400109	.1774343	98.29625
#2	.0039408	.0006207	9.453071	.0553793	.0397705	.1764278	98.70448
#3	.0038445	.0005900	9.272341	.0550539	.0397787	.1761594	98.10782

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.046433	19.28782	.0871135	-.005110	3.128916	.0992004	.2619565
Stddev	.022527	.14676	.0001016	.000247	.016041	.0023967	.0002923
%RSD	1.100783	.7609002	.1165992	4.826229	.5126789	2.415973	.1115835

#1	2.040334	19.17801	.0871274	-.005182	3.116856	.0964513	.2620654
#2	2.071381	19.45451	.0870058	-.005312	3.147122	.1002994	.2621787
#3	2.027584	19.23094	.0872075	-.004835	3.122772	.1008505	.2616254

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.173925	.0594455	.0016833	.2358041	1.308478	3.163273	2.186573
Stddev	.028566	.0025753	.0002370	.0007129	.015312	.029094	.014139
%RSD	.4626864	4.332211	14.07676	.3023137	1.170205	.9197321	.6466420

#1	6.176796	.0617066	.0014124	.2365467	1.300432	3.133059	2.197853
#2	6.200946	.0566423	.0018519	.2357404	1.326135	3.191099	2.191155
#3	6.144032	.0599875	.0017857	.2351252	1.298866	3.165661	2.170711

Sample Name: Q3412-01LX5 Acquired: 10/21/2025 19:47:41 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2077889	.0850326	-.018961
Stddev	.0036943	.0012797	.000564
%RSD	1.777905	1.504909	2.976972
#1	.2113482	.0862071	-.019322
#2	.2039730	.0852218	-.018310
#3	.2080455	.0836688	-.019250

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6009.890	99311.15	8001.283	4686.132	6849.238
Stddev	3.911	246.29	81.574	3.276	8.802
%RSD	.0650770	.2480003	1.019510	.0699182	.1285070
#1	6014.024	99412.85	8042.697	4689.675	6853.799
#2	6006.249	99030.29	7907.310	4685.511	6839.092
#3	6009.396	99490.30	8053.843	4683.211	6854.823

Sample Name: Q3412-01MS Acquired: 10/21/2025 19:51:45 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5823032	1.444427	1.394305	1.253883	.2371301	141.4964
Stddev	.0040542	.011527	.002497	.007395	.0031526	.0407
%RSD	.6962302	.7980510	.1790832	.5897597	1.329468	.0287586

#1	.5846512	1.431352	1.395395	1.254471	.2374806	141.4775
#2	.5776218	1.448803	1.396072	1.246211	.2338169	141.4687
#3	.5846366	1.453125	1.391449	1.260966	.2400927	141.5431

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.120307	.1440527	.1643551	38.68115	.4552804	.3155589
Stddev	.001917	.0004094	.0001624	.13921	.0028094	.0006783
%RSD	.1711494	.2841944	.0988285	.3598979	.6170627	.2149517

#1	1.122389	.1445081	.1641881	38.84190	.4583048	.3154178
#2	1.119920	.1437152	.1645125	38.60189	.4547843	.3162967
#3	1.118613	.1439348	.1643647	38.59967	.4527522	.3149623

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6977406	282.8600	7.200216	63.58198	.7144226	.0364629
Stddev	.0012614	2.0119	.026758	.06191	.0014913	.0001443
%RSD	.1807889	.7112712	.3716254	.0973678	.2087401	.3958180

#1	.6963221	285.0552	7.224019	63.58871	.7139953	.0366022
#2	.6981633	282.4205	7.171254	63.64024	.7160809	.0364724
#3	.6987364	281.1041	7.205375	63.51698	.7131916	.0363141

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.30442	.5158988	.9831168	29.35097	.3972884	.2610602
Stddev	.09602	.0034388	.0078116	.16967	.0026157	.0000973
%RSD	.8493633	.6665658	.7945783	.5780698	.6583936	.0372816

#1	11.41394	.5120045	.9920340	29.52793	.3988581	.2611628
#2	11.26460	.5185176	.9774817	29.33529	.3987382	.2610488
#3	11.23472	.5171743	.9798348	29.18968	.3942688	.2609691

Sample Name: Q3412-01MS Acquired: 10/21/2025 19:51:45 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5615520	4.367875	F 11.40717	F 12.75553	.8592094	.4242318
Stddev	.0009239	.007808	.09109	.01981	.0039200	.0020047
%RSD	.1645332	.1787594	.7985493	.1552705	.4562379	.4725573

#1	.5617192	4.361729	11.51235	12.74425	.8559845	.4227728
#2	.5623809	4.365234	11.35601	12.74394	.8580711	.4265177
#3	.5605559	4.376660	11.35317	12.77840	.8635726	.4234047

Elem	Sr4077
Units	ppm
Avg	.1425748
Stddev	.0015274
%RSD	1.071280

#1	.1416036
#2	.1417854
#3	.1443353

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6668.237	110857.0	9283.168	5152.166	6255.567
Stddev	13.492	718.8	15.718	23.511	16.186
%RSD	.2023371	.6483912	.1693211	.4563418	.2587508

#1	6675.614	110119.0	9265.920	5127.557	6263.249
#2	6652.665	110897.0	9286.900	5174.400	6236.970
#3	6676.433	111554.9	9296.685	5154.540	6266.481

Sample Name: Q3412-01MSD Acquired: 10/21/2025 19:55:42 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6227230	1.553529	1.608936	1.335050	.2647888	151.3552
Stddev	.0028434	.008453	.009773	.011781	.0032245	.2606
%RSD	.4566133	.5441352	.6074010	.8824053	1.217759	.1721679

#1	.6194480	1.544609	1.598222	1.321555	.2612163	151.6056
#2	.6245629	1.561421	1.617361	1.340317	.2656669	151.3744
#3	.6241581	1.554558	1.611224	1.343278	.2674833	151.0855

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.248592	.1509165	.1806509	56.33178	.4844812	.3451668
Stddev	.006308	.0009516	.0009723	.08838	.0026253	.0023129
%RSD	.5051886	.6305470	.5381947	.1568938	.5418715	.6700875

#1	1.252178	.1515050	.1795354	56.41180	.4814532	.3424961
#2	1.252290	.1514258	.1810989	56.34661	.4861193	.3464955
#3	1.241309	.1498186	.1813184	56.23692	.4858712	.3465088

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7898153	307.9125	8.071130	66.81406	.7736004	.0395167
Stddev	.0034842	1.6955	.046641	.09318	.0036879	.0001666
%RSD	.4411452	.5506396	.5778714	.1394658	.4767195	.4216054

#1	.7860053	305.9721	8.108452	66.91782	.7693605	.0393284
#2	.7928395	309.1081	8.086095	66.73751	.7760640	.0395770
#3	.7906012	308.6573	8.018844	66.78685	.7753767	.0396448

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.54417	.5583557	1.044341	31.03577	.4452493	.2829326
Stddev	.06667	.0049245	.004680	.22748	.0062265	.0005944
%RSD	.5314843	.8819550	.4481671	.7329673	1.398438	.2100789

#1	12.48834	.5634987	1.040823	30.78147	.4394114	.2822565
#2	12.61799	.5536836	1.049653	31.21989	.4445337	.2831688
#3	12.52618	.5578849	1.042547	31.10594	.4518027	.2833727

Sample Name: Q3412-01MSD Acquired: 10/21/2025 19:55:42 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6275428	4.821190	F 16.18282	F 14.65486	1.022671	.4650794
Stddev	.0050801	.021719	.20500	.13340	.009134	.0054826
%RSD	.8095274	.4504842	1.266782	.9103067	.8931809	1.178846

#1	.6216987	4.835699	15.95977	14.50163	1.014114	.4672735
#2	.6309035	4.831651	16.36299	14.74511	1.021609	.4691252
#3	.6300263	4.796221	16.22568	14.71785	1.032290	.4588396

Elem	Sr4077
Units	ppm
Avg	.2328000
Stddev	.0034556
%RSD	1.484361

#1	.2367256
#2	.2314563
#3	.2302181

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6787.802	112172.6	9624.391	5140.744	6154.831
Stddev	16.143	685.1	40.221	29.599	20.177
%RSD	.2378186	.6107749	.4179040	.5757645	.3278177

#1	6805.981	112959.8	9595.992	5160.090	6178.118
#2	6775.143	111711.0	9606.765	5106.671	6142.553
#3	6782.284	111846.9	9670.415	5155.473	6143.823

Sample Name: Q3412-01A Acquired: 10/21/2025 19:59:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7028636	1.584354	3.098737	1.486233	.6208834	168.4437
Stddev	.0048679	.042537	.005004	.005395	.0014551	.6795
%RSD	.6925739	2.684793	.1614952	.3629781	.2343578	.4034058
#1	.7079732	1.619530	3.098503	1.492344	.6217512	169.2167
#2	.7023372	1.596455	3.103854	1.484224	.6216955	167.9409
#3	.6982803	1.537078	3.093853	1.482131	.6192035	168.1735
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.318234	.1632867	.1975591	38.37151	.5144009	.3927218
Stddev	.012094	.0011043	.0004628	.18695	.0021089	.0004305
%RSD	.9174068	.6762626	.2342437	.4872089	.4099808	.1096257
#1	1.332025	.1645236	.1979779	38.58691	.5124806	.3926206
#2	1.309439	.1624002	.1976371	38.25147	.5140642	.3931939
#3	1.313238	.1629362	.1970623	38.27614	.5166580	.3923509
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8850083	416.4095	8.476890	80.74223	.9002396	.0399070
Stddev	.0028312	.7115	.088235	.54234	.0017841	.0009651
%RSD	.3199039	.1708647	1.040895	.6716945	.1981825	2.418295
#1	.8860450	417.1993	8.578497	81.36839	.9020813	.0389304
#2	.8871750	415.8188	8.419571	80.42004	.9001183	.0408602
#3	.8818049	416.2104	8.432601	80.43828	.8985193	.0399303
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.47342	.6421356	1.220457	34.60950	.5388350	.3097112
Stddev	.02100	.0050347	.003758	.06497	.0069004	.0009428
%RSD	.1357402	.7840492	.3078847	.1877125	1.280614	.3044187
#1	15.48464	.6479000	1.216229	34.55099	.5458748	.3103717
#2	15.48644	.6386004	1.221728	34.67941	.5320830	.3101304
#3	15.44919	.6399062	1.223414	34.59811	.5385472	.3086315

Sample Name: Q3412-01A Acquired: 10/21/2025 19:59:39 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.892744	5.571525	F 13.74538	F 16.23449	.9585359	.5396008
Stddev	.006145	.033196	.09006	.01016	.0054254	.0084069
%RSD	.3246591	.5958118	.6552346	.0625982	.5660046	1.557990

#1	1.899297	5.608412	13.76914	16.23666	.9646478	.5463505
#2	1.891823	5.544057	13.82119	16.22341	.9566711	.5301838
#3	1.887111	5.562104	13.64582	16.24339	.9542889	.5422682

Elem	Sr4077
Units	ppm
Avg	.0675187
Stddev	.0026686
%RSD	3.952383

#1	.0705946
#2	.0658199
#3	.0661417

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6780.494	113160.1	9556.127	5254.034	6024.407
Stddev	12.522	391.6	58.031	5.501	4.928
%RSD	.1846736	.3460317	.6072657	.1047032	.0817966

#1	6781.444	113564.7	9491.028	5248.457	6019.123
#2	6767.524	113132.6	9602.430	5259.456	6025.222
#3	6792.514	112783.0	9574.923	5254.188	6028.878

Sample Name: CCV08 Acquired: 10/21/2025 20:03:35 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.854437	5.054986	4.726700	4.974182	4.998996	9.516841	9.606084
Stddev	.010069	.091936	.004820	.011098	.012814	.013602	.061278
%RSD	.2074167	1.818728	.1019738	.2231036	.2563412	.1429237	.6379094

#1	4.864673	5.144980	4.725937	4.985245	5.013792	9.501275	9.581565
#2	4.844544	5.058753	4.722307	4.963050	4.991483	9.522813	9.560863
#3	4.854095	4.961223	4.731856	4.974251	4.991712	9.526436	9.675826

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2342399	2.325151	23.70575	.9145844	2.357903	1.207074	4.830467
Stddev	.0059789	.003211	.07763	.0321508	.002244	.002147	.094087
%RSD	2.552476	.1380843	.3274833	3.515341	.0951837	.1778751	1.947782

#1	.2372187	2.325700	23.62558	.9365586	2.357848	1.209361	4.832913
#2	.2273568	2.321701	23.71110	.8776835	2.355687	1.205101	4.735180
#3	.2381443	2.328052	23.78057	.9295110	2.360175	1.206759	4.923307

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.407964	23.57627	2.354030	1.186064	23.26401	2.400230	2.340025
Stddev	.009365	.05895	.003595	.052994	.51712	.015000	.111798
%RSD	.3889068	.2500434	.1527263	4.468021	2.222820	.6249435	4.777632

#1	2.400132	23.52652	2.354483	1.212577	23.33056	2.395513	2.401487
#2	2.405424	23.56092	2.350230	1.125047	22.71684	2.388155	2.210981
#3	2.418337	23.64138	2.357377	1.220568	23.74463	2.417021	2.407608

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.13775	4.770534	4.814846	4.700257	4.805881	4.869168	4.827545
Stddev	.47286	.150394	.012978	.004421	.020880	.065455	.004988
%RSD	2.043673	3.152569	.2695367	.0940541	.4344648	1.344283	.1033278

#1	23.32839	4.839977	4.829610	4.702086	4.793530	4.894781	4.821785
#2	22.59933	4.597965	4.805240	4.695216	4.794124	4.794779	4.830421
#3	23.48553	4.873658	4.809689	4.703470	4.829988	4.917943	4.830429

Sample Name: CCV08 Acquired: 10/21/2025 20:03:35 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.824477	4.722815	4.752408
Stddev	.008276	.059595	.011858
%RSD	.1715356	1.261861	.2495075
#1	4.833830	4.693298	4.739372
#2	4.818105	4.683739	4.762553
#3	4.821497	4.791408	4.755298

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5666.604	96020.88	7643.946	4535.219	6612.085
Stddev	7.764	1572.61	12.144	102.450	4.088
%RSD	.1370190	1.637779	.1588674	2.258996	.0618187
#1	5657.797	94968.03	7642.490	4468.239	6615.205
#2	5672.461	97828.61	7632.597	4653.156	6613.592
#3	5669.553	95266.01	7656.753	4484.261	6607.458

Sample Name: CCB08 Acquired: 10/21/2025 20:07:38 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001162	.0006281	-.000125	.0017777	-.000469	-.000865
Stddev	.0018251	.0016744	.000876	.0013349	.000278	.005225
%RSD	1570.997	266.5919	702.4368	75.09086	59.15156	604.3850

#1	.0011154	.0007282	-.000122	.0002481	-.000751	-.005944
#2	-.001990	-.001094	.000750	.0023773	-.000195	-.001145
#3	.001223	.002250	-.001002	.0027076	-.000463	.004495

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007531	-.000032	-.000044	.0063733	-.000020	-.000141
Stddev	.000891	.000011	.000064	.0041387	.000069	.000114
%RSD	11.83217	35.99592	145.8034	64.93853	348.4079	80.76419

#1	-.008468	-.000024	-.000074	.0031388	-.000069	-.000182
#2	-.007430	-.000045	-.000087	.0110373	.000059	-.000012
#3	-.006695	-.000026	.000030	.0049438	-.000049	-.000230

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001937	.0063457	.0000825	-.005541	-.000252	.0000300
Stddev	.0000960	.0070417	.0003009	.013699	.000194	.0001440
%RSD	49.57796	110.9672	364.8760	247.2344	77.12807	479.3103

#1	.0001884	.0098543	.0000737	-.009112	-.000476	.0000456
#2	.0001004	.0109439	.0003876	-.017101	-.000148	-.000121
#3	.0002922	-.001761	-.000214	.009590	-.000132	.000166

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1574838	-.001450	-.000091	.1290764	-.016235	.0004694
Stddev	.0108221	.002465	.000241	.0091751	.000416	.0001155
%RSD	6.871868	169.9758	265.1425	7.108260	2.562350	24.59732

#1	.1646916	.001013	-.000321	.1240929	-.016671	.0003361
#2	.1450394	-.001447	.000159	.1396648	-.015843	.0005348
#3	.1627202	-.003917	-.000110	.1234715	-.016191	.0005372

Sample Name: CCB08 Acquired: 10/21/2025 20:07:38 Type: Unk
Method: 6010-200.7 NEW(v304) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.016558	-.000295	-.013554	.0018715	F .0120510	F -.010281
Stddev	.000705	.002133	.005507	.0012768	.0006007	.000513
%RSD	4.259570	722.9025	40.62899	68.22305	4.984286	4.985999

#1	-.016109	.001032	-.019879	.0006636	.0119762	-.009702
#2	-.016193	.000839	-.009818	.0017434	.0114913	-.010677
#3	-.017371	-.002756	-.010966	.0032075	.0126856	-.010463

Elem	Sr4077
Units	ppm
Avg	.0000897
Stddev	.0000521
%RSD	58.02516

#1	.0000840
#2	.0001444
#3	.0000408

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5695.234	97048.49	7676.319	4546.676	7485.464
Stddev	12.626	194.76	53.467	13.045	12.046
%RSD	.2217016	.2006874	.6965213	.2869221	.1609186

#1	5709.251	96841.94	7737.173	4532.221	7498.788
#2	5691.698	97074.72	7654.911	4557.573	7475.346
#3	5684.752	97228.81	7636.874	4550.236	7482.258

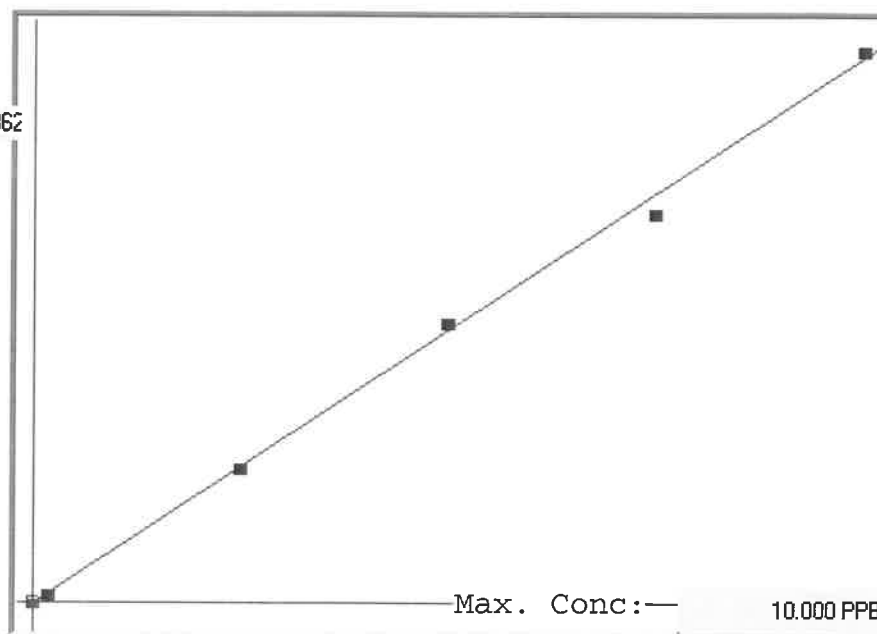
LB137583

7470A

INSTRUMENT ID: CV1

μ Abs.:

42862



Linear

A= 0.0000e+000

B= 2.3620e-004

C= 2.5826e-002

Rho= 0.9989390

Accept= Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0.0	0.000	0.010	0.010	-68	0.000	-68	0			
0.2	0.200	0.200	0.000	738	0.0 %	738	0			
2.5	2.500	2.505	0.005	10496	0.0 %	10496	0			
5.0	5.000	5.179	0.179	21819	0.0 %	21819				
7.5	7.500	7.156	-0.344	30186	0.0 %	30186				
10.0	10.000	10.150	0.150	42862	0.0 %	42862				

lb137583 instrument id : cv1

Reviewed By: jaswal
On: 10/24/2025
10:41:56 PM
Inst Id : CV1
LB : LB137583

Method: 7470A

Operator: Admin

Date of Analysis: 20 Oct 2025 11:28:11

Type	Sample ID	Extended ID	Conc.	µ Abs.	Units	Type	Std Conc	Method	Date
S	0.0 - 1	50	-	-68	PPB	Std	0.0000	7470A	20 Oct 2025 11:41:18
S	0.2 - 1	52	-	738	PPB	Std	0.2000	7470A	20 Oct 2025 11:43:35
S	2.5 - 1	52.5	-	10496	PPB	Std	2.5000	7470A	20 Oct 2025 11:45:52
S	5.0 - 1	55	-	21819	PPB	Std	5.0000	7470A	20 Oct 2025 11:48:09
S	7.5 - 1	57.5	-	30186	PPB	Std	7.5000	7470A	20 Oct 2025 11:50:28
S	10.0 - 1	518	-	42862	PPB	Std	10.0000	7470A	20 Oct 2025 11:55:33
U	ICV78 - 1	ICV78	4.1981	17664	PPB	SMPL	-7470A		20 Oct 2025 12:01:15
U	ICB78 - 1	ICB78	-0.1702	-830	PPB	SMPL	-7470A		20 Oct 2025 12:03:31
U	CCV54 - 1	CCV54	5.1204	21569	PPB	SMPL	-7470A		20 Oct 2025 12:06:04
U	CCB54 - 1	CCB54	-0.0169	-181	PPB	SMPL	-7470A		20 Oct 2025 12:08:29
U	CRA - 1	CRA	0.2169	809	PPB	SMPL	-7470A		20 Oct 2025 12:10:48
U	HighStd - 1	HighStd	10.0001	42228	PPB	SMPL	-7470A		20 Oct 2025 12:13:11
U	ChkStd - 1	ChkStd	6.3414	26738	PPB	SMPL	-7470A		20 Oct 2025 12:18:13
U	PB170157BL - 1	PBW	-0.0566	-349	PPB	SMPL	-7470A		20 Oct 2025 12:20:30
U	PB170157BS - 1	LCSW	3.2653	13715	PPB	SMPL	-7470A		20 Oct 2025 12:22:53
U	Q3376-07 - 1	PR132-FB01-20251016	-0.0679	-397	PPB	SMPL	-7470A		20 Oct 2025 12:25:09
U	Q3390-05 - 1	4174	0.1281	433	PPB	SMPL	-7470A		20 Oct 2025 12:27:28
U	Q3390-06 - 1	4160	0.0537	118	PPB	SMPL	-7470A		20 Oct 2025 12:29:45
U	Q3390-07 - 1	4090	0.0483	95	PPB	SMPL	-7470A		20 Oct 2025 12:32:02
U	Q3390-07DUP - 1	4090DUP	0.0395	58	PPB	SMPL	-7470A		20 Oct 2025 12:34:18
U	CCV55 - 1	CCV55	5.2397	22074	PPB	SMPL	-7470A		20 Oct 2025 12:41:42
U	CCB55 - 1	CCB55	-0.0415	-285	PPB	SMPL	-7470A		20 Oct 2025 12:43:56
U	Q3390-07MS - 1	4090MS	2.9684	12458	PPB	SMPL	-7470A		20 Oct 2025 12:46:17
U	Q3390-07MSD - 1	4090MSD	2.7362	11475	PPB	SMPL	-7470A		20 Oct 2025 12:48:32
U	Q3390-07ix5 - 1		-0.0051	-131	PPB	SMPL	-7470A		20 Oct 2025 12:50:50
U	Q3390-07a - 1		3.9817	16748	PPB	SMPL	-7470A		20 Oct 2025 12:53:09
U	CCV56 - 1	CCV56	4.8601	20467	PPB	SMPL	-7470A		20 Oct 2025 12:58:15
U	CCB56 - 1	CCB56	-0.0500	-321	PPB	SMPL	-7470A		20 Oct 2025 13:00:31

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SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pipette ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

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

Start Digest Date: 10/21/2025 Time : 16:10 Temp : 96 °C

End Digest Date: 10/21/2025 Time : 19:10 Temp : 96 °C

Digestion tube ID: M5595 17:20

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: S14

Supervisor Signature: [Signature]

Temp : 1. 96°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6209
LFS-2	0.25	M6201
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HCL	5.00	MP87148
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK#1 CELL#50 96C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/21/25 17:25	S14 met dig	109 - metal lab
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB170192BL	PBW192	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	1
PB170192BS	LCS192	<2	50	25	Colorless	Colorless	Clear	Clear	M6209,M6201	2
Q3365-01	MW25	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	3
Q3365-02	MW2D	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	4
Q3365-03	SUPPLY	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	5
Q3365-04	17 HARVEY	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	6
Q3365-05	19 HARVEY	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	7
Q3370-01	WATER-TREATMENT DISCHARGE	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	8
Q3370-01MS	WATER-TREATMENT DISCHARGE MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6209,M6201	10
Q3370-01MSD	WATER-TREATMENT DISCHARGE MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6209,M6201	11
Q3370-01DUP	WATER-TREATMENT DISCHARGE DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	9
Q3376-07	PR132-FB01-20251016	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	12
Q3398-01	A748	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	13
Q3400-01	FRAC-TANK-0760450	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	14

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB170192 Worklist ID : 192594 Department : Digestion Date : 10-21-2025 16:39:52

