

DATA PACKAGE METALS

PROJECT NAME : CTO WE13

**TETRA TECH NUS, INC.
661 Andersen Drive
Suite 200
Pittsburgh, PA - 15220-2745
Phone No: 412-921-7090**

**ORDER ID : P4652
ATTENTION : Ernie Wu**



Laboratory Certification ID # 20012



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Cover Page

Order ID : P4652

Project ID : CTO WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number

P4652-01
P4652-02
P4652-03
P4652-04
P4652-05
P4652-06

Client Sample Number

RW5-SP100-50-20241030
RW5-SP201-50-20241030
RW5-SP301-303-50-20241030
RW5-SP100-90-20241030
RW5-SP201-90-20241030
RW5-SP301-303-90-20241030

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 :

N. N. Pandya

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 3:12 pm, Nov 20, 2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: CTO WE13

Project Manager: Ernie Wu

Chemtech Project # P4652

Test Name: Metals ICP-TAL,Mercury

A. Number of Samples and Date of Receipt:

6 Water samples were received on 10/31/2024.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Mercury, Metals ICP-TAL, METALS-TAL and SVOC-SIMGroup1. This data package contains results for Metals ICP-TAL,Mercury.

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 samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike (102324-AMS) analysis met criteria for all samples except for Mercury. The Matrix Spike (OUTFALL-007MS) analysis met criteria for all samples except for Barium, Sodium, Vanadium, Zinc.

The Matrix Spike Duplicate (102324-AMSD) analysis met criteria for all samples except for Mercury. The Matrix Spike Duplicate (OUTFALL-007MSD) analysis met criteria for all samples except for Barium, Sodium, Zinc.

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

The Calibration met the requirements.

The Serial Dilution met the acceptable requirements.

E. Additional Comments:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is).

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 N. N. Pandya

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 3:12 pm, Nov 20, 2024

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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

CHEMTECH PROJECT NUMBER: P4652

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.			✓
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 (102324-AMS) analysis met criteria for all samples except for Mercury. The Matrix Spike (OUTFALL-007MS) analysis met criteria for all samples except for Barium, Sodium, Vanadium, Zinc. The Matrix Spike Duplicate (102324-AMSD) analysis met criteria for all samples except for Mercury. The Matrix Spike Duplicate (OUTFALL-007MSD) analysis met criteria for all samples except for Barium, Sodium, Zinc.			
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:

S. M. Jodhani
QA REVIEW

REVIEWED

By Sohil Jodhani, QA/QC Director at 3:08 pm, Nov 20, 2024

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P4652

Completed

For thorough review, the report must have the following:

GENERAL:

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

✓

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

✓

Is the chain of custody signed and complete

✓

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

✓

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

✓

COVER PAGE:

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

✓

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

✓

CHAIN OF CUSTODY:

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

✓

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

✓

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

✓

Were the samples received within hold time

✓

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

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 11/20/2024

LAB CHRONICLE

OrderID:	P4652	OrderDate:	10/31/2024 11:11:00 AM
Client:	Tetra Tech NUS, Inc.	Project:	CTO WE13
Contact:	Ernie Wu	Location:	K61

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4652-01	RW5-SP100-50-20241 030	Water			10/30/24			10/31/24
			Mercury	7470A		11/04/24	11/05/24	
			Metals ICP-TAL	6010D		11/04/24	11/06/24	
P4652-03	RW5-SP301-303-50-2 0241030	Water			10/30/24			10/31/24
			Mercury	7470A		11/04/24	11/05/24	
			Metals ICP-TAL	6010D		11/04/24	11/06/24	
P4652-04	RW5-SP100-90-20241 030	Water			10/30/24			10/31/24
			Mercury	7470A		11/04/24	11/05/24	
			Metals ICP-TAL	6010D		11/04/24	11/06/24	
P4652-06	RW5-SP301-303-90-2 0241030	Water			10/30/24			10/31/24
			Mercury	7470A		11/04/24	11/05/24	
			Metals ICP-TAL	6010D		11/04/24	11/06/24	

Hit Summary Sheet SW-846

SDG No.: P4652 **Order ID:** P4652
Client: Tetra Tech NUS, Inc. **Project ID:** CTO WE13

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : RW5-SP100-50-20241030									
P4652-01	RW5-SP100-50-20241030	Water	Cadmium	0.42	J	0.094	0.75	3.00	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Calcium	3470		33.0	250	1000	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Chromium	1.76	J	0.66	2.50	5.00	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Cobalt	3.76	J	0.50	3.75	15.0	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Iron	9990		18.5	40.0	50.0	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Lead	3.89	J	3.51	4.80	6.00	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Magnesium	1300		39.4	250	1000	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Manganese	180		1.46	2.50	10.0	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Nickel	10.8	J	0.85	5.00	20.0	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Sodium	11900		237	500	1000	ug/L
P4652-01	RW5-SP100-50-20241030	Water	Zinc	27.9		1.75	5.00	20.0	ug/L
Client ID : RW5-SP301-303-50-20241030									
P4652-03	RW5-SP301-303-50-20241030	Water	Calcium	506	J	33.0	250	1000	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Chromium	4.13	J	0.66	2.50	5.00	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Iron	2690		18.5	40.0	50.0	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Magnesium	298	J	39.4	250	1000	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Manganese	32.5		1.46	2.50	10.0	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Nickel	7.21	J	0.85	5.00	20.0	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Potassium	198000		685	800	1000	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Sodium	47600		237	500	1000	ug/L
P4652-03	RW5-SP301-303-50-20241030	Water	Zinc	11.0	J	1.75	5.00	20.0	ug/L
Client ID : RW5-SP100-90-20241030									
P4652-04	RW5-SP100-90-20241030	Water	Calcium	3370		33.0	250	1000	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Cobalt	2.76	J	0.50	3.75	15.0	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Iron	1530		18.5	40.0	50.0	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Lead	5.01	J	3.51	4.80	6.00	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Magnesium	1280		39.4	250	1000	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Manganese	33.1		1.46	2.50	10.0	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Nickel	4.24	J	0.85	5.00	20.0	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Sodium	12200		237	500	1000	ug/L
P4652-04	RW5-SP100-90-20241030	Water	Zinc	18.9	J	1.75	5.00	20.0	ug/L
Client ID : RW5-SP301-303-90-20241030									
P4652-06	RW5-SP301-303-90-20241030	Water	Calcium	197	J	33.0	250	1000	ug/L
P4652-06	RW5-SP301-303-90-20241030	Water	Chromium	2.48	J	0.66	2.50	5.00	ug/L
P4652-06	RW5-SP301-303-90-20241030	Water	Iron	424		18.5	40.0	50.0	ug/L

Hit Summary Sheet
SW-846

SDG No.: P4652

Order ID: P4652

Client: Tetra Tech NUS, Inc.

Project ID: CTO WE13

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
P4652-06	RW5-SP301-303-90-20241030	Water	Magnesium	106	J	39.4	250	1000	ug/L
P4652-06	RW5-SP301-303-90-20241030	Water	Manganese	6.86	J	1.46	2.50	10.0	ug/L
P4652-06	RW5-SP301-303-90-20241030	Water	Nickel	1.12	J	0.85	5.00	20.0	ug/L
P4652-06	RW5-SP301-303-90-20241030	Water	Potassium	63000		685	800	1000	ug/L
P4652-06	RW5-SP301-303-90-20241030	Water	Sodium	24400		237	500	1000	ug/L
P4652-06	RW5-SP301-303-90-20241030	Water	Zinc	2.85	J	1.75	5.00	20.0	ug/L



SAMPLE DATA

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/30/24
Project:	CTO WE13	Date Received:	10/31/24
Client Sample ID:	RW5-SP100-50-20241030	SDG No.:	P4652
Lab Sample ID:	P4652-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	40.0	U	1	28.3	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-36-0	Antimony	6.25	U	1	2.06	6.25	25.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-38-2	Arsenic	8.00	U	1	3.48	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-39-3	Barium	12.5	UN	1	6.28	12.5	50.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-41-7	Beryllium	0.75	U	1	0.13	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-43-9	Cadmium	0.42	J	1	0.094	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-70-2	Calcium	3470		1	33.0	250	1000	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-47-3	Chromium	1.76	J	1	0.66	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-48-4	Cobalt	3.76	J	1	0.50	3.75	15.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-50-8	Copper	8.00	U	1	7.07	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7439-89-6	Iron	9990		1	18.5	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7439-92-1	Lead	3.89	J	1	3.51	4.80	6.00	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7439-95-4	Magnesium	1300		1	39.4	250	1000	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7439-96-5	Manganese	180		1	1.46	2.50	10.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7439-97-6	Mercury	0.16	UN	1	0.081	0.16	0.20	ug/L	11/04/24 14:40	11/05/24 13:24	SW7470A	
7440-02-0	Nickel	10.8	J	1	0.85	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-09-7	Potassium	800	U	1	685	800	1000	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7782-49-2	Selenium	8.00	U	1	5.88	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-22-4	Silver	2.50	U	1	0.58	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-23-5	Sodium	11900	N	1	237	500	1000	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-28-0	Thallium	10.0	U	1	2.32	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-62-2	Vanadium	10.0	UN	1	3.06	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010
7440-66-6	Zinc	27.9	N	1	1.75	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 18:49	SW6010	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	METALS-TAL			

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

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

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/30/24
Project:	CTO WE13	Date Received:	10/31/24
Client Sample ID:	RW5-SP301-303-50-20241030	SDG No.:	P4652
Lab Sample ID:	P4652-03	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	40.0	U	1	28.3	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-36-0	Antimony	6.25	U	1	2.06	6.25	25.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-38-2	Arsenic	8.00	U	1	3.48	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-39-3	Barium	12.5	UN	1	6.28	12.5	50.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-41-7	Beryllium	0.75	U	1	0.13	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-43-9	Cadmium	0.75	U	1	0.094	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-70-2	Calcium	506	J	1	33.0	250	1000	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-47-3	Chromium	4.13	J	1	0.66	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-48-4	Cobalt	3.75	U	1	0.50	3.75	15.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-50-8	Copper	8.00	U	1	7.07	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7439-89-6	Iron	2690		1	18.5	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7439-92-1	Lead	4.80	U	1	3.51	4.80	6.00	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7439-95-4	Magnesium	298	J	1	39.4	250	1000	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7439-96-5	Manganese	32.5		1	1.46	2.50	10.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7439-97-6	Mercury	0.16	UN	1	0.081	0.16	0.20	ug/L	11/04/24 14:40	11/05/24 13:27	SW7470A	
7440-02-0	Nickel	7.21	J	1	0.85	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-09-7	Potassium	198000		1	685	800	1000	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7782-49-2	Selenium	8.00	U	1	5.88	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-22-4	Silver	2.50	U	1	0.58	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-23-5	Sodium	47600	N	1	237	500	1000	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-28-0	Thallium	10.0	U	1	2.32	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-62-2	Vanadium	10.0	UN	1	3.06	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010
7440-66-6	Zinc	11.0	JN	1	1.75	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 19:02	SW6010	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	METALS-TAL			

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

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

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/30/24
Project:	CTO WE13	Date Received:	10/31/24
Client Sample ID:	RW5-SP100-90-20241030	SDG No.:	P4652
Lab Sample ID:	P4652-04	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	40.0	U	1	28.3	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-36-0	Antimony	6.25	U	1	2.06	6.25	25.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-38-2	Arsenic	8.00	U	1	3.48	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-39-3	Barium	12.5	UN	1	6.28	12.5	50.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-41-7	Beryllium	0.75	U	1	0.13	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-43-9	Cadmium	0.75	U	1	0.094	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-70-2	Calcium	3370		1	33.0	250	1000	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-47-3	Chromium	2.50	U	1	0.66	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-48-4	Cobalt	2.76	J	1	0.50	3.75	15.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-50-8	Copper	8.00	U	1	7.07	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7439-89-6	Iron	1530		1	18.5	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7439-92-1	Lead	5.01	J	1	3.51	4.80	6.00	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7439-95-4	Magnesium	1280		1	39.4	250	1000	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7439-96-5	Manganese	33.1		1	1.46	2.50	10.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7439-97-6	Mercury	0.16	UN	1	0.081	0.16	0.20	ug/L	11/04/24 14:40	11/05/24 13:36	SW7470A	
7440-02-0	Nickel	4.24	J	1	0.85	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-09-7	Potassium	800	U	1	685	800	1000	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7782-49-2	Selenium	8.00	U	1	5.88	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-22-4	Silver	2.50	U	1	0.58	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-23-5	Sodium	12200	N	1	237	500	1000	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-28-0	Thallium	10.0	U	1	2.32	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-62-2	Vanadium	10.0	UN	1	3.06	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010
7440-66-6	Zinc	18.9	JN	1	1.75	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 19:06	SW6010	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	METALS-TAL			

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/30/24
Project:	CTO WE13	Date Received:	10/31/24
Client Sample ID:	RW5-SP301-303-90-20241030	SDG No.:	P4652
Lab Sample ID:	P4652-06	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	40.0	U	1	28.3	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-36-0	Antimony	6.25	U	1	2.06	6.25	25.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-38-2	Arsenic	8.00	U	1	3.48	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-39-3	Barium	12.5	UN	1	6.28	12.5	50.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-41-7	Beryllium	0.75	U	1	0.13	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-43-9	Cadmium	0.75	U	1	0.094	0.75	3.00	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-70-2	Calcium	197	J	1	33.0	250	1000	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-47-3	Chromium	2.48	J	1	0.66	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-48-4	Cobalt	3.75	U	1	0.50	3.75	15.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-50-8	Copper	8.00	U	1	7.07	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7439-89-6	Iron	424		1	18.5	40.0	50.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7439-92-1	Lead	4.80	U	1	3.51	4.80	6.00	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7439-95-4	Magnesium	106	J	1	39.4	250	1000	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7439-96-5	Manganese	6.86	J	1	1.46	2.50	10.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7439-97-6	Mercury	0.16	UN	1	0.081	0.16	0.20	ug/L	11/04/24 14:40	11/05/24 13:38	SW7470A	
7440-02-0	Nickel	1.12	J	1	0.85	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-09-7	Potassium	63000		1	685	800	1000	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7782-49-2	Selenium	8.00	U	1	5.88	8.00	10.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-22-4	Silver	2.50	U	1	0.58	2.50	5.00	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-23-5	Sodium	24400	N	1	237	500	1000	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-28-0	Thallium	10.0	U	1	2.32	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-62-2	Vanadium	10.0	UN	1	3.06	10.0	20.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010
7440-66-6	Zinc	2.85	JN	1	1.75	5.00	20.0	ug/L	11/04/24 11:30	11/06/24 19:11	SW6010	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	METALS-TAL			

U = Not Detected
LOQ = Limit of Quantitation
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METAL CALIBRATION DATA

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652

Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652

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
ICV69	Mercury	3.87	4.0	97	90 - 110	CV	11/05/2024	11:58	LB133297

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652

Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652

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
CCV26	Mercury	4.76	5.0	95	90 - 110	CV	11/05/2024	12:03	LB133297
CCV27	Mercury	4.98	5.0	100	90 - 110	CV	11/05/2024	12:30	LB133297
CCV28	Mercury	4.94	5.0	99	90 - 110	CV	11/05/2024	12:57	LB133297
CCV29	Mercury	5.12	5.0	102	90 - 110	CV	11/05/2024	13:32	LB133297
CCV30	Mercury	5.20	5.0	104	90 - 110	CV	11/05/2024	14:08	LB133297
CCV31	Mercury	5.44	5.0	109	90 - 110	CV	11/05/2024	14:29	LB133297
CCV32	Mercury	5.11	5.0	102	90 - 110	CV	11/05/2024	14:42	LB133297

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
ICV01	Aluminum	2550	2500	102	90 - 110	P	11/06/2024	17:34	LB133323
	Antimony	981	1000	98	90 - 110	P	11/06/2024	17:34	LB133323
	Arsenic	1010	1000	101	90 - 110	P	11/06/2024	17:34	LB133323
	Barium	522	520	100	90 - 110	P	11/06/2024	17:34	LB133323
	Beryllium	520	510	102	90 - 110	P	11/06/2024	17:34	LB133323
	Cadmium	500	510	98	90 - 110	P	11/06/2024	17:34	LB133323
	Calcium	10200	10000	102	90 - 110	P	11/06/2024	17:34	LB133323
	Chromium	529	520	102	90 - 110	P	11/06/2024	17:34	LB133323
	Cobalt	506	520	97	90 - 110	P	11/06/2024	17:34	LB133323
	Copper	516	510	101	90 - 110	P	11/06/2024	17:34	LB133323
	Iron	10100	10000	101	90 - 110	P	11/06/2024	17:34	LB133323
	Lead	1000	1000	100	90 - 110	P	11/06/2024	17:34	LB133323
	Magnesium	5990	6000	100	90 - 110	P	11/06/2024	17:34	LB133323
	Manganese	526	520	101	90 - 110	P	11/06/2024	17:34	LB133323
	Nickel	509	530	96	90 - 110	P	11/06/2024	17:34	LB133323
	Potassium	9880	9900	100	90 - 110	P	11/06/2024	17:34	LB133323
	Selenium	1010	1000	101	90 - 110	P	11/06/2024	17:34	LB133323
	Silver	258	250	103	90 - 110	P	11/06/2024	17:34	LB133323
	Sodium	9370	10000	94	90 - 110	P	11/06/2024	17:34	LB133323
	Thallium	1050	1000	105	90 - 110	P	11/06/2024	17:34	LB133323
	Vanadium	503	500	101	90 - 110	P	11/06/2024	17:34	LB133323
	Zinc	1050	1000	104	90 - 110	P	11/06/2024	17:34	LB133323

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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	103	100	103	80 - 120	P	11/06/2024	17:38	LB133323
	Antimony	48.9	50.0	98	80 - 120	P	11/06/2024	17:38	LB133323
	Arsenic	19.2	20.0	96	80 - 120	P	11/06/2024	17:38	LB133323
	Barium	104	100	104	80 - 120	P	11/06/2024	17:38	LB133323
	Beryllium	6.08	6.0	101	80 - 120	P	11/06/2024	17:38	LB133323
	Cadmium	6.52	6.0	109	80 - 120	P	11/06/2024	17:38	LB133323
	Calcium	2060	2000	103	80 - 120	P	11/06/2024	17:38	LB133323
	Chromium	9.84	10.0	98	80 - 120	P	11/06/2024	17:38	LB133323
	Cobalt	29.1	30.0	97	80 - 120	P	11/06/2024	17:38	LB133323
	Copper	21.7	20.0	108	80 - 120	P	11/06/2024	17:38	LB133323
	Iron	95.1	100	95	80 - 120	P	11/06/2024	17:38	LB133323
	Lead	12.2	12.0	102	80 - 120	P	11/06/2024	17:38	LB133323
	Magnesium	2030	2000	102	80 - 120	P	11/06/2024	17:38	LB133323
	Manganese	21.2	20.0	106	80 - 120	P	11/06/2024	17:38	LB133323
	Nickel	40.6	40.0	102	80 - 120	P	11/06/2024	17:38	LB133323
	Potassium	1990	2000	99	80 - 120	P	11/06/2024	17:38	LB133323
	Selenium	20.1	20.0	100	80 - 120	P	11/06/2024	17:38	LB133323
	Silver	10.1	10.0	101	80 - 120	P	11/06/2024	17:38	LB133323
	Sodium	1680	2000	84	80 - 120	P	11/06/2024	17:38	LB133323
	Thallium	41.1	40.0	103	80 - 120	P	11/06/2024	17:38	LB133323
	Vanadium	40.9	40.0	102	80 - 120	P	11/06/2024	17:38	LB133323
	Zinc	44.7	40.0	112	80 - 120	P	11/06/2024	17:38	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV01	Aluminum	10100	10000	101	90 - 110	P	11/06/2024	18:23	LB133323
	Antimony	5020	5000	100	90 - 110	P	11/06/2024	18:23	LB133323
	Arsenic	5050	5000	101	90 - 110	P	11/06/2024	18:23	LB133323
	Barium	10300	10000	103	90 - 110	P	11/06/2024	18:23	LB133323
	Beryllium	255	250	102	90 - 110	P	11/06/2024	18:23	LB133323
	Cadmium	2500	2500	100	90 - 110	P	11/06/2024	18:23	LB133323
	Calcium	25300	25000	101	90 - 110	P	11/06/2024	18:23	LB133323
	Chromium	1010	1000	101	90 - 110	P	11/06/2024	18:23	LB133323
	Cobalt	2490	2500	100	90 - 110	P	11/06/2024	18:23	LB133323
	Copper	1260	1250	101	90 - 110	P	11/06/2024	18:23	LB133323
	Iron	4970	5000	99	90 - 110	P	11/06/2024	18:23	LB133323
	Lead	5010	5000	100	90 - 110	P	11/06/2024	18:23	LB133323
	Magnesium	25100	25000	100	90 - 110	P	11/06/2024	18:23	LB133323
	Manganese	2540	2500	102	90 - 110	P	11/06/2024	18:23	LB133323
	Nickel	2500	2500	100	90 - 110	P	11/06/2024	18:23	LB133323
	Potassium	24900	25000	100	90 - 110	P	11/06/2024	18:23	LB133323
	Selenium	5060	5000	101	90 - 110	P	11/06/2024	18:23	LB133323
	Silver	1250	1250	100	90 - 110	P	11/06/2024	18:23	LB133323
	Sodium	25800	25000	103	90 - 110	P	11/06/2024	18:23	LB133323
	Thallium	5280	5000	106	90 - 110	P	11/06/2024	18:23	LB133323
	Vanadium	2530	2500	101	90 - 110	P	11/06/2024	18:23	LB133323
	Zinc	2470	2500	99	90 - 110	P	11/06/2024	18:23	LB133323
CCV02	Aluminum	10000	10000	100	90 - 110	P	11/06/2024	18:39	LB133323
	Antimony	4960	5000	99	90 - 110	P	11/06/2024	18:39	LB133323
	Arsenic	4940	5000	99	90 - 110	P	11/06/2024	18:39	LB133323
	Barium	10100	10000	101	90 - 110	P	11/06/2024	18:39	LB133323
	Beryllium	256	250	102	90 - 110	P	11/06/2024	18:39	LB133323
	Cadmium	2480	2500	99	90 - 110	P	11/06/2024	18:39	LB133323
	Calcium	25300	25000	101	90 - 110	P	11/06/2024	18:39	LB133323
	Chromium	993	1000	99	90 - 110	P	11/06/2024	18:39	LB133323
	Cobalt	2480	2500	99	90 - 110	P	11/06/2024	18:39	LB133323
	Copper	1240	1250	99	90 - 110	P	11/06/2024	18:39	LB133323
	Iron	4880	5000	98	90 - 110	P	11/06/2024	18:39	LB133323
	Lead	4970	5000	99	90 - 110	P	11/06/2024	18:39	LB133323

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV02	Magnesium	25100	25000	100	90 - 110	P	11/06/2024	18:39	LB133323
	Manganese	2540	2500	102	90 - 110	P	11/06/2024	18:39	LB133323
	Nickel	2480	2500	99	90 - 110	P	11/06/2024	18:39	LB133323
	Potassium	24200	25000	97	90 - 110	P	11/06/2024	18:39	LB133323
	Selenium	4960	5000	99	90 - 110	P	11/06/2024	18:39	LB133323
	Silver	1230	1250	99	90 - 110	P	11/06/2024	18:39	LB133323
	Sodium	24700	25000	99	90 - 110	P	11/06/2024	18:39	LB133323
	Thallium	5160	5000	103	90 - 110	P	11/06/2024	18:39	LB133323
	Vanadium	2530	2500	101	90 - 110	P	11/06/2024	18:39	LB133323
	Zinc	2430	2500	97	90 - 110	P	11/06/2024	18:39	LB133323
CCV03	Aluminum	9900	10000	99	90 - 110	P	11/06/2024	19:32	LB133323
	Antimony	4880	5000	98	90 - 110	P	11/06/2024	19:32	LB133323
	Arsenic	4870	5000	98	90 - 110	P	11/06/2024	19:32	LB133323
	Barium	10100	10000	101	90 - 110	P	11/06/2024	19:32	LB133323
	Beryllium	254	250	102	90 - 110	P	11/06/2024	19:32	LB133323
	Cadmium	2450	2500	98	90 - 110	P	11/06/2024	19:32	LB133323
	Calcium	25100	25000	100	90 - 110	P	11/06/2024	19:32	LB133323
	Chromium	1010	1000	100	90 - 110	P	11/06/2024	19:32	LB133323
	Cobalt	2450	2500	98	90 - 110	P	11/06/2024	19:32	LB133323
	Copper	1220	1250	98	90 - 110	P	11/06/2024	19:32	LB133323
	Iron	5050	5000	101	90 - 110	P	11/06/2024	19:32	LB133323
	Lead	4910	5000	98	90 - 110	P	11/06/2024	19:32	LB133323
	Magnesium	24700	25000	99	90 - 110	P	11/06/2024	19:32	LB133323
	Manganese	2510	2500	100	90 - 110	P	11/06/2024	19:32	LB133323
	Nickel	2450	2500	98	90 - 110	P	11/06/2024	19:32	LB133323
	Potassium	25200	25000	101	90 - 110	P	11/06/2024	19:32	LB133323
	Selenium	4880	5000	98	90 - 110	P	11/06/2024	19:32	LB133323
	Silver	1260	1250	101	90 - 110	P	11/06/2024	19:32	LB133323
	Sodium	26100	25000	104	90 - 110	P	11/06/2024	19:32	LB133323
	Thallium	5030	5000	101	90 - 110	P	11/06/2024	19:32	LB133323
	Vanadium	2490	2500	100	90 - 110	P	11/06/2024	19:32	LB133323
	Zinc	2440	2500	98	90 - 110	P	11/06/2024	19:32	LB133323
CCV04	Aluminum	10000	10000	100	90 - 110	P	11/06/2024	20:22	LB133323
	Antimony	5040	5000	101	90 - 110	P	11/06/2024	20:22	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV04	Arsenic	5070	5000	101	90 - 110	P	11/06/2024	20:22	LB133323
	Barium	10200	10000	102	90 - 110	P	11/06/2024	20:22	LB133323
	Beryllium	257	250	103	90 - 110	P	11/06/2024	20:22	LB133323
	Cadmium	2540	2500	102	90 - 110	P	11/06/2024	20:22	LB133323
	Calcium	25200	25000	101	90 - 110	P	11/06/2024	20:22	LB133323
	Chromium	1010	1000	100	90 - 110	P	11/06/2024	20:22	LB133323
	Cobalt	2530	2500	101	90 - 110	P	11/06/2024	20:22	LB133323
	Copper	1270	1250	102	90 - 110	P	11/06/2024	20:22	LB133323
	Iron	4920	5000	98	90 - 110	P	11/06/2024	20:22	LB133323
	Lead	5080	5000	102	90 - 110	P	11/06/2024	20:22	LB133323
	Magnesium	24900	25000	100	90 - 110	P	11/06/2024	20:22	LB133323
	Manganese	2520	2500	101	90 - 110	P	11/06/2024	20:22	LB133323
	Nickel	2540	2500	101	90 - 110	P	11/06/2024	20:22	LB133323
	Potassium	24500	25000	98	90 - 110	P	11/06/2024	20:22	LB133323
	Selenium	5060	5000	101	90 - 110	P	11/06/2024	20:22	LB133323
	Silver	1250	1250	100	90 - 110	P	11/06/2024	20:22	LB133323
	Sodium	25500	25000	102	90 - 110	P	11/06/2024	20:22	LB133323
	Thallium	5290	5000	106	90 - 110	P	11/06/2024	20:22	LB133323
	Vanadium	2510	2500	100	90 - 110	P	11/06/2024	20:22	LB133323
	Zinc	2450	2500	98	90 - 110	P	11/06/2024	20:22	LB133323
CCV05	Aluminum	10300	10000	103	90 - 110	P	11/06/2024	21:13	LB133323
	Antimony	5050	5000	101	90 - 110	P	11/06/2024	21:13	LB133323
	Arsenic	5070	5000	102	90 - 110	P	11/06/2024	21:13	LB133323
	Barium	10500	10000	105	90 - 110	P	11/06/2024	21:13	LB133323
	Beryllium	265	250	106	90 - 110	P	11/06/2024	21:13	LB133323
	Cadmium	2570	2500	103	90 - 110	P	11/06/2024	21:13	LB133323
	Calcium	26100	25000	104	90 - 110	P	11/06/2024	21:13	LB133323
	Chromium	1030	1000	103	90 - 110	P	11/06/2024	21:13	LB133323
	Cobalt	2560	2500	102	90 - 110	P	11/06/2024	21:13	LB133323
	Copper	1270	1250	102	90 - 110	P	11/06/2024	21:13	LB133323
	Iron	5050	5000	101	90 - 110	P	11/06/2024	21:13	LB133323
	Lead	5120	5000	102	90 - 110	P	11/06/2024	21:13	LB133323
	Magnesium	25800	25000	103	90 - 110	P	11/06/2024	21:13	LB133323
	Manganese	2620	2500	105	90 - 110	P	11/06/2024	21:13	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV05	Nickel	2560	2500	102	90 - 110	P	11/06/2024	21:13	LB133323
	Potassium	25200	25000	101	90 - 110	P	11/06/2024	21:13	LB133323
	Selenium	5060	5000	101	90 - 110	P	11/06/2024	21:13	LB133323
	Silver	1280	1250	102	90 - 110	P	11/06/2024	21:13	LB133323
	Sodium	26400	25000	106	90 - 110	P	11/06/2024	21:13	LB133323
	Thallium	5270	5000	105	90 - 110	P	11/06/2024	21:13	LB133323
	Vanadium	2590	2500	104	90 - 110	P	11/06/2024	21:13	LB133323
	Zinc	2500	2500	100	90 - 110	P	11/06/2024	21:13	LB133323
CCV06	Aluminum	10100	10000	101	90 - 110	P	11/06/2024	22:11	LB133323
	Antimony	4990	5000	100	90 - 110	P	11/06/2024	22:11	LB133323
	Arsenic	4990	5000	100	90 - 110	P	11/06/2024	22:11	LB133323
	Barium	10500	10000	104	90 - 110	P	11/06/2024	22:11	LB133323
	Beryllium	262	250	105	90 - 110	P	11/06/2024	22:11	LB133323
	Cadmium	2510	2500	100	90 - 110	P	11/06/2024	22:11	LB133323
	Calcium	25600	25000	102	90 - 110	P	11/06/2024	22:11	LB133323
	Chromium	1010	1000	101	90 - 110	P	11/06/2024	22:11	LB133323
	Cobalt	2510	2500	100	90 - 110	P	11/06/2024	22:11	LB133323
	Copper	1250	1250	100	90 - 110	P	11/06/2024	22:11	LB133323
	Iron	4880	5000	98	90 - 110	P	11/06/2024	22:11	LB133323
	Lead	5030	5000	100	90 - 110	P	11/06/2024	22:11	LB133323
	Magnesium	25000	25000	100	90 - 110	P	11/06/2024	22:11	LB133323
	Manganese	2530	2500	101	90 - 110	P	11/06/2024	22:11	LB133323
	Nickel	2510	2500	100	90 - 110	P	11/06/2024	22:11	LB133323
	Potassium	24700	25000	99	90 - 110	P	11/06/2024	22:11	LB133323
	Selenium	4990	5000	100	90 - 110	P	11/06/2024	22:11	LB133323
	Silver	1250	1250	100	90 - 110	P	11/06/2024	22:11	LB133323
	Sodium	25900	25000	104	90 - 110	P	11/06/2024	22:11	LB133323
	Thallium	5210	5000	104	90 - 110	P	11/06/2024	22:11	LB133323
	Vanadium	2520	2500	101	90 - 110	P	11/06/2024	22:11	LB133323
	Zinc	2270	2500	91	90 - 110	P	11/06/2024	22:11	LB133323
CCV07	Aluminum	10200	10000	102	90 - 110	P	11/06/2024	23:03	LB133323
	Antimony	5020	5000	100	90 - 110	P	11/06/2024	23:03	LB133323
	Arsenic	5020	5000	100	90 - 110	P	11/06/2024	23:03	LB133323
	Barium	10600	10000	106	90 - 110	P	11/06/2024	23:03	LB133323

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV07	Beryllium	274	250	110	90 - 110	P	11/06/2024	23:03	LB133323
	Cadmium	2550	2500	102	90 - 110	P	11/06/2024	23:03	LB133323
	Calcium	25900	25000	104	90 - 110	P	11/06/2024	23:03	LB133323
	Chromium	1040	1000	104	90 - 110	P	11/06/2024	23:03	LB133323
	Cobalt	2540	2500	102	90 - 110	P	11/06/2024	23:03	LB133323
	Copper	1260	1250	101	90 - 110	P	11/06/2024	23:03	LB133323
	Iron	5090	5000	102	90 - 110	P	11/06/2024	23:03	LB133323
	Lead	5100	5000	102	90 - 110	P	11/06/2024	23:03	LB133323
	Magnesium	25600	25000	102	90 - 110	P	11/06/2024	23:03	LB133323
	Manganese	2600	2500	104	90 - 110	P	11/06/2024	23:03	LB133323
	Nickel	2550	2500	102	90 - 110	P	11/06/2024	23:03	LB133323
	Potassium	26000	25000	104	90 - 110	P	11/06/2024	23:03	LB133323
	Selenium	5020	5000	100	90 - 110	P	11/06/2024	23:03	LB133323
	Silver	1300	1250	104	90 - 110	P	11/06/2024	23:03	LB133323
	Sodium	27100	25000	108	90 - 110	P	11/06/2024	23:03	LB133323
	Thallium	5240	5000	105	90 - 110	P	11/06/2024	23:03	LB133323
	Vanadium	2560	2500	103	90 - 110	P	11/06/2024	23:03	LB133323
	Zinc	2340	2500	94	90 - 110	P	11/06/2024	23:03	LB133323
CCV08	Aluminum	10000	10000	100	90 - 110	P	11/06/2024	23:59	LB133323
	Antimony	4940	5000	99	90 - 110	P	11/06/2024	23:59	LB133323
	Arsenic	4970	5000	99	90 - 110	P	11/06/2024	23:59	LB133323
	Barium	10400	10000	104	90 - 110	P	11/06/2024	23:59	LB133323
	Beryllium	270	250	108	90 - 110	P	11/06/2024	23:59	LB133323
	Cadmium	2520	2500	101	90 - 110	P	11/06/2024	23:59	LB133323
	Calcium	25500	25000	102	90 - 110	P	11/06/2024	23:59	LB133323
	Chromium	1020	1000	102	90 - 110	P	11/06/2024	23:59	LB133323
	Cobalt	2510	2500	100	90 - 110	P	11/06/2024	23:59	LB133323
	Copper	1240	1250	100	90 - 110	P	11/06/2024	23:59	LB133323
	Iron	4890	5000	98	90 - 110	P	11/06/2024	23:59	LB133323
	Lead	5040	5000	101	90 - 110	P	11/06/2024	23:59	LB133323
	Magnesium	25300	25000	101	90 - 110	P	11/06/2024	23:59	LB133323
	Manganese	2570	2500	103	90 - 110	P	11/06/2024	23:59	LB133323
	Nickel	2510	2500	101	90 - 110	P	11/06/2024	23:59	LB133323
	Potassium	24900	25000	100	90 - 110	P	11/06/2024	23:59	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV08	Selenium	4950	5000	99	90 - 110	P	11/06/2024	23:59	LB133323
	Silver	1260	1250	101	90 - 110	P	11/06/2024	23:59	LB133323
	Sodium	25900	25000	104	90 - 110	P	11/06/2024	23:59	LB133323
	Thallium	5090	5000	102	90 - 110	P	11/06/2024	23:59	LB133323
	Vanadium	2530	2500	101	90 - 110	P	11/06/2024	23:59	LB133323
	Zinc	2400	2500	96	90 - 110	P	11/06/2024	23:59	LB133323
CCV09	Aluminum	9840	10000	98	90 - 110	P	11/07/2024	00:53	LB133323
	Antimony	4890	5000	98	90 - 110	P	11/07/2024	00:53	LB133323
	Arsenic	4880	5000	98	90 - 110	P	11/07/2024	00:53	LB133323
	Barium	10100	10000	101	90 - 110	P	11/07/2024	00:53	LB133323
	Beryllium	260	250	104	90 - 110	P	11/07/2024	00:53	LB133323
	Cadmium	2450	2500	98	90 - 110	P	11/07/2024	00:53	LB133323
	Calcium	24800	25000	99	90 - 110	P	11/07/2024	00:53	LB133323
	Chromium	997	1000	100	90 - 110	P	11/07/2024	00:53	LB133323
	Cobalt	2440	2500	98	90 - 110	P	11/07/2024	00:53	LB133323
	Copper	1220	1250	98	90 - 110	P	11/07/2024	00:53	LB133323
	Iron	4930	5000	99	90 - 110	P	11/07/2024	00:53	LB133323
	Lead	4900	5000	98	90 - 110	P	11/07/2024	00:53	LB133323
	Magnesium	24600	25000	98	90 - 110	P	11/07/2024	00:53	LB133323
	Manganese	2510	2500	100	90 - 110	P	11/07/2024	00:53	LB133323
	Nickel	2450	2500	98	90 - 110	P	11/07/2024	00:53	LB133323
	Potassium	25100	25000	100	90 - 110	P	11/07/2024	00:53	LB133323
	Selenium	4890	5000	98	90 - 110	P	11/07/2024	00:53	LB133323
	Silver	1250	1250	100	90 - 110	P	11/07/2024	00:53	LB133323
	Sodium	26100	25000	104	90 - 110	P	11/07/2024	00:53	LB133323
	Thallium	4980	5000	100	90 - 110	P	11/07/2024	00:53	LB133323
	Vanadium	2500	2500	100	90 - 110	P	11/07/2024	00:53	LB133323
	Zinc	2370	2500	95	90 - 110	P	11/07/2024	00:53	LB133323
CCV10	Aluminum	10100	10000	101	90 - 110	P	11/07/2024	01:49	LB133323
	Antimony	4760	5000	95	90 - 110	P	11/07/2024	01:49	LB133323
	Arsenic	4860	5000	97	90 - 110	P	11/07/2024	01:49	LB133323
	Barium	10100	10000	101	90 - 110	P	11/07/2024	01:49	LB133323
	Beryllium	245	250	98	90 - 110	P	11/07/2024	01:49	LB133323
	Cadmium	2660	2500	106	90 - 110	P	11/07/2024	01:49	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV10	Calcium	27400	25000	109	90 - 110	P	11/07/2024	01:49	LB133323
	Chromium	1080	1000	108	90 - 110	P	11/07/2024	01:49	LB133323
	Cobalt	2610	2500	104	90 - 110	P	11/07/2024	01:49	LB133323
	Copper	1220	1250	98	90 - 110	P	11/07/2024	01:49	LB133323
	Iron	4960	5000	99	90 - 110	P	11/07/2024	01:49	LB133323
	Lead	5270	5000	105	90 - 110	P	11/07/2024	01:49	LB133323
	Magnesium	23100	25000	92	90 - 110	P	11/07/2024	01:49	LB133323
	Manganese	2710	2500	108	90 - 110	P	11/07/2024	01:49	LB133323
	Nickel	2620	2500	105	90 - 110	P	11/07/2024	01:49	LB133323
	Potassium	23100	25000	92	90 - 110	P	11/07/2024	01:49	LB133323
	Selenium	4770	5000	95	90 - 110	P	11/07/2024	01:49	LB133323
	Silver	1300	1250	104	90 - 110	P	11/07/2024	01:49	LB133323
	Sodium	23600	25000	94	90 - 110	P	11/07/2024	01:49	LB133323
	Thallium	5290	5000	106	90 - 110	P	11/07/2024	01:49	LB133323
	Vanadium	2640	2500	106	90 - 110	P	11/07/2024	01:49	LB133323
	Zinc	2540	2500	102	90 - 110	P	11/07/2024	01:49	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
ICV01	Aluminum	2650	2500	106	90 - 110	P	11/19/2024	11:25	LB133524
	Antimony	1010	1000	101	90 - 110	P	11/19/2024	11:25	LB133524
	Arsenic	1020	1000	102	90 - 110	P	11/19/2024	11:25	LB133524
	Barium	542	520	104	90 - 110	P	11/19/2024	11:25	LB133524
	Beryllium	536	510	105	90 - 110	P	11/19/2024	11:25	LB133524
	Cadmium	526	510	103	90 - 110	P	11/19/2024	11:25	LB133524
	Calcium	10700	10000	107	90 - 110	P	11/19/2024	11:25	LB133524
	Chromium	551	520	106	90 - 110	P	11/19/2024	11:25	LB133524
	Cobalt	531	520	102	90 - 110	P	11/19/2024	11:25	LB133524
	Copper	538	510	105	90 - 110	P	11/19/2024	11:25	LB133524
	Iron	10400	10000	104	90 - 110	P	11/19/2024	11:25	LB133524
	Lead	1040	1000	104	90 - 110	P	11/19/2024	11:25	LB133524
	Magnesium	6280	6000	105	90 - 110	P	11/19/2024	11:25	LB133524
	Manganese	550	520	106	90 - 110	P	11/19/2024	11:25	LB133524
	Nickel	532	530	100	90 - 110	P	11/19/2024	11:25	LB133524
	Potassium	10000	9900	101	90 - 110	P	11/19/2024	11:25	LB133524
	Selenium	1040	1000	104	90 - 110	P	11/19/2024	11:25	LB133524
	Silver	261	250	105	90 - 110	P	11/19/2024	11:25	LB133524
	Sodium	9760	10000	98	90 - 110	P	11/19/2024	11:25	LB133524
	Thallium	1090	1000	109	90 - 110	P	11/19/2024	11:25	LB133524
	Vanadium	524	500	105	90 - 110	P	11/19/2024	11:25	LB133524
	Zinc	1060	1000	106	90 - 110	P	11/19/2024	11:25	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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	104	100	104	80 - 120	P	11/19/2024	11:34	LB133524
	Antimony	51.1	50.0	102	80 - 120	P	11/19/2024	11:34	LB133524
	Arsenic	20.5	20.0	102	80 - 120	P	11/19/2024	11:34	LB133524
	Barium	104	100	104	80 - 120	P	11/19/2024	11:34	LB133524
	Beryllium	5.85	6.0	98	80 - 120	P	11/19/2024	11:34	LB133524
	Cadmium	5.89	6.0	98	80 - 120	P	11/19/2024	11:34	LB133524
	Calcium	2090	2000	105	80 - 120	P	11/19/2024	11:34	LB133524
	Chromium	10.7	10.0	107	80 - 120	P	11/19/2024	11:34	LB133524
	Cobalt	29.9	30.0	100	80 - 120	P	11/19/2024	11:34	LB133524
	Copper	22.3	20.0	112	80 - 120	P	11/19/2024	11:34	LB133524
	Iron	100	100	100	80 - 120	P	11/19/2024	11:34	LB133524
	Lead	12.4	12.0	103	80 - 120	P	11/19/2024	11:34	LB133524
	Magnesium	2040	2000	102	80 - 120	P	11/19/2024	11:34	LB133524
	Manganese	21.4	20.0	107	80 - 120	P	11/19/2024	11:34	LB133524
	Nickel	39.7	40.0	99	80 - 120	P	11/19/2024	11:34	LB133524
	Potassium	1920	2000	96	80 - 120	P	11/19/2024	11:34	LB133524
	Selenium	20.6	20.0	103	80 - 120	P	11/19/2024	11:34	LB133524
	Silver	10.1	10.0	101	80 - 120	P	11/19/2024	11:34	LB133524
	Sodium	1820	2000	91	80 - 120	P	11/19/2024	11:34	LB133524
	Thallium	39.2	40.0	98	80 - 120	P	11/19/2024	11:34	LB133524
	Vanadium	40.3	40.0	101	80 - 120	P	11/19/2024	11:34	LB133524
	Zinc	45.8	40.0	114	80 - 120	P	11/19/2024	11:34	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV01	Aluminum	9940	10000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Antimony	4980	5000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Arsenic	4970	5000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Barium	10000	10000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Beryllium	249	250	100	90 - 110	P	11/19/2024	12:43	LB133524
	Cadmium	2490	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
	Calcium	24800	25000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Chromium	996	1000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Cobalt	2490	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
	Copper	1260	1250	101	90 - 110	P	11/19/2024	12:43	LB133524
	Iron	4880	5000	98	90 - 110	P	11/19/2024	12:43	LB133524
	Lead	4990	5000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Magnesium	24800	25000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Manganese	2490	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
	Nickel	2500	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
	Potassium	24200	25000	97	90 - 110	P	11/19/2024	12:43	LB133524
	Selenium	4950	5000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Silver	1230	1250	98	90 - 110	P	11/19/2024	12:43	LB133524
	Sodium	24200	25000	97	90 - 110	P	11/19/2024	12:43	LB133524
	Thallium	5030	5000	101	90 - 110	P	11/19/2024	12:43	LB133524
	Vanadium	2500	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
	Zinc	2490	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
CCV02	Aluminum	10600	10000	106	90 - 110	P	11/19/2024	13:34	LB133524
	Antimony	5360	5000	107	90 - 110	P	11/19/2024	13:34	LB133524
	Arsenic	5320	5000	106	90 - 110	P	11/19/2024	13:34	LB133524
	Barium	10300	10000	103	90 - 110	P	11/19/2024	13:34	LB133524
	Beryllium	262	250	105	90 - 110	P	11/19/2024	13:34	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	13:34	LB133524
	Calcium	26100	25000	104	90 - 110	P	11/19/2024	13:34	LB133524
	Chromium	1070	1000	107	90 - 110	P	11/19/2024	13:34	LB133524
	Cobalt	2620	2500	105	90 - 110	P	11/19/2024	13:34	LB133524
	Copper	1350	1250	108	90 - 110	P	11/19/2024	13:34	LB133524
	Iron	5270	5000	105	90 - 110	P	11/19/2024	13:34	LB133524
	Lead	5240	5000	105	90 - 110	P	11/19/2024	13:34	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV02	Magnesium	26200	25000	105	90 - 110	P	11/19/2024	13:34	LB133524
	Manganese	2580	2500	103	90 - 110	P	11/19/2024	13:34	LB133524
	Nickel	2620	2500	105	90 - 110	P	11/19/2024	13:34	LB133524
	Potassium	26300	25000	105	90 - 110	P	11/19/2024	13:34	LB133524
	Selenium	5340	5000	107	90 - 110	P	11/19/2024	13:34	LB133524
	Silver	1320	1250	106	90 - 110	P	11/19/2024	13:34	LB133524
	Sodium	25900	25000	103	90 - 110	P	11/19/2024	13:34	LB133524
	Thallium	5230	5000	104	90 - 110	P	11/19/2024	13:34	LB133524
	Vanadium	2640	2500	105	90 - 110	P	11/19/2024	13:34	LB133524
	Zinc	2680	2500	107	90 - 110	P	11/19/2024	13:34	LB133524
CCV03	Aluminum	10400	10000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Antimony	5130	5000	103	90 - 110	P	11/19/2024	14:24	LB133524
	Arsenic	5110	5000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Barium	10300	10000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Beryllium	266	250	106	90 - 110	P	11/19/2024	14:24	LB133524
	Cadmium	2590	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Calcium	26000	25000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Chromium	1040	1000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Cobalt	2600	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Copper	1300	1250	104	90 - 110	P	11/19/2024	14:24	LB133524
	Iron	4990	5000	100	90 - 110	P	11/19/2024	14:24	LB133524
	Lead	5200	5000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Magnesium	26000	25000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Manganese	2590	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Nickel	2600	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Potassium	24600	25000	98	90 - 110	P	11/19/2024	14:24	LB133524
	Selenium	5080	5000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Silver	1280	1250	102	90 - 110	P	11/19/2024	14:24	LB133524
	Sodium	24500	25000	98	90 - 110	P	11/19/2024	14:24	LB133524
	Thallium	5160	5000	103	90 - 110	P	11/19/2024	14:24	LB133524
CCV04	Vanadium	2600	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Zinc	2590	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Aluminum	10400	10000	104	90 - 110	P	11/19/2024	15:31	LB133524
	Antimony	5290	5000	106	90 - 110	P	11/19/2024	15:31	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV04	Arsenic	5260	5000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Barium	10500	10000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Beryllium	261	250	104	90 - 110	P	11/19/2024	15:31	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	15:31	LB133524
	Calcium	25800	25000	103	90 - 110	P	11/19/2024	15:31	LB133524
	Chromium	1050	1000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Cobalt	2610	2500	105	90 - 110	P	11/19/2024	15:31	LB133524
	Copper	1330	1250	106	90 - 110	P	11/19/2024	15:31	LB133524
	Iron	5080	5000	102	90 - 110	P	11/19/2024	15:31	LB133524
	Lead	5230	5000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Magnesium	25800	25000	103	90 - 110	P	11/19/2024	15:31	LB133524
	Manganese	2570	2500	103	90 - 110	P	11/19/2024	15:31	LB133524
	Nickel	2620	2500	105	90 - 110	P	11/19/2024	15:31	LB133524
	Potassium	25500	25000	102	90 - 110	P	11/19/2024	15:31	LB133524
	Selenium	5280	5000	106	90 - 110	P	11/19/2024	15:31	LB133524
	Silver	1290	1250	103	90 - 110	P	11/19/2024	15:31	LB133524
	Sodium	25600	25000	102	90 - 110	P	11/19/2024	15:31	LB133524
	Thallium	5410	5000	108	90 - 110	P	11/19/2024	15:31	LB133524
	Vanadium	2610	2500	104	90 - 110	P	11/19/2024	15:31	LB133524
	Zinc	2620	2500	105	90 - 110	P	11/19/2024	15:31	LB133524
CCV05	Aluminum	10400	10000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Antimony	5220	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Arsenic	5210	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Barium	10300	10000	103	90 - 110	P	11/19/2024	16:18	LB133524
	Beryllium	257	250	103	90 - 110	P	11/19/2024	16:18	LB133524
	Cadmium	2580	2500	103	90 - 110	P	11/19/2024	16:18	LB133524
	Calcium	25600	25000	102	90 - 110	P	11/19/2024	16:18	LB133524
	Chromium	1050	1000	105	90 - 110	P	11/19/2024	16:18	LB133524
	Cobalt	2580	2500	103	90 - 110	P	11/19/2024	16:18	LB133524
	Copper	1310	1250	105	90 - 110	P	11/19/2024	16:18	LB133524
	Iron	5140	5000	103	90 - 110	P	11/19/2024	16:18	LB133524
	Lead	5170	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Magnesium	25600	25000	102	90 - 110	P	11/19/2024	16:18	LB133524
	Manganese	2540	2500	102	90 - 110	P	11/19/2024	16:18	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV05	Nickel	2590	2500	104	90 - 110	P	11/19/2024	16:18	LB133524
	Potassium	25700	25000	103	90 - 110	P	11/19/2024	16:18	LB133524
	Selenium	5240	5000	105	90 - 110	P	11/19/2024	16:18	LB133524
	Silver	1290	1250	103	90 - 110	P	11/19/2024	16:18	LB133524
	Sodium	25300	25000	101	90 - 110	P	11/19/2024	16:18	LB133524
	Thallium	5210	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Vanadium	2590	2500	104	90 - 110	P	11/19/2024	16:18	LB133524
	Zinc	2640	2500	106	90 - 110	P	11/19/2024	16:18	LB133524
CCV06	Aluminum	10500	10000	105	90 - 110	P	11/19/2024	17:19	LB133524
	Antimony	5280	5000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Arsenic	5270	5000	105	90 - 110	P	11/19/2024	17:19	LB133524
	Barium	10400	10000	104	90 - 110	P	11/19/2024	17:19	LB133524
	Beryllium	261	250	104	90 - 110	P	11/19/2024	17:19	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	17:19	LB133524
	Calcium	25800	25000	103	90 - 110	P	11/19/2024	17:19	LB133524
	Chromium	1060	1000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Cobalt	2600	2500	104	90 - 110	P	11/19/2024	17:19	LB133524
	Copper	1330	1250	106	90 - 110	P	11/19/2024	17:19	LB133524
	Iron	5190	5000	104	90 - 110	P	11/19/2024	17:19	LB133524
	Lead	5240	5000	105	90 - 110	P	11/19/2024	17:19	LB133524
	Magnesium	25800	25000	103	90 - 110	P	11/19/2024	17:19	LB133524
	Manganese	2540	2500	102	90 - 110	P	11/19/2024	17:19	LB133524
	Nickel	2610	2500	104	90 - 110	P	11/19/2024	17:19	LB133524
	Potassium	25900	25000	104	90 - 110	P	11/19/2024	17:19	LB133524
	Selenium	5310	5000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Silver	1310	1250	105	90 - 110	P	11/19/2024	17:19	LB133524
	Sodium	25900	25000	103	90 - 110	P	11/19/2024	17:19	LB133524
	Thallium	5300	5000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Vanadium	2600	2500	104	90 - 110	P	11/19/2024	17:19	LB133524
	Zinc	2680	2500	107	90 - 110	P	11/19/2024	17:19	LB133524
CCV07	Aluminum	10300	10000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Antimony	5080	5000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Arsenic	5070	5000	101	90 - 110	P	11/19/2024	18:01	LB133524
	Barium	10600	10000	106	90 - 110	P	11/19/2024	18:01	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. SDG No.: P4652
Contract: TETR06 Lab Code: CHEM Case No.: P4652 SAS No.: P4652
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
CCV07	Beryllium	256	250	102	90 - 110	P	11/19/2024	18:01	LB133524
	Cadmium	2490	2500	99	90 - 110	P	11/19/2024	18:01	LB133524
	Calcium	25100	25000	100	90 - 110	P	11/19/2024	18:01	LB133524
	Chromium	1020	1000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Cobalt	2490	2500	100	90 - 110	P	11/19/2024	18:01	LB133524
	Copper	1290	1250	104	90 - 110	P	11/19/2024	18:01	LB133524
	Iron	4990	5000	100	90 - 110	P	11/19/2024	18:01	LB133524
	Lead	5020	5000	100	90 - 110	P	11/19/2024	18:01	LB133524
	Magnesium	25100	25000	100	90 - 110	P	11/19/2024	18:01	LB133524
	Manganese	2600	2500	104	90 - 110	P	11/19/2024	18:01	LB133524
	Nickel	2500	2500	100	90 - 110	P	11/19/2024	18:01	LB133524
	Potassium	25200	25000	101	90 - 110	P	11/19/2024	18:01	LB133524
	Selenium	5100	5000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Silver	1270	1250	101	90 - 110	P	11/19/2024	18:01	LB133524
	Sodium	25600	25000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Thallium	4940	5000	99	90 - 110	P	11/19/2024	18:01	LB133524
	Vanadium	2540	2500	102	90 - 110	P	11/19/2024	18:01	LB133524
	Zinc	2480	2500	99	90 - 110	P	11/19/2024	18:01	LB133524

Metals

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CRDL STANDARD FOR AA & ICP

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
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	0.21	0.2	107	40 - 160	CV	11/05/2024	12:07	LB133297
CRI01	Aluminum	101	100	101	40 - 160	P	11/06/2024	18:04	LB133323
	Antimony	49.9	50.0	100	40 - 160	P	11/06/2024	18:04	LB133323
	Arsenic	20.3	20.0	102	40 - 160	P	11/06/2024	18:04	LB133323
	Barium	106	100	106	40 - 160	P	11/06/2024	18:04	LB133323
	Beryllium	6.12	6.0	102	40 - 160	P	11/06/2024	18:04	LB133323
	Cadmium	6.64	6.0	111	40 - 160	P	11/06/2024	18:04	LB133323
	Calcium	2070	2000	104	40 - 160	P	11/06/2024	18:04	LB133323
	Chromium	9.93	10.0	99	40 - 160	P	11/06/2024	18:04	LB133323
	Cobalt	29.6	30.0	99	40 - 160	P	11/06/2024	18:04	LB133323
	Copper	21.9	20.0	109	40 - 160	P	11/06/2024	18:04	LB133323
	Iron	76.9	100	77	40 - 160	P	11/06/2024	18:04	LB133323
	Lead	11.2	12.0	94	40 - 160	P	11/06/2024	18:04	LB133323
	Magnesium	2070	2000	104	40 - 160	P	11/06/2024	18:04	LB133323
	Manganese	21.2	20.0	106	40 - 160	P	11/06/2024	18:04	LB133323
	Nickel	39.4	40.0	99	40 - 160	P	11/06/2024	18:04	LB133323
	Potassium	1940	2000	97	40 - 160	P	11/06/2024	18:04	LB133323
	Selenium	19.9	20.0	99	40 - 160	P	11/06/2024	18:04	LB133323
	Silver	10.5	10.0	105	40 - 160	P	11/06/2024	18:04	LB133323
	Sodium	1590	2000	80	40 - 160	P	11/06/2024	18:04	LB133323
	Thallium	41.9	40.0	105	40 - 160	P	11/06/2024	18:04	LB133323
	Vanadium	41.8	40.0	104	40 - 160	P	11/06/2024	18:04	LB133323
	Zinc	40.8	40.0	102	40 - 160	P	11/06/2024	18:04	LB133323
CRI01	Aluminum	107	100	107	40 - 160	P	11/19/2024	11:43	LB133524
	Antimony	49.1	50.0	98	40 - 160	P	11/19/2024	11:43	LB133524
	Arsenic	19.4	20.0	97	40 - 160	P	11/19/2024	11:43	LB133524
	Barium	105	100	105	40 - 160	P	11/19/2024	11:43	LB133524
	Beryllium	5.90	6.0	98	40 - 160	P	11/19/2024	11:43	LB133524
	Cadmium	5.78	6.0	96	40 - 160	P	11/19/2024	11:43	LB133524
	Calcium	2070	2000	104	40 - 160	P	11/19/2024	11:43	LB133524
	Chromium	10.2	10.0	102	40 - 160	P	11/19/2024	11:43	LB133524
	Cobalt	29.6	30.0	99	40 - 160	P	11/19/2024	11:43	LB133524
	Copper	22.2	20.0	111	40 - 160	P	11/19/2024	11:43	LB133524
	Iron	96.0	100	96	40 - 160	P	11/19/2024	11:43	LB133524
	Lead	12.1	12.0	101	40 - 160	P	11/19/2024	11:43	LB133524

Metals

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CRDL STANDARD FOR AA & ICP

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
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
CRI01	Magnesium	2050	2000	102	40 - 160	P	11/19/2024	11:43	LB133524
	Manganese	21.1	20.0	106	40 - 160	P	11/19/2024	11:43	LB133524
	Nickel	39.1	40.0	98	40 - 160	P	11/19/2024	11:43	LB133524
	Potassium	1920	2000	96	40 - 160	P	11/19/2024	11:43	LB133524
	Selenium	18.1	20.0	90	40 - 160	P	11/19/2024	11:43	LB133524
	Silver	10.1	10.0	101	40 - 160	P	11/19/2024	11:43	LB133524
	Sodium	1810	2000	90	40 - 160	P	11/19/2024	11:43	LB133524
	Thallium	39.1	40.0	98	40 - 160	P	11/19/2024	11:43	LB133524
	Vanadium	39.6	40.0	99	40 - 160	P	11/19/2024	11:43	LB133524
	Zinc	42.4	40.0	106	40 - 160	P	11/19/2024	11:43	LB133524



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

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:	Tetra Tech NUS, Inc.				SDG No.:	P4652				
Contract:	TETR06	Lab Code:	CHEM	Case No.:	P4652	SAS No.:	P4652			
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB69	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	12:00	LB133297

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB26	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	12:05	LB133297
CCB27	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	12:32	LB133297
CCB28	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	12:59	LB133297
CCB29	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	13:34	LB133297
CCB30	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	14:11	LB133297
CCB31	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	14:31	LB133297
CCB32	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	11/05/2024	14:45	LB133297

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	17:43	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	17:43	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	17:43	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	17:43	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	17:43	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	17:43	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/06/2024	17:43	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	17:43	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	17:43	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	17:43	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	17:43	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	17:43	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	17:43	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	17:43	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	17:43	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	17:43	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	17:43	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	17:43	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	17:43	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	17:43	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	17:43	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	17:43	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	18:27	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	18:27	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	18:27	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	18:27	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	18:27	LB133323
	Cadmium	0.21	+/-6.00	J	1.50	6.00	P	11/06/2024	18:27	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/06/2024	18:27	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	18:27	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	18:27	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	18:27	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	18:27	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	18:27	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	18:27	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	18:27	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	18:27	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	18:27	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	18:27	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	18:27	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	18:27	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	18:27	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	18:27	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	18:27	LB133323
CCB02	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	18:44	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	18:44	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	18:44	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	18:44	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	18:44	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	18:44	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/06/2024	18:44	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	18:44	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	18:44	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	18:44	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	18:44	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	18:44	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	18:44	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	18:44	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	18:44	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	18:44	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	18:44	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	18:44	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	18:44	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	18:44	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	18:44	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	18:44	LB133323
CCB03	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	19:36	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	19:36	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	19:36	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	19:36	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	19:36	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	19:36	LB133323
	Calcium	165	+/-2000	J	500	2000	P	11/06/2024	19:36	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	19:36	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	19:36	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	19:36	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	19:36	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	19:36	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	19:36	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	19:36	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	19:36	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	19:36	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	19:36	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	19:36	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	19:36	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	19:36	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	19:36	LB133323
	Zinc	23.7	+/-40.0	J	10.0	40.0	P	11/06/2024	19:36	LB133323
CCB04	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	20:26	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	20:26	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	20:26	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	20:26	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	20:26	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	20:26	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/06/2024	20:26	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	20:26	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	20:26	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	20:26	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	20:26	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	20:26	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	20:26	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	20:26	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	20:26	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	20:26	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	20:26	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	20:26	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	20:26	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	20:26	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	20:26	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	20:26	LB133323
CCB05	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	21:17	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	21:17	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	21:17	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	21:17	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	21:17	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	21:17	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/06/2024	21:17	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	21:17	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	21:17	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	21:17	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	21:17	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	21:17	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	21:17	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	21:17	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	21:17	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	21:17	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	21:17	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	21:17	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	21:17	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	21:17	LB133323
CCB06	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	21:17	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	21:17	LB133323
	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	22:15	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	22:15	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	22:15	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	22:15	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	22:15	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	22:15	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/06/2024	22:15	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	22:15	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	22:15	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	22:15	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	22:15	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	22:15	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	22:15	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	22:15	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	22:15	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	22:15	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	22:15	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	22:15	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	22:15	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	22:15	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	22:15	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	22:15	LB133323
CCB07	Aluminum	100	+/-100	U	80.0	100	P	11/06/2024	23:07	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/06/2024	23:07	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	23:07	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/06/2024	23:07	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	23:07	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/06/2024	23:07	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/06/2024	23:07	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	23:07	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/06/2024	23:07	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	23:07	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/06/2024	23:07	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/06/2024	23:07	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/06/2024	23:07	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/06/2024	23:07	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	23:07	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/06/2024	23:07	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/06/2024	23:07	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/06/2024	23:07	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/06/2024	23:07	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	23:07	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/06/2024	23:07	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/06/2024	23:07	LB133323
CCB08	Aluminum	100	+/-100	U	80.0	100	P	11/07/2024	00:03	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/07/2024	00:03	LB133323

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	00:03	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/07/2024	00:03	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/07/2024	00:03	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/07/2024	00:03	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/07/2024	00:03	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/07/2024	00:03	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/07/2024	00:03	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	00:03	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/07/2024	00:03	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/07/2024	00:03	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/07/2024	00:03	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/07/2024	00:03	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/07/2024	00:03	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/07/2024	00:03	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	00:03	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/07/2024	00:03	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/07/2024	00:03	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/07/2024	00:03	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/07/2024	00:03	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/07/2024	00:03	LB133323
CCB09	Aluminum	100	+/-100	U	80.0	100	P	11/07/2024	00:57	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/07/2024	00:57	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	00:57	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/07/2024	00:57	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/07/2024	00:57	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/07/2024	00:57	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/07/2024	00:57	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/07/2024	00:57	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/07/2024	00:57	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	00:57	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/07/2024	00:57	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/07/2024	00:57	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/07/2024	00:57	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/07/2024	00:57	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/07/2024	00:57	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/07/2024	00:57	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	00:57	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/07/2024	00:57	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/07/2024	00:57	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB09	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/07/2024	00:57	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/07/2024	00:57	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/07/2024	00:57	LB133323
CCB10	Aluminum	100	+/-100	U	80.0	100	P	11/07/2024	01:53	LB133323
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/07/2024	01:53	LB133323
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	01:53	LB133323
	Barium	100	+/-100	U	25.0	100	P	11/07/2024	01:53	LB133323
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/07/2024	01:53	LB133323
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/07/2024	01:53	LB133323
	Calcium	2000	+/-2000	U	500	2000	P	11/07/2024	01:53	LB133323
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/07/2024	01:53	LB133323
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/07/2024	01:53	LB133323
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	01:53	LB133323
	Iron	100	+/-100	U	80.0	100	P	11/07/2024	01:53	LB133323
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/07/2024	01:53	LB133323
	Magnesium	2000	+/-2000	U	500	2000	P	11/07/2024	01:53	LB133323
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/07/2024	01:53	LB133323
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/07/2024	01:53	LB133323
	Potassium	2000	+/-2000	U	1600	2000	P	11/07/2024	01:53	LB133323
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/07/2024	01:53	LB133323
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/07/2024	01:53	LB133323
	Sodium	2000	+/-2000	U	1000	2000	P	11/07/2024	01:53	LB133323
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/07/2024	01:53	LB133323
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/07/2024	01:53	LB133323
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/07/2024	01:53	LB133323

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	11:38	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	11:38	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	11:38	LB133524
	Barium	100	+/-100	U	25.0	100	P	11/19/2024	11:38	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	11:38	LB133524
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	11:38	LB133524
	Calcium	2000	+/-2000	U	500	2000	P	11/19/2024	11:38	LB133524
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	11:38	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	11:38	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	11:38	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	11:38	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	11:38	LB133524
	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	11:38	LB133524
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/19/2024	11:38	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	11:38	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	11:38	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	11:38	LB133524
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	11:38	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	11:38	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	11:38	LB133524
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	11:38	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	11:38	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	12:48	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	12:48	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	12:48	LB133524
	Barium	100	+/-100	U	25.0	100	P	11/19/2024	12:48	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	12:48	LB133524
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	12:48	LB133524
	Calcium	2000	+/-2000	U	500	2000	P	11/19/2024	12:48	LB133524
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	12:48	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	12:48	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	12:48	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	12:48	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	12:48	LB133524
	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	12:48	LB133524
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/19/2024	12:48	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	12:48	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	12:48	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	12:48	LB133524
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	12:48	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	12:48	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	12:48	LB133524
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	12:48	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	12:48	LB133524
CCB02	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	13:38	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	13:38	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	13:38	LB133524
	Barium	100	+/-100	U	25.0	100	P	11/19/2024	13:38	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	13:38	LB133524
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	13:38	LB133524
	Calcium	2000	+/-2000	U	500	2000	P	11/19/2024	13:38	LB133524
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	13:38	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	13:38	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	13:38	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	13:38	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	13:38	LB133524
	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	13:38	LB133524
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/19/2024	13:38	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	13:38	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	13:38	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	13:38	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	13:38	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	13:38	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	13:38	LB133524
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	13:38	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	13:38	LB133524
CCB03	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	14:28	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	14:28	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	14:28	LB133524
	Barium	100	+/-100	U	25.0	100	P	11/19/2024	14:28	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	14:28	LB133524
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	14:28	LB133524
	Calcium	2000	+/-2000	U	500	2000	P	11/19/2024	14:28	LB133524
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	14:28	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	14:28	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	14:28	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	14:28	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	14:28	LB133524
	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	14:28	LB133524
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/19/2024	14:28	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	14:28	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	14:28	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	14:28	LB133524
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	14:28	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	14:28	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	14:28	LB133524
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	14:28	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	14:28	LB133524
CCB04	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	15:36	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	15:36	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	15:36	LB133524
	Barium	100	+/-100	U	25.0	100	P	11/19/2024	15:36	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	15:36	LB133524
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	15:36	LB133524
	Calcium	2000	+/-2000	U	500	2000	P	11/19/2024	15:36	LB133524
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	15:36	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	15:36	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	15:36	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	15:36	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	15:36	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	15:36	LB133524
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/19/2024	15:36	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	15:36	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	15:36	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	15:36	LB133524
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	15:36	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	15:36	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	15:36	LB133524
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	15:36	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	15:36	LB133524
CCB05	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	16:22	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	16:22	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	16:22	LB133524
	Barium	100	+/-100	U	25.0	100	P	11/19/2024	16:22	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	16:22	LB133524
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	16:22	LB133524
	Calcium	2000	+/-2000	U	500	2000	P	11/19/2024	16:22	LB133524
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	16:22	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	16:22	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	16:22	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	16:22	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	16:22	LB133524
	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	16:22	LB133524
	Manganese	20.0	+/-20.0	U	5.00	20.0	P	11/19/2024	16:22	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	16:22	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	16:22	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	16:22	LB133524
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	16:22	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	16:22	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	16:22	LB133524
CCB06	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	16:22	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	16:22	LB133524
	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	17:24	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	17:24	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	17:24	LB133524
	Barium	22.0	+/-100	J	25.0	100	P	11/19/2024	17:24	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	17:24	LB133524
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	17:24	LB133524
	Calcium	2000	+/-2000	U	500	2000	P	11/19/2024	17:24	LB133524

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.		SDG No.: P4652								
Contract: TETR06	Lab Code: CHEM	Case No.: P4652	SAS No.: P4652							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	17:24	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	17:24	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	17:24	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	17:24	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	17:24	LB133524
	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	17:24	LB133524
	Manganese	6.51	+/-20.0	J	5.00	20.0	P	11/19/2024	17:24	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	17:24	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	17:24	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	17:24	LB133524
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	17:24	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	17:24	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	17:24	LB133524
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	17:24	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	17:24	LB133524
CCB07	Aluminum	100	+/-100	U	80.0	100	P	11/19/2024	18:05	LB133524
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	11/19/2024	18:05	LB133524
	Arsenic	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	18:05	LB133524
	Barium	25.8	+/-100	J	25.0	100	P	11/19/2024	18:05	LB133524
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	11/19/2024	18:05	LB133524
	Cadmium	0.62	+/-6.00	J	1.50	6.00	P	11/19/2024	18:05	LB133524
	Calcium	81.8	+/-2000	J	500	2000	P	11/19/2024	18:05	LB133524
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	18:05	LB133524
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	11/19/2024	18:05	LB133524
	Copper	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	18:05	LB133524
	Iron	100	+/-100	U	80.0	100	P	11/19/2024	18:05	LB133524
	Lead	12.0	+/-12.0	U	9.60	12.0	P	11/19/2024	18:05	LB133524
	Magnesium	2000	+/-2000	U	500	2000	P	11/19/2024	18:05	LB133524
	Manganese	7.68	+/-20.0	J	5.00	20.0	P	11/19/2024	18:05	LB133524
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	18:05	LB133524
	Potassium	2000	+/-2000	U	1600	2000	P	11/19/2024	18:05	LB133524
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	11/19/2024	18:05	LB133524
	Silver	10.0	+/-10.0	U	5.00	10.0	P	11/19/2024	18:05	LB133524
	Sodium	2000	+/-2000	U	1000	2000	P	11/19/2024	18:05	LB133524
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	11/19/2024	18:05	LB133524
	Vanadium	6.34	+/-40.0	J	20.0	40.0	P	11/19/2024	18:05	LB133524
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	11/19/2024	18:05	LB133524

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.

SDG No.: P4652

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB164687BL		WATER		Batch Number:		PB164687		Prep Date:	11/04/2024	
	Mercury	0.20	<0.20	U	0.16	0.20	CV	11/05/2024	13:15	LB133297

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.

SDG No.: P4652

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB164645BL	WATER			Batch Number:		PB164645		Prep Date:	11/04/2024	
	Aluminum	50.0	<50.0	U	40.0	50.0	P	11/19/2024	13:09	LB133524
	Antimony	25.0	<25.0	U	6.25	25.0	P	11/19/2024	13:09	LB133524
	Arsenic	10.0	<10.0	U	8.00	10.0	P	11/19/2024	13:09	LB133524
	Barium	50.0	<50.0	U	12.5	50.0	P	11/19/2024	13:09	LB133524
	Beryllium	3.00	<3.00	U	0.75	3.00	P	11/19/2024	13:09	LB133524
	Cadmium	3.00	<3.00	U	0.75	3.00	P	11/19/2024	13:09	LB133524
	Calcium	1000	<1000	U	250	1000	P	11/19/2024	13:09	LB133524
	Chromium	5.00	<5.00	U	2.50	5.00	P	11/19/2024	13:09	LB133524
	Cobalt	15.0	<15.0	U	3.75	15.0	P	11/19/2024	13:09	LB133524
	Copper	10.0	<10.0	U	8.00	10.0	P	11/19/2024	13:09	LB133524
	Iron	50.0	<50.0	U	40.0	50.0	P	11/19/2024	13:09	LB133524
	Lead	6.00	<6.00	U	4.80	6.00	P	11/19/2024	13:09	LB133524
	Magnesium	1000	<1000	U	250	1000	P	11/19/2024	13:09	LB133524
	Manganese	10.0	<10.0	U	2.50	10.0	P	11/19/2024	13:09	LB133524
	Nickel	20.0	<20.0	U	5.00	20.0	P	11/19/2024	13:09	LB133524
	Potassium	1000	<1000	U	800	1000	P	11/19/2024	13:09	LB133524
	Selenium	10.0	<10.0	U	8.00	10.0	P	11/19/2024	13:09	LB133524
	Silver	5.00	<5.00	U	2.50	5.00	P	11/19/2024	13:09	LB133524
	Sodium	1000	<1000	U	500	1000	P	11/19/2024	13:09	LB133524
	Thallium	20.0	<20.0	U	10.0	20.0	P	11/19/2024	13:09	LB133524
	Vanadium	20.0	<20.0	U	10.0	20.0	P	11/19/2024	13:09	LB133524
	Zinc	20.0	<20.0	U	5.00	20.0	P	11/19/2024	13:09	LB133524

Metals
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INTERFERENCE CHECK SAMPLE

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
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
ICSA01	Aluminum	257000	255000	101	216000	294000	11/06/2024	18:08	LB133323
	Antimony	-0.051			-50	50	11/06/2024	18:08	LB133323
	Arsenic	2.46			-20	20	11/06/2024	18:08	LB133323
	Barium	5.21	6.0	87	-94	106	11/06/2024	18:08	LB133323
	Beryllium	1.28			-6	6	11/06/2024	18:08	LB133323
	Cadmium	6.38	1.0	638	-5	7	11/06/2024	18:08	LB133323
	Calcium	248000	245000	101	208000	282000	11/06/2024	18:08	LB133323
	Chromium	56.4	52.0	108	42	62	11/06/2024	18:08	LB133323
	Cobalt	2.02			-30	30	11/06/2024	18:08	LB133323
	Copper	0.49	2.0	24	-18	22	11/06/2024	18:08	LB133323
	Iron	98800	101000	98	85600	116500	11/06/2024	18:08	LB133323
	Lead	9.93			-12	12	11/06/2024	18:08	LB133323
	Magnesium	268000	255000	105	216000	294000	11/06/2024	18:08	LB133323
	Manganese	4.23	7.0	60	-13	27	11/06/2024	18:08	LB133323
	Nickel	3.00	2.0	150	-38	42	11/06/2024	18:08	LB133323
	Potassium	15.0			0	0	11/06/2024	18:08	LB133323
	Selenium	-15.6			-20	20	11/06/2024	18:08	LB133323
	Silver	1.23			-10	10	11/06/2024	18:08	LB133323
	Sodium	-15.2			0	0	11/06/2024	18:08	LB133323
	Thallium	2.62			-40	40	11/06/2024	18:08	LB133323
	Vanadium	7.34			-40	40	11/06/2024	18:08	LB133323
	Zinc	8.08			-40	40	11/06/2024	18:08	LB133323
ICSAB01	Aluminum	261000	247000	106	209000	285000	11/06/2024	18:13	LB133323
	Antimony	616	618	100	525	711	11/06/2024	18:13	LB133323
	Arsenic	114	104	110	88.4	120	11/06/2024	18:13	LB133323
	Barium	529	537	98	437	637	11/06/2024	18:13	LB133323
	Beryllium	527	495	106	420	570	11/06/2024	18:13	LB133323
	Cadmium	1020	972	105	826	1120	11/06/2024	18:13	LB133323
	Calcium	250000	235000	106	199000	271000	11/06/2024	18:13	LB133323
	Chromium	562	542	104	460	624	11/06/2024	18:13	LB133323
	Cobalt	514	476	108	404	548	11/06/2024	18:13	LB133323
	Copper	488	511	96	434	588	11/06/2024	18:13	LB133323
	Iron	100000	99300	101	84400	114500	11/06/2024	18:13	LB133323
	Lead	57.7	49.0	118	37	61	11/06/2024	18:13	LB133323
	Magnesium	270000	248000	109	210000	286000	11/06/2024	18:13	LB133323
	Manganese	516	507	102	430	584	11/06/2024	18:13	LB133323
	Nickel	1010	954	106	810	1100	11/06/2024	18:13	LB133323
	Potassium	3.43			0	0	11/06/2024	18:13	LB133323
	Selenium	36.0	46.0	78	26	66	11/06/2024	18:13	LB133323
	Silver	203	201	101	170	232	11/06/2024	18:13	LB133323
	Sodium	-114			0	0	11/06/2024	18:13	LB133323
	Thallium	105	108	97	68	148	11/06/2024	18:13	LB133323

Metals
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INTERFERENCE CHECK SAMPLE

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
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	507	491	103	417	565	11/06/2024	18:13	LB133323
	Zinc	1070	952	112	809	1095	11/06/2024	18:13	LB133323
ICSA01	Aluminum	263000	255000	103	216000	294000	11/19/2024	11:47	LB133524
	Antimony	-1.78			-50	50	11/19/2024	11:47	LB133524
	Arsenic	3.30			-20	20	11/19/2024	11:47	LB133524
	Barium	5.39	6.0	90	-94	106	11/19/2024	11:47	LB133524
	Beryllium	1.27			-6	6	11/19/2024	11:47	LB133524
	Cadmium	3.48	1.0	348	-5	7	11/19/2024	11:47	LB133524
	Calcium	251000	245000	102	208000	282000	11/19/2024	11:47	LB133524
	Chromium	57.2	52.0	110	42	62	11/19/2024	11:47	LB133524
	Cobalt	2.14			-30	30	11/19/2024	11:47	LB133524
	Copper	7.48	2.0	374	-18	22	11/19/2024	11:47	LB133524
	Iron	98200	101000	97	85600	116500	11/19/2024	11:47	LB133524
	Lead	8.06			-12	12	11/19/2024	11:47	LB133524
	Magnesium	274000	255000	108	216000	294000	11/19/2024	11:47	LB133524
	Manganese	4.02	7.0	57	-13	27	11/19/2024	11:47	LB133524
	Nickel	2.06	2.0	103	-38	42	11/19/2024	11:47	LB133524
	Potassium	43.8			0	0	11/19/2024	11:47	LB133524
	Selenium	-17.4			-20	20	11/19/2024	11:47	LB133524
	Silver	-0.45			-10	10	11/19/2024	11:47	LB133524
	Sodium	49.8			0	0	11/19/2024	11:47	LB133524
	Thallium	-3.78			-40	40	11/19/2024	11:47	LB133524
	Vanadium	7.04			-40	40	11/19/2024	11:47	LB133524
	Zinc	5.70			-40	40	11/19/2024	11:47	LB133524
ICSAB01	Aluminum	265000	247000	107	209000	285000	11/19/2024	11:51	LB133524
	Antimony	626	618	101	525	711	11/19/2024	11:51	LB133524
	Arsenic	116	104	112	88.4	120	11/19/2024	11:51	LB133524
	Barium	525	537	98	437	637	11/19/2024	11:51	LB133524
	Beryllium	524	495	106	420	570	11/19/2024	11:51	LB133524
	Cadmium	832	972	86	826	1120	11/19/2024	11:51	LB133524
	Calcium	250000	235000	106	199000	271000	11/19/2024	11:51	LB133524
	Chromium	571	542	105	460	624	11/19/2024	11:51	LB133524
	Cobalt	518	476	109	404	548	11/19/2024	11:51	LB133524
	Copper	493	511	96	434	588	11/19/2024	11:51	LB133524
	Iron	99700	99300	100	84400	114500	11/19/2024	11:51	LB133524
	Lead	57.8	49.0	118	37	61	11/19/2024	11:51	LB133524
	Magnesium	273000	248000	110	210000	286000	11/19/2024	11:51	LB133524
	Manganese	509	507	100	430	584	11/19/2024	11:51	LB133524
	Nickel	1020	954	107	810	1100	11/19/2024	11:51	LB133524
	Potassium	62.1			0	0	11/19/2024	11:51	LB133524
	Selenium	31.5	46.0	68	26	66	11/19/2024	11:51	LB133524
	Silver	201	201	100	170	232	11/19/2024	11:51	LB133524

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
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	Sodium	62.8			0	0	11/19/2024	11:51	LB133524
	Thallium	91.5	108	85	68	148	11/19/2024	11:51	LB133524
	Vanadium	509	491	104	417	565	11/19/2024	11:51	LB133524
	Zinc	1090	952	114	809	1095	11/19/2024	11:51	LB133524



METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: <u>Tetra Tech NUS, Inc.</u>	level: <u>low</u>	sdg no.: <u>P4652</u>
contract: <u>TETR06</u>	lab code: <u>CHEM</u>	case no.: <u>P4652</u> sas no.: <u>P4652</u>
matrix: <u>Water</u>	sample id: <u>P4661-03</u>	client id: <u>102324-AMS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>P4661-03MS</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	82 - 119	3.36		0.17	J	4.0	80	N	CV

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>Tetra Tech NUS, Inc.</u>	level: <u>low</u>	sdg no.: <u>P4652</u>
contract: <u>TETR06</u>	lab code: <u>CHEM</u>	case no.: <u>P4652</u> sas no.: <u>P4652</u>
matrix: <u>Water</u>	sample id: <u>P4661-03</u>	client id: <u>102324-AMSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>P4661-03MSD</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	82 - 119	3.26		0.17	J	4.0	77	N	CV

metals
- 5a -
MATRIX SPIKE SUMMARY

client:	<u>Tetra Tech NUS, Inc.</u>	level:	<u>low</u>	sdg no.:	<u>P4652</u>
contract:	<u>TETR06</u>	lab code:	<u>CHEM</u>	case no.:	<u>P4652</u>
matrix:	<u>Water</u>	sample id:	<u>P4673-07</u>	client id:	<u>OUTFALL-007MS</u>
Percent Solids for Sample:	<u>NA</u>	Spiked ID:	<u>P4673-07MS</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
Aluminum	ug/L	86 - 115	1650		519		1000	113		P
Antimony	ug/L	88 - 113	409		25.0	U	400	102		P
Arsenic	ug/L	87 - 113	413		10.0	U	400	103		P
Barium	ug/L	88 - 113	378		248		100	130	N	P
Beryllium	ug/L	89 - 112	106		3.00	U	100	106		P
Cadmium	ug/L	88 - 113	95.9		3.00	U	100	96		P
Calcium	ug/L	87 - 113	19900		18400		500	316		P
Chromium	ug/L	90 - 113	236		21.1		200	108		P
Cobalt	ug/L	89 - 114	100		15.0	U	100	100		P
Copper	ug/L	86 - 114	168		14.2		150	103		P
Iron	ug/L	87 - 115	2600		892		1500	114		P
Lead	ug/L	86 - 113	475		6.00	U	500	95		P
Magnesium	ug/L	85 - 113	1730		676	J	1000	106		P
Manganese	ug/L	90 - 114	137		26.8		100	110		P
Nickel	ug/L	88 - 113	250		2.30	J	250	99		P
Potassium	ug/L	86 - 114	8060		2620		5000	109		P
Selenium	ug/L	83 - 114	954		10.0	U	1000	95		P
Silver	ug/L	84 - 115	38.9		5.00	U	37.5	104		P
Sodium	ug/L	87 - 115	5890		3780		1500	141	N	P
Thallium	ug/L	85 - 114	947		20.0	U	1000	95		P
Vanadium	ug/L	90 - 111	167		20.0	U	150	111	N	P
Zinc	ug/L	87 - 115	411		286		100	126	N	P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** P4652
contract: TETR06 **lab code:** CHEM **case no.:** P4652 **sas no.:** P4652
matrix: Water **sample id:** P4673-07 **client id:** OUTFALL-007MSD
Percent Solids for Sample: NA **Spiked ID:** P4673-07MSD **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	86 - 115	1640		519		1000	112		P
Antimony	ug/L	88 - 113	411		25.0	U	400	103		P
Arsenic	ug/L	87 - 113	414		10.0	U	400	104		P
Barium	ug/L	88 - 113	376		248		100	128	N	P
Beryllium	ug/L	89 - 112	105		3.00	U	100	105		P
Cadmium	ug/L	88 - 113	96.3		3.00	U	100	96		P
Calcium	ug/L	87 - 113	19800		18400		500	294		P
Chromium	ug/L	90 - 113	234		21.1		200	107		P
Cobalt	ug/L	89 - 114	101		15.0	U	100	101		P
Copper	ug/L	86 - 114	169		14.2		150	103		P
Iron	ug/L	87 - 115	2590		892		1500	113		P
Lead	ug/L	86 - 113	476		6.00	U	500	95		P
Magnesium	ug/L	85 - 113	1730		676	J	1000	105		P
Manganese	ug/L	90 - 114	136		26.8		100	109		P
Nickel	ug/L	88 - 113	251		2.30	J	250	100		P
Potassium	ug/L	86 - 114	8090		2620		5000	109		P
Selenium	ug/L	83 - 114	964		10.0	U	1000	96		P
Silver	ug/L	84 - 115	38.7		5.00	U	37.5	103		P
Sodium	ug/L	87 - 115	5950		3780		1500	145	N	P
Thallium	ug/L	85 - 114	978		20.0	U	1000	98		P
Vanadium	ug/L	90 - 111	166		20.0	U	150	111		P
Zinc	ug/L	87 - 115	412		286		100	126	N	P

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
Matrix: Water **Level:** LOW **Client ID:** 102324-AA
Sample ID: P4661-03 **Spiked ID:** P4661-03A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	82 - 119	3.42		0.17	J	4.00	81		CV

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652

Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652

Matrix: Water **Level:** LOW **Client ID:** OUTFALL-007A

Sample ID: P4673-07 **Spiked ID:** P4673-07A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Barium	ug/L	88 - 113	380		248		100	132		P
Sodium	ug/L	87 - 115	5710		3780		1500	128		P
Vanadium	ug/L	90 - 111	166		20.0	U	150	111		P
Zinc	ug/L	87 - 115	404		286		100	118		P

Metals

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DUPLICATE SAMPLE SUMMARY

Client:	<u>Tetra Tech NUS, Inc.</u>	Level:	<u>LOW</u>	SDG No.:	<u>P4652</u>
Contract:	<u>TETR06</u>	Lab Code:	<u>CHEM</u>	Case No.:	<u>P4652</u>
Matrix:	<u>Water</u>	Sample ID:	<u>P4661-03</u>	Client ID:	<u>102324-ADUP</u>
Percent Solids for Sample:	<u>NA</u>	Duplicate ID	<u>P4661-03DUP</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	0.17	J	0.13	J	25		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>Tetra Tech NUS, Inc.</u>	Level:	<u>LOW</u>	SDG No.:	<u>P4652</u>
Contract:	<u>TETR06</u>	Lab Code:	<u>CHEM</u>	Case No.:	<u>P4652</u>
Matrix:	<u>Water</u>	Sample ID:	<u>P4661-03MS</u>	Client ID:	<u>102324-AMSD</u>
Percent Solids for Sample:	<u>NA</u>	Duplicate ID	<u>P4661-03MSD</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	3.36		3.26		3		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: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
Matrix: Water **Sample ID:** P4673-07 **Client ID:** OUTFALL-007DUP
Percent Solids for Sample: NA **Duplicate ID** P4673-07DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	519		521		0		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	248		247		0		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	18400		18200		1		P
Chromium	ug/L	20	21.1		21.0		0		P
Cobalt	ug/L	20	15.0	U	15.0	U			P
Copper	ug/L	20	14.2		14.4		1		P
Iron	ug/L	20	892		908		2		P
Lead	ug/L	20	6.00	U	6.00	U			P
Magnesium	ug/L	20	676	J	671	J	1		P
Manganese	ug/L	20	26.8		26.5		1		P
Nickel	ug/L	20	2.30	J	2.41	J	5		P
Potassium	ug/L	20	2620		2670		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	3780		3850		2		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	286		289		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: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
Matrix: Water **Sample ID:** P4673-07MS **Client ID:** OUTFALL-007MSD
Percent Solids for Sample: NA **Duplicate ID** P4673-07MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	1650		1640		1		P
Antimony	ug/L	20	409		411		0		P
Arsenic	ug/L	20	413		414		0		P
Barium	ug/L	20	378		376		1		P
Beryllium	ug/L	20	106		105		1		P
Cadmium	ug/L	20	95.9		96.3		0		P
Calcium	ug/L	20	19900		19800		1		P
Chromium	ug/L	20	236		234		1		P
Cobalt	ug/L	20	100		101		1		P
Copper	ug/L	20	168		169		1		P
Iron	ug/L	20	2600		2590		0		P
Lead	ug/L	20	475		476		0		P
Magnesium	ug/L	20	1730		1730		0		P
Manganese	ug/L	20	137		136		1		P
Nickel	ug/L	20	250		251		0		P
Potassium	ug/L	20	8060		8090		0		P
Selenium	ug/L	20	954		964		1		P
Silver	ug/L	20	38.9		38.7		1		P
Sodium	ug/L	20	5890		5950		1		P
Thallium	ug/L	20	947		978		3		P
Vanadium	ug/L	20	167		166		1		P
Zinc	ug/L	20	411		412		0		P

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

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB164645BS							
Aluminum	ug/L	1000	1010		101	86 - 115	P
Antimony	ug/L	400	397		99	88 - 113	P
Arsenic	ug/L	400	395		99	87 - 113	P
Barium	ug/L	100	101		101	88 - 113	P
Beryllium	ug/L	100	102		102	89 - 112	P
Cadmium	ug/L	100	98.5		98	88 - 113	P
Calcium	ug/L	500	515	J	103	87 - 113	P
Chromium	ug/L	200	205		102	90 - 113	P
Cobalt	ug/L	100	99.8		100	89 - 114	P
Copper	ug/L	150	157		105	86 - 114	P
Iron	ug/L	1500	1470		98	87 - 115	P
Lead	ug/L	500	492		98	86 - 113	P
Magnesium	ug/L	1000	1000		100	85 - 113	P
Manganese	ug/L	100	103		103	90 - 114	P
Nickel	ug/L	250	250		100	88 - 113	P
Potassium	ug/L	5000	4740		95	86 - 114	P
Selenium	ug/L	1000	992		99	83 - 114	P
Silver	ug/L	37.5	36.9		98	84 - 115	P
Sodium	ug/L	1500	1360		91	87 - 115	P
Thallium	ug/L	1000	1020		102	85 - 114	P
Vanadium	ug/L	150	153		102	90 - 111	P
Zinc	ug/L	100	103		103	87 - 115	P

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB164687BS Mercury	ug/L	4.0	3.57		89	82 - 119	CV

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

102324-AL

Lab Name: Chemtech Consulting Group **Contract:** TETR06
Lab Code: CHEM **Lb No.:** lb133297 **Lab Sample ID :** P4661-03L **SDG No.:** P4652
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	0.17 J	1.00 U	100.0		CV

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

OUTFALL-007L

Lab Name: Chemtech Consulting Group

Contract: TETR06

Lab Code: CHEM Lb No.: lb133323 Lab Sample ID : P4673-07L SDG No.: P4652

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	519		504		3		P
Antimony	25.0	U	125	U			P
Arsenic	10.0	U	50.0	U			P
Barium	248		249	J	1		P
Beryllium	3.00	U	15.0	U			P
Cadmium	3.00	U	15.0	U			P
Calcium	18400		18900		3		P
Chromium	21.1		20.9	J	1		P
Cobalt	15.0	U	75.0	U			P
Copper	14.2		50.0	U	100.0		P
Iron	892		877		2		P
Lead	6.00	U	30.0	U			P
Magnesium	676	J	686	J	2		P
Manganese	26.8		27.1	J	1		P
Nickel	2.30	J	100	U	100.0		P
Potassium	2620		5000	U	100.0		P
Selenium	10.0	U	50.0	U			P
Silver	5.00	U	25.0	U			P
Sodium	3780		2400	J	37		P
Thallium	20.0	U	100	U			P
Vanadium	20.0	U	100	U			P
Zinc	286		285		0		P



METAL PREPARATION & INSTRUMENT DATA

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Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: P4652

Contract: TETR06

Lab Code: CHEM

Case No.: P4652

SAS No.: P4652

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: Tetra Tech NUS, Inc.

SDG No.: P4652

Contract: TETR06

Lab Code: CHEM

Case No.: P4652

SAS No.: P4652

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: Tetra Tech NUS, Inc.

SDG No.: P4652

Contract: TETR06

Lab Code: CHEM

Case No.: P4652

SAS No.: P4652

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: Tetra Tech NUS, Inc. **SDG No.:** P4652
Contract: TETR06 **Lab Code:** CHEM **Case No.:** P4652 **SAS No.:** P4652
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 INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: P4652

Contract: TETR06

Lab Code: CHEM

Case No.: P4652

SAS No.: P4652

Instrument ID:

Date:

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement 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:	<u>Tetra Tech NUS, Inc.</u>	SDG No.:	<u>P4652</u>
Contract:	<u>TETR06</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>P4652</u>
		SAS No.:	<u>P4652</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB164645							
P4652-01	RW5-SP100-50-20241030	SAM	WATER	11/04/2024	50.0	25.0	
P4652-03	RW5-SP301-303-50-20241030	SAM	WATER	11/04/2024	50.0	25.0	
P4652-04	RW5-SP100-90-20241030	SAM	WATER	11/04/2024	50.0	25.0	
P4652-06	RW5-SP301-303-90-20241030	SAM	WATER	11/04/2024	50.0	25.0	
P4673-07DUP	OUTFALL-007DUP	DUP	WATER	11/04/2024	50.0	25.0	
P4673-07MS	OUTFALL-007MS	MS	WATER	11/04/2024	50.0	25.0	
P4673-07MSD	OUTFALL-007MSD	MSD	WATER	11/04/2024	50.0	25.0	
PB164645BL	PB164645BL	MB	WATER	11/04/2024	50.0	25.0	
PB164645BS	PB164645BS	LCS	WATER	11/04/2024	50.0	25.0	

Metals
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SAMPLE PREPARATION SUMMARY

Client: Tetra Tech NUS, Inc.

SDG No.: P4652

Contract: TETR06

Lab Code: CHEM

Method:

Case No.: P4652

SAS No.: P4652

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB164687							
P4652-01	RW5-SP100-50-20241030	SAM	WATER	11/04/2024	30.0	30.0	
P4652-03	RW5-SP301-303-50-20241030	SAM	WATER	11/04/2024	30.0	30.0	
P4652-04	RW5-SP100-90-20241030	SAM	WATER	11/04/2024	30.0	30.0	
P4652-06	RW5-SP301-303-90-20241030	SAM	WATER	11/04/2024	30.0	30.0	
P4661-03DUP	102324-ADUP	DUP	WATER	11/04/2024	30.0	30.0	
P4661-03MS	102324-AMS	MS	WATER	11/04/2024	30.0	30.0	
P4661-03MSD	102324-AMSD	MSD	WATER	11/04/2024	30.0	30.0	
PB164687BL	PB164687BL	MB	WATER	11/04/2024	30.0	30.0	
PB164687BS	PB164687BS	LCS	WATER	11/04/2024	30.0	30.0	

metals
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ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc. **Contract:** TETR06

Lab code: CHEM **Case no.:** P4652 **Sas no.:** P4652 **Sdg no.:** P4652

Instrument id number: **Method:** **Run number:** LB133297

Start date: 11/05/2024 **End date:** 11/05/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1133	HG
S0.2	S0.2	1	1136	HG
S2.5	S2.5	1	1138	HG
S5	S5	1	1140	HG
S7.5	S7.5	1	1142	HG
S10	S10	1	1155	HG
ICV69	ICV69	1	1158	HG
ICB69	ICB69	1	1200	HG
CCV26	CCV26	1	1203	HG
CCB26	CCB26	1	1205	HG
CRA	CRA	1	1207	HG
CCV27	CCV27	1	1230	HG
CCB27	CCB27	1	1232	HG
CCV28	CCV28	1	1257	HG
CCB28	CCB28	1	1259	HG
PB164687BL	PB164687BL	1	1315	HG
PB164687BS	PB164687BS	1	1322	HG
P4652-01	RW5-SP100-50-20241030	1	1324	HG
P4652-03	RW5-SP301-303-50-20241030	1	1327	HG
CCV29	CCV29	1	1332	HG
CCB29	CCB29	1	1334	HG
P4652-04	RW5-SP100-90-20241030	1	1336	HG
P4652-06	RW5-SP301-303-90-20241030	1	1338	HG
P4661-03DUP	102324-ADUP	1	1348	HG
P4661-03MS	102324-AMS	1	1350	HG
P4661-03MSD	102324-AMSD	1	1353	HG
CCV30	CCV30	1	1408	HG
CCB30	CCB30	1	1411	HG
CCV31	CCV31	1	1429	HG
CCB31	CCB31	1	1431	HG
P4661-03L	102324-AL	5	1438	HG
P4661-03A	102324-AA	1	1440	HG
CCV32	CCV32	1	1442	HG
CCB32	CCB32	1	1445	HG

metals
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ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc. **Contract:** TETR06

Lab code: CHEM **Case no.:** P4652 **Sas no.:** P4652 **Sdg no.:** P4652

Instrument id number: **Method:** **Run number:** LB133323

Start date: 11/06/2024 **End date:** 11/07/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1709	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	1713	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	1717	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	1722	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	1726	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	1730	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	1734	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	1738	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	1743	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	1804	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	1808	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	1813	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	1823	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	1827	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	1839	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	1844	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4652-01	RW5-SP100-50-20241030	1	1849	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4652-03	RW5-SP301-303-50-20241030	1	1902	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4652-04	RW5-SP100-90-20241030	1	1906	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4652-06	RW5-SP301-303-90-20241030	1	1911	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	1932	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	1936	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	2022	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	2026	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4673-07DUP	OUTFALL-007DUP	1	2048	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4673-07L	OUTFALL-007L	5	2052	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4673-07MS	OUTFALL-007MS	1	2057	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4673-07MSD	OUTFALL-007MSD	1	2101	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P4673-07A	OUTFALL-007A	1	2105	Ba,Na,V,Zn
CCV05	CCV05	1	2113	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	2117	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	2211	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	2215	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	2303	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	2307	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	2359	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	0003	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV09	CCV09	1	0053	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB09	CCB09	1	0057	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV10	CCV10	1	0149	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB10	CCB10	1	0153	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

metals
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ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc. **Contract:** TETR06

Lab code: CHEM **Case no.:** P4652 **Sas no.:** P4652 **Sdg no.:** P4652

Instrument id number: **Method:** **Run number:** LB133524

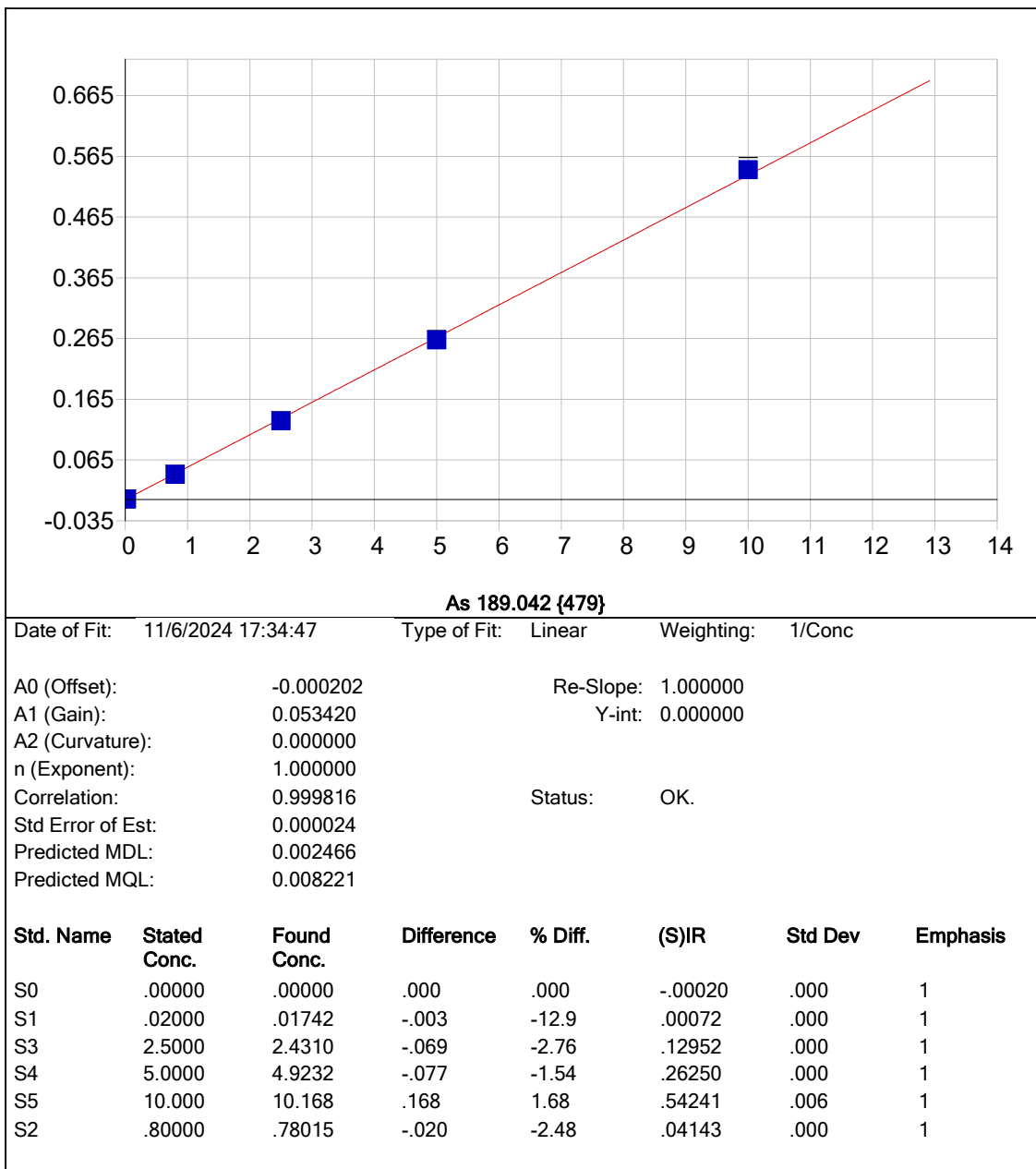
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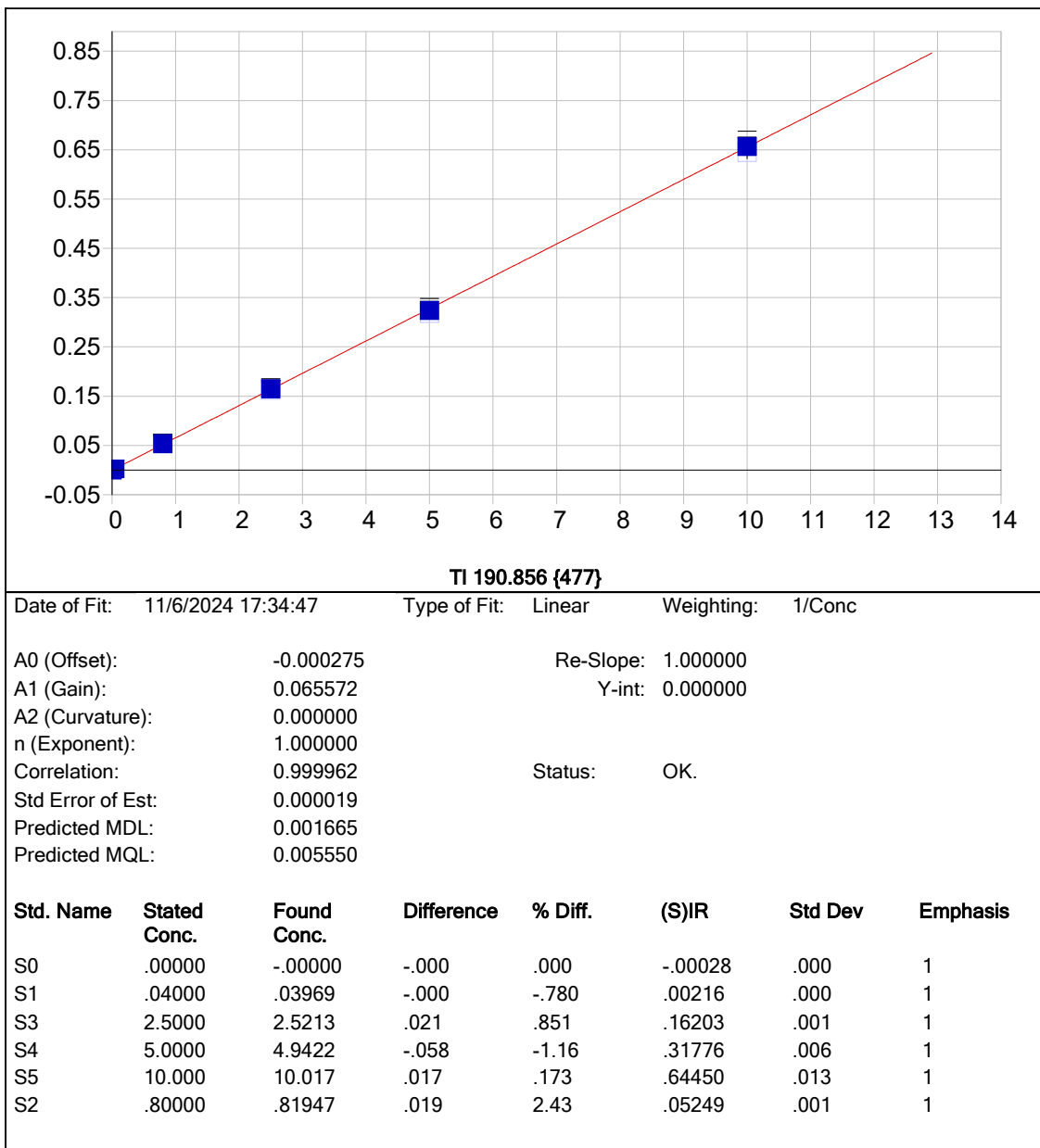
Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1055	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1100	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1104	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1108	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1113	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	1117	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	1125	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	1134	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	1138	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	1143	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	1147	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	1151	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	1243	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	1248	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB164645BL	PB164645BL	1	1309	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB164645BS	PB164645BS	1	1313	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	1334	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	1338	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	1424	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	1428	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	1531	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	1536	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	1618	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	1622	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	1719	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	1724	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	1801	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	1805	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

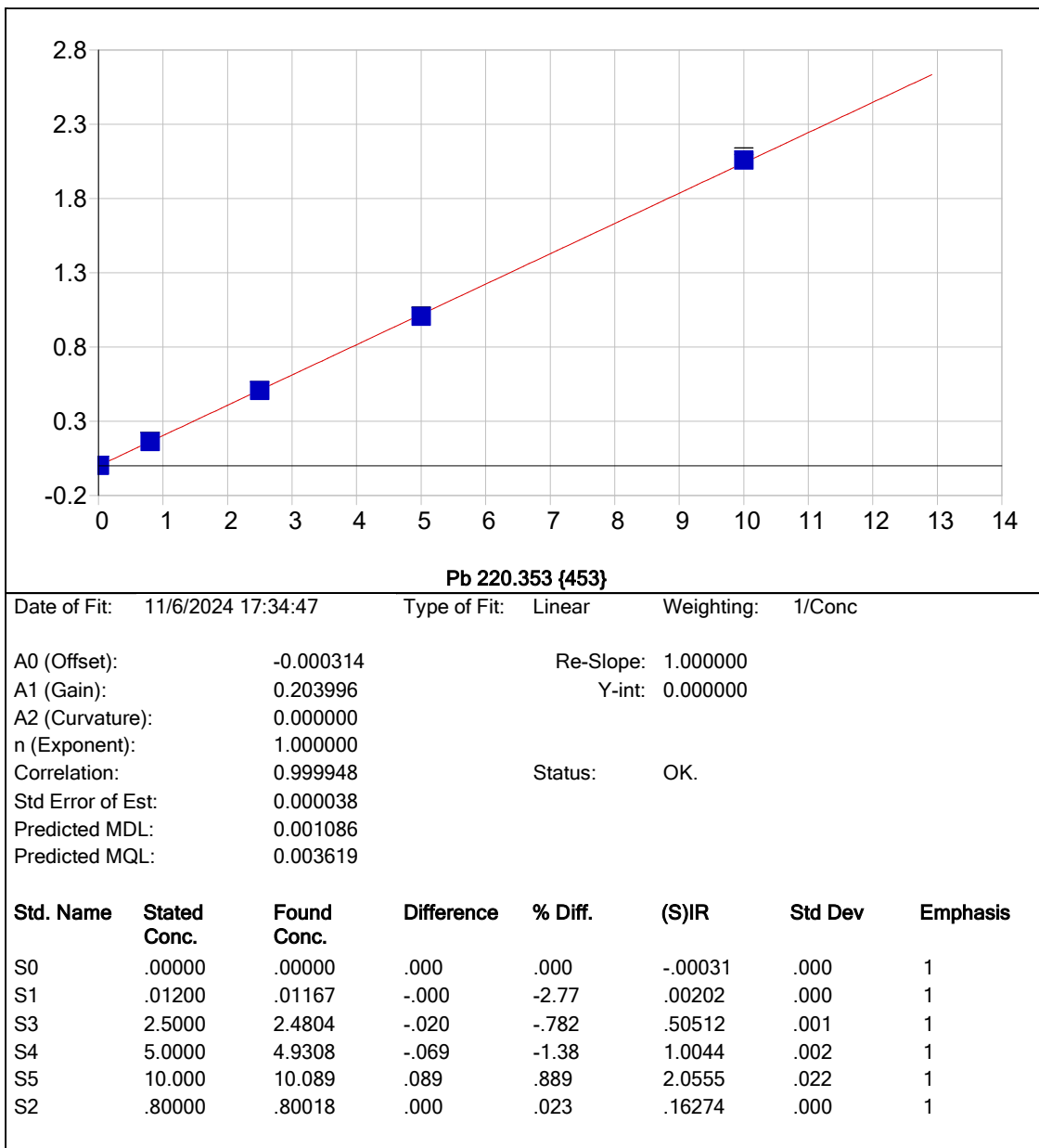


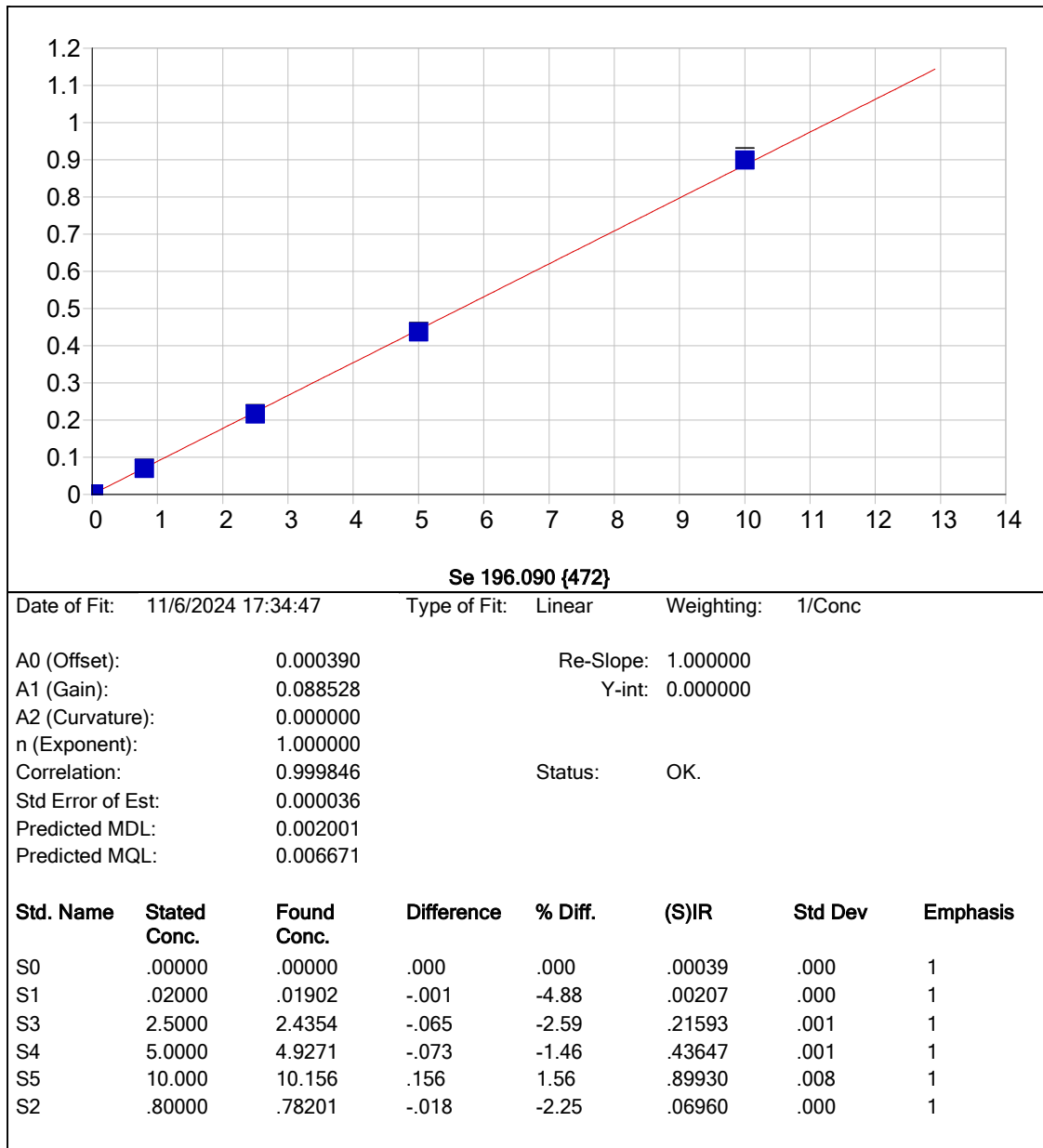
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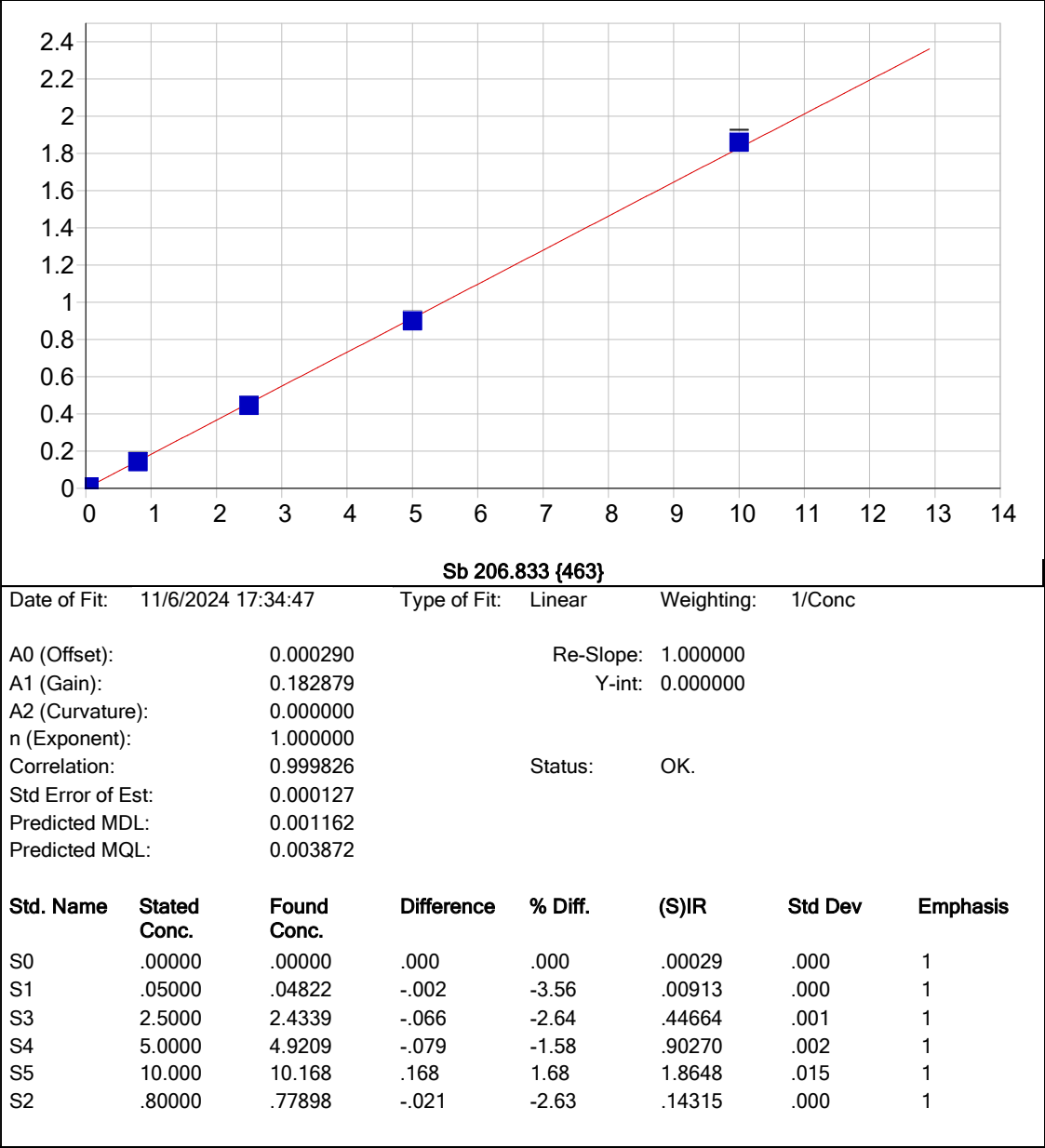
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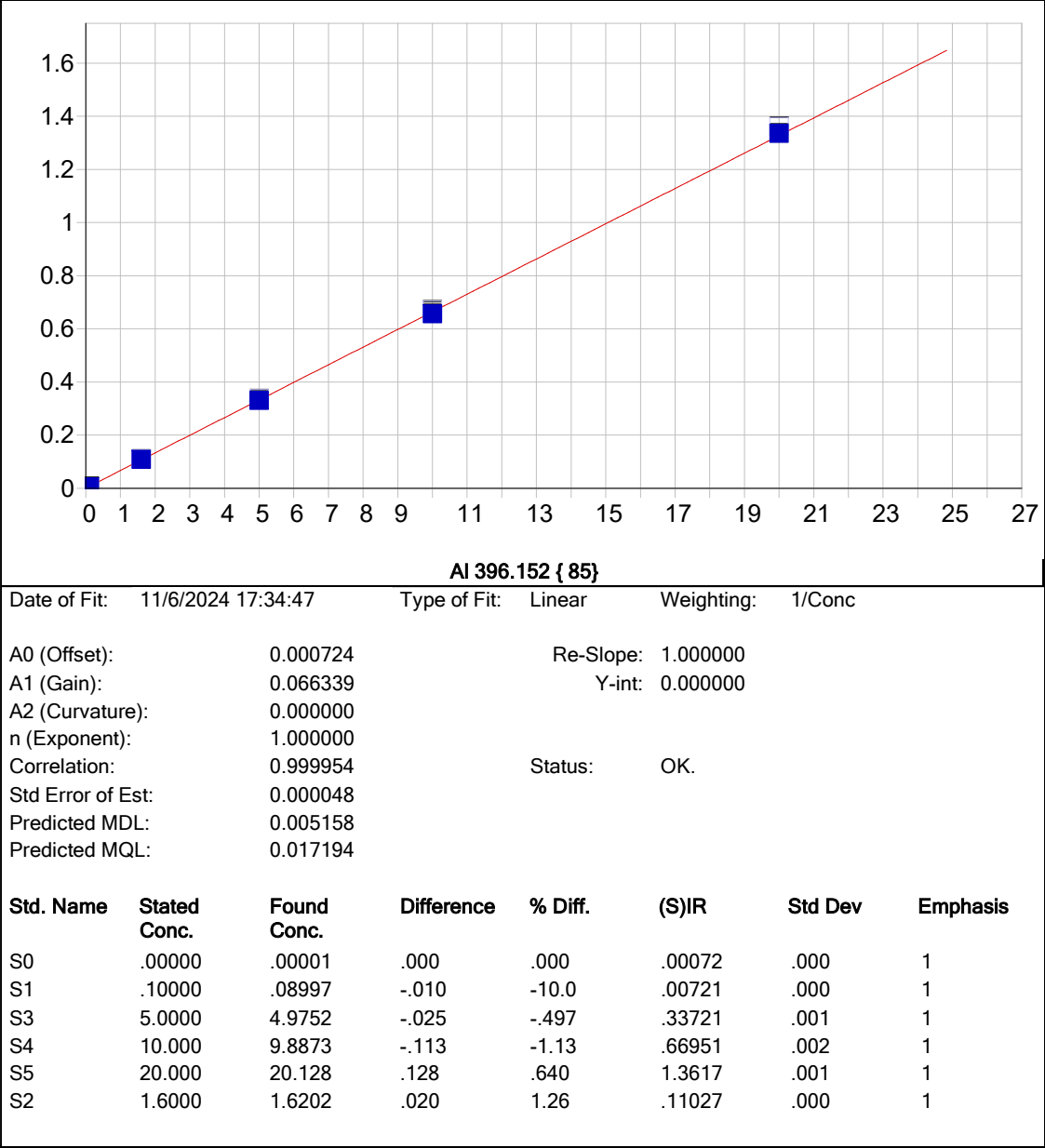