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3365-01	MW25	Water	Metals Group4	1:1 HNO3 to pH < 2	GENV01	J13	10/16/2025	6010D
Q3365-02	MW2D	Water	Metals Group4	1:1 HNO3 to pH < 2	GENV01	J13	10/16/2025	6010D
Q3365-03	SUPPLY	Water	Metals Group4	1:1 HNO3 to pH < 2	GENV01	J13	10/16/2025	6010D
Q3365-04	17 HARVEY	Water	Metals Group4	1:1 HNO3 to pH < 2	GENV01	J13	10/16/2025	6010D
Q3365-05	19 HARVEY	Water	Metals Group4	1:1 HNO3 to pH < 2	GENV01	J13	10/16/2025	6010D
Q3370-01	WATER-TREATMENT DISCHAI	Water	Metals Group4	1:1 HNO3 to pH < 2	VERI01	J53	10/16/2025	6010D
Q3376-07	PR132-FB01-20251016	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	AEC002	D31	10/16/2025	6010D
Q3398-01	A748	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	D31	10/20/2025	6010D
Q3400-01	FRAC-TANK-0760450	Water	Metals Group4	1:1 HNO3 to pH < 2	ICES02	D31	10/20/2025	6010D

Date/Time 10/21/25 16:56
Raw Sample Received by: SLS metals
Raw Sample Relinquished by: CPCS m

Date/Time 10/21/25 17:50
Raw Sample Received by: CPCS m
Raw Sample Relinquished by: SLS metals

SOP ID : M7470A-Mercury-20

SDG No : N/A

Matrix : WATER

Pipette ID: HG A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #1

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

Start Digest Date: ~~10/20/2025~~ 10/21/2025 Time : 09:30 Temp : 95 °C

End Digest Date: ~~10/20/2025~~ 10/21/2025 Time : 11:32 Temp : 95 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature: *MB*

Supervisor Signature: *mb*

Temp : 1. 95°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
ICV	30MI	MP87676
CCV	30mL	MP87678
CRA	30mL	MP87680
Blank Spike	0.48mL	MP87669
Matrix Spike	0.48mL	MP87669

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.25mL	MP87071
KMnO4 (5%)	4.5mL	MP87072
K2S2O8 (5%)	2.4mL	MP87073
Hydroxylamine HCL (12%)	1.8mL	MP87149
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

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
0.0 ppb	S0	30MI	MP87670
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30MI	MP87671
2.5 ppb	S2.5	30MI	MP87672
5.0 ppb	S5.0	30MI	MP87673
7.5 ppb	S7.5	30mL	MP87674
10.0 ppb	S10.0	30mL	MP87675
ICV	ICV	30MI	MP87676
ICB	ICB	30MI	MP87677
CCV	CCV	30MI	MP87678
CCB	CCB	30ml	MP87679
CRI	CRI	30MI	MP87680
CHK STD	CHK STD	30MI	MP87681

Extraction Conformance/Non-Conformance Comments:

N/A		
Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/21/25 10/20/2025 11:40	<i>mb met dig</i>	<i>mb met lab</i>
10/20/2025 11:40	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB170157BL	PBW157	30	30	<2	N/A	3-1
PB170157BS	LCS157	30	30	<2	MP87669	2
Q3376-07	PR132-FB01-20251016	30	30	<2	N/A	3
Q3390-05	4174	30	30	<2	N/A	4
Q3390-06	4160	30	30	<2	N/A	5
Q3390-07	4090	30	30	<2	N/A	6
Q3390-07DUP	4090DUP	30	30	<2	N/A	7
Q3390-07MS	4090MS	30	30	<2	MP87669	8
Q3390-07MSD	4090MSD	30	30	<2	MP87669	9

WORKLIST(Hardcopy Internal Chain)

WorkList Name : 102025_7470

WorkList ID : 192547

Department : Digestion

Date : 10-20-2025 08:40:58

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3376-07	PR132-FB01-20251016	Water	Mercury	1:1 HNO3 to pH < 2	AECC002	D31	10/16/2025	7470A
Q3390-05	4175	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	D41	10/17/2025	7470A
Q3390-06	4160	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	D41	10/17/2025	7470A
Q3390-07	4090	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	D41	10/17/2025	7470A

Date/Time 10/20/25 09:10

Raw Sample Received by: 5123 met.dig

Raw Sample Relinquished by: CPCSMJ

Date/Time 10/20/25 10:10

Raw Sample Received by: CPCSMJ

Raw Sample Relinquished by: 5123 met.dig

PERCENT SOLID

Supervisor: Iwona
Analyst: rubina
Date: 10/20/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:25
In Date: 10/17/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN #1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 09:25
Out Date: 10/18/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB137576

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
Q3373-05	SVOC-GPC-BLANK	1	1.00	1.00	2.00	2.00	100.0	
Q3373-06	PEST-GPC-BLANK	2	1.00	1.00	2.00	2.00	100.0	
Q3373-07	PEST-GPC-BLANK-SPIKE	3	1.00	1.00	2.00	2.00	100.0	
Q3373-08	SVOC-GPC2-BLANK	4	1.00	1.00	2.00	2.00	100.0	
Q3373-09	PEST-GPC2-BLANK	5	1.00	1.00	2.00	2.00	100.0	
Q3373-10	PEST -GPC2-BLANK-SPIKE	6	1.00	1.00	2.00	2.00	100.0	
Q3374-01	TP-4-WC	7	1.15	10.69	11.84	10.25	85.1	
Q3374-02	TP-4-WC-EPH	8	1.11	10.86	11.97	11.38	94.6	
Q3374-03	TP-4-WC-VOC	9	1.15	10.45	11.6	10.31	87.7	
Q3374-05	TP-5-WC	10	1.13	10.30	11.43	10.72	93.1	
Q3374-06	TP-5-WC-EPH	11	1.17	10.34	11.51	9.95	84.9	
Q3374-07	TP-5-WC-VOC	12	1.18	10.94	12.12	11.19	91.5	
Q3375-01	PR132-S02-074099-20251016	13	1.12	10.21	11.33	8.19	69.2	
Q3375-02	PR132-S04-000013-20251016	14	1.15	10.84	11.99	9.25	74.7	
Q3375-03	PR132-S05-000057-20251016	15	1.16	10.58	11.74	8.22	66.7	
Q3375-04	PR132-S02-010074-20251016	16	1.14	10.34	11.48	6.86	55.3	
Q3375-05	PR132-DP02-074099-20251016	17	1.15	10.84	11.99	8.38	66.7	
Q3376-01	PR132-S05-057082-20251016	18	1.13	10.84	11.97	6.93	53.5	
Q3376-02	PR132-DP01-20251016	19	1.16	10.07	11.23	6.56	53.6	
Q3376-03	PR132-COMP2-20251016	20	1.11	10.13	11.24	6.45	52.7	
Q3376-04	PR132-S12-047072-20251016	21	1.15	10.70	11.85	6.64	51.3	
Q3376-05	PR132-S12-020047-20251016	22	1.13	10.49	11.62	8.14	66.8	
Q3381-01	VNJ-222	23	1.18	10.38	11.56	10.46	89.4	
Q3381-03	VNJ-245	24	1.18	10.64	11.82	9.86	81.6	
Q3381-05	RBR200059	25	1.11	10.71	11.82	10.6	88.6	

PERCENT SOLID

Supervisor: Iwona
Analyst: rubina
Date: 10/20/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:25
In Date: 10/17/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN #1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 09:25
Out Date: 10/18/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB137576

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
Q3381-07	VNJ-255	26	1.16	10.11	11.27	10.51	92.5	
Q3382-01	CENTRAL-AVE-TP	27	1.14	10.73	11.87	10.25	84.9	
Q3382-02	CENTRAL-AVE-TP-EPH-2	28	1.16	10.81	11.97	9.78	79.7	
Q3383-01	OR-03-101725	29	1.13	10.60	11.73	10.88	92.0	
Q3383-02	OR-03-101725-E2	30	1.14	10.91	12.05	11.07	91.0	
Q3386-01	237	38	1.15	10.68	11.83	11.2	94.1	
Q3386-02	237-E2	39	1.15	10.85	12.00	11.2	92.6	
Q3387-01	BC289050-1-1	40	1.00	1.00	2.00	2.00	100.0	PILC
Q3387-02	BC289050-1-2	41	1.00	1.00	2.00	2.00	100.0	PILC
Q3387-03	BC289050-2-1	42	1.00	1.00	2.00	2.00	100.0	PILC
Q3387-04	BC289050-2-2	43	1.00	1.00	2.00	2.00	100.0	PILC
Q3388-01	461	44	1.00	1.00	2.00	2.00	100.0	soily-debris
Q3389-01	KMH472J-1-1	45	1.00	1.00	2.00	2.00	100.0	PILC
Q3389-02	KMH472J-1-2	46	1.00	1.00	2.00	2.00	100.0	PILC
Q3390-01	4175	47	1.00	1.00	2.00	2.00	100.0	debris
Q3390-03	340	48	1.18	10.76	11.94	10.34	85.1	
Q3390-04	340-E2	49	1.16	10.88	12.04	9.11	73.1	
Q3391-01	RCA	31	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3392-01	MH-20	32	1.18	10.77	11.95	10.9	90.3	
Q3392-02	MH-20-EPH	33	1.16	11.00	12.16	11.07	90.1	
Q3392-03	MH-20-VOC	34	1.18	10.89	12.07	10.69	87.3	
Q3392-05	MH-19	35	1.16	10.50	11.66	10.34	87.4	
Q3392-06	MH-19-EPH	36	1.12	10.87	11.99	10.41	85.5	
Q3392-07	MH-19-VOC	37	1.16	10.50	11.66	10.37	87.7	

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

WORKLIST(Hardcopy Internal Chain)

137516

WorkList Name : %1-101725 WorkList ID : 192523 Department : Wet-Chemistry Date : 10-17-2025 10:20:50

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3373-05	SVOC-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	J32	10/10/2025	Chemtech -SO
Q3373-06	PEST-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	J32	10/10/2025	Chemtech -SO
Q3373-07	PEST-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	J32	10/10/2025	Chemtech -SO
Q3373-08	SVOC-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	J32	10/10/2025	Chemtech -SO
Q3373-09	PEST-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	J32	10/10/2025	Chemtech -SO
Q3373-10	PEST -GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	J32	10/10/2025	Chemtech -SO
Q3374-01	TP-4-WC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/16/2025	Chemtech -SO
Q3374-02	TP-4-WC-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/16/2025	Chemtech -SO
Q3374-03	TP-4-WC-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/16/2025	Chemtech -SO
Q3374-05	TP-5-WC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3374-06	TP-5-WC-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3374-07	TP-5-WC-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3375-01	PR132-S02-074099-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3375-02	PR132-S04-000013-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3375-03	PR132-S05-000057-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3375-04	PR132-S02-010074-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3375-05	PR132-DP02-074099-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3376-01	PR132-S05-057082-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3376-02	PR132-DP01-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3376-03	PR132-COMP2-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO
Q3376-04	PR132-S12-047072-20251016	Solid	Percent Solids	Cool 4 deg C	AECO02	D31	10/16/2025	Chemtech -SO

Date/Time 10/17/25 16:00 Date/Time 10/17/25 17:135
Raw Sample Received by: 80 wvc Raw Sample Received by: CP (CSM)
Raw Sample Relinquished by: CP (CSM) Raw Sample Relinquished by: 80 wvc

WORKLIST(Hardcopy Internal Chain)

R 137576

WorkList Name : %1-101725

WorkList ID : 192523

Department : Wet-Chemistry

Date : 10-17-2025 10:20:50

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3376-05	PR132-S12-020047-20251016	Solid	Percent Solids	Cool 4 deg C	AEC002	D31	10/16/2025	Chemtech -SO
Q3381-01	VNJ-222	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3381-03	VNJ-245	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3381-05	RBR200059	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3381-07	VNJ-255	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3382-01	CENTRAL-AVE-TP	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3382-02	CENTRAL-AVE-TP-EPH-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3383-01	OR-03-101725	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	10/17/2025	Chemtech -SO
Q3383-02	OR-03-101725-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	10/17/2025	Chemtech -SO
Q3386-01	237	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3386-02	237-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3387-01	BC289050-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3387-02	BC289050-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3387-03	BC289050-2-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3387-04	BC289050-2-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3388-01	461	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3389-01	KMH472J-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3389-02	KMH472J-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3390-01	4175	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3390-03	340	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO
Q3390-04	340-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	10/17/2025	Chemtech -SO

Date/Time 10/17/25 16:00
Raw Sample Received by: JH WWC
Raw Sample Relinquished by: C8 (SM)

Date/Time 10/17/25 17:13
Raw Sample Received by: C8 (SM)
Raw Sample Relinquished by: JH WWC

WORKLIST(Hardcopy Internal Chain)

137516

WorkList Name : %1-101725

WorkList ID : 192523

Department : Wet-Chemistry

Date : 10-17-2025 10:20:50

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3391-01	RCA	Solid	Percent Solids	Cool 4 deg C	YANN01	D31	09/18/2025	Chemtech -SO
Q3392-01	MH-20	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3392-02	MH-20-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3392-03	MH-20-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3392-05	MH-19	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3392-06	MH-19-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO
Q3392-07	MH-19-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	10/17/2025	Chemtech -SO

Date/Time 10/17/25 16:00
Raw Sample Received by: [Signature]
Raw Sample Relinquished by: [Signature]

Date/Time 10/17/25 17:33
Raw Sample Received by: [Signature]
Raw Sample Relinquished by: [Signature]

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB137583

Review By	Sagar	Review On	10/21/2025 10:47:40 AM
Supervise By	jaswal	Supervise On	10/24/2025 10:41:56 PM

STD. NAME	STD REF.#
ICAL Standard	MP87653,MP87654,MP87655,MP87656,MP87657,MP87658
ICV Standard	MP87659
CCV Standard	MP87661
ICSA Standard	
CRI Standard	MP87663
LCS Standard	
Chk Standard	MP87660,MP87664,MP87664,MP87666

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/20/25 11:41		Sagar	OK
2	S0.2	S0.2	CAL2	10/20/25 11:43		Sagar	OK
3	S2.5	S2.5	CAL3	10/20/25 11:45		Sagar	OK
4	S5	S5	CAL4	10/20/25 11:48		Sagar	OK
5	S7.5	S7.5	CAL5	10/20/25 11:50		Sagar	OK
6	S10	S10	CAL6	10/20/25 11:55		Sagar	OK
7	ICV78	ICV78	ICV	10/20/25 12:01		Sagar	OK
8	ICB78	ICB78	ICB	10/20/25 12:03		Sagar	OK
9	CCV54	CCV54	CCV	10/20/25 12:06		Sagar	OK
10	CCB54	CCB54	CCB	10/20/25 12:08		Sagar	OK
11	CRA	CRA	CRDL	10/20/25 12:10		Sagar	OK
12	HighStd	HighStd	HIGH STD	10/20/25 12:13		Sagar	OK
13	ChkStd	ChkStd	SAM	10/20/25 12:18		Sagar	OK
14	PB170157BL	PB170157BL	MB	10/20/25 12:20		Sagar	OK
15	PB170157BS	PB170157BS	LCS	10/20/25 12:22		Sagar	OK
16	Q3376-07	PR132-FB01-202510	SAM	10/20/25 12:25		Sagar	OK
17	Q3390-05	4175	SAM	10/20/25 12:27		Sagar	OK
18	Q3390-06	4160	SAM	10/20/25 12:29		Sagar	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB137583

Review By	Sagar	Review On	10/21/2025 10:47:40 AM
Supervise By	jaswal	Supervise On	10/24/2025 10:41:56 PM

STD. NAME	STD REF.#
ICAL Standard	MP87653,MP87654,MP87655,MP87656,MP87657,MP87658
ICV Standard	MP87659
CCV Standard	MP87661
ICSA Standard	
CRI Standard	MP87663
LCS Standard	
Chk Standard	MP87660,MP8764,MP87664,MP87666

19	Q3390-07	4090	SAM	10/20/25 12:32		Sagar	OK
20	Q3390-07DUP	4090DUP	DUP	10/20/25 12:34		Sagar	OK
21	CCV55	CCV55	CCV	10/20/25 12:41		Sagar	OK
22	CCB55	CCB55	CCB	10/20/25 12:43		Sagar	OK
23	Q3390-07MS	4090MS	MS	10/20/25 12:46		Sagar	OK
24	Q3390-07MSD	4090MSD	MSD	10/20/25 12:48		Sagar	OK
25	Q3390-07L	4090L	SD	10/20/25 12:50		Sagar	OK
26	Q3390-07A	4090A	PS	10/20/25 12:53		Sagar	OK
27	CCV56	CCV56	CCV	10/20/25 12:58		Sagar	OK
28	CCB56	CCB56	CCB	10/20/25 13:00		Sagar	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB137613

Review By	Janvi	Review On	10/23/2025 4:36:41 PM
Supervise By	jaswal	Supervise On	10/24/2025 6:34:14 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/21/25 12:03		Jaswal	OK
2	S1	S1	CAL2	10/21/25 12:08		Jaswal	OK
3	S2	S2	CAL3	10/21/25 12:12		Jaswal	OK
4	S3	S3	CAL4	10/21/25 12:16		Jaswal	OK
5	S4	S4	CAL5	10/21/25 12:21		Jaswal	OK
6	S5	S5	CAL6	10/21/25 12:25		Jaswal	OK
7	ICV01	ICV01	ICV	10/21/25 12:40		Jaswal	OK
8	LLICV01	LLICV01	LLICV	10/21/25 12:44		Jaswal	OK
9	ICB01	ICB01	ICB	10/21/25 12:50		Jaswal	OK
10	CRI01	CRI01	CRDL	10/21/25 12:54		Jaswal	OK
11	ICSA01	ICSA01	ICSA	10/21/25 12:59		Jaswal	OK
12	ICSAB01	ICSAB01	ICSAB	10/21/25 13:03		Jaswal	OK
13	ICSADL	ICSADL	ICSA	10/21/25 13:07		Jaswal	OK
14	ICSABDL	ICSABDL	ICSAB	10/21/25 13:11		Jaswal	OK
15	CCV01	CCV01	CCV	10/21/25 13:45		Jaswal	OK
16	CCB01	CCB01	CCB	10/21/25 13:54		Jaswal	OK
17	LR-1	LR-1	HIGH STD	10/21/25 13:57		Jaswal	OK
18	LR-2	LR-2	HIGH STD	10/21/25 14:02		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB137613

Review By	Janvi	Review On	10/23/2025 4:36:41 PM
Supervise By	jaswal	Supervise On	10/24/2025 6:34:14 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

19	PB170187BL	PB170187BL	MB	10/21/25 14:11		Jaswal	OK
20	PB170187BS	PB170187BS	LCS	10/21/25 14:16		Jaswal	OK
21	PB170183BL	PB170183BL	MB	10/21/25 14:25		Jaswal	OK
22	PB170183BS	PB170183BS	LCS	10/21/25 14:29		Jaswal	OK
23	LR-3	LR-3	HIGH STD	10/21/25 14:33		Jaswal	OK
24	Q3381-02	VNJ-222	SAM	10/21/25 14:39		Jaswal	OK
25	Q3381-04	VNJ-245	SAM	10/21/25 14:43		Jaswal	OK
26	Q3381-06	RBR200059	SAM	10/21/25 14:47		Jaswal	OK
27	CCV02	CCV02	CCV	10/21/25 15:03		Jaswal	OK
28	CCB02	CCB02	CCB	10/21/25 15:07		Jaswal	OK
29	Q3381-08	VNJ-255	SAM	10/21/25 15:11		Jaswal	OK
30	Q3369-04	MH-22	SAM	10/21/25 15:16		Jaswal	OK
31	Q3369-08	MH-21	SAM	10/21/25 15:20		Jaswal	OK
32	Q3374-04	TP-4-WC	SAM	10/21/25 15:25		Jaswal	OK
33	Q3374-08	TP-5-WC	SAM	10/21/25 15:29		Jaswal	OK
34	Q3388-02	461	SAM	10/21/25 15:34		Jaswal	OK
35	Q3390-02	4174	SAM	10/21/25 15:38		Jaswal	OK
36	Q3392-04	MH-20	SAM	10/21/25 15:42		Jaswal	OK
37	Q3392-08	MH-19	SAM	10/21/25 15:47		Jaswal	OK
38	Q3392-08DUP	MH-19DUP	DUP	10/21/25 15:51		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB137613

Review By	Janvi	Review On	10/23/2025 4:36:41 PM
Supervise By	jaswal	Supervise On	10/24/2025 6:34:14 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

39	CCV03	CCV03	CCV	10/21/25 15:56		Jaswal	OK
40	CCB03	CCB03	CCB	10/21/25 16:00		Jaswal	OK
41	Q3392-08L	MH-19L	SD	10/21/25 16:04		Jaswal	OK
42	Q3392-08MS	MH-19MS	MS	10/21/25 16:09		Jaswal	OK
43	Q3392-08MSD	MH-19MSD	MSD	10/21/25 16:13		Jaswal	OK
44	Q3392-08A	MH-19A	PS	10/21/25 16:17	0.1ml of each m6008 and m6017 in 10ml sample.	Jaswal	OK
45	PB170147TB	PB170147TB	MB	10/21/25 16:21		Jaswal	OK
46	Q3411-01	Q4-WASTEWATER	SAM	10/21/25 16:26		Jaswal	OK
47	Q3401-01	41-CONCRETE	SAM	10/21/25 16:30		Jaswal	OK
48	Q3402-01	41-LA	SAM	10/21/25 16:34		Jaswal	OK
49	Q3402-04	41-RA	SAM	10/21/25 16:40		Jaswal	OK
50	Q3402-07	41-LB	SAM	10/21/25 16:44		Jaswal	OK
51	CCV04	CCV04	CCV	10/21/25 16:48		Jaswal	OK
52	CCB04	CCB04	CCB	10/21/25 16:52		Jaswal	OK
53	Q3402-10	41-RB	SAM	10/21/25 16:56		Jaswal	OK
54	Q3403-01	MH-18	SAM	10/21/25 17:00		Jaswal	OK
55	Q3397-01	TP-7-WC	SAM	10/21/25 17:04		Jaswal	OK
56	Q3397-01DUP	TP-7-WCDUP	DUP	10/21/25 17:08		Jaswal	OK
57	Q3397-01L	TP-7-WCL	SD	10/21/25 17:12		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB137613

Review By	Janvi	Review On	10/23/2025 4:36:41 PM
Supervise By	jaswal	Supervise On	10/24/2025 6:34:14 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

58	Q3397-01MS	TP-7-WCMS	MS	10/21/25 17:16		Jaswal	OK
59	Q3397-01MSD	TP-7-WCMSD	MSD	10/21/25 17:20		Jaswal	OK
60	Q3397-01A	TP-7-WCA	PS	10/21/25 17:24	0.1ml of each m6008 and m6017 in 10ml sample.	Jaswal	OK
61	PB170192BL	PB170192BL	MB	10/21/25 17:28		Jaswal	OK
62	PB170192BS	PB170192BS	LCS	10/21/25 17:33		Jaswal	OK
63	CCV05	CCV05	CCV	10/21/25 17:37		Jaswal	OK
64	CCB05	CCB05	CCB	10/21/25 17:41		Jaswal	OK
65	Q3365-01	MW25	SAM	10/21/25 17:45	Na is high, Need dilution	Jaswal	Dilution
66	Q3365-02	MW2D	SAM	10/21/25 17:49	Na is high, Need dilution	Jaswal	Dilution
67	Q3365-03	SUPPLY	SAM	10/21/25 17:53		Jaswal	OK
68	Q3365-04	17 HARVEY	SAM	10/21/25 17:58		Jaswal	OK
69	Q3365-05	19 HARVEY	SAM	10/21/25 18:02		Jaswal	OK
70	Q3370-01	WATER-TREATMENT	SAM	10/21/25 18:06		Jaswal	OK
71	Q3370-01DUP	WATER-TREATMENT	DUP	10/21/25 18:11		Jaswal	OK
72	Q3370-01L	WATER-TREATMENT	SD	10/21/25 18:15		Jaswal	OK
73	Q3370-01MS	WATER-TREATMENT	MS	10/21/25 18:19		Jaswal	OK
74	Q3370-01MSD	WATER-TREATMENT	MSD	10/21/25 18:23		Jaswal	OK
75	CCV06	CCV06	CCV	10/21/25 18:27		Jaswal	OK
76	CCB06	CCB06	CCB	10/21/25 18:31		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB137613

Review By	Janvi	Review On	10/23/2025 4:36:41 PM
Supervise By	jaswal	Supervise On	10/24/2025 6:34:14 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