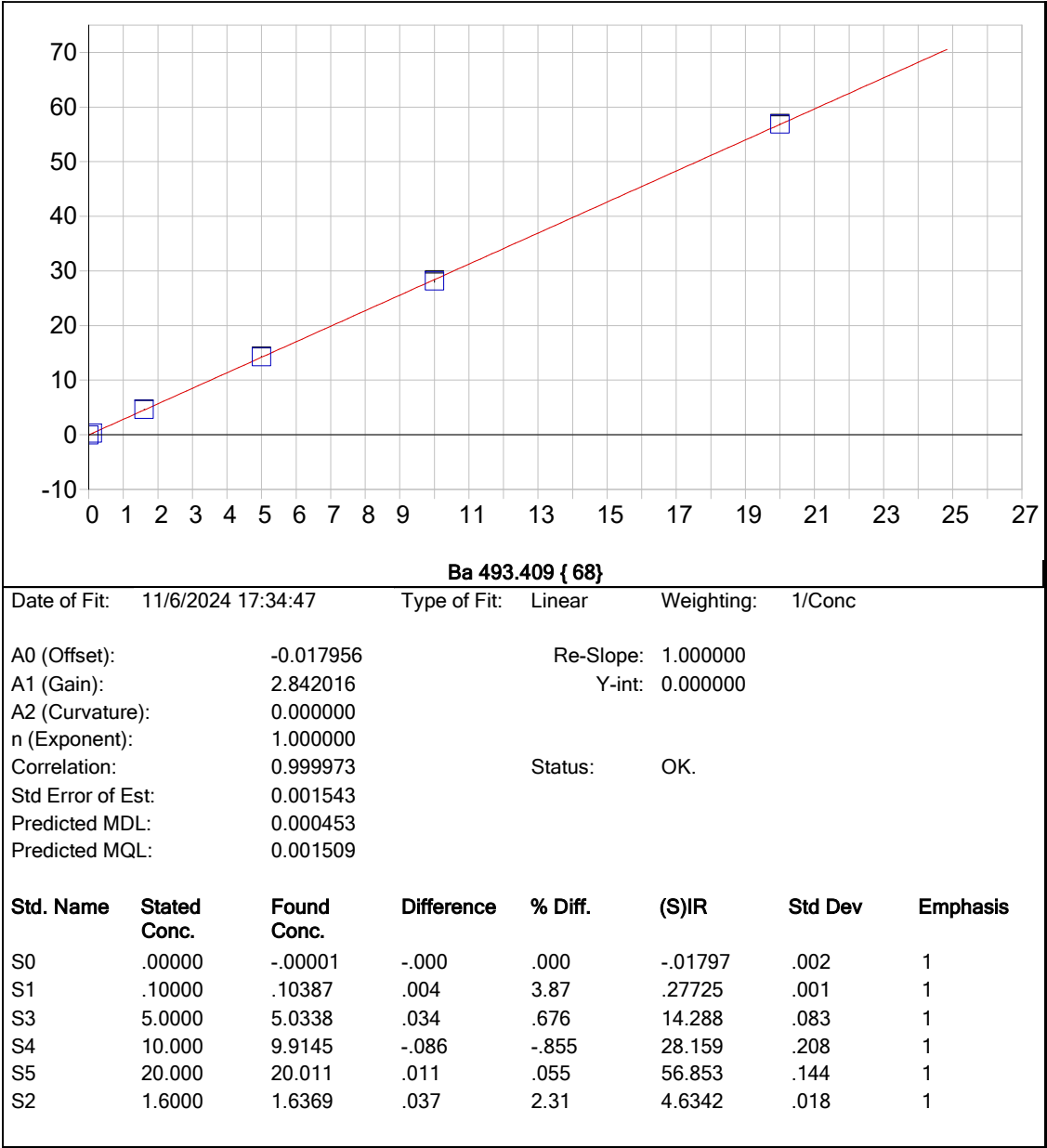


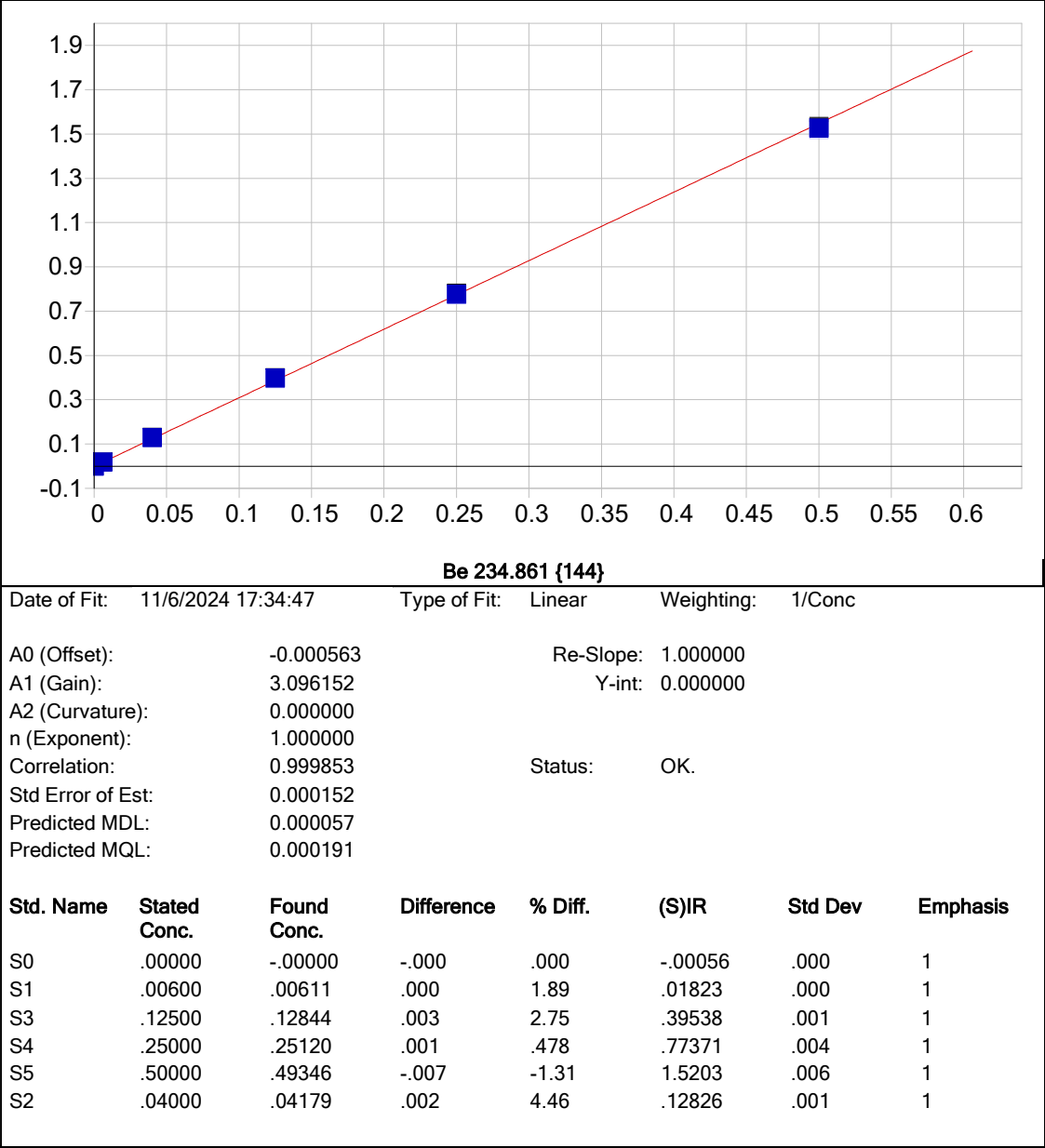


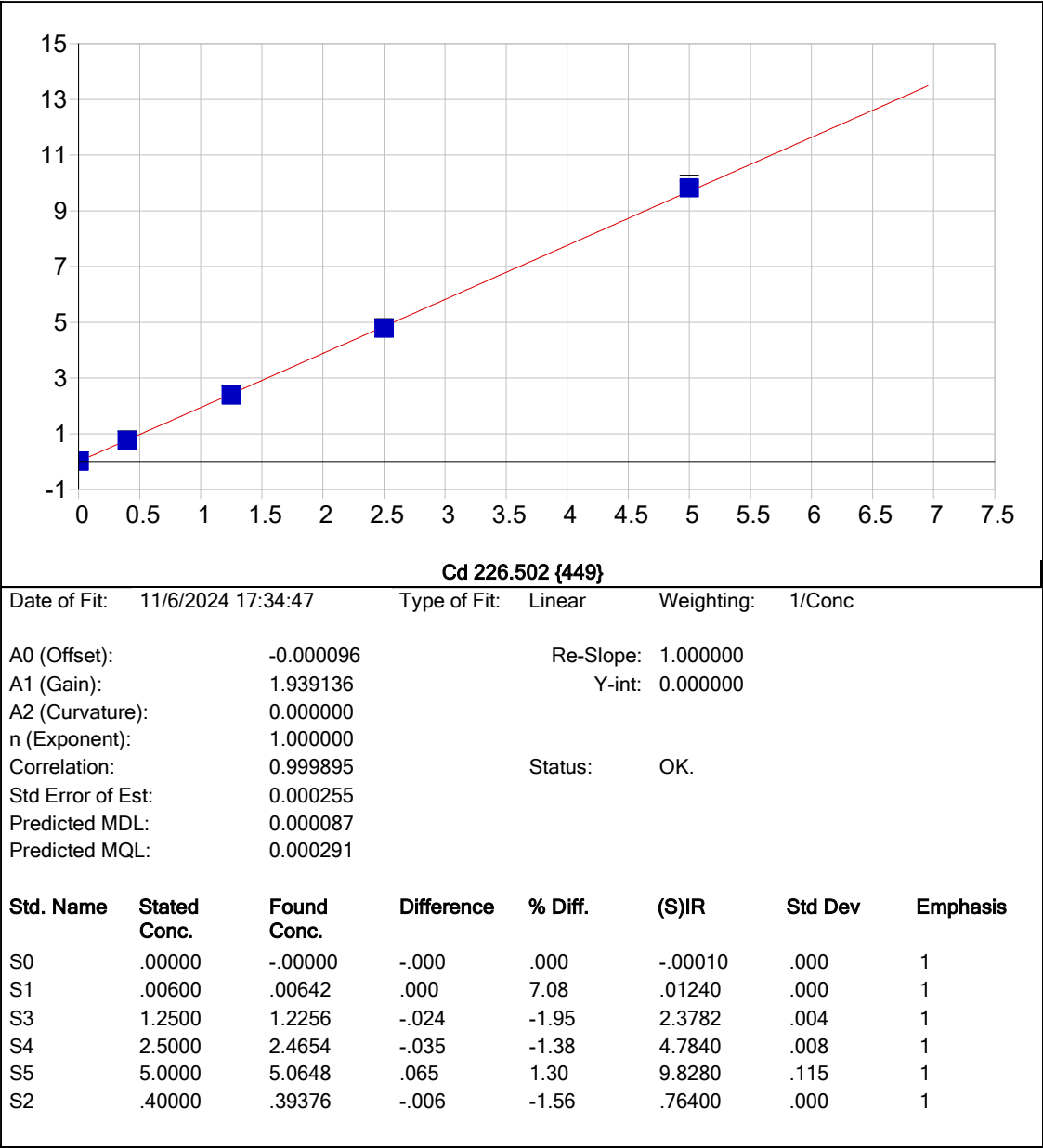


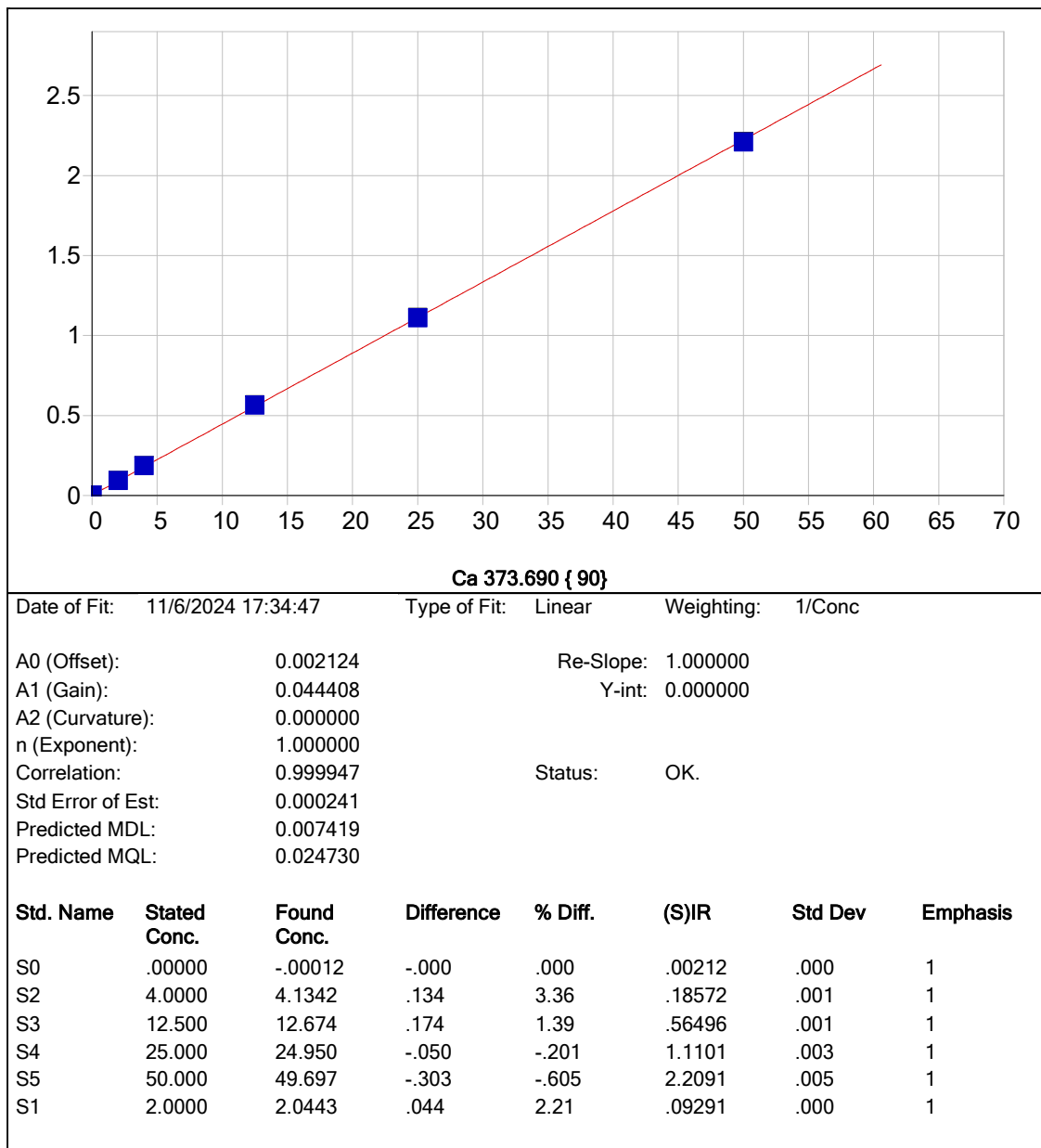


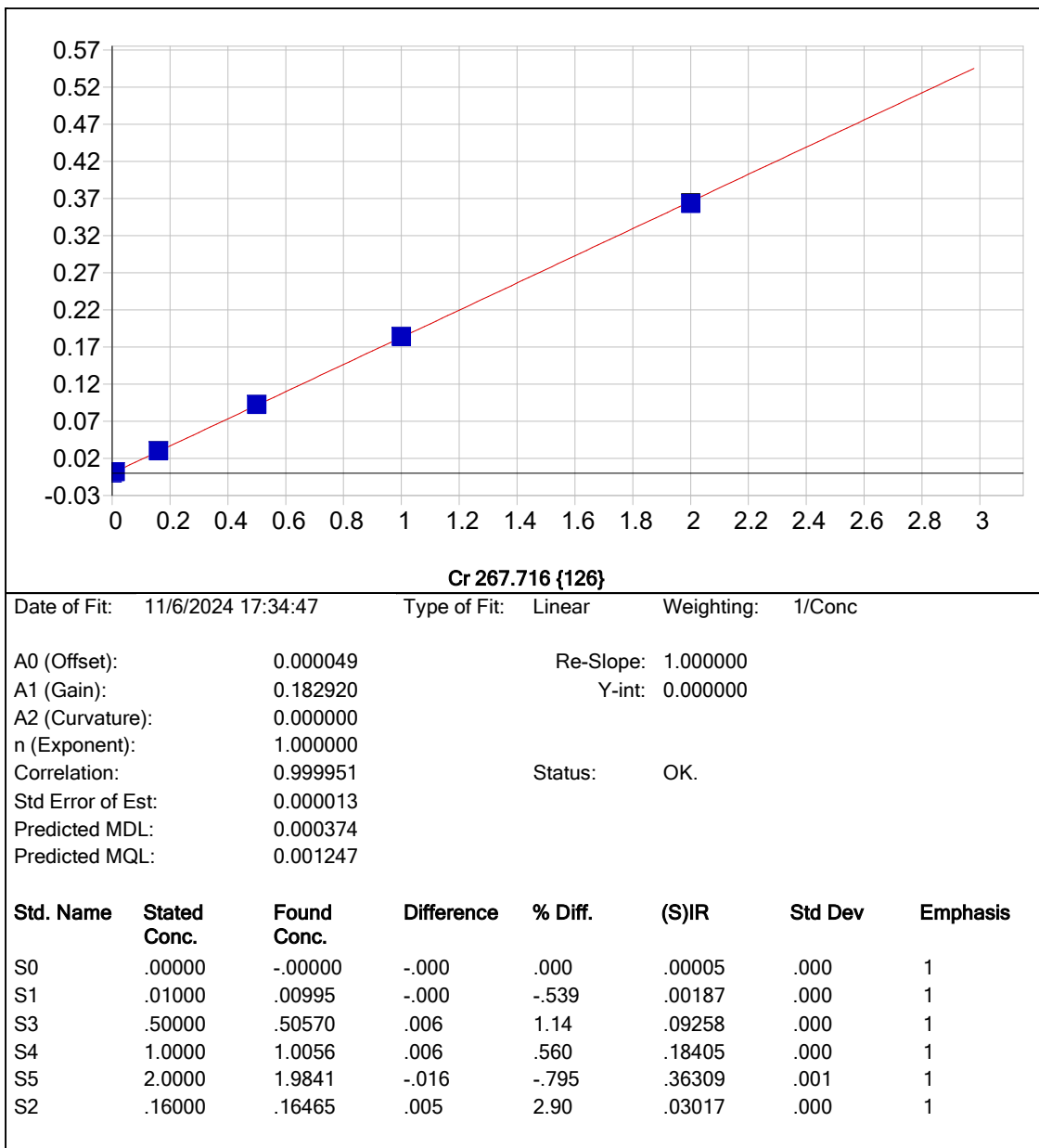


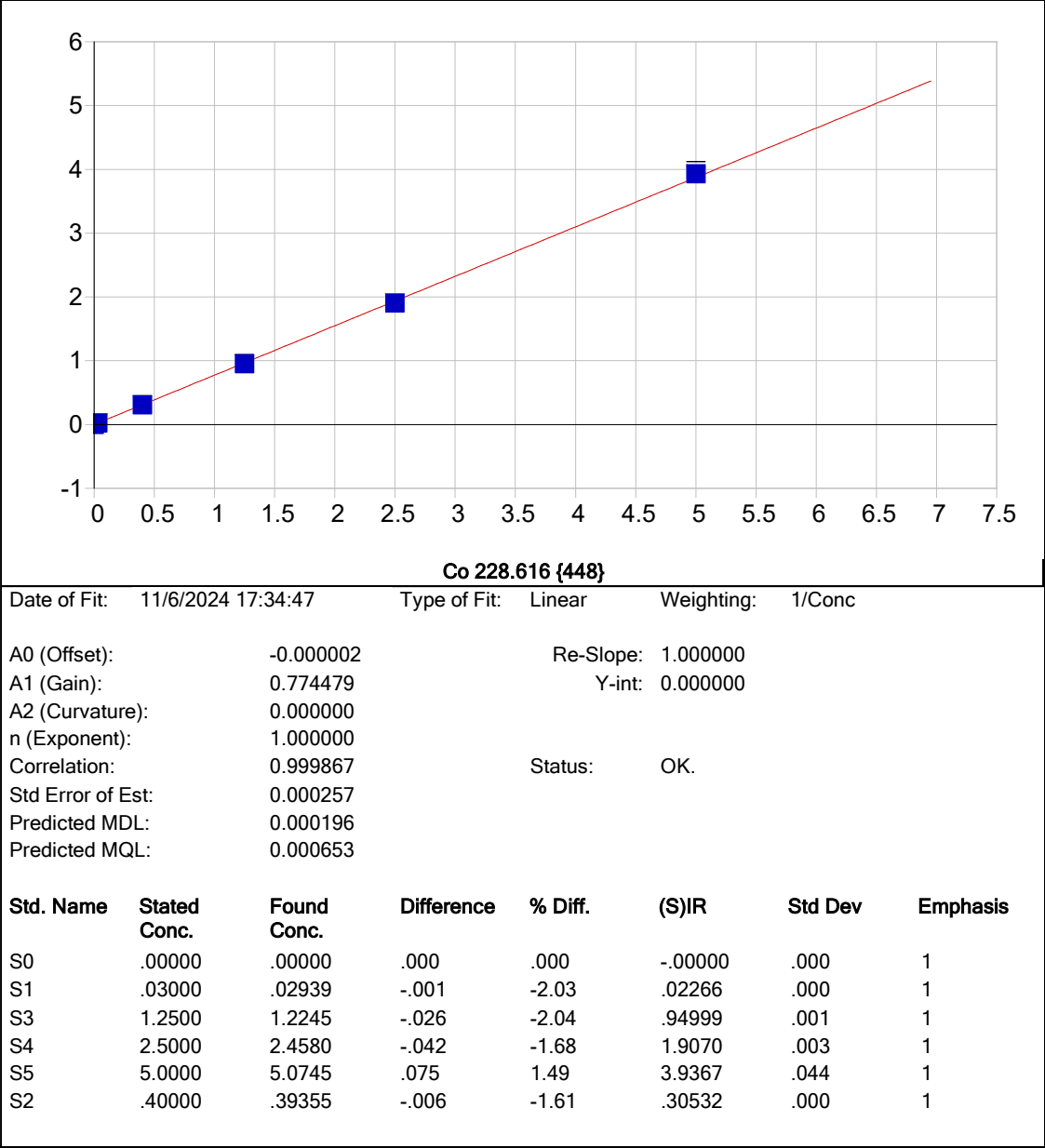


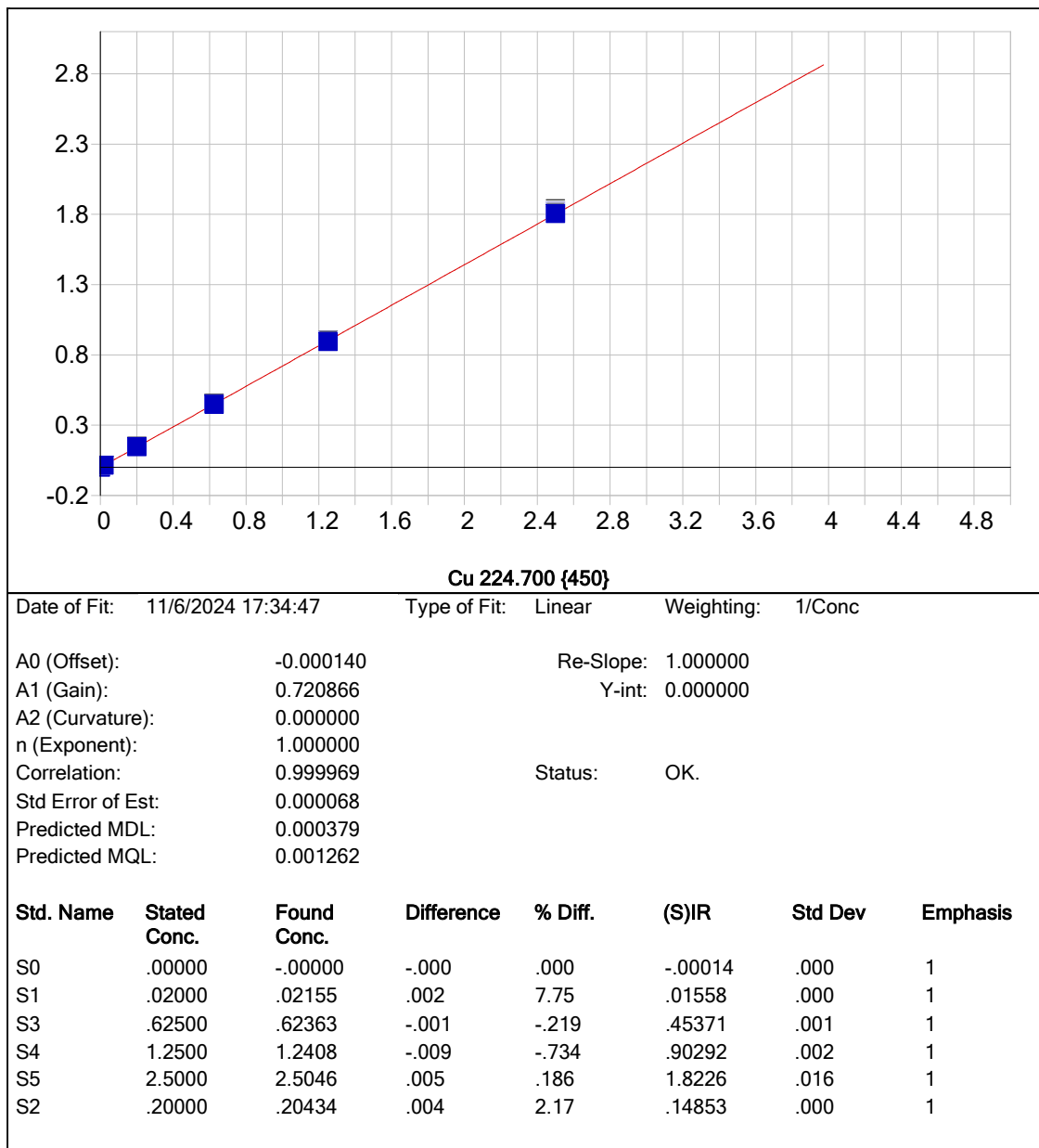




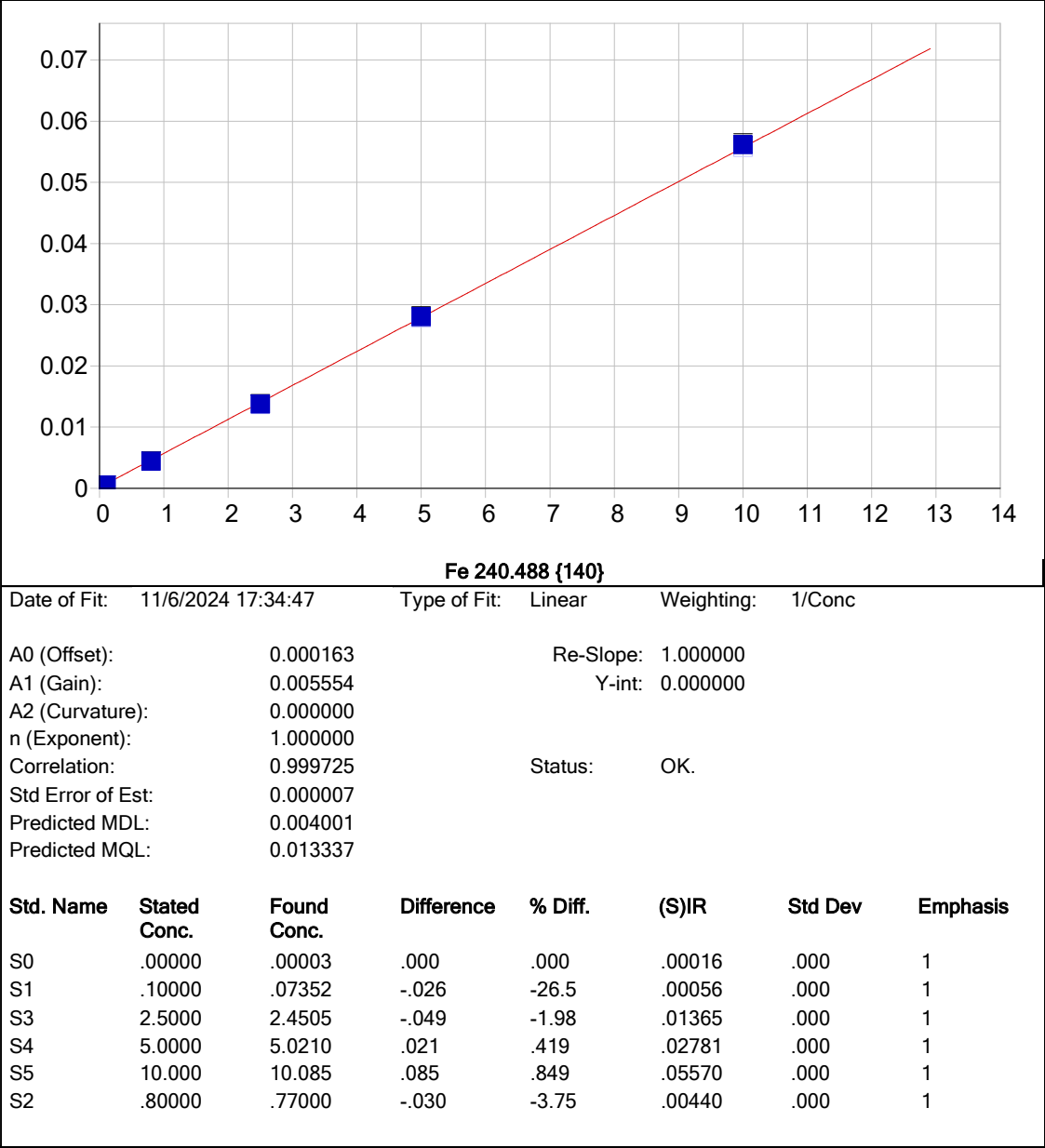


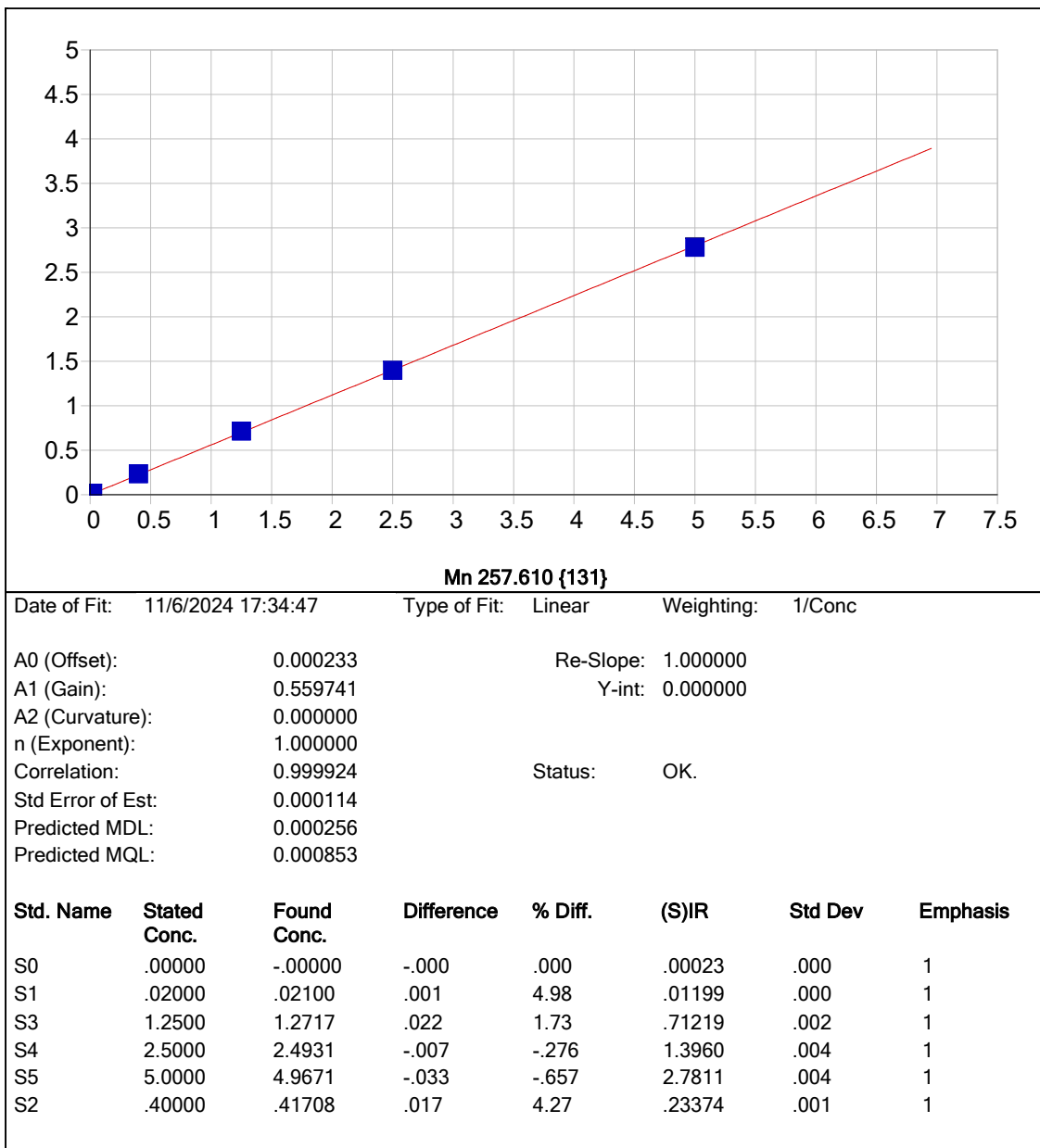


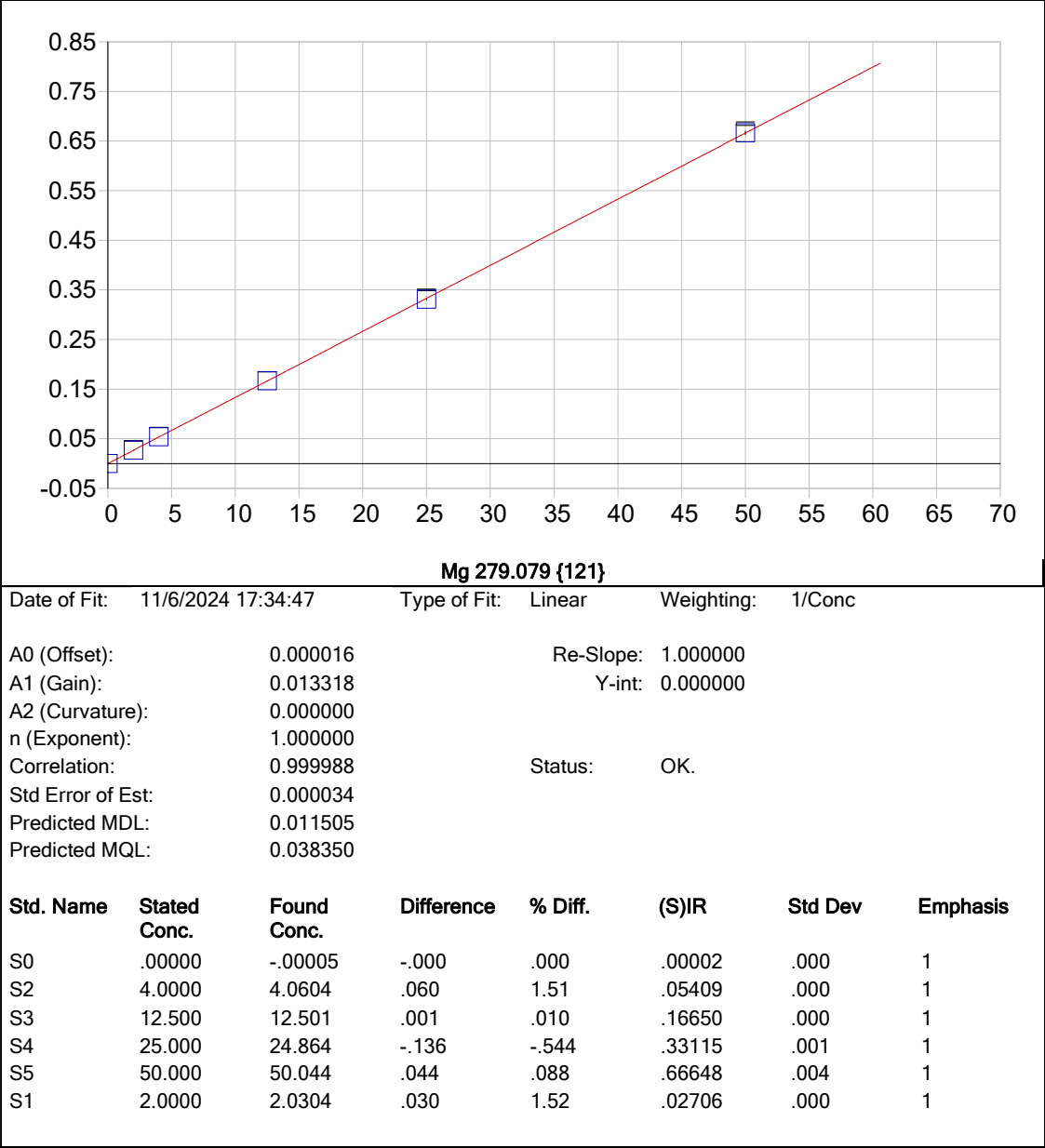


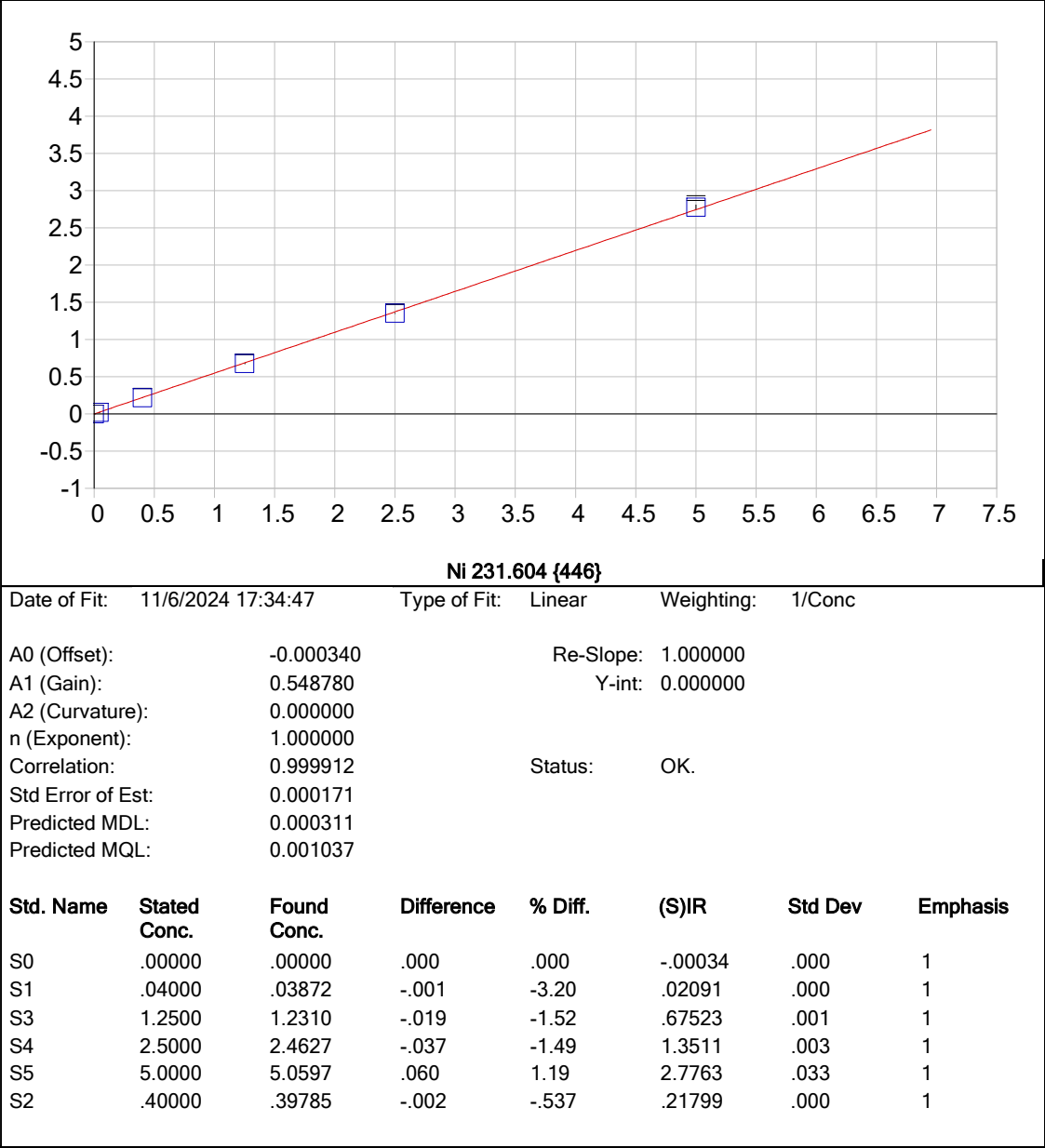


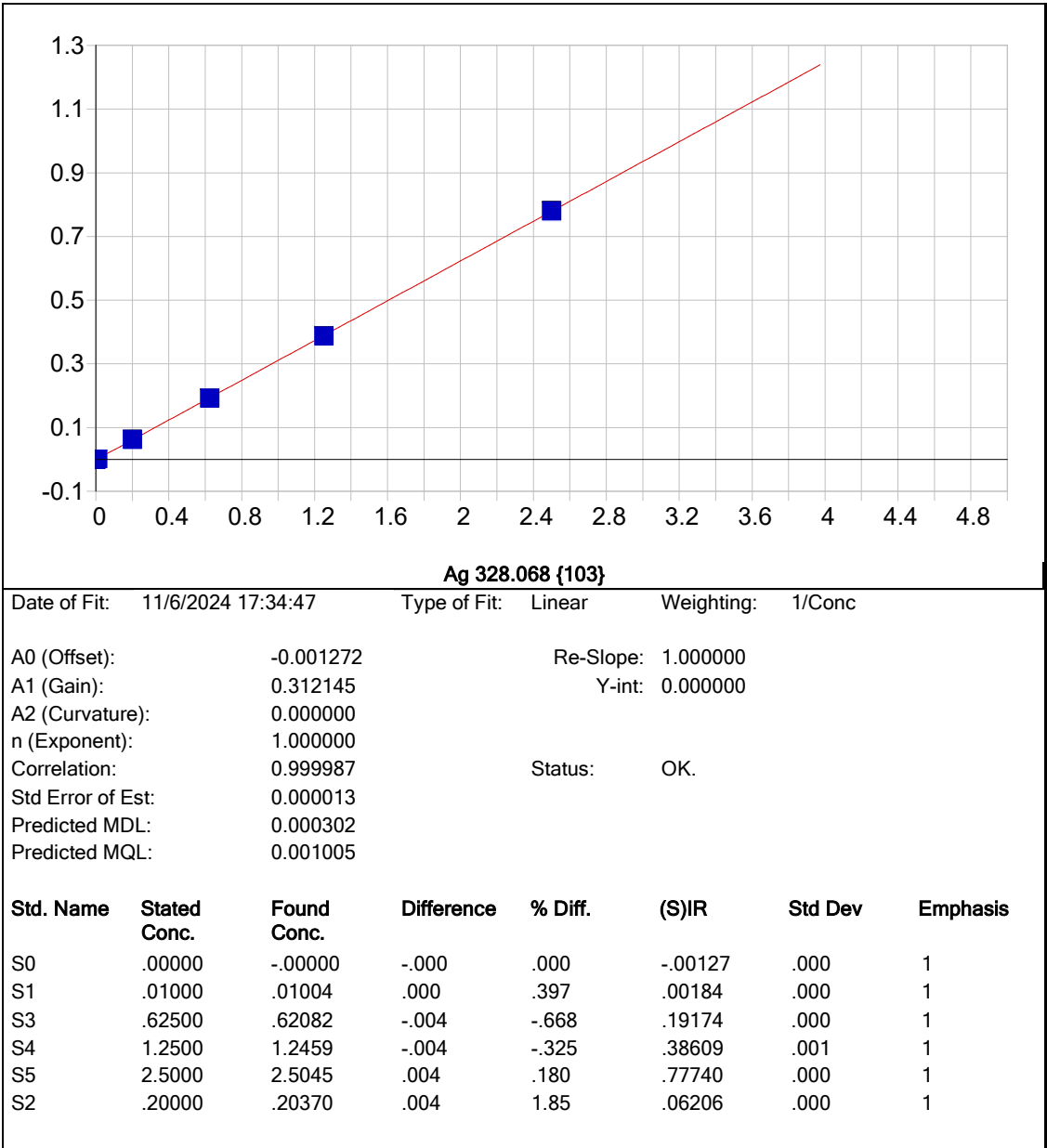
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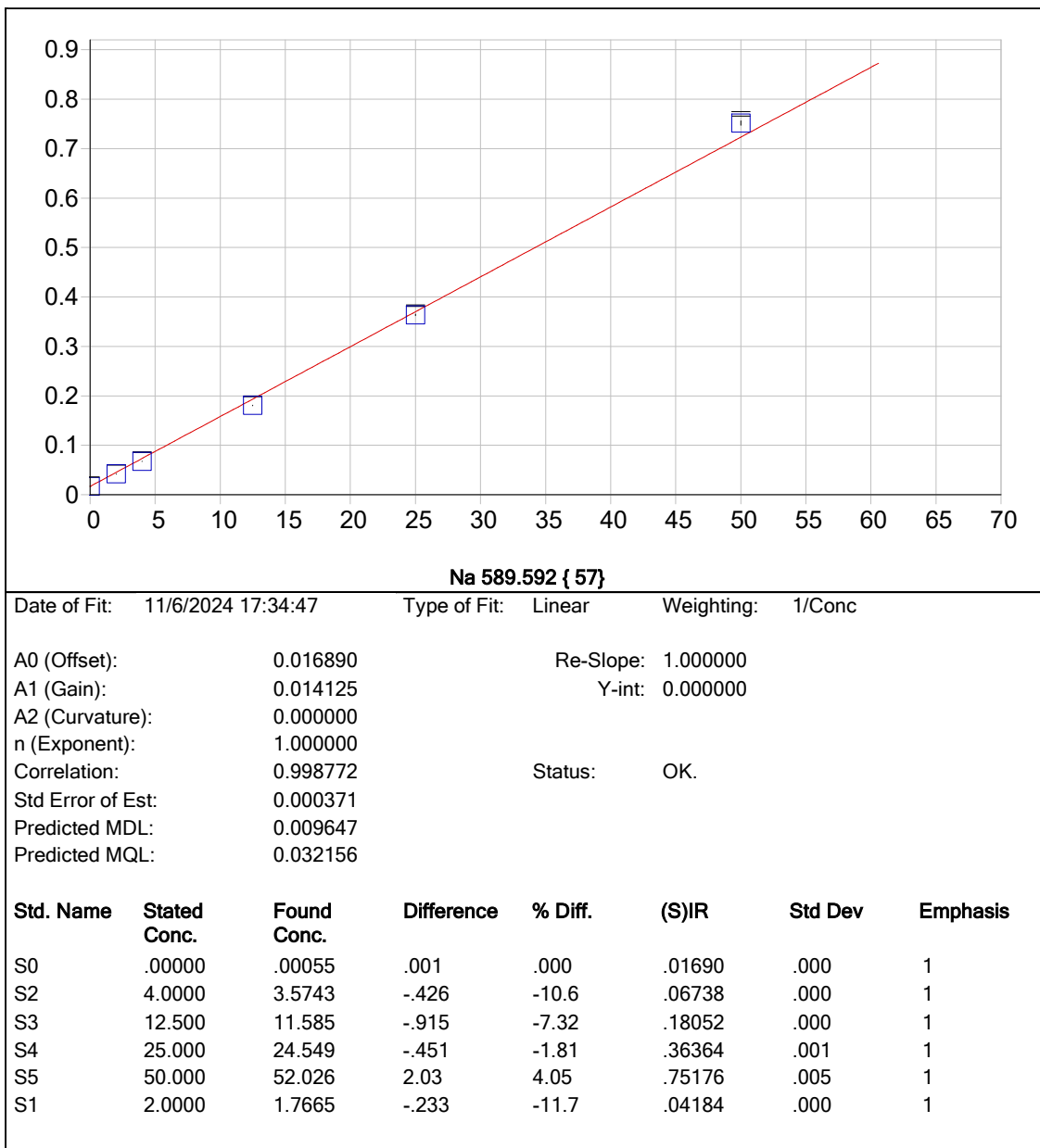




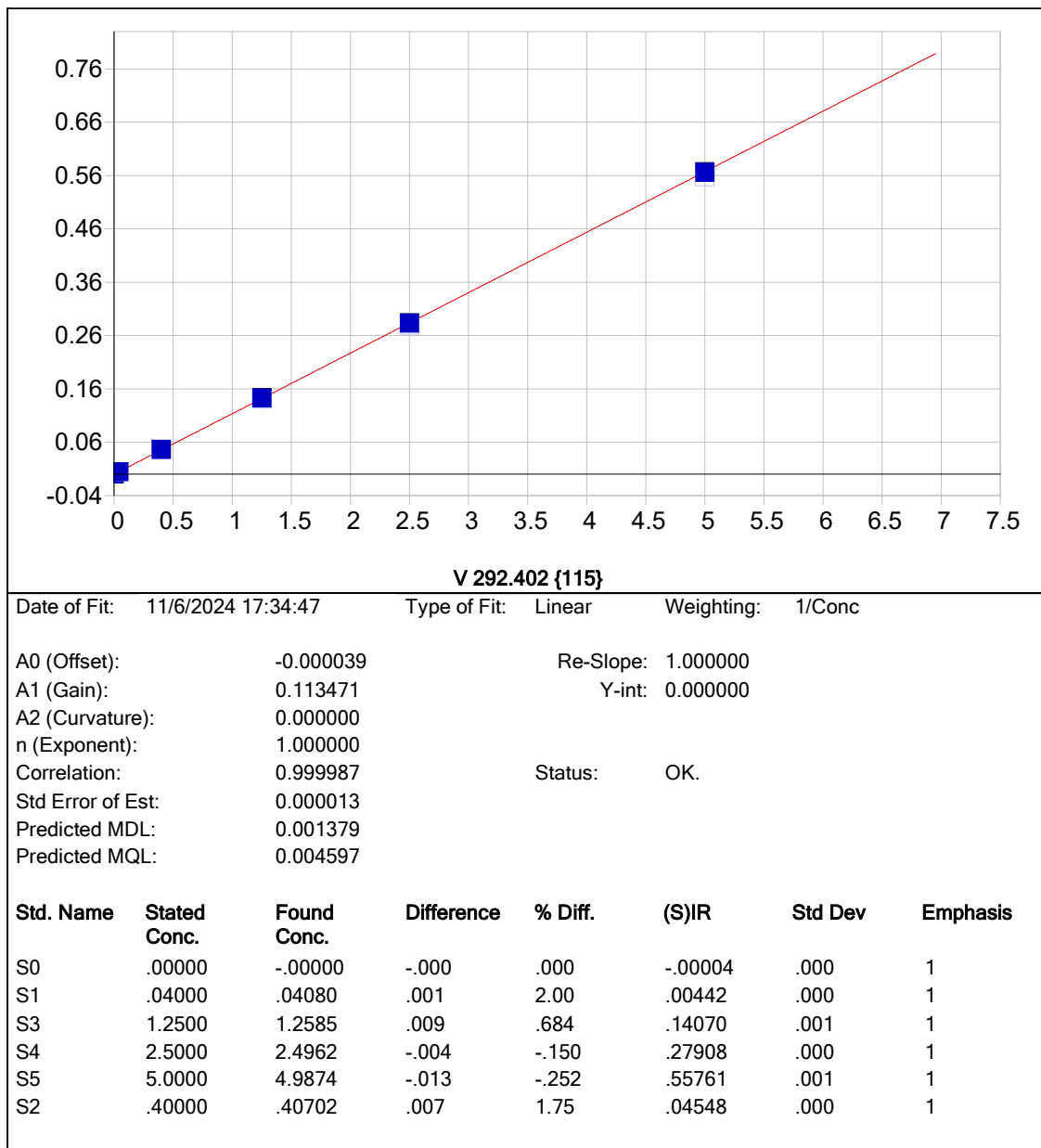


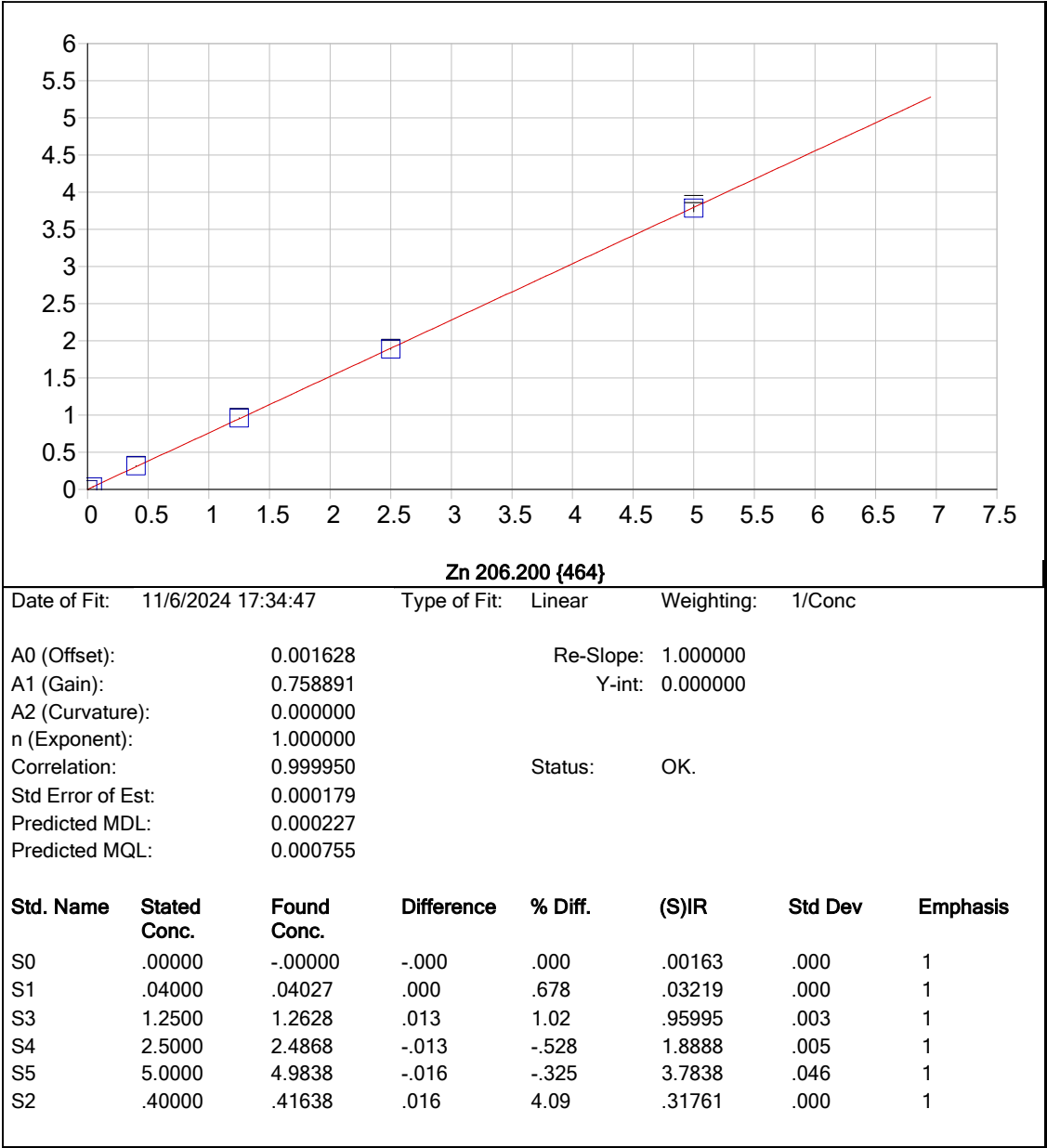


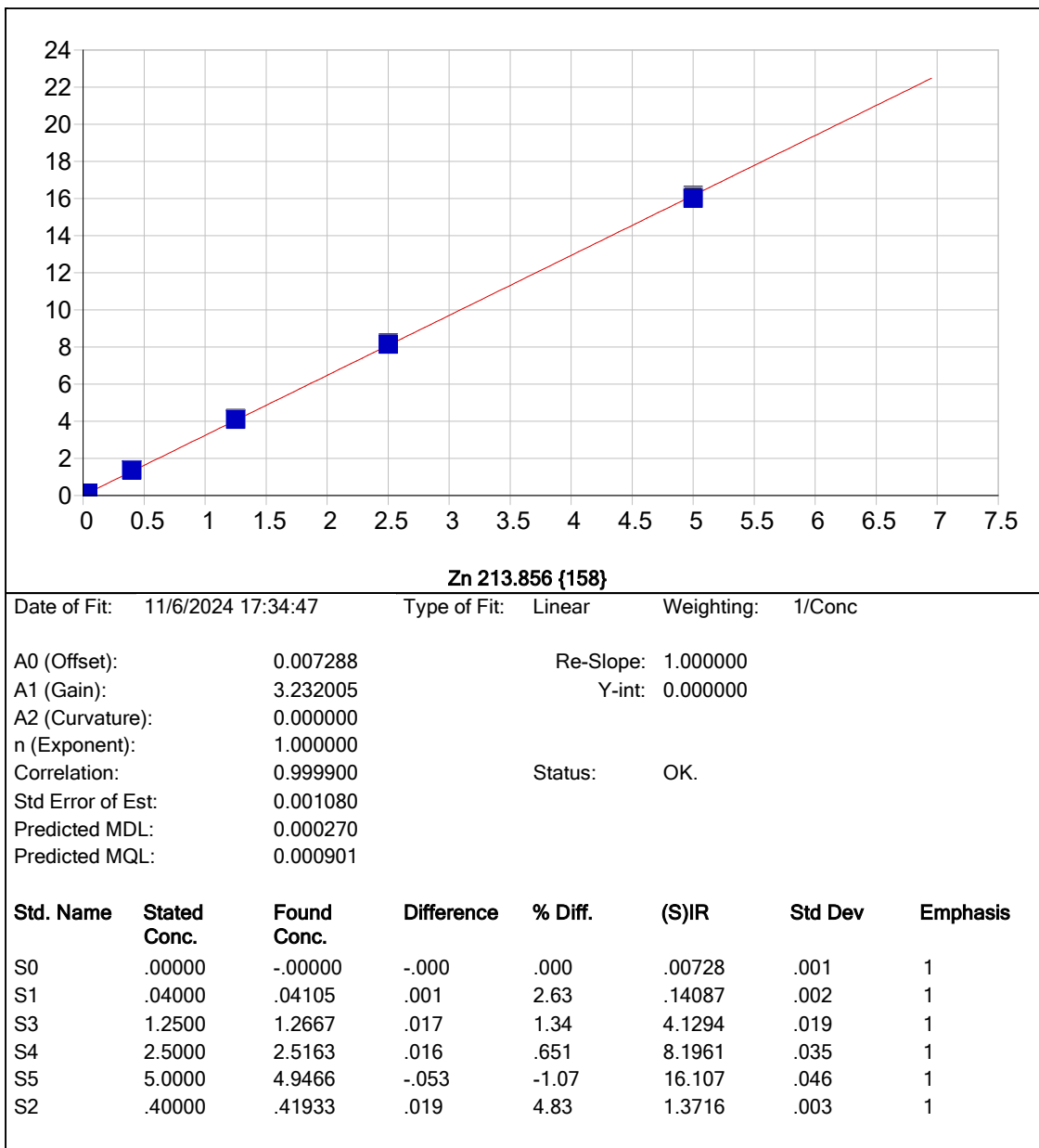


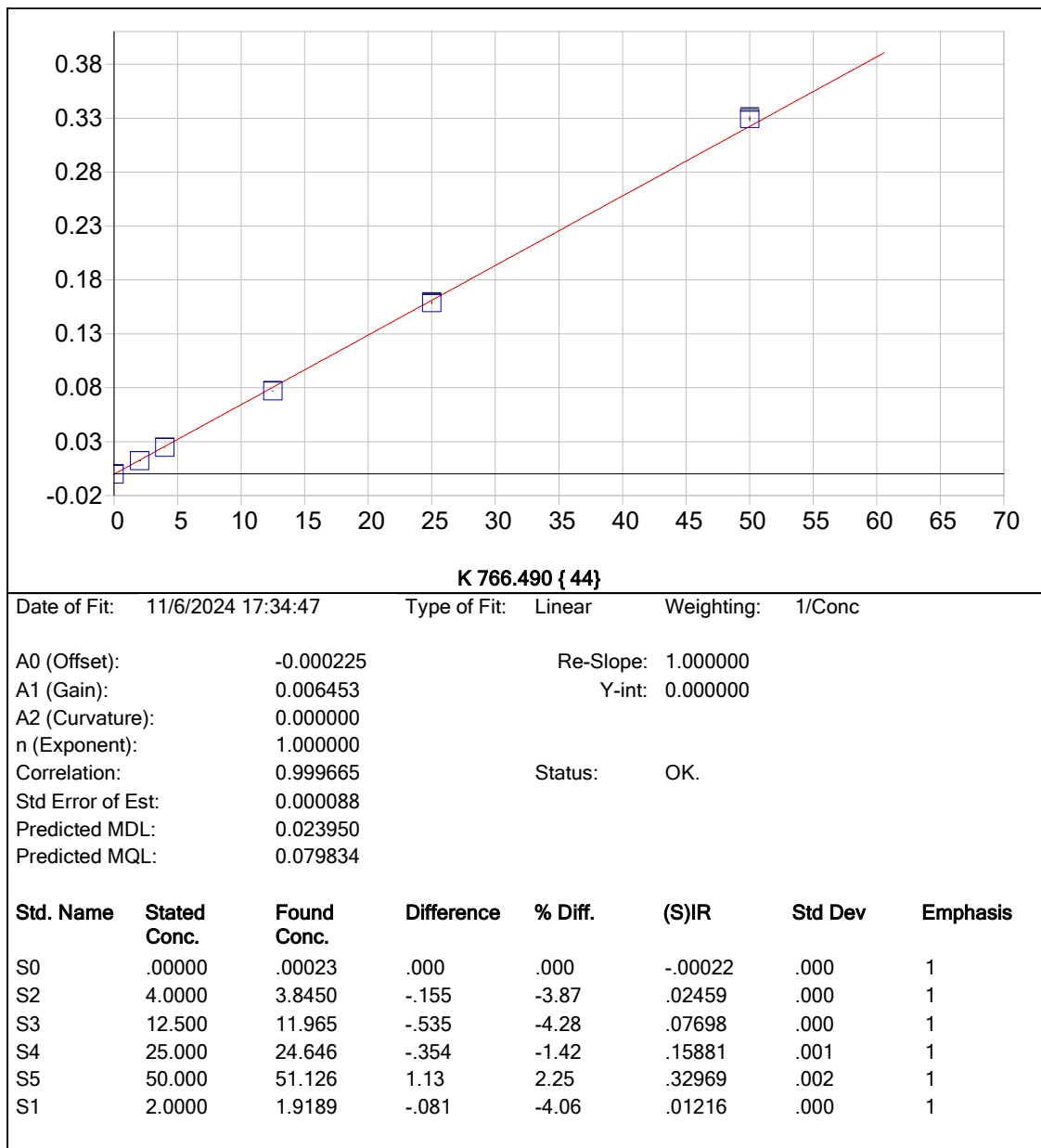


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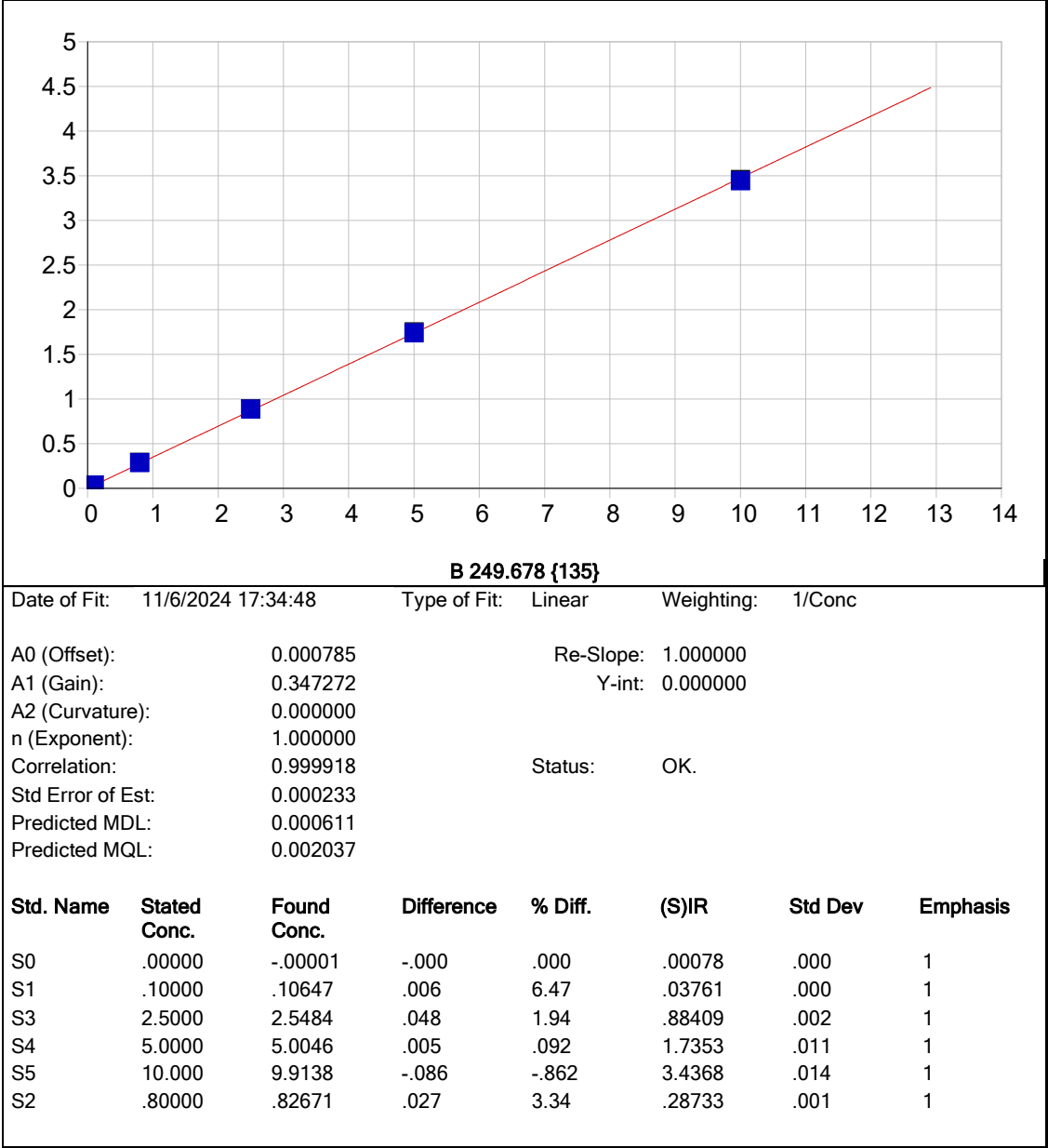


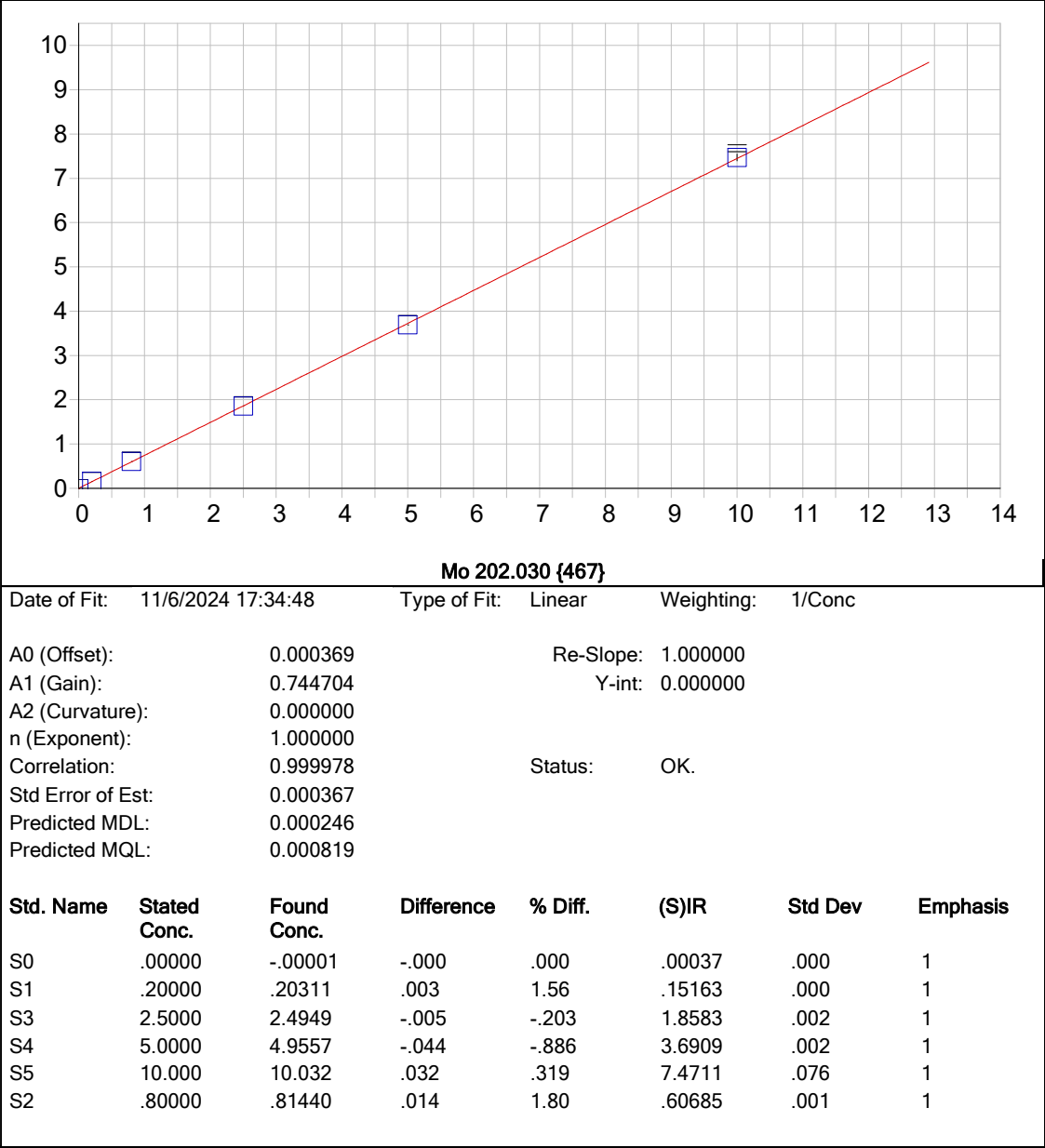


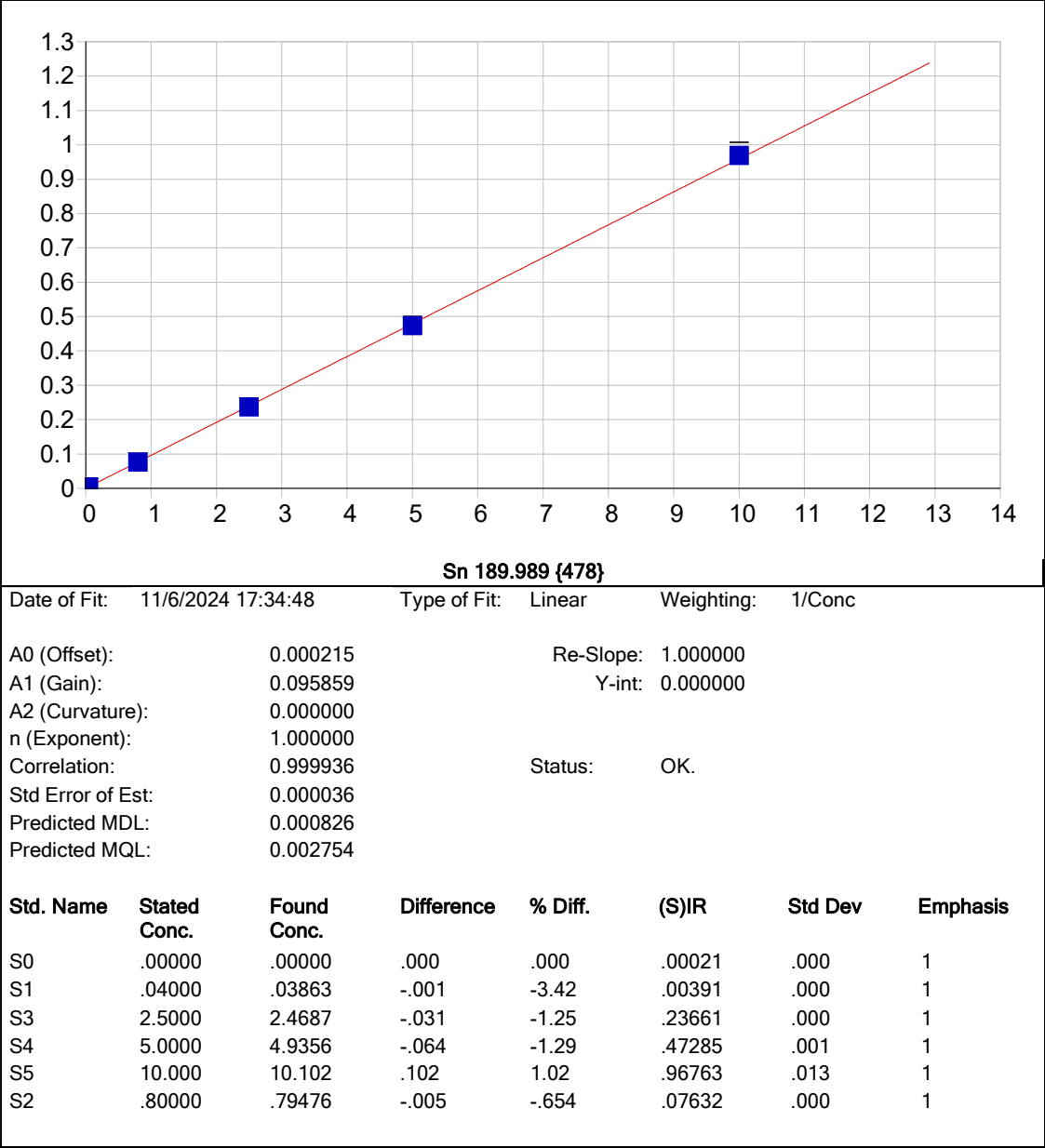


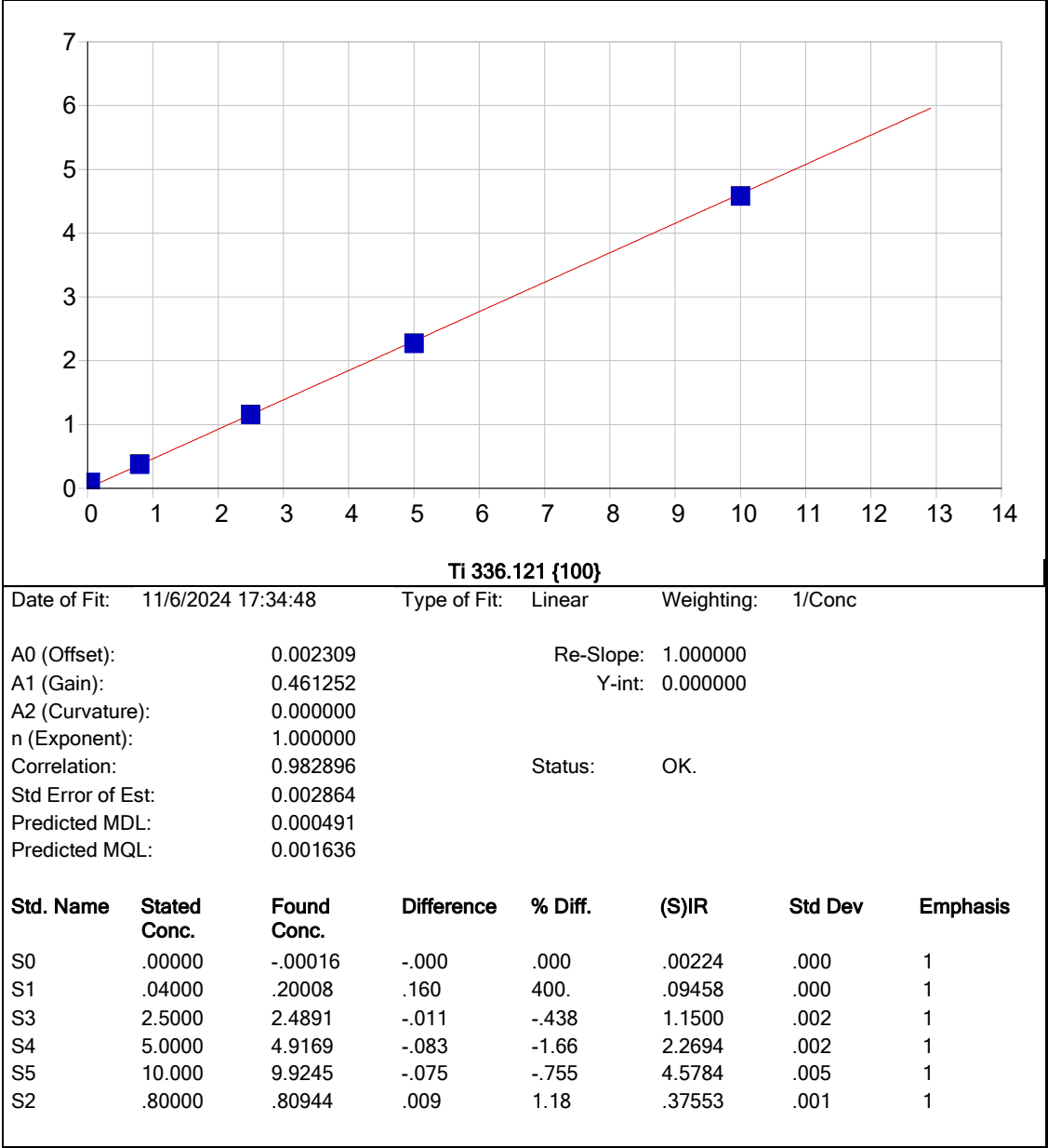


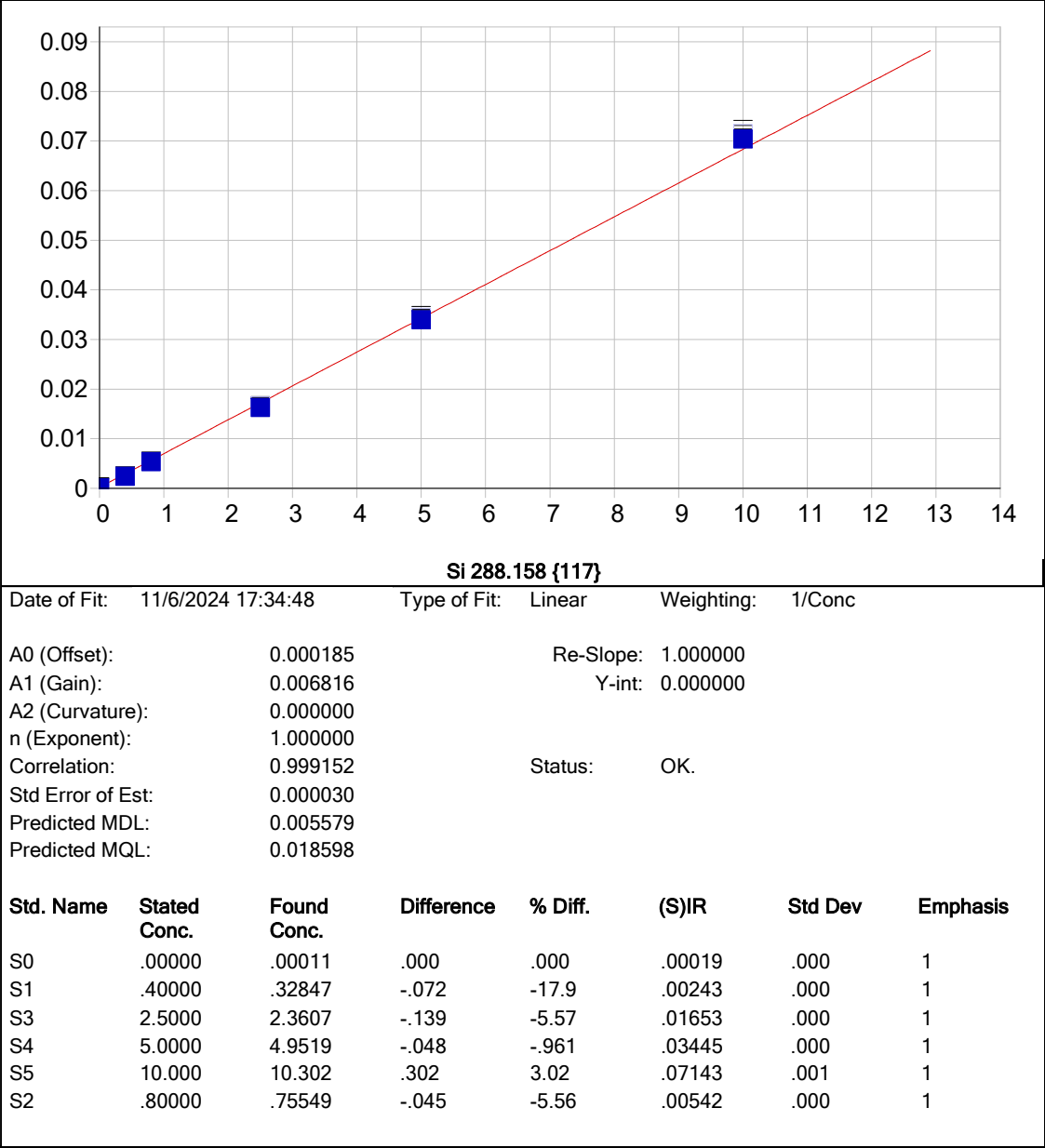
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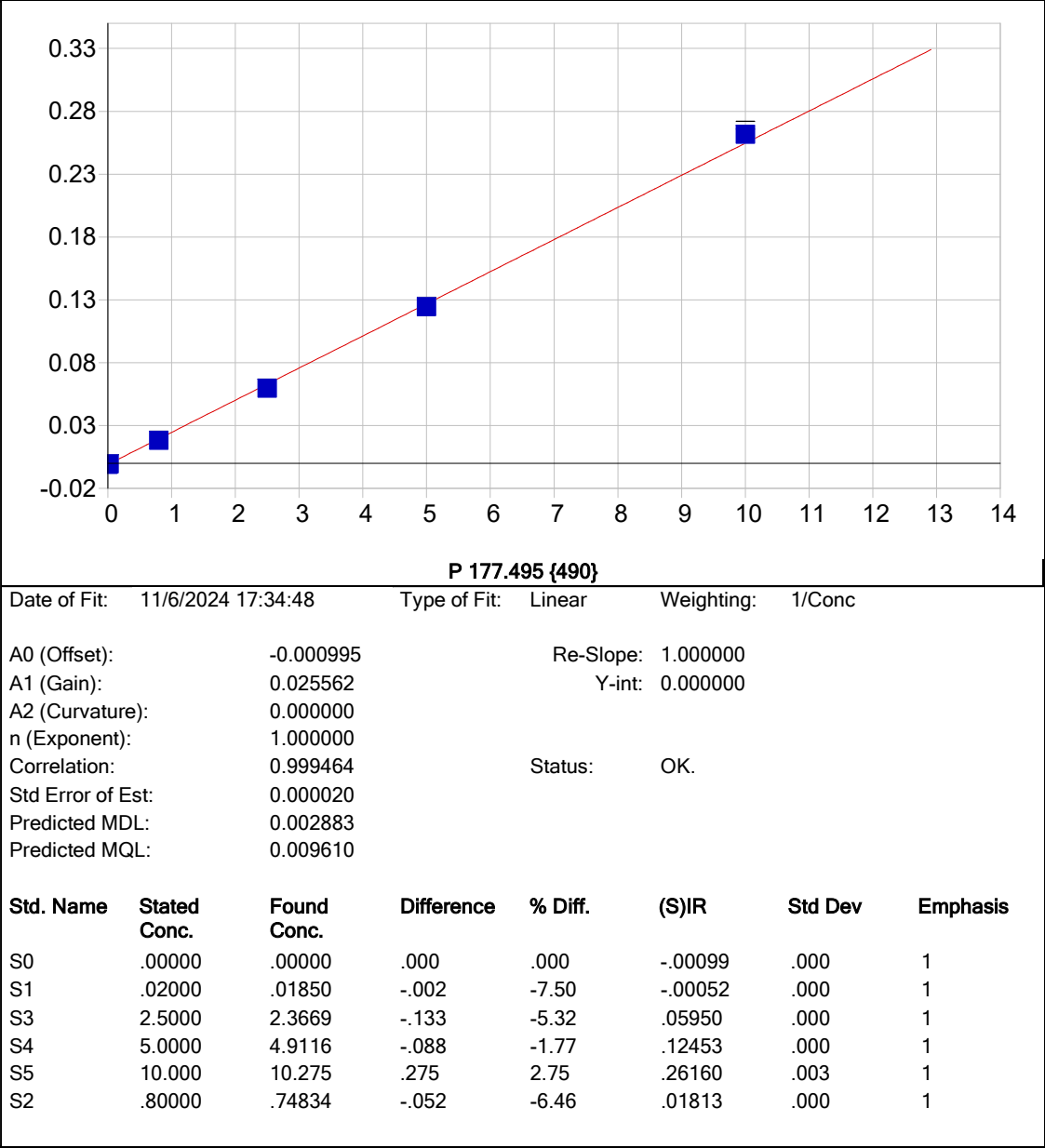


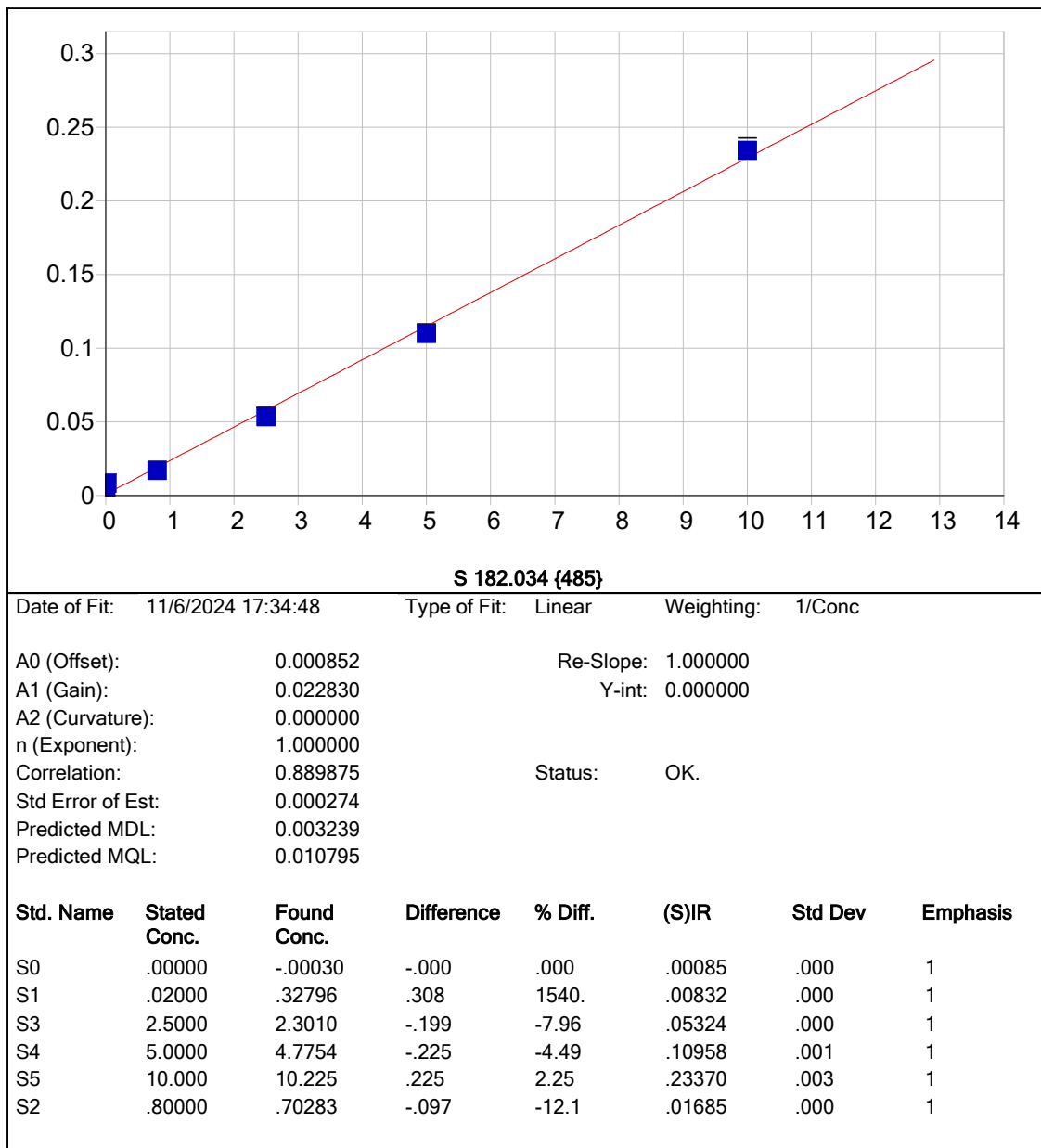


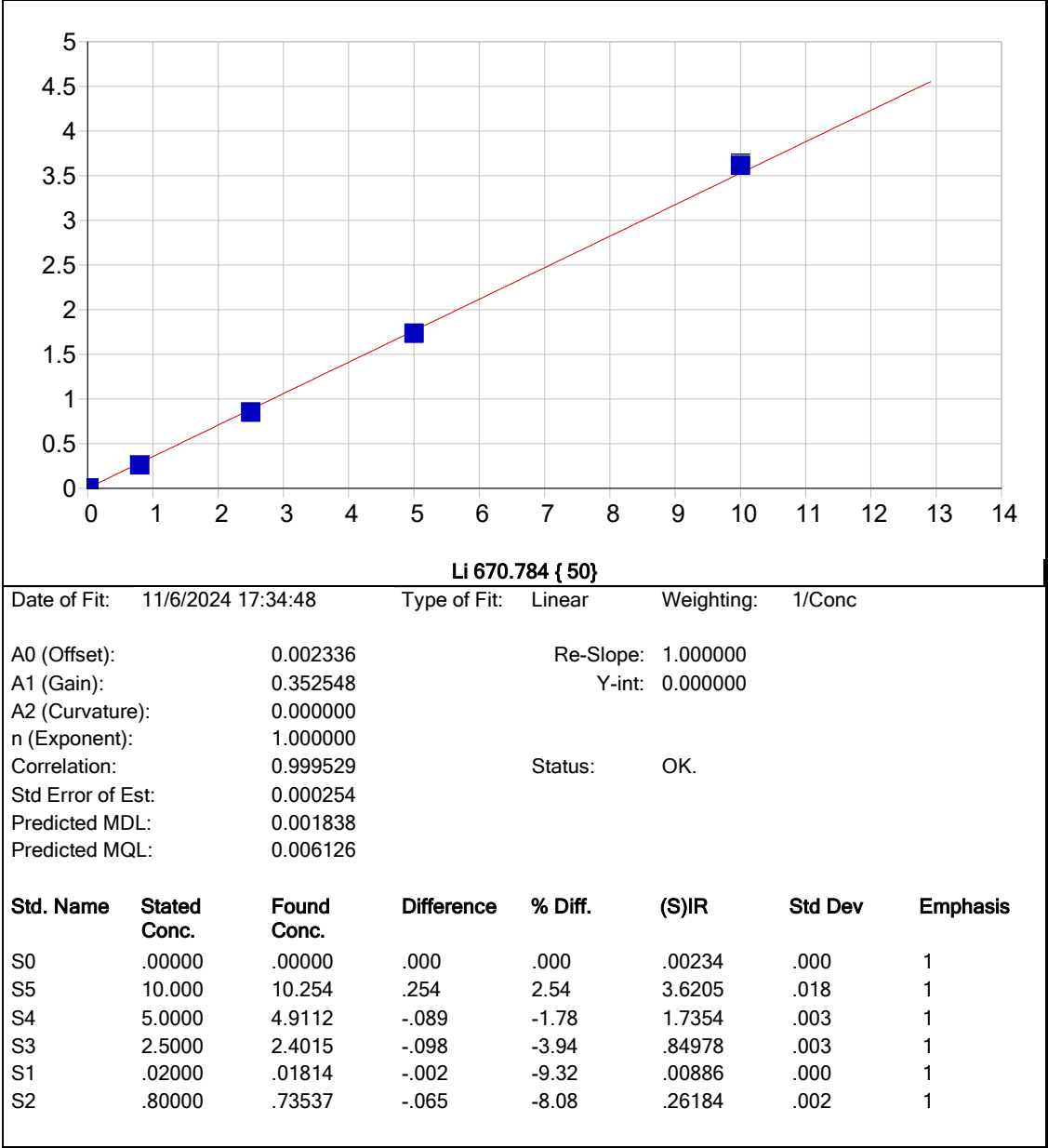


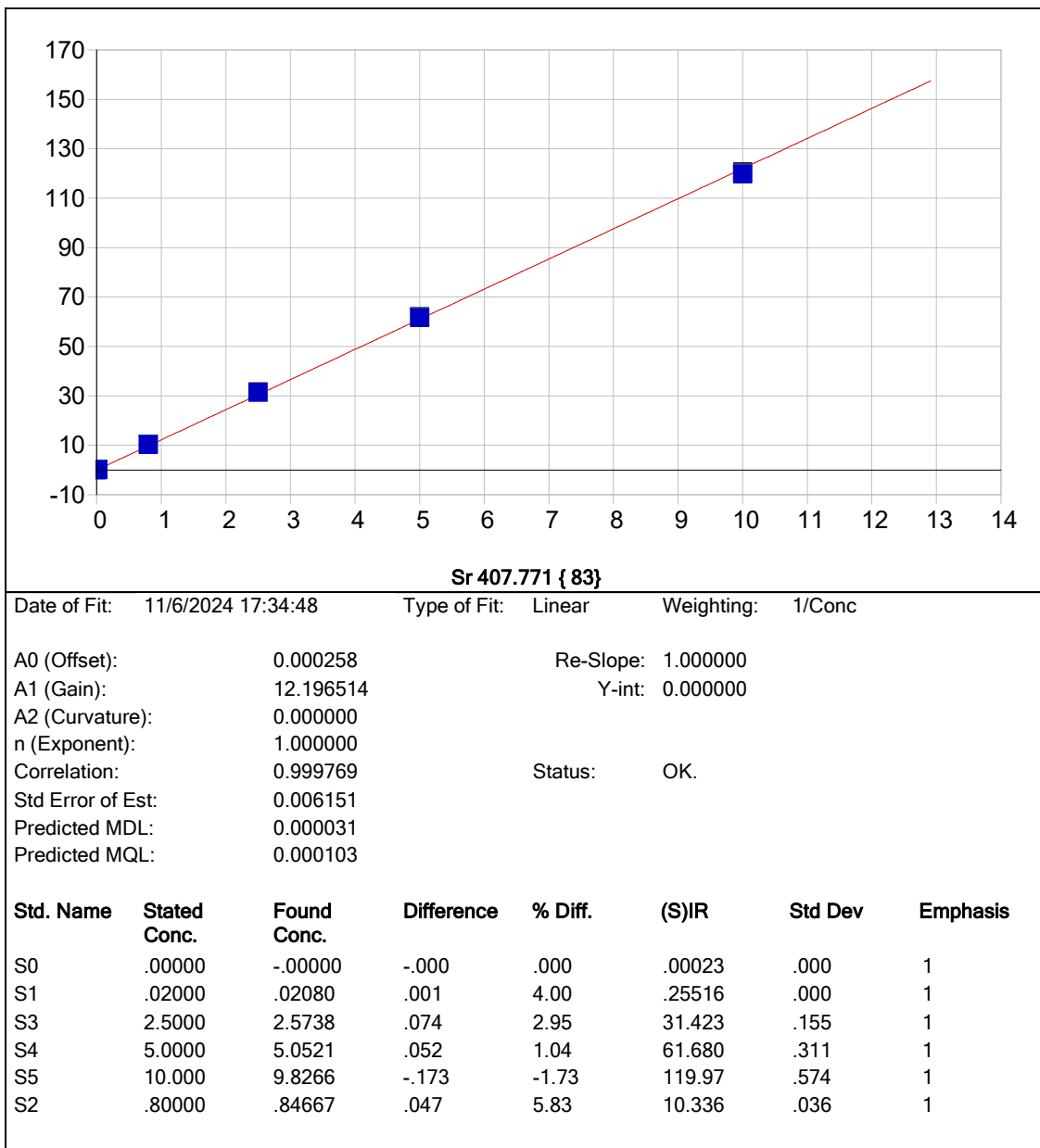


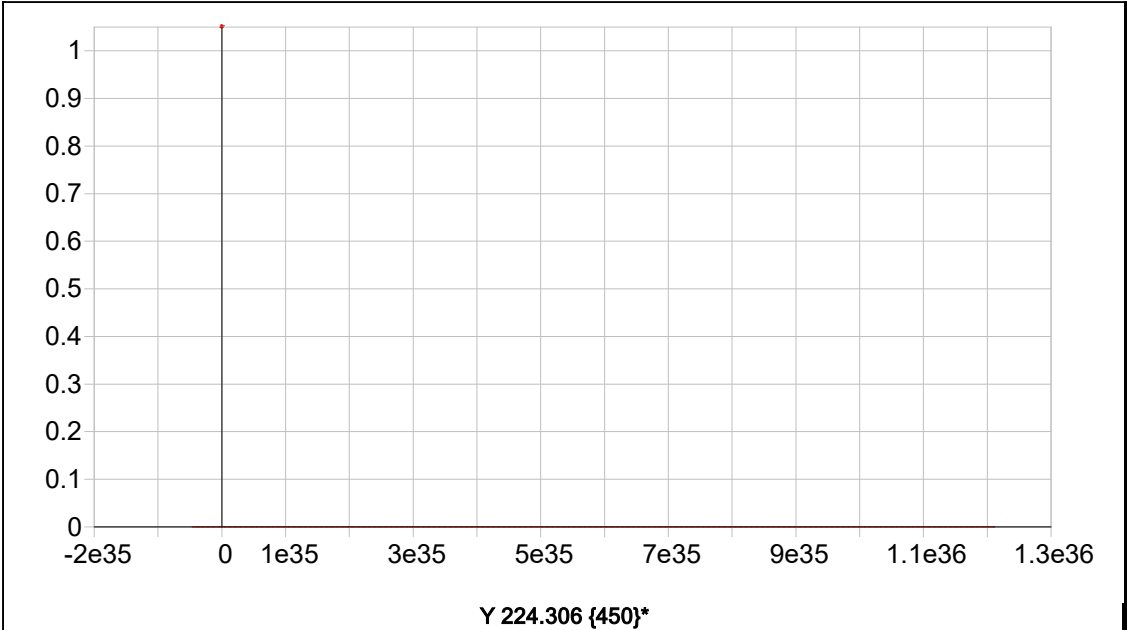






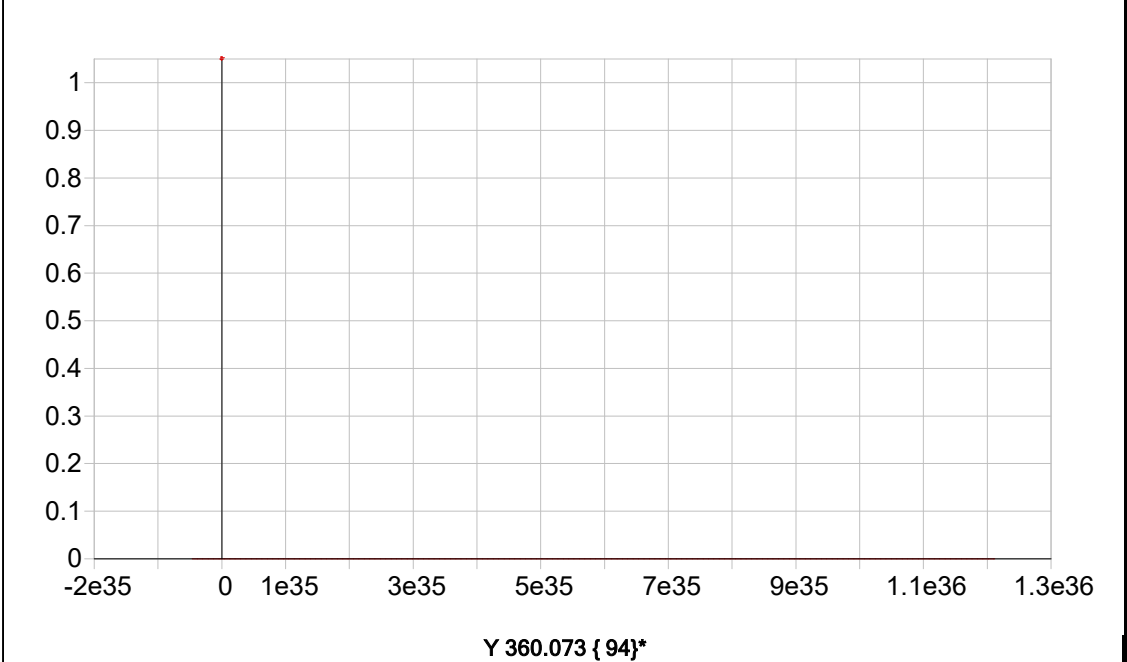




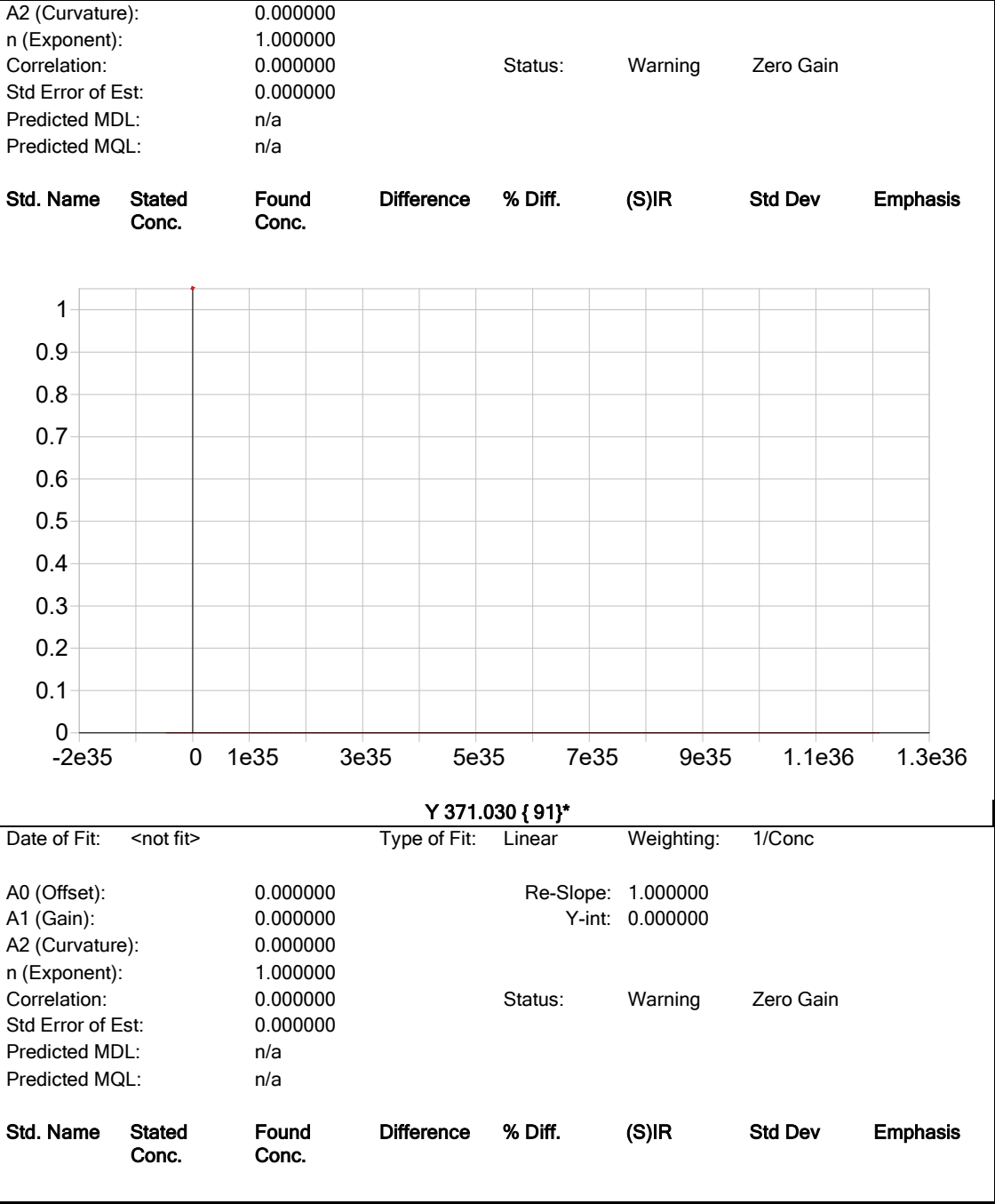


Date of Fit:	11/6/2024 15:26:31	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

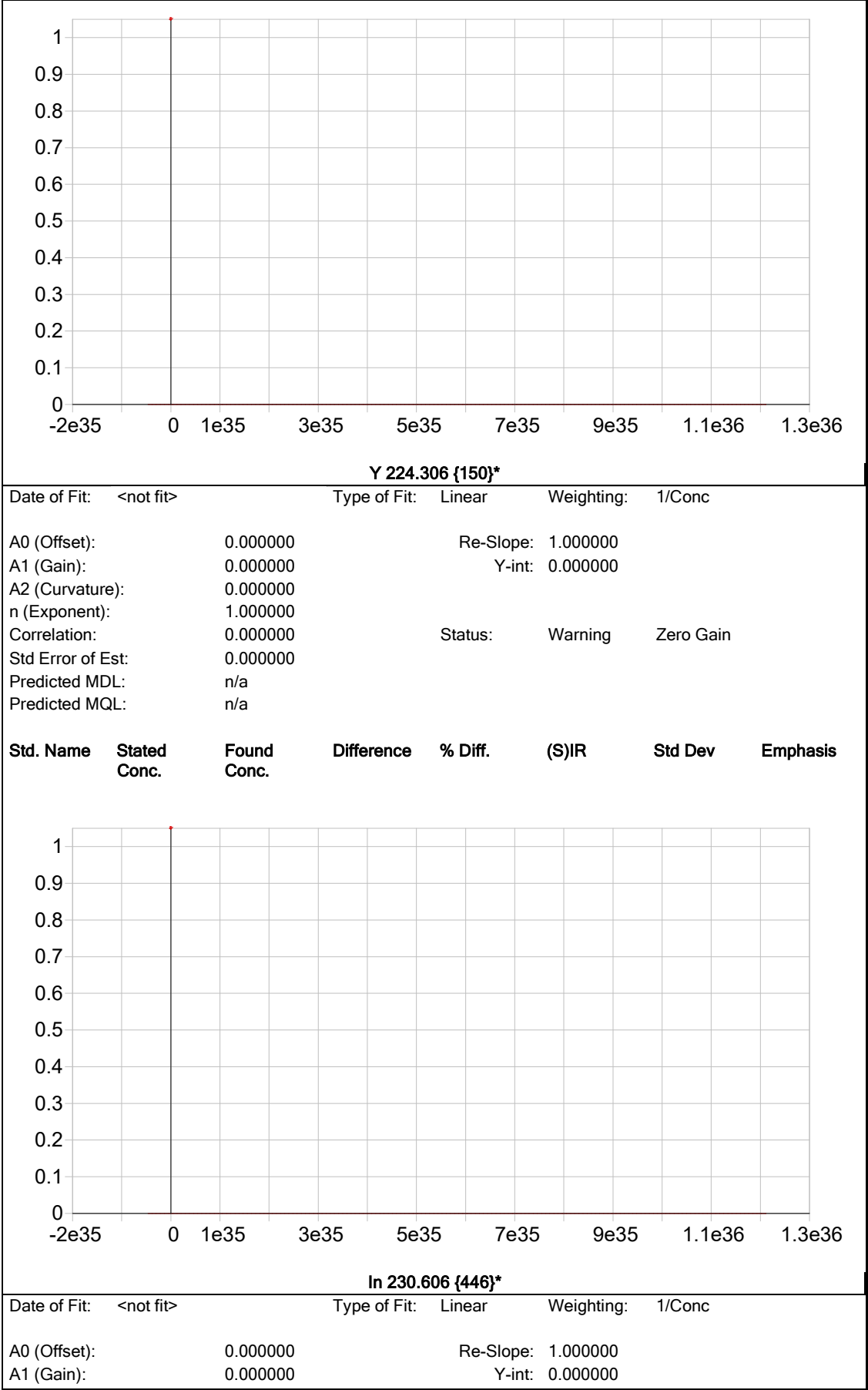
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		

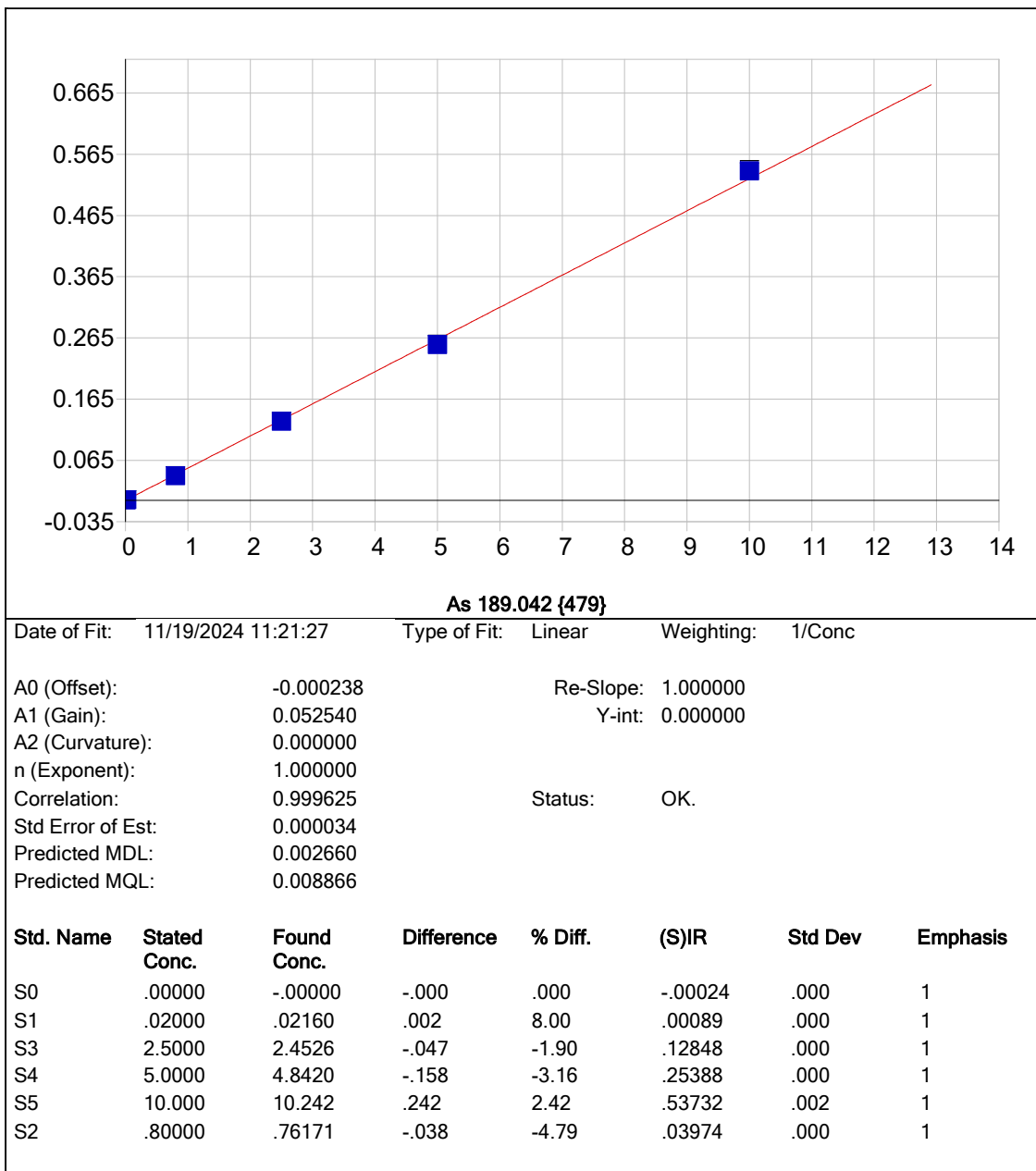


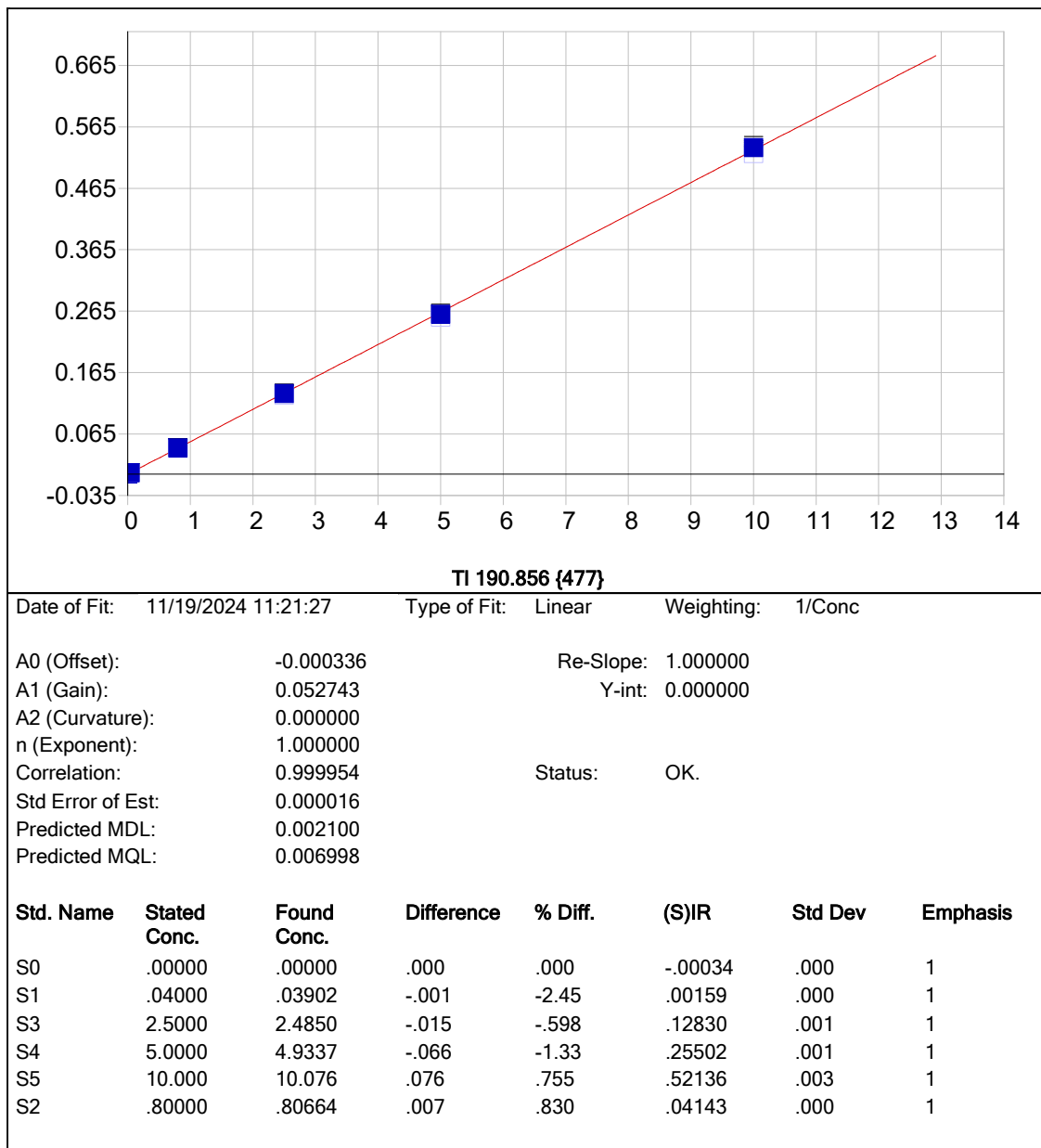
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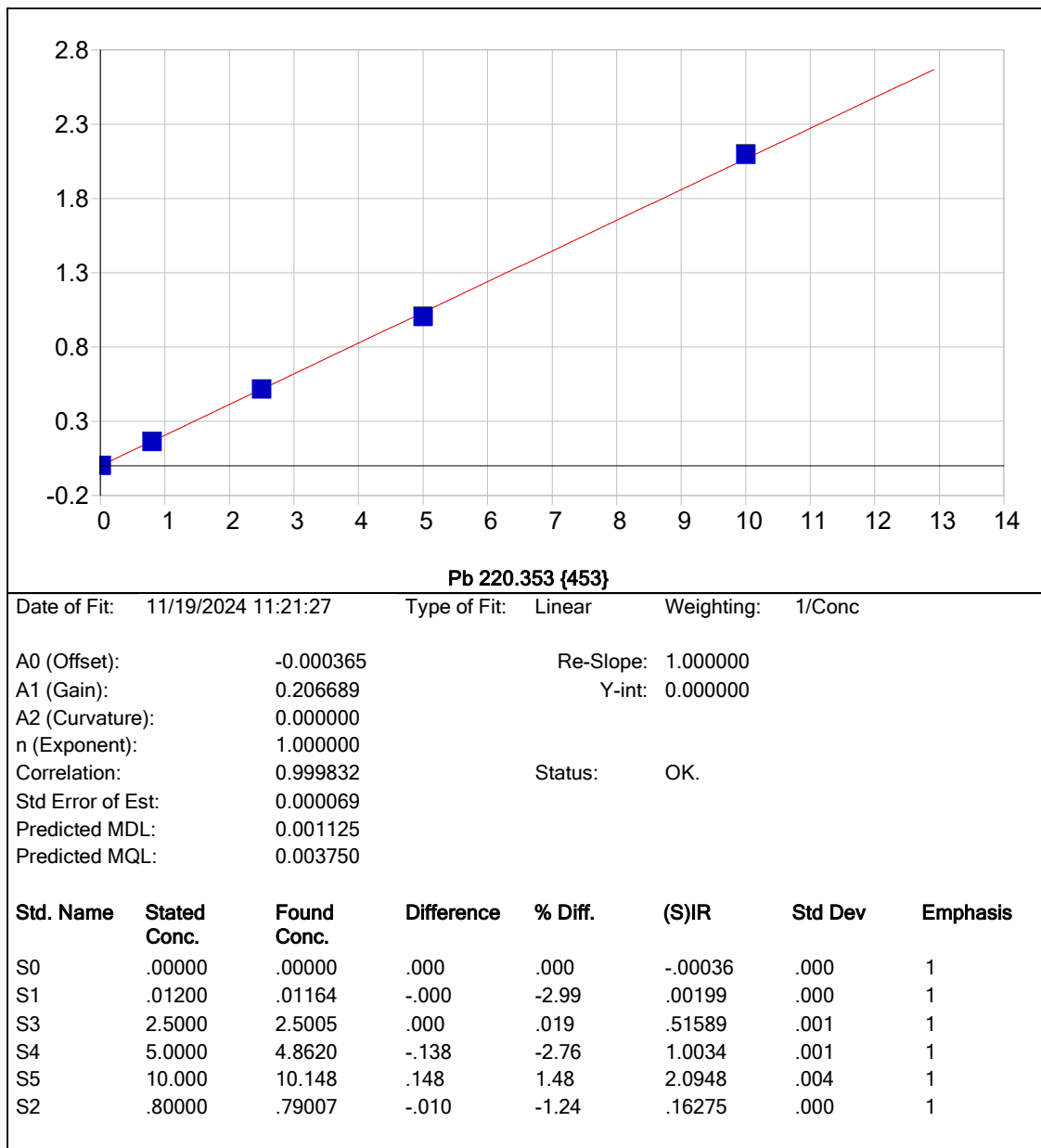


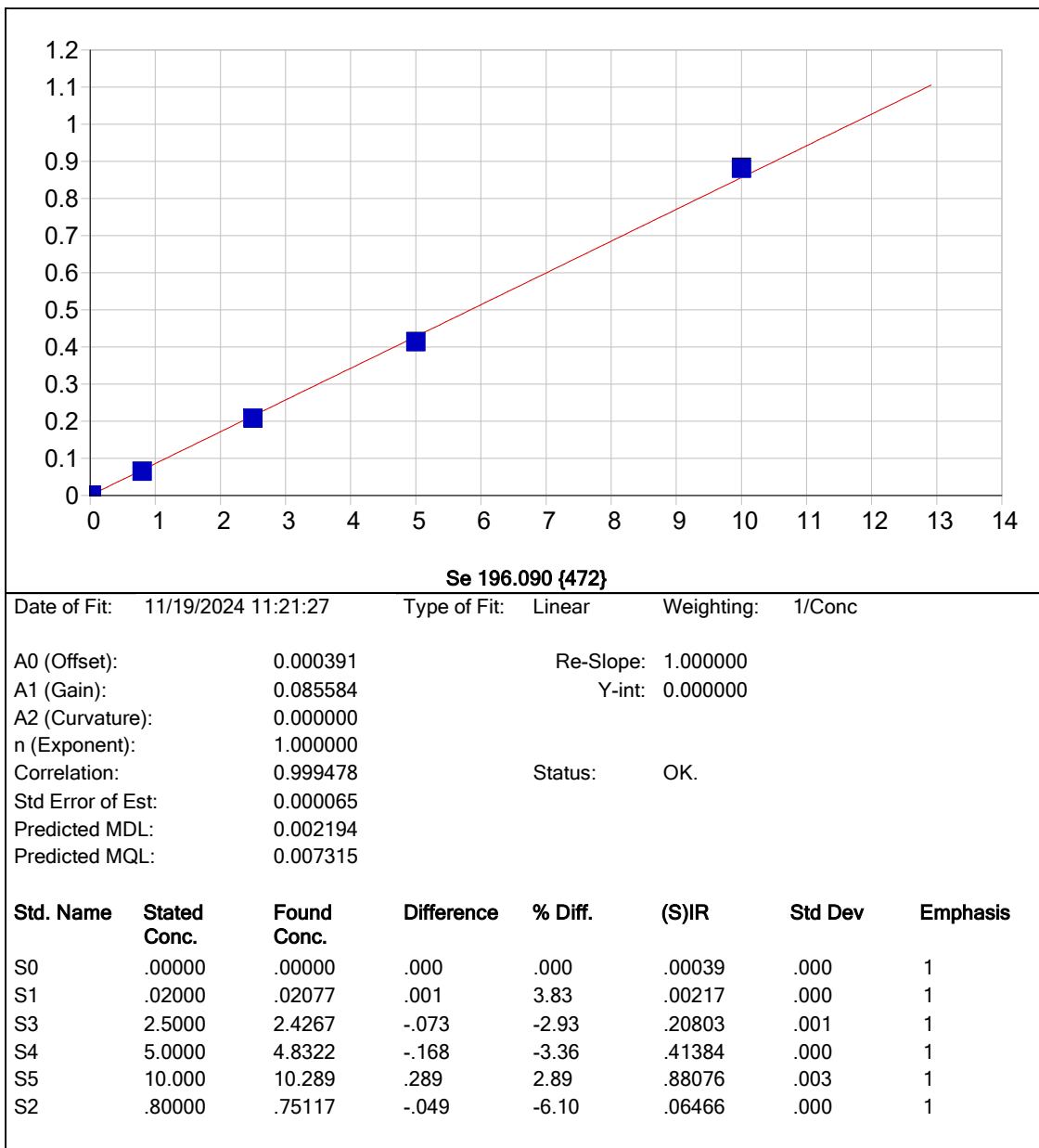
A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.000000		Status:	Warning	Zero Gain	
Std Error of Est:		0.000000					
Predicted MDL:		n/a					
Predicted MQL:		n/a					
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis

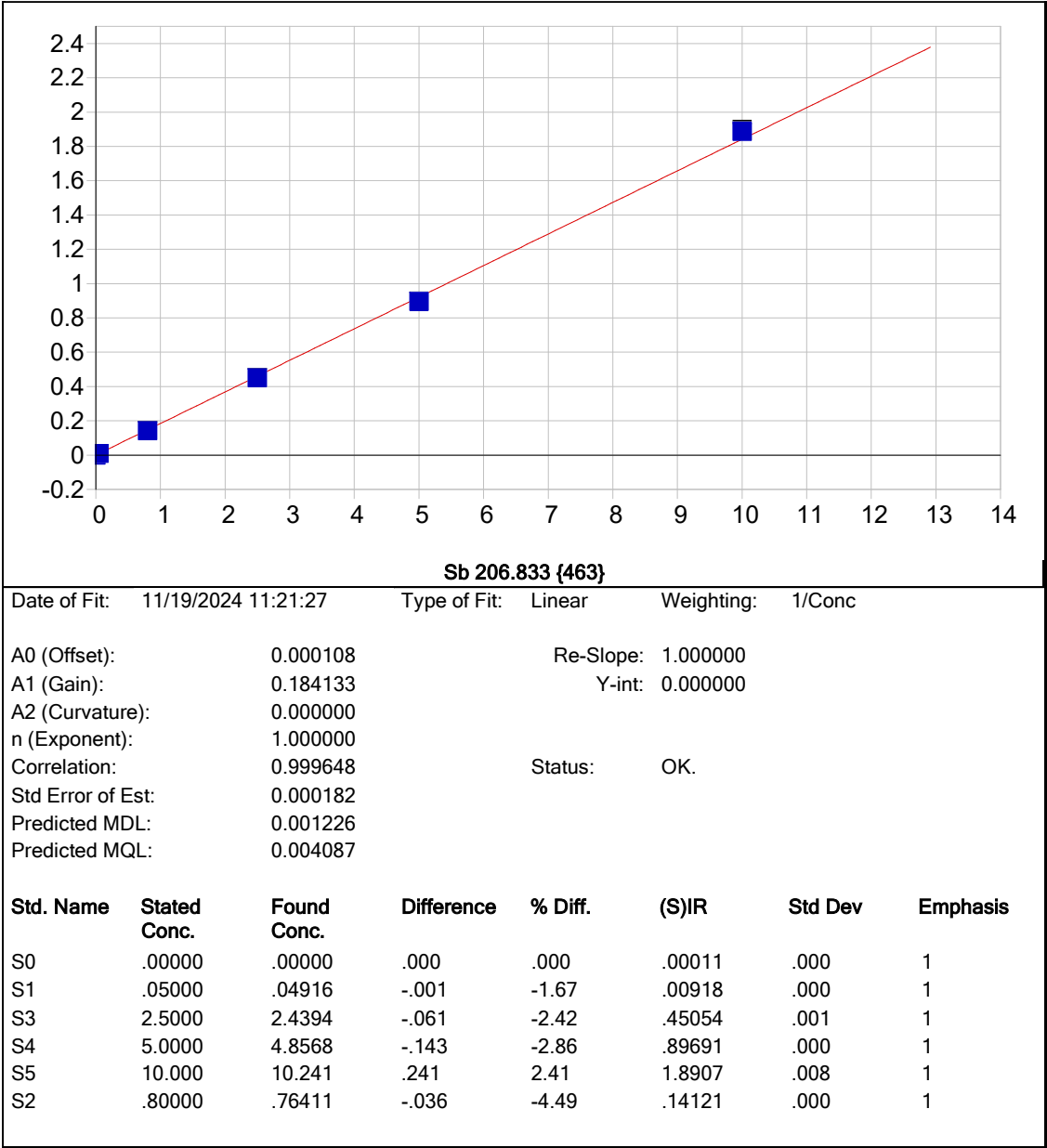
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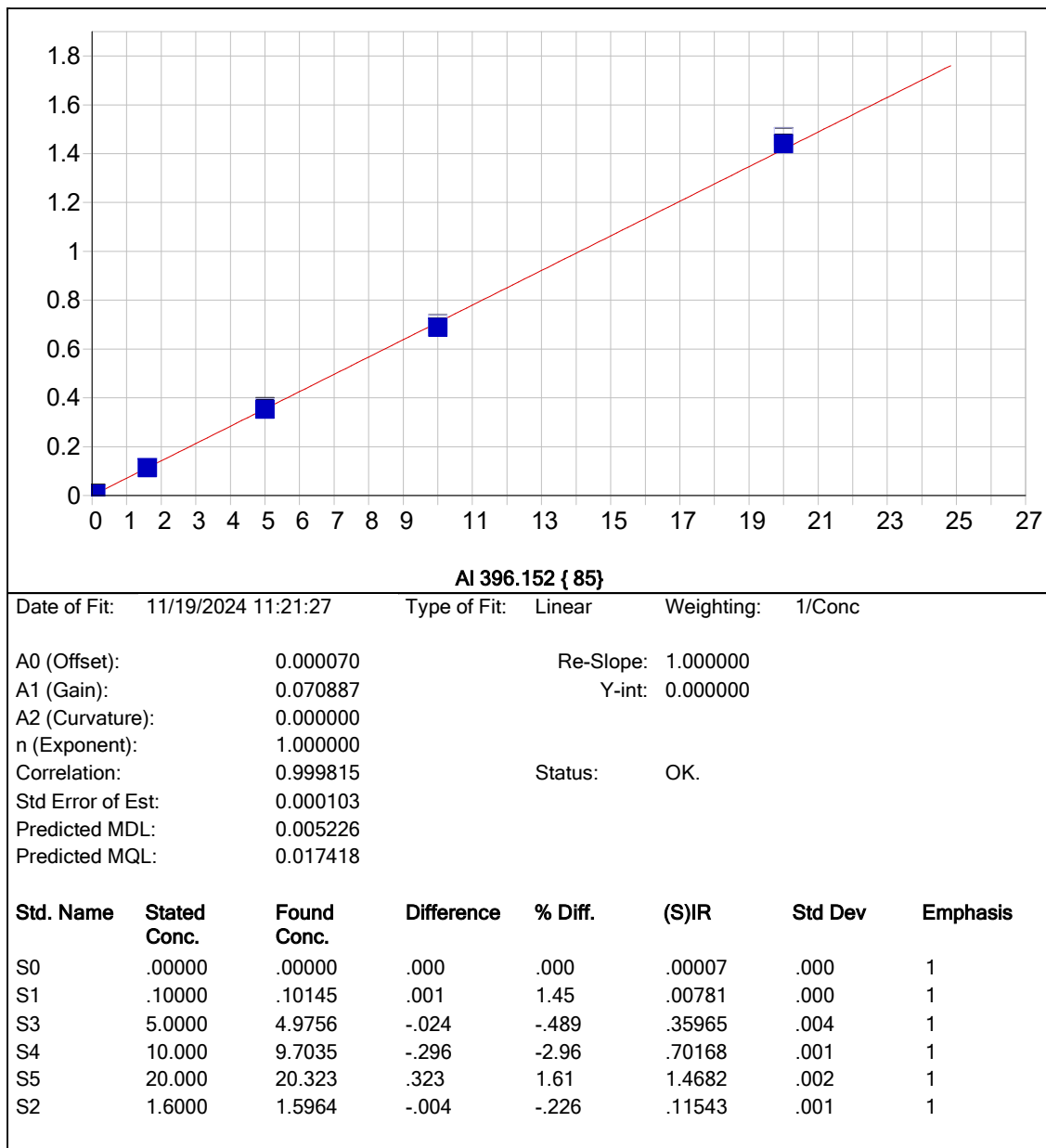