77	Q3370-01A	WATER-TREATMENT	PS	10/21/25 18:36	0.1ml of each m6008 and m6017 in 10ml sample.	Jaswal	OK
78	Q3376-07	PR132-FB01-202510	SAM	10/21/25 18:40		Jaswal	OK
79	Q3400-01	FRAC-TANK-0760450	SAM	10/21/25 18:44		Jaswal	OK
80	Q3398-01	A748	SAM	10/21/25 18:48	BAD Injection	Jaswal	Not Ok
81	Q3399-01	COMP-ROLLOFF	SAM	10/21/25 19:01		Jaswal	OK
82	Q3405-01	PAD-10-20-25-A	SAM	10/21/25 19:05		Jaswal	OK
83	Q3405-02	PAD-10-20-25-B	SAM	10/21/25 19:09		Jaswal	OK
84	Q3405-03	PAD-10-20-25-C	SAM	10/21/25 19:14		Jaswal	OK
85	CCV07	CCV07	CCV	10/21/25 19:18		Jaswal	OK
86	CCB07	CCB07	CCB	10/21/25 19:22		Jaswal	OK
87	Q3405-04	SW-10-20-25	SAM	10/21/25 19:26		Jaswal	OK
88	Q3409-01	EXCAVATION-AREA-	SAM	10/21/25 19:31		Jaswal	OK
89	Q3409-02	EXCAVATION-AREA-	SAM	10/21/25 19:35		Jaswal	OK
90	Q3412-01	TP-6	SAM	10/21/25 19:39	MS/MSD Fail for more then 50% Parameters	Jaswal	Not Ok
91	Q3412-01DUP	TP-6DUP	DUP	10/21/25 19:43	MS/MSD Fail for more then 50% Parameters	Jaswal	Not Ok
92	Q3412-01L	TP-6L	SD	10/21/25 19:47	MS/MSD Fail for more then 50% Parameters	Jaswal	Not Ok
93	Q3412-01MS	TP-6MS	MS	10/21/25 19:51	MS/MSD Fail for more then 50% Parameters	Jaswal	Not Ok
94	Q3412-01MSD	TP-6MSD	MSD	10/21/25 19:55	MS/MSD Fail for more then 50% Parameters	Jaswal	Not Ok

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB137613

Review By	Janvi	Review On	10/23/2025 4:36:41 PM
Supervise By	jaswal	Supervise On	10/24/2025 6:34:14 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

95	Q3412-01A	TP-6A	PS	10/21/25 19:59	MS/MSD Fail for more then 50% Parameters	Jaswal	Not Ok
96	CCV08	CCV08	CCV	10/21/25 20:03		Jaswal	OK
97	CCB08	CCB08	CCB	10/21/25 20:07		Jaswal	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3376

Test : Mercury, Metals ICP-TAL

Prepbatch ID : PB170157, PB170192,

Sequence ID/Qc Batch ID: LB137583, LB137613, LB137613,

Standard ID :

MP87071, MP87072, MP87073, MP87148, MP87149, MP87637, MP87638, MP87639, MP87640, MP87641, MP87642, MP87643, MP87644, MP87645, MP87646, MP87647, MP87648, MP87649, MP87650, MP87651, MP87652, MP87653, MP87654, MP87655, MP87656, MP87657, MP87658, MP87659, MP87660, MP87661, MP87663, MP87664, MP87666, MP87668, MP87669, MP87676, MP87678, MP87680,

Chemical ID :

M4397, M4916, M5062, M5467, M5658, M5697, M5748, M5798, M5799, M5800, M5801, M5814, M5820, M5882, M5884, M5962, M5969, M5971, M5979, M5985, M5998, M6021, M6023, M6026, M6027, M6028, M6030, M6032, M6058, M6077, M6086, M6128, M6137, M6140, M6142, M6144, M6145, M6151, M6157, M6158, M6159, M6160, M6161, M6163, M6164, M6165, M6171, M6174, M6176, M6177, M6178, M6179, M6182, M6184, M6187, M6196, M6200, M6201, M6209, W 3112,

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>
3965	2:1 H2SO4 : HNO3	MP87071	09/04/2025	11/07/2025	Mohan Bera	None	None	Sarabjit Jaswal
								09/04/2025

FROM 1600.00000ml of M6157 + 800.00000ml of M6187 = Final Quantity: 3200.000 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>
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP87072	09/04/2025	03/04/2026	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
								09/04/2025

FROM 100.00000gram of M4916 + 2000.00000ml of W3112 = Final Quantity: 2000.000 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>
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP87073	09/04/2025	03/05/2026	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
09/04/2025								

FROM 100.00000ml of M4397 + 2000.00000ml of W3112 = Final Quantity: 2000.000 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>
170	1:1HCL	MP87148	09/09/2025	02/17/2026	Sagar Kanani	None	None	Sarabjit Jaswal
09/10/2025								

FROM 1250.00000ml of M6151 + 1250.00000ml of W3112 = Final Quantity: 2500.000 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>
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP87149	09/09/2025	02/03/2026	Mohan Bera	METALS_SCALE_2 (M SC-2)	None	Sarabjit Jaswal
FROM 2000.00000ml of W3112 + 240.00000gram of M5884 + 240.00000ml of M6196 = Final Quantity: 2000.000 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>
902	ICP AES CAL BLK (SO/ICB/CCB)	MP87637	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
FROM 125.00000ml of M6200 + 2350.00000ml of W3112 + 25.00000ml of M6187 = Final Quantity: 2500.000 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>
907	ICP AES STD S (S5)	MP87638	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 5.00000ml of M5467 + 5.00000ml of M5820 + 5.00000ml of M5969 + 5.00000ml of M5971 + 5.00000ml of M5998 + 5.00000ml of M6077 + 5.00000ml of M6160 + 5.00000ml of M6174 + 5.00000ml of M6176 + 455.00000ml of MP87637 = Final Quantity: 500.000 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>
910	ICP AES STD S4	MP87639	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 50.00000ml of MP87637 + 50.00000ml of MP87638 = 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>
909	ICP AES STD S3	MP87640	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 25.00000ml of MP87638 + 75.00000ml of MP87637 = 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>
3913	ICP AES STD S2	MP87641	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 16.00000ml of MP87638 + 184.00000ml of MP87637 = Final Quantity: 200.000 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>
2950	ICP AES S1/CRI STOCK STD	MP87642	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6140 + 0.05000ml of M6159 + 0.06000ml of M6177 + 0.10000ml of M5697 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5969 + 0.10000ml of M5971 + 0.10000ml of M6128 + 0.10000ml of M6176 + 0.15000ml of M5800 + 0.20000ml of M5799 + 0.20000ml of M5979 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6027 + 0.20000ml of M6145 + 0.25000ml of M5467 + 0.25000ml of M6160 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M6086 + 1.00000ml of M6142 + 1.00000ml of M6144 + 1.00000ml of M6171 + 1.00000ml of M6178 + 2.00000ml of M6137 + 89.03000ml of MP87637 = 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>
2951	ICP AES S1/CRI WORK STD	MP87643	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 2.00000ml of MP87642 + 98.00000ml of MP87637 = 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>
4163	NEW ICV-060925	MP87644	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 0.20000ml of M6058 + 0.40000ml of M6163 + 0.40000ml of M6164 + 0.40000ml of M6165 + 48.60000ml of MP87637 = 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>
904	ICP AES ICSA SOLN	MP87645	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 25.00000ml of M6182 + 225.00000ml of MP87637 = Final Quantity: 250.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3494	ICP AES ICSAB SOLN-1	MP87646	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 0.10000ml of M6077 + 10.00000ml of M6182 + 10.00000ml of M6184 + 79.90000ml of MP87637 = 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>
911	ICP AES CCV SOLN	MP87647	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 50.00000ml of MP87637 + 50.00000ml of MP87638 = 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>
903	ICP AES RINSE SOLN	MP87648	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 200.00000ml of M6187 + 9800.00000ml of W3112 = Final Quantity: 10000.000 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>
4226	LR-2	MP87649	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 13.50000ml of M6140 + 9.00000ml of M6142 + 9.50000ml of M6159 + 18.00000ml of MP87637 = 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>
4227	LR-3	MP87650	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 1.15000ml of M6026 + 1.25000ml of M5658 + 1.25000ml of M5748 + 1.50000ml of M6145 + 2.50000ml of M5697 + 2.50000ml of M6128 + 39.85000ml of MP87637 = 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>
4225	LR-1	MP87651	10/17/2025	11/17/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 11.50000ml of M6086 + 11.50000ml of M6144 + 11.50000ml of M6171 + 15.50000ml of MP87637 = 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>
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP87652	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIP ETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 1.00000ml of M6187 + 2.50000ml of M5062 + 96.50000ml of W3112 = 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>
1340	Hg 0.00 PPB STD	MP87653	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIP ETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1341	Hg 0.2 PPB STD	MP87654	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 247.30000ml of W3112 + 0.20000ml of MP87652 = 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>
1342	Hg 2.5 PPB STD	MP87655	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 245.00000ml of W3112 + 2.50000ml of MP87652 = Final Quantity: 250.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1343	Hg 5.0 PPB STD	MP87656	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/28/2025
FROM 2.50000ml of M6187 + 242.50000ml of W3112 + 5.00000ml of MP87652 = 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>
1344	Hg 7.5 PPB STD	MP87657	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/28/2025
FROM 2.50000ml of M6187 + 240.00000ml of W3112 + 7.50000ml of MP87652 = Final Quantity: 250.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1345	Hg 10.0 PPB STD	MP87658	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 237.50000ml of W3112 + 10.00000ml of MP87652 = 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>
1346	Hg ICV SOLUTION	MP87659	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6161 + 2.50000ml of M6187 + 245.00000ml of W3112 = Final Quantity: 250.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1351	ICB (Hg 0.00 PPB SOLUTION)	MP87660	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 247.50000ml 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>
1358	CCV (Hg 5.0 PPB SOLUTION)	MP87661	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/28/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6187 + 10.00000ml of MP87652 = Final Quantity: 500.000 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>
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP87663	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 247.30000ml of W3112 + 0.20000ml of MP87652 = 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>
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP87664	10/20/2025	10/21/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 240.50000ml of W3112 + 7.00000ml of MP87652 = Final Quantity: 250.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
68	STANNOUS CHLORIDE SOLUTION	MP87666	10/20/2025	10/21/2025	Sagar Kanani	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6200 = Final Quantity: 500.000 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>
919	ICP AES INTERNAL STD	MP87668	10/17/2025	11/11/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal

FROM 1.00000ml of M6179 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6187 = Final Quantity: 2000.000 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>
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP87669	10/21/2025	10/22/2025	Sagar Kanani	None	METALS_PIP ETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 1.00000ml of M6187 + 2.50000ml of M5062 + 96.50000ml of W3112 = 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>
1346	Hg ICV SOLUTION	MP87676	10/21/2025	10/22/2025	Sagar Kanani	None	METALS_PIP ETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6161 + 2.50000ml of M6187 + 245.00000ml of W3112 = Final Quantity: 250.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1358	CCV (Hg 5.0 PPB SOLUTION)	MP87678	10/21/2025	10/22/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6187 + 10.00000ml of MP87669 = Final Quantity: 500.000 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>
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP87680	10/21/2025	10/22/2025	Sagar Kanani	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 10/28/2025

FROM 2.50000ml of M6187 + 247.30000ml of W3112 + 0.20000ml of MP87669 = Final Quantity: 250.000 ml

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3238-05 / Potassium Persulfate (2.5kg)	0000227540	09/24/2025	08/16/2019 / RICHARD	07/17/2019 / RICHARD	M4397

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3227-05 / Potassium Permanganate (2.5kg)	210800	03/31/2026	11/30/2022 / mohan	07/28/2021 / mohan	M4916

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000281938	07/06/2026	04/30/2024 / mohan	04/25/2024 / mohan	M5884

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	03/31/2026	03/31/2025 / kareem	06/11/2024 / Jaswal	M5969

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	06/06/2025 / Janvi	07/01/2024 / Jaswal	M5971

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 #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	U2-IN729349	02/21/2028	10/08/2024 / Jaswal	06/14/2024 / Jaswal	M5985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB727800	07/30/2026	07/30/2025 / Janvi	02/22/2024 / kareem	M5998

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	09/06/2029	01/23/2025 / kareem	09/19/2024 / kareem	M6077

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.	58111 / Na, 10000 PPM, 500 ml	072424	07/24/2027	01/23/2025 / kareem	01/13/2025 / Jaswal	M6144

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	02/17/2026	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	24i1262013	11/07/2025	05/07/2025 / RUPESH	02/18/2025 / Mohan	M6157

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV 5 0415	12/31/2025	05/01/2025 / mohan	03/30/2024 / mohan	M6161

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	011525	01/15/2028	07/15/2025 / Janvi	02/13/2025 / Janvi	M6171

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	V2-MEB742428	07/31/2026	07/31/2025 / Janvi	05/05/2025 / Janvi	M6174

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.	/ Lead (Pb) 1000PPM	031525	03/15/2028	08/06/2025 / Janvi	08/06/2025 / Janvi	M6177

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 #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	08/05/2026	08/06/2025 / Janvi	06/02/2024 / Janvi	M6179

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	02/05/2026	08/06/2025 / Janvi	03/06/2024 / Janvi	M6182

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	02/05/2026	08/06/2025 / Janvi	03/06/2024 / Janvi	M6184

CHEMICAL RECEIPT LOG BOOK

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 #
PCI Scientific Supply, Inc.	H330-500 / HYDROXYLAMINE HYDROCHLORIDE ACS 500G	243373	02/03/2026	09/04/2025 / mohan	08/04/2025 / mohan	M6196

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 #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	V2-MEB743480	10/15/2026	10/15/2025 / Janvi	07/20/2025 / janvi	M6201

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	V2-MEB752149	10/15/2026	10/15/2025 / Janvi	07/20/2025 / Janvi	M6209

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

M5882
 M3

Certificate of Analysis

1 Reagent Lane
 Fair Lawn, NJ 07410
 201.796.7100 tel
 201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
 Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)



Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.

If there are any questions with this certificate, please call at (800) 227-6701.

*Based on suggested storage condition.



M6032

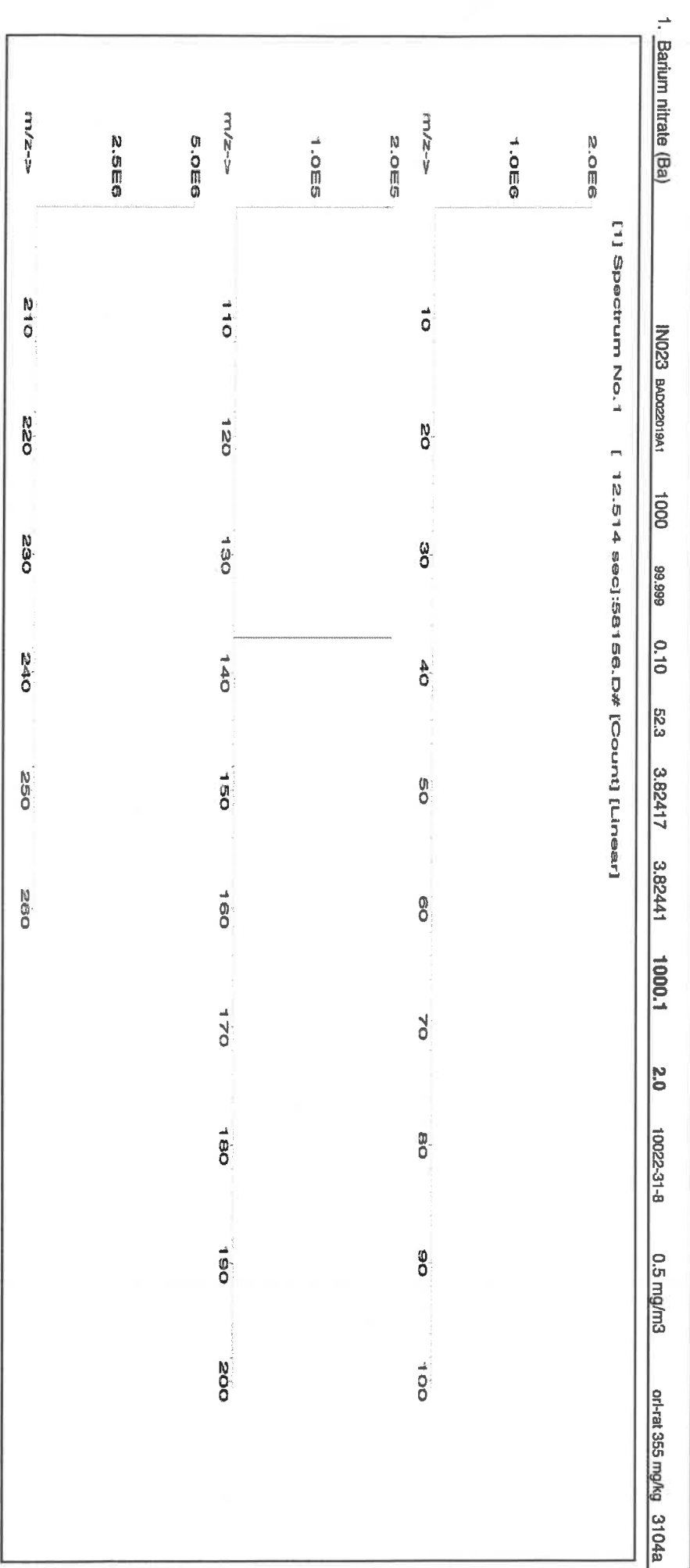


CERTIFIED WEIGHT REPORT:

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

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

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM



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

CERTIFIED WEIGHT REPORT:

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

Solvent: 24002546 Nitric Acid

Lot #

2% 80.0 Nitric Acid (mL)

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 Balance Uncertainty Flask Uncertainty

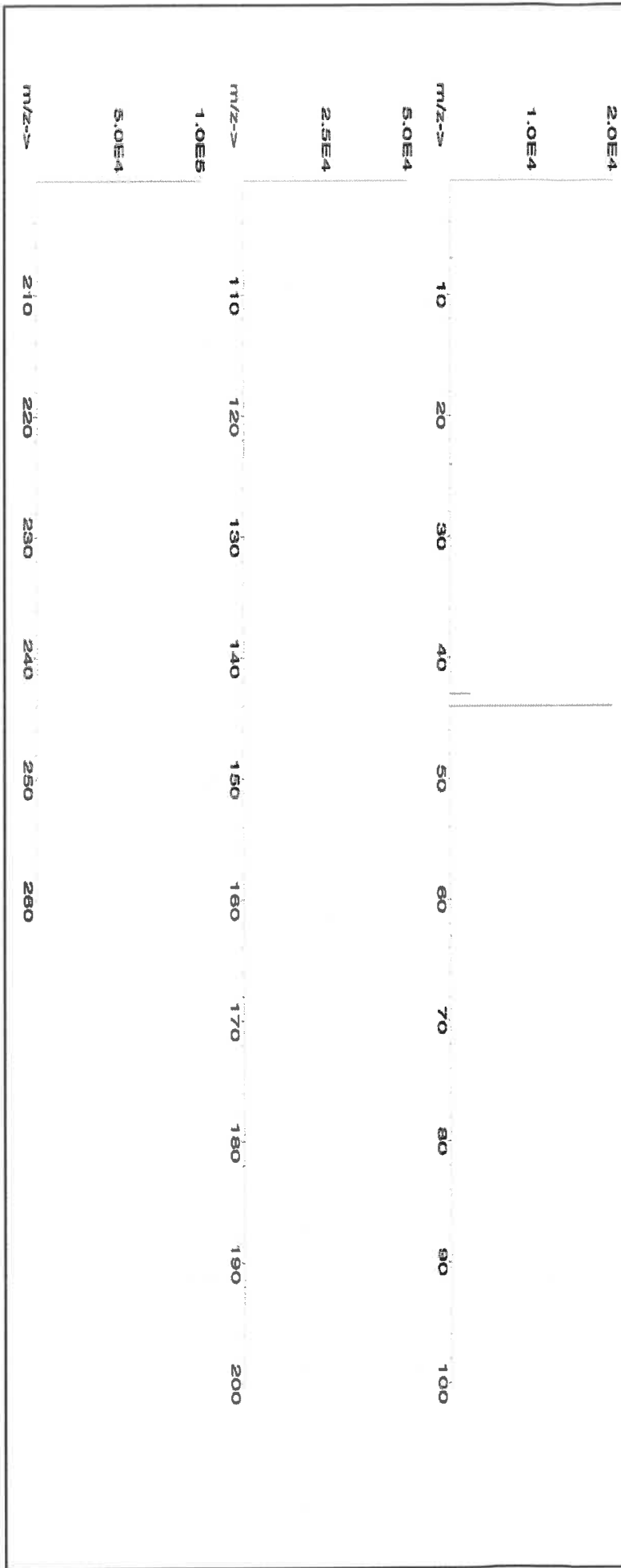
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Rentas
	082324

SDS Information

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Calcium carbonate (Ca) IN014 CAD03202383 10000 99.999 0.10 39.9 100.2537 100.2656 10001.2 20.0 471-34-1 5 mg/m3 or-rat >2000mg/kg 3109a

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





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

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

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

Expiration Date:

070127

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

2000.07

SE-05 Balance Uncertainty
0.100 Flask Uncertainty

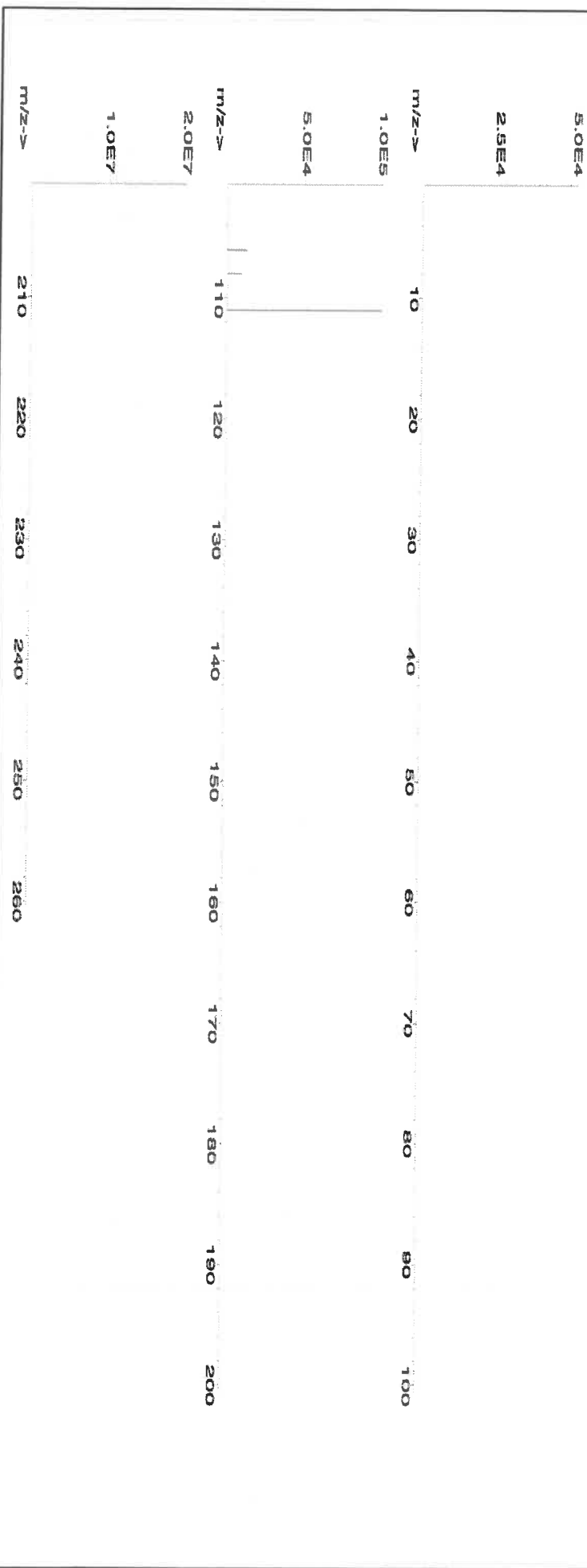
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

Compound

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

1. Cadmium nitrate tetrahydrate (Cd) IN024 CDM09221A1 1000 99.999 0.10 36.5 5.4797 5.4804 1000.1 2.0 10022-68-1 0.01 mg/m3 ref rat 60.2mg/kg 3108

[T1 Spectrum No.1 [12.514 eV]:\$8148.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM

MC026



CERTIFIED WEIGHT REPORT:

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

Lot #
Solvent: **24002546 Nitric Acid**

Expiration Date: **110926**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **10000**
NIST Test Number: **6UTB**

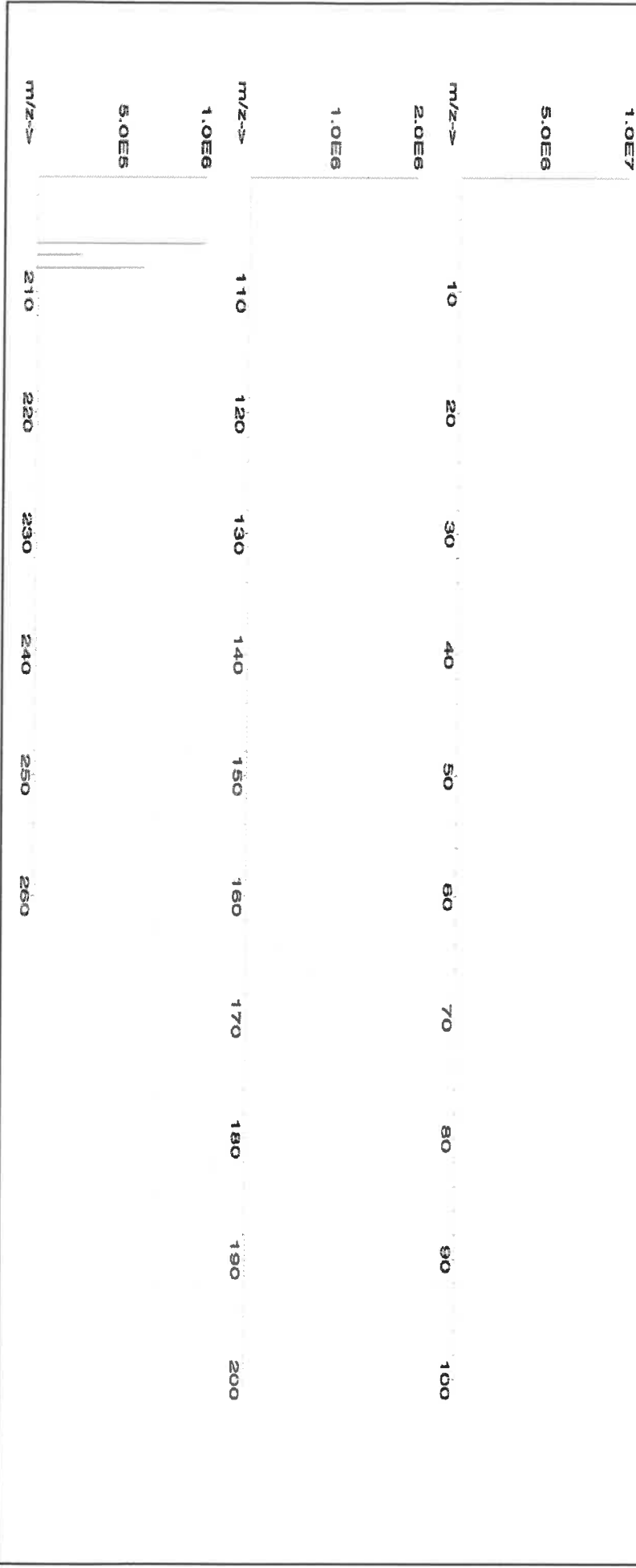
2% **40.0 (mL)** **Nitric Acid**

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

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

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

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





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

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

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

Potassium Permanganate
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination



M4397
Supplied - 07.17.19
Opened - 08.16.19
exp - 08.24.25

Material No.: 3227-05
Batch No.: 0000227540
Manufactured Date: 2018/09/26
Retest Date: 2025/09/24
Revision No: 1

Certificate of Analysis

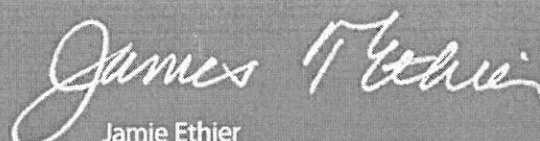
Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
ACS - Assay (KMnO ₄)	$\geq 99.0 \%$	99.0
ACS - Insoluble Matter	$\leq 0.2 \%$	< 0.1
ACS - Chloride and Chlorate (as Cl)	$\leq 0.005 \%$	0.005
ACS - Sulfate (SO ₄)	$\leq 0.02 \%$	0.02
Trace Impurities - Mercury (Hg)	$\leq 0.050 \text{ ppm}$	0.004

For Laboratory, Research or Manufacturing Use

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

NS
08.16.19


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087, U.S.A. Phone: 610.386.1700

M4913-16

MS

Certificate of Analysis

1 Reagent Lane
 Fair Lawn, NJ 07410
 201.796.7100 tel
 201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
 Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P279	Quality Test / Release Date	01/12/2021
Lot Number	210306		
Description	POTASSIUM PERMANGANATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Jan/2026

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Dark purple to purple green crystals
ASSAY	%	>= 99	99.3
CHLORIDE & CHLORATE	%	<= 0.005	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
INSOLUBLE MATTER	%	<= 0.2	<0.2
MERCURY (Hg)	ppm	<= 0.05	<0.004
SULFATE (SO4)	%	<= 0.02	<0.02

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
 If there are any questions with this certificate, please call at (800) 227-6701.

*Based on suggested storage condition.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

MS062
MS063
MB

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 Mass Spec Solution
Catalog Number: MSHG-10PPM
Lot Number: S2-HG709270
Matrix: 10% (v/v) HCl
Value / Analyte(s): 10 µg/mL ea:
Mercury
Starting Material: Hg metal
Starting Material Lot#: 1959
Starting Material Purity: 99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL
Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	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.
 $w_i = (1/u_{char i}^2) / (\sum (1/u_{char i}^2))$

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

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.

O	Ag	0.000011	M	Eu	<	0.000201	O	Na	0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al	0.000001	O	Fe	0.000001	M	Nb	<	0.000201	O	Si	0.000005	M	Zr	<	0.000201	
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201		
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007		
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201		
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201		
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201		
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216		
O	Ca	0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201			
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402		
M	Ce	<	0.000201	O	K	0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508			
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201		
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058		
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201		
M	Cu	<	0.000402	O	Mg	0.000001	O	S	<	0.053950	M	W	<	0.000604			
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201		
M	Er	<	0.000201	M	Mo	0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201			

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

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO₃. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO₃ / LDPE container, stable in 10% HNO₃ packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO₃ packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO₃ / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO₃); Oxide (Soluble in HNO₃); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

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 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

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 22, 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 22, 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 Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM



MS467 R: 03/01/23 (14)

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57058
020623
Cerium (Ce)

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

020626
Ambient (20 °C)
1000
6UTB

Weight shown below was diluted to (mL):

1000.12 **0.058** **Balance Uncertainty**
Flask Uncertainty

Lot #

Solvent: 21110221 Nitric Acid

2% **20.0** **Nitric Acid**
(mL)

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

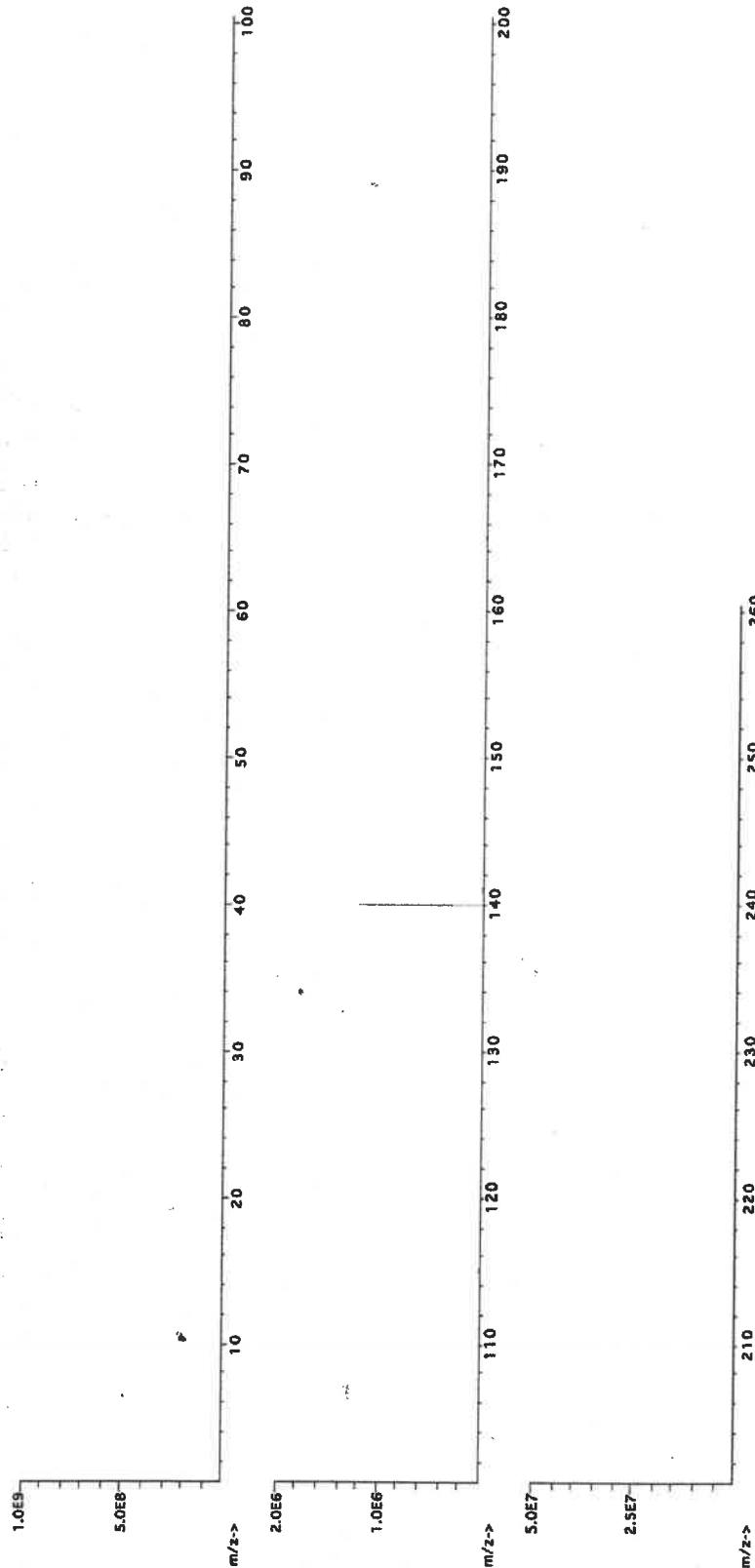
SDS Information

Expanded Uncertainty
Actual Conc. (µg/mL)
Actual Weight (g)
Target Weight (g)
Purity (%)
Nominal Conc. (µg/mL)
Lot Number
RM#

(Solvent Safety Info. On Attached pg.)
LD50
CAS#
10294-41-4
NA
NA
NA

1. Cerium nitrate hexahydrate (Ce) IN146 Z512CEB1 1000 99.999 0.10 32.8 3.04919 3.04921 1000.0 2.0 10294-41-4 NA NA

[1] Spectrum No.1 [43.472 sec]58158.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.02	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	T	Eu	<0.02	In	<0.02	Mg	<0.02	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	<0.02	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	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

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



CERTIFIED WEIGHT REPORT:

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

Lot # 21110221
Solvent: Nitric Acid

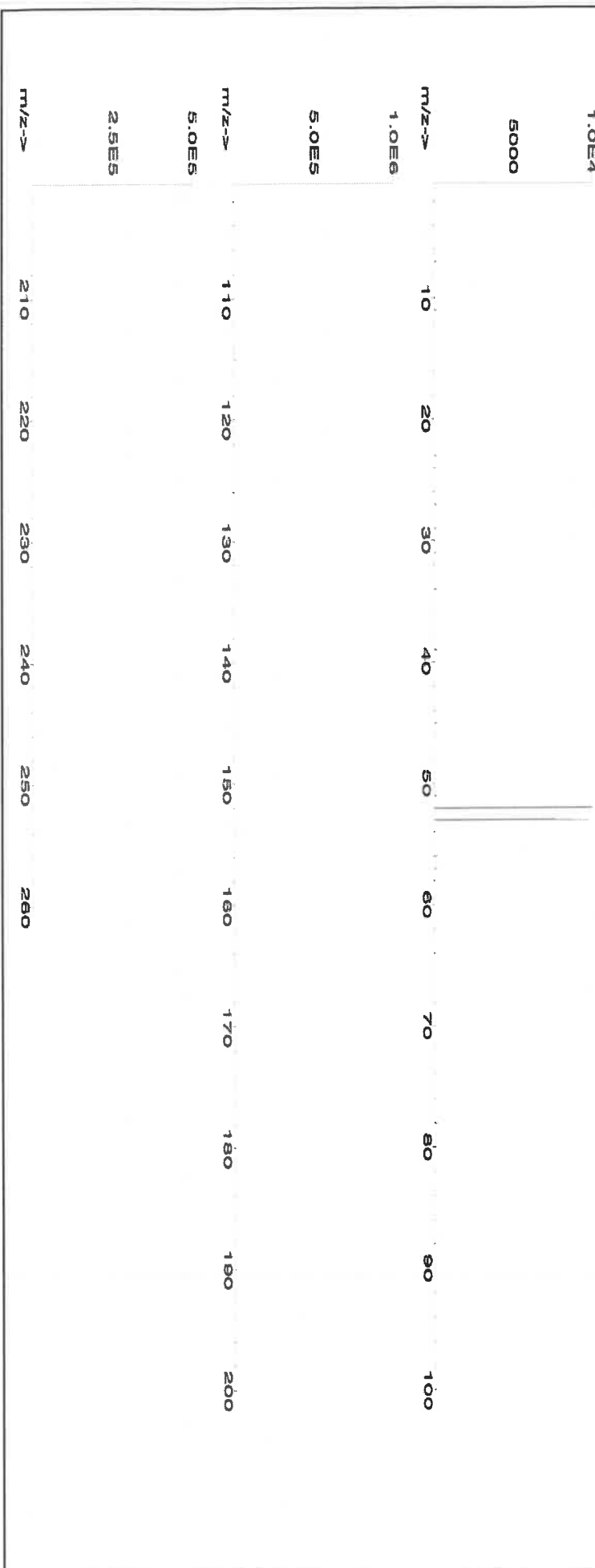
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Chromium(III) nitrate nonahydrate (Cr) 58124 071122 0.1000 200.0 0.084 1000 10000.1 1000.0 2.2 7789-02-8 0.5 mg(Cr)/m3 or rat 3250 mg/kg 3112a

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





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:
Lot Number:
Description:

58029
102523
Copper (Cu)

Lot #
Solvent:

24002546
Nitric Acid

Expiration Date:

102526

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

2000.02

5E-05
Balance Uncertainty

0.058
Flask Uncertainty

2.0%

40.0
(mL)

Nitric Acid

Formulated By:
Benson Chan

102523

Reviewed By:

Pedro L. Rentas

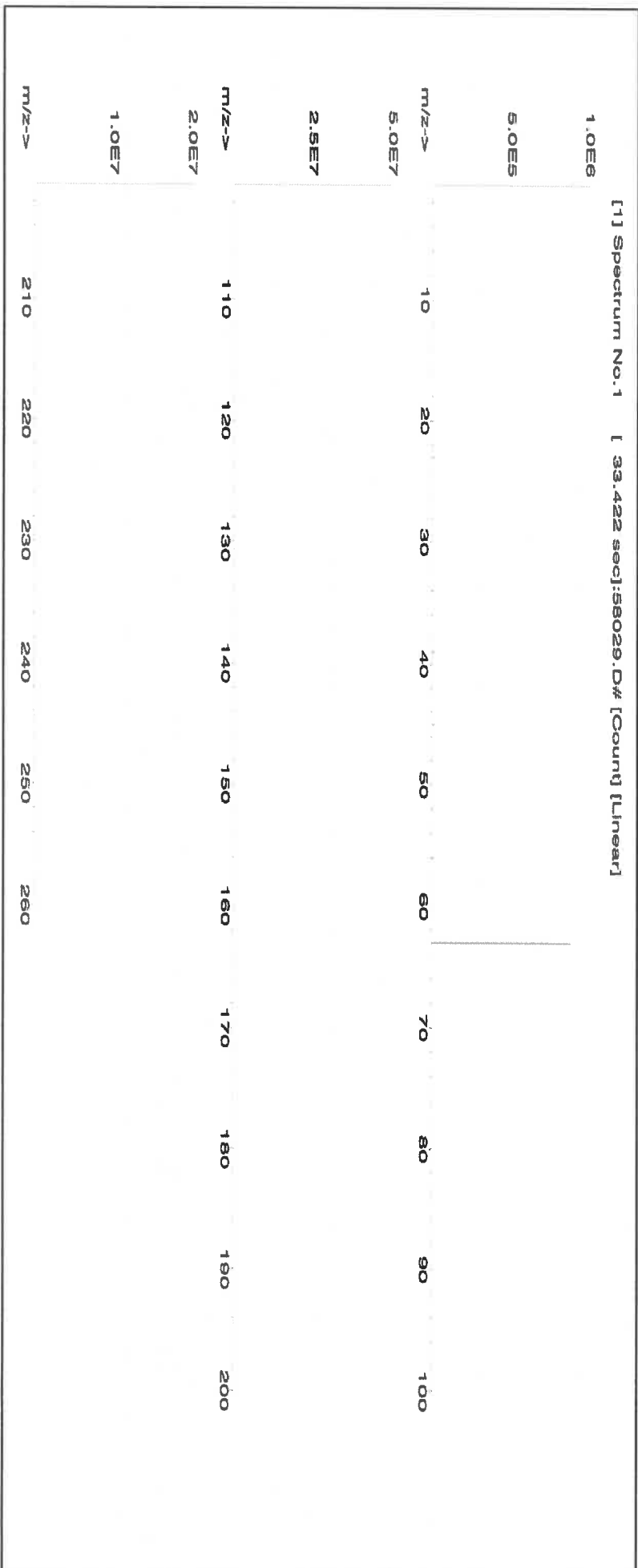
102523

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Copper(II) nitrate trihydrate (Cu) 58129 100223 0.1000 200.0 0.084 1000 10000.1 1000.0 2.2 10031-43-3 1 mg/m3 or-rat 794 mg/kg 3114

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





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

Trace Metals Verification by ICP-MS (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:

Certified by:

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

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



CERTIFIED WEIGHT REPORT:

Part Number: 57028
Lot Number: 091223
Description: Nickel (NI)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 091226
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000

2.0% **40.0 (mL)** **Nitric Acid**

NIST Test Number: 6U7B

Volume shown below was diluted to (mL): 2000.02

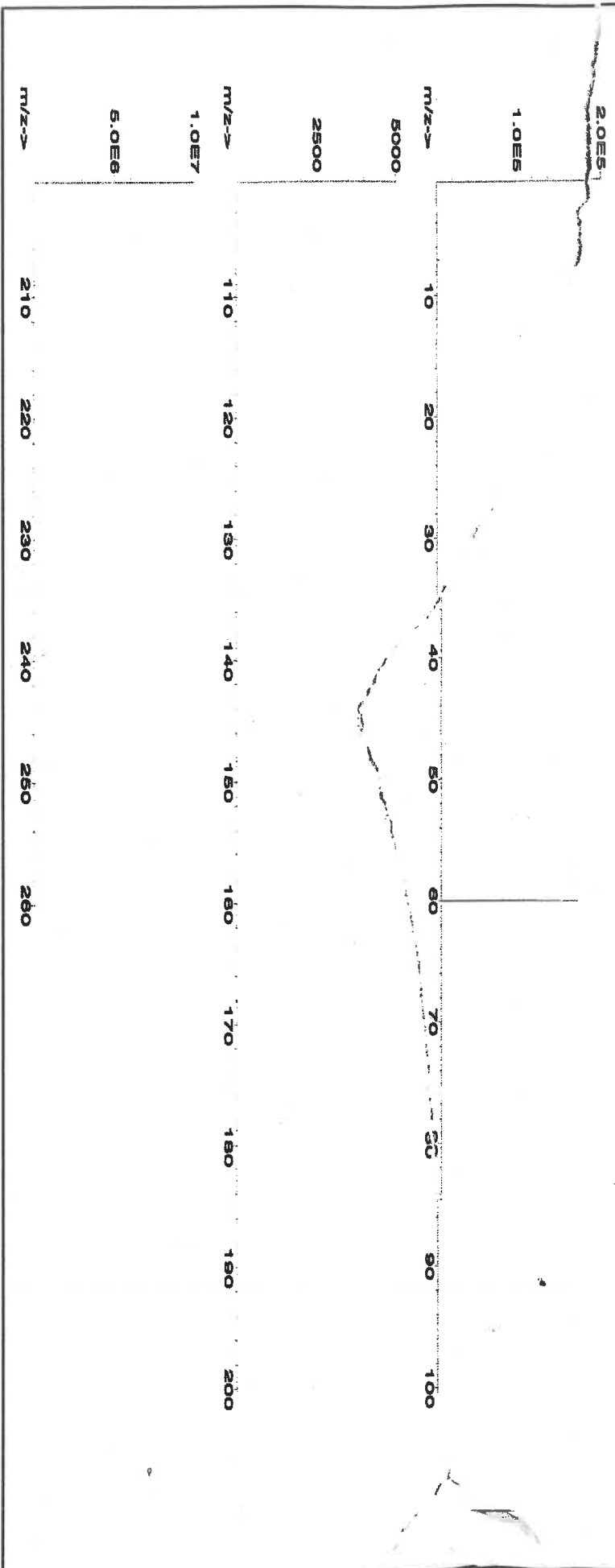
5E-05 Balance Uncertainty
0.056 Flask Uncertainty

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Renteria	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	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. 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 or-rel 1620 mg/kg 3136

[1] Spectrum No.1 [9.135 sec]:56026.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	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	Tb	<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: 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

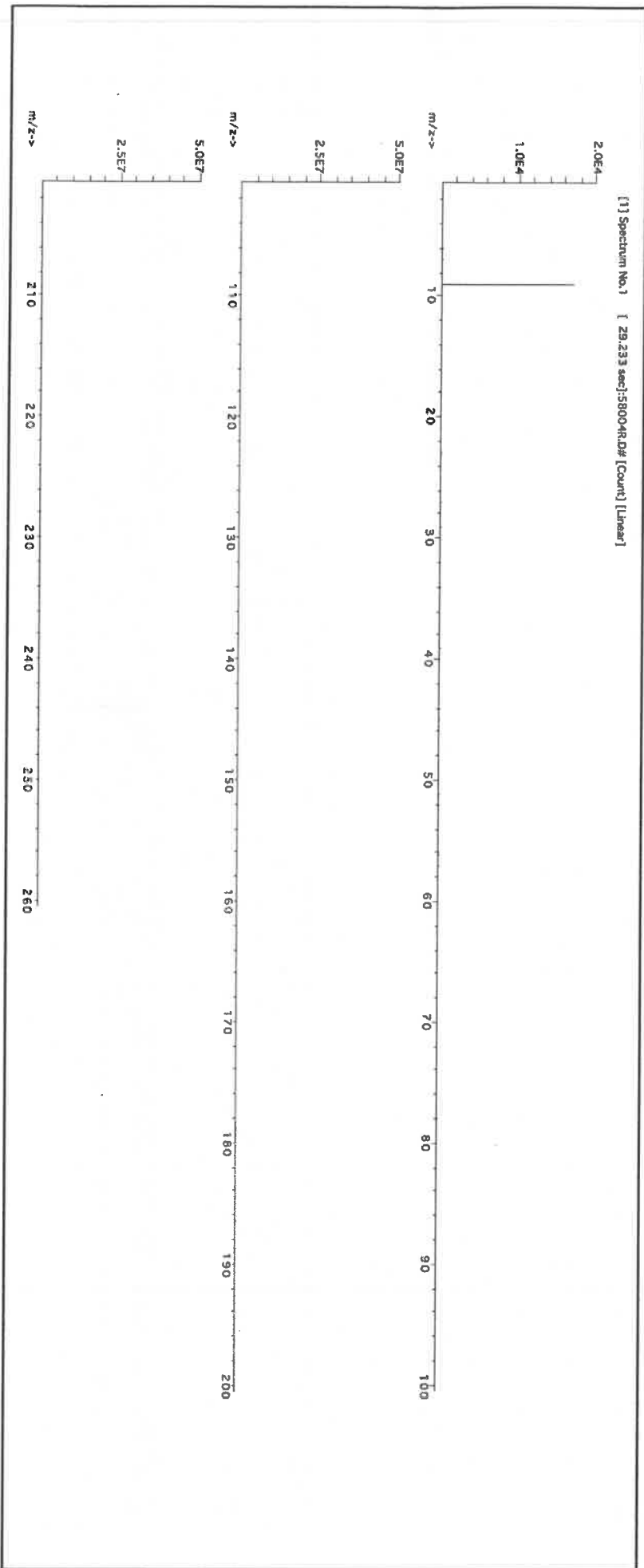
0.058 Flask Uncertainty

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

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-rat 3.16mg/kg	NA
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (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	<0.02	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.02	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.02	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

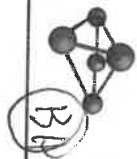
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R-02509124