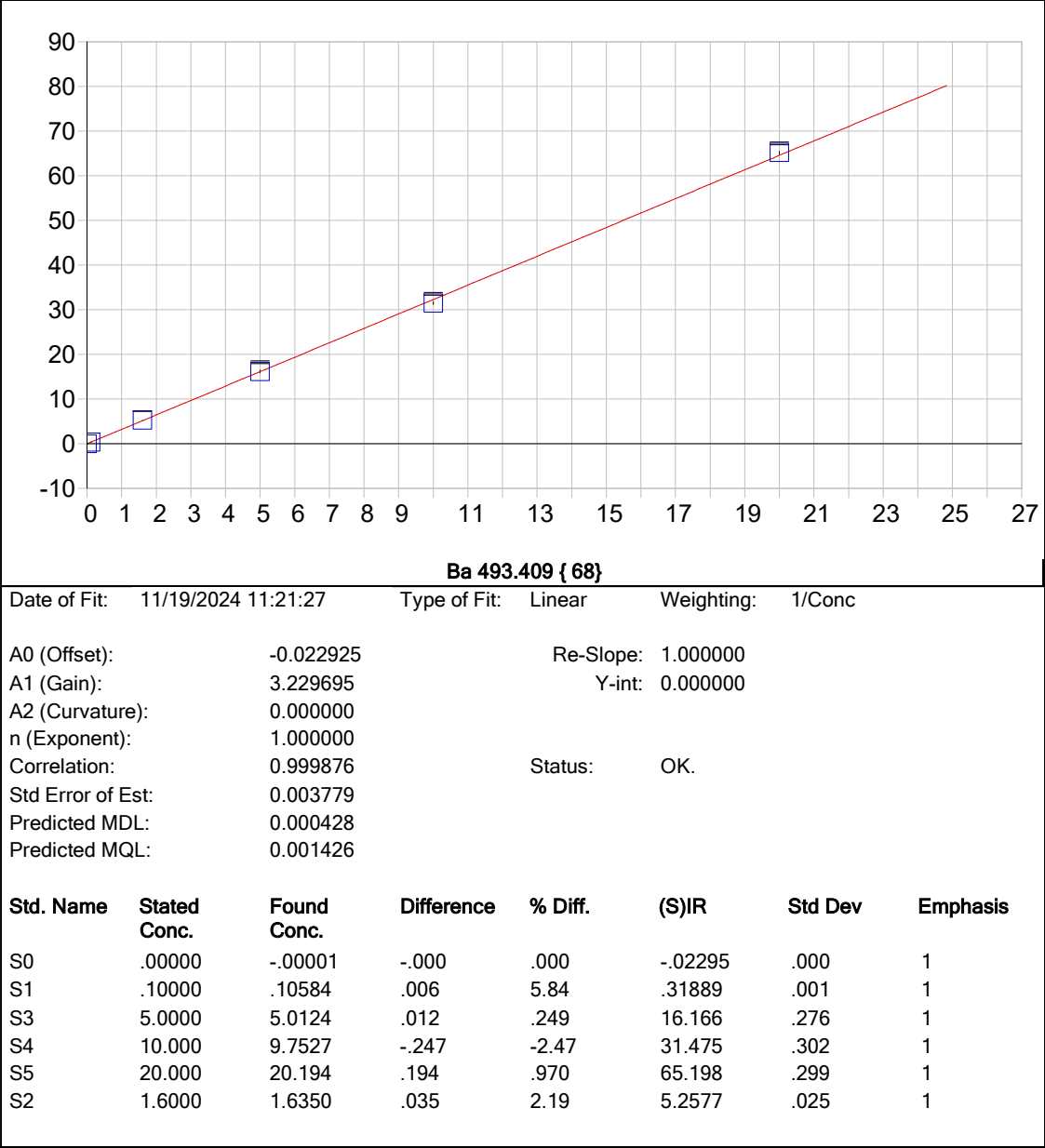


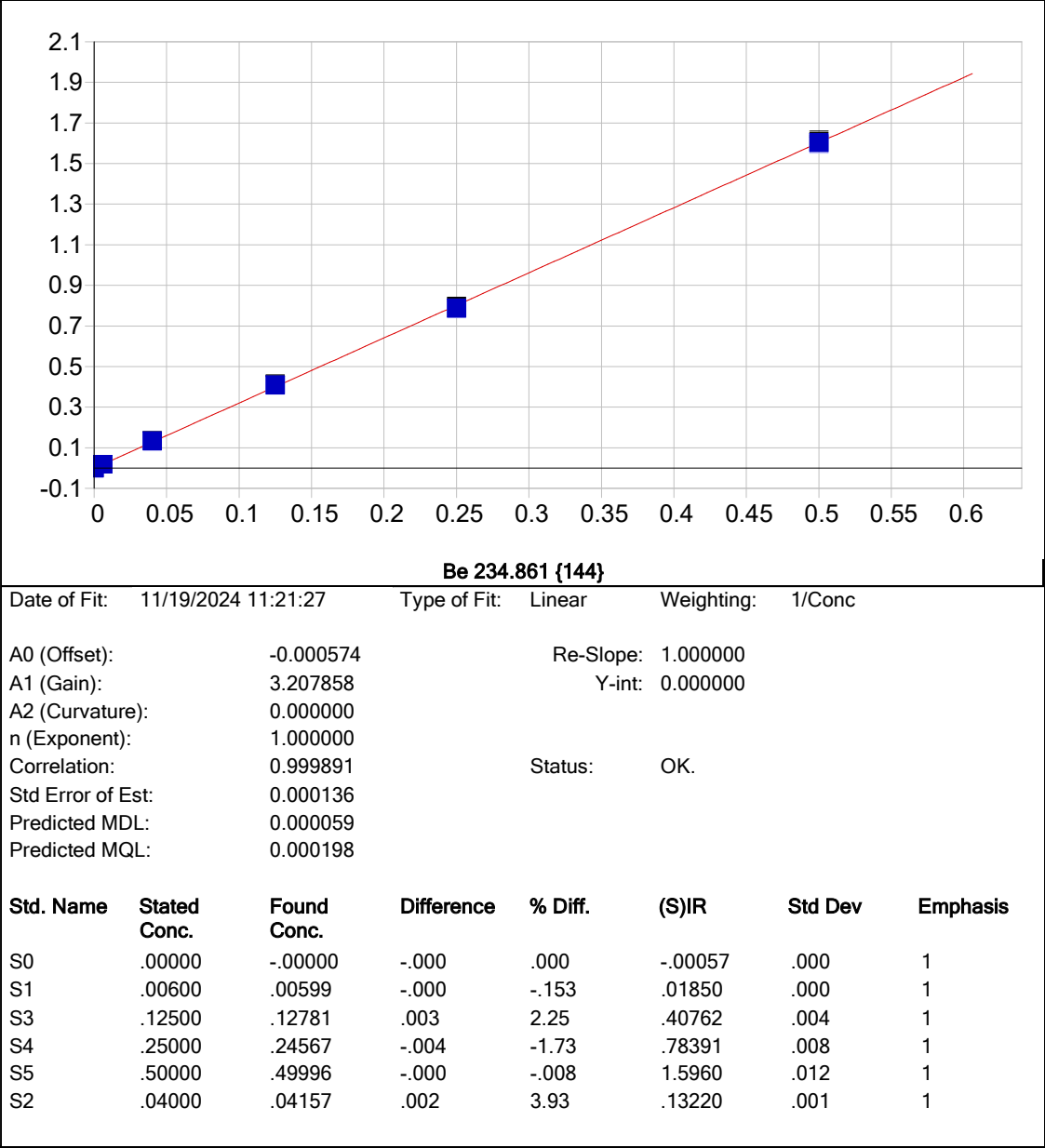


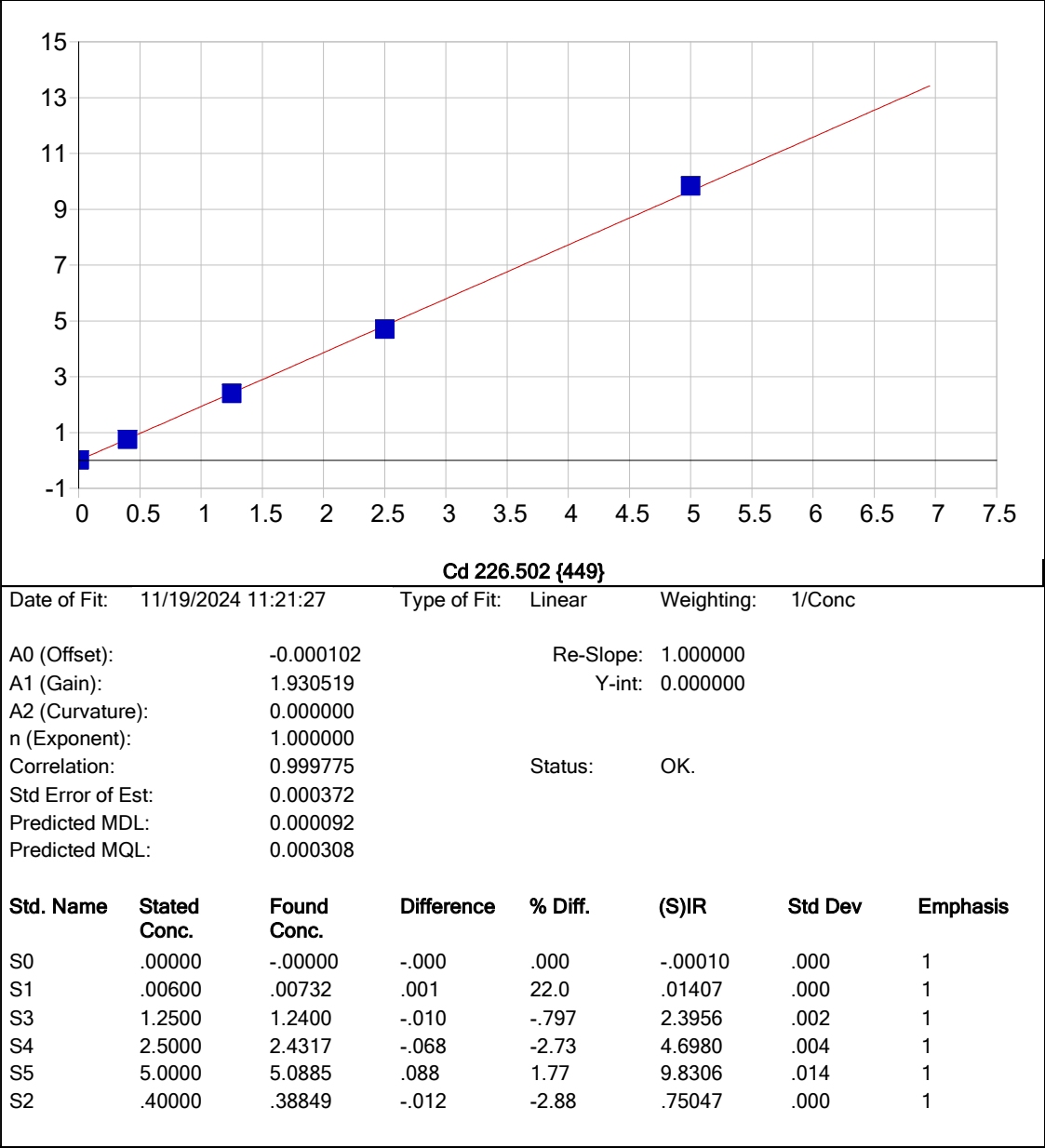


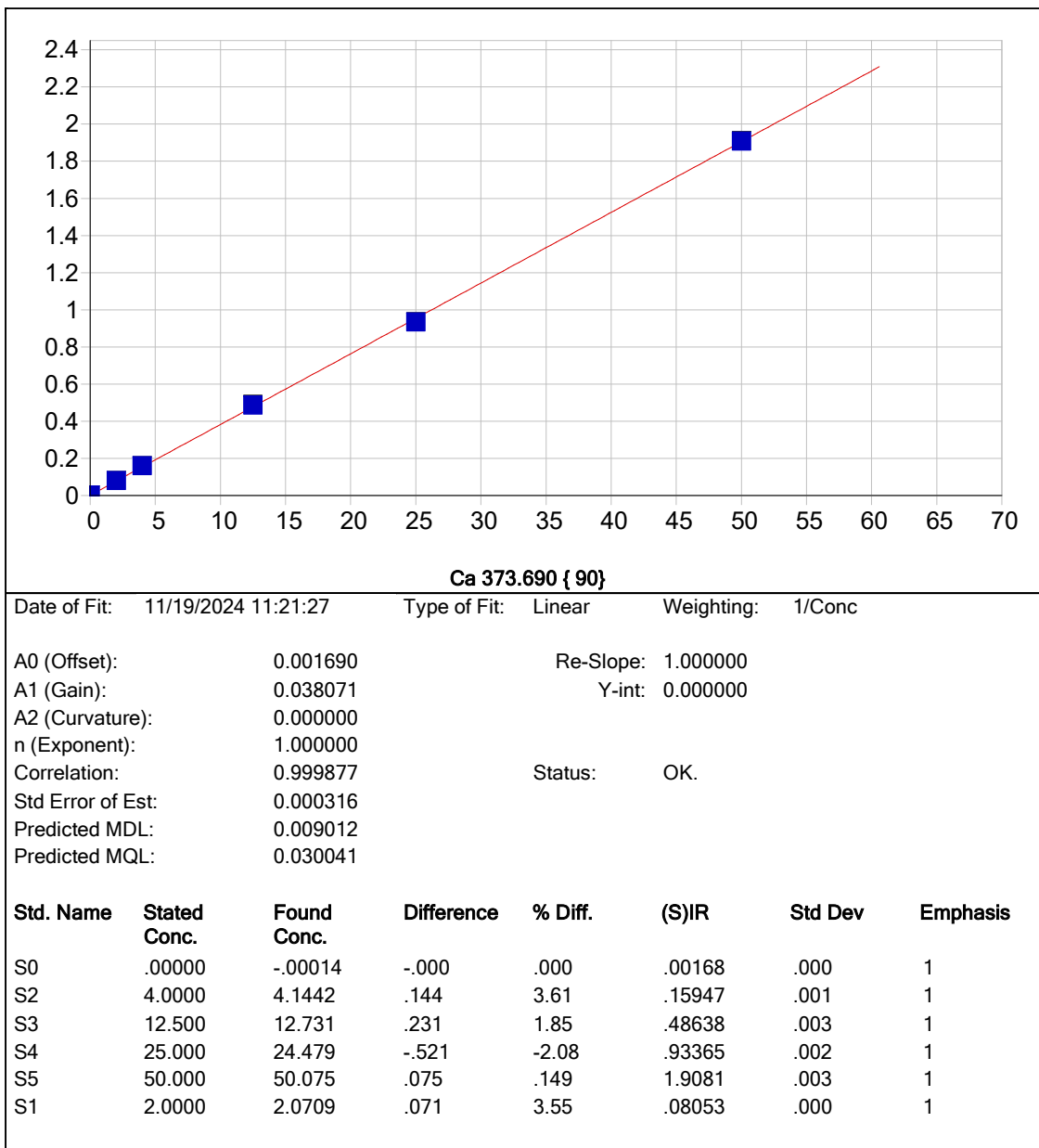


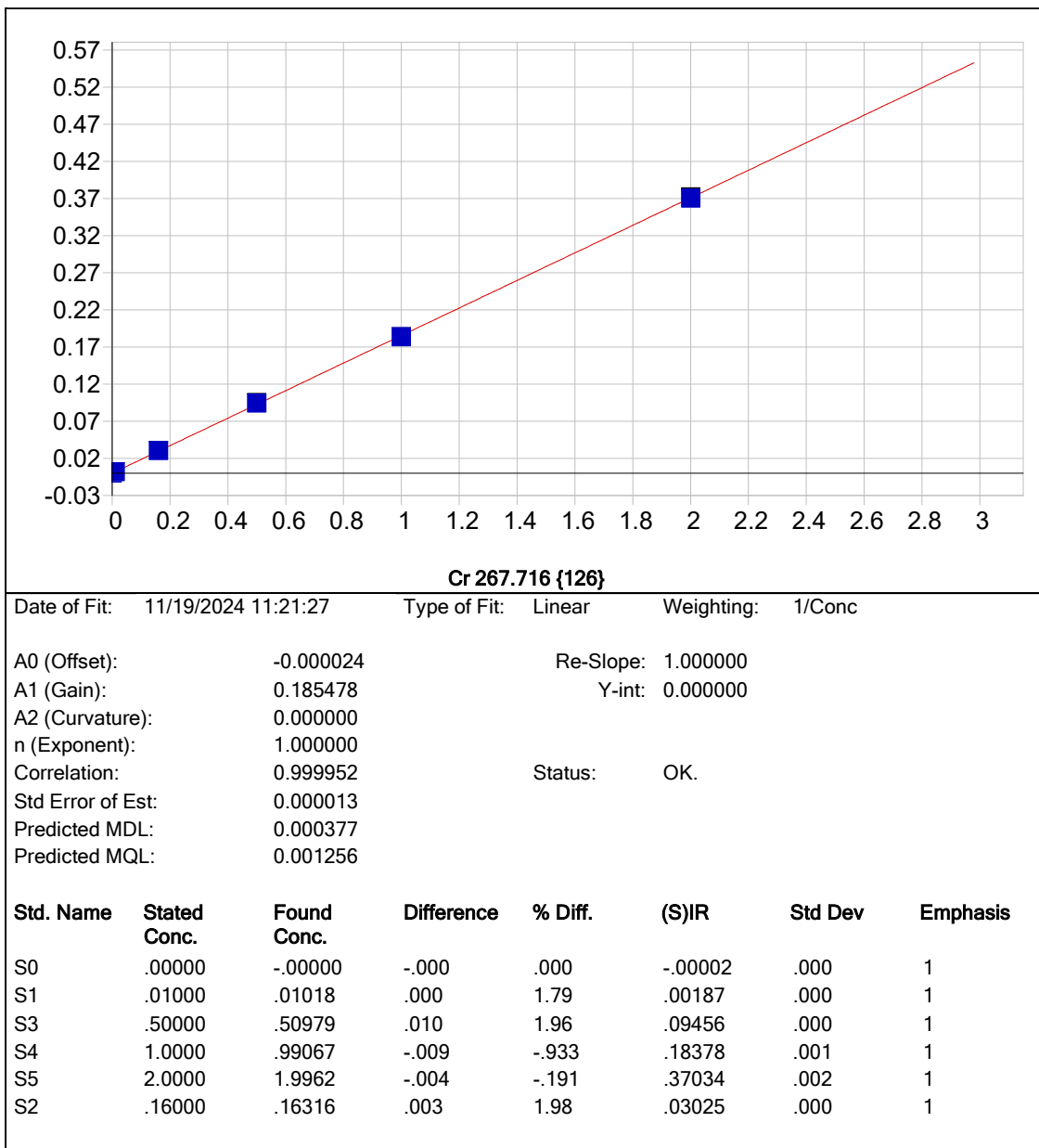


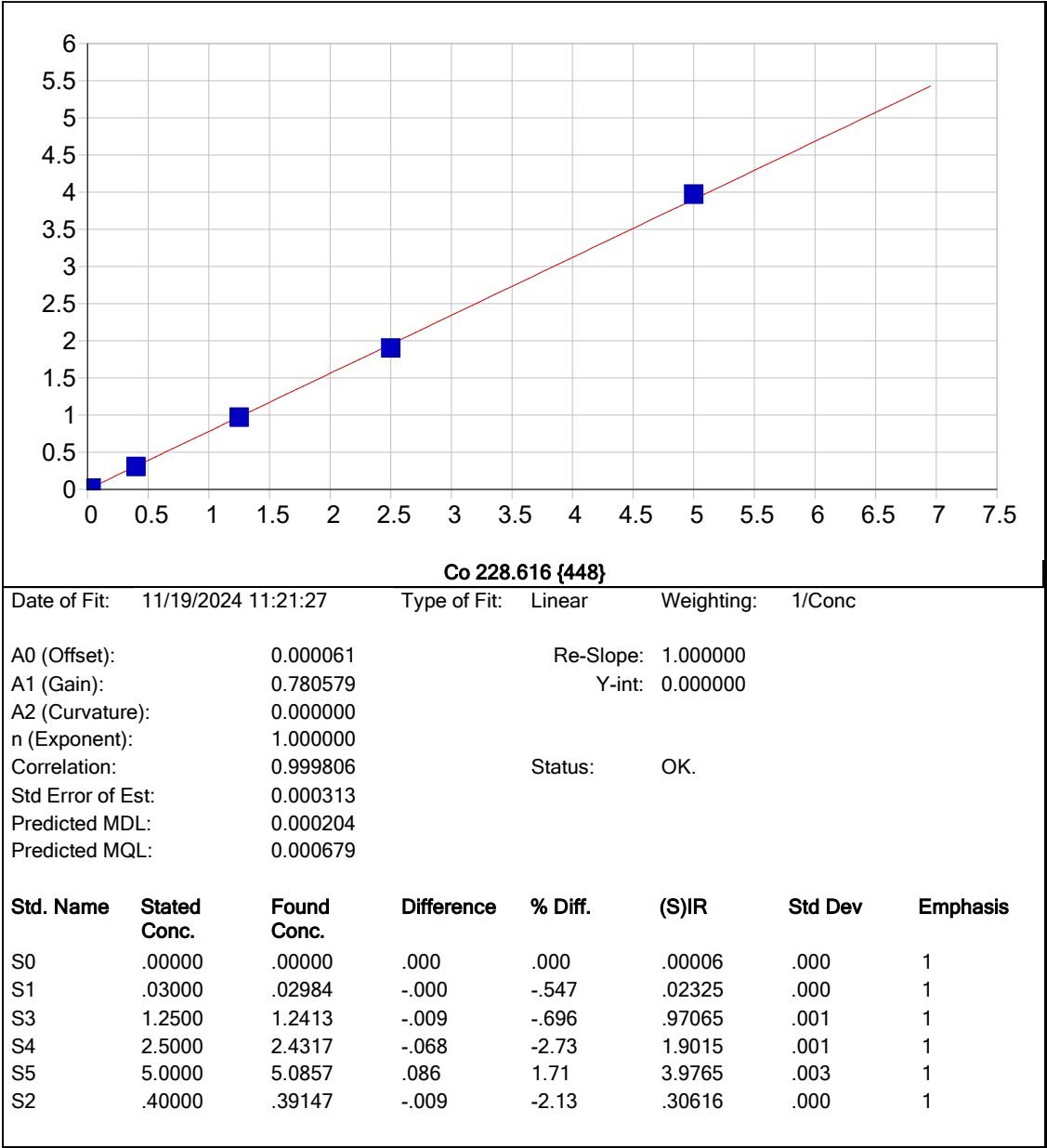


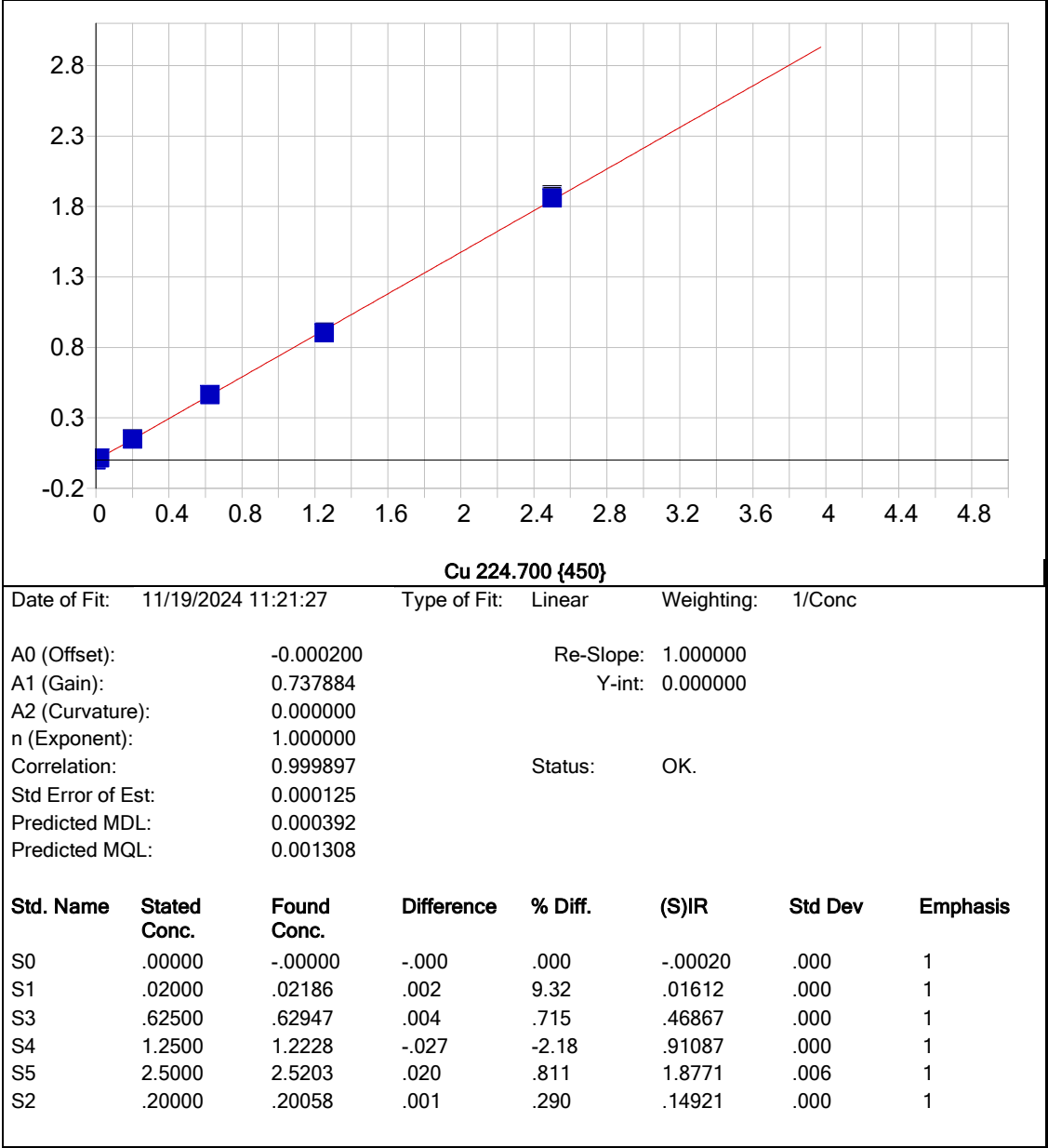


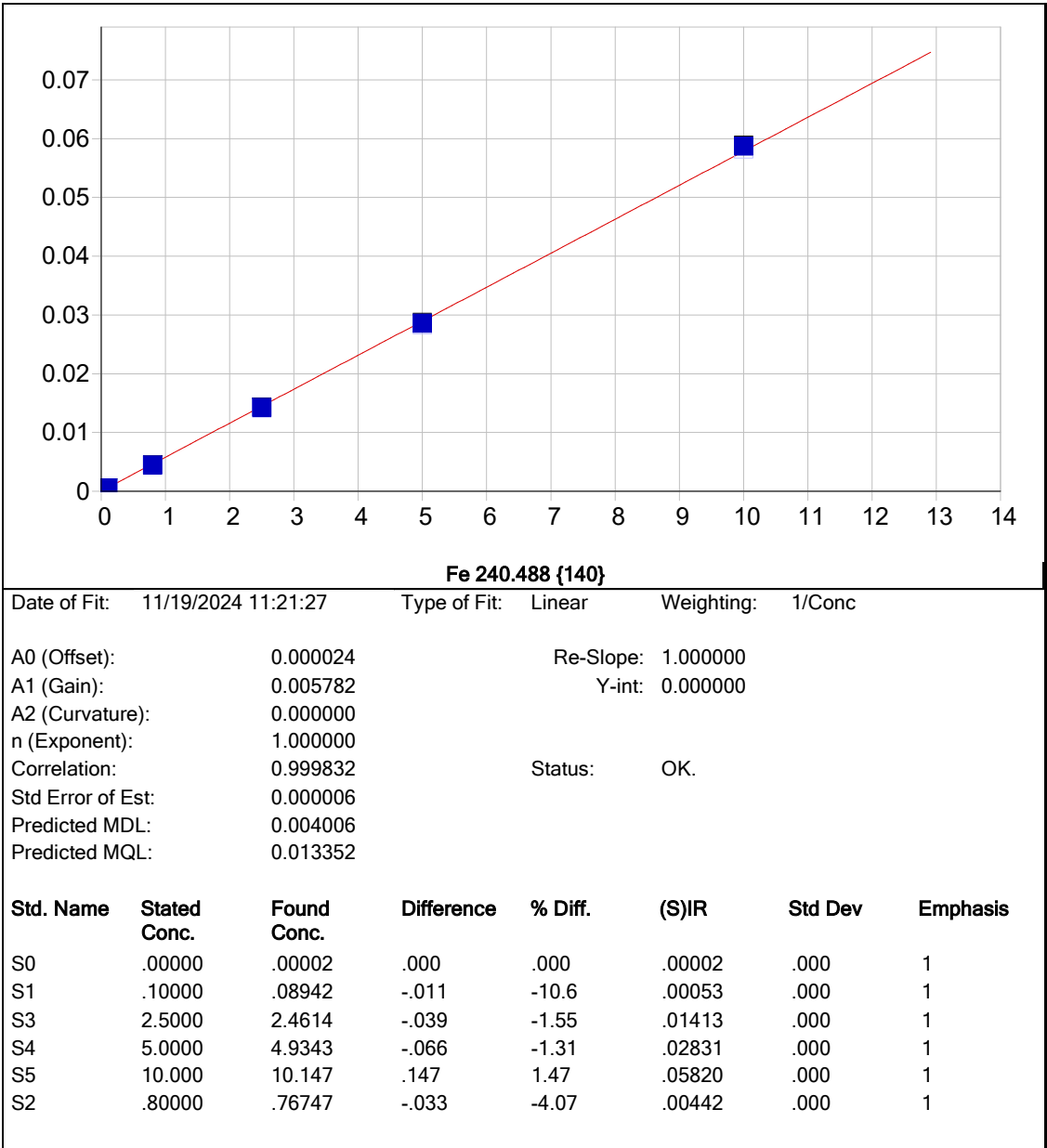


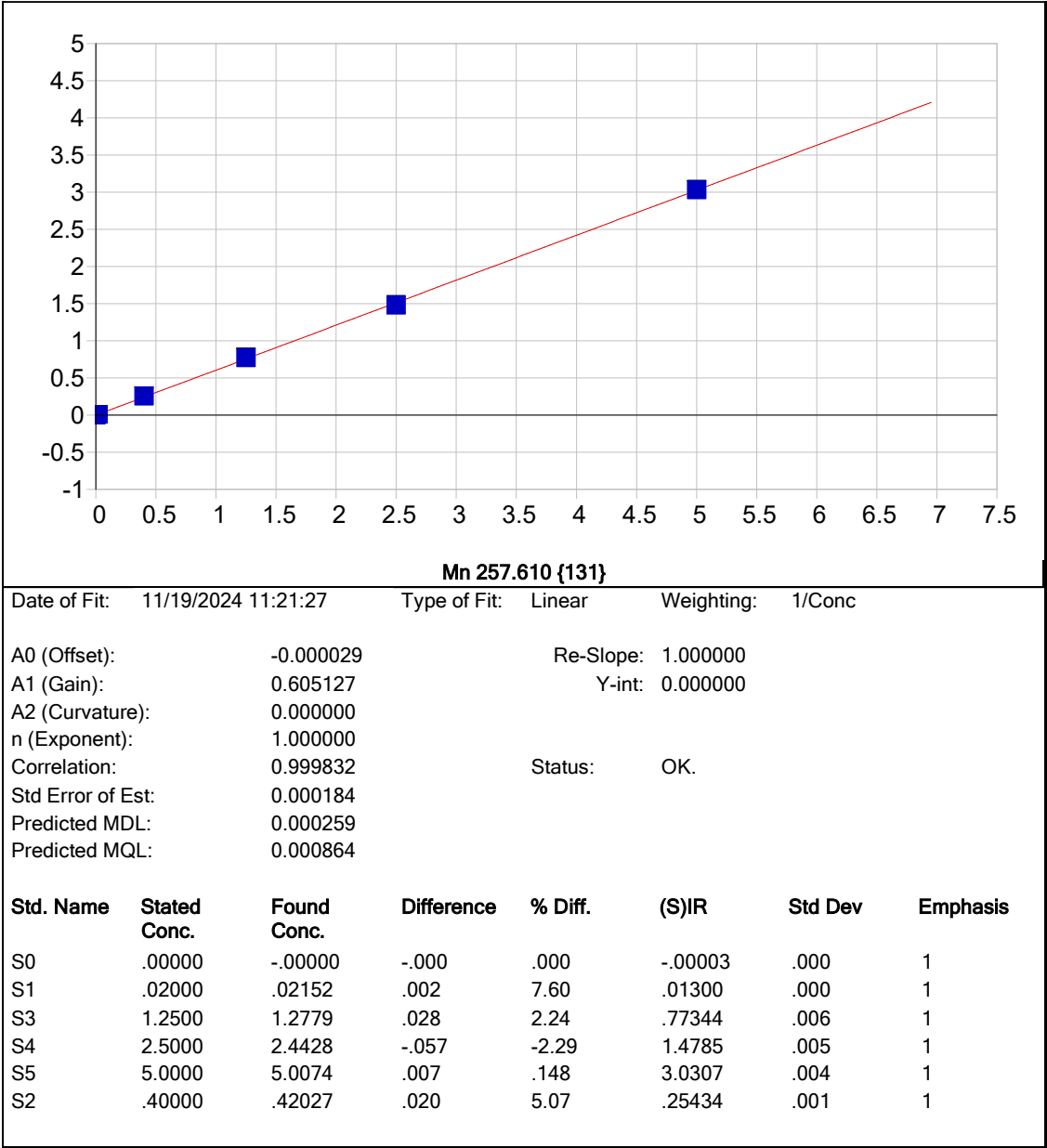


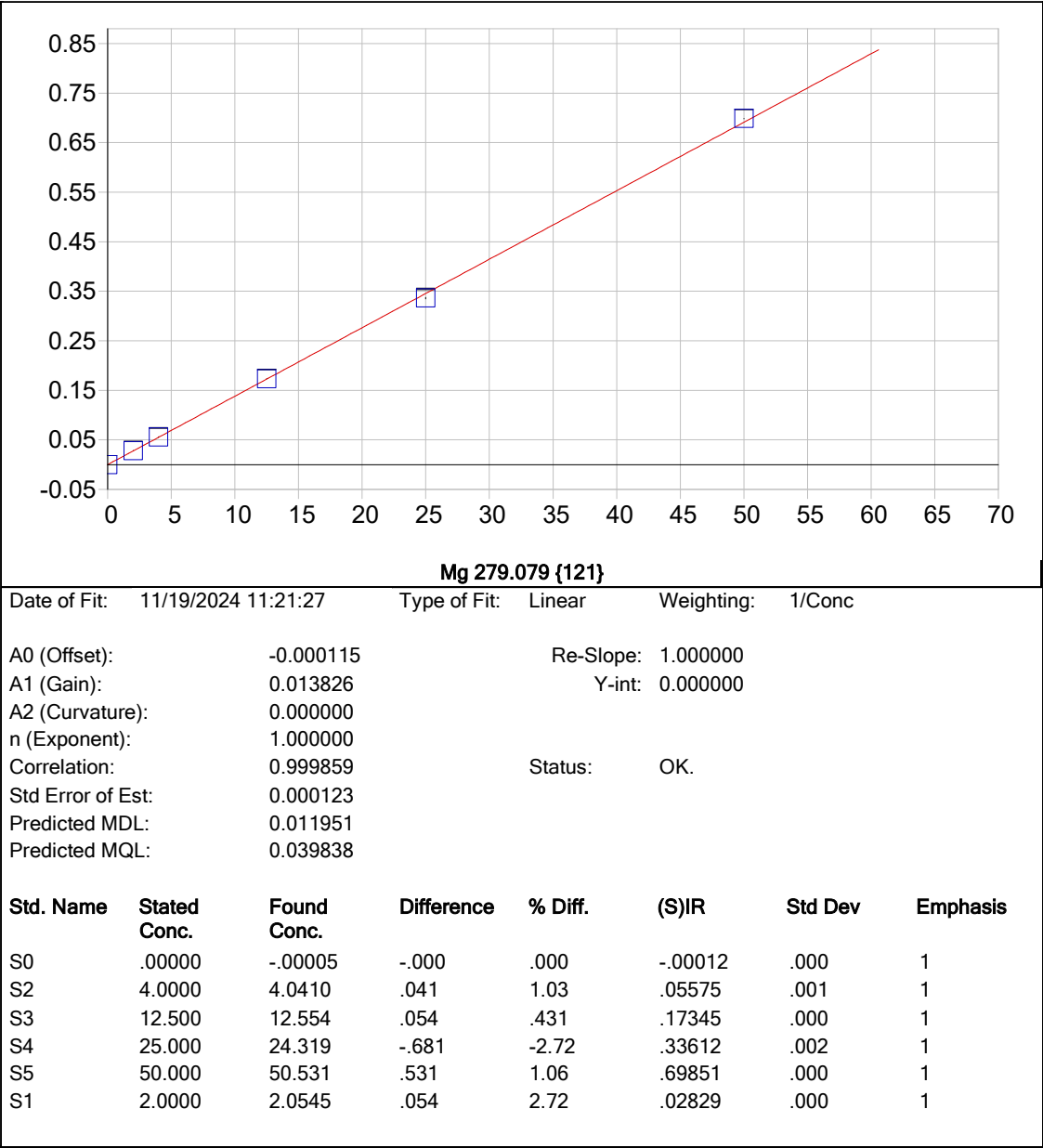


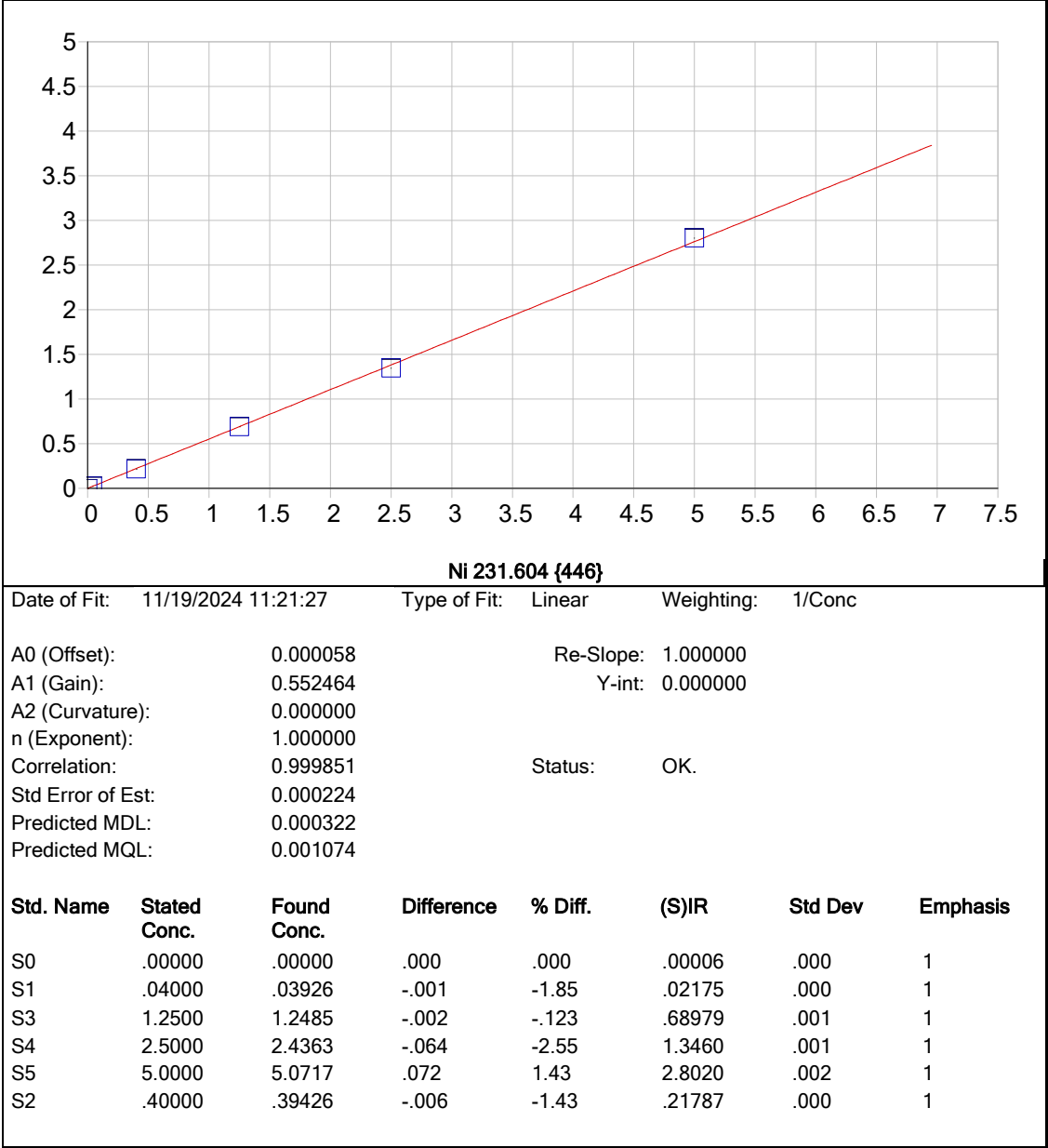


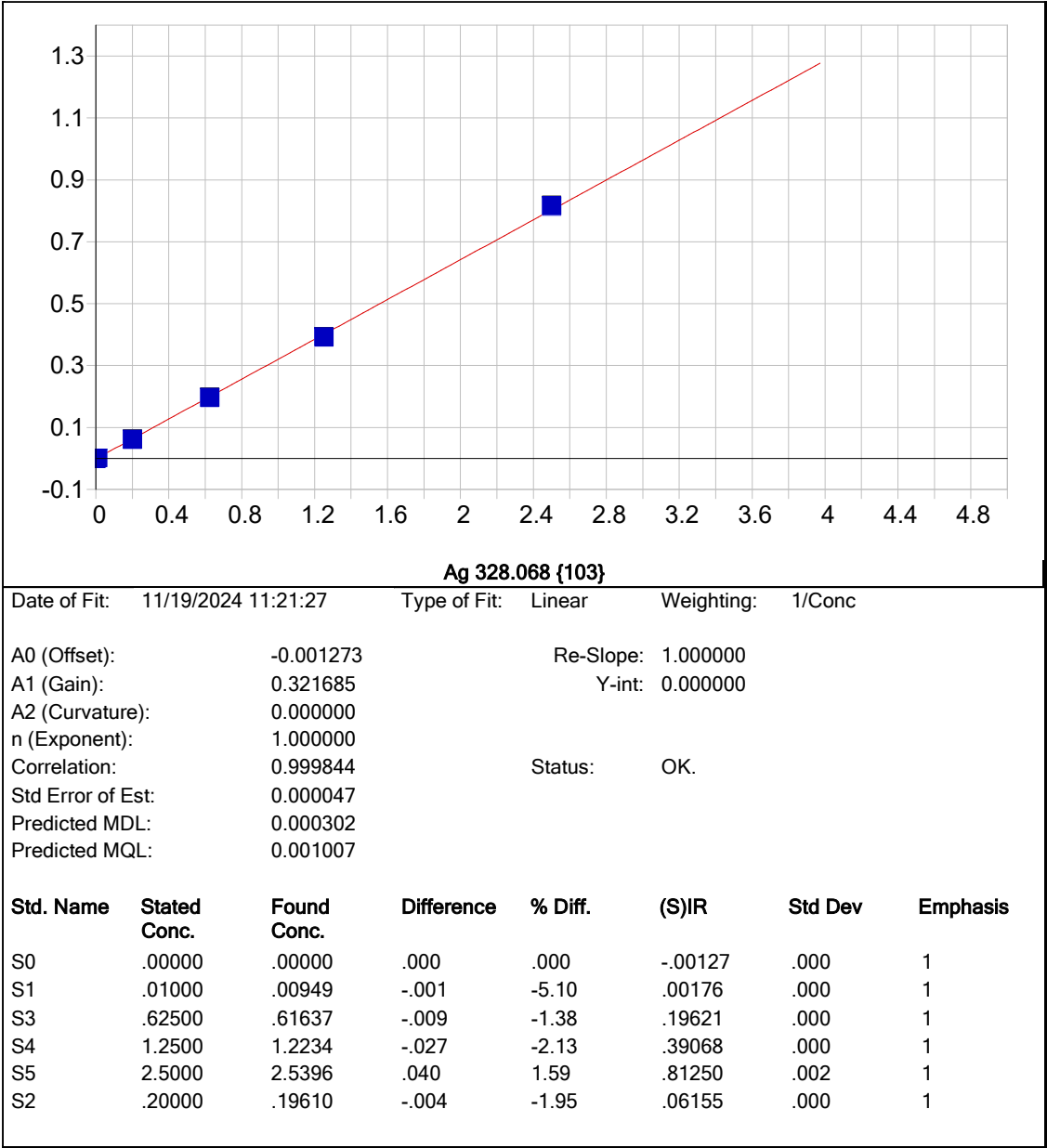


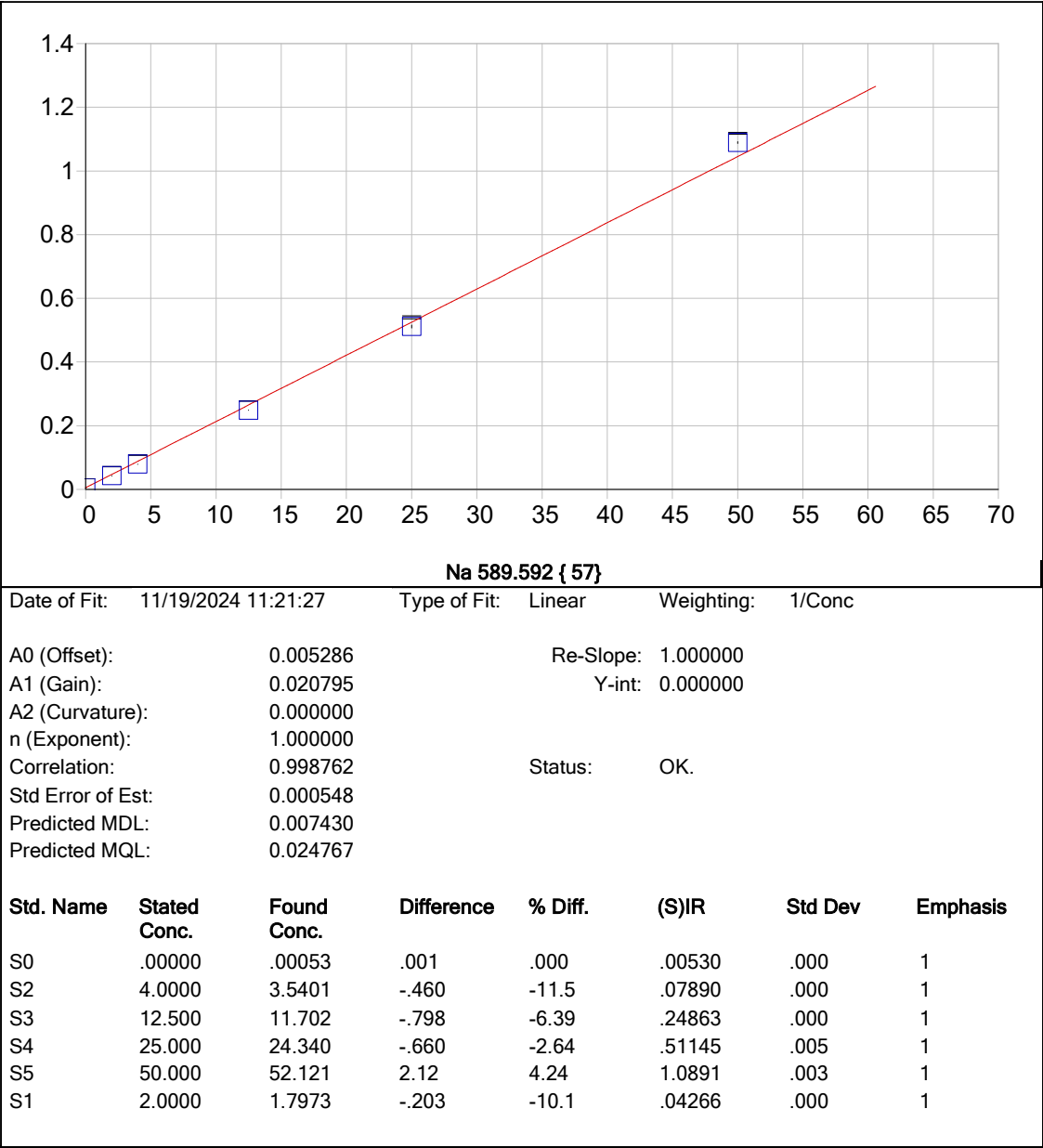


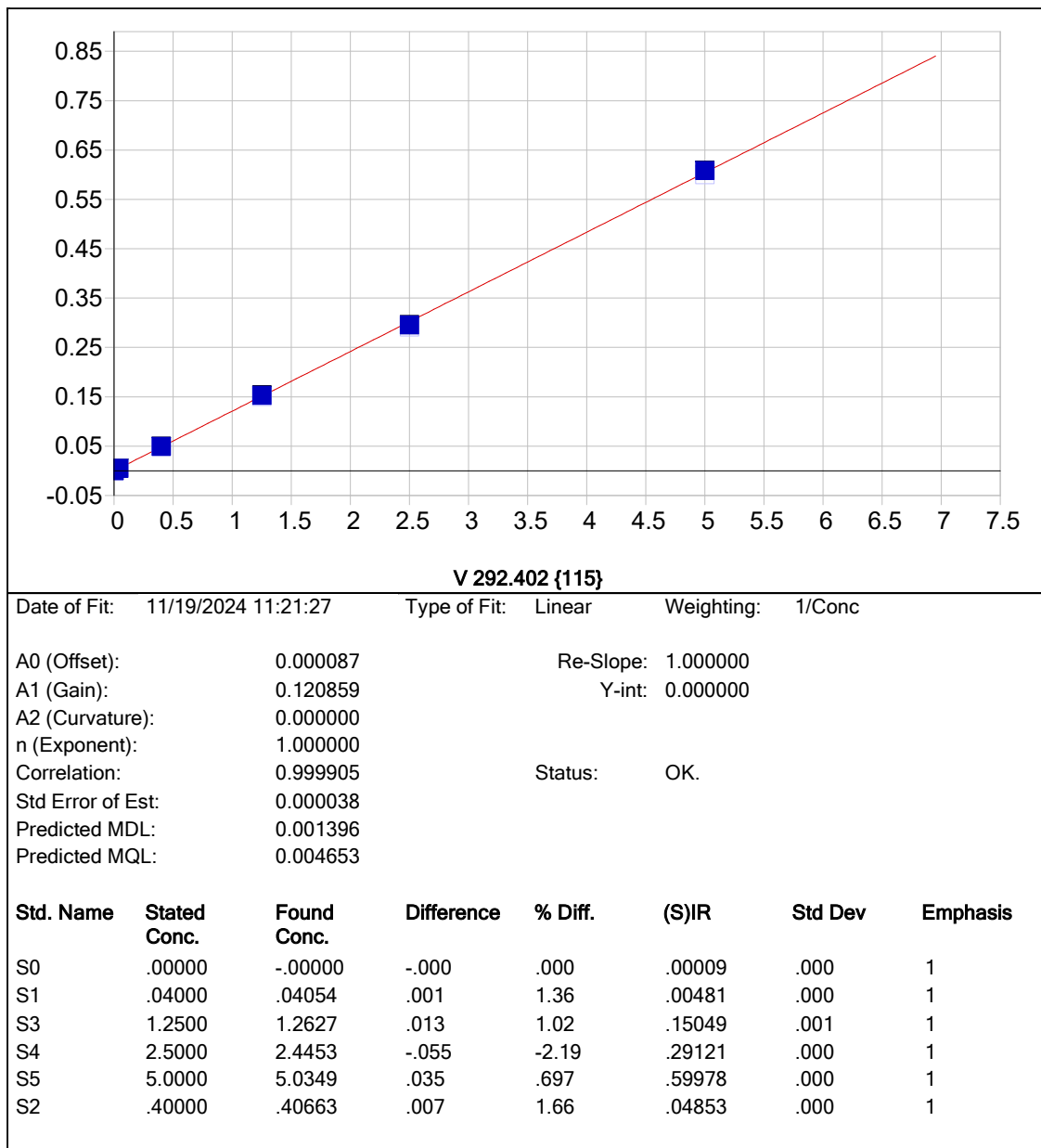


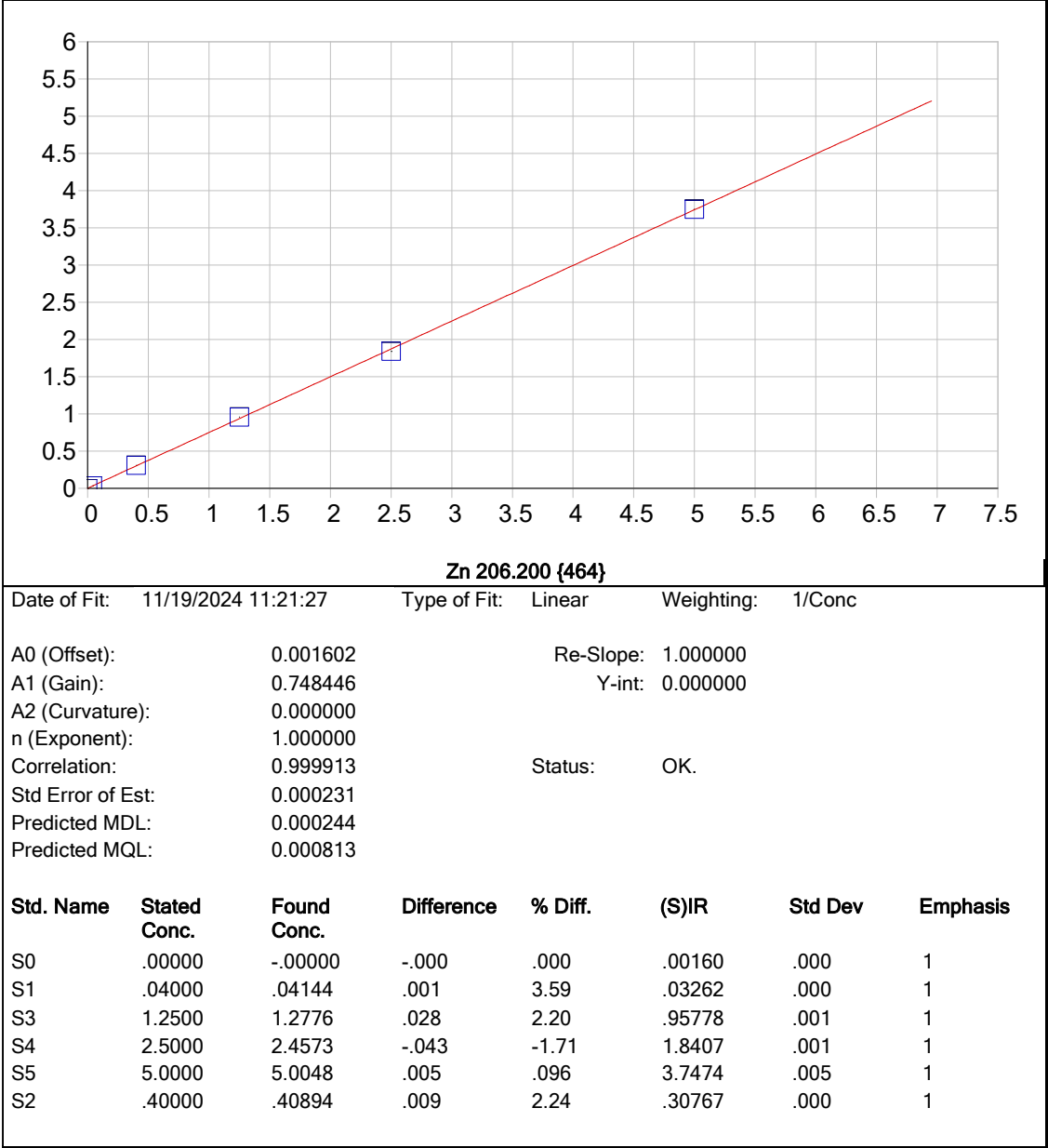


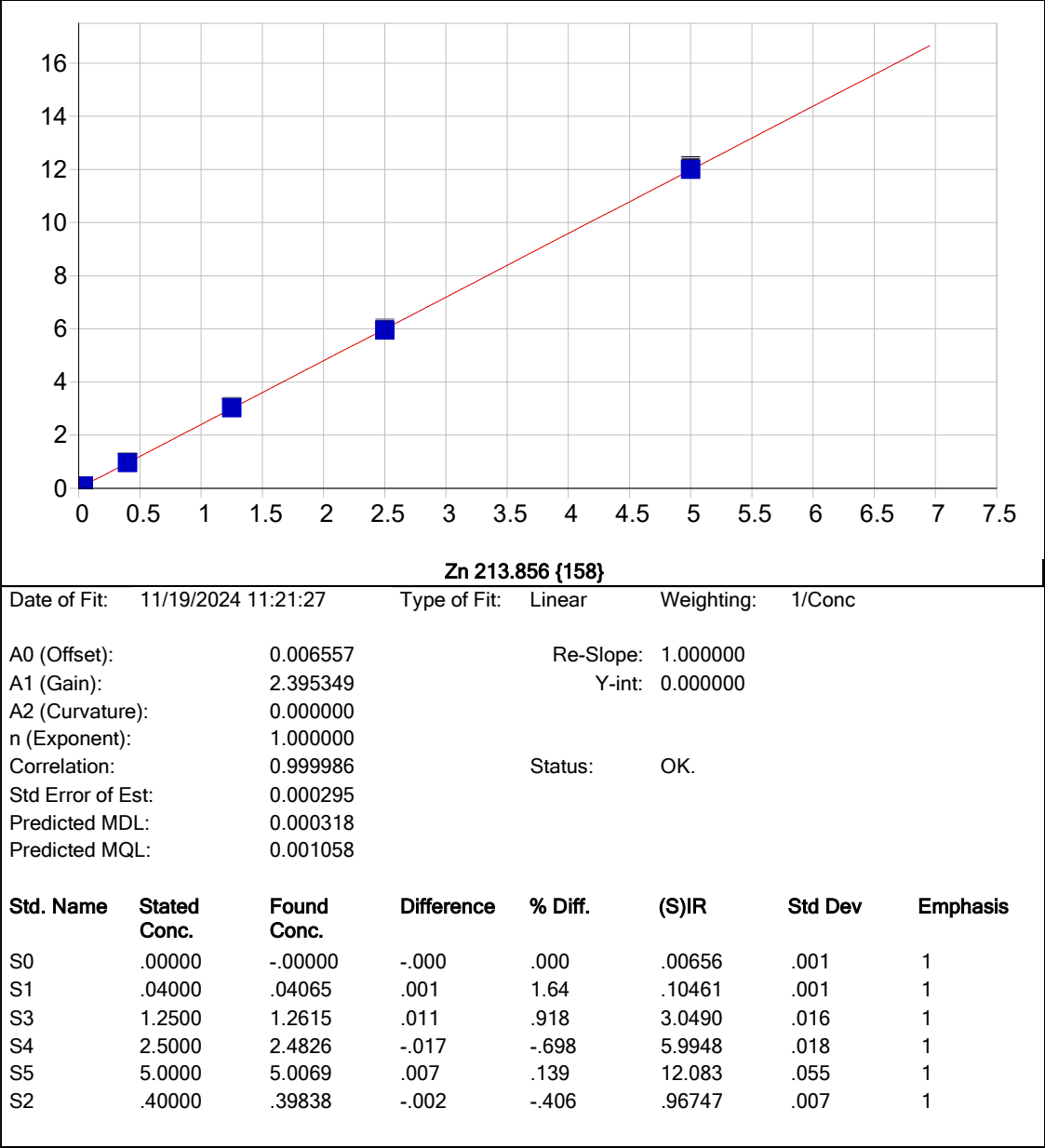


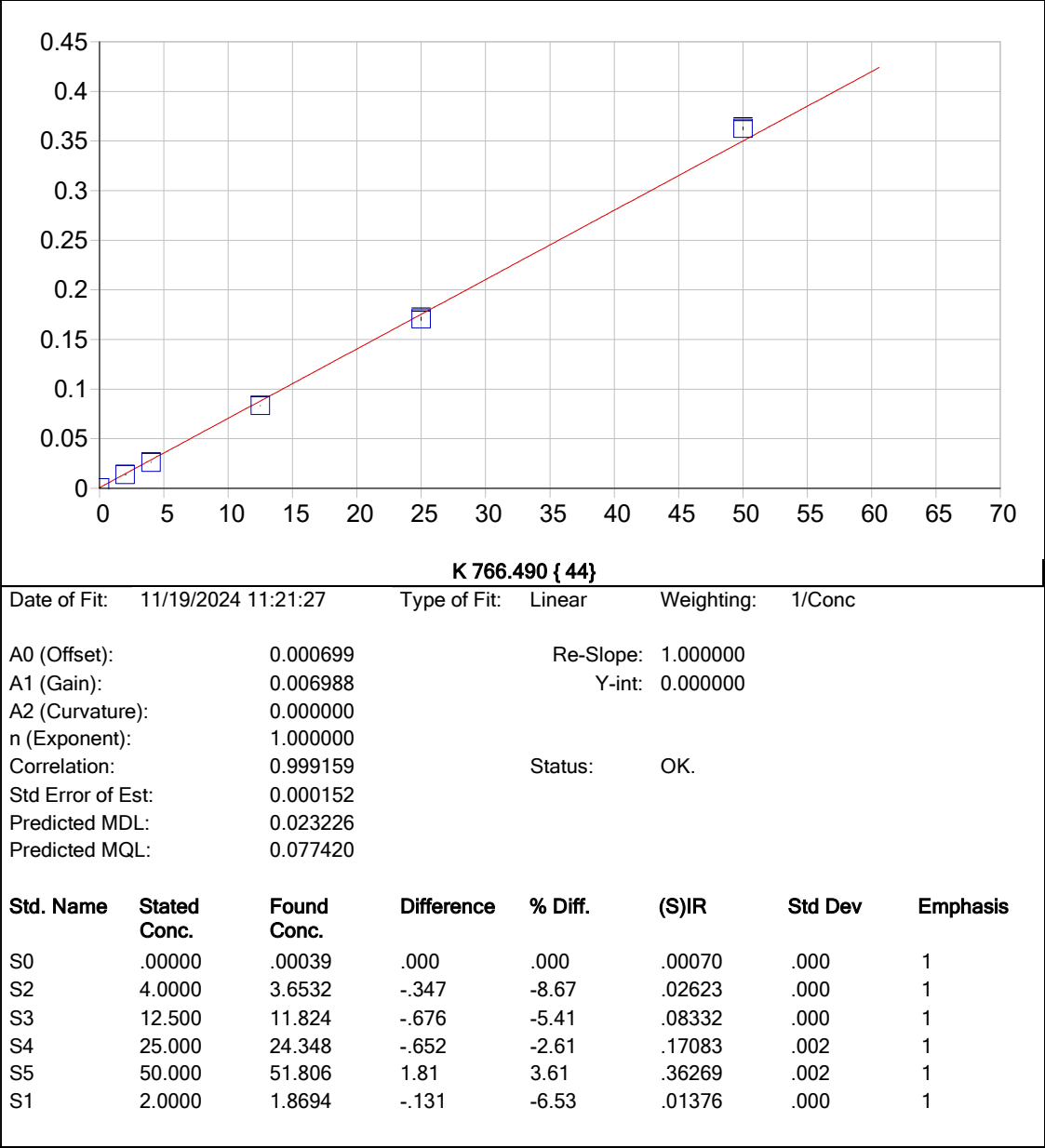


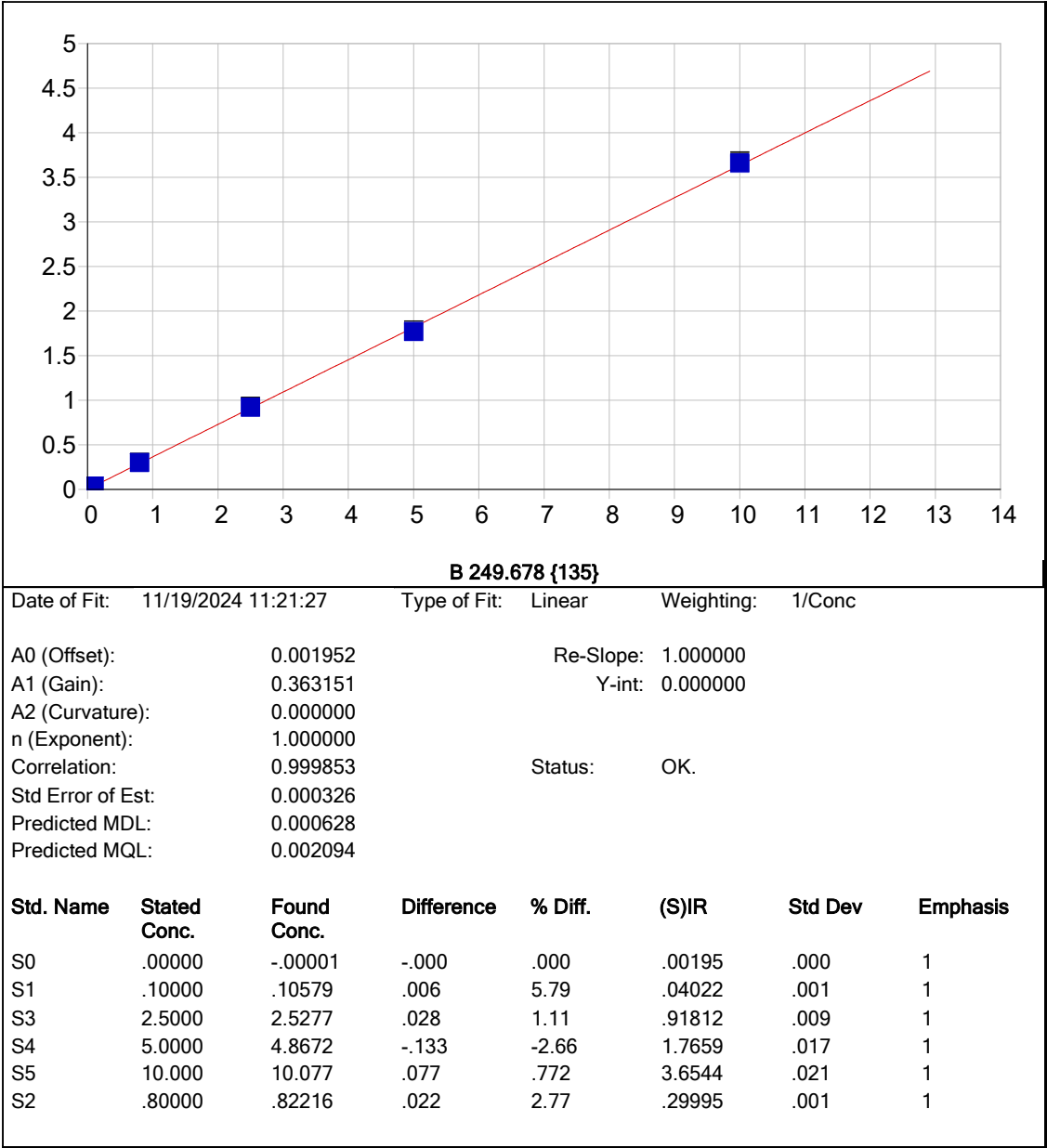


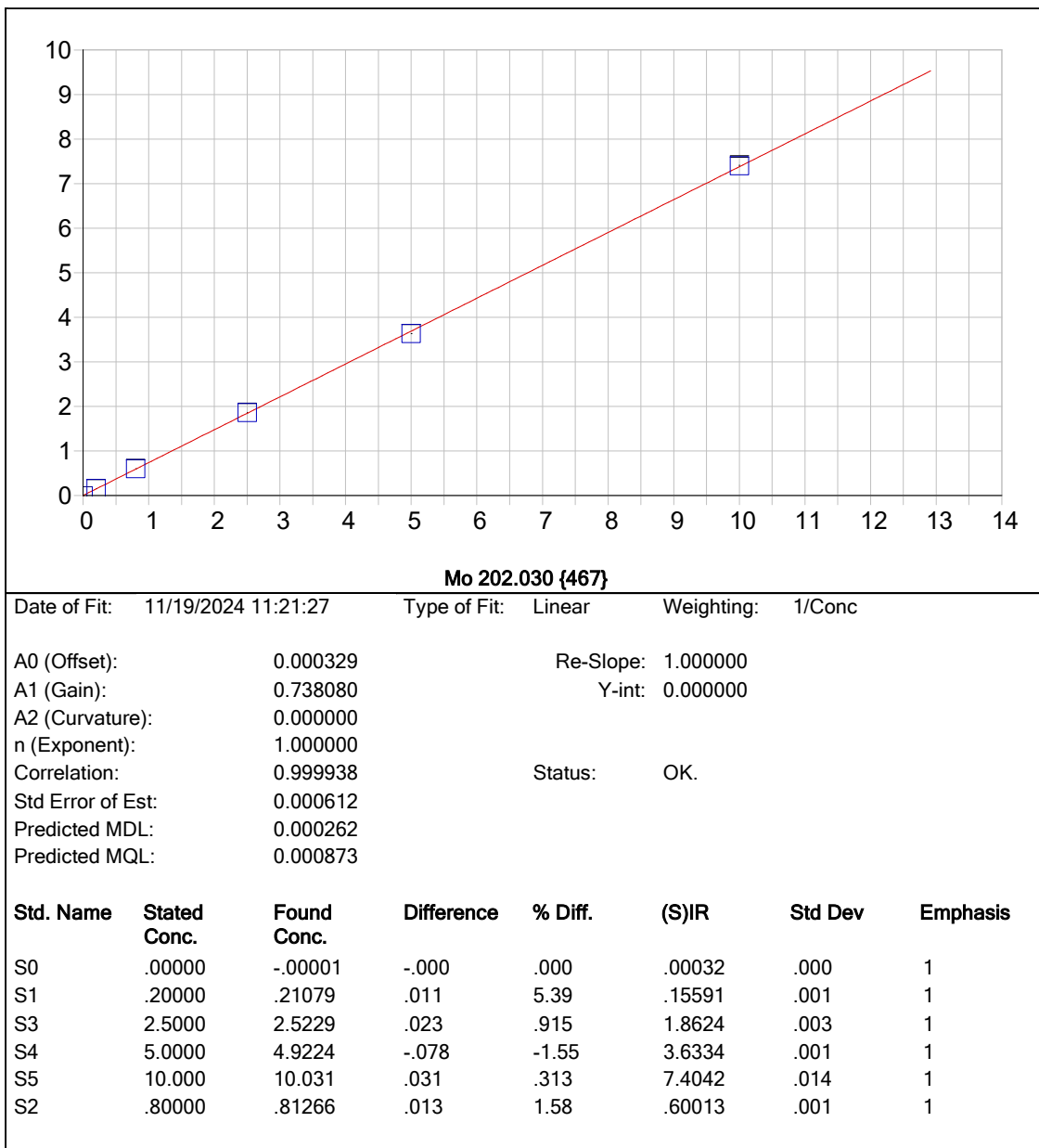


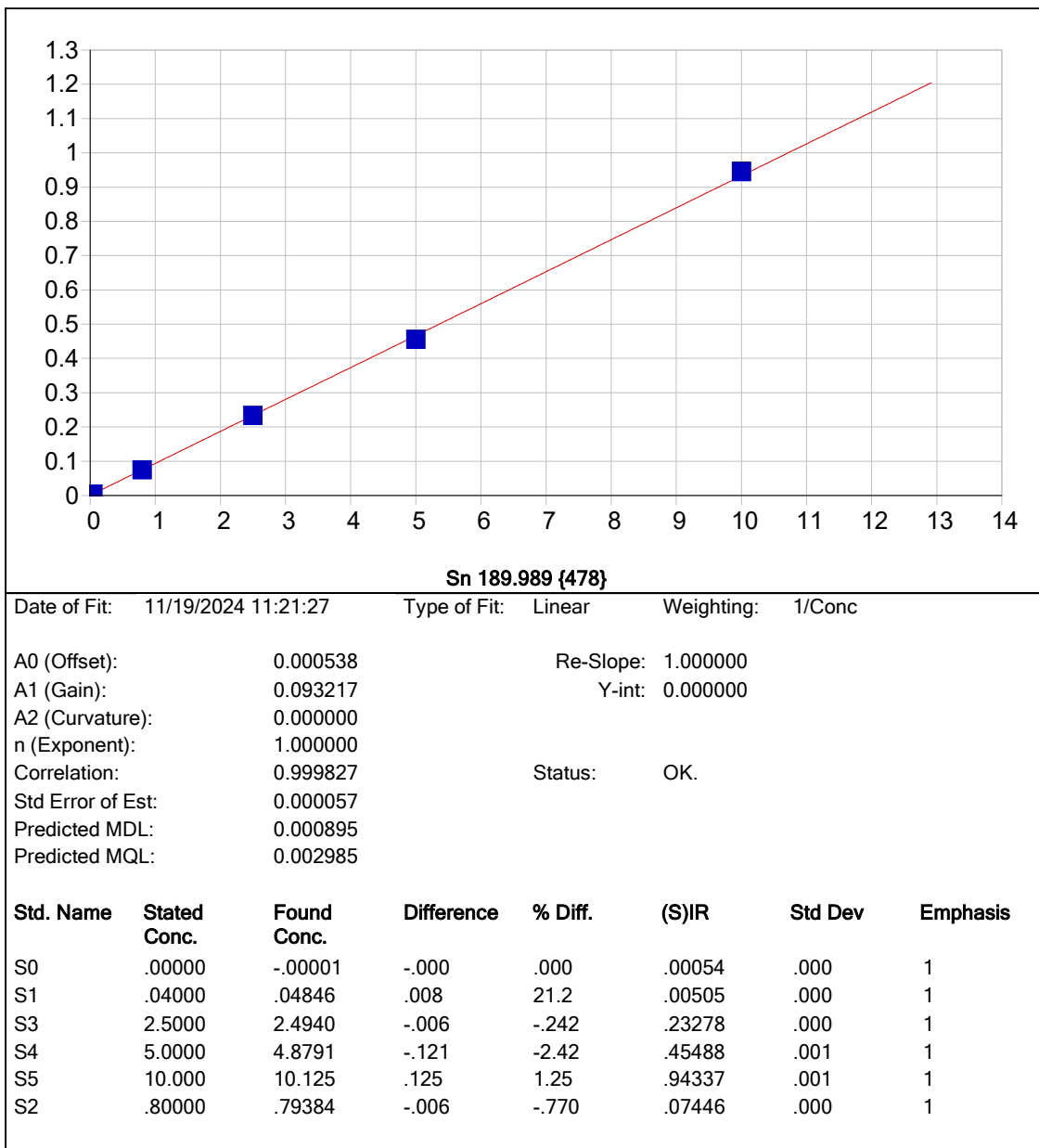


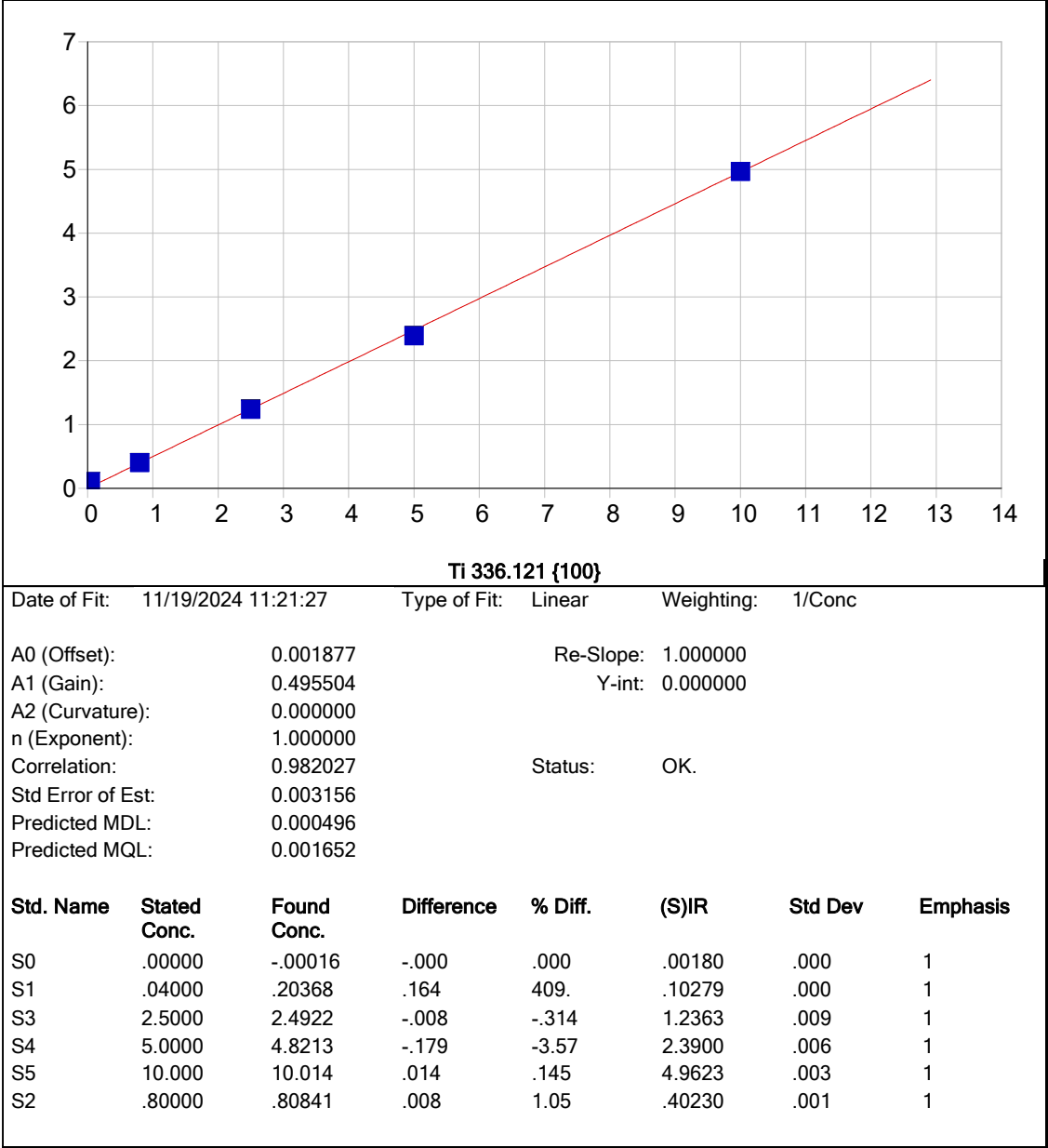


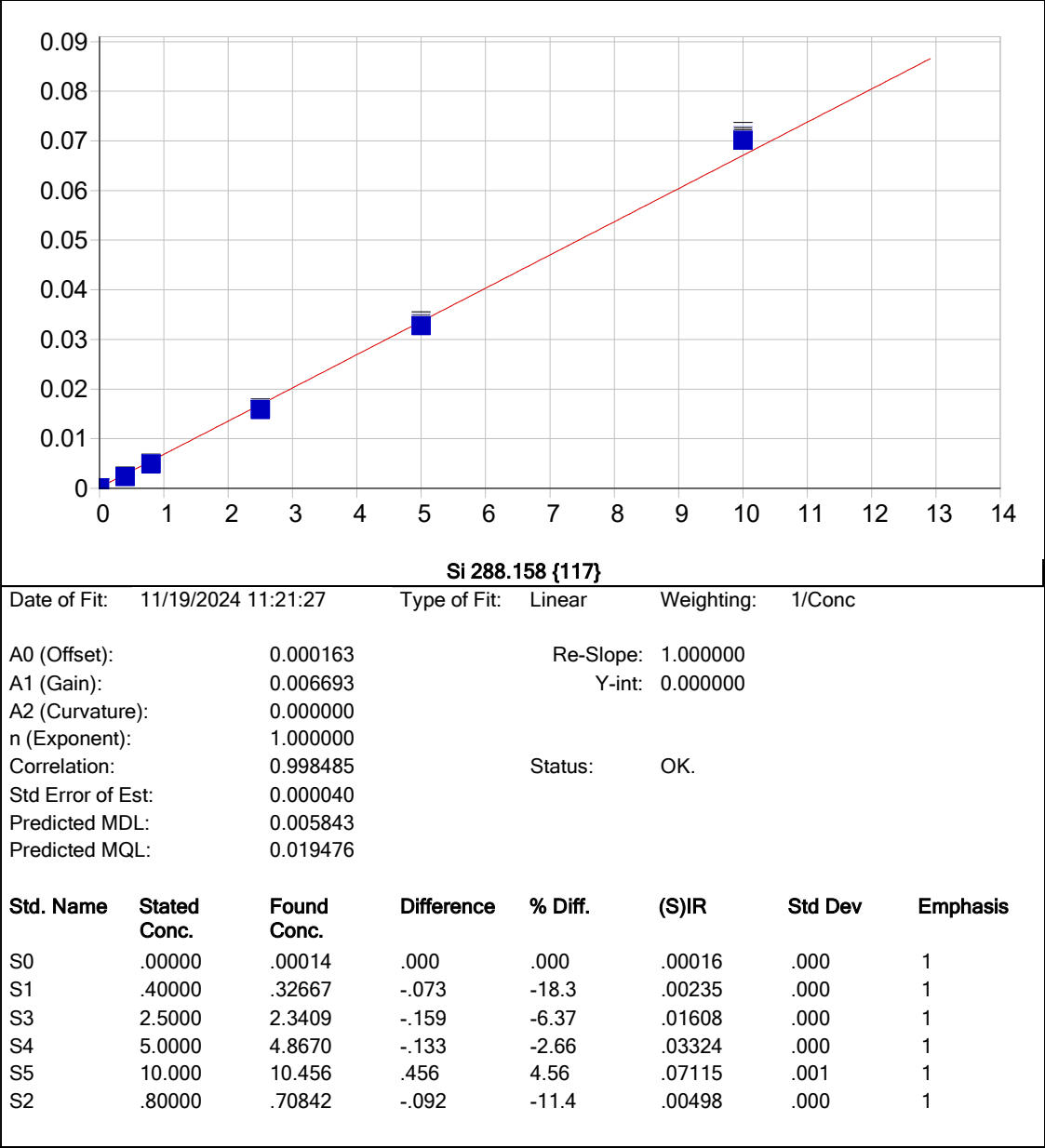


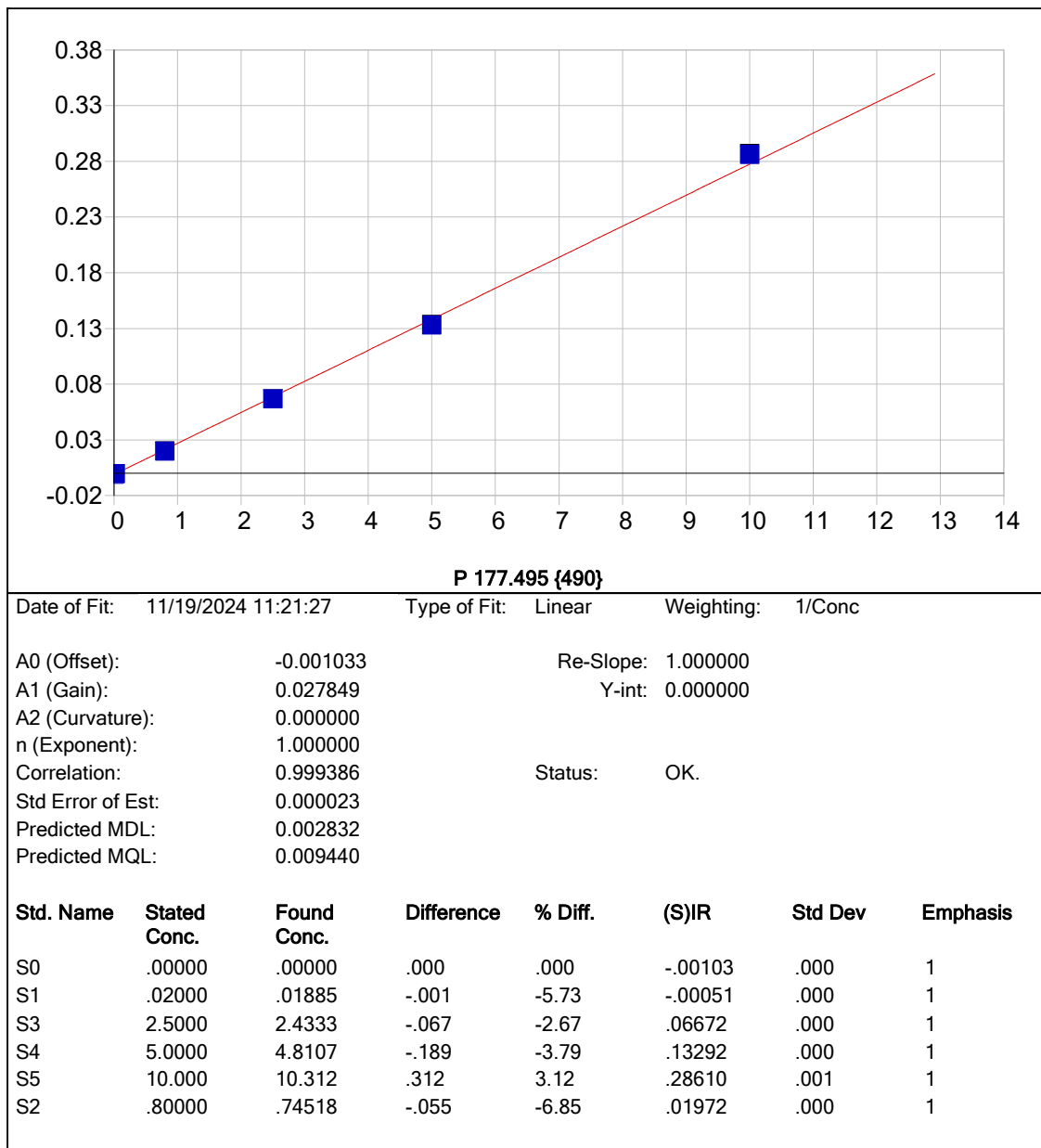


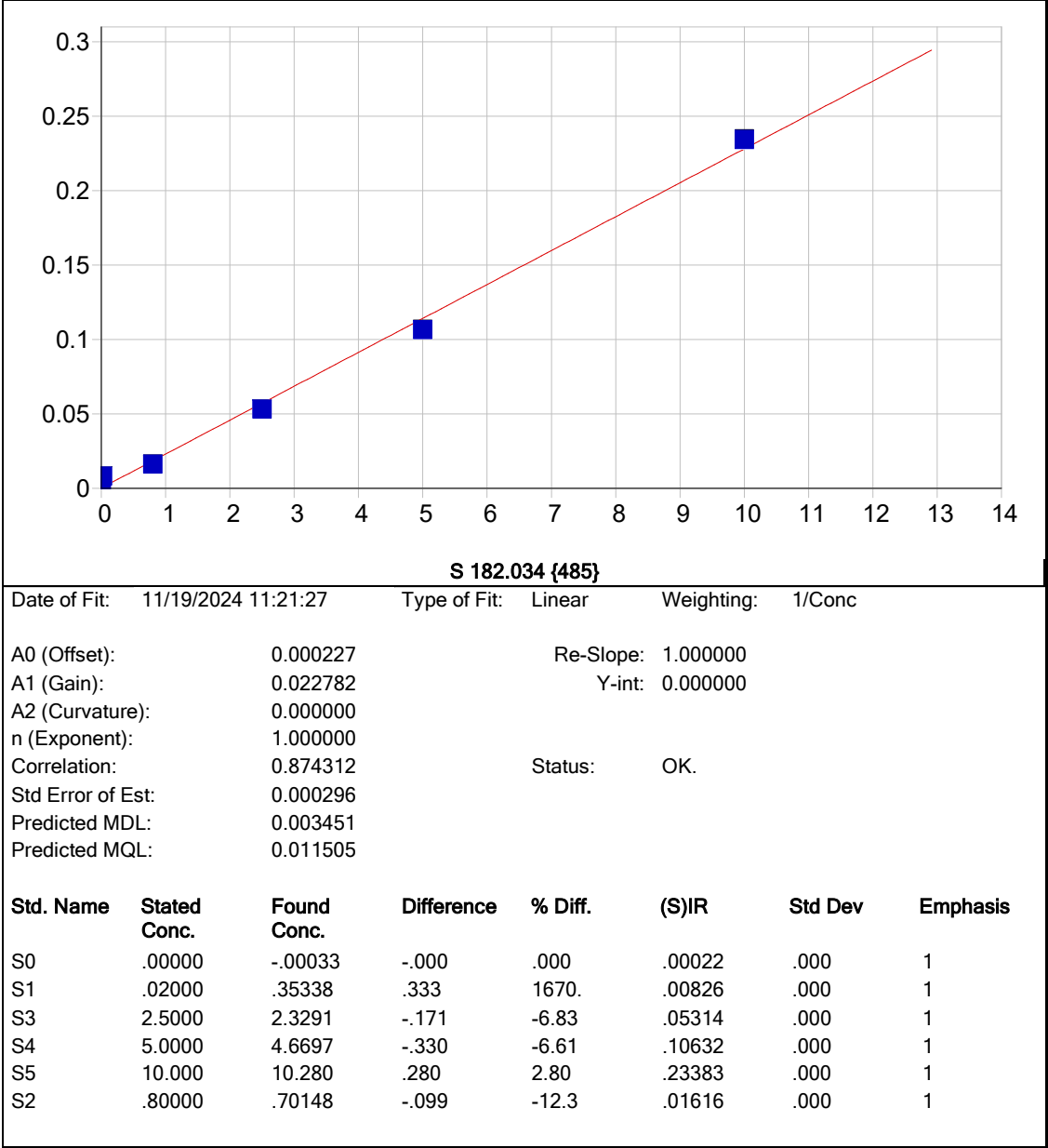


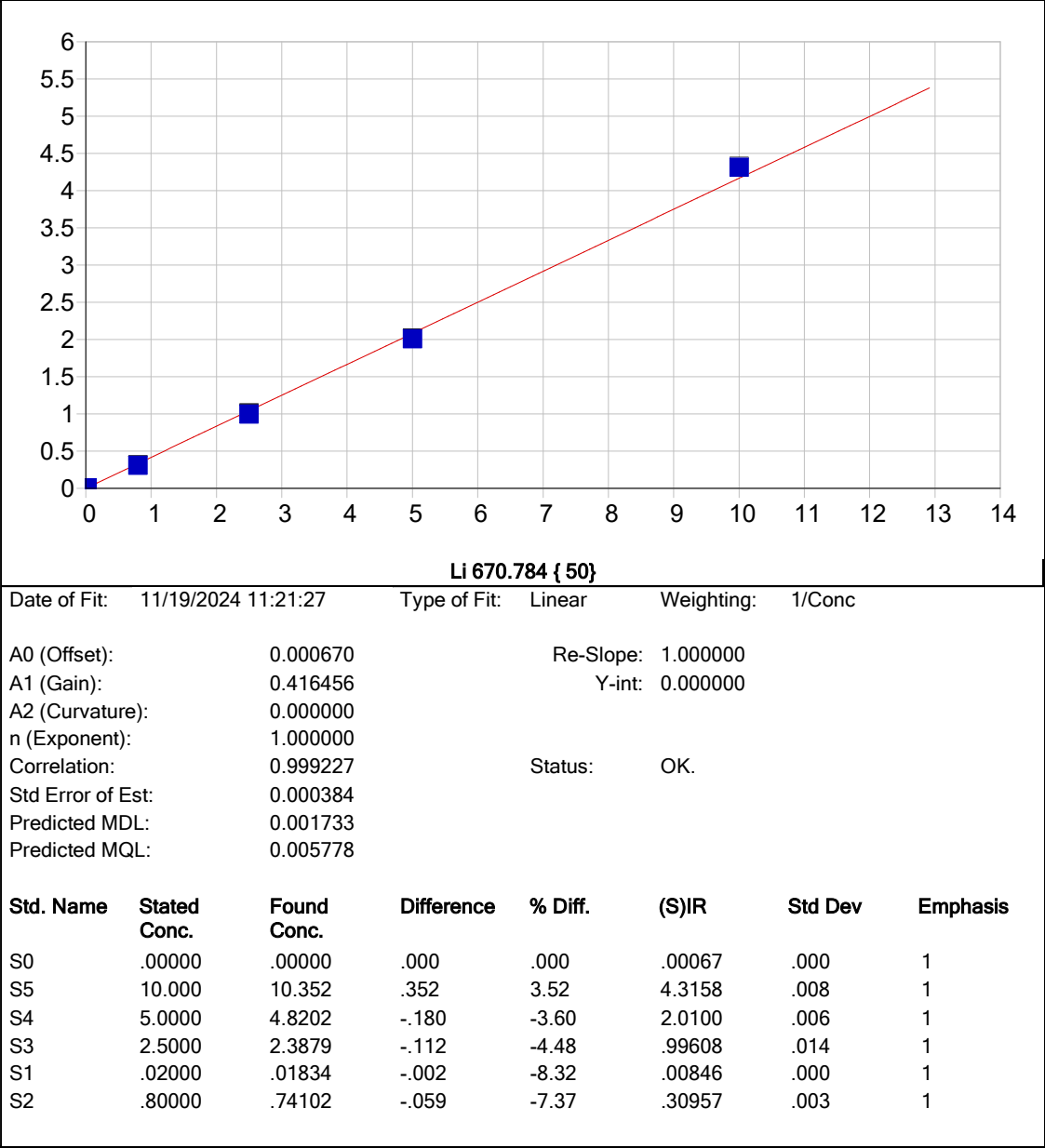


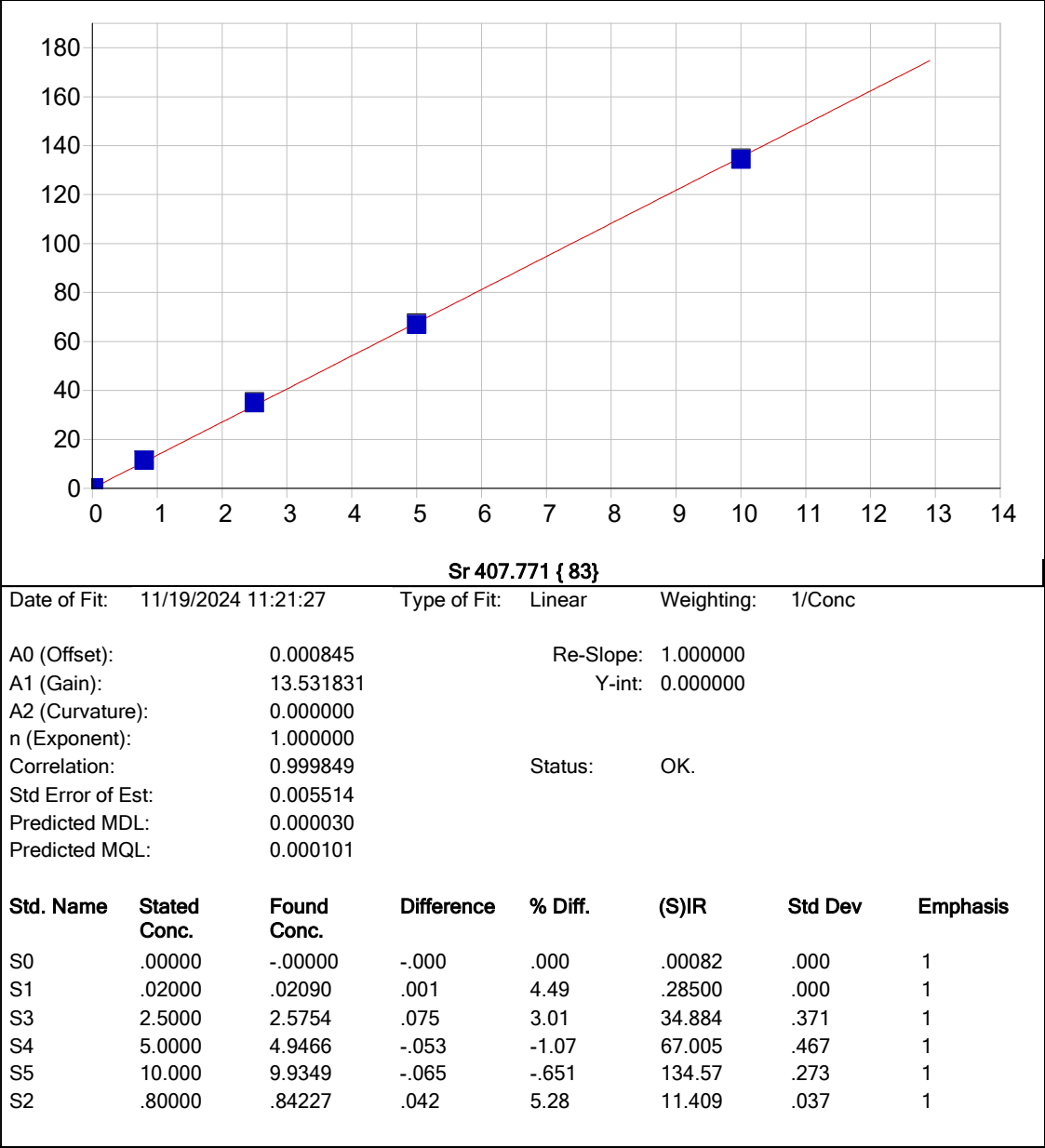


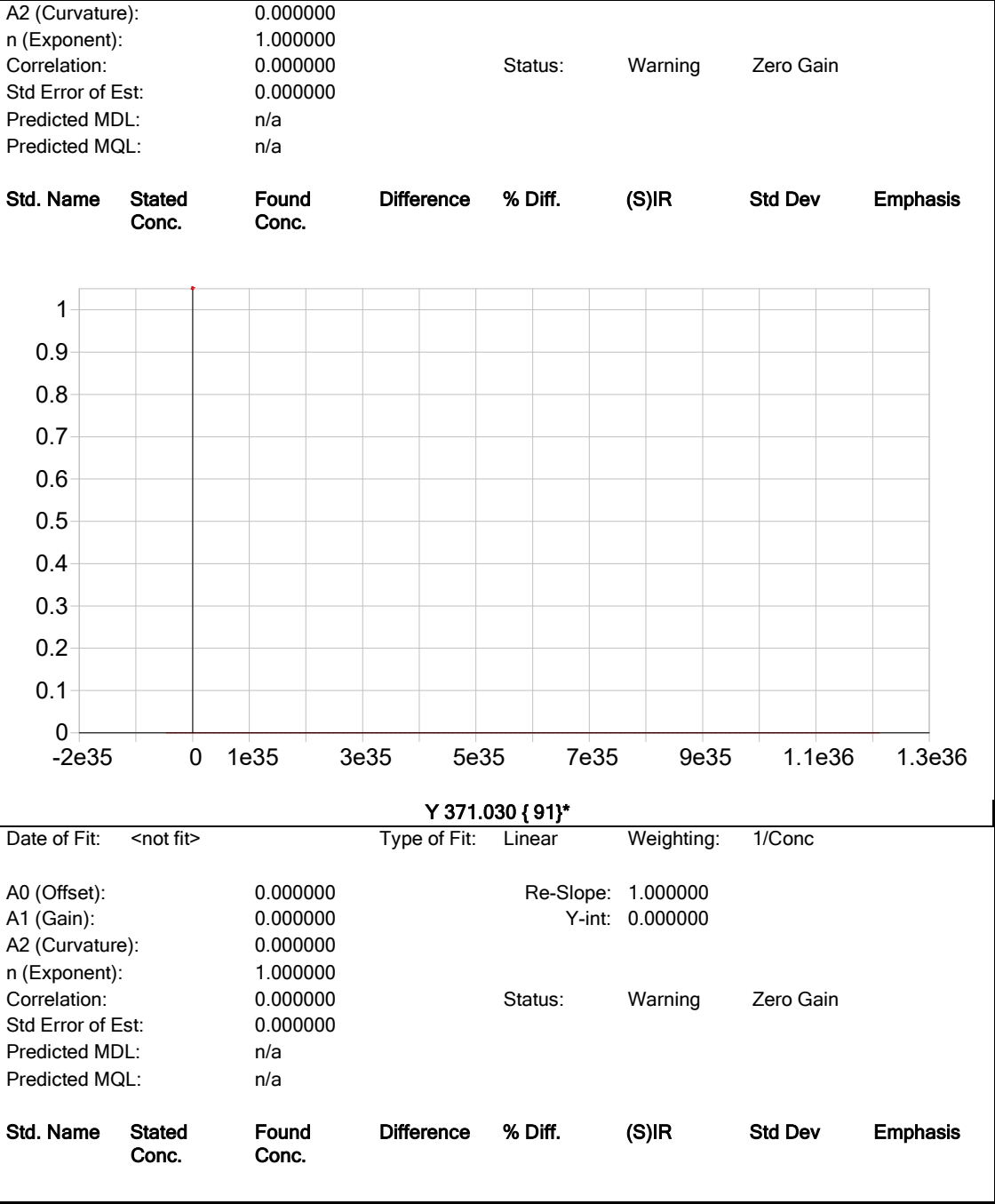




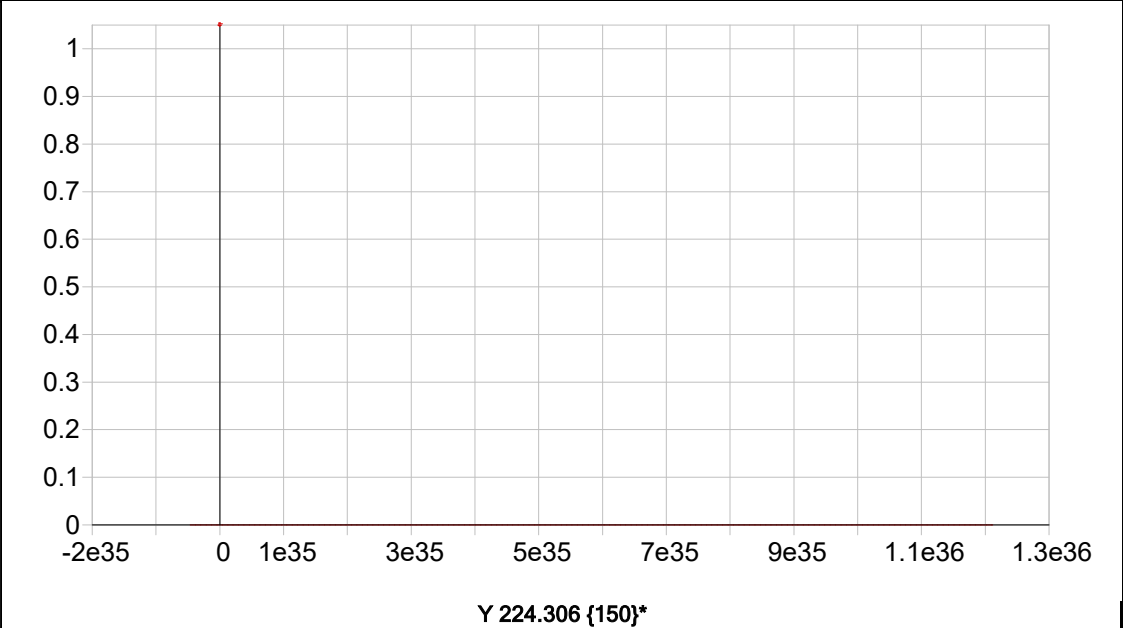




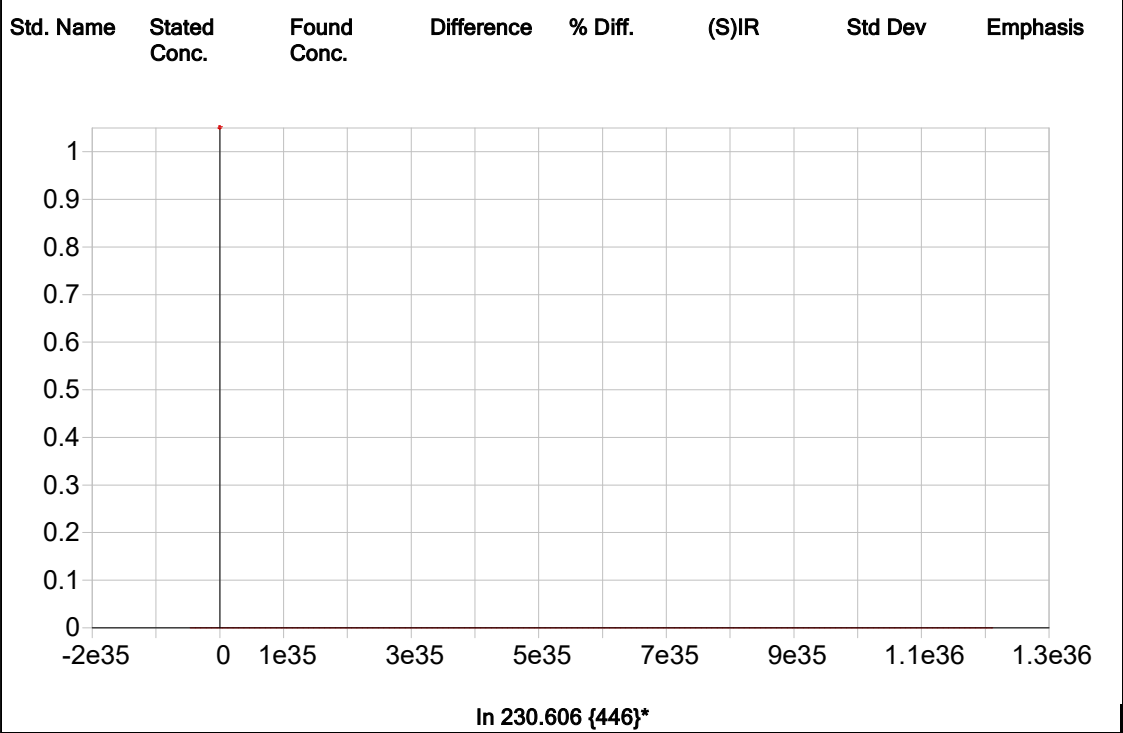




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Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.000000		Status:	Warning	Zero Gain	
Std Error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

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Sample Name: S0 Acquired: 11/19/2024 10:55:49 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	-.00024	-.00034	-.00036	.00039	.00011	.00007	-.02295	-.00057
Stddev	.00009	.00005	.00014	.00015	.00024	.00005	.00049	.00009
%RSD	36.732	15.336	37.169	38.713	217.42	68.776	2.1180	15.286
#1	-.00023	-.00039	-.00045	.00056	-.00016	.00009	-.02331	-.00049
#2	-.00033	-.00030	-.00021	.00035	.00019	.00010	-.02239	-.00056
#3	-.00016	-.00032	-.00044	.00027	.00030	.00001	-.02314	-.00067
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	-.00010	.00168	-.00002	.00006	-.00020	.00002	-.00003	-.00012
Stddev	.00019	.00013	.00003	.00005	.00013	.00001	.00009	.00015
%RSD	182.88	7.8774	134.32	75.416	65.685	49.075	286.31	126.55
#1	-.00032	.00177	-.00004	.00004	-.00034	.00003	-.00003	-.00004
#2	.00003	.00153	.00001	.00012	-.00007	.00001	-.00012	-.00028
#3	-.00002	.00175	-.00005	.00003	-.00019	.00003	.00006	-.00002
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	.00006	-.00127	.00530	.00009	.00656	.00070	.00195	.00032
Stddev	.00006	.00003	.00021	.00012	.00050	.00010	.00020	.00022
%RSD	95.407	2.4388	3.9260	134.73	7.6317	14.649	10.052	69.401
#1	-.00000	-.00125	.00509	.00016	.00637	.00064	.00218	.00023
#2	.00010	-.00126	.00529	-.00005	.00712	.00064	.00184	.00057
#3	.00008	-.00131	.00551	.00015	.00618	.00082	.00183	.00016
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	.00054	.00180	.00016	-.00103	.00022	.00067	.00082	
Stddev	.00003	.00011	.00003	.00006	.00003	.00043	.00023	
%RSD	6.1471	5.9270	16.164	5.6471	15.572	64.148	28.441	
#1	.00057	.00169	.00015	-.00107	.00018	.00084	.00082	
#2	.00054	.00180	.00019	-.00107	.00025	.00018	.00058	
#3	.00050	.00190	.00015	-.00097	.00022	.00099	.00105	

Sample Name: S0 Acquired: 11/19/2024 10:55:49 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2732.4	62582.	13929.	1941.6	4705.3
Stddev	15.0	119.	40.	10.9	25.5
%RSD	.54935	.19047	.28679	.56028	.54149
#1	2729.3	62584.	13939.	1949.7	4692.6
#2	2719.1	62461.	13963.	1929.3	4688.6
#3	2748.7	62700.	13885.	1945.8	4734.6

Sample Name: S1 Acquired: 11/19/2024 11:00:17 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.00089	.00159	.00199	.00217	.00918	.00781	.31889	.01850
Stddev	.00005	.00001	.00017	.00004	.00005	.00021	.00073	.00028
%RSD	5.2033	.50070	8.3113	1.6316	.52702	2.6499	.22895	1.5263
#1	.00092	.00159	.00180	.00213	.00921	.00805	.31814	.01883
#2	.00092	.00159	.00211	.00220	.00921	.00766	.31960	.01833
#3	.00084	.00158	.00206	.00218	.00912	.00773	.31894	.01834
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	.01407	.08053	.00187	.02325	.01612	.00053	.01300	.02829
Stddev	.00024	.00012	.00004	.00006	.00007	.00002	.00010	.00016
%RSD	1.7146	.14624	2.2946	.27537	.44542	3.6179	.76085	.54931
#1	.01422	.08046	.00185	.02325	.01607	.00053	.01302	.02819
#2	.01379	.08067	.00191	.02332	.01609	.00056	.01289	.02847
#3	.01420	.08047	.00183	.02319	.01620	.00052	.01308	.02821
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	.02175	.00176	.04266	.00481	.10461	.01376	.04022	.15591
Stddev	.00003	.00006	.00049	.00011	.00080	.00006	.00059	.00058
%RSD	.11832	3.6680	1.1413	2.3125	.76858	.41109	1.4557	.37139
#1	.02172	.00176	.04210	.00470	.10539	.01376	.04089	.15657
#2	.02175	.00182	.04294	.00481	.10379	.01371	.03983	.15548
#3	.02177	.00169	.04295	.00492	.10465	.01382	.03993	.15568
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	.00505	.10279	.00235	-.00051	.00826	.00846	.28500	
Stddev	.00003	.00015	.00003	.00006	.00005	.00003	.00049	
%RSD	.53437	.14828	1.2491	11.595	.66463	.36270	.17173	
#1	.00508	.10284	.00239	-.00044	.00830	.00849	.28538	
#2	.00504	.10262	.00233	-.00053	.00828	.00843	.28444	
#3	.00503	.10291	.00234	-.00056	.00820	.00845	.28517	

Sample Name: S1 Acquired: 11/19/2024 11:00:17 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2824.8	64793.	14167.	1989.0	4817.5
Stddev	8.7	229.	77.	5.1	6.9
%RSD	.30748	.35380	.54341	.25801	.14296
#1	2815.1	65038.	14080.	1993.2	4809.5
#2	2831.9	64583.	14194.	1983.3	4822.0
#3	2827.4	64760.	14226.	1990.6	4820.8

Sample Name: S2 Acquired: 11/19/2024 11:04:40 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.03974	.04143	.16275	.06466	.14121	.11543	5.2577	.13220
Stddev	.00018	.00022	.00023	.00018	.00023	.00050	.0246	.00081
%RSD	.46066	.52021	.14176	.28473	.16104	.43710	.46801	.61347
#1	.03992	.04151	.16275	.06475	.14146	.11485	5.2848	.13300
#2	.03974	.04160	.16299	.06478	.14102	.11568	5.2514	.13223
#3	.03955	.04119	.16252	.06445	.14113	.11577	5.2368	.13138
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	.75047	.15947	.03025	.30616	.14921	.00442	.25434	.05575
Stddev	.00037	.00079	.00011	.00013	.00041	.00003	.00122	.00053
%RSD	.04920	.49297	.37088	.04328	.27269	.61433	.48115	.94515
#1	.75089	.15928	.03035	.30624	.14962	.00439	.25564	.05605
#2	.75032	.16033	.03013	.30624	.14881	.00443	.25417	.05607
#3	.75019	.15879	.03027	.30601	.14921	.00444	.25321	.05515
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	.21787	.06155	.07890	.04853	.96747	.02623	.29995	.60013
Stddev	.00020	.00019	.00033	.00008	.00666	.00005	.00095	.00099
%RSD	.09052	.31208	.42434	.16483	.68866	.17235	.31753	.16547
#1	.21804	.06170	.07897	.04861	.97091	.02627	.30105	.60043
#2	.21793	.06134	.07854	.04851	.95979	.02618	.29941	.59903
#3	.21765	.06162	.07920	.04845	.97171	.02622	.29940	.60094
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	.07446	.40230	.00498	.01972	.01616	.30957	11.409	
Stddev	.00004	.00087	.00005	.00011	.00007	.00272	.037	
%RSD	.05595	.21605	.91887	.55195	.41934	.87914	.32567	
#1	.07445	.40283	.00496	.01967	.01622	.31254	11.445	
#2	.07443	.40278	.00495	.01964	.01609	.30899	11.412	
#3	.07451	.40130	.00504	.01984	.01617	.30719	11.371	

Sample Name: S2 Acquired: 11/19/2024 11:04:40 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2840.1	65201.	14117.	2025.1	4757.1
Stddev	3.3	246.	90.	9.4	3.4
%RSD	.11686	.37657	.63989	.46403	.07129
#1	2836.9	64935.	14021.	2015.2	4757.1
#2	2843.5	65419.	14129.	2033.9	4760.5
#3	2839.7	65249.	14200.	2026.3	4753.7

Sample Name: S3 Acquired: 11/19/2024 11:08:46 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.12848	.12830	.51589	.20803	.45054	.35965	16.166	.40762
Stddev	.00013	.00062	.00050	.00072	.00109	.00359	.276	.00372
%RSD	.10279	.48000	.09757	.34554	.24296	.99719	1.7052	.91172
#1	.12856	.12787	.51617	.20778	.44928	.36358	16.478	.41191
#2	.12833	.12803	.51619	.20746	.45107	.35882	15.957	.40544
#3	.12855	.12901	.51531	.20883	.45127	.35655	16.062	.40551
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	2.3956	.48638	.09456	.97065	.46867	.01413	.77344	.17345
Stddev	.0022	.00289	.00011	.00114	.00036	.00004	.00645	.00024
%RSD	.09033	.59330	.11529	.11697	.07590	.25975	.83330	.13916
#1	2.3980	.48959	.09463	.97195	.46836	.01410	.78087	.17368
#2	2.3951	.48401	.09443	.96986	.46906	.01412	.77004	.17320
#3	2.3938	.48553	.09462	.97013	.46859	.01417	.76941	.17347
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	.68979	.19621	.24863	.15049	3.0490	.08332	.91812	1.8624
Stddev	.00099	.00017	.00041	.00134	.0157	.00014	.00874	.0030
%RSD	.14418	.08679	.16590	.88988	.51343	.16629	.95191	.15892
#1	.69092	.19633	.24900	.15196	3.0556	.08330	.92800	1.8599
#2	.68938	.19601	.24870	.14935	3.0604	.08346	.91493	1.8617
#3	.68906	.19627	.24818	.15017	3.0312	.08318	.91142	1.8657
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	.23278	1.2363	.01608	.06672	.05314	.99608	34.884	
Stddev	.00016	.0093	.00014	.00024	.00016	.01433	.371	
%RSD	.07071	.75555	.87803	.35234	.30601	1.4385	1.0632	
#1	.23294	1.2469	.01593	.06675	.05304	1.0125	35.275	
#2	.23261	1.2327	.01610	.06694	.05306	.98934	34.537	
#3	.23278	1.2293	.01621	.06647	.05333	.98637	34.841	

Sample Name: S3 Acquired: 11/19/2024 11:08:46 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2710.8	62403.	14157.	1922.2	4447.1
Stddev	1.7	41.	142.	10.4	7.4
%RSD	.06122	.06563	1.0030	.53896	.16595
#1	2709.5	62407.	13994.	1911.9	4438.6
#2	2712.6	62441.	14241.	1922.3	4451.9
#3	2710.1	62360.	14238.	1932.6	4450.7

Sample Name: S4 Acquired: 11/19/2024 11:13:02 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.25388	.25502	1.0034	.41384	.89691	.70168	31.475	.78391
Stddev	.00043	.00136	.0015	.00016	.00025	.00097	.302	.00795
%RSD	.16911	.53500	.14526	.03874	.02764	.13838	.95940	1.0145
#1	.25353	.25371	1.0017	.41373	.89700	.70273	31.774	.79054
#2	.25436	.25643	1.0042	.41403	.89663	.70082	31.482	.77509
#3	.25375	.25493	1.0043	.41378	.89710	.70148	31.170	.78610
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	4.6980	.93365	.18378	1.9015	.91087	.02831	1.4785	.33612
Stddev	.0038	.00201	.00075	.0009	.00023	.00020	.0049	.00173
%RSD	.08008	.21535	.40576	.04734	.02553	.70283	.32882	.51393
#1	4.6946	.93586	.18304	1.9004	.91075	.02808	1.4841	.33774
#2	4.7021	.93192	.18377	1.9021	.91114	.02839	1.4751	.33430
#3	4.6973	.93319	.18453	1.9019	.91072	.02845	1.4763	.33632
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	1.3460	.39068	.51145	.29121	5.9948	.17083	1.7659	3.6334
Stddev	.0011	.00045	.00470	.00017	.0180	.00176	.0167	.0005
%RSD	.08181	.11501	.91978	.05674	.30072	1.0282	.94714	.01390
#1	1.3463	.39016	.50729	.29124	6.0072	.16890	1.7823	3.6330
#2	1.3470	.39094	.51655	.29104	6.0031	.17232	1.7489	3.6340
#3	1.3448	.39093	.51050	.29136	5.9741	.17128	1.7665	3.6333
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	.45488	2.3900	.03324	.13292	.10632	2.0100	67.005	
Stddev	.00063	.0059	.00046	.00032	.00019	.0060	.467	
%RSD	.13744	.24502	1.3787	.23896	.17553	.29923	.69714	
#1	.45417	2.3965	.03271	.13257	.10625	2.0162	67.469	
#2	.45535	2.3883	.03349	.13319	.10652	2.0095	66.535	
#3	.45511	2.3851	.03352	.13298	.10617	2.0042	67.010	

Sample Name: S4 Acquired: 11/19/2024 11:13:02 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2613.0	59183.	14085.	1818.0	4240.7
Stddev	.7	231.	97.	15.7	3.7
%RSD	.02755	.39055	.68528	.86176	.08609
#1	2612.2	59378.	13974.	1814.4	4243.3
#2	2613.2	58927.	14151.	1804.4	4236.5
#3	2613.6	59243.	14131.	1835.1	4242.3

Sample Name: S5 Acquired: 11/19/2024 11:17:15 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.53732	.52136	2.0948	.88076	1.8907	1.4682	65.198	1.5960
Stddev	.00202	.00340	.0036	.00314	.0080	.0018	.299	.0118
%RSD	.37681	.65162	.17330	.35615	.42218	.12130	.45869	.74082

#1	.53742	.52104	2.0964	.88033	1.8931	1.4672	65.312	1.6082
#2	.53525	.51813	2.0974	.87785	1.8818	1.4703	64.858	1.5954
#3	.53929	.52490	2.0906	.88408	1.8973	1.4671	65.423	1.5846

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	9.8306	1.9081	.37034	3.9765	1.8771	.05820	3.0307	.69851
Stddev	.0135	.0034	.00176	.0030	.0064	.00017	.0036	.00027
%RSD	.13752	.17944	.47469	.07639	.34305	.29006	.11916	.03872

#1	9.8385	1.9104	.37141	3.9772	1.8785	.05805	3.0348	.69874
#2	9.8382	1.9097	.37129	3.9791	1.8700	.05838	3.0291	.69858
#3	9.8150	1.9042	.36831	3.9732	1.8827	.05818	3.0282	.69821

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	2.8020	.81250	1.0891	.59978	12.083	.36269	3.6544	7.4042
Stddev	.0017	.00235	.0026	.00034	.055	.00151	.0209	.0142
%RSD	.06067	.28873	.23439	.05667	.45311	.41535	.57136	.19123

#1	2.8031	.81429	1.0864	.60013	12.091	.36102	3.6784	7.4079
#2	2.8028	.81336	1.0896	.59977	12.133	.36313	3.6448	7.3886
#3	2.8000	.80984	1.0915	.59945	12.025	.36393	3.6401	7.4162

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	.94337	4.9623	.07115	.28610	.23383	4.3158	134.57	
Stddev	.00102	.0026	.00072	.00090	.00032	.0079	.27	
%RSD	.10786	.05276	1.0101	.31629	.13629	.18408	.20323	

#1	.94231	4.9653	.07033	.28505	.23415	4.3182	134.43	
#2	.94433	4.9613	.07145	.28660	.23351	4.3069	134.40	
#3	.94347	4.9603	.07167	.28663	.23382	4.3222	134.89	

Sample Name: S5 Acquired: 11/19/2024 11:17:15 Type: Cal
Method: NON EPA-6010-200.7(v2475) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2511.3	58461.	14021.	1768.1	3987.9
Stddev	8.9	140.	26.	14.1	5.7
%RSD	.35445	.23885	.18861	.80011	.14417
#1	2509.4	58618.	13995.	1781.2	3986.7
#2	2521.0	58351.	14021.	1753.1	3994.1
#3	2503.5	58414.	14048.	1769.9	3982.8

Sample Name: ICV01 Acquired: 11/19/2024 11:25:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.023663	1.092520	1.038383	1.039855	1.013157	2.651644
Stddev	.001146	.010070	.001627	.001973	.000114	.007986
%RSD	.1119902	.9217608	.1567155	.1897561	.0112470	.3011561
#1	1.024811	1.081907	1.037359	1.037576	1.013053	2.642471
#2	1.022519	1.101942	1.037530	1.041014	1.013279	2.657048
#3	1.023658	1.093711	1.040259	1.040974	1.013140	2.655411
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5415475	.5363112	.5258589	10.68863	.5509959	.5305745
Stddev	.0013092	.0007365	.0003492	.00289	.0014368	.0003937
%RSD	.2417480	.1373267	.0663958	.0270659	.2607618	.0742069
#1	.5416052	.5362729	.5254607	10.69196	.5523996	.5301409
#2	.5402103	.5370660	.5261122	10.68714	.5495281	.5306727
#3	.5428268	.5355945	.5260039	10.68678	.5510600	.5309098
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5375422	10.37606	.5503057	6.281840	.5323687	.2614030
Stddev	.0006636	.02812	.0011209	.016855	.0006028	.0003187
%RSD	.1234499	.2710300	.2036881	.2683084	.1132262	.1219082
#1	.5379042	10.38069	.5514581	6.267448	.5321359	.2613348
#2	.5379460	10.34591	.5492192	6.300383	.5319169	.2611240
#3	.5367763	10.40158	.5502397	6.277691	.5330531	.2617503
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.757754	.5236419	1.063047	10.00867	2.506187	2.581474
Stddev	.051533	.0012874	.000900	.05060	.003177	.003259
%RSD	.5281244	.2458554	.0846731	.5055898	.1267622	.1262495
#1	9.794180	.5221607	1.063279	9.98308	2.507534	2.580387
#2	9.698791	.5244918	1.063808	9.97597	2.508468	2.585137
#3	9.780290	.5242732	1.062053	10.06695	2.502558	2.578896

Sample Name: ICV01 Acquired: 11/19/2024 11:25:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	2.485943	2.521254	F 1.933489	F .0064778	F -.007901	F .0007460
Stddev	.005632	.003949	.009703	.0022060	.003981	.0013380
%RSD	.2265648	.1566442	.5018249	34.05443	50.38654	179.3584
#1	2.480214	2.519724	1.922290	.0046343	-.006849	-.000523
#2	2.491473	2.518298	1.939369	.0089218	-.004552	.002144
#3	2.486142	2.525739	1.938808	.0058772	-.012303	.000618

Elem	Sr4077
Units	ppm
Avg	F -.009001
Stddev	.000060
%RSD	.6618010
#1	-.008972
#2	-.008961
#3	-.009069

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2723.920	61748.83	14153.86	1913.311	4544.185
Stddev	10.919	213.02	25.10	11.396	9.807
%RSD	.4008552	.3449808	.1773185	.5956352	.2158247
#1	2716.873	61506.97	14126.77	1900.624	4538.525
#2	2718.390	61908.56	14158.49	1916.625	4538.519
#3	2736.498	61830.97	14176.32	1922.682	4555.509

Sample Name: LLICV01 Acquired: 11/19/2024 11:34:17 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0205033	.0391786	.0123684	.0206013	.0510667	.1043452
Stddev	.0014461	.0020174	.0004562	.0026173	.0005219	.0012560
%RSD	7.053147	5.149207	3.688021	12.70468	1.021944	1.203665
#1	.0210336	.0398484	.0123189	.0201292	.0505792	.1029131
#2	.0188669	.0369115	.0128473	.0182521	.0516172	.1048632
#3	.0216095	.0407759	.0119391	.0234225	.0510035	.1052593
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1043799	.0058543	.0058921	2.094437	.0107050	.0298553
Stddev	.0002978	.0000530	.0000415	.009956	.0002226	.0003477
%RSD	.2852555	.9054589	.7048570	.4753624	2.079365	1.164666
#1	.1040895	.0059127	.0059058	2.083296	.0108950	.0302556
#2	.1043657	.0058091	.0059250	2.097551	.0104601	.0296283
#3	.1046845	.0058412	.0058454	2.102464	.0107598	.0296820
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0223124	.1000675	.0213875	2.037378	.0397440	.0100659
Stddev	.0003197	.0007752	.0000945	.016166	.0001023	.0001461
%RSD	1.432981	.7746943	.4417565	.7934875	.2573533	1.451254
#1	.0224665	.1005215	.0212787	2.018911	.0398383	.0099023
#2	.0225258	.1005086	.0214493	2.048974	.0396352	.0101122
#3	.0219447	.0991724	.0214344	2.044250	.0397586	.0101832
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.816150	.0402873	.0457501	1.923074	.1118494	.2146340
Stddev	.016971	.0004858	.0003991	.008575	.0005836	.0005040
%RSD	.9344236	1.205706	.8722833	.4459165	.5217522	.2348025
#1	1.801926	.0408191	.0461532	1.924876	.1124883	.2151894
#2	1.834935	.0401760	.0457420	1.930605	.1113443	.2145066
#3	1.811588	.0398669	.0453552	1.913741	.1117157	.2142059

Sample Name: LLICV01 Acquired: 11/19/2024 11:34:17 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	F .0489022	F .2041213	.3400141	.0194373	F .3589843	.0183263
Stddev	.0005193	.0007651	.0050381	.0006444	.0046131	.0004741
%RSD	1.061872	.3748327	1.481726	3.315210	1.285055	2.586747
#1	.0494412	.2033106	.3386226	.0196818	.3640580	.0181183
#2	.0484051	.2048307	.3358181	.0199237	.3550422	.0188688
#3	.0488604	.2042227	.3456017	.0187065	.3578528	.0179918

Elem	Sr4077
Units	ppm
Avg	.0210214
Stddev	.0000412
%RSD	.1958796
#1	.0210209
#2	.0210628
#3	.0209804

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2692.649	62330.79	14128.39	1888.805	4636.544
Stddev	8.807	93.68	24.34	4.377	13.560
%RSD	.3270729	.1502936	.1723056	.2317504	.2924681
#1	2691.020	62223.99	14101.00	1886.954	4628.551
#2	2684.770	62399.09	14136.61	1885.657	4628.880
#3	2702.156	62369.28	14147.56	1893.804	4652.201

Sample Name: ICB01 Acquired: 11/19/2024 11:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.000856	-.002207	-.000049	.0015815	-.000429	.0032145	-.000937
Stddev	.001153	.000733	.000835	.0009213	.000055	.0025555	.000253
%RSD	134.6754	33.20900	1716.820	58.25403	12.86479	79.50120	27.02380
#1	-.000425	-.002838	.000853	.0010512	-.000493	.0006737	-.000985
#2	-.002163	-.002379	-.000795	.0026452	-.000399	.0057845	-.001164
#3	.000019	-.001403	-.000204	.0010480	-.000395	.0031852	-.000664
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000053	.0000044	-.016175	.0003784	-.000216	.0000420	-.003945
Stddev	.000079	.0000300	.004737	.0003029	.000162	.0004141	.004392
%RSD	149.7030	682.6613	29.28820	80.03607	74.79340	985.6474	111.3393
#1	-.000077	-.000030	-.019616	.0006996	-.000160	-.000034	-.001295
#2	.000036	.000019	-.010772	.0003379	-.000090	.000489	-.001524
#3	-.000117	.000024	-.018137	.0000979	-.000399	-.000329	-.009014
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001055	-.002932	-.000382	-.000199	-.058367	-.000810	-.000985
Stddev	.0002082	.007942	.000097	.000258	.001958	.001159	.000274
%RSD	197.4986	270.8591	25.43883	129.8829	3.355404	143.0429	27.78848
#1	-.000065	-.005776	-.000491	-.000486	-.060627	-.001587	-.001001
#2	.000338	-.009060	-.000350	-.000122	-.057174	-.001365	-.001249
#3	.000044	.006040	-.000304	.000013	-.057299	.000522	-.000703
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009811	.0026290	-.000037	.0095219	-.000356	.0019549	-.001188
Stddev	.013845	.0005231	.000063	.0002308	.000207	.0049818	.001154
%RSD	141.1188	19.89714	170.0382	2.423582	58.16404	254.8374	97.13880
#1	-.025653	.0029574	-.000094	.0097455	-.000334	.0000034	-.001925
#2	-.003751	.0020258	-.000048	.0095356	-.000161	-.001756	.000142
#3	-.000029	.0029039	.000031	.0092846	-.000573	.007617	-.001780

Sample Name: ICB01 Acquired: 11/19/2024 11:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	-.003121	-.000116	-.000096		
Stddev	.001853	.001821	.000012		
%RSD	59.35891	1565.418	12.27323		
#1	-.002035	.001558	-.000083		
#2	-.002068	.000148	-.000105		
#3	-.005260	-.002056	-.000100		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2695.980	62690.77	14105.66	1891.012	4693.106
Stddev	14.554	83.86	33.98	6.131	19.074
%RSD	.5398281	.1337642	.2409234	.3242045	.4064315
#1	2680.442	62606.70	14066.42	1885.996	4673.020
#2	2698.204	62691.21	14125.62	1897.846	4695.323
#3	2709.293	62774.41	14124.92	1889.193	4710.975

Sample Name: CRI01 Acquired: 11/19/2024 11:43:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0193977	.0390569	.0120840	.0180950	.0491135	.1067218
Stddev	.0029873	.0020737	.0003325	.0020518	.0013694	.0033882
%RSD	15.40019	5.309468	2.751513	11.33902	2.788168	3.174816
#1	.0209724	.0381800	.0122150	.0198784	.0484789	.1042986
#2	.0212682	.0375657	.0123311	.0158526	.0506851	.1105935
#3	.0159525	.0414250	.0117060	.0185539	.0481766	.1052733
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1046275	.0059004	.0057839	2.069313	.0101636	.0296160
Stddev	.0001415	.0000318	.0000917	.017028	.0003800	.0001228
%RSD	.1351946	.5386663	1.585634	.8228914	3.738678	.4146858
#1	.1044965	.0059263	.0058166	2.054010	.0105878	.0295164
#2	.1047775	.0058649	.0056803	2.087657	.0098545	.0297532
#3	.1046085	.0059099	.0058547	2.066273	.0100484	.0295784
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0221747	.0960009	.0211396	2.046503	.0390825	.0100869
Stddev	.0003698	.0020437	.0002109	.006271	.0001502	.0000568
%RSD	1.667848	2.128818	.9973981	.3064173	.3844082	.5634035
#1	.0226016	.0953175	.0210936	2.046630	.0392528	.0101146
#2	.0219734	.0943865	.0213697	2.040170	.0390263	.0100215
#3	.0219492	.0982987	.0209556	2.052710	.0389685	.0101246
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.809978	.0396163	.0423611	1.920277	.1069730	.2127577
Stddev	.007514	.0003878	.0009085	.017495	.0002602	.0005427
%RSD	.4151493	.9789922	2.144584	.9110766	.2432236	.2550877
#1	1.803260	.0392880	.0415541	1.928481	.1067214	.2121428
#2	1.808582	.0395167	.0421843	1.900188	.1072410	.2131698
#3	1.818093	.0400442	.0433450	1.932163	.1069568	.2129605

Sample Name: CRI01 Acquired: 11/19/2024 11:43:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.0487037	F .2028860	.3439067	.0169639	F .3524992	.0171258
Stddev	.0007753	.0007419	.0062083	.0021616	.0026091	.0017191
%RSD	1.591768	.3656864	1.805230	12.74236	.7401818	10.03799
#1	.0495591	.2021451	.3504399	.0183823	.3494944	.0184118
#2	.0480474	.2028841	.3431955	.0180333	.3538126	.0151733
#3	.0485046	.2036289	.3380845	.0144760	.3541907	.0177924

Elem	Sr4077
Units	ppm
Avg	.0208870
Stddev	.0000478
%RSD	.2287941
#1	.0208553
#2	.0209419
#3	.0208637

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2778.733	62968.64	14233.99	1934.313	4778.208
Stddev	2.143	109.79	14.99	1.825	9.553
%RSD	.0771094	.1743621	.1053032	.0943316	.1999347
#1	2781.203	62844.90	14226.50	1932.396	4789.131
#2	2777.616	63054.42	14224.22	1934.514	4771.411
#3	2777.380	63006.60	14251.25	1936.028	4774.082

Sample Name: ICSA01 Acquired: 11/19/2024 11:47:19 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033045	-.003778	.0080599	-.017377	-.001781	263.3966
Stddev	.0033167	.002484	.0008655	.003716	.002757	1.2732
%RSD	100.3693	65.76244	10.73830	21.38451	154.7810	.4833752
#1	.0021314	-.002589	.0072289	-.021662	-.003630	264.8299
#2	.0070484	-.002111	.0089562	-.015038	-.003101	262.3967
#3	.0007338	-.006633	.0079947	-.015432	.001388	262.9632
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0053912	.0012713	.0034811	251.0711	.0571669	.0021438
Stddev	.0002846	.0000831	.0000610	.1849	.0003832	.0002096
%RSD	5.278421	6.533442	1.752450	.0736379	.6703520	9.775735
#1	.0051766	.0012597	.0035487	250.9550	.0575933	.0023260
#2	.0052831	.0011946	.0034302	250.9740	.0568512	.0021905
#3	.0057140	.0013595	.0034643	251.2843	.0570562	.0019148
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074807	98.17656	.0040232	274.4109	.0020627	-.000445
Stddev	.0006538	.23379	.0003770	.3855	.0005887	.000153
%RSD	8.739847	.2381285	9.369775	.1404974	28.53881	34.35084
#1	.0077376	98.21386	.0044400	274.0659	.0018845	-.000616
#2	.0067375	97.92636	.0037060	274.3398	.0027198	-.000398
#3	.0079670	98.38945	.0039237	274.8270	.0015837	-.000321
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0498234	.0070403	.0056955	.0438463	.0344430	-.001014
Stddev	.0170241	.0005924	.0002115	.0113958	.0001458	.000485
%RSD	34.16898	8.414611	3.713978	25.99033	.4232375	47.90309
#1	.0312660	.0066456	.0055762	.0310036	.0343697	-.001378
#2	.0534861	.0077215	.0059397	.0527502	.0346109	-.000462
#3	.0647180	.0067539	.0055705	.0477851	.0343484	-.001201

Sample Name: ICSA01 Acquired: 11/19/2024 11:47:19 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.0049138	-.001108	.0096906	.0023930	-.015253	F .0442051
Stddev	.0012078	.000274	.0026951	.0019868	.001215	.0020287
%RSD	24.58003	24.73216	27.81169	83.02369	7.963069	4.589383
#1	.0042529	-.001419	.0128024	.0046870	-.015364	.0424443
#2	.0041806	-.000900	.0081729	.0012260	-.016409	.0437474
#3	.0063078	-.001005	.0080966	.0012660	-.013987	.0464236

Elem	Sr4077
Units	ppm
Avg	.0064613
Stddev	.0005587
%RSD	8.646853
#1	.0067259
#2	.0068386
#3	.0058195

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2442.747	57123.86	13577.78	1748.437	3777.494
Stddev	9.763	196.84	55.66	16.276	8.348
%RSD	.3996813	.3445927	.4099219	.9308846	.2210055
#1	2435.610	56912.30	13517.06	1729.683	3772.203
#2	2453.873	57301.62	13589.91	1758.872	3787.118
#3	2438.758	57157.65	13626.37	1756.756	3773.161

Sample Name: ICSAB01 Acquired: 11/19/2024 11:51:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1163889	.0914525	.0577930	.0314931	.6255685	264.6928
Stddev	.0020865	.0023753	.0021306	.0029290	.0018880	1.2520
%RSD	1.792655	2.597351	3.686550	9.300357	.3017985	.4729983
#1	.1145420	.0939024	.0585736	.0347966	.6234240	265.7087
#2	.1186521	.0912956	.0553822	.0292139	.6263012	263.2941
#3	.1159726	.0891595	.0594231	.0304687	.6269803	265.0755
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5254769	.5239004	.8320350	249.8802	.5712850	.5180354
Stddev	.0025953	.0029041	.0017812	.9439	.0033539	.0007839
%RSD	.4938896	.5543125	.2140824	.3777587	.5870858	.1513188
#1	.5272319	.5272098	.8318972	249.9719	.5745034	.5182792
#2	.5224957	.5217774	.8303267	248.8937	.5715412	.5171585
#3	.5267031	.5227140	.8338811	250.7749	.5678102	.5186684
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4932111	99.68449	.5091143	272.9892	1.019629	.2012973
Stddev	.0011684	.45211	.0019212	.8366	.001531	.0010293
%RSD	.2368926	.4535431	.3773697	.3064749	.1501153	.5113533
#1	.4918928	99.33044	.5090072	273.0030	1.019793	.2016077
#2	.4941185	99.52926	.5072489	272.1457	1.018023	.2021357
#3	.4936219	100.1938	.5110869	273.8189	1.021071	.2001484
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0628422	.5086577	1.094847	.0621151	.9640083	.9937529
Stddev	.0113936	.0024732	.002728	.0213359	.0056276	.0014288
%RSD	18.13047	.4862202	.2491933	34.34890	.5837660	.1437815
#1	.0527097	.5089883	1.097989	.0533658	.9691568	.9921534
#2	.0606410	.5060359	1.093471	.0465447	.9580006	.9942022
#3	.0751757	.5109490	1.093080	.0864348	.9648675	.9949030

Sample Name: ICSAB01 Acquired: 11/19/2024 11:51:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.9757014	.9588376	F .7965718	F .0059584	F -.019278	F .0455822
Stddev	.0029244	.0042194	.0062348	.0039961	.001168	.0002194
%RSD	.2997240	.4400569	.7827049	67.06652	6.060938	.4812474
#1	.9756903	.9617451	.7895587	.0093404	-.017946	.0457982
#2	.9727825	.9539980	.8014874	.0015489	-.019763	.0455889
#3	.9786313	.9607695	.7986693	.0069858	-.020126	.0453596

Elem	Sr4077
Units	ppm
Avg	F .0064145
Stddev	.0006618
%RSD	10.31725
#1	.0071610
#2	.0061829
#3	.0058997

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2380.748	55695.04	13619.81	1669.240	3704.667
Stddev	3.711	70.95	49.99	5.923	7.221
%RSD	.1558606	.1273815	.3670335	.3548491	.1949292
#1	2384.985	55743.88	13564.49	1667.899	3709.319
#2	2378.081	55613.66	13661.73	1664.103	3708.334
#3	2379.177	55727.57	13633.23	1675.719	3696.348

Sample Name: CCV01 Acquired: 11/19/2024 12:43:53 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	4.967466	5.027947	4.991072	4.953321	4.981408	9.941916	10.02124	3
Stddev	.018001	.074493	.007063	.020348	.006215	.024102	.04725	4
%RSD	.3623781	1.481586	.1415207	.4107889	.1247629	.2424291	.4714631	5
#1	4.947084	4.977741	4.982952	4.933911	4.975810	9.963727	10.01244	7
#2	4.974125	4.992561	4.994472	4.951561	4.980320	9.945980	9.97902	8
#3	4.981189	5.113537	4.995792	4.974492	4.988096	9.916040	10.07228	9
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	10
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	11
Avg	.2494287	2.489449	24.83595	.9964459	2.489726	1.261959	4.884239	12
Stddev	.0003120	.003910	.10384	.0014720	.004374	.001404	.015003	13
%RSD	.1250874	.1570759	.4180929	.1477219	.1756875	.1112222	.3071663	14
#1	.2490711	2.485200	24.82318	.9958299	2.484946	1.260642	4.866929	15
#2	.2496457	2.490253	24.94558	.9953820	2.490705	1.263435	4.893498	16
#3	.2495693	2.492896	24.73908	.9981258	2.493528	1.261798	4.892289	17
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	2.489376	24.77979	2.495488	1.231028	24.22011	2.496372	2.491179	
Stddev	.007691	.12819	.005843	.000590	.17771	.007151	.004081	
%RSD	.3089720	.5173209	.2341540	.0479425	.7337251	.2864499	.1638222	
#1	2.488683	24.66760	2.488744	1.230363	24.42229	2.493349	2.486582	
#2	2.497390	24.91951	2.499049	1.231488	24.14939	2.504538	2.494373	
#3	2.482054	24.75227	2.498670	1.231235	24.08864	2.491229	2.492583	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	24.18715	4.975498	5.037880	4.997781	4.936565	4.770784	5.057191	
Stddev	.06620	.005491	.013103	.009000	.014341	.021900	.033461	
%RSD	.2737104	.1103696	.2600842	.1800840	.2905142	.4590521	.6616507	
#1	24.26321	4.975290	5.024917	4.988716	4.948426	4.746074	5.020913	
#2	24.15576	4.981090	5.037605	4.997913	4.940643	4.778480	5.063817	
#3	24.14248	4.970113	5.051119	5.006715	4.920627	4.787797	5.086843	

Sample Name: CCV01 Acquired: 11/19/2024 12:43:53 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	4.834463	4.963369	5.073410		
Stddev	.026133	.030982	.028375		
%RSD	.5405636	.6242104	.5592919		
#1	4.809391	4.997323	5.043897		
#2	4.832454	4.956148	5.100491		
#3	4.861542	4.936634	5.075841		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2587.944	60575.27	14026.30	1844.580	4199.185
Stddev	1.294	83.13	27.89	8.478	5.317
%RSD	.0499958	.1372390	.1988755	.4595955	.1266081
#1	2588.754	60481.48	14013.60	1840.480	4203.570
#2	2588.626	60604.43	14007.02	1838.932	4200.714
#3	2586.452	60639.89	14058.29	1854.329	4193.272