M599



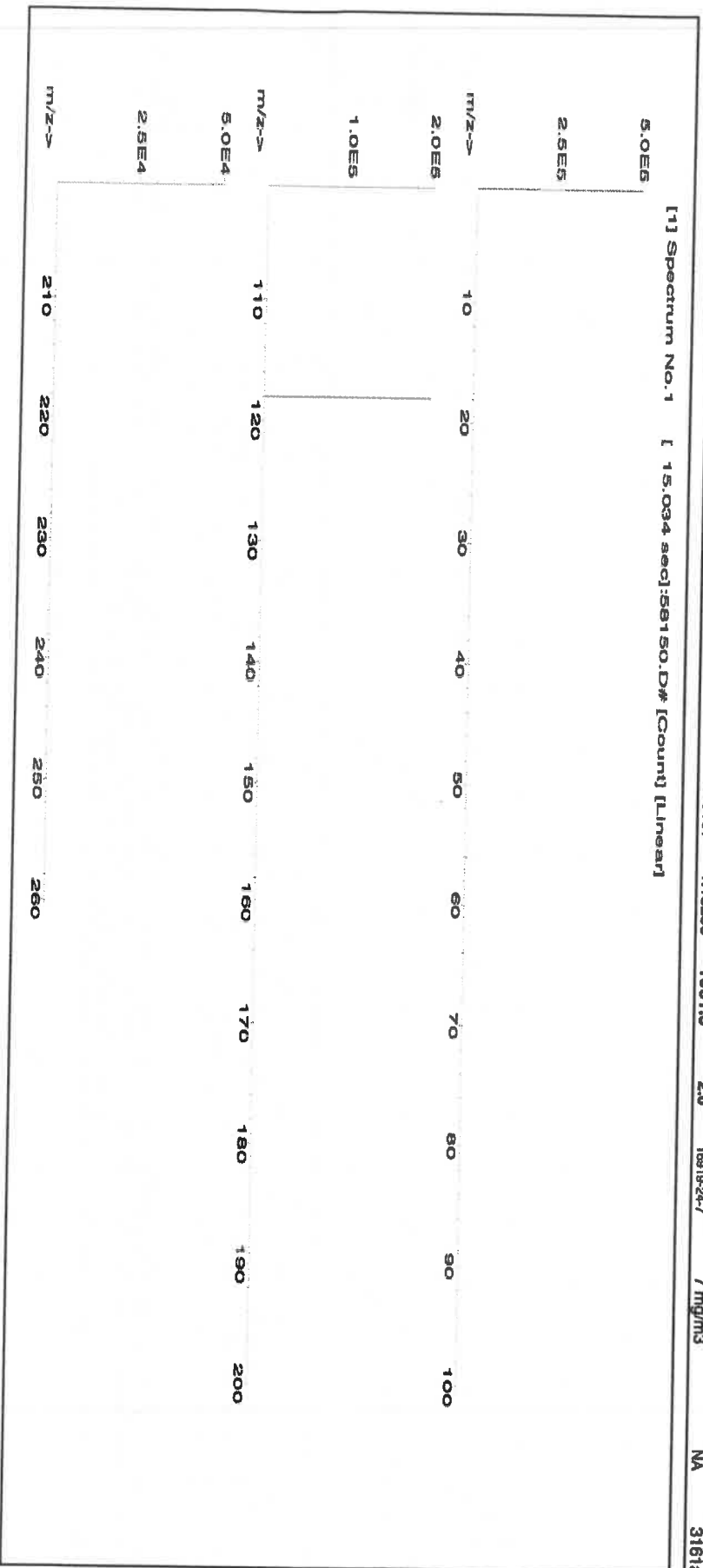
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Benson Chan	
071123	
Reviewed By: Pedro L. Rientas	
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) INO10 SMD042023A1 1000 99.999 0.10 44.2 1.13107 1.13286 1001.6 2.0 16919-24-7 7 mg/m3 NA 3161a

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



R: 02/09/24 115800 (BA)

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

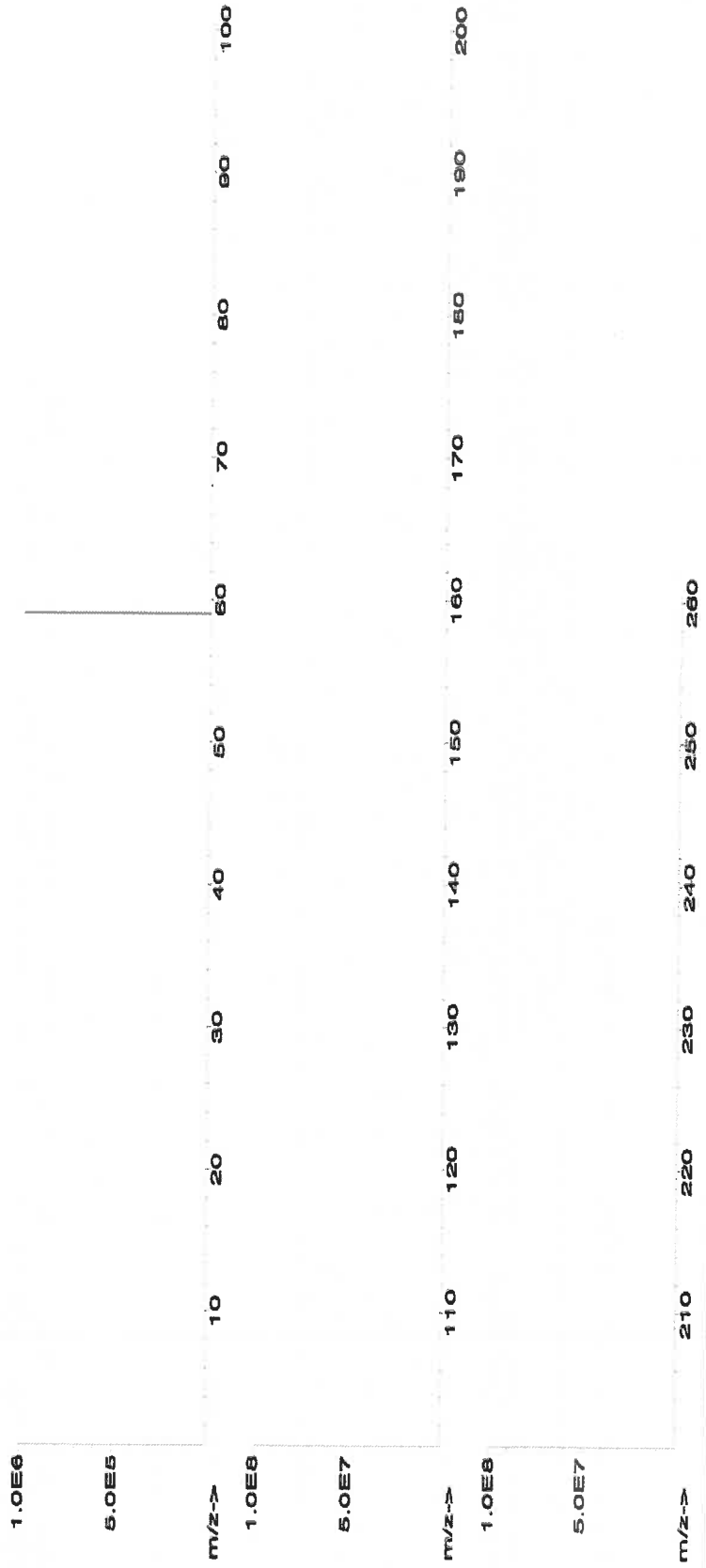
Formulated By: Lawrence Barry 091923
Reviewed By: Pedro L. Rentas 091923

SDS Information

Expanded Uncertainty +/- (µg/mL) CAS# OSHA PEL (TWA) LD50 NIST SRM

1. Cobalt(II) nitrate hexahydrate (Co) 58127 050923 0.1000 200.0 0.084 1000 10000.0 1000.0 2.2 10026-22-9 0.02 mg/m3 orl-rat 691 mg/kg 3113

[1] Spectrum No.1 [34.243 sec]:58027.D# [Count] [Linear]





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

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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM

R: 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

2.0% **80.0 (mL)**

Nitric Acid

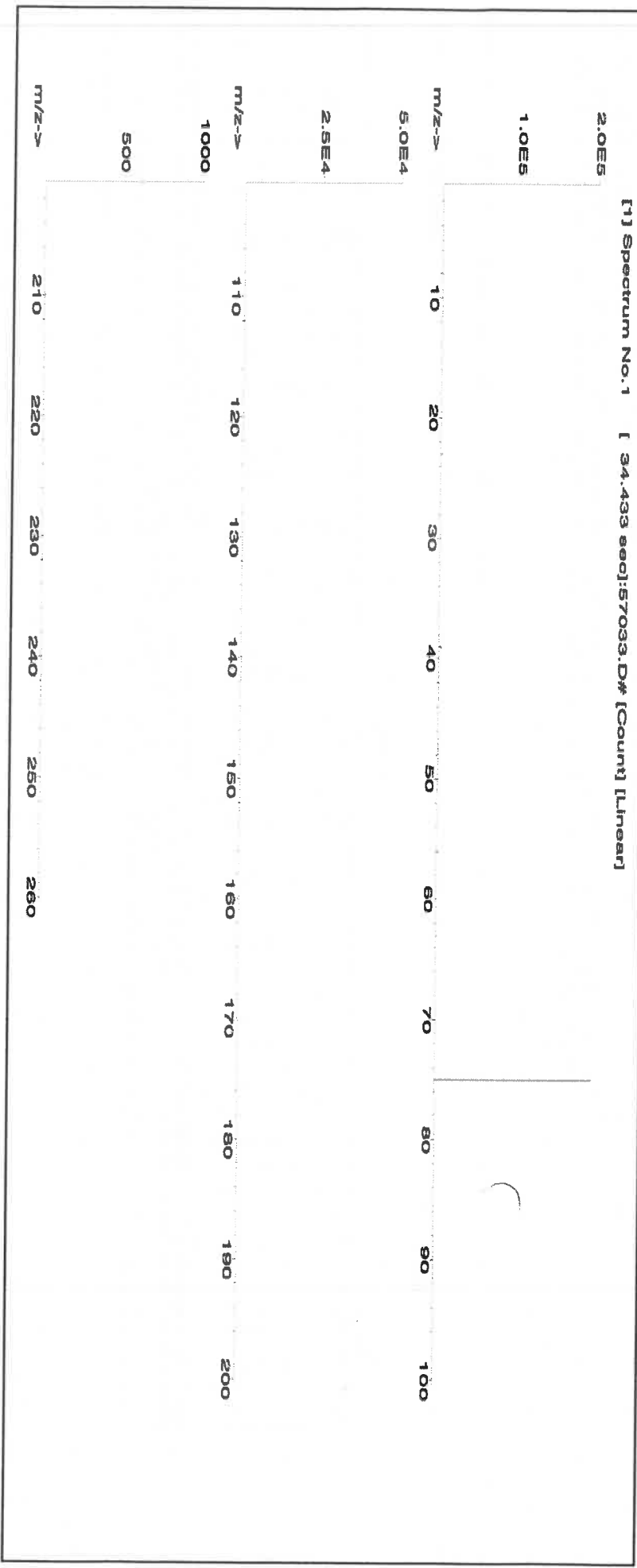
5E-05 **Balance Uncertainty**
0.06 **Flask Uncertainty**

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
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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CERTIFIED WEIGHT REPORT:

Part Number: **57005**
Lot Number: **071123**
Description: **Boron (B)**

Solvent: MKB0857V Ammonium hydroxide

Lot #

AI 021009124 M5814

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

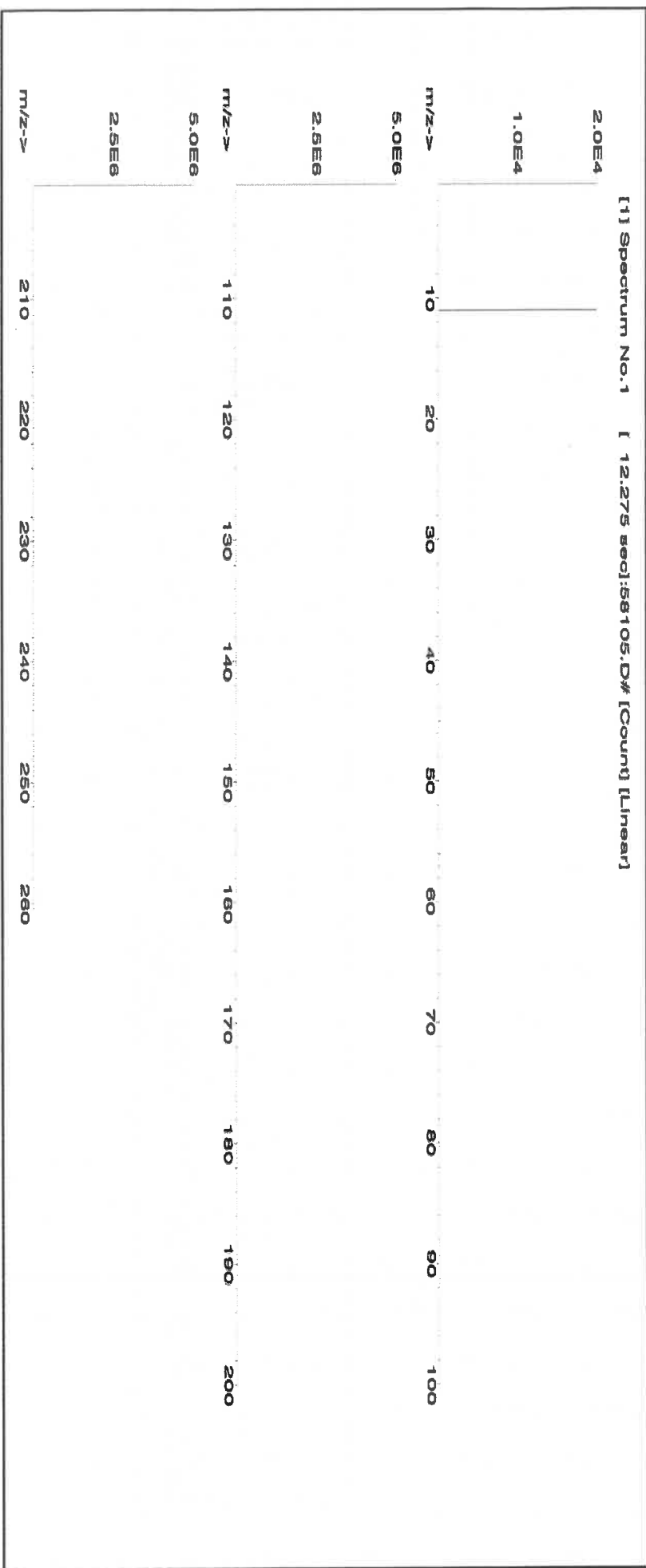
2.0% 40.0 (mL) Ammonium hydroxide

Weight shown below was diluted to (mL): 1999.48 0.058 Balance Uncertainty
Fask Uncertainty

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

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)
									(Solvent Safety Info. On Attached pg.)
									LD50
									NIST SRM

1. Boric acid (B)	IN018	BV082018A1	1000	99.999	0.10	17.3	11.55772	11.56201	1000.4	2.0	10043-35-3	2 mg/m3	ort-nat 2660 mg/kg	3107
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	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	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: 57015
Lot Number: 091123
Description: Phosphorous (P)

Solvent: 24002546 Nitric Acid

Lot #

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

Expiration Date: 091126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB

2% 40.0 (mL) Nitric Acid

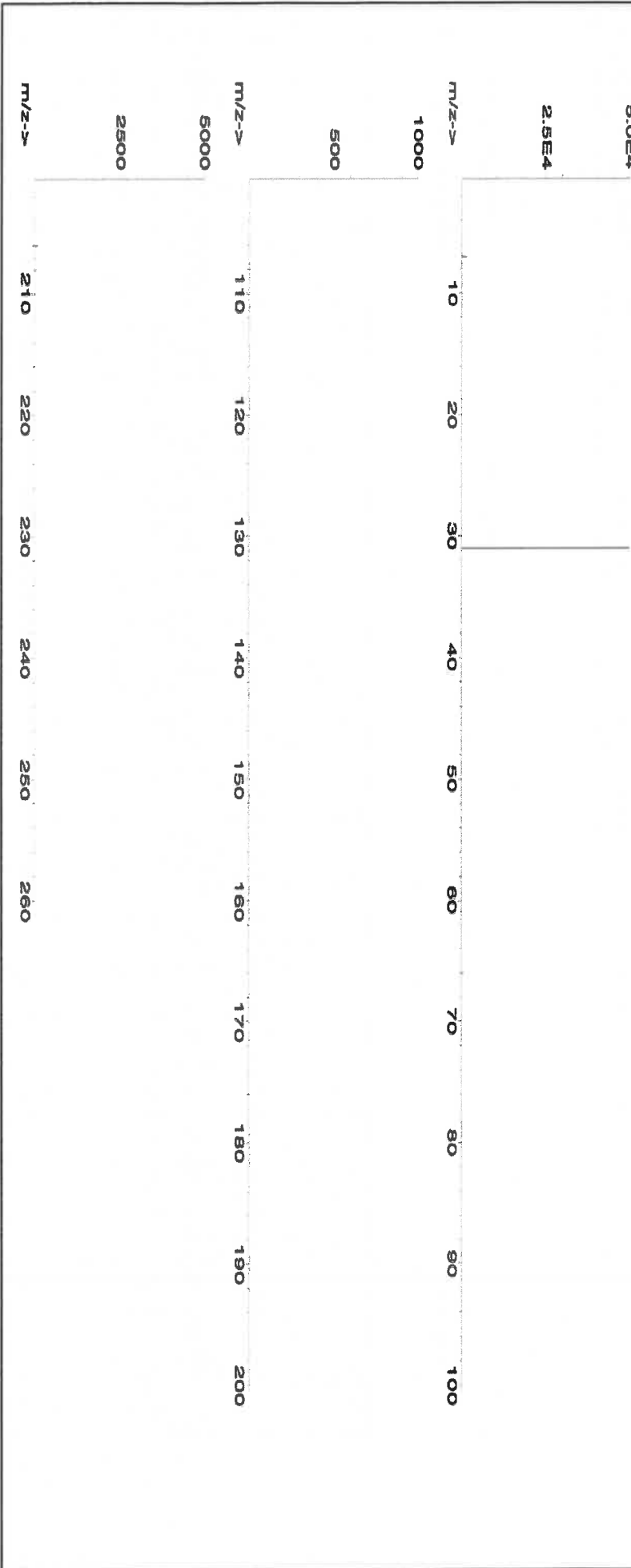
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium dihydrogen phosphate (P) IN008 PVO62019A1 1000 99.999 0.10 27.5 7.2729 7.2730 1000.0 2.0 7722-76-1 5 mg/m3 xH-rat >2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.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	Tc	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent



MS824
MB

Material No.: 3624-01

Batch No.: 0000281938

Manufactured Date: 2021-06-07

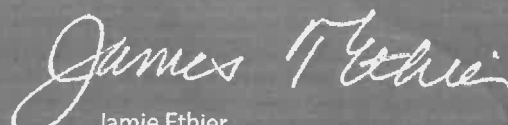
Retest Date: 2026-06-07

Revision No.: 1

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	≥ 99.0 %	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	≤ 0.005 %	0.003 %
Iodide (I)	≤ 0.002 %	< 0.002 %
Bromide (Br)	≤ 0.01 %	< 0.01 %
Chlorate and Nitrate (as NO ₃)	≤ 0.003 %	< 0.001 %
ACS - Phosphate (PO ₄)	≤ 5 ppm	< 5 ppm
Sulfate (SO ₄)	≤ 0.004 %	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Calcium (Ca)	≤ 0.002 %	< 0.001 %
Magnesium (Mg)	≤ 0.001 %	< 0.001 %
Potassium (K)	≤ 0.005 %	0.001 %

For Laboratory, Research, or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Mansford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Absolute Standards, Inc.

800-368-1131
www.absolutestandards.com



Certified Reference Material CRM



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

CERTIFIED WEIGHT REPORT:

Part Number:

57034

Lot Number:

060624

Description:

Selenium (Se)

Lot #

24002546

Solvent:

Nitric Acid

2.0%

40.0

(mL)

Nitric Acid

(mL)

Formulated By:

Benson Chan

060624

Expiration Date:

060627

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

2000.07

SE-05

Balance Uncertainty

0.100

Flask Uncertainty

Expanded

Uncertainty

(Solvent Safety Info. On Attached pg.)

NIST

Compound

Part Number

Dilution Factor

Initial Vol. (mL)

Pipette (mL)

Nominal Conc. (µg/mL)

Initial Conc. (µg/mL)

Final Conc. (µg/mL)

Expanded Uncertainty +/- (µg/mL)

CAS#

OSHA PEL (TWA)

LDSO

SRM

1. Selenium (Se)

58134

071223

0.1000

200.0

0.084

1000

10002.5

1000.0

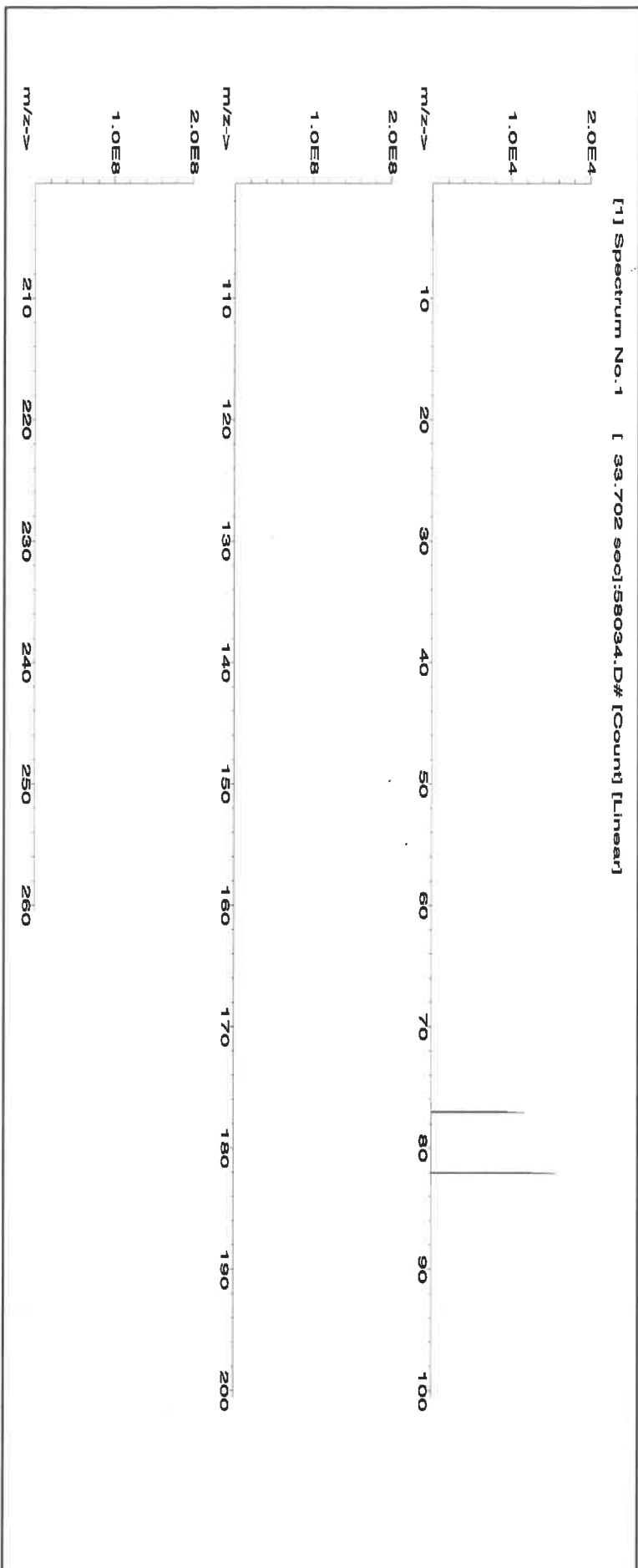
2.2

7782-49-2

0.2 mg/m3

or-tral 6700 mg/kg

[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:

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CERTIFIED WEIGHT REPORT:

Part Number: **57016**
Lot Number: **122923**
Description: **Sulfur (S)**

Lot #
Solvent: **122923** ASTM Type 1 Water

Formulated By:	Benson Chan
122923	
Reviewed By:	Pedro L. Rentas
122923	

Expiration Date: **122926**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Weight shown below was diluted to (mL): **4000.0** **5E-05** Balance Uncertainty
0.06 Flask Uncertainty

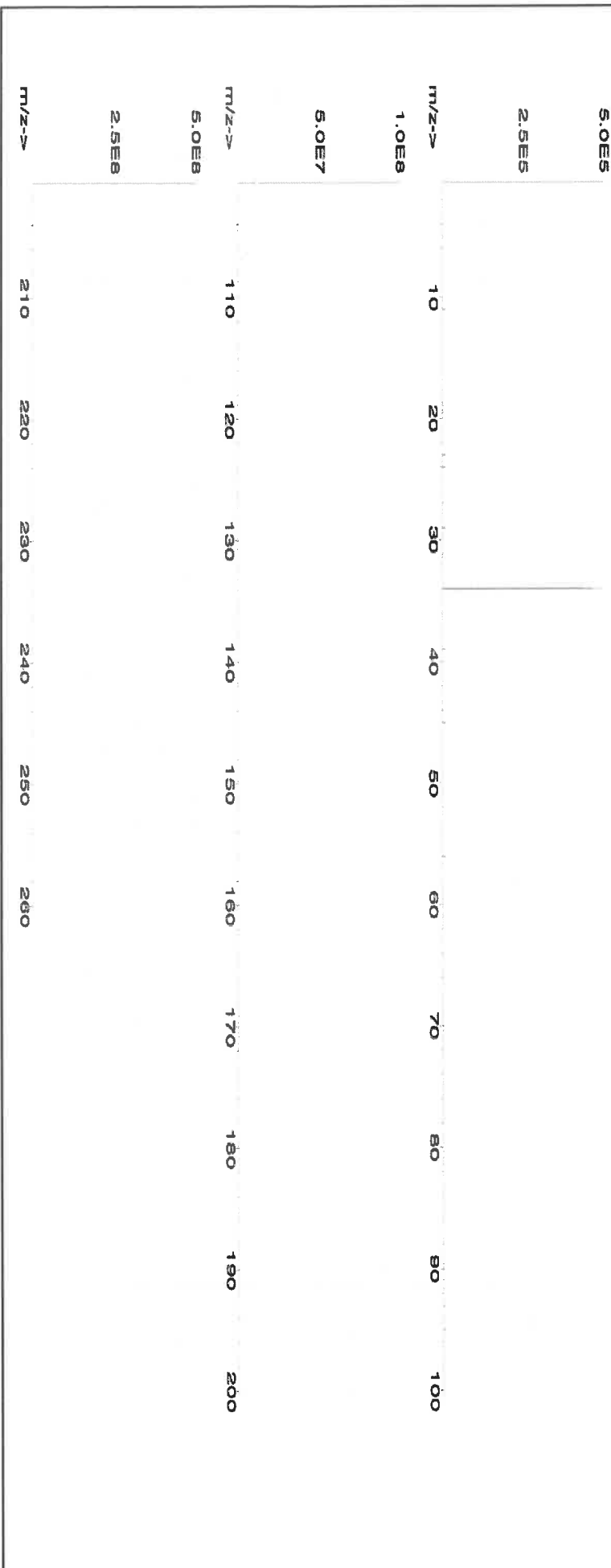
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty		NIST SRM
									±	(µg/mL)	

SDS Information

(Solvent Safety Info. On Attached pg.)
CAS# **OSHA PEL (TWA)** **LD50**

1. Ammonium sulfate (S) **IN117 SLBR725V** **1000** **99.9** **0.10** **24.3** **16.4979** **16.4980** **1000.0** **2.0** **7783-20-2** **NA** **or-rel 4250mg/kg** **3181**

[1] Spectrum No. 1 [33.603 sec]:57016.D# [Count] [Linear]



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Certified Reference Material CRM
M5970 M5971 R1 710124



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CERTIFIED WEIGHT REPORT:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 06/27
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11
SE-05 Balance Uncertainty
0.016 Flask Uncertainty

Lot # 24002546
Solvent: Nitric Acid

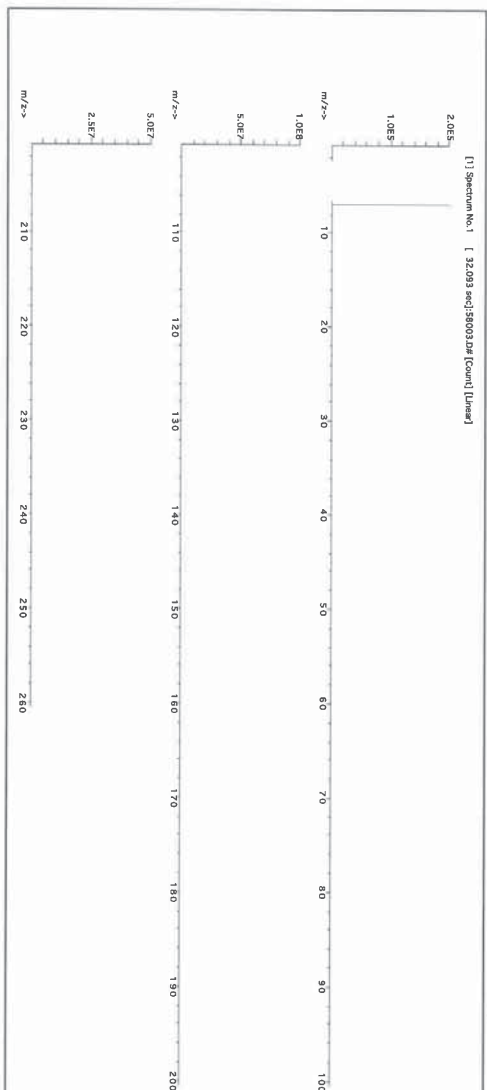
2.0% 5.0 (mL) Nitric Acid

Microvial Capable	
Formulated By:	062124
Giovanni Esposito	
Reviewed By: <i>[Signature]</i>	
Pietro L. Parias	

Compound		SDS Information												Expanded Uncertainty ± (µg/mL)		CAS# OSHA PEL (TWA) LD50		NEST SM	
		Part		Lot		Dilution		Initial		Nominal		Final							
Number	Factor	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SM		

1. Lithium nitrate (Li) 58103 070622 0.1000 25.0 0.004 1000 10000.4 1000.0 2.0 7790-68-4 5 mg/m3 or-hal 1428 mg/kg NA

[1] Spectrum No. 1 [32.093 sec; 15000.0Hz Count [Line#]



Part # 57003 Lot # 062124

1 of 2

Printed: 6/24/2024, 11:20:08 PM

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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	Ca	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.02
Sb	<0.02	Ce	<0.2	Er	<0.02	In	<0.02	La	<0.02	Nb	<0.02	Rb	<0.02	Si	<0.2
As	<0.2	Ce	<0.02	Ba	<0.02	Ir	<0.02	Mg	<0.02	Os	<0.02	Rh	<0.02	Ag	<0.02
Ba	<0.02	Cr	<0.02	Gd	<0.02	Te	<0.2	Mn	<0.02	Pd	<0.02	Ru	<0.02	Nd	<0.2
Be	<0.01	Co	<0.02	Ga	<0.02	Ta	<0.02	Hg	<0.2	P	<0.02	Sr	<0.02	Sr	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	Ta	<0.02	Mo	<0.02	K	<0.2	Sn	<0.02	S	<0.02
B	<0.02	Ca	<0.02	Au	<0.02	Tb	<0.02	Nd	<0.02			Sc	<0.02	Ta	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

[Signature]

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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).

Certificate of Analysis



Redefine your results. Redefine your industry.

300 Technology Drive
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inorganicventures.com

R: 2/22/24

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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 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:

$X_{CRM/RM} = 2(w) / (2(w))$

X_1 = mean of Assay Method 1 with standard uncertainty $u_{CRM,1}$

w_1 = the weighting factors for each method calculated using the inverse square of the variance

$w_1 = (1/u_{CRM,1}^2) / \sum (1/u_{CRM,i}^2)$

$u_{CRM/RM} = (u_{CRM,1}^2 + u_{CRM,2}^2 + \dots + u_{CRM,n}^2)^{1/2}$

k = coverage factor = 2

$u_{CRM} = (2(w)) / (2(w))$ where $u_{CRM,1}$ are the errors from each characterization method

u_{RM} = factor to bottle homogeneity standard uncertainty

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

u_{RM} = transport stability standard uncertainty

Page 1 of 4

$u_{CRM/RM} = (u_{CRM,1}^2 + u_{CRM,2}^2 + \dots + u_{CRM,n}^2)^{1/2}$

k = coverage factor = 2

$u_{CRM} = (2(w)) / (2(w))$ where $u_{CRM,1}$ are the errors from each characterization method

u_{RM} = factor to bottle homogeneity standard uncertainty

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

u_{RM} = 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-MS and ICP-OES. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an UHPA-filtered Clean Room. An UHPA-filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se	<	0.001204	O	Zn	<	0.003267
M	Al	<	0.000872	O	Fe	<	0.003225	O	Nb	<	0.043560	O	Si	<	0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn	<	0.000986				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr	<	0.000986				
M	Ba	<	0.002683	M	Hf	<	0.002161	O	P	<	0.054450	M	Ta	<	0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca	<	0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<	<				
M	Ce	<	0.000268	M	K	<	0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr	<	0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	I	S	<	0.006976	M	W	<	0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo	<	0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

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; Coordination Number; Chemical Form in Solution - 47.87 ± 4.6 Ti(F)₆-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H₃PO₄ H₂SO₄ and HNO₃. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F⁻ away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements 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); K₂SiO₃ - 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 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.

Certificate Approved By:

Thomas Kozlikowski
Manager, Quality Control

80978

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul Gaines

Certificate of Analysis

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M5985
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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: Single Analyte Custom Grade Solution
Catalog Number: CGIN10
Lot Number: U2-IN729349
Matrix: 5% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Indium
Starting Material: Indium Metal
Starting Material Lot#: 2511
Starting Material Purity: 99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL
Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10021 ± 56 µg/mL ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	10035 ± 25 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	10001 ± 33 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{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)

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	<	0.000760	M	Eu	<	0.000760	O	Na	0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al	0.003385	O	Fe	0.004462	M	Nb	<	0.000760	O	Si	0.024619	M	Zr	<	0.000760		
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760			
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760			
O	B	0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760			
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb	0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760			
O	Ca	0.004616	s	In	<			M	Pr	<	0.000760	M	Th	<	0.000760			
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100			
M	Ce	<	0.000760	O	K	0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760			
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760			
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600			
M	Cu	<	0.003800	O	Mg	0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn	0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760			

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 - 114.82 +3 6 In(H₂O)₆+3

Chemical Compatibility -Soluble in HCl, HNO₃, and H₂SO₄. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO₃); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or 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 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

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 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

- February 21, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

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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: CLPP-CAL-3
Lot Number: T2-MEB727800
Matrix: 7% (v/v) HNO₃
Value / Analyte(s):
1 000 µg/mL ea:
Arsenic, Lead,
Selenium, Thallium,
500 µg/mL ea:
Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	1 000 ± 7 µg/mL	Cadmium, Cd	500.0 ± 2.2 µg/mL
Lead, Pb	1 000 ± 4 µg/mL	Selenium, Se	1 000 ± 6 µg/mL
Thallium, Tl	1 000 ± 7 µg/mL		

Density: 1.042 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
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:

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 21, 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

- **December 21, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

R: 08/22/24 M6058, M6059

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

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

Assay Information:

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™)

see the Limited License to Use PCRM™ in the Inorganic Ventures [Terms and Conditions of Sale](https://www.inorganicventures.com/terms-and-conditions-sale).

<https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 12, 2024

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

11.2 Lot Expiration Date

- **August 12, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

Certificate of Analysis

M6074
M6075
M6076
M6077

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F: 540-585-3012

info@inorganicventures.com

EXP: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CHEM-CLP-4
Lot Number: V2-MEB746762
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 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

- September 06, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58025
101124
Manganese (Mn)

Lot #
Solvent: Nitric Acid

24002546
2%
80.0 (mL)
Nitric Acid

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

Expiration Date: 101127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.2
5E-05 Balance Uncertainty
0.10 Flask Uncertainty

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Manganese(II) nitrate hydrate (Mn) IN031 MNM02020A1 1000 99.999 0.10 20.8 19.2322 19.2344 1000.1 2.0 15710-66-4 5 mg/m3 or-rel >300mg/kg 3132

[1] Spectrum No.1 [34.243 sec]:57025.D# [Count] [Linear]

5.0E6													
2.5E6													
m/z->	10	20	30	40	50	60	70	80	90	100			
1.0E6													
5.0E7													
m/z->	110	120	130	140	150	160	170	180	190	200			
1.0E6													
5.0E7													
m/z->	210	220	230	240	250	260							



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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M6137
R-71013124

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGSI1
Lot Number: V2-SI744713
Matrix: tr. HNO₃
tr. HF
Value / Analyte(s): 1 000 µg/mL ea:
Silicon
Starting Material: Silica
Starting Material Lot#: 1771
Starting Material Purity: 99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL
Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	999 ± 5 µg/mL ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546
Assay Method #2	1000 ± 7 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na		0.001656	M	Se	<	0.022000	M	Zn	<	0.002500
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form In Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphous (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

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

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

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

11.2 Lot Expiration Date

- July 10, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 011025
Description: Iron (Fe)
Lot # R-113125
Solvent: 24012496 Nitric Acid

Expiration Date: 011028
Recommended Storage: Ambient (20 °C)
2% 40.0 (mL) Nitric Acid

Nominal Concentration (µg/mL): 10000

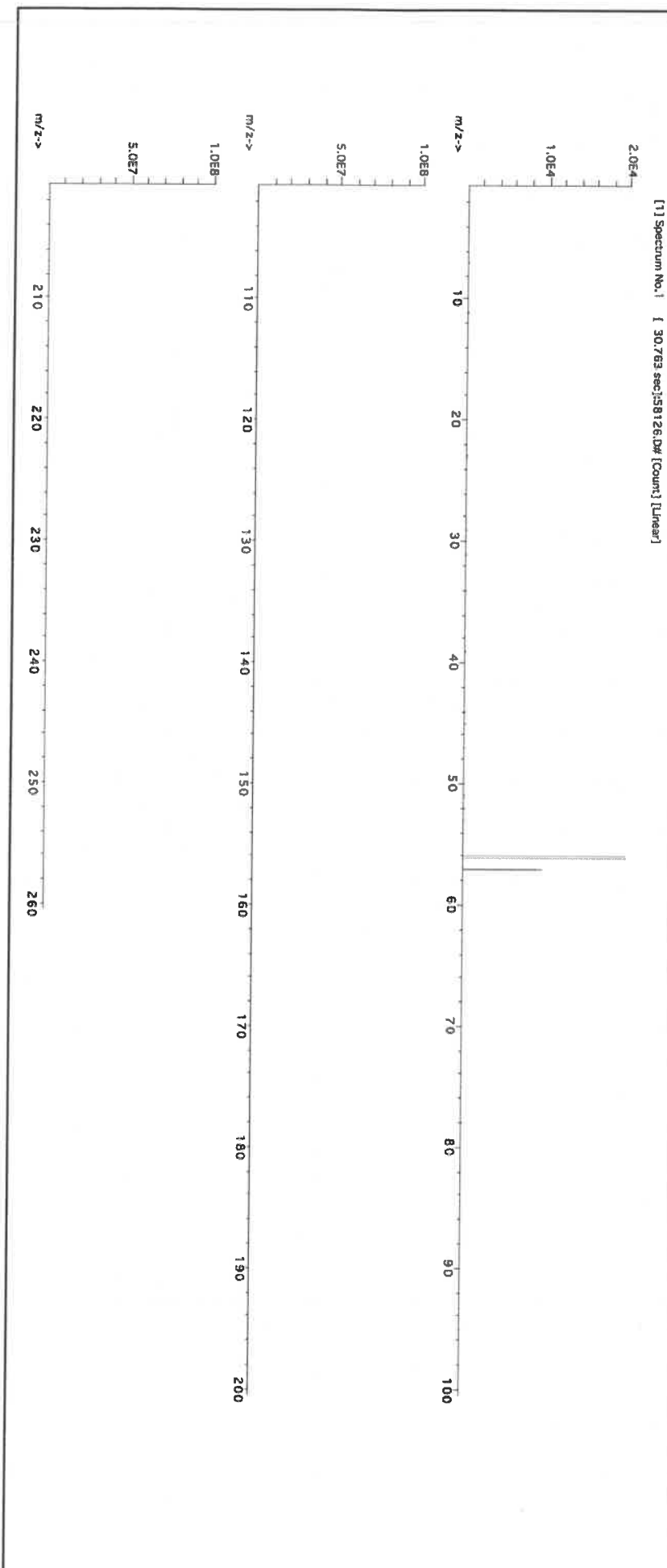
NIST Test Number: 6U7B

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

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





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	Sb	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

Har P. D.

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



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57119
103024
Potassium (K)

R-21113125

Lot #
Solvent: 24002546
Nitric Acid

Giovanni Caporaso	
Formulated By:	Giovanni Caporaso
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

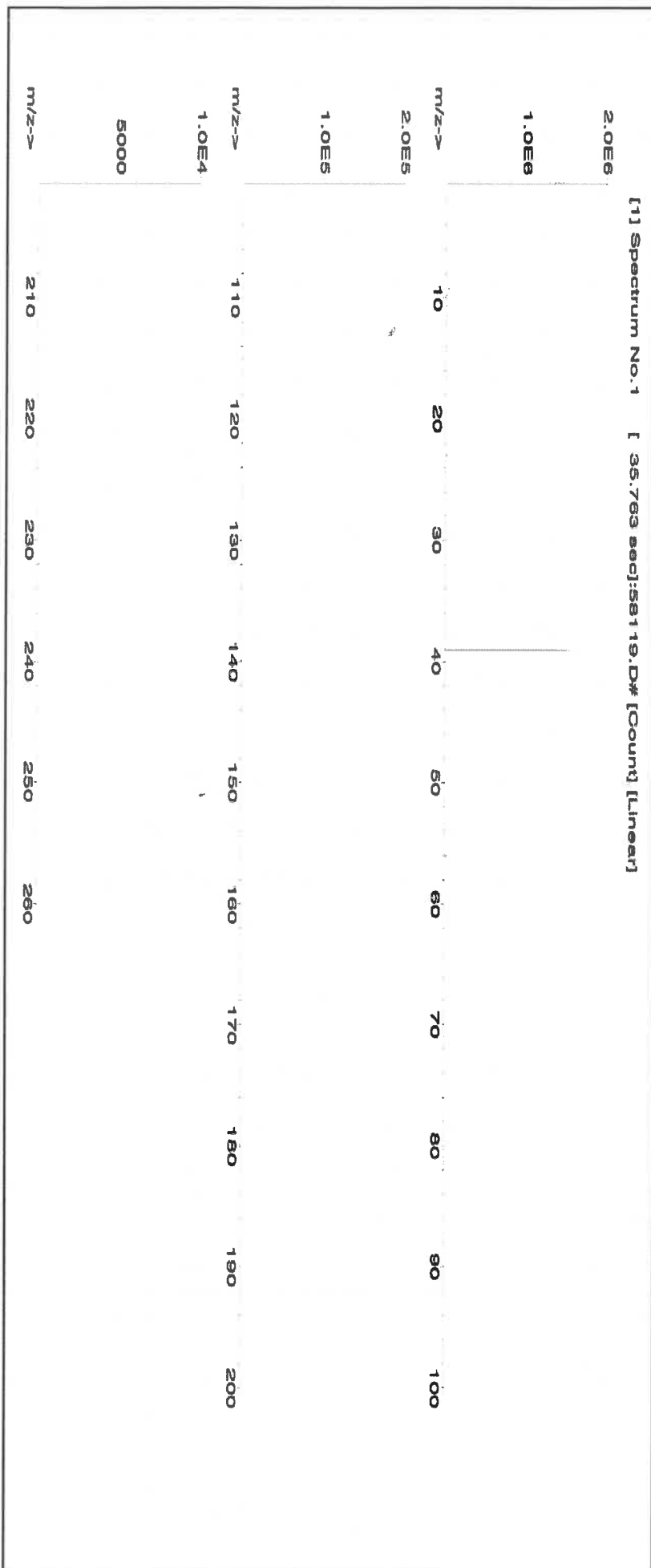
Weight shown below was diluted to (mL):

4000.1 0.15 Flask Uncertainty

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

1. Potassium nitrate (K) IN034 KD062022A1 10000 99.999 0.10 37.7 106.1040 ##### 10001.1 20.0 7757-79-1 5 mg/m3 orl-rat 3750 mg/kg 3141a

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number: 58111 **Lot #** R-1113/25
Lot Number: 072424 **Solvent:** Nitric Acid
Description: Sodium (Na)

Expiration Date: 072427 **2%** 80.0 **Nitric Acid**
Recommended Storage: Ambient (20 °C) (mL)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB **5E-05** Balance Uncertainty

Weight shown below was diluted to (mL): 4000.2 **0.10** Flask Uncertainty

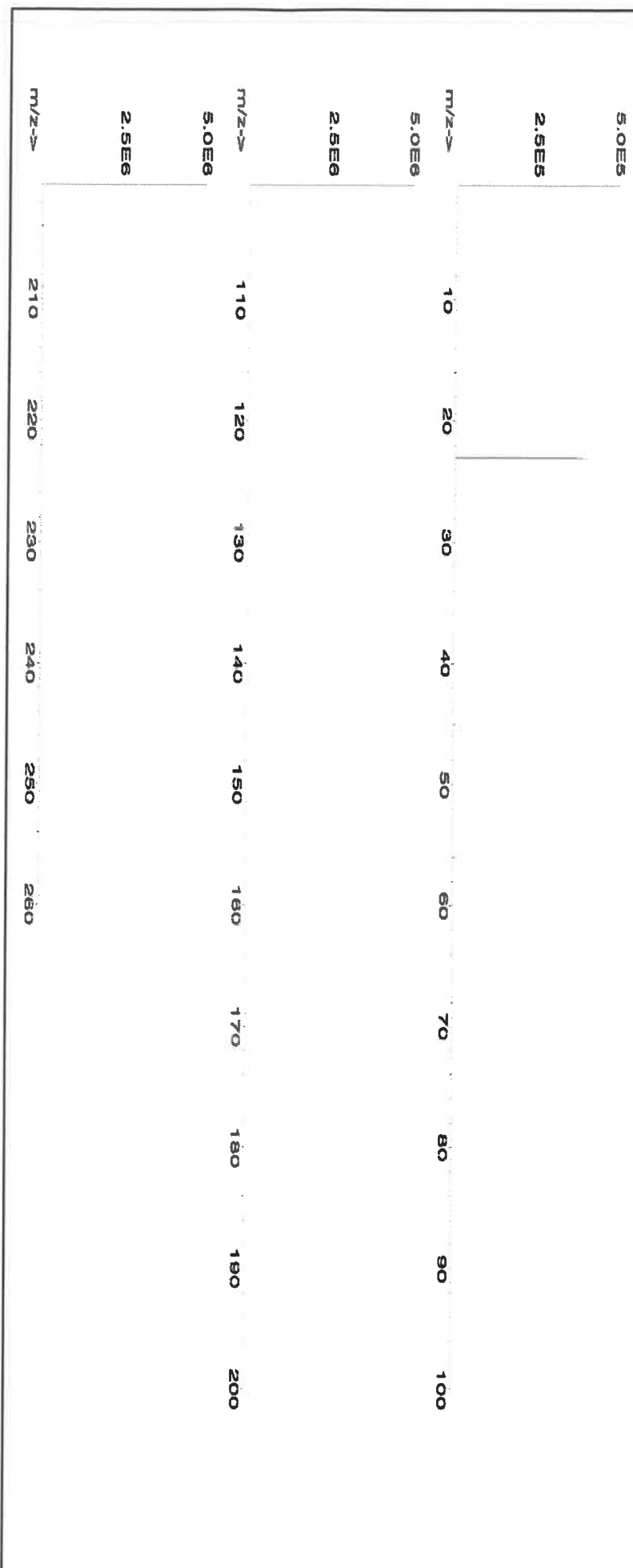
Formulated By:	Benson Chan	072424
Reviewed By:	Pedro L. Renteria	072424

SDS Information

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

1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.999 0.10 26.9 148.7096 ##### 10000.0 20.0 7631-99-4 5 mg/m3 orl-rat 3430 mg/kg 3152a

[1] Spectrum No. 1 [8.935 sec]: 58111.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

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

Expiration Date: **121727** Solvent: **24012496 Nitric Acid**

Recommended Storage: **Ambient (20 °C)** 2% 40.0 Nitric Acid
Nominal Concentration (µg/mL): **1000**

NIST Test Number: **6UTB** 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): **2000.1** 0.10 Flask Uncertainty

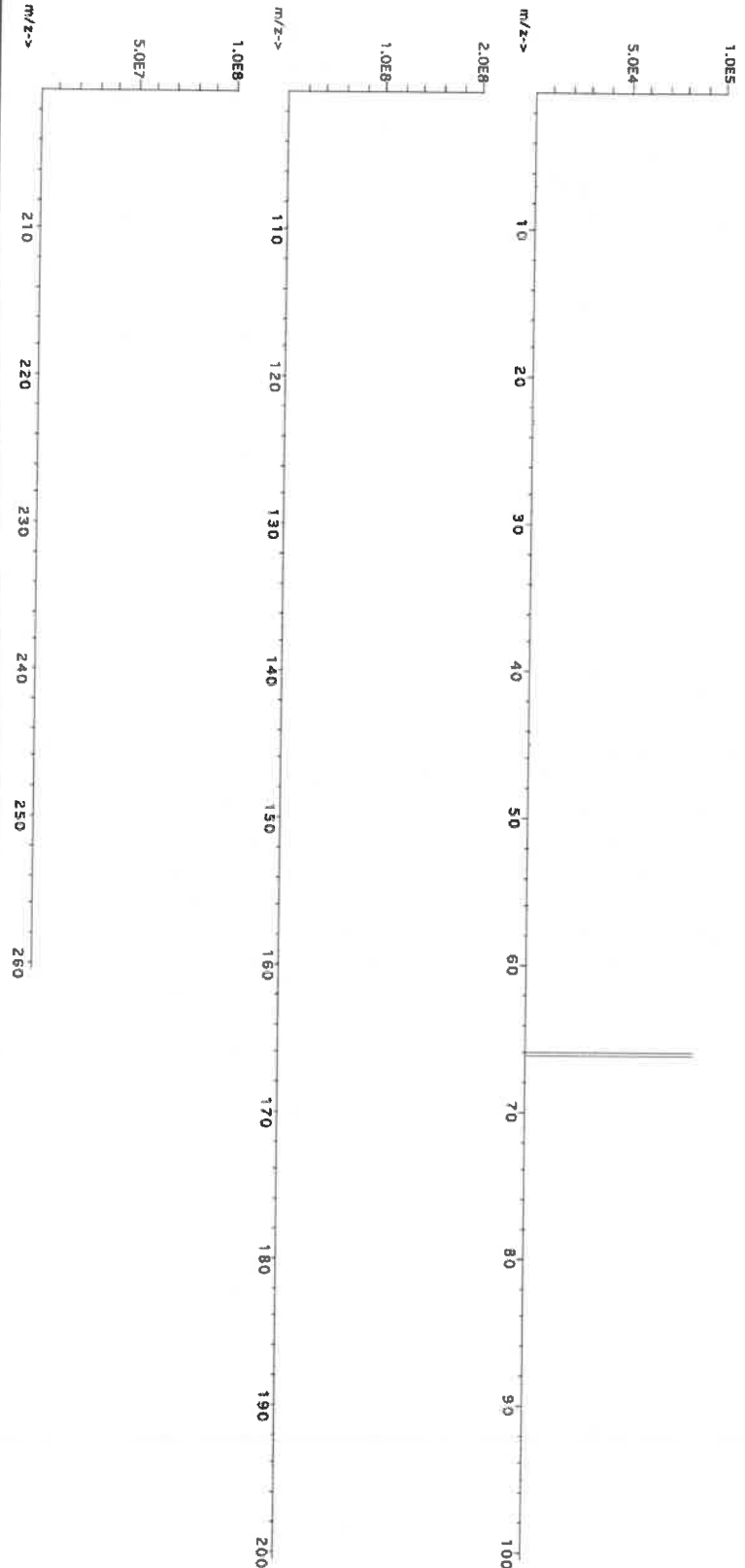
<i>Aleah O Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	<i>Pedro L. Rentias</i>
	Pedro L. Rentias
	121724