Sample Name: CCB01 Acquired: 11/19/2024 12:48:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.000701	-.002001	-.000197	-.000436	.0001112	-.000165	-.000190
Stddev	.001517	.000175	.000659	.002063	.0008774	.000691	.000329
%RSD	216.3363	8.724688	334.4549	473.3538	788.6862	419.1113	173.0608
#1	-.002090	-.001884	-.000661	.001607	.0009434	-.000140	-.000544
#2	-.000930	-.001918	.000557	-.000397	-.000805	-.000868	.000107
#3	.000917	-.002202	-.000487	-.002517	.000196	.000513	-.000133
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000011	-.000046	-.017327	.0002437	-.000114	.0000133	-.002943
Stddev	.000038	.000048	.001921	.0002337	.000111	.0002554	.002149
%RSD	340.1066	104.4957	11.08857	95.92433	97.41218	1920.814	73.02307
#1	-.000024	-.000081	-.019315	.0003801	-.000011	.0000300	-.002682
#2	.000031	.000009	-.015481	.0003771	-.000099	-.000250	-.000936
#3	-.000041	-.000065	-.017185	-.000026	-.000232	.000260	-.005210
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000314	-.001910	-.000119	-.000162	-.019331	.0000773	-.001163
Stddev	.0002553	.010844	.000028	.000080	.009930	.0005568	.000454
%RSD	813.7743	567.8903	23.44362	49.22999	51.36971	720.1974	39.05052
#1	-.000252	-.011409	-.000143	-.000138	-.020223	-.000258	-.001675
#2	.000101	.009905	-.000126	-.000251	-.028784	-.000230	-.000807
#3	.000245	-.004226	-.000088	-.000097	-.008984	.000720	-.001009
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.015207	.0066378	.0001548	.0093243	.0002518	.0050105	-.000259
Stddev	.021239	.0005341	.0000227	.0003300	.0003025	.0025826	.001209
%RSD	139.6690	8.045867	14.65668	3.538819	120.1360	51.54247	466.5387
#1	-.039099	.0072439	.0001807	.0092125	.0003709	.0066371	-.001573
#2	.001531	.0062360	.0001450	.0090648	.0004767	.0020327	-.000008
#3	-.008051	.0064335	.0001387	.0096957	-.000092	.0063619	.000804

Sample Name: CCB01 Acquired: 11/19/2024 12:48:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004997	-.000609	-.000005
Stddev	.003320	.001301	.000047
%RSD	66.44273	213.6911	861.6379
#1	-.002039	-.001664	.000043
#2	-.008589	.000845	-.000008
#3	-.004364	-.001007	-.000051

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2760.892	65212.01	14292.64	1969.661	4843.576
Stddev	4.271	84.19	18.29	6.734	4.522
%RSD	.1547026	.1290988	.1279625	.3419019	.0933521
#1	2759.882	65235.08	14272.20	1976.719	4846.000
#2	2757.216	65282.26	14298.27	1968.959	4838.359
#3	2765.577	65118.69	14307.45	1963.305	4846.369

Sample Name: PB165067BL Acquired: 11/19/2024 12:52:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000406	-.001723	-.000203	.0005873	.0010648	.0008854	-.001138
Stddev	.002050	.000917	.000314	.0008963	.0013530	.0072914	.000316
%RSD	504.6682	53.21284	154.5471	152.6162	127.0612	823.4892	27.79265
#1	-.002172	-.002761	-.000554	.0002962	.0001055	.0059533	-.001127
#2	.001842	-.001022	-.000106	-.000127	.0004766	-.007471	-.001460
#3	-.000888	-.001387	.000050	.001593	.0026123	.004174	-.000828
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000013	-.000005	-.016680	.0002159	-.000035	-.000006	-.003206
Stddev	.000037	.000086	.004652	.0002471	.000154	.000438	.002827
%RSD	275.7693	1903.751	27.88645	114.4319	443.2411	6741.942	88.17512
#1	-.000040	-.000100	-.016707	.0001464	.000142	-.000503	-.005543
#2	.000029	.000066	-.012016	.0000110	-.000112	.000327	-.000064
#3	-.000029	.000020	-.021318	.0004903	-.000135	.000156	-.004012
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001387	-.005476	-.000262	.0000828	-.015964	-.000777	-.001132
Stddev	.0002082	.008931	.000093	.0000736	.013022	.001134	.000066
%RSD	150.0936	163.0797	35.64743	88.89531	81.57157	146.0061	5.843111
#1	-.000094	-.015291	-.000158	.0001617	-.023038	-.000724	-.001168
#2	.000204	.002172	-.000338	.0000708	-.023917	-.001936	-.001172
#3	.000307	-.003310	-.000291	.0000159	-.000936	.000330	-.001055
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004659	.0015154	-.000028	.0097194	.0001999	.0028960	-.000010
Stddev	.021551	.0006203	.000234	.0007310	.0001803	.0077380	.002406
%RSD	462.5931	40.93138	823.4813	7.521419	90.19796	267.1947	25146.13
#1	-.027821	.0008322	-.000126	.0104131	.0003737	-.005245	.001791
#2	-.000956	.0016707	.000239	.0089561	.0000137	.010155	.000922
#3	.014801	.0020433	-.000197	.0097889	.0002124	.003778	-.002742

Sample Name: PB165067BL Acquired: 11/19/2024 12:52:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004539	-.000335	-.000071
Stddev	.001169	.001345	.000017
%RSD	25.74314	401.3077	23.67724

#1	-.003949	.001216	-.000059
#2	-.003784	-.001052	-.000091
#3	-.005885	-.001169	-.000064

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2744.970	64447.38	14246.30	1915.900	4855.586
Stddev	5.515	320.36	79.39	9.005	7.575
%RSD	.2009225	.4970894	.5572673	.4699997	.1560009

#1	2740.258	64180.72	14155.95	1911.253	4848.534
#2	2751.036	64358.67	14278.03	1910.169	4863.593
#3	2743.617	64802.74	14304.92	1926.279	4854.633

Sample Name: PB165067BS Acquired: 11/19/2024 12:56:48 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7749236	2.007431	.9686478	1.946470	.7792225	2.000114
Stddev	.0015342	.056795	.0016786	.007229	.0009050	.005514
%RSD	.1979864	2.829223	.1732899	.3713842	.1161442	.2756741
#1	.7756049	1.965480	.9672742	1.941266	.7794064	2.001175
#2	.7731667	1.984751	.9681503	1.943421	.7782396	2.005020
#3	.7759993	2.072061	.9705189	1.954724	.7800214	1.994146
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2005521	.2013284	.1931487	1.009107	.4036902	.1959168
Stddev	.0009436	.0003863	.0003916	.009134	.0017760	.0003794
%RSD	.4704828	.1919006	.2027607	.9051241	.4399404	.1936778
#1	.1994656	.2017626	.1935591	.998566	.4035952	.1959395
#2	.2010256	.2012001	.1927790	1.014098	.4055118	.1955265
#3	.2011652	.2010226	.1931081	1.014659	.4019636	.1962844
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3085877	2.896331	.2051140	1.957970	.4914102	.0729236
Stddev	.0004178	.030804	.0012855	.014963	.0001301	.0003778
%RSD	.1353885	1.063558	.6267213	.7641861	.0264819	.5180311
#1	.3082667	2.861098	.2037414	1.957025	.4915072	.0731202
#2	.3090601	2.918178	.2053110	1.973383	.4912623	.0731625
#3	.3084363	2.909716	.2062897	1.943502	.4914611	.0724881
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.709479	.3031312	.2037601	9.428127	.2990397	.4158525
Stddev	.018416	.0021583	.0004964	.039098	.0011394	.0009930
%RSD	.6796772	.7119855	.2436450	.4146916	.3810094	.2387904
#1	2.692345	.3030771	.2037857	9.384255	.2999910	.4147499
#2	2.728953	.3010005	.2042433	9.440836	.2977770	.4161311
#3	2.707138	.3053160	.2032514	9.459288	.2993512	.4166765

Sample Name: PB165067BS Acquired: 11/19/2024 12:56:48 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6846096	.2003989	F .7031503	5.525063	F -.012674	.1903979
Stddev	.0014174	.0002804	.0105505	.031933	.004304	.0010263
%RSD	.2070365	.1399225	1.500461	.5779676	33.96350	.5390041
#1	.6837318	.2004619	.6909934	5.511141	-.010838	.1901258
#2	.6838522	.2006424	.7099151	5.502455	-.017592	.1895352
#3	.6862448	.2000924	.7085423	5.561594	-.009592	.1915328

Elem	Sr4077
Units	ppm
Avg	.2077553
Stddev	.0001404
%RSD	.0675781
#1	.2076431
#2	.2077100
#3	.2079127

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2696.422	63152.88	14131.04	1888.722	4640.602
Stddev	4.910	230.02	42.24	12.516	8.183
%RSD	.1820957	.3642318	.2989277	.6626644	.1763358
#1	2691.956	63161.65	14095.56	1893.572	4631.153
#2	2695.631	62918.59	14119.79	1874.507	4645.372
#3	2701.680	63378.39	14177.77	1898.087	4645.282

Sample Name: PB164759BL Acquired: 11/19/2024 13:00:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007629	-.000622	.0005842	-.000055	.0004679	.0016467	-.000601
Stddev	.0019176	.001123	.0006167	.001296	.0007454	.0027480	.000413
%RSD	251.3624	180.5266	105.5624	2360.287	159.3079	166.8768	68.67308

#1	.0027958	-.000439	.0008794	-.000398	.0013032	-.001518	-.001044
#2	-.001014	.000398	.0009979	.001378	-.000129	.003433	-.000227
#3	.000506	-.001825	-.000125	-.001145	.000230	.003025	-.000533

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000020	-.000046	-.021760	.0002842	-.000191	-.000132	-.003279
Stddev	.000019	.000013	.004172	.0003523	.000120	.000311	.002676
%RSD	92.59117	27.97422	19.17264	123.9464	62.92005	235.5041	81.61222

#1	-.000025	-.000044	-.026564	.0001932	-.000127	-.000429	-.000623
#2	.000001	-.000060	-.019045	.0006730	-.000116	-.000158	-.005975
#3	-.000035	-.000034	-.019671	-.000014	-.000329	.000191	-.003240

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000442	-.003077	-.000301	-.000174	-.041064	-.001027	-.000852
Stddev	.0000948	.010474	.000287	.000201	.008325	.000830	.000344
%RSD	214.5776	340.3936	95.26546	115.4413	20.27337	80.87548	40.31685

#1	.0000737	.000959	-.000609	-.000080	-.050529	-.001976	-.000969
#2	-.000062	-.014969	-.000252	-.000405	-.037788	-.000436	-.000466
#3	.000121	.004779	-.000042	-.000037	-.034876	-.000668	-.001122

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.038833	.0000562	-.000277	.0086789	-.000037	.0047431	.0001642
Stddev	.006315	.0006150	.000058	.0002831	.000437	.0034544	.0019194
%RSD	16.26292	1093.474	21.07704	3.262202	1183.987	72.82988	1169.013

#1	-.038811	-.000549	-.000322	.0084325	.000406	.0060702	.0004044
#2	-.032528	.000681	-.000211	.0086160	-.000049	.0073370	.0019522
#3	-.045159	.000037	-.000297	.0089882	-.000467	.0008219	-.001864

Sample Name: PB164759BL Acquired: 11/19/2024 13:00:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004093	-.001701	-.000091
Stddev	.002499	.001360	.000040
%RSD	61.05997	79.96128	43.53474
#1	-.001241	-.002952	-.000048
#2	-.005903	-.001896	-.000099
#3	-.005134	-.000253	-.000126

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2782.665	64814.93	14393.41	1942.231	4912.510
Stddev	7.345	92.37	45.83	5.845	8.568
%RSD	.2639412	.1425182	.3184351	.3009629	.1744063
#1	2774.379	64880.72	14350.58	1946.517	4903.252
#2	2785.246	64709.33	14387.89	1944.604	4914.119
#3	2788.371	64854.75	14441.75	1935.572	4920.160

Sample Name: PB164759BS Acquired: 11/19/2024 13:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7746300	2.063154	.9777479	1.928291	.7752960	2.002536
Stddev	.0042500	.025831	.0034697	.011258	.0052887	.004255
%RSD	.5486444	1.252030	.3548665	.5838145	.6821569	.2124681
#1	.7704409	2.052146	.9744099	1.916794	.7706889	1.999244
#2	.7789384	2.092666	.9774980	1.939293	.7810711	2.001023
#3	.7745109	2.044650	.9813358	1.928785	.7741280	2.007340
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2054196	.2064810	.1956035	1.041532	.4069720	.1984784
Stddev	.0002873	.0002215	.0008889	.008025	.0002727	.0010209
%RSD	.1398598	.1072845	.4544182	.7704844	.0670160	.5143790
#1	.2054256	.2066861	.1947434	1.036969	.4068111	.1976915
#2	.2051293	.2062461	.1955486	1.050797	.4068180	.1981116
#3	.2057038	.2065109	.1965186	1.036828	.4072869	.1996320
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3096682	2.943861	.2109729	2.001774	.4965130	.0735752
Stddev	.0019054	.008705	.0002191	.007337	.0023604	.0003131
%RSD	.6152868	.2957061	.1038481	.3665415	.4753860	.4255030
#1	.3074682	2.937708	.2107492	2.002569	.4943985	.0734818
#2	.3107516	2.953821	.2109825	1.994071	.4960809	.0733195
#3	.3107848	2.940054	.2111871	2.008681	.4990596	.0739244
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.724805	.3080957	.2051480	9.379973	.3048081	.4157893
Stddev	.002453	.0011052	.0003226	.044483	.0004421	.0020609
%RSD	.0900123	.3587041	.1572258	.4742385	.1450323	.4956658
#1	2.722914	.3070000	.2053930	9.430894	.3051686	.4134345
#2	2.727577	.3080771	.2052685	9.348673	.3049407	.4172647
#3	2.723926	.3092101	.2047826	9.360353	.3043149	.4166686

Sample Name: PB164759BS Acquired: 11/19/2024 13:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7003451	.2029637	F .6978393	5.743271	F -.013535	.1928278
Stddev	.0007463	.0011961	.0054867	.026930	.002959	.0011273
%RSD	.1065645	.5893066	.7862360	.4688969	21.86309	.5845949
#1	.6996790	.2021027	.6939410	5.717668	-.011661	.1915398
#2	.7002046	.2043294	.7041135	5.771356	-.016947	.1933090
#3	.7011517	.2024589	.6954636	5.740787	-.011998	.1936346

Elem	Sr4077
Units	ppm
Avg	.2099426
Stddev	.0001958
%RSD	.0932533
#1	.2101439
#2	.2097528
#3	.2099310

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2746.521	63708.06	14042.45	1952.126	4676.921
Stddev	10.992	132.83	26.87	10.694	10.101
%RSD	.4002283	.2084988	.1913578	.5478370	.2159737
#1	2757.646	63650.07	14043.05	1958.576	4688.355
#2	2735.667	63614.09	14015.29	1939.781	4669.209
#3	2746.251	63860.03	14069.02	1958.021	4673.200

Sample Name: PB164645BL Acquired: 11/19/2024 13:09:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000026	-.001058	.0000947	-.000261	-.000064	-.000811	-.000815
Stddev	.001517	.000579	.0009400	.001309	.000761	.001646	.000227
%RSD	5816.298	54.73159	992.9731	500.7565	1198.150	202.9168	27.81359
#1	.001593	-.000396	.0011433	.000779	.000724	.000339	-.000619
#2	-.001413	-.001303	-.000187	.000167	-.000794	-.002697	-.000763
#3	-.000258	-.001473	-.000672	-.001731	-.000120	-.000076	-.001063
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000009	.0000549	-.016955	.0003238	-.000267	.0001831	-.004068
Stddev	.000023	.0000288	.008983	.0002250	.000061	.0001499	.002029
%RSD	258.3706	52.50934	52.97872	69.48058	22.81569	81.84113	49.87029
#1	.000018	.0000216	-.006589	.0003227	-.000283	.0002625	-.004127
#2	-.000021	.0000715	-.022434	.0005494	-.000200	.0002766	-.002011
#3	-.000023	.0000716	-.021844	.0000994	-.000318	.0000103	-.006067
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000021	-.001794	-.000010	-.000147	-.049402	-.000972	-.000992
Stddev	.000076	.002371	.000110	.000153	.005162	.001323	.000385
%RSD	364.6197	132.1471	1155.638	103.6786	10.44928	136.1537	38.85005
#1	.000052	-.000669	-.000074	-.000135	-.052967	-.001302	-.001197
#2	-.000014	-.004518	.000117	-.000305	-.051757	-.002098	-.001231
#3	-.000100	-.000196	-.000072	-.000001	-.043483	.000485	-.000547
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.033312	-.001713	-.000184	.0098859	-.000133	.0021860	-.000600
Stddev	.026696	.000438	.000102	.0003696	.000543	.0011679	.001262
%RSD	80.13994	25.58340	55.63321	3.739050	406.7626	53.42827	210.2990
#1	-.061273	-.001909	-.000085	.0100987	.000054	.0034317	.000803
#2	-.030572	-.001211	-.000177	.0100999	.000291	.0020105	-.000960
#3	-.008092	-.002020	-.000289	.0094590	-.000745	.0011157	-.001644

Sample Name: PB164645BL Acquired: 11/19/2024 13:09:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002912	-.000243	-.000080
Stddev	.002872	.001414	.000005
%RSD	98.60376	581.1162	5.757505
#1	-.001524	-.000403	-.000081
#2	-.000999	.001244	-.000084
#3	-.006215	-.001571	-.000075

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2735.335	63824.99	14282.82	1931.691	4816.349
Stddev	6.764	89.26	40.84	6.199	6.343
%RSD	.2472790	.1398458	.2859660	.3209177	.1316985
#1	2727.664	63841.29	14266.51	1937.248	4809.088
#2	2740.440	63728.70	14252.64	1925.005	4820.815
#3	2737.901	63904.97	14329.29	1932.820	4819.142

Sample Name: PB164645BS Acquired: 11/19/2024 13:13:31 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7894929	2.039584	.9836746	1.983563	.7940409	2.017874
Stddev	.0031202	.020194	.0003843	.010738	.0008807	.004351
%RSD	.3952159	.9901103	.0390678	.5413695	.1109092	.2156033
#1	.7877895	2.035218	.9839877	1.971504	.7935859	2.012910
#2	.7930941	2.061605	.9837904	1.992093	.7934808	2.021023
#3	.7875952	2.021931	.9832457	1.987091	.7950559	2.019690
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2023914	.2041029	.1969258	1.029326	.4098460	.1996755
Stddev	.0002108	.0002039	.0002270	.004700	.0009952	.0001340
%RSD	.1041396	.0999152	.1152541	.4566063	.2428248	.0671207
#1	.2026345	.2040021	.1970428	1.027636	.4102708	.1998211
#2	.2022591	.2043376	.1970703	1.025704	.4087088	.1996479
#3	.2022807	.2039689	.1966642	1.034637	.4105582	.1995574
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3137423	2.936200	.2063307	2.009071	.5000071	.0738829
Stddev	.0005706	.011060	.0002057	.023814	.0003657	.0000713
%RSD	.1818551	.3766638	.0996925	1.185312	.0731346	.0965064
#1	.3130913	2.928822	.2064358	1.992693	.5004237	.0739267
#2	.3139801	2.930862	.2060937	2.036389	.4997390	.0738006
#3	.3141555	2.948916	.2064626	1.998131	.4998588	.0739213
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.716900	.3069843	.2055785	9.476136	.2990457	.4227749
Stddev	.009093	.0017400	.0013139	.007024	.0012011	.0008750
%RSD	.3346980	.5667938	.6391199	.0741250	.4016340	.2069723
#1	2.722709	.3049996	.2060430	9.474046	.2997545	.4218355
#2	2.706421	.3077065	.2065971	9.483967	.2997237	.4229222
#3	2.721571	.3082469	.2040955	9.470393	.2976589	.4235669

Sample Name: PB164645BS Acquired: 11/19/2024 13:13:31 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7023783	.2030111	F .7088268	5.687483	F -.016615	.1882013
Stddev	.0028683	.0010018	.0081586	.017686	.002786	.0009682
%RSD	.4083753	.4934540	1.150994	.3109642	16.76744	.5144671
#1	.7006329	.2018544	.7003198	5.674096	-.019482	.1892734
#2	.7056887	.2035944	.7165854	5.707533	-.013918	.1873905
#3	.7008133	.2035845	.7095751	5.680821	-.016444	.1879399

Elem	Sr4077
Units	ppm
Avg	.2089998
Stddev	.0000974
%RSD	.0466113
#1	.2090847
#2	.2090213
#3	.2088934

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2648.174	62481.01	13994.24	1873.923	4535.824
Stddev	9.265	29.80	18.21	4.540	8.619
%RSD	.3498522	.0476910	.1301517	.2422776	.1900139
#1	2657.610	62503.79	14002.07	1871.253	4544.437
#2	2647.821	62491.96	13973.42	1871.351	4535.836
#3	2639.090	62447.29	14007.23	1879.165	4527.200

Sample Name: PB164944TB Acquired: 11/19/2024 13:17:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007303	-.008163	.0004690	.0060808	.0001069	.0164430
Stddev	.001125	.000623	.0001978	.0026713	.0017172	.0019530
%RSD	15.40779	7.637358	42.17530	43.92986	1606.904	11.87770
#1	-.006530	-.007904	.0005240	.0052645	-.001619	.0170191
#2	-.008594	-.008875	.0002495	.0090650	.000124	.0142666
#3	-.006785	-.007711	.0006334	.0039130	.001815	.0180431
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001711	-.000155	-.000160	-.008347	.0033281	-.000368
Stddev	.000562	.000044	.000048	.008251	.0003024	.000102
%RSD	32.85804	28.57725	30.21279	98.84408	9.085945	27.84670
#1	-.001062	-.000163	-.000141	-.012102	.0031535	-.000251
#2	-.002037	-.000107	-.000125	-.014053	.0031535	-.000409
#3	-.002034	-.000195	-.000215	.001113	.0036773	-.000444
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010986	.0282348	.0081163	.0000620	.0017971	-.000187
Stddev	.0003272	.0027233	.0000794	.0082210	.0003689	.000104
%RSD	29.78008	9.645240	.9783222	13250.85	20.52794	55.75442
#1	.0011468	.0261072	.0081586	.0095548	.0019300	-.000081
#2	.0007501	.0272932	.0080246	-.004686	.0020811	-.000190
#3	.0013991	.0313039	.0081655	-.004683	.0013801	-.000290
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 316.1480	-.000571	.0045127	-.010499	-.002759	.0002794
Stddev	1.2219	.000284	.0003845	.021187	.000095	.0002411
%RSD	.3864962	49.64242	8.520968	201.8045	3.432517	86.29295
#1	314.8376	-.000832	.0040744	.001748	-.002816	.0001638
#2	317.2561	-.000612	.0047934	.001719	-.002812	.0001178
#3	316.3504	-.000270	.0046702	-.034963	-.002650	.0005565

Sample Name: PB164944TB Acquired: 11/19/2024 13:17:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002459	.0002426	.0249584	.0032836	F .0235901	.0005814
Stddev	.001067	.0001120	.0038149	.0016756	.0012781	.0006070
%RSD	43.40684	46.15906	15.28518	51.02869	5.418049	104.4029
#1	-.003439	.0002977	.0234764	.0049741	.0222357	.0008497
#2	-.002615	.0001138	.0292920	.0016233	.0237596	-.000114
#3	-.001322	.0003164	.0221069	.0032535	.0247751	.001008

Elem	Sr4077
Units	ppm
Avg	-.000067
Stddev	.000014
%RSD	21.45465
#1	-.000068
#2	-.000052
#3	-.000080

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2407.648	56508.95	14039.95	1674.558	3969.110
Stddev	6.461	53.83	7.10	8.603	6.917
%RSD	.2683628	.0952514	.0505931	.5137550	.1742633
#1	2406.930	56461.10	14036.47	1672.442	3962.883
#2	2401.575	56498.53	14035.27	1667.210	3967.893
#3	2414.438	56567.22	14048.13	1684.022	3976.555

Sample Name: P4892-01 Acquired: 11/19/2024 13:22:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4203700	-.002441	4.424053	-.034526	-.028396	119.3019
Stddev	.0192000	.003980	.202144	.005465	.002325	.4596
%RSD	4.567398	163.0632	4.569195	15.82748	8.188129	.3852348
#1	.4346625	-.005948	4.582193	-.038326	-.028043	119.1408
#2	.4279013	-.003258	4.493663	-.036989	-.026267	118.9446
#3	.3985461	.001884	4.196302	-.028264	-.030877	119.8204
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.684135	.0110510	.0920852	37.52487	F 3.170199	.1084368
Stddev	.006240	.0001558	.0064065	.13403	.035008	.0054208
%RSD	.2324614	1.409564	6.957123	.3571763	1.104299	4.999035
#1	2.680116	.0110881	.0973040	37.41598	3.198004	.1127090
#2	2.680966	.0108801	.0940164	37.48407	3.130885	.1102626
#3	2.691323	.0111849	.0849353	37.67456	3.181709	.1023389
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.323162	267.0839	2.775960	53.62929	.5383815	.0425452
Stddev	.162676	1.5795	.011882	.28269	.0247242	.0002170
%RSD	4.895206	.5914020	.4280270	.5271143	4.592322	.5100597
#1	3.450849	266.8556	2.765472	53.53298	.5583386	.0423757
#2	3.378630	265.6309	2.773544	53.40734	.5460828	.0427898
#3	3.140006	268.7652	2.788864	53.94754	.5107232	.0424701
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.72421	.4296791	7.438269	17.79155	.2205266	.0136660
Stddev	.20955	.0020116	.089277	.07369	.0024348	.0005181
%RSD	.3694120	.4681727	1.200245	.4141654	1.104067	3.791523
#1	56.85200	.4293137	7.528883	17.78817	.2199878	.0141628
#2	56.48238	.4278751	7.350391	17.71962	.2184065	.0137064
#3	56.83826	.4318483	7.435534	17.86687	.2231857	.0131288

Sample Name: P4892-01 Acquired: 11/19/2024 13:22:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.322353	3.291274	F 22.69349	F 15.72595	F 158.8866	.1998660
Stddev	.200682	.010336	.12992	.76942	8.1040	.0007954
%RSD	4.642886	.3140549	.5725201	4.892651	5.100473	.3979477
#1	4.487762	3.283653	22.70756	16.34850	165.7512	.1991279
#2	4.380194	3.287130	22.55710	15.96360	160.9617	.1997617
#3	4.099102	3.303039	22.81581	14.86574	149.9468	.2007083

Elem	Sr4077
Units	ppm
Avg	.3219600
Stddev	.0007328
%RSD	.2276056
#1	.3214149
#2	.3227930
#3	.3216720

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3020.423	66049.34	15785.87	1978.208	4243.763
Stddev	142.793	541.43	80.14	18.388	210.504
%RSD	4.727586	.8197329	.5076614	.9295135	4.960325
#1	2909.137	65554.93	15706.82	1958.757	4079.322
#2	2970.702	66627.93	15867.06	1995.305	4170.962
#3	3181.429	65965.17	15783.73	1980.563	4481.005

Sample Name: P4892-02 Acquired: 11/19/2024 13:26:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0290287	-.001742	.1112111	-.059913	.0000067	74.52727
Stddev	.0014705	.002105	.0024696	.003032	.0007943	1.23903
%RSD	5.065834	120.8661	2.220682	5.061090	11833.31	1.662517
#1	.0273872	.000688	.1085297	-.059323	-.000775	75.54051
#2	.0302259	-.003008	.1133926	-.057219	-.000017	73.14589
#3	.0294728	-.002905	.1117110	-.063197	.000813	74.89540
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2765170	.0077764	.0233233	111.3220	.1685205	.1117285
Stddev	.0042438	.0001395	.0001512	1.5761	.0028936	.0012920
%RSD	1.534744	1.793700	.6481887	1.415784	1.717049	1.156384
#1	.2802612	.0079065	.0232952	112.5008	.1659451	.1108941
#2	.2719071	.0076291	.0231882	109.5318	.1679647	.1110747
#3	.2773826	.0077937	.0234866	111.9333	.1716516	.1132168
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1784994	248.2950	5.670787	66.73815	.2004916	.0000277
Stddev	.0012827	4.8812	.085410	.89579	.0021253	.0002088
%RSD	.7186253	1.965902	1.506141	1.342247	1.060030	753.6823
#1	.1799200	244.3224	5.738068	67.42709	.1992033	-.000135
#2	.1781525	246.8186	5.574698	65.72550	.1993270	-.000045
#3	.1774258	253.7440	5.699596	67.06185	.2029447	.000263
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.19303	.2301971	.4244102	13.65943	.1449257	.0000702
Stddev	.29992	.0040929	.0098849	.25530	.0061886	.0003317
%RSD	1.852151	1.778019	2.329088	1.869048	4.270217	472.2386
#1	16.00057	.2323548	.4181867	13.45661	.1388220	.0001736
#2	16.03991	.2254768	.4192358	13.57555	.1447594	-.000301
#3	16.53860	.2327598	.4358083	13.94611	.1511959	.000338

Sample Name: P4892-02 Acquired: 11/19/2024 13:26:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017002	2.407378	F 15.82176	8.125296	5.603202	.1473332
Stddev	.0017527	.040980	.33946	.110715	.085560	.0030509
%RSD	103.0909	1.702250	2.145514	1.362601	1.526985	2.070725
#1	.0036976	2.442618	15.54021	8.052927	5.536954	.1498297
#2	.0009837	2.362410	15.72635	8.070212	5.572851	.1439324
#3	.0004192	2.417107	16.19871	8.252749	5.699800	.1482374

Elem	Sr4077
Units	ppm
Avg	-.059014
Stddev	.006031
%RSD	10.21952
#1	-.052224
#2	-.061068
#3	-.063749

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2948.391	70401.22	16935.92	2115.860	4074.752
Stddev	15.197	1181.02	251.10	43.462	35.720
%RSD	.5154175	1.677562	1.482657	2.054083	.8766152
#1	2957.956	71394.71	16695.03	2146.342	4098.410
#2	2956.348	70713.52	17196.12	2135.145	4092.184
#3	2930.868	69095.43	16916.62	2066.093	4033.664

Sample Name: P4893-01 Acquired: 11/19/2024 13:30:08 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0717343	-.026984	.1928873	-.065416	-.001112	120.8883
Stddev	.0011519	.005715	.0010328	.002555	.001105	.6213
%RSD	1.605751	21.18038	.5354446	3.906323	99.37381	.5139797
#1	.0730159	-.032712	.1921963	-.068345	-.001242	121.1031
#2	.0707854	-.026959	.1940746	-.063643	.000052	120.1881
#3	.0714016	-.021282	.1923910	-.064259	-.002147	121.3738
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.686916	.0153049	.0305993	197.1953	.2774983	.1831383
Stddev	.009456	.0001719	.0004303	1.3746	.0015789	.0006323
%RSD	.5605213	1.123283	1.406224	.6970627	.5689754	.3452413
#1	1.687299	.0154451	.0309156	196.6992	.2787797	.1829508
#2	1.677274	.0151131	.0307729	196.1377	.2757345	.1838431
#3	1.696174	.0153566	.0301093	198.7491	.2779807	.1826210
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2254046	255.7197	8.674406	82.49489	.3695421	-.000097
Stddev	.0031317	2.2861	.064048	.61341	.0010121	.000375
%RSD	1.389364	.8939964	.7383568	.7435711	.2738884	384.9020
#1	.2254271	255.4918	8.648488	82.25189	.3684742	-.000501
#2	.2285251	253.5561	8.627379	82.04021	.3704872	-.000031
#3	.2222618	258.1113	8.747351	83.19257	.3696649	.000240
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.664942	.3638862	.7184531	29.12041	.1739195	-.000200
Stddev	.034444	.0022251	.0063457	.23547	.0028892	.000188
%RSD	.9398353	.6114688	.8832434	.8086080	1.661210	93.58473
#1	3.667066	.3650180	.7255297	29.13413	.1739398	-.000235
#2	3.629485	.3613228	.7132688	28.87838	.1710202	.000002
#3	3.698275	.3653178	.7165607	29.34872	.1767984	-.000368

Sample Name: P4893-01 Acquired: 11/19/2024 13:30:08 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002459	5.550964	F 21.22768	F 12.44574	1.342437	.3008337
Stddev	.000505	.033481	.18321	.09151	.007693	.0022246
%RSD	20.54723	.6031600	.8630631	.7352387	.5730590	.7394781
#1	-.002694	5.546406	21.24469	12.54970	1.341709	.3018858
#2	-.001879	5.519996	21.03656	12.41012	1.350468	.2982782
#3	-.002804	5.586491	21.40179	12.37741	1.335134	.3023370
Elem	Sr4077					
Units	ppm					
Avg	.1455901					
Stddev	.0002097					
%RSD	.1440621					
#1	.1458323					
#2	.1454663					
#3	.1454717					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2961.339	70256.62	16935.20	2074.676	3662.578	
Stddev	8.113	458.30	59.18	20.287	11.418	
%RSD	.2739603	.6523243	.3494606	.9778441	.3117605	
#1	2959.008	69829.41	16874.30	2055.912	3656.354	
#2	2954.646	70740.71	16992.50	2096.203	3655.625	
#3	2970.362	70199.74	16938.81	2071.914	3675.756	

Sample Name: CCV02 Acquired: 11/19/2024 13:34:13 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	5.319998	5.225436	5.243816	5.340381	5.358211	10.58663	10.32813
Stddev	.024282	.062370	.002536	.017758	.025023	.00330	.11564
%RSD	.4564382	1.193577	.0483592	.3325233	.4670050	.0311674	1.119663

#1	5.314770	5.277760	5.242482	5.333286	5.339071	10.58376	10.32555
#2	5.298755	5.156418	5.242225	5.327268	5.349036	10.58591	10.21381
#3	5.346469	5.242130	5.246740	5.360590	5.386526	10.59023	10.44504

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2619479	2.610368	26.10526	1.073120	2.621998	1.345665	5.265354
Stddev	.0016753	.003425	.08742	.004656	.002938	.005141	.021009
%RSD	.6395602	.1311906	.3348856	.4339095	.1120704	.3820624	.3989972

#1	.2638820	2.613005	26.09722	1.078339	2.623450	1.341751	5.251604
#2	.2610140	2.606498	26.02213	1.071630	2.618616	1.343758	5.254921
#3	.2609476	2.611602	26.19642	1.069391	2.623927	1.351488	5.289537

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.580073	26.20707	2.624626	1.321262	25.86215	2.635225	2.679411
Stddev	.011394	.10005	.001083	.001902	.02875	.011384	.007400
%RSD	.4416295	.3817532	.0412544	.1439531	.1111697	.4320067	.2761657

#1	2.583410	26.16921	2.623835	1.323369	25.83627	2.633940	2.676863
#2	2.567382	26.13149	2.624185	1.319672	25.85709	2.624538	2.673621
#3	2.589426	26.32052	2.625860	1.320745	25.89310	2.647198	2.687747

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.26057	5.213657	5.407313	5.233811	5.174166	5.276169	5.251545
Stddev	.06494	.022133	.017388	.011225	.007007	.038352	.018568
%RSD	.2472819	.4245272	.3215623	.2144726	.1354243	.7268985	.3535739

#1	26.18559	5.239211	5.400258	5.240179	5.176038	5.248970	5.247286
#2	26.29867	5.201244	5.394561	5.220850	5.166413	5.259500	5.235475
#3	26.29746	5.200517	5.427119	5.240405	5.180046	5.320035	5.271872

Sample Name: CCV02 Acquired: 11/19/2024 13:34:13 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.056185	5.091466	5.304638
Stddev	.023524	.018553	.018735
%RSD	.4652521	.3643858	.3531909

#1	5.061265	5.112744	5.300244
#2	5.030536	5.078675	5.325181
#3	5.076754	5.082980	5.288491

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2443.040	56815.81	13580.28	1704.853	4013.751
Stddev	10.220	152.14	47.87	15.767	9.164
%RSD	.4183330	.2677856	.3524977	.9248397	.2283155

#1	2453.603	56865.19	13535.52	1716.960	4023.740
#2	2442.317	56937.14	13630.75	1710.575	4011.779
#3	2433.201	56645.11	13574.56	1687.023	4005.733

Sample Name: CCB02 Acquired: 11/19/2024 13:38:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.001478	-.002217	-.000413	.0001802	.0005730	.0035974	-.001448
Stddev	.002021	.001494	.000476	.0015757	.0004203	.0061355	.000194
%RSD	136.7767	67.39749	115.2669	874.2857	73.34959	170.5511	13.37573
#1	-.003770	-.003910	.000114	.0008763	.0001053	-.003424	-.001671
#2	.000047	-.001086	-.000813	.0012880	.0006946	.007927	-.001354
#3	-.000710	-.001654	-.000540	-.001624	.0009191	.006289	-.001320
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000042	-.000010	-.016401	.0001429	-.000098	.0000465	-.003471
Stddev	.000080	.000124	.001244	.0004962	.000260	.0004388	.001902
%RSD	188.7536	1205.088	7.582118	347.1745	264.0357	943.3992	54.79643
#1	-.000103	-.000154	-.015025	-.000419	-.000308	-.000160	-.003396
#2	.000048	.000063	-.017445	.000519	-.000180	.000550	-.005410
#3	-.000072	.000060	-.016733	.000329	.000193	-.000251	-.001608
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000933	-.005829	.0000047	-.000017	-.016541	-.000651	-.001128
Stddev	.0000522	.007962	.0002414	.000174	.013359	.001438	.000288
%RSD	55.94891	136.6036	5162.853	1009.871	80.76537	220.7037	25.49138
#1	.0000642	.000372	.0002594	.000179	-.026754	-.002258	-.001460
#2	.0000621	-.003050	-.000025	-.000151	-.021447	-.000210	-.000968
#3	.0001535	-.014808	-.000221	-.000079	-.001422	.000514	-.000956
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0234275	.0048220	.0002058	.0103349	.0004763	.0103438	.0005875
Stddev	.0061001	.0008527	.0002574	.0007222	.0002821	.0052984	.0000697
%RSD	26.03826	17.68415	125.0900	6.988234	59.21843	51.22226	11.86166
#1	.0187911	.0057802	.0004410	.0109342	.0003069	.0042311	.0006510
#2	.0303380	.0041465	-.000069	.0095330	.0008019	.0131804	.0005130
#3	.0211533	.0045394	.000246	.0105375	.0003201	.0136201	.0005986

Sample Name: CCB02 Acquired: 11/19/2024 13:38:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	-.003459	-.002002	.0000115		
Stddev	.001890	.000099	.0000388		
%RSD	54.63146	4.941265	336.6283		
#1	-.001519	-.001943	.0000105		
#2	-.003564	-.002116	.0000508		
#3	-.005294	-.001946	-.000027		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2607.987	61566.73	13812.97	1838.278	4553.753
Stddev	7.365	185.55	212.96	12.511	7.870
%RSD	.2824111	.3013795	1.541735	.6805582	.1728187
#1	2599.657	61380.26	13675.65	1833.119	4545.105
#2	2613.638	61568.58	14058.29	1829.173	4560.493
#3	2610.665	61751.35	13704.97	1852.543	4555.661

Sample Name: P4893-05 Acquired: 11/19/2024 13:42:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0715970	-.004241	.0993799	-.044786	-.000450	71.47654
Stddev	.0013478	.001067	.0017271	.001799	.001864	.31744
%RSD	1.882419	25.17190	1.737859	4.017248	414.0149	.4441117
#1	.0722997	-.003320	.1000287	-.042785	-.002469	71.59537
#2	.0724481	-.003991	.1006886	-.046270	-.000089	71.71742
#3	.0700431	-.005411	.0974223	-.045304	.001207	71.11684
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.261072	.0069533	.0136374	22.95251	.1627586	.0958256
Stddev	.011602	.0000881	.0003133	.04066	.0005229	.0006972
%RSD	.9200125	1.266690	2.297600	.1771501	.3212752	.7276000
#1	1.265549	.0070542	.0133820	22.95093	.1633598	.0960137
#2	1.269769	.0068920	.0139870	22.91267	.1624096	.0964094
#3	1.247899	.0069137	.0135431	22.99394	.1625065	.0950536
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1789909	202.9300	10.39387	26.03518	.1703019	.0007476
Stddev	.0021665	.6831	.01914	.05100	.0006151	.0002474
%RSD	1.210395	.3366120	.1841353	.1958992	.3612140	33.08905
#1	.1778973	203.0743	10.40127	25.99555	.1709625	.0005812
#2	.1814862	202.1863	10.40821	26.01727	.1697455	.0006298
#3	.1775892	203.5294	10.37214	26.09272	.1701976	.0010319
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.222587	.3008697	.5020685	9.180150	.1118877	.0032435
Stddev	.032080	.0013226	.0012976	.069046	.0016244	.0000220
%RSD	.9954621	.4396007	.2584589	.7521206	1.451776	.6774606
#1	3.249642	.2993691	.5023524	9.218313	.1128846	.0032646
#2	3.230970	.3018658	.5006524	9.221690	.1100133	.0032208
#3	3.187148	.3013742	.5032007	9.100446	.1127652	.0032452

Sample Name: P4893-05 Acquired: 11/19/2024 13:42:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015855	1.509192	F 22.49875	6.107440	1.338698	.1353633
Stddev	.0002767	.004791	.09213	.020651	.008247	.0014464
%RSD	17.45186	.3174492	.4095086	.3381225	.6160317	1.068541
#1	.0017705	1.510118	22.50663	6.087031	1.342312	.1354150
#2	.0017185	1.513452	22.40292	6.128324	1.344521	.1367832
#3	.0012674	1.504006	22.58668	6.106966	1.329261	.1338918

Elem	Sr4077
Units	ppm
Avg	-.105494
Stddev	.001438
%RSD	1.363417
#1	-.105430
#2	-.104089
#3	-.106964

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2820.014	65634.58	15638.24	1989.725	4074.307
Stddev	11.416	237.72	72.26	2.790	14.525
%RSD	.4048129	.3621843	.4620785	.1402125	.3564985
#1	2827.074	65363.44	15584.85	1986.746	4078.315
#2	2806.843	65733.14	15609.41	1990.154	4058.200
#3	2826.124	65807.17	15720.47	1992.276	4086.408

Sample Name: P4908-01 Acquired: 11/19/2024 13:46:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0930796	-.037957	.4177236	-.072392	.0010080	190.5701
Stddev	.0030918	.004371	.0015531	.002495	.0012752	1.1194
%RSD	3.321711	11.51687	.3718033	3.446987	126.5048	.5874163
#1	.0938096	-.040746	.4195140	-.074622	.0016300	189.9029
#2	.0957411	-.040207	.4167387	-.069697	.0018529	189.9449
#3	.0896881	-.032919	.4169182	-.072856	-.000459	191.8625
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8876659	.0101812	.0397207	145.1886	.2479901	.2353601
Stddev	.0052891	.0000931	.0004159	1.1588	.0011347	.0009440
%RSD	.5958462	.9143391	1.047151	.7981308	.4575425	.4010768
#1	.8842977	.0100980	.0397033	144.0349	.2486907	.2361301
#2	.8849379	.0101638	.0393138	145.1785	.2466810	.2356433
#3	.8937620	.0102818	.0401451	146.3524	.2485987	.2343070
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9358938	296.3149	6.209156	121.8649	.4307192	.0011821
Stddev	.0020576	1.4465	.051023	1.0408	.0010060	.0004158
%RSD	.2198515	.4881606	.8217317	.8540869	.2335584	35.17400
#1	.9377185	296.3201	6.159856	120.7935	.4313177	.0010361
#2	.9336637	297.7588	6.205868	121.9290	.4312820	.0016511
#3	.9362992	294.8659	6.261743	122.8722	.4295577	.0008590
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.895983	.4648814	.8020774	12.76572	3.241410	.0014227
Stddev	.013032	.0053280	.0025975	.03187	.017794	.0000287
%RSD	.1316855	1.146101	.3238422	.2496787	.5489652	2.019316
#1	9.902857	.4609189	.8031412	12.79522	3.232754	.0014439
#2	9.880954	.4627869	.7991169	12.73191	3.229601	.0013900
#3	9.904139	.4709384	.8039741	12.77002	3.261877	.0014343

Sample Name: P4908-01 Acquired: 11/19/2024 13:46:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035173	7.579045	F 20.87600	F 12.35651	1.240401	.2640487
Stddev	.0013259	.050767	.04813	.09281	.007769	.0029221
%RSD	37.69664	.6698379	.2305714	.7511041	.6262938	1.106667
#1	.0020040	7.536448	20.84491	12.44958	1.247265	.2657111
#2	.0044752	7.565466	20.85165	12.35597	1.241971	.2606746
#3	.0040728	7.635221	20.93145	12.26396	1.231967	.2657603

Elem	Sr4077
Units	ppm
Avg	.0951361
Stddev	.0037039
%RSD	3.893290
#1	.0935859
#2	.0924592
#3	.0993633

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2984.945	71865.92	17532.55	2136.485	3605.323
Stddev	2.928	85.76	89.52	13.512	2.909
%RSD	.0981025	.1193391	.5105830	.6324561	.0806815
#1	2983.609	71792.58	17614.29	2146.176	3602.560
#2	2988.303	71844.96	17546.46	2121.050	3605.050
#3	2982.923	71960.22	17436.89	2142.230	3608.358

Sample Name: P4908-03 Acquired: 11/19/2024 13:51:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0813384	-.051716	.4876650	-.092007	-.001986	220.1377
Stddev	.0070396	.001614	.0035625	.002300	.002404	1.5814
%RSD	8.654668	3.121760	.7305293	2.500044	121.0320	.7183586
#1	.0761646	-.053515	.4860973	-.089396	-.003649	220.3695
#2	.0893547	-.051239	.4917426	-.093734	.000770	218.4533
#3	.0784957	-.050394	.4851552	-.092892	-.003079	221.5904
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7855215	.0111105	.0496124	159.8580	.3528490	.2893023
Stddev	.0020369	.0000575	.0004987	.4291	.0022869	.0015289
%RSD	.2592999	.5174977	1.005160	.2684377	.6481227	.5284755
#1	.7877955	.0111577	.0499479	159.3652	.3502825	.2877626
#2	.7849046	.0111274	.0490394	160.0600	.3546704	.2893241
#3	.7838645	.0110465	.0498500	160.1489	.3535941	.2908201
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.179965	363.8443	5.926235	168.7711	.5368331	.0015276
Stddev	.004123	5.0251	.005185	.4131	.0024404	.0006244
%RSD	.3494438	1.381114	.0874900	.2447972	.4545962	40.87693
#1	1.179826	358.0993	5.920455	168.3466	.5341467	.0010716
#2	1.175912	366.0111	5.930477	168.7950	.5374391	.0012718
#3	1.184155	367.4225	5.927773	169.1718	.5389134	.0022393
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.49838	.5991534	.8806999	11.20202	5.757011	.0017648
Stddev	.08954	.0007941	.0063743	.05667	.014828	.0002370
%RSD	.5777400	.1325427	.7237786	.5058779	.2575677	13.42627
#1	15.41427	.5985198	.8733421	11.13679	5.770499	.0019498
#2	15.59251	.6000443	.8842088	11.23019	5.759400	.0014977
#3	15.48836	.5988962	.8845487	11.23909	5.741133	.0018468

Sample Name: P4908-03 Acquired: 11/19/2024 13:51:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026154	F 11.70526	F 20.21170	8.998828	2.164566	.2906574
Stddev	.0016414	.01484	.18571	.052770	.010630	.0015149
%RSD	62.75945	.1267786	.9188108	.5864105	.4910727	.5211792
#1	.0043967	11.72212	20.00095	8.947719	2.152399	.2919156
#2	.0011639	11.69947	20.28282	8.995649	2.172049	.2910808
#3	.0022856	11.69419	20.35134	9.053115	2.169251	.2889759

Elem	Sr4077
Units	ppm
Avg	.0255796
Stddev	.0056496
%RSD	22.08624
#1	.0320747
#2	.0228580
#3	.0218059

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2837.397	68476.12	16846.78	1991.697	3549.261
Stddev	12.221	326.76	62.16	9.621	12.299
%RSD	.4307048	.4771933	.3689955	.4830313	.3465154
#1	2836.702	68850.69	16779.46	1998.117	3553.395
#2	2849.950	68328.16	16902.02	1996.338	3558.960
#3	2825.538	68249.50	16858.85	1980.636	3535.428

Sample Name: P4909-01 Acquired: 11/19/2024 13:55:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1146349	-.006573	.2452211	-.017147	.0026962	35.90399
Stddev	.0023421	.001969	.0038643	.000892	.0011790	.20731
%RSD	2.043137	29.95549	1.575829	5.199155	43.72950	.5773881
#1	.1165039	-.008804	.2496545	-.018110	.0025267	36.10442
#2	.1120075	-.005841	.2434416	-.016982	.0016110	35.69044
#3	.1153933	-.005076	.2425671	-.016350	.0039508	35.91711
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2502177	.0032501	.0054430	39.09091	.1897481	.0183563
Stddev	.0019048	.0000472	.0000762	.15861	.0009446	.0002820
%RSD	.7612472	1.451994	1.400123	.4057353	.4978210	1.536457
#1	.2522605	.0033033	.0055173	39.21323	.1888470	.0186700
#2	.2484904	.0032336	.0054468	38.91171	.1896663	.0181237
#3	.2499023	.0032134	.0053650	39.14781	.1907309	.0182752
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2024164	100.7051	.6826926	10.11062	.0402390	.0010041
Stddev	.0012282	.4301	.0040755	.04525	.0001538	.0003337
%RSD	.6067513	.4271273	.5969782	.4475651	.3822575	33.23747
#1	.2037229	100.7426	.6857633	10.14941	.0403886	.0013245
#2	.2012855	100.2574	.6780689	10.06090	.0402471	.0010292
#3	.2022408	101.1152	.6842457	10.12154	.0400813	.0006585
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8451069	.1631063	.5753885	6.809613	.1022183	.0066961
Stddev	.0075459	.0008034	.0022708	.026835	.0008396	.0001734
%RSD	.8928936	.4925610	.3946545	.3940777	.8213934	2.588799
#1	.8436078	.1638856	.5757663	6.831440	.1031863	.0065180
#2	.8384231	.1631526	.5774467	6.779652	.1017814	.0067061
#3	.8532899	.1622808	.5729525	6.817747	.1016873	.0068643

Sample Name: P4909-01 Acquired: 11/19/2024 13:55:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050253	1.289517	F 15.82692	3.068809	2.472215	.0314655
Stddev	.0009023	.007108	.05291	.008878	.018261	.0014853
%RSD	17.95464	.5512411	.3342871	.2893111	.7386511	4.720524
#1	.0052919	1.295390	15.79868	3.078318	2.489175	.0323380
#2	.0057642	1.281615	15.79412	3.060736	2.452885	.0323080
#3	.0040197	1.291546	15.88795	3.067373	2.474584	.0297504

Elem	Sr4077
Units	ppm
Avg	.0875158
Stddev	.0010911
%RSD	1.246697
#1	.0887699
#2	.0867848
#3	.0869926

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2572.097	59585.88	14393.64	1757.128	4207.103
Stddev	19.781	158.55	72.75	7.539	35.796
%RSD	.7690733	.2660897	.5054654	.4290614	.8508570
#1	2549.294	59519.61	14328.15	1752.422	4165.794
#2	2582.350	59766.82	14471.96	1765.823	4226.495
#3	2584.646	59471.21	14380.81	1753.137	4229.019

Sample Name: P4909-01DUP Acquired: 11/19/2024 13:59:40 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1163819	-.005531	.2500538	-.016627	.0036294	35.79646
Stddev	.0026775	.002293	.0021446	.002751	.0004121	.35264
%RSD	2.300636	41.45761	.8576702	16.54722	11.35328	.9851334
#1	.1143319	-.005143	.2480101	-.017401	.0031557	35.58316
#2	.1194112	-.007993	.2522868	-.018908	.0039049	36.20350
#3	.1154025	-.003456	.2498646	-.013571	.0038276	35.60273
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2537241	.0033945	.0058418	38.53665	.1861800	.0184640
Stddev	.0025920	.0000220	.0001031	.39590	.0011689	.0003885
%RSD	1.021568	.6466122	1.765169	1.027346	.6278530	2.103953
#1	.2518488	.0034050	.0059558	38.12335	.1849100	.0180958
#2	.2566818	.0034093	.0057549	38.91249	.1872108	.0188700
#3	.2526418	.0033693	.0058149	38.57412	.1864193	.0184260
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2041169	98.36413	.6833531	10.14980	.0389689	.0009176
Stddev	.0005625	1.07678	.0068801	.14181	.0002922	.0002522
%RSD	.2755867	1.094689	1.006817	1.397195	.7499307	27.48203
#1	.2039135	97.12140	.6779824	9.99311	.0388243	.0006342
#2	.2047528	98.95104	.6911082	10.26935	.0387771	.0011171
#3	.2036843	99.01993	.6809685	10.18695	.0393052	.0010015
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7016712	.1629988	.4777658	6.573825	.0946382	.0064843
Stddev	.0068549	.0026426	.0020159	.032428	.0008908	.0003246
%RSD	.9769369	1.621228	.4219374	.4932867	.9412943	5.005218
#1	.6937839	.1623465	.4754402	6.540944	.0936348	.0068149
#2	.7061912	.1659064	.4790144	6.605780	.0953360	.0064718
#3	.7050385	.1607434	.4788429	6.574751	.0949437	.0061661

Sample Name: P4909-01DUP Acquired: 11/19/2024 13:59:40 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049403	1.305725	F 15.43582	3.127056	2.474043	.0309371
Stddev	.0007537	.016496	.15472	.024872	.012409	.0009319
%RSD	15.25535	1.263397	1.002335	.7953660	.5015795	3.012149
#1	.0041191	1.293544	15.25739	3.099876	2.462229	.0305776
#2	.0056003	1.324499	15.53266	3.132611	2.486972	.0319952
#3	.0051015	1.299133	15.51743	3.148679	2.472928	.0302385

Elem	Sr4077
Units	ppm
Avg	.0903147
Stddev	.0018629
%RSD	2.062657
#1	.0906317
#2	.0919987
#3	.0883136

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2580.701	61510.81	14362.49	1824.222	4195.490
Stddev	14.076	313.51	101.44	11.694	19.125
%RSD	.5454260	.5096865	.7063093	.6410622	.4558582
#1	2583.243	61868.62	14406.96	1836.887	4205.448
#2	2565.527	61284.27	14246.40	1813.833	4173.441
#3	2593.332	61379.54	14434.10	1821.946	4207.583

Sample Name: P4909-01LX5 Acquired: 11/19/2024 14:03:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	.0200835	-.002341	.0539636	-.003060	.0007340	7.494414	.0534546	3
Stddev	.0027444	.000461	.0010937	.000905	.0003966	.019535	.0002037	4
%RSD	13.66496	19.69711	2.026751	29.58497	54.03129	.2606586	.3810456	5
#1	.0204654	-.002306	.0539289	-.003686	.0011637	7.516172	.0534008	6
#2	.0226169	-.002819	.0550743	-.003472	.0006565	7.488688	.0536798	7
#3	.0171681	-.001899	.0528877	-.002022	.0003819	7.478383	.0532832	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0007248	.0008174	8.267059	.0394419	.0036638	.0456057	20.71635	11
Stddev	.0000221	.0000350	.018332	.0001556	.0000962	.0002193	.09926	12
%RSD	3.050922	4.276291	.2217519	.3945469	2.626878	.4808100	.4791394	13
#1	.0007098	.0008017	8.271518	.0392977	.0037101	.0453529	20.61018	14
#2	.0007503	.0007930	8.282751	.0394213	.0037282	.0457207	20.80683	15
#3	.0007145	.0008574	8.246909	.0396068	.0035532	.0457435	20.73204	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.1474898	2.185559	.0082465	-.000081	.1122775	.0334671	.0998919	
Stddev	.0008683	.009853	.0004427	.000151	.0089034	.0006055	.0007112	
%RSD	.5886915	.4508158	5.368574	186.3030	7.929837	1.809148	.7119592	
#1	.1473471	2.178821	.0077352	-.000125	.1034034	.0340550	.1004912	
#2	.1484205	2.196867	.0085007	.000087	.1122191	.0328454	.0991060	
#3	.1467016	2.180988	.0085034	-.000205	.1212100	.0335009	.1000784	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.331520	.0225206	.0012611	.0079376	.2730692	3.136422	.6261600	
Stddev	.026145	.0003316	.0001803	.0005433	.0004650	.008196	.0055803	
%RSD	1.963534	1.472581	14.30138	6.844922	.1702750	.2613084	.8911953	
#1	1.301988	.0227348	.0012307	.0073863	.2734996	3.143406	.6242752	
#2	1.351712	.0221386	.0014547	.0079540	.2731319	3.127399	.6324386	
#3	1.340860	.0226884	.0010979	.0084725	.2725760	3.138460	.6217661	

Sample Name: P4909-01LX5 Acquired: 11/19/2024 14:03:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4904698	.0054043	.0188725
Stddev	.0050692	.0007996	.0002019
%RSD	1.033533	14.79561	1.069829

#1	.4847336	.0050453	.0190383
#2	.4943473	.0063205	.0189314
#3	.4923284	.0048471	.0186477

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2697.455	62391.76	14074.33	1908.003	4564.324
Stddev	12.650	158.18	48.49	9.674	18.420
%RSD	.4689659	.2535325	.3445280	.5070059	.4035614

#1	2711.598	62369.61	14033.24	1901.596	4582.640
#2	2687.220	62245.81	14061.95	1903.282	4545.802
#3	2693.546	62559.84	14127.81	1919.130	4564.531

Sample Name: P4909-01MS Acquired: 11/19/2024 14:08:07 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9322719	1.919297	1.245361	1.989783	.8128472	38.48675
Stddev	.0046618	.018736	.007724	.010294	.0046230	.15355
%RSD	.5000496	.9761901	.6201837	.5173477	.5687367	.3989599
#1	.9322858	1.897855	1.238492	1.979396	.8079915	38.32545
#2	.9276030	1.927517	1.253722	1.999981	.8133544	38.63114
#3	.9369267	1.932517	1.243869	1.989971	.8171956	38.50365
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4674617	.2085106	.2130946	39.99852	.5993059	.2310309
Stddev	.0019557	.0008029	.0013915	.03022	.0021734	.0013747
%RSD	.4183716	.3850593	.6530080	.0755583	.3626460	.5950235
#1	.4652045	.2087680	.2116593	39.96486	.6018096	.2298033
#2	.4686507	.2091533	.2144378	40.00737	.5982016	.2325162
#3	.4685299	.2076106	.2131867	40.02333	.5979064	.2307731
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5132759	99.41322	.8979225	12.32907	.5660657	.0763429
Stddev	.0023062	.46510	.0037467	.02180	.0032592	.0001421
%RSD	.4493154	.4678483	.4172599	.1767798	.5757575	.1861297
#1	.5107848	99.32426	.8948818	12.33153	.5630928	.0761884
#2	.5153366	98.99903	.8967778	12.30615	.5695505	.0763722
#3	.5137063	99.91638	.9021081	12.34953	.5655539	.0764680
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.612528	.4823697	.6754365	16.42846	.3855520	.4443745
Stddev	.014772	.0027715	.0031082	.08522	.0012607	.0016184
%RSD	.4089045	.5745603	.4601784	.5187227	.3269988	.3641883
#1	3.599974	.4791774	.6754666	16.36764	.3866977	.4427806
#2	3.608804	.4837715	.6785295	16.39188	.3857569	.4443266
#3	3.628805	.4841604	.6723133	16.52586	.3842013	.4460163

Sample Name: P4909-01MS Acquired: 11/19/2024 14:08:07 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7184375	1.544843	F 16.17976	9.280003	2.399331	.2311087
Stddev	.0042999	.004606	.04521	.036687	.016841	.0018710
%RSD	.5985092	.2981769	.2794384	.3953390	.7018908	.8095657
#1	.7147412	1.540350	16.14773	9.240184	2.380278	.2295359
#2	.7231566	1.549555	16.16007	9.287389	2.412227	.2306123
#3	.7174149	1.544625	16.23148	9.312435	2.405488	.2331778

Elem	Sr4077
Units	ppm
Avg	.3123372
Stddev	.0016936
%RSD	.5422224
#1	.3104107
#2	.3135914
#3	.3130094

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2544.254	61497.90	13895.73	1812.574	4132.294
Stddev	5.143	52.65	44.41	8.162	7.765
%RSD	.2021318	.0856174	.3195596	.4502760	.1879001
#1	2547.340	61443.47	13897.44	1811.281	4141.135
#2	2547.105	61501.67	13850.49	1805.136	4129.166
#3	2538.317	61548.57	13939.25	1821.305	4126.582

Sample Name: P4909-01MSD Acquired: 11/19/2024 14:12:05 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9404700	1.958522	1.246184	2.012102	.8186759	39.02676
Stddev	.0039185	.006839	.003405	.005565	.0012733	.33691
%RSD	.4166491	.3491752	.2732354	.2765747	.1555361	.8632754
#1	.9435460	1.960178	1.243188	2.008071	.8172069	38.64269
#2	.9418055	1.964381	1.249887	2.018451	.8193560	39.27242
#3	.9360583	1.951007	1.245476	2.009784	.8194648	39.16518
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4668925	.2059519	.2127572	39.81138	.6082724	.2301767
Stddev	.0038125	.0023751	.0003254	.44784	.0026234	.0000873
%RSD	.8165698	1.153254	.1529506	1.124910	.4312838	.0379471
#1	.4625268	.2032140	.2123860	39.29790	.6080442	.2300762
#2	.4685842	.2074592	.2129935	40.01506	.6110025	.2302198
#3	.4695663	.2071826	.2128919	40.12118	.6057706	.2302341
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5137210	102.0310	.8925198	12.29123	.5660121	.0775057
Stddev	.0012051	.5193	.0099503	.13362	.0007813	.0002581
%RSD	.2345754	.5090031	1.114855	1.087112	.1380340	.3329804
#1	.5134117	101.4432	.8814564	12.13750	.5652009	.0772888
#2	.5150506	102.4279	.8953664	12.35664	.5667596	.0777911
#3	.5127008	102.2219	.9007365	12.37954	.5660759	.0774371
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.706574	.4796241	.6848034	17.00070	.3839944	.4455360
Stddev	.016451	.0079113	.0055090	.07615	.0019097	.0012448
%RSD	.4438272	1.649474	.8044615	.4479182	.4973324	.2794036
#1	3.688903	.4705688	.6830596	16.99876	.3821855	.4442919
#2	3.709376	.4831080	.6909732	17.07780	.3838067	.4467816
#3	3.721445	.4851955	.6803773	16.92553	.3859911	.4455343

Sample Name: P4909-01MSD Acquired: 11/19/2024 14:12:05 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7160320	1.575246	F 17.76632	9.320897	2.419853	.2274798
Stddev	.0008156	.010439	.06408	.047359	.011988	.0015532
%RSD	.1139068	.6626597	.3607082	.5080906	.4954061	.6827772
#1	.7151321	1.563206	17.72003	9.266858	2.410772	.2258992
#2	.7167225	1.581746	17.83947	9.355174	2.433441	.2275359
#3	.7162413	1.580787	17.73947	9.340661	2.415345	.2290041
Elem	Sr4077					
Units	ppm					
Avg	.3088021					
Stddev	.0026419					
%RSD	.8555397					
#1	.3058115					
#2	.3097760					
#3	.3108188					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2511.406	59746.81	13947.45	1757.645	4090.018	
Stddev	3.044	342.53	63.82	10.949	7.683	
%RSD	.1211984	.5733024	.4575470	.6229139	.1878381	
#1	2509.783	59572.90	14020.51	1752.279	4085.595	
#2	2509.517	59526.13	13902.63	1750.415	4085.570	
#3	2514.917	60141.41	13919.20	1770.241	4098.889	

Sample Name: P4909-01A Acquired: 11/19/2024 14:16:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9182897	1.969347	1.216541	1.965431	.7984430	40.34166
Stddev	.0038491	.017313	.002138	.005252	.0039232	.56128
%RSD	.4191633	.8791276	.1757746	.2672090	.4913524	1.391321
#1	.9222505	1.986704	1.214075	1.969169	.8015337	40.79014
#2	.9145629	1.952078	1.217673	1.959427	.7997658	39.71222
#3	.9180557	1.969258	1.217877	1.967698	.7940294	40.52263
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4713595	.2022968	.2068624	39.58600	.6032005	.2244563
Stddev	.0073671	.0030129	.0003845	.54661	.0037899	.0004176
%RSD	1.562937	1.489337	.1858747	1.380804	.6283062	.1860635
#1	.4783438	.2044009	.2070878	39.98453	.6054205	.2243276
#2	.4636616	.1988454	.2070810	38.96288	.5988244	.2249231
#3	.4720731	.2036442	.2064184	39.81060	.6053565	.2241182
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4999546	102.6182	.8887695	12.20799	.5517237	.0774631
Stddev	.0011300	.4670	.0121902	.14339	.0005341	.0001853
%RSD	.2260252	.4550561	1.371576	1.174538	.0968147	.2392668
#1	.4996309	103.0213	.8990451	12.30438	.5520190	.0775988
#2	.5012111	102.1065	.8753005	12.04321	.5520449	.0772519
#3	.4990217	102.7267	.8919629	12.27639	.5511070	.0775384
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.747370	.4778079	.6908890	17.29899	.3790242	.4350355
Stddev	.029306	.0072508	.0006304	.11077	.0046338	.0005748
%RSD	.7820297	1.517503	.0912410	.6402985	1.222557	.1321243
#1	3.772040	.4856958	.6909796	17.37198	.3832708	.4350649
#2	3.714976	.4714331	.6902182	17.17154	.3740819	.4355951
#3	3.755095	.4762948	.6914691	17.35347	.3797199	.4344466

Sample Name: P4909-01A Acquired: 11/19/2024 14:16:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7017757	1.678609	F 20.48443	9.143172	2.400028	.2294746
Stddev	.0025395	.025854	.17963	.005642	.002829	.0046758
%RSD	.3618673	1.540208	.8768946	.0617023	.1178852	2.037612
#1	.6997320	1.697392	20.47064	9.149488	2.397065	.2345293
#2	.7046187	1.649122	20.31209	9.141392	2.400316	.2253040
#3	.7009763	1.689312	20.67055	9.138635	2.402702	.2285905

Elem	Sr4077
Units	ppm
Avg	.3076693
Stddev	.0056171
%RSD	1.825681
#1	.3127545
#2	.3016400
#3	.3086132