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
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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

[1] Spectrum No.1 [31.103 sec;158130.D# [Count] [Lines]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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

avantor™



M6151

R → 11/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl ₂)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO ₃)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH ₄)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

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

avantor™



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

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

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

 **avantor**™

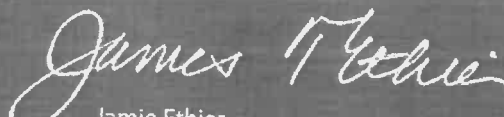


Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
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For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

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


Jamie Ethier
Vice President Global Quality

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™



MG157
MS

Material No.: 9673-33

Batch No.: 24I1262013

Manufactured Date: 2024-08-07

Retest Date: 2029-08-06

Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H ₂ SO ₄)	95.0 – 98.0 %	96.2 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	<= 10	5
ACS – Residue after Ignition	<= 3 ppm	<1 ppm
ACS – Substances Reducing Permanganate(as SO ₂)	<= 2 ppm	<2 ppm
Ammonium (NH ₄)	<= 1 ppm	<1 ppm
Chloride (Cl)	<= 0.1 ppm	<0.1 ppm
Nitrate (NO ₃)	<= 0.2 ppm	0.1 ppm
Phosphate (PO ₄)	<= 0.5 ppm	<0.1 ppm
Trace Impurities – Aluminum (Al)	<= 30.0 ppb	<5.0 ppb
Arsenic & Antimony (as As)	<= 4.0 ppb	<2.0 ppb
Trace Impurities – Boron (B)	<= 10.0 ppb	<5.0 ppb
Trace Impurities – Cadmium (Cd)	<= 2.0 ppb	<1.0 ppb
Trace Impurities – Chromium (Cr)	<= 6.0 ppb	<1.0 ppb
Trace Impurities – Cobalt (Co)	<= 0.5 ppb	<0.3 ppb
Trace Impurities – Copper (Cu)	<= 1.0 ppb	<1.0 ppb
Trace Impurities – Gold (Au)	<= 10.0 ppb	<5.0 ppb
Heavy Metals (as Pb)	<= 500.0 ppb	<100.0 ppb
Trace Impurities – Iron (Fe)	<= 50.0 ppb	<1.0 ppb
Trace Impurities – Lead (Pb)	<= 0.5 ppb	<0.5 ppb
Trace Impurities – Magnesium (Mg)	<= 7.0 ppb	<1.0 ppb
Trace Impurities – Manganese (Mn)	<= 1.0 ppb	<1.0 ppb
Trace Impurities – Mercury (Hg)	<= 0.5 ppb	<0.1 ppb
Trace Impurities – Nickel (Ni)	<= 2.0 ppb	<0.3 ppb
Trace Impurities – Potassium (K)	<= 500.0 ppb	<10.0 ppb
Trace Impurities – Selenium (Se)	<= 50.0 ppb	7.2 ppb
Trace Impurities – Silicon (Si)	<= 100.0 ppb	12.8 ppb
Trace Impurities – Silver (Ag)	<= 1.0 ppb	<1.0 ppb

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1702 of 494

Sulfuric Acid

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis

Low Selenium

 **avantors**™



Material No.: 9673-33

Batch No.: 24I1262013

Test	Specification	Result
Trace Impurities – Sodium (Na)	≤ 500.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 5.0 ppb	< 1.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	1.1 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	< 1.0 ppb

For Laboratory, Research, or Manufacturing Use

Country of Origin: United States

Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak

Director Quality Operations, Bioscience Production

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

avantorsTM



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

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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-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

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

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



300 Technology Drive
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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.

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 02, 2025

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

11.2 Lot Expiration Date

- **January 02, 2030**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM



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

CERTIFIED WEIGHT REPORT:

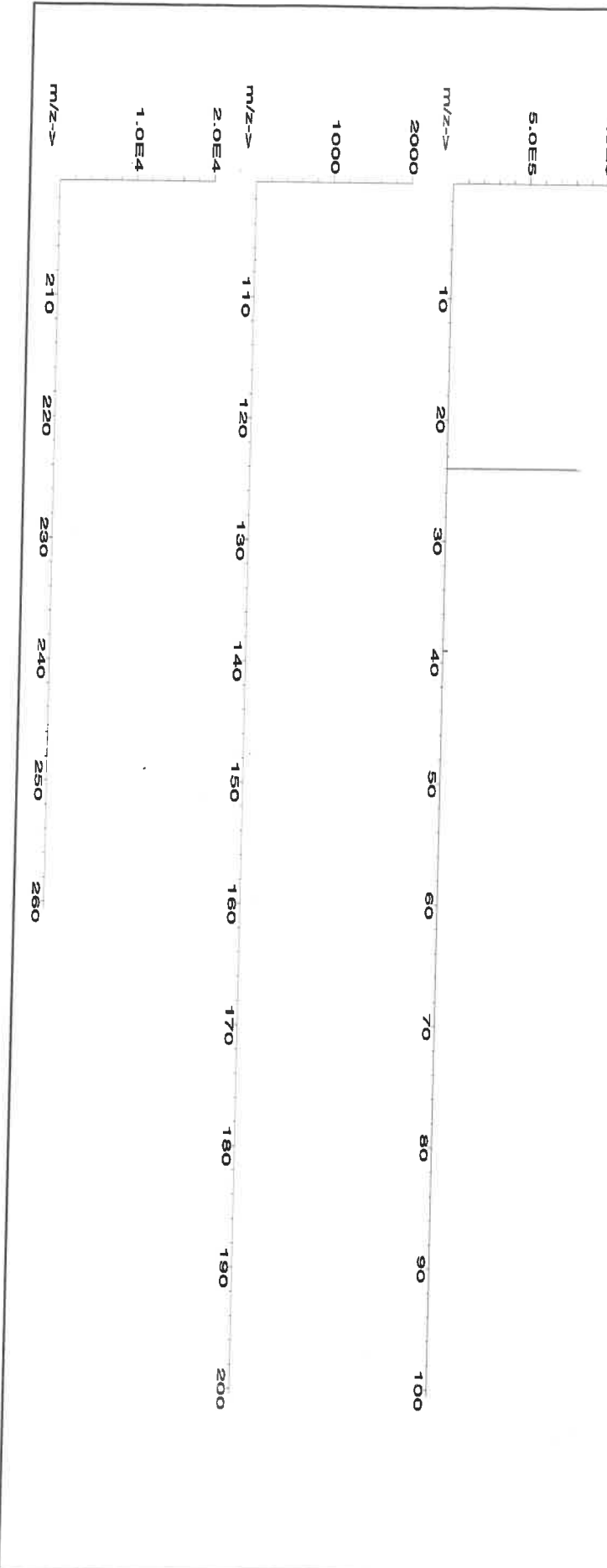
Part Number: 58112 **Lot #** M 6171
Lot Number: 011525 **Solvent:** 24012496 Nitric Acid
Description: Magnesium (Mg)
Expiration Date: 011528 **2%**
Recommended Storage: Ambient (20 °C) **40.0** Nitric Acid
Nominal Concentration (µg/mL): 10000 **(mL)**
NIST Test Number: 6U7B **5E-05** Balance Uncertainty
Weight shown below was diluted to (mL): 2000.07 **0.100** Flask Uncertainty

Formulated By:	Benson Chan	011525
Reviewed By:	Pedro L. Rentas	011525

Compound

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

[1] Spectrum No. 1 [19.923 sec]:58112.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030

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info@inorganicventures.com

M6174
R → S1/S124

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:	CLPP-CAL-1	
Lot Number:	V2-MEB742428	
Matrix:	5% (v/v) HNO ₃	
Value / Analyte(s):	5 000 µg/mL ea:	
	Calcium,	Potassium,
	Magnesium,	Sodium,
	2 000 µg/mL ea:	
	Aluminum,	Barium,
	1 000 µg/mL ea:	
	Iron,	
	500 µg/mL ea:	
	Nickel,	Vanadium,
	Zinc,	Cobalt,
	Manganese,	
	250 µg/mL ea:	
	Silver,	Copper,
	200 µg/mL ea:	
	Chromium,	
	50 µg/mL ea:	
	Beryllium	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.03 ± 0.30 µg/mL	Calcium, Ca	5 000 ± 16 µg/mL
Chromium, Cr	200.0 ± 1.1 µg/mL	Cobalt, Co	500.0 ± 2.3 µg/mL
Copper, Cu	250.0 ± 1.1 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 22 µg/mL	Manganese, Mn	499.9 ± 2.2 µg/mL
Nickel, Ni	500.1 ± 2.3 µg/mL	Potassium, K	5 000 ± 22 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 22 µg/mL
Vanadium, V	500.0 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.117 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
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

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u_{ts} = transport stability standard uncertainty

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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

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u_{bb} = bottle to bottle homogeneity standard uncertainty

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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)

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

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- 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

March 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

- **March 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:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number: 57038
Lot Number: 092724
Description: Strontium (Sr)
Expiration Date: 092727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 8UTB
Weight shown below was diluted to (mL): 2000.07
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

R-5816125

M 6/7/26

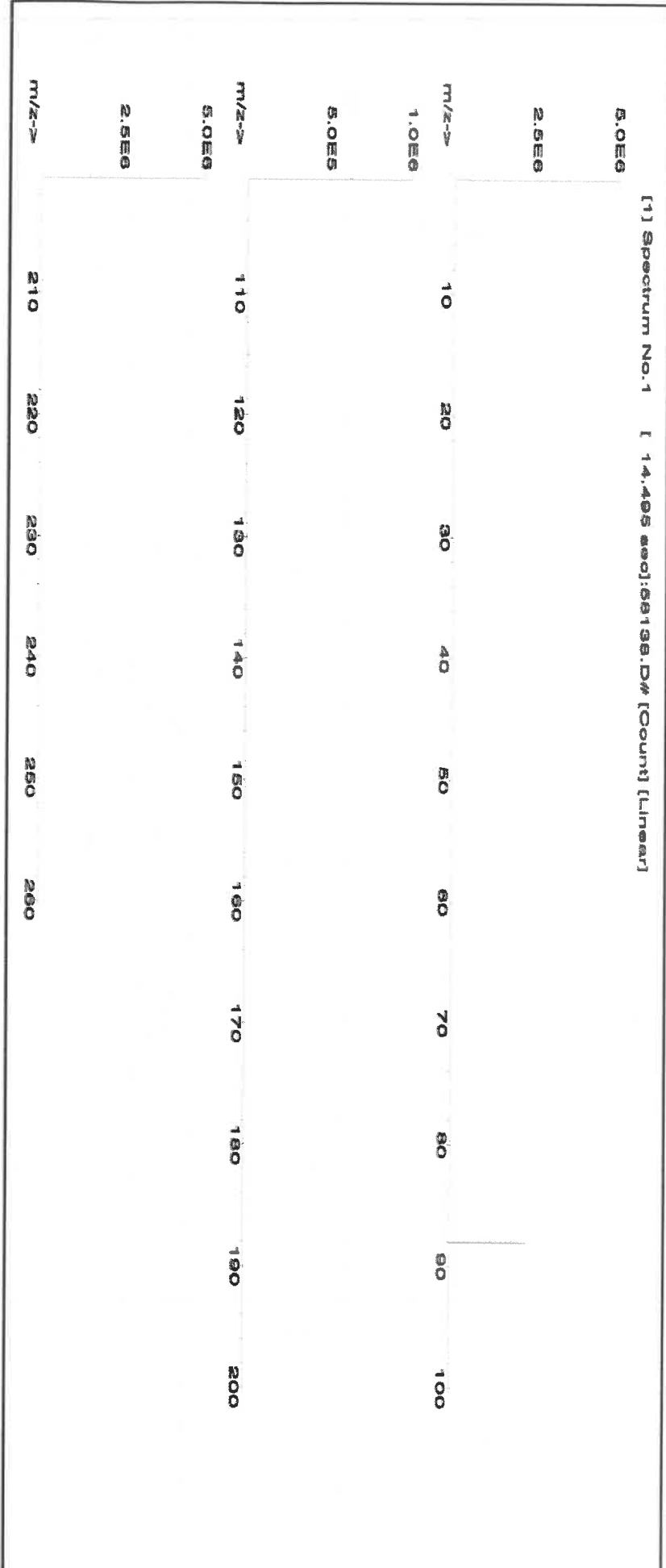
Lot # 24002546
Solvent: Nitric Acid
40.0 (mL)
Nitric Acid

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
	092724

SDS Information

Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	Uncertainty	CAS#	OSHA PEL (TWA)	LD50	NIST
Strontium nitrate (Sr)	092724	1000	99.997	0.10	41.2	4.85470	4.85481	1000.0	2.0	10042-76-9	NA			or-rel >2000mg/kg 3153a

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
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57042
080525
Molybdenum (Mo)

US#
MKP08697V
080525
Solvent
Ammonium hydroxide
ASTM Type 1 Water

Expiration Date:

080528

Recommended Storage:
Ambient (15 - 30 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

1999.41

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

R → 8/6/25
M6177

0.5%

10.0 (mL)

Ammonium hydroxide

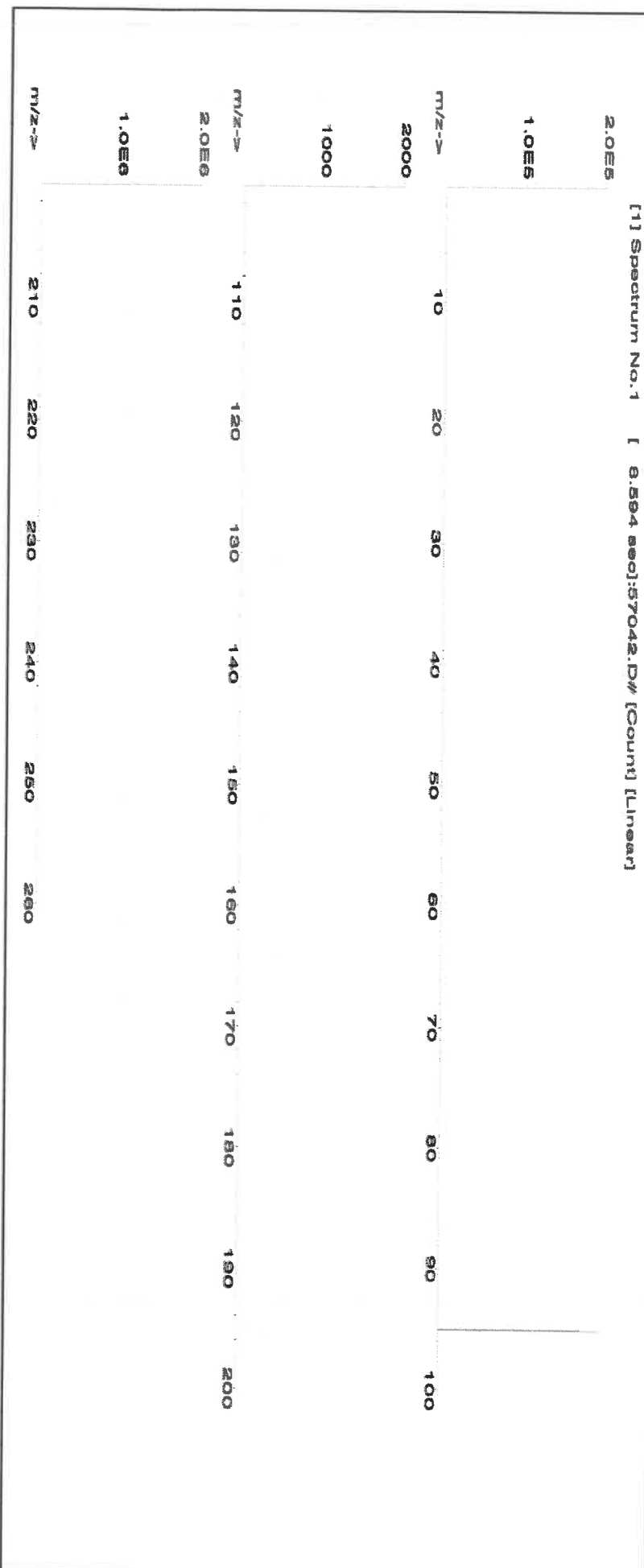
Formulated By:	Benson Chan	080525
Reviewed By:	Pedro L. Renteria	080525

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. Ammonium molybdate (Mo) 58142 112322 0.1000 200.0 0.084 1000 10001.4 1000.5 2.2 13106-76-8 5 mg(Mo)/mL 0.1-0.3 333 mg/kg 3134

[1] Spectrum No. 1 [8.594 sec]:57042.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
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02
Ba	<0.02	Ce	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	T	Pt	<0.02	Sm	<0.02	S	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Te	<0.02
														Tb	<0.02
														Ti	<0.02
														Th	<0.02
														Tm	<0.02
														Sn	<0.02
														Tl	<0.02
														U	<0.02
														V	<0.02
														Yb	<0.02
														Y	<0.02
														Zn	<0.02
														Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Signature

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware, and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated by an ISO17025 certified organization with weights traceable through NIST to the SI kilogram (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).
- Rev 1.0, 2/25/2025



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

2%

40.0 (mL)

Nitric Acid

SE-05 Balance Uncertainty
0.10 Flask Uncertainty

Weight shown below was diluted to (mL): 2000.07

0.10 Flask Uncertainty

SDS Information

Compound

Lot
Number

Nominal
Conc. (µg/mL)

Purity (%)

Uncertainty
Purity (%)

Assay (%)

Target
Weight (g)

Actual
Weight (g)

Actual
Conc. (µg/mL)

Expanded
Uncertainty
± (µg/mL)

CAS#

OSHA PEL (TWA)

LD50

SRM

1. Lead(II) nitrate (Pb)

IN029 PBD122016A1

1000

99.999

0.10

62.5

3.20015

3.20067

1000.2

2.0

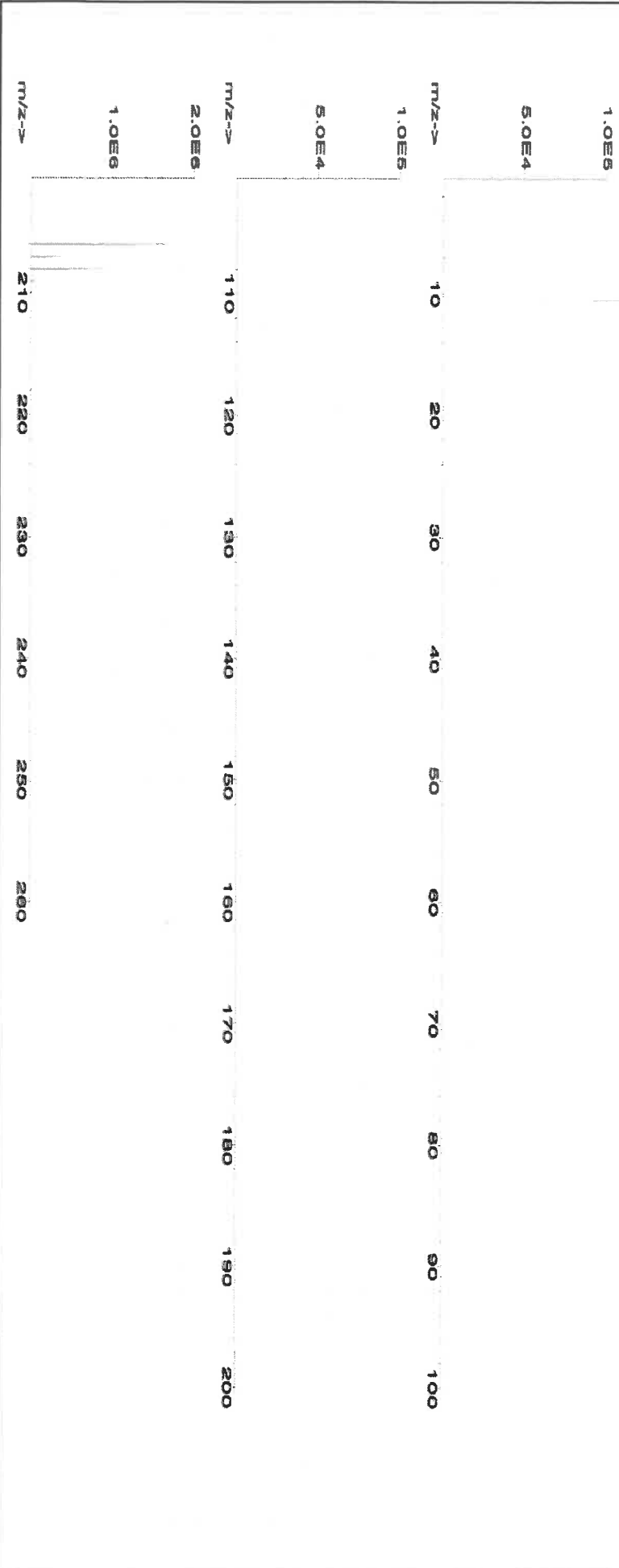
10099-74-8

0.05 mg/m3

Intrins-ral 93 mg/kg

3128

[1] Spectrum No. 1 [14.144 sec]:58082.D# [Count] [Linear]





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

Trace Metals Verification by ICP-MS (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	Ta	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Se	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

M6179
R → 612/24

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGY10
Lot Number: V2-Y740548
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Yttrium
Starting Material: Yttrium Oxide
Starting Material Lot#: 2661 and 06230520YL
Starting Material Purity: 99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL
Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10011 ± 25 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	9997 ± 50 µg/mL ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	9984 ± 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:

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

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

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	<	0.004600	M	Eu	0.009037	M	Na	0.086360	M	Se	<	0.005200	M	Zn	0.030125	
M	Al		0.014862	O	Fe	0.002410	M	Nb	<	0.000570	O	Si	0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd	0.000923	M	Sm	0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300		
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600		
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570		
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb	0.005020	M	Tb	0.001044				
M	Bi	<	0.003500	M	Ho	0.009037	M	Pd	<	0.005100	M	Te	<	0.002300			
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570		
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500		
M	Ce	<	0.002300	O	K	0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570			
M	Co	<	0.000570	M	La	0.000461	M	Re	<	0.000570	M	Tm	<	0.003500			
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570		
M	Cs	<	0.000570	M	Lu	0.000582	M	Ru	<	0.000570	M	V	0.001265				
M	Cu		0.002610	O	Mg	0.001486	n	S	<		M	W	<	0.002300			
M	Dy		0.003815	M	Mn	0.000582	M	Sb	0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb	0.001827			

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 - 88.91 +3 6 Y(OH)(H₂O)_{x+2}
Chemical Compatibility -Soluble in HCl, H₂SO₄ and HNO₃. Avoid HF, H₃PO₄ and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H₂O / HNO₃); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H₂O / HCl or HNO₃).

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 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

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 20, 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 20, 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





Instructions for QATS Reference Material: ICP-AES ICS

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (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.



M6182

(A) **SAMPLE DESCRIPTION**

Enclosed is a set of one (1) or more bottles of 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-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

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**

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,





Instructions for QATS Reference Material: ICP-AES ICS

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES 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-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, 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 2% v/v HNO₃. Analyze this ICSAB solution by ICP-AES.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES 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-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 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.



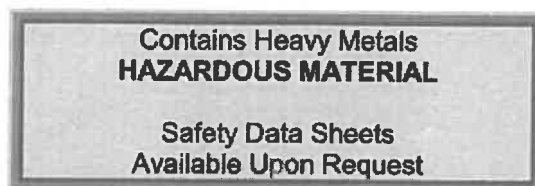
Instructions for QATS Reference Material: ICP-AES ICS

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (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.



M6184

(A) **SAMPLE DESCRIPTION**

Enclosed is a set of one (1) or more bottles of 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-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

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**

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,





Instructions for QATS Reference Material: ICP-AES ICS

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES 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-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, 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 2% v/v HNO₃. Analyze this ICSAB solution by ICP-AES.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES 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-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 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.

Nitric Acid 69%
CMOS



M6187

R.D :- 08/08/25

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

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	0.1 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	0.1 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 1 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 1 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS



Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 1 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	1 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 1.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	13 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	5 par/ml

>>> Continued on page 3 >>>



Result

groak

Jamie Croak
Director Quality Operations, Bioscience Production

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

avantor™



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

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: WW-LFS-2

Lot Number: V2-MEB743480

Matrix: 5% (v/v) HNO₃
tr. HF

Value / Analyte(s): 200 µg/mL ea:
Silica,

80 µg/mL ea:
Antimony,

70 µg/mL ea:
Tin,

40 µg/mL ea:
Molybdenum,

20 µg/mL ea:
Titanium

R-7/20/28

M6201

M6202

M6203

M6204

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.5 µg/mL	Molybdenum, Mo	40.05 ± 0.22 µg/mL
Silica, SiO ₂	200.3 ± 1.4 µg/mL	Tin, Sn	70.1 ± 0.4 µg/mL
Titanium, Ti	20.03 ± 0.12 µg/mL		

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

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102a	140911
SiO ₂	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-T1725816

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>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 07, 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 07, 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:

Thomas Kozikowski
Stock VS Manager



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: WW-LFS-1
Lot Number: W2-MEB752149
Matrix: 5% (v/v) HNO₃

R → 7/20/28

M6209
M6210
M6211
M6212

Value / Analyte(s):	
1 000 µg/mL ea:	
Potassium,	
600 µg/mL ea:	
Phosphorus,	
300 µg/mL ea:	
Sodium,	Iron,
200 µg/mL ea:	
Magnesium,	Aluminum,
Cerium,	Selenium,
Thallium,	
100 µg/mL ea:	
Lead,	Calcium,
80 µg/mL ea:	
Arsenic,	
70 µg/mL ea:	
Mercury,	
50 µg/mL ea:	
Nickel,	
40 µg/mL ea:	
Chromium,	
30 µg/mL ea:	
Copper,	Boron,
Vanadium,	
20 µg/mL ea:	
Zinc,	Strontium,
Barium,	Beryllium,
Cadmium,	Cobalt,
Manganese,	Lithium,
7.5 µg/mL ea:	
Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.2 ± 0.7 µg/mL	Arsenic, As	80.1 ± 0.5 µg/mL
Barium, Ba	20.02 ± 0.12 µg/mL	Beryllium, Be	20.02 ± 0.11 µg/mL
Boron, B	30.02 ± 0.15 µg/mL	Cadmium, Cd	20.04 ± 0.09 µg/mL
Calcium, Ca	100.1 ± 0.3 µg/mL	Cerium, Ce	200.2 ± 1.0 µg/mL
Chromium, Cr	40.02 ± 0.26 µg/mL	Cobalt, Co	20.03 ± 0.09 µg/mL
Copper, Cu	30.03 ± 0.13 µg/mL	Iron, Fe	300.3 ± 1.3 µg/mL
Lead, Pb	100.1 ± 0.5 µg/mL	Lithium, Li	20.03 ± 0.09 µg/mL
Magnesium, Mg	200.2 ± 0.9 µg/mL	Manganese, Mn	19.99 ± 0.09 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.05 ± 0.22 µg/mL
Phosphorus, P	600.5 ± 2.9 µg/mL	Potassium, K	1 001 ± 4 µg/mL
Selenium, Se	200.2 ± 1.1 µg/mL	Silver, Ag	7.52 ± 0.03 µg/mL
Sodium, Na	300.3 ± 1.3 µg/mL	Strontium, Sr	20.02 ± 0.10 µg/mL
Thallium, Tl	200.2 ± 1.0 µg/mL	Vanadium, V	30.02 ± 0.13 µg/mL
Zinc, Zn	20.05 ± 0.09 µg/mL		

Density: 1.037 g/mL (measured at 20 ± 5 °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
B	ICP Assay	3107	190605
B	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
Ce	ICP Assay	3110	160830
Ce	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
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	14Q110
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
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
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:

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures [Terms and Conditions of Sale](https://www.inorganicventures.com/terms-and-conditions-sale). <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° - 25° C to minimize the effects of transpiration. Use at 20° ± 5° 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

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

April 08, 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

- April 08, 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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Certified Reference Material CRM

M6027



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

CERTIFIED WEIGHT REPORT:

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

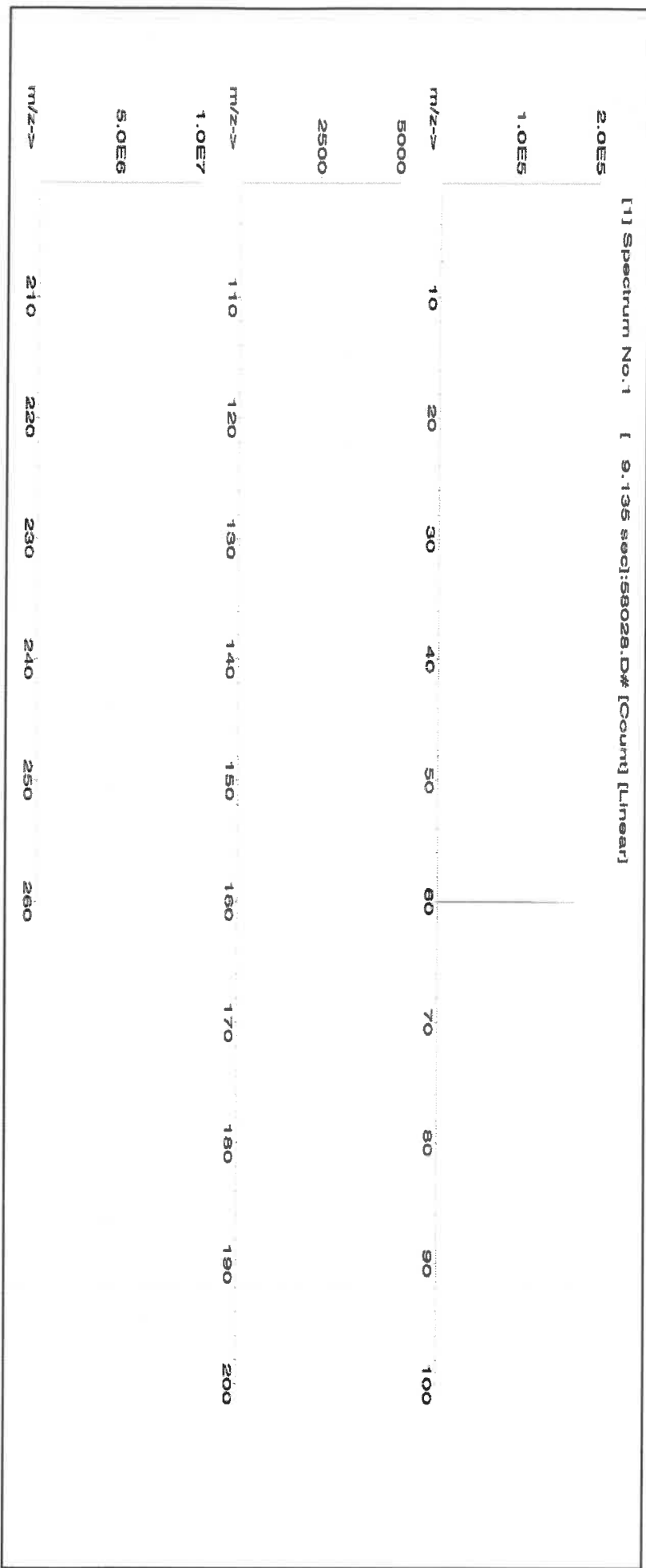
Lot # **24002546**
Solvent: **Nitric Acid**

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





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).



Certified Reference Material CRM

M6030



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

CERTIFIED WEIGHT REPORT:

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

Lot #
Solvent: 24002546 Nitric Acid

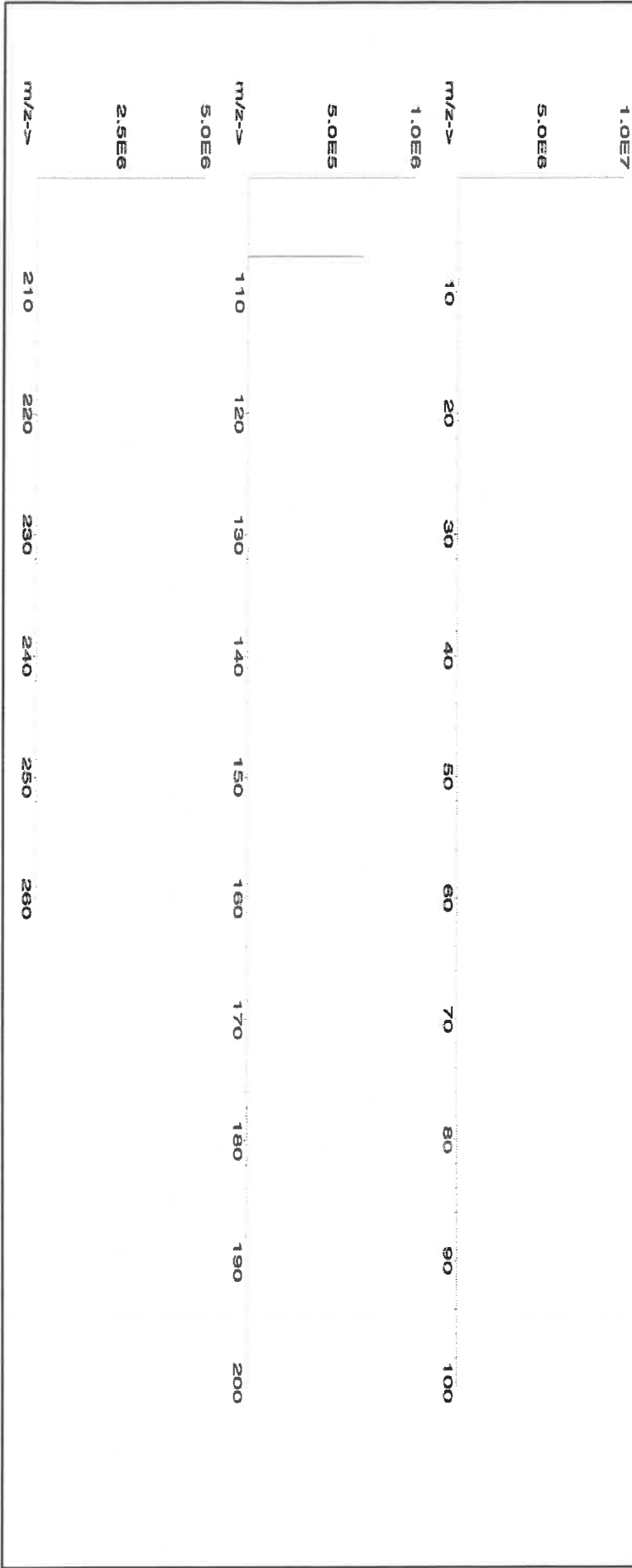
Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
	122823

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.30
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

1. Silver nitrate (Ag) IN035 J0612AGA1 1000.0 99.999 0.10 63.7 6.27992 6.27998 1000.0 2.0 7761-88-8 10 µg/m³ NA 3151

[1] Spectrum No. 1 [14.044 sec]:58147.D# [Count] [Linear]





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

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

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

(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 meqohm 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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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

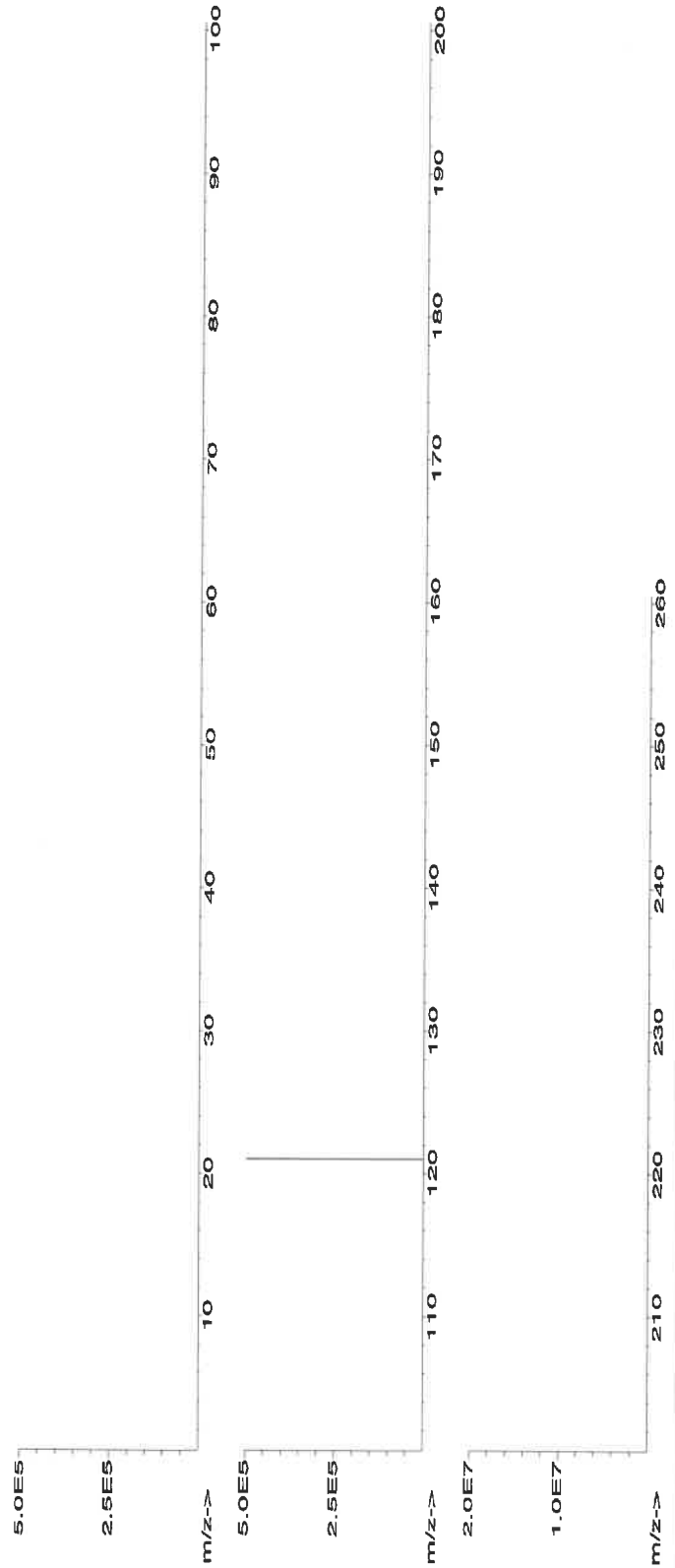
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito 071724
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas 071724

SDS Information

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

1. Antimony (Sb)	58151	060324	0.1000	200.0	0.084	1000	10001.4	1000.0	2.2	7440-36-0	0.5 mg/m3	or-rat 7000 mg/kg	3102a
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[1] Spectrum No.1 [17.964 sec]:58051.D# [Count] [Linear]





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

5E-05 Balance Uncertainty
0.10 Flask Uncertainty

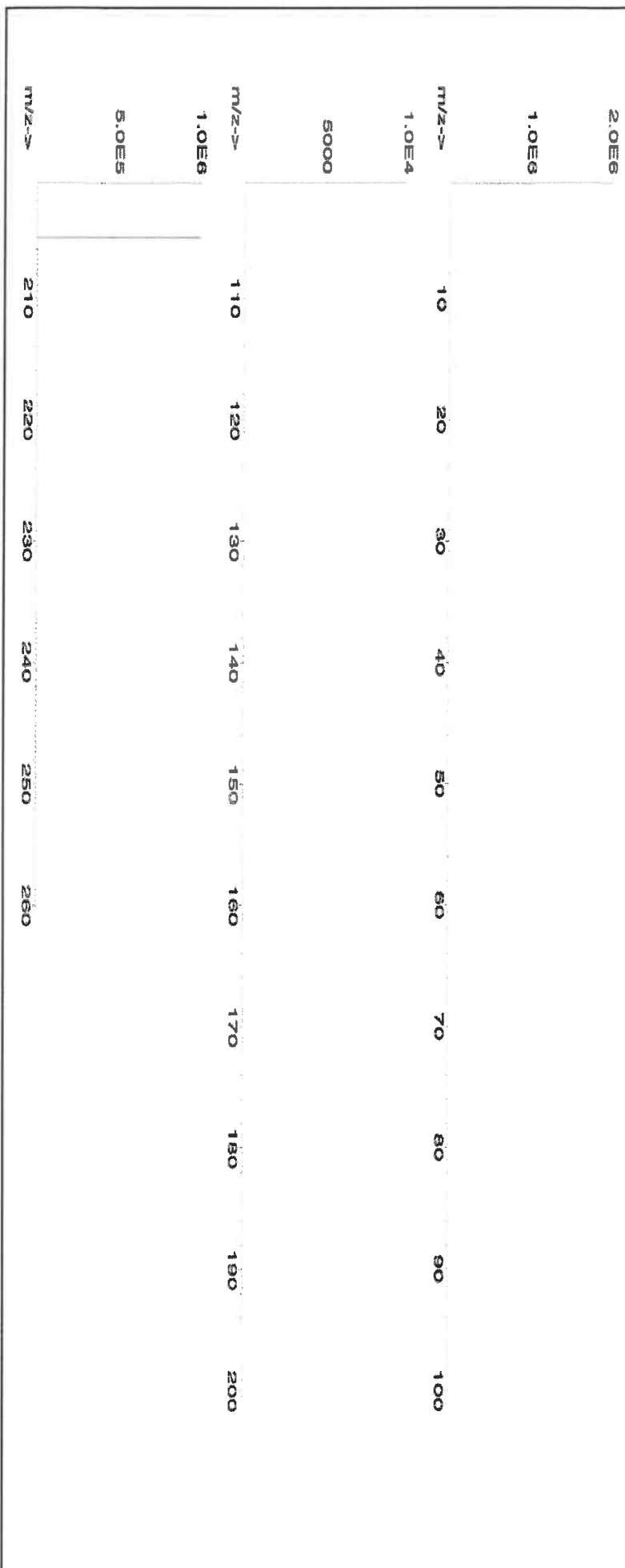
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	<i>Pedro L. Renteria</i>
	Pedro L. Renteria
	062724

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
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1. Thallium nitrate (TI) IN037 BCCF4399 1000 99.999 0.10 77.0 2.5975 2.5977 1000.1 2.0 10102-45-1 0.1 mg/m3 or-mus 15mg/kg 3158

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM

M6021



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

CERTIFIED WEIGHT REPORT:

Part Number: **57023**
Lot Number: **062424**
Description: **Vanadium (V)**

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

<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	<i>Pedro L. Rantas</i>
	Pedro L. Rantas
	062424

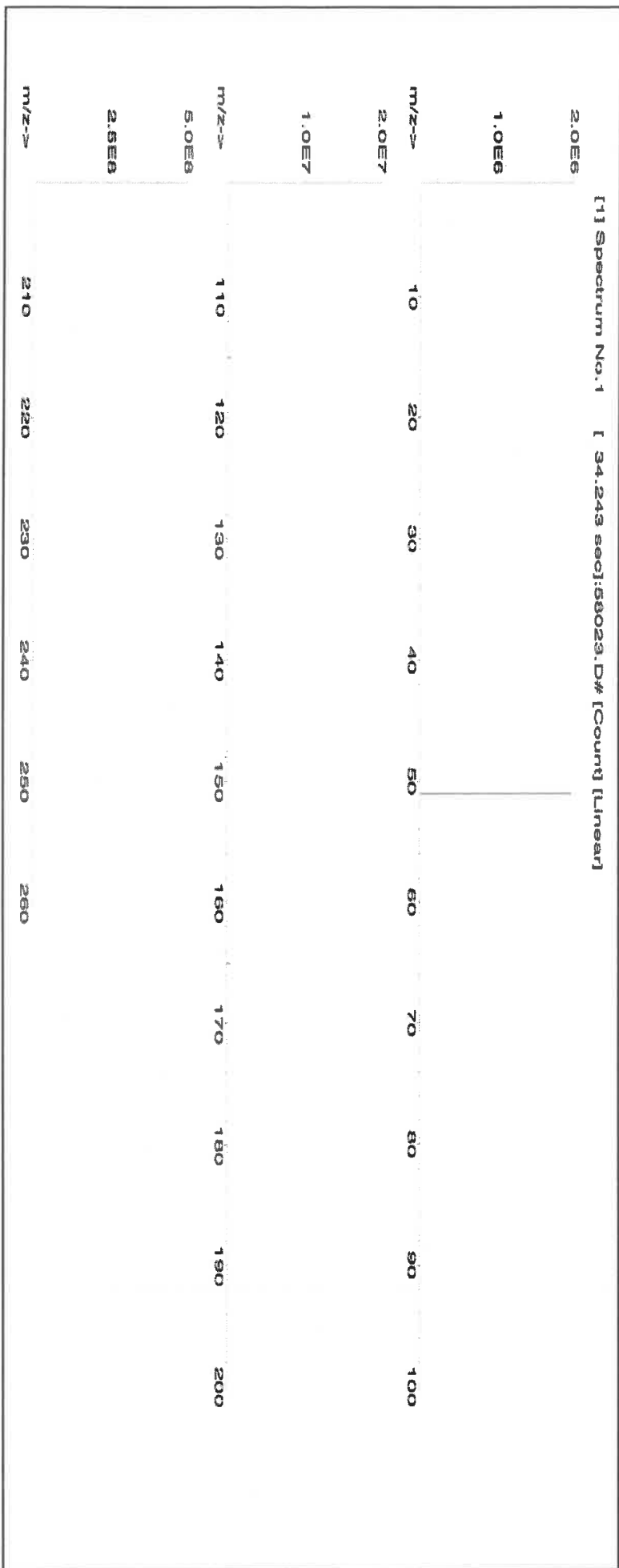
Expiration Date: **062427**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**

2.0%
40.0 (mL)
Nitric Acid

Volume shown below was diluted to (mL): **2000.3**
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

SDS Information									
(Solvent Safety Info. On Attached pg.)									
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)
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	1000.0	2.2
						7803-55-6		0.05 mg/m3	or -rat 58.1mg/kg
									3165

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]





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

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

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

(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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SHIPPING DOCUMENTS

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CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: AECOM
ADDRESS: 605 3rd Ave
CITY: New York STATE: NY ZIP: 10158
ATTENTION: Rob Forstner
PHONE: 212-377-8721 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Port Richmond
PROJECT NO.: 60693795 LOCATION: Staten Island
PROJECT MANAGER: Rob Forstner
e-mail: robert.forstner@aecom.com
PHONE: 212-377-8721 FAX:

CLIENT BILLING INFORMATION

BILL TO: AECOM PO#:
ADDRESS: 605 3rd Ave
CITY: New York STATE: NY ZIP: 10138
ATTENTION: Rob Forstner PHONE: 212-377-8721

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): _____ DAYS*
EDD: _____ DAYS*

*TO BE APPROVED BY CHEMTECH

STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☒ NYS ASP B
+ Raw Data ☐ Other _____
☐ EDD FORMAT _____

SVOCs
Pesticides - TCL
Micro Metals
DBP's / Hexachlor
Dioxins
Gram Size
TAC
VOCs

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES										Math	Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9		
1.	PR132-S05-057082-20251016	S		X	10/16	1035	11	X	X	X	X	X	X	X	X			
2.	PR132-DP01-20251016	S		X	10/16	1050	11	X	X	X	X	X	X	X	X			
3.	PR132-COMP2-20251016	S	X		10/16	1250	11	X	X	X	X	X	X	X	X			
4.	PR132-S12-047072-20251016	S		X	10/16	1325	11	X	X	X	X	X	X	X	X			
5.	PR132-S12-020047-20251016	S		X	10/16	1315	11	X	X	X	X	X	X	X	X			
6.	PR132-FB01-20251016	A			10/16	1355	1	X	X	X	X	X			X			
7.	Temp Blank	A													X			
8.																		
9.																		
10.																		

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER: 1. Jim Alderson	DATE/TIME: 1650 10/16/25	RECEIVED BY: 1. [Signature] 10-16-25	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.2 °C
RELINQUISHED BY SAMPLER: 2. [Signature]	DATE/TIME:	RECEIVED BY: 2. [Signature]	Comments:
RELINQUISHED BY SAMPLER: 3. [Signature]	DATE/TIME: 1805 10-16-25	RECEIVED BY: 3. [Signature]	Page ____ of

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete
☐ YES ☐ NO

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3376	AECO02	Order Date : 10/17/2025 10:34:00 AM	Project Mgr : Yazmeen
Client Name : AECOM		Project Name : AE1-CTY 3.2.Z-PR-DOCK	Report Type : NYS ASP B
Client Contact : Rob Forstner		Receive DateTime : 10/16/2025 6:15:00 PM	EDD Type : EQUIS
Invoice Name : AECOM		Purchase Order :	Hard Copy Date :
Invoice Contact : Rob Forstner			Date Signoff : 10/17/2025 1:53:32 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q3376-01	PR132-S05-057082-20251016	Solid	10/16/2025	10:35	VOC-TCLVOA-10		8260D	10 Bus. Days	
Q3376-02	PR132-DP01-20251016	Solid	10/16/2025	10:50	VOC-TCLVOA-10		8260D	10 Bus. Days	
Q3376-03	PR132-COMP2-20251016	Solid	10/16/2025	12:50	VOC-TCLVOA-10		8260D	10 Bus. Days	
Q3376-04	PR132-S12-047072-20251016	Solid	10/16/2025	13:25	VOC-TCLVOA-10		8260D	10 Bus. Days	
Q3376-05	PR132-S12-020047-20251016	Solid	10/16/2025	13:15	VOC-TCLVOA-10		8260D	10 Bus. Days	
Q3376-07	PR132-FB01-20251016	Water	10/16/2025	13:55	VOC-TCLVOA-10		8260D	10 Bus. Days	

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3376	AECO02	Order Date : 10/17/2025 10:34:00 AM	Project Mgr : Yazmeen
Client Name : AECOM		Project Name : AE1-CTY 3.2.Z-PR-DOCK	Report Type : NYS ASP A
Client Contact : Rob Forstner		Receive DateTime : 10/16/2025 6:15:00 PM	EDD Type : EQUIS
Invoice Name : AECOM		Purchase Order :	Hard Copy Date :
Invoice Contact : Rob Forstner			Date Signoff : 10/17/2025 1:53:32 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
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Relinquished By :

Date / Time : 10/17/25 14:10

Received By :

Date / Time :

Storage Area : VOA Refridgerator Room