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2554.561	59495.83	14024.76	1759.521	4156.570
Stddev	10.854	315.94	187.53	10.984	13.531
%RSD	.4248976	.5310310	1.337149	.6242447	.3255220
#1	2542.395	59165.66	13855.09	1746.904	4141.087
#2	2558.037	59795.30	14226.12	1766.946	4162.502
#3	2563.252	59526.53	13993.08	1764.714	4166.122

Sample Name: P4890-01 Acquired: 11/19/2024 14:20:01 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008171	-.006405	.1465708	.0067118	.0073403	.4283075
Stddev	.0021182	.001810	.0005410	.0002964	.0006155	.0005170
%RSD	259.2408	28.26187	.3691232	4.415272	8.385610	.1206974
#1	-.001519	-.008415	.1471951	.0068503	.0071078	.4277923
#2	.001359	-.005897	.1462795	.0069135	.0068749	.4283038
#3	.002612	-.004903	.1462380	.0063716	.0080382	.4288262
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1308132	.0000327	.0014033	12.49104	.0113321	.0056108
Stddev	.0003742	.0000607	.0000575	.02397	.0002430	.0001700
%RSD	.2860357	185.4537	4.098821	.1919319	2.144604	3.029043
#1	.1307640	-.000011	.0013502	12.46472	.0111194	.0058052
#2	.1304661	.000102	.0014643	12.49677	.0115970	.0054901
#3	.1312095	.000007	.0013952	12.51163	.0112798	.0055371
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0769225	3.877207	.1704303	3.745689	.0139700	.0001402
Stddev	.0004832	.004607	.0003546	.029970	.0002131	.0002893
%RSD	.6281522	.1188103	.2080519	.8001182	1.525304	206.2422
#1	.0773537	3.881831	.1707488	3.711137	.0137239	-.000110
#2	.0764003	3.872618	.1700482	3.764653	.0140946	.000457
#3	.0770134	3.877173	.1704938	3.761275	.0140914	.000073
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	141.3792	.0119672	1.009460	8.638324	.1215298	.0049171
Stddev	.0707	.0006845	.001184	.017799	.0005877	.0001607
%RSD	.0499929	5.719961	.1172775	.2060442	.4836232	3.267106
#1	141.3061	.0112946	1.008719	8.650102	.1217461	.0049735
#2	141.3842	.0126630	1.010825	8.647021	.1208646	.0050418
#3	141.4472	.0119440	1.008836	8.617849	.1219788	.0047358

Sample Name: P4890-01 Acquired: 11/19/2024 14:20:01 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003424	.0337547	8.496689	.4373360	F 10.06129	.0062741
Stddev	.0004945	.0000639	.008927	.0038076	.03431	.0021325
%RSD	144.4450	.1894650	.1050682	.8706288	.3409648	33.98891
#1	.0002584	.0337951	8.490628	.4361228	10.04980	.0041408
#2	-.000105	.0337880	8.506941	.4342828	10.03421	.0062757
#3	.000873	.0336809	8.492499	.4416023	10.09987	.0084058
Elem	Sr4077					
Units	ppm					
Avg	.0363706					
Stddev	.0000312					
%RSD	.0856860					
#1	.0363748					
#2	.0363375					
#3	.0363994					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2510.583	58364.64	13495.66	1775.947	4139.687	
Stddev	7.705	259.14	58.07	17.354	8.406	
%RSD	.3069036	.4440072	.4303028	.9771966	.2030542	
#1	2514.753	58085.75	13430.68	1755.985	4144.007	
#2	2501.691	58410.17	13542.48	1787.448	4130.000	
#3	2515.304	58598.00	13513.82	1784.409	4145.054	

Sample Name: CCV03 Acquired: 11/19/2024 14:24:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	5.107336	5.157656	5.199587	5.078343	5.127489	10.36847	10.25274	3
Stddev	.013394	.088579	.014795	.028887	.018188	.01444	.01716	4
%RSD	.2622514	1.717421	.2845373	.5688329	.3547138	.1393110	.1673679	5
#1	5.092356	5.099990	5.206190	5.045106	5.106609	10.36999	10.23430	7
#2	5.111494	5.113330	5.182641	5.092532	5.135978	10.38210	10.26824	8
#3	5.118157	5.259647	5.209931	5.097393	5.139881	10.35333	10.25569	9
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	10
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	11
Avg	.2658851	2.590679	25.95153	1.044632	2.595744	1.296288	4.989768	12
Stddev	.0010629	.009172	.15835	.003244	.006127	.001585	.046095	13
%RSD	.3997694	.3540317	.6101710	.3105657	.2360458	.1222387	.9237891	14
#1	.2660552	2.597104	25.76907	1.046874	2.599609	1.295896	4.941513	15
#2	.2647474	2.580175	26.05300	1.040912	2.588679	1.294937	5.033346	16
#3	.2668527	2.594757	26.03254	1.046109	2.598943	1.298032	4.994446	17
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	2.586918	25.98775	2.599626	1.280871	24.45560	2.597679	2.587829	
Stddev	.018711	.10067	.008439	.001389	.14000	.005512	.007036	
%RSD	.7232796	.3873765	.3246263	.1084681	.5724461	.2122026	.2719015	
#1	2.565655	25.87363	2.605134	1.281949	24.39762	2.591319	2.594473	
#2	2.594230	26.02565	2.589911	1.281360	24.61527	2.601078	2.588557	
#3	2.600868	26.06396	2.603835	1.279303	24.35391	2.600640	2.580457	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	24.59985	5.269188	5.224670	5.216884	5.126195	4.902569	5.392828	
Stddev	.12696	.024575	.012273	.024444	.020223	.036021	.033528	
%RSD	.5160928	.4663897	.2349013	.4685487	.3944976	.7347420	.6217132	
#1	24.52109	5.260520	5.210500	5.223292	5.103784	4.865537	5.410298	
#2	24.74631	5.250122	5.231566	5.189875	5.143081	4.937486	5.354173	
#3	24.53215	5.296923	5.231943	5.237486	5.131719	4.904683	5.414013	

Sample Name: CCV03 Acquired: 11/19/2024 14:24:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.015381	5.109629	5.217816
Stddev	.028746	.026209	.052017
%RSD	.5731494	.5129407	.9969057

#1	5.006524	5.079379	5.180741
#2	4.992106	5.123952	5.195428
#3	5.047513	5.125557	5.277278

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2579.761	59687.94	13510.41	1816.538	4159.947
Stddev	4.540	320.92	54.23	24.552	6.151
%RSD	.1759877	.5376580	.4013577	1.351601	.1478584

#1	2581.755	59437.23	13447.94	1795.225	4154.535
#2	2574.565	59576.98	13537.94	1811.003	4166.636
#3	2582.963	60049.61	13545.34	1843.385	4158.670

Sample Name: CCB03 Acquired: 11/19/2024 14:28:34 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	-.001408	.0002528	.0005745	.0016687	.0020997	.0028219	-.000823	3
Stddev	.001677	.0006759	.0013526	.0025235	.0005866	.0013507	.000361	4
%RSD	119.1253	267.3856	235.4521	151.2219	27.93812	47.86409	43.82849	5
#1	-.003287	.0008019	-.000987	-.000819	.0027649	.0027774	-.001238	7
#2	-.000062	.0004586	.001397	.001599	.0018776	.0041943	-.000635	8
#3	-.000874	-.000502	.001313	.004226	.0016565	.0014940	-.000595	9
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	10
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	11
Avg	-.000068	.0000084	-.017095	.0004110	-.000133	.0001261	.0022400	12
Stddev	.000028	.0000860	.003933	.0002920	.000149	.0001988	.0049785	13
%RSD	40.68034	1024.780	23.00925	71.05924	112.2412	157.6960	222.2514	14
#1	-.000060	-.000062	-.020878	.0004137	.000027	.0002194	-.002009	15
#2	-.000046	.000104	-.013026	.0001176	-.000268	-.000102	.001012	16
#3	-.000099	-.000017	-.017381	.0007016	-.000157	.000261	.007718	17
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0000852	.0033775	-.000293	-.000202	-.017491	-.000473	-.000566	
Stddev	.0003103	.0031270	.000103	.000128	.008257	.000588	.000492	
%RSD	364.0257	92.58286	35.02654	63.02688	47.20517	124.1249	86.93430	
#1	.0002528	.0002901	-.000408	-.000100	-.026151	-.000220	-.000183	
#2	-.000273	.0032998	-.000212	-.000345	-.016615	-.001145	-.001120	
#3	.000276	.0065427	-.000259	-.000162	-.009707	-.000055	-.000393	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0323376	.0044242	.0001986	.0110362	.0002747	.0107112	-.002436	
Stddev	.0199557	.0004612	.0000828	.0004002	.0002165	.0023112	.000793	
%RSD	61.71059	10.42545	41.67918	3.626029	78.80007	21.57698	32.55734	
#1	.0195912	.0048909	.0002928	.0106993	.0005108	.0114880	-.002918	
#2	.0220862	.0044131	.0001650	.0114786	.0002279	.0081117	-.001520	
#3	.0553355	.0039686	.0001378	.0109308	.0000855	.0125338	-.002869	

Sample Name: CCB03 Acquired: 11/19/2024 14:28:34 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002270	-.000001	.0001502
Stddev	.002846	.001111	.0000453
%RSD	125.3486	78223.40	30.18065
#1	-.003818	.000903	.0001776
#2	.001014	-.001242	.0001751
#3	-.004006	.000334	.0000979

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2647.315	61300.39	13629.32	1834.720	4638.330
Stddev	7.566	73.65	18.51	5.587	10.405
%RSD	.2857877	.1201384	.1358398	.3045177	.2243226
#1	2638.580	61221.44	13609.31	1830.182	4626.881
#2	2651.755	61367.23	13632.81	1840.960	4640.899
#3	2651.612	61312.51	13645.85	1833.019	4647.209

Sample Name: P4890-02 Acquired: 11/19/2024 14:37:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	-.005595	-.004871	.0016363	-.003291	.0017377	.0068915	.2601715	3
Stddev	.000710	.002754	.0010237	.002754	.0005005	.0054160	.0003679	4
%RSD	12.68552	56.54710	62.56570	83.68824	28.80393	78.58867	.1414207	5
#1	-.005538	-.001944	.0006443	-.004010	.0013619	.0008566	.2601339	6
#2	-.004915	-.005257	.0015755	-.000249	.0015455	.0113292	.2605569	7
#3	-.006332	-.007411	.0026891	-.005615	.0023059	.0084888	.2598239	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0001436	.0006346	31.48681	.0036185	.0033795	.0180085	28.15312	11
Stddev	.0000634	.0000388	.06951	.0002712	.0002070	.0002591	.08356	12
%RSD	44.14416	6.118990	.2207675	7.495236	6.126392	1.438660	.2967954	13
#1	.0000725	.0006794	31.40679	.0033912	.0031451	.0177650	28.05858	14
#2	.0001941	.0006099	31.52141	.0039187	.0035376	.0179797	28.18372	15
#3	.0001643	.0006146	31.53223	.0035457	.0034557	.0182807	28.21706	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.4752313	3.123379	.0206749	.0000893	81.57005	.0037233	.0738984	
Stddev	.0011427	.016339	.0002472	.0001476	.16901	.0008756	.0006962	
%RSD	.2404430	.5231111	1.195774	165.1761	.2072018	23.51677	.9421044	
#1	.4739473	3.105938	.0206367	.0001082	81.76106	.0040724	.0746492	
#2	.4761365	3.125869	.0209390	-.000067	81.50925	.0043705	.0737716	
#3	.4756100	3.138330	.0204490	.000227	81.43986	.0027270	.0732743	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	11.12439	.0543462	.0012255	-.006694	.0003153	2.504634	.0209234	
Stddev	.03848	.0003223	.0001985	.000727	.0003042	.009076	.0015758	
%RSD	.3459186	.5930686	16.19915	10.85324	96.45841	.3623602	7.531315	
#1	11.15764	.0541137	.0013157	-.005923	.0002992	2.504702	.0227430	
#2	11.13330	.0542108	.0013629	-.007366	.0006273	2.513675	.0200000	
#3	11.08224	.0547141	.0009979	-.006794	.0000196	2.495524	.0200273	

Sample Name: P4890-02 Acquired: 11/19/2024 14:37:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	1.402254	.0091164	.0889799		
Stddev	.006676	.0011873	.0003652		
%RSD	.4761124	13.02391	.4103792		
#1	1.408782	.0103197	.0894006		
#2	1.395439	.0090838	.0887946		
#3	1.402542	.0079458	.0887446		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2507.533	58933.52	14148.35	1749.963	4241.772
Stddev	4.722	115.77	27.21	10.136	2.518
%RSD	.1883285	.1964477	.1923134	.5792026	.0593625
#1	2502.178	58814.73	14127.87	1743.048	4239.068
#2	2509.323	58939.81	14137.95	1745.243	4242.197
#3	2511.099	59046.02	14179.22	1761.598	4244.050

Sample Name: P4890-03 Acquired: 11/19/2024 14:41:33 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000986	-.003993	.5609497	.0033972	.0063665	.1016061
Stddev	.002240	.002329	.0012410	.0008452	.0004573	.0020345
%RSD	227.1863	58.34385	.2212293	24.87934	7.183195	2.002375
#1	.001464	-.001602	.5598804	.0025114	.0066837	.1007267
#2	-.002929	-.004120	.5623105	.0041949	.0065735	.1039324
#3	-.001493	-.006256	.5606582	.0034854	.0058423	.1001593
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1388591	.0000499	.0081346	20.75936	.0067490	.0102720
Stddev	.0013250	.0000466	.0000280	.21204	.0003177	.0001261
%RSD	.9542091	93.49372	.3437504	1.021436	4.707570	1.227354
#1	.1373893	.0000261	.0081287	20.51711	.0068101	.0101650
#2	.1399620	.0001036	.0081650	20.84965	.0064052	.0104110
#3	.1392259	.0000200	.0081100	20.91131	.0070318	.0102401
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0764266	11.12690	.3163839	3.691635	.0234269	-.000142
Stddev	.0005743	.03566	.0040585	.051483	.0001519	.000159
%RSD	.7515000	.3204718	1.282769	1.394593	.6482381	111.6853
#1	.0769829	11.09187	.3116983	3.639112	.0235249	-.000309
#2	.0758357	11.12567	.3186526	3.693781	.0235037	-.000126
#3	.0764612	11.16315	.3188007	3.742011	.0232519	.000008
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	143.6334	.0066791	5.986835	9.529195	.1420123	.0047287
Stddev	2.2834	.0007529	.032721	.097555	.0008264	.0002557
%RSD	1.589749	11.27200	.5465548	1.023749	.5819338	5.408015
#1	146.2070	.0070797	6.024553	9.640380	.1416745	.0047380
#2	141.8502	.0058107	5.969888	9.489268	.1414083	.0049797
#3	142.8430	.0071470	5.966063	9.457937	.1429541	.0044685

Sample Name: P4890-03 Acquired: 11/19/2024 14:41:33 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002505	.0386999	3.163659	.3950983	F 11.27231	.0062001
Stddev	.001031	.0012481	.008153	.0022037	.01285	.0005775
%RSD	41.16793	3.225052	.2577172	.5577487	.1140026	9.313870
#1	-.002063	.0374353	3.161209	.3931023	11.28560	.0068645
#2	-.003683	.0399308	3.172757	.3974631	11.25994	.0059168
#3	-.001768	.0387335	3.157012	.3947295	11.27141	.0058190

Elem	Sr4077
Units	ppm
Avg	.0637701
Stddev	.0001449
%RSD	.2272436
#1	.0636046
#2	.0638740
#3	.0638318

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2521.040	57670.13	13342.95	1777.173	4145.365
Stddev	7.744	445.87	46.79	18.149	6.892
%RSD	.3071796	.7731316	.3506395	1.021247	.1662590
#1	2518.278	57156.96	13392.88	1756.307	4147.002
#2	2515.055	57962.62	13335.84	1785.910	4137.801
#3	2529.786	57890.81	13300.12	1789.301	4151.290

Sample Name: P4849-02 Acquired: 11/19/2024 14:56:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006395	-.009309	.0228671	.0066164	.0003168	.1827698	.1722248
Stddev	.000152	.001082	.0012110	.0003814	.0007756	.0014863	.0006538
%RSD	2.375761	11.62199	5.295969	5.764948	244.7876	.8131943	.3796505
#1	-.006460	-.008801	.0229718	.0068582	.0006172	.1823395	.1717260
#2	-.006504	-.008575	.0216071	.0061767	.0008973	.1815462	.1719834
#3	-.006222	-.010551	.0240224	.0068144	-.000564	.1844238	.1729651
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000090	.0004429	29.40042	.0037474	-.000350	.0241137	.1439400
Stddev	.000017	.0000441	.13050	.0003097	.000186	.0002332	.0043853
%RSD	18.64756	9.944773	.4438563	8.263559	53.06914	.9668757	3.046639
#1	-.000109	.0004830	29.32513	.0038922	-.000136	.0243687	.1429792
#2	-.000079	.0003958	29.32504	.0039581	-.000438	.0240608	.1487260
#3	-.000081	.0004499	29.55111	.0033918	-.000475	.0239115	.1401147
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0837446	2.453110	.0029583	-.000301	335.1756	-.000787	.2978379
Stddev	.0007358	.015466	.0004189	.000162	2.4561	.000720	.0007270
%RSD	.8785939	.6304564	14.16006	53.80511	.7327756	91.48762	.2440979
#1	.0842157	2.461989	.0032513	-.000483	336.0557	-.001186	.2976591
#2	.0828968	2.435252	.0024785	-.000172	332.4007	.000044	.2972170
#3	.0841214	2.462090	.0031451	-.000249	337.0704	-.001219	.2986377
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9864036	.0275046	.0003767	-.004378	.0033165	1.746255	.0486048
Stddev	.0150980	.0002544	.0002760	.000730	.0002419	.017219	.0028562
%RSD	1.530607	.9249623	73.26644	16.67275	7.292621	.9860523	5.876318
#1	.9951582	.0274446	.0002366	-.003938	.0030758	1.741162	.0505149
#2	.9689700	.0272857	.0006947	-.003975	.0035595	1.732158	.0499782
#3	.9950826	.0277837	.0001989	-.005220	.0033141	1.765447	.0453214

Sample Name: P4849-02 Acquired: 11/19/2024 14:56:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	1.966386	.0073967	.1367785		
Stddev	.004528	.0011195	.0007686		
%RSD	.2302660	15.13472	.5618952		
#1	1.963384	.0076097	.1361161		
#2	1.971594	.0083944	.1365983		
#3	1.964179	.0061861	.1376211		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2354.156	54738.47	13591.41	1636.543	3846.665
Stddev	11.486	259.75	52.55	13.488	16.405
%RSD	.4878891	.4745376	.3866577	.8241714	.4264697
#1	2342.246	54499.50	13565.02	1636.177	3827.796
#2	2355.057	55014.94	13651.93	1650.209	3854.648
#3	2365.164	54700.98	13557.28	1623.241	3857.549

Sample Name: PB165019TB Acquired: 11/19/2024 15:00:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005172	-.009628	.0005123	.0050124	.0014552	.0100723
Stddev	.002590	.000477	.0009411	.0017095	.0003198	.0013139
%RSD	50.08388	4.955929	183.6897	34.10484	21.97861	13.04415
#1	-.005152	-.009748	.0001484	.0031337	.0018052	.0099207
#2	-.002592	-.010033	-.000192	.0054274	.0013825	.0088409
#3	-.007772	-.009102	.001581	.0064763	.0011780	.0114554
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001541	-.000187	-.000154	.0352680	.0076812	-.000416
Stddev	.000381	.000062	.000060	.0125074	.0001727	.000071
%RSD	24.68827	33.10546	38.89061	35.46376	2.247774	17.05863
#1	-.001898	-.000127	-.000093	.0209229	.0074892	-.000491
#2	-.001141	-.000182	-.000212	.0438892	.0078238	-.000408
#3	-.001586	-.000251	-.000158	.0409918	.0077305	-.000350
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005451	F .1264096	.0029325	-.006608	.0058787	-.000393
Stddev	.0003441	.0030078	.0001892	.012263	.0004742	.000069
%RSD	63.13120	2.379381	6.450700	185.5797	8.066973	17.54003
#1	.0008870	.1281355	.0030242	-.000236	.0054712	-.000336
#2	.0001989	.1229366	.0027150	.001158	.0057658	-.000374
#3	.0005493	.1281568	.0030584	-.020745	.0063992	-.000470
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 361.8891	-.001396	.0037980	-.021588	-.003431	.0005090
Stddev	4.5911	.001816	.0002967	.007245	.000418	.0001475
%RSD	1.268649	130.1258	7.813499	33.56173	12.18537	28.97780
#1	359.2040	-.002788	.0040093	-.029936	-.003905	.0003566
#2	359.2730	-.002058	.0034587	-.017890	-.003277	.0006510
#3	367.1903	.000659	.0039259	-.016939	-.003113	.0005195

Sample Name: PB165019TB Acquired: 11/19/2024 15:00:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002746	.0001650	.0150195	.0050324	.0134693	.0001827
Stddev	.000675	.0002091	.0056036	.0034318	.0038451	.0007840
%RSD	24.57176	126.6826	37.30925	68.19477	28.54678	429.0324
#1	-.002278	.0002980	.0131160	.0087303	.0091729	.0010024
#2	-.003520	-.000076	.0106155	.0019500	.0165871	.0001056
#3	-.002441	.000273	.0213269	.0044169	.0146480	-.000560

Elem	Sr4077
Units	ppm
Avg	-.000206
Stddev	.000022
%RSD	10.80217
#1	-.000183
#2	-.000227
#3	-.000207

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2386.797	55439.51	13493.45	1683.570	3888.438
Stddev	6.640	104.28	18.08	7.489	3.134
%RSD	.2782176	.1880991	.1339712	.4448081	.0805930
#1	2391.284	55432.67	13472.78	1677.449	3891.757
#2	2379.168	55547.05	13506.30	1691.920	3885.530
#3	2389.937	55338.82	13501.27	1681.341	3888.027

Sample Name: P4870-13 Acquired: 11/19/2024 15:05:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003679	-.011651	.0002403	.0005452	.0006850	.1560826	.3441908
Stddev	.001231	.001394	.0011179	.0027139	.0009157	.0041735	.0007696
%RSD	33.45087	11.96640	465.1651	497.8170	133.6955	2.673878	.2236005
#1	-.003116	-.010104	.0009348	-.002586	.0008048	.1579906	.3450765
#2	-.002831	-.012809	.0008354	.002000	.0015349	.1589611	.3438112
#3	-.005090	-.012041	-.001049	.002222	-.000285	.1512962	.3436848
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000716	.0005072	23.58060	.0042413	.0273289	.0043307	15.79852
Stddev	.000028	.0000585	.03116	.0000586	.0001227	.0002057	.08087
%RSD	3.956833	11.53161	.1321336	1.381499	.4491168	4.751020	.5118964
#1	-.000739	.0004444	23.58713	.0041848	.0274692	.0040932	15.83374
#2	-.000684	.0005171	23.60797	.0043018	.0272414	.0044556	15.70601
#3	-.000725	.0005601	23.54669	.0042374	.0272760	.0044432	15.85581
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.00398	.8947407	.0069416	-.000322	300.1731	-.000007	.0460961
Stddev	.02736	.0067755	.0002307	.000127	1.4970	.000657	.0003805
%RSD	.2279601	.7572596	3.323113	39.40239	.4986966	9539.802	.8255310
#1	12.03462	.8998993	.0066912	-.000378	301.7468	.000595	.0459047
#2	11.98197	.8972554	.0071454	-.000411	298.7670	.000091	.0465344
#3	11.99535	.8870674	.0069883	-.000177	300.0054	-.000708	.0458493
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.264120	.0435594	-.000464	-.004773	.0038587	.9765055	.0136521
Stddev	.015158	.0006023	.000338	.000456	.0002440	.0031814	.0014181
%RSD	1.199093	1.382697	72.89906	9.548493	6.322568	.3257934	10.38740
#1	1.274647	.0431568	-.000295	-.004900	.0036010	.9733340	.0152467
#2	1.246747	.0432695	-.000243	-.005152	.0038889	.9764858	.0131773
#3	1.270967	.0442518	-.000853	-.004268	.0040861	.9796967	.0125323

Sample Name: P4870-13 Acquired: 11/19/2024 15:05:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	.2525116	.0038381	.1327591		
Stddev	.0035986	.0008580	.0000770		
%RSD	1.425122	22.35372	.0579734		
#1	.2484181	.0032157	.1328443		
#2	.2551767	.0048169	.1327384		
#3	.2539400	.0034819	.1326947		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2402.886	55774.69	13583.22	1699.790	3916.203
Stddev	4.531	207.05	67.32	8.155	6.169
%RSD	.1885800	.3712170	.4955866	.4797871	.1575361
#1	2398.537	55680.97	13541.68	1691.220	3911.179
#2	2402.541	56012.02	13547.10	1707.456	3914.340
#3	2407.580	55631.07	13660.89	1700.695	3923.089

Sample Name: P4870-14 Acquired: 11/19/2024 15:09:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	-.003931	-.011721	.0013992	.0048922	.0008078	.0274462	.1919703	3
Stddev	.001972	.001689	.0010991	.0006808	.0011577	.0025164	.0006459	4
%RSD	50.17065	14.40720	78.55430	13.91541	143.3198	9.168446	.3364315	5
#1	-.005763	-.013402	.0001310	.0056461	.0015683	.0245417	.1920716	6
#2	-.004188	-.010024	.0019892	.0047082	-.000525	.0289698	.1925595	7
#3	-.001843	-.011739	.0020772	.0043224	.001380	.0288271	.1912798	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0002160	.0002643	6.565503	.0010074	-.000347	.0107552	.0271734	11
Stddev	.0000454	.0000693	.029260	.0001434	.000203	.0003633	.0014954	12
%RSD	21.02195	26.20322	.4456591	14.23936	58.58339	3.377613	5.502977	13
#1	.0001802	.0002247	6.533586	.0008852	-.000118	.0111054	.0255219	14
#2	.0002670	.0002239	6.591058	.0011653	-.000507	.0103801	.0284356	15
#3	.0002007	.0003442	6.571866	.0009716	-.000417	.0107799	.0275629	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.1453975	2.171624	.0035427	-.000322	304.7728	-.000418	.0392831	
Stddev	.0002575	.015738	.0003486	.000382	1.7185	.000680	.0005661	
%RSD	.1770725	.7247110	9.839296	118.6325	.5638547	162.6494	1.440978	
#1	.1453199	2.153879	.0039440	-.000752	303.5997	-.001188	.0387935	
#2	.1456848	2.183893	.0033143	-.000022	303.9734	-.000168	.0399030	
#3	.1451878	2.177100	.0033699	-.000192	306.7454	.000102	.0391529	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.281809	.0094597	.0004262	-.003491	.0001499	.5931004	.0229763	
Stddev	.010766	.0003042	.0002025	.001185	.0001622	.0062562	.0016549	
%RSD	.8399102	3.215429	47.51948	33.95568	108.1567	1.054839	7.202503	
#1	1.290247	.0092203	.0005232	-.004385	.0000343	.5858891	.0211205	
#2	1.285496	.0098020	.0005620	-.003941	.0000802	.5970784	.0235097	
#3	1.269684	.0093568	.0001934	-.002146	.0003353	.5963336	.0242987	

Sample Name: P4870-14 Acquired: 11/19/2024 15:09:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3381669	.0021308	.0333555
Stddev	.0039642	.0019186	.0001177
%RSD	1.172258	90.04448	.3527001
#1	.3416072	.0003593	.0333471
#2	.3338318	.0041687	.0334772
#3	.3390616	.0018642	.0332423

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2411.015	56554.71	13566.65	1710.801	3948.081
Stddev	2.266	119.48	22.36	3.825	7.014
%RSD	.0939899	.2112610	.1648194	.2235855	.1776661
#1	2411.604	56687.54	13570.65	1714.637	3950.380
#2	2412.930	56520.56	13542.56	1710.779	3953.658
#3	2408.513	56456.01	13586.75	1706.987	3940.206

Sample Name: P4870-15 Acquired: 11/19/2024 15:13:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	-.005791	-.010046	.0033293	.0064806	.0010808	.0322834	.1541402	3
Stddev	.000154	.001277	.0004644	.0029942	.0012675	.0024001	.0004057	4
%RSD	2.661647	12.71424	13.95048	46.20213	117.2770	7.434595	.2631781	5
#1	-.005786	-.008675	.0035940	.0063902	-.000294	.0343054	.1544970	6
#2	-.005639	-.011203	.0027930	.0035326	.001334	.0329139	.1542245	7
#3	-.005947	-.010260	.0036008	.0095189	.002202	.0296310	.1536990	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0000054	.0001225	10.55635	.0131743	-.000365	.0140032	.0706541	11
Stddev	.0000531	.0000271	.02089	.0001110	.000154	.0003644	.0025744	12
%RSD	989.5227	22.07615	.1978856	.8421830	42.22299	2.602318	3.643610	13
#1	.0000029	.0001059	10.56016	.0133001	-.000518	.0136431	.0677301	14
#2	.0000597	.0001537	10.57508	.0130901	-.000209	.0139947	.0716522	15
#3	-.000046	.0001079	10.53382	.0131329	-.000369	.0143718	.0725799	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0708531	.8061385	.0117486	-.000377	273.9473	.0001546	.0328635	
Stddev	.0001164	.0087854	.0000940	.000383	2.1550	.0005089	.0002852	
%RSD	.1642083	1.089812	.7998563	101.5892	.7866362	329.1335	.8679318	
#1	.0707477	.8158484	.0117960	.000029	273.7506	-.000428	.0328007	
#2	.0708336	.7987395	.0118094	-.000427	276.1939	.000511	.0326150	
#3	.0709779	.8038275	.0116403	-.000732	271.8975	.000381	.0331750	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.532636	.0086596	.0008329	-.002434	.0003785	.7685383	.0202851	
Stddev	.010666	.0004776	.0001450	.000405	.0003058	.0031645	.0004408	
%RSD	.6958966	5.514852	17.41299	16.65933	80.80168	.4117548	2.173228	
#1	1.528919	.0090295	.0009416	-.002848	.0005075	.7657695	.0205557	
#2	1.544662	.0088290	.0008890	-.002416	.0000293	.7678577	.0197765	
#3	1.524326	.0081205	.0006682	-.002038	.0005987	.7719877	.0205233	

Sample Name: P4870-15 Acquired: 11/19/2024 15:13:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	.2094544	.0033991	.0569221		
Stddev	.0010743	.0001468	.0001244		
%RSD	.5128961	4.318030	.2184863		
#1	.2097712	.0032681	.0569632		
#2	.2082573	.0033714	.0570208		
#3	.2103346	.0035577	.0567824		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2344.458	55551.48	13619.09	1663.110	3862.555
Stddev	.488	43.32	58.41	1.382	4.925
%RSD	.0208046	.0779767	.4288856	.0830985	.1274946
#1	2344.519	55530.01	13569.49	1663.157	3856.887
#2	2343.942	55523.09	13604.30	1664.467	3865.003
#3	2344.912	55601.34	13683.47	1661.705	3865.776

Sample Name: P4870-16 Acquired: 11/19/2024 15:18:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004973	-.013352	.0048955	.0053060	.0020915	.0419995	.3106613
Stddev	.002426	.002187	.0012438	.0009887	.0007538	.0062908	.0011542
%RSD	48.78087	16.37817	25.40705	18.63354	36.04102	14.97826	.3715370
#1	-.007423	-.011027	.0037863	.0041947	.0021821	.0351627	.3111104
#2	-.004923	-.015368	.0062402	.0056352	.0027959	.0432923	.3093501
#3	-.002572	-.013659	.0046600	.0060882	.0012965	.0475434	.3115236
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000040	.0001026	14.55752	.0014559	-.000609	.0141672	.0301303
Stddev	.000015	.0000767	.06888	.0003436	.000172	.0001250	.0015851
%RSD	37.17582	74.76240	.4731459	23.59943	28.27087	.8820249	5.260860
#1	-.000053	.0000157	14.52250	.0010615	-.000444	.0142612	.0315515
#2	-.000024	.0001608	14.51318	.0016907	-.000788	.0140254	.0284208
#3	-.000042	.0001312	14.63687	.0016155	-.000596	.0142150	.0304185
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0460242	1.442737	.0020541	-.000450	331.8719	-.001216	.0731392
Stddev	.0006098	.016920	.0003258	.000065	1.9727	.001680	.0008193
%RSD	1.324990	1.172759	15.86125	14.44458	.5944293	138.1583	1.120228
#1	.0456286	1.442198	.0016781	-.000521	332.6779	-.001068	.0737772
#2	.0457174	1.426092	.0022322	-.000434	333.3140	-.002965	.0734253
#3	.0467264	1.459919	.0022522	-.000394	329.6238	.000385	.0722152
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.137510	.0305023	.0004910	-.003937	.0003165	1.213837	.0288331
Stddev	.016768	.0008801	.0002581	.000103	.0004395	.005910	.0028511
%RSD	1.474085	2.885209	52.56004	2.607255	138.8766	.4868770	9.888116
#1	1.131799	.0297194	.0007174	-.004030	.0003100	1.211645	.0321172
#2	1.124343	.0303326	.0005457	-.003827	.0007591	1.220530	.0269922
#3	1.156387	.0314548	.0002100	-.003955	-.000120	1.209336	.0273900

Sample Name: P4870-16 Acquired: 11/19/2024 15:18:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2813139	.0042602	.0971117
Stddev	.0051045	.0011301	.0003248
%RSD	1.814502	26.52730	.3344191

#1	.2872079	.0031252	.0970624
#2	.2783820	.0053854	.0968143
#3	.2783516	.0042702	.0974582

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2351.973	54065.07	13514.20	1623.978	3867.704
Stddev	8.344	243.81	51.01	21.532	17.438
%RSD	.3547586	.4509649	.3774183	1.325856	.4508608

#1	2342.628	53887.99	13477.67	1608.942	3847.684
#2	2358.677	53964.07	13572.47	1614.348	3879.580
#3	2354.615	54343.16	13492.46	1648.643	3875.849

Sample Name: P4887-02 Acquired: 11/19/2024 15:22:54 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	-.003674	-.009990	.0012272	.0026486	.0009465	.0402699	.4315992	3
Stddev	.000426	.001331	.0010628	.0007490	.0001486	.0037906	.0040440	4
%RSD	11.60256	13.31903	86.60358	28.27977	15.69541	9.413011	.9369858	5
#1	-.003304	-.011292	.0022502	.0025346	.0010081	.0441150	.4282101	7
#2	-.003579	-.010045	.0001287	.0019631	.0007770	.0365363	.4305118	8
#3	-.004141	-.008632	.0013026	.0034481	.0010543	.0401584	.4360758	9
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	10
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	11
Avg	.0000097	.0001410	10.61977	.0039864	.0042657	.0128976	1.205797	12
Stddev	.0000413	.0000303	.03450	.0004062	.0001838	.0001693	.007387	13
%RSD	428.0055	21.51633	.3248513	10.19089	4.308776	1.312993	.6126621	14
#1	.0000087	.0001249	10.58281	.0040099	.0041746	.0130918	1.206547	15
#2	-.000031	.0001760	10.62539	.0035690	.0041452	.0128199	1.198064	16
#3	.000051	.0001221	10.65112	.0043805	.0044772	.0127810	1.212781	17
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	3.342820	1.480932	.0071748	-.000265	332.6980	-.000613	.0476706	
Stddev	.021190	.002956	.0003555	.000023	3.8296	.000573	.0002453	
%RSD	.6338812	.1995708	4.955444	8.842774	1.151069	93.49770	.5146077	
#1	3.325654	1.480624	.0072700	-.000291	329.4877	-.000095	.0477988	
#2	3.336304	1.478143	.0067814	-.000247	331.6695	-.001229	.0473878	
#3	3.366503	1.484030	.0074731	-.000255	336.9368	-.000516	.0478253	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.6011842	.0172752	.0001243	-.003027	-.000084	.5823234	.0113333	
Stddev	.0118545	.0006469	.0001321	.001011	.000044	.0043999	.0031847	
%RSD	1.971849	3.744552	106.2904	33.39877	52.10063	.7555754	28.10049	
#1	.5912880	.0165663	.0001005	-.004020	-.000039	.5773965	.0080570	
#2	.5979423	.0174256	.0002668	-.003063	-.000088	.5837132	.0144177	
#3	.6143224	.0178336	.0000057	-.001999	-.000126	.5858606	.0115253	

Sample Name: P4887-02 Acquired: 11/19/2024 15:22:54 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2567595	.0032049	.0431925
Stddev	.0019169	.0010951	.0003211
%RSD	.7465736	34.16995	.7433945
#1	.2588919	.0041912	.0428684
#2	.2562074	.0033971	.0431985
#3	.2551792	.0020264	.0435105

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2398.849	55637.90	13630.36	1685.642	3899.694
Stddev	11.019	23.85	41.57	2.380	11.587
%RSD	.4593550	.0428683	.3049953	.1411777	.2971152
#1	2386.788	55642.17	13677.44	1687.423	3887.357
#2	2401.366	55612.21	13614.96	1682.939	3901.377
#3	2408.391	55659.34	13598.69	1686.565	3910.346

Sample Name: P4887-06 Acquired: 11/19/2024 15:27:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003344	-.011255	.0004805	.0040416	.0016654	-.041274	.4611460
Stddev	.003404	.002124	.0009721	.0008582	.0016335	.009670	.0017974
%RSD	101.7977	18.86869	202.3261	21.23396	98.08267	23.42909	.3897721

#1	.000419	-.009410	.0013890	.0039134	.0031676	-.038428	.4627649
#2	-.006210	-.013576	.0005972	.0049566	-.000073	-.052048	.4592118
#3	-.004240	-.010779	-.000545	.0032547	.001902	-.033346	.4614614

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000309	.0003512	150.6223	.0029867	.0038945	.0035038	.0185171
Stddev	.000016	.0000733	.5350	.0002472	.0002291	.0000680	.0012495
%RSD	5.220553	20.87859	.3552231	8.276273	5.882092	1.939487	6.747797

#1	-.000291	.0003476	150.1029	.0027898	.0037198	.0035647	.0181042
#2	-.000319	.0004262	151.1717	.0032641	.0041538	.0035161	.0175263
#3	-.000318	.0002797	150.5924	.0029063	.0038099	.0034305	.0199208

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.130243	1.586542	.0059288	-.000711	342.5239	-.001181	.0309570
Stddev	.000703	.003698	.0001339	.000127	1.3294	.001314	.0003299
%RSD	.0330200	.2330799	2.257646	17.85807	.3881255	111.2945	1.065632

#1	2.130470	1.585861	.0060295	-.000837	342.8658	-.001046	.0310568
#2	2.130805	1.590533	.0059799	-.000583	341.0569	-.002556	.0305888
#3	2.129454	1.583232	.0057769	-.000713	343.6489	.000061	.0312255

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.925347	.0077680	.0012981	-.006723	-.002862	1.275148	.0053343
Stddev	.020657	.0006713	.0002246	.001297	.000226	.003122	.0014773
%RSD	1.072912	8.642022	17.29987	19.29600	7.898085	.2448486	27.69393

#1	1.937045	.0076372	.0010528	-.007359	-.002610	1.275019	.0047984
#2	1.901495	.0071716	.0014935	-.007580	-.002930	1.278333	.0041998
#3	1.937501	.0084950	.0013481	-.005230	-.003046	1.272093	.0070048

Sample Name: P4887-06 Acquired: 11/19/2024 15:27:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	.8597066	.0302866	.3723151		
Stddev	.0030597	.0013701	.0012913		
%RSD	.3558960	4.523880	.3468406		
#1	.8564941	.0287436	.3737063		
#2	.8600393	.0307554	.3711548		
#3	.8625863	.0313609	.3720842		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2335.177	54345.58	13447.79	1647.544	3758.080
Stddev	3.421	112.38	45.19	9.648	4.696
%RSD	.1464948	.2067863	.3360629	.5855776	.1249705
#1	2336.099	54264.54	13400.21	1638.752	3755.444
#2	2338.043	54473.87	13453.02	1657.865	3763.502
#3	2331.390	54298.32	13490.14	1646.015	3755.293

Sample Name: CCV04 Acquired: 11/19/2024 15:31:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	5.264753	5.405114	5.228761	5.281621	5.287223	10.44286	10.48136	3
Stddev	.014693	.033661	.012951	.017673	.015578	.01926	.04115	4
%RSD	.2790910	.6227576	.2476796	.3346040	.2946335	.1844342	.3926416	5
#1	5.249941	5.368226	5.217466	5.274629	5.276540	10.44753	10.49823	6
#2	5.264992	5.434163	5.225921	5.268513	5.280032	10.42169	10.51139	7
#3	5.279325	5.412954	5.242896	5.301719	5.305098	10.45934	10.43445	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.2605319	2.609764	25.80235	1.051745	2.614409	1.330544	5.076687	11
Stddev	.0000625	.003597	.04318	.001501	.004164	.003691	.013928	12
%RSD	.0239861	.1378268	.1673417	.1427324	.1592711	.2774200	.2743589	13
#1	.2604600	2.608059	25.81231	1.051326	2.611550	1.328109	5.071698	14
#2	.2605619	2.607337	25.83968	1.050497	2.612490	1.328733	5.092422	15
#3	.2605737	2.613897	25.75506	1.053411	2.619186	1.334791	5.065940	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	2.571973	25.78576	2.619384	1.290297	25.55838	2.609841	2.620138	
Stddev	.010437	.04420	.004291	.003758	.22867	.001354	.011439	
%RSD	.4057910	.1714116	.1638226	.2912384	.8946797	.0518768	.4365897	
#1	2.580254	25.73473	2.616008	1.289133	25.82238	2.609740	2.606943	
#2	2.575414	25.81134	2.617931	1.287260	25.43033	2.611242	2.627246	
#3	2.560250	25.81123	2.624213	1.294500	25.42244	2.608540	2.626227	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	25.53000	5.196138	5.366042	5.255070	5.158445	5.027902	5.367501	
Stddev	.05547	.010224	.012592	.009547	.008145	.033408	.016753	
%RSD	.2172679	.1967710	.2346671	.1816646	.1579059	.6644472	.3121171	
#1	25.59164	5.187947	5.362620	5.244697	5.167802	4.991584	5.348970	
#2	25.48411	5.192870	5.355515	5.257026	5.154601	5.034800	5.381574	
#3	25.51423	5.207597	5.379992	5.263487	5.152934	5.057322	5.371959	

Sample Name: CCV04 Acquired: 11/19/2024 15:31:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.089016	5.154440	5.280061
Stddev	.015788	.044202	.007764
%RSD	.3102351	.8575588	.1470378

#1	5.071018	5.205115	5.288121
#2	5.100529	5.134377	5.272632
#3	5.095501	5.123827	5.279429

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2488.251	58998.24	13698.96	1759.859	4060.095
Stddev	5.897	96.74	31.36	.078	8.744
%RSD	.2370111	.1639790	.2289558	.0044369	.2153534

#1	2490.451	58900.37	13666.90	1759.833	4067.509
#2	2492.731	59093.82	13700.41	1759.947	4062.324
#3	2481.569	59000.52	13729.58	1759.798	4050.453

Sample Name: CCB04 Acquired: 11/19/2024 15:36:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000195	-.000126	.0004155	.0021061	.0014757	.0017618	-.001348
Stddev	.002941	.001176	.0001678	.0016954	.0009029	.0020080	.000515
%RSD	1506.865	934.6063	40.37656	80.50131	61.18445	113.9692	38.19510
#1	-.000783	.001094	.0002461	.0016901	.0006047	-.000503	-.001943
#2	-.002797	-.000219	.0005816	.0039708	.0024074	.002463	-.001068
#3	.002995	-.001253	.0004187	.0006574	.0014149	.003325	-.001035
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000073	-.000010	-.015680	.0000682	-.000024	.0001989	-.001727
Stddev	.000070	.000090	.011311	.0005264	.000068	.0000415	.004096
%RSD	96.56085	913.2443	72.13155	771.7754	285.1280	20.85090	237.1743
#1	.000001	-.000077	-.018813	-.000248	.000020	.0002377	-.002596
#2	-.000139	-.000045	-.025094	.000676	.000011	.0001552	-.005319
#3	-.000080	.000092	-.003134	-.000223	-.000103	.0002038	.002734
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002460	.0029205	-.000251	-.000093	.1556940	-.000527	-.000889
Stddev	.0002187	.0062318	.000167	.000238	.0238825	.000698	.000147
%RSD	88.89598	213.3815	66.43403	255.3407	15.33935	132.5887	16.58231
#1	.0000716	-.002026	-.000386	-.000220	.1326716	.000206	-.000804
#2	.0001751	.000868	-.000065	-.000241	.1540582	-.000601	-.000803
#3	.0004913	.009920	-.000301	.000181	.1803523	-.001185	-.001059
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1313635	.0035674	.0001478	.0101046	-.000009	.0153675	-.001307
Stddev	.0192462	.0008685	.0000812	.0003009	.000220	.0041827	.001519
%RSD	14.65109	24.34674	54.95061	2.977408	2474.438	27.21771	116.1787
#1	.1094886	.0045246	.0001783	.0102731	-.000184	.0105377	-.002535
#2	.1456966	.0033478	.0002094	.0097573	-.000081	.0177794	-.001778
#3	.1389053	.0028297	.0000558	.0102835	.000239	.0177852	.000391

Sample Name: CCB04 Acquired: 11/19/2024 15:36:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005876	.0000478	.0001501
Stddev	.002281	.0005433	.0001983
%RSD	38.81291	1136.345	132.1201
#1	-.007766	.0002016	.0000521
#2	-.003343	-.000556	.0000198
#3	-.006520	.000498	.0003783

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2623.735	60625.95	13856.41	1810.126	4633.239
Stddev	10.514	175.20	35.61	3.766	10.087
%RSD	.4007277	.2889799	.2570094	.2080365	.2177037
#1	2616.861	60460.10	13816.32	1808.055	4625.386
#2	2618.506	60608.57	13868.50	1807.850	4629.716
#3	2635.838	60809.20	13884.40	1814.472	4644.614

Sample Name: PB164986TB Acquired: 11/19/2024 15:40:21 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005749	-.009829	.0003916	.0048619	.0007455	.0040526
Stddev	.001632	.000371	.0009135	.0013850	.0001877	.0027180
%RSD	28.38221	3.773370	233.2732	28.48722	25.17451	67.06721
#1	-.006930	-.009972	.0014311	.0032636	.0006038	.0011423
#2	-.006430	-.010107	.0000272	.0057094	.0006743	.0044905
#3	-.003887	-.009408	-.000283	.0056126	.0009583	.0065250
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002077	-.000204	-.000308	-.022215	F .0135456	-.000326
Stddev	.000828	.000044	.000086	.009342	.0001809	.000100
%RSD	39.88827	21.57252	27.79643	42.05335	1.335532	30.67328
#1	-.002924	-.000168	-.000405	-.018938	.0137193	-.000316
#2	-.002038	-.000191	-.000242	-.032755	.0133583	-.000231
#3	-.001269	-.000253	-.000277	-.014953	.0135593	-.000430
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006742	.0552157	.0014308	-.004319	.0033762	-.000532
Stddev	.0005590	.0039940	.0001178	.006573	.0001174	.000091
%RSD	82.90844	7.233481	8.229223	152.1987	3.475827	17.02865
#1	.0008089	.0531521	.0012975	-.005106	.0032870	-.000615
#2	.0011536	.0598194	.0014745	.002612	.0033324	-.000435
#3	.0000602	.0526756	.0015205	-.010462	.0035091	-.000545
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 332.6627	-.000571	.0006055	.0413471	-.000754	.0008416
Stddev	2.3370	.000061	.0001563	.0082266	.000415	.0001661
%RSD	.7025275	10.64061	25.80933	19.89641	54.99250	19.73853
#1	334.9158	-.000505	.0007748	.0496301	-.000542	.0007511
#2	332.8223	-.000583	.0004667	.0331781	-.000489	.0007403
#3	330.2499	-.000625	.0005751	.0412333	-.001232	.0010333

Sample Name: PB164986TB Acquired: 11/19/2024 15:40:21 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002094	.0003043	.0135092	.0051610	.0091046	.0003690
Stddev	.000213	.0001555	.0046176	.0012744	.0051219	.0018971
%RSD	10.18157	51.10742	34.18091	24.69309	56.25667	514.0856
#1	-.001850	.0002696	.0097190	.0063726	.0113826	-.000998
#2	-.002188	.0004742	.0121567	.0038319	.0126923	-.000430
#3	-.002244	.0001690	.0186521	.0052784	.0032388	.002535

Elem	Sr4077
Units	ppm
Avg	-.000129
Stddev	.000016
%RSD	12.19810
#1	-.000125
#2	-.000146
#3	-.000116

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2386.161	55114.46	13649.52	1673.867	3916.747
Stddev	5.228	180.79	23.99	6.709	4.188
%RSD	.2191054	.3280197	.1757564	.4008015	.1069241
#1	2391.211	55081.34	13622.45	1675.249	3919.594
#2	2386.502	54952.53	13668.15	1666.575	3918.709
#3	2380.771	55309.52	13657.96	1679.778	3911.938

Sample Name: PB165049BL Acquired: 11/19/2024 15:44:50 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007135	-.000985	.0006924	.0014328	.0007047	-.000259	-.000606
Stddev	.0021121	.000664	.0005020	.0002251	.0005854	.002148	.000638
%RSD	296.0025	67.39685	72.49370	15.71113	83.05954	828.4776	105.3359
#1	-.001268	-.000315	.0001225	.0015994	.0001094	.002050	-.000627
#2	.000473	-.001642	.0008860	.0015222	.0007252	-.000629	-.001234
#3	.002936	-.000999	.0010687	.0011767	.0012796	-.002198	.000043
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000012	-.000038	.0091294	.0001974	-.000079	-.000322	-.003788
Stddev	.000026	.000023	.0088632	.0002271	.000047	.000142	.002458
%RSD	220.7461	60.65369	97.08373	115.0383	58.73611	44.23417	64.88190
#1	-.000018	-.000033	.0057925	.0001632	-.000078	-.000453	-.004591
#2	-.000035	-.000018	.0024190	-.000011	-.000126	-.000170	-.005745
#3	.000017	-.000063	.0191766	.000440	-.000033	-.000342	-.001030
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003770	-.001713	-.000217	-.000344	.1225175	-.001220	.0006859
Stddev	.0002960	.008143	.000367	.000391	.0203482	.000553	.0003094
%RSD	78.51508	475.5023	168.9739	113.9156	16.60838	45.34631	45.11321
#1	.0006474	.005232	.000067	-.000106	.0996931	-.001734	.0009954
#2	.0000607	.000306	-.000087	-.000795	.1290992	-.001290	.0003765
#3	.0004229	-.010675	-.000631	-.000129	.1387602	-.000635	.0006858
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1051456	-.000335	-.000307	-.003949	-.000133	.0070568	-.000149
Stddev	.0319167	.000448	.000250	.000162	.000126	.0030599	.001631
%RSD	30.35481	133.6668	81.50257	4.096212	95.24553	43.36150	1091.542
#1	.0732581	-.000094	-.000168	-.004110	-.000275	.0092149	.001505
#2	.1050870	-.000852	-.000595	-.003787	-.000034	.0035549	-.000197
#3	.1370915	-.000060	-.000157	-.003950	-.000088	.0084005	-.001756

Sample Name: PB165049BL Acquired: 11/19/2024 15:44:50 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001949	-.000226	-.000066
Stddev	.002043	.001482	.000022
%RSD	104.7918	655.6388	33.75131
#1	-.004302	-.001717	-.000085
#2	-.000915	.001246	-.000071
#3	-.000630	-.000206	-.000042

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2691.485	62635.89	13947.99	1904.663	4696.909
Stddev	8.352	125.58	39.60	9.170	10.356
%RSD	.3103038	.2004876	.2838789	.4814507	.2204811
#1	2684.077	62496.76	13909.48	1896.973	4687.554
#2	2689.841	62670.08	13945.89	1914.811	4695.138
#3	2700.536	62740.83	13988.59	1902.204	4708.037

Sample Name: PB165049BS Acquired: 11/19/2024 15:49:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8023184	1.979555	1.024735	2.014651	.8050831	2.089549
Stddev	.0069752	.019770	.005633	.008816	.0007714	.006077
%RSD	.8693873	.9987073	.5497177	.4376105	.0958106	.2908391
#1	.8063255	1.965035	1.022912	2.014926	.8058070	2.095630
#2	.7942641	1.971561	1.020240	2.005701	.8051704	2.089542
#3	.8063657	2.002071	1.031054	2.023327	.8042718	2.083475
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2135684	.2205160	.2043798	1.104395	.4237481	.2058213
Stddev	.0005336	.0001491	.0001934	.002986	.0016961	.0003468
%RSD	.2498550	.0676103	.0946247	.2703491	.4002609	.1684813
#1	.2140069	.2203797	.2041652	1.107825	.4219494	.2054427
#2	.2137240	.2204930	.2045405	1.102980	.4239765	.2058974
#3	.2129743	.2206752	.2044339	1.102379	.4253184	.2061236
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3232187	3.099294	.2199370	2.110294	.5174734	.0779154
Stddev	.0010781	.002437	.0008619	.012683	.0007816	.0000387
%RSD	.3335360	.0786402	.3918902	.6010159	.1510391	.0497175
#1	.3226603	3.096480	.2196678	2.095856	.5176176	.0779346
#2	.3225344	3.100735	.2209014	2.115387	.5166298	.0778708
#3	.3244614	3.100666	.2192418	2.119639	.5181729	.0779408
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.965036	.3204667	.2187881	9.949541	.3254523	.4242325
Stddev	.008361	.0011979	.0006308	.008919	.0007112	.0012928
%RSD	.2819992	.3738107	.2883382	.0896389	.2185351	.3047286
#1	2.958143	.3210955	.2192634	9.943285	.3262587	.4245481
#2	2.974337	.3212193	.2180724	9.959754	.3251839	.4228112
#3	2.962628	.3190853	.2190285	9.945586	.3249144	.4253383

Sample Name: PB165049BS Acquired: 11/19/2024 15:49:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7078463	.2116828	F .7374253	6.032666	F -.011829	.2011852
Stddev	.0015470	.0005432	.0054703	.008769	.001002	.0004148
%RSD	.2185458	.2565993	.7418138	.1453668	8.471500	.2061627
#1	.7061369	.2111941	.7435244	6.029646	-.012604	.2008468
#2	.7091500	.2122676	.7329525	6.025805	-.010697	.2010608
#3	.7082519	.2115867	.7357991	6.042546	-.012186	.2016479

Elem	Sr4077
Units	ppm
Avg	.2181824
Stddev	.0006540
%RSD	.2997254
#1	.2189185
#2	.2179601
#3	.2176685

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2685.068	61031.55	13550.69	1878.058	4570.524
Stddev	8.786	46.13	33.78	7.635	6.484
%RSD	.3272041	.0755904	.2493042	.4065514	.1418582
#1	2685.533	60993.26	13512.11	1869.293	4571.751
#2	2693.611	61018.62	13564.94	1883.262	4576.307
#3	2676.059	61082.77	13575.01	1881.620	4563.515

Sample Name: P4892-01DLX5 Acquired: 11/19/2024 15:53:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0994422	-.000357	1.056667	-.008401	-.005872	26.81434
Stddev	.0004658	.002019	.003214	.001523	.000893	.15236
%RSD	.4683754	566.0725	.3041439	18.13047	15.20120	.5682118
#1	.0989171	-.001373	1.057069	-.008173	-.004995	26.69076
#2	.0996040	-.001665	1.059660	-.007005	-.005843	26.98458
#3	.0998055	.001968	1.053270	-.010025	-.006779	26.76770
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5937578	.0027340	.0197768	8.699790	.7628169	.0242909
Stddev	.0028612	.0000241	.0000938	.084896	.0060908	.0001932
%RSD	.4818815	.8816016	.4740729	.9758405	.7984608	.7953488
#1	.5925831	.0027203	.0198626	8.631360	.7559921	.0245094
#2	.5970194	.0027619	.0197913	8.794794	.7677007	.0242205
#3	.5916709	.0027200	.0196767	8.673215	.7647578	.0241428
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8983312	61.85340	.6476662	12.24124	.1232282	.0090707
Stddev	.0029069	.36758	.0048411	.16438	.0005784	.0002345
%RSD	.3235868	.5942745	.7474636	1.342828	.4693374	2.584813
#1	.8994834	61.46594	.6441847	12.09626	.1231796	.0088027
#2	.9004854	62.19720	.6531944	12.41982	.1238294	.0091718
#3	.8950249	61.89707	.6456194	12.20764	.1226757	.0092377
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.97091	.0985006	1.923641	3.992455	.0521421	.0029997
Stddev	.02199	.0011963	.007850	.013969	.0004577	.0002991
%RSD	.1837007	1.214467	.4080544	.3498943	.8778021	9.971202
#1	11.99183	.0980925	1.914791	3.980604	.0517269	.0026628
#2	11.97291	.0998474	1.926375	4.007857	.0526329	.0032341
#3	11.94799	.0975617	1.929759	3.988904	.0520664	.0031022

Sample Name: P4892-01DLX5 Acquired: 11/19/2024 15:53:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9928344	.7531796	5.099162	3.494142	F 36.29237	.0437732
Stddev	.0012395	.0048486	.014162	.029335	.17255	.0012777
%RSD	.1248410	.6437478	.2777264	.8395451	.4754493	2.918871
#1	.9915943	.7493469	5.089894	3.516646	36.10480	.0429165
#2	.9940733	.7586303	5.115464	3.504815	36.44435	.0452418
#3	.9928356	.7515616	5.092130	3.460965	36.32798	.0431615

Elem	Sr4077
Units	ppm
Avg	.0697841
Stddev	.0004407
%RSD	.6315654
#1	.0700462
#2	.0700309
#3	.0692753

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2645.927	61516.59	14448.22	1853.124	4271.094
Stddev	8.915	103.38	76.17	1.009	13.863
%RSD	.3369215	.1680490	.5272122	.0544431	.3245842
#1	2639.663	61572.06	14482.57	1852.395	4261.339
#2	2641.985	61397.32	14360.92	1852.701	4264.979
#3	2656.133	61580.40	14501.17	1854.276	4286.963

Sample Name: P4341-02 Acquired: 11/19/2024 15:57:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.063074	.0505826	-.001216	.5508536	.0105399	.0782231
Stddev	.004750	.0031007	.000428	.0058900	.0019450	.0022103
%RSD	7.530175	6.129943	35.21720	1.069250	18.45375	2.825586
#1	-.060199	.0490341	-.001472	.5576108	.0098732	.0783000
#2	-.060467	.0485612	-.001455	.5468057	.0127307	.0803939
#3	-.068557	.0541525	-.000722	.5481445	.0090160	.0759754
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016559	.0002733	-.001246	.0899442	.0091848	.0015050
Stddev	.0004586	.0000765	.000078	.0077444	.0004329	.0001040
%RSD	27.69091	28.00459	6.233431	8.610215	4.713641	6.913551
#1	.0021396	.0002058	-.001234	.0836261	.0093677	.0013858
#2	.0012276	.0003565	-.001329	.0876226	.0094963	.0015513
#3	.0016006	.0002576	-.001175	.0985838	.0086905	.0015779
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0155982	.1036853	.0025849	.0133198	.0024295	.0004788
Stddev	.0005855	.0035673	.0001130	.0053693	.0000632	.0000778
%RSD	3.753464	3.440473	4.370399	40.31082	2.602146	16.24195
#1	.0156908	.1059345	.0026832	.0072398	.0024406	.0003936
#2	.0149720	.1055492	.0026099	.0174107	.0024866	.0005461
#3	.0161319	.0995722	.0024615	.0153089	.0023616	.0004966
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.86100	-.000537	.0541096	751.3683	-.010542	.0193250
Stddev	.21588	.000207	.0013449	12.8336	.000631	.0004437
%RSD	1.452677	38.57914	2.485420	1.708026	5.981240	2.295937
#1	15.10316	-.000774	.0555761	764.9038	-.009823	.0193003
#2	14.79116	-.000395	.0538188	749.8249	-.010804	.0188942
#3	14.68869	-.000440	.0529340	739.3762	-.010999	.0197806

Sample Name: P4341-02 Acquired: 11/19/2024 15:57:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2672539	.0010874	.3985223	F 161.4364	4.388327	-.000289
Stddev	.0042352	.0000220	.0205990	.6078	.036276	.001778
%RSD	1.584709	2.019130	5.168856	.3764826	.8266446	614.8318
#1	.2719307	.0010797	.4217543	162.1368	4.427123	-.001025
#2	.2661537	.0010704	.3913251	161.0477	4.382608	-.001581
#3	.2636774	.0011122	.3824874	161.1248	4.355251	.001739

Elem	Sr4077
Units	ppm
Avg	.0002277
Stddev	.0000386
%RSD	16.92964
#1	.0002711
#2	.0001975
#3	.0002145

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1628.387	42084.01	12448.63	1122.891	3316.220
Stddev	15.058	477.09	36.62	14.646	24.178
%RSD	.9246963	1.133661	.2941458	1.304335	.7290776
#1	1611.023	41575.68	12406.54	1109.914	3288.307
#2	1636.290	42154.30	12466.11	1119.988	3329.730
#3	1637.848	42522.06	12473.22	1138.772	3330.623

Sample Name: P4860-01 Acquired: 11/19/2024 16:01:45 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	-.000392	-.006350	.0196655	-.001604	.0050990	5.393181	.0181154	3
Stddev	.005624	.004263	.0027100	.000773	.0008423	.193119	.0000412	4
%RSD	1433.481	67.12871	13.78062	48.20527	16.51805	3.580790	.2276336	5
#1	.005411	-.002561	.0184256	-.002239	.0047545	5.606470	.0181369	7
#2	-.000770	-.005524	.0177972	-.001830	.0044837	5.342889	.0180679	8
#3	-.005818	-.010965	.0227737	-.000743	.0060589	5.230184	.0181415	9
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	10
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	11
Avg	.0005541	.0008534	2.434204	.0409097	.0018027	.0258175	30.45282	12
Stddev	.0000387	.0007596	.082813	.0008403	.0006363	.0084297	.66854	13
%RSD	6.988935	89.00671	3.402060	2.054062	35.29610	32.65086	2.195335	14
#1	.0005154	.0004392	2.521651	.0415485	.0013676	.0215813	31.08909	15
#2	.0005929	.0003909	2.423989	.0412229	.0015075	.0203462	30.51327	16
#3	.0005540	.0017300	2.356973	.0399578	.0025330	.0355251	29.75611	17
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0713895	.2650111	.0069041	.0006038	.3859501	.0678928	.0904232	
Stddev	.0023699	.0094737	.0009446	.0001544	.0038383	.0027517	.0017569	
%RSD	3.319708	3.574824	13.68229	25.56692	.9945062	4.053068	1.943016	
#1	.0738857	.2754198	.0064385	.0004439	.3843706	.0708978	.0923473	
#2	.0711127	.2627216	.0062825	.0007520	.3903261	.0672845	.0900181	
#3	.0691701	.2568920	.0079911	.0006155	.3831536	.0654961	.0889042	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.8106781	.0141881	.0013396	.0016980	1.058769	2.005730	.4432453	
Stddev	.0060164	.0006059	.0002451	.0006224	.038030	.031494	.0654472	
%RSD	.7421485	4.270610	18.29729	36.65836	3.591891	1.570202	14.76545	
#1	.8174360	.0148788	.0012675	.0017946	1.099467	2.040394	.4125301	
#2	.8059044	.0139391	.0011387	.0010329	1.052702	1.997922	.3988052	
#3	.8086939	.0137463	.0016127	.0022665	1.024137	1.978875	.5184006	

Sample Name: P4860-01 Acquired: 11/19/2024 16:01:45 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4127411	.0001455	-.010416
Stddev	.0619031	.0009710	.000175
%RSD	14.99804	667.5077	1.680241
#1	.3812581	.0009263	-.010314
#2	.3729074	.0004518	-.010618
#3	.4840578	-.000942	-.010317

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3048.168	68954.30	16068.06	2084.807	5206.234
Stddev	388.031	1434.46	525.70	43.763	646.005
%RSD	12.72997	2.080308	3.271719	2.099145	12.40829
#1	3207.155	67507.15	15496.56	2043.829	5476.667
#2	3331.456	68980.03	16176.61	2079.688	5673.073
#3	2605.894	70375.72	16531.02	2130.905	4468.961

Sample Name: P4860-02 Acquired: 11/19/2024 16:06:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000828	-.007667	.0705317	-.006740	.0016792	18.69952	.0837654
Stddev	.000672	.001463	.0004422	.002739	.0018431	.06142	.0008537
%RSD	81.16904	19.07576	.6268968	40.63214	109.7565	.3284530	1.019172
#1	-.001604	-.009298	.0703687	-.006496	.0024604	18.77038	.0847429
#2	-.000445	-.006474	.0710322	-.004132	.0030031	18.66158	.0831663
#3	-.000435	-.007229	.0701941	-.009593	-.000426	18.66660	.0833870
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009716	.0022251	5.720034	.1003997	.0035702	.0961343	40.66134
Stddev	.0000488	.0000780	.020849	.0013184	.0000877	.0001444	.59324
%RSD	5.024296	3.506942	.3644935	1.313129	2.457336	.1502091	1.458987
#1	.0009586	.0023141	5.742521	.0988835	.0036702	.0962995	40.02179
#2	.0009307	.0021925	5.716233	.1010400	.0035345	.0960320	41.19366
#3	.0010256	.0021686	5.701346	.1012758	.0035061	.0960714	40.76855
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1653891	.7459187	.0395606	.0026066	.5082088	.0883897	.4169867
Stddev	.0008234	.0062417	.0002858	.0001517	.0133299	.0009363	.0050233
%RSD	.4978575	.8367837	.7225085	5.818710	2.622919	1.059232	1.204664
#1	.1662280	.7520842	.0392526	.0024861	.4929684	.0894704	.4119611
#2	.1645822	.7460686	.0398173	.0025569	.5139622	.0878760	.4220077
#3	.1653571	.7396034	.0396118	.0027769	.5176958	.0878227	.4169914
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.266482	.0210534	.0016157	.0148910	1.774898	6.731202	1.689526
Stddev	.008530	.0013075	.0002211	.0007429	.009733	.104317	.007164
%RSD	.6735537	6.210448	13.68421	4.989141	.5483630	1.549760	.4240075
#1	1.267279	.0195571	.0017737	.0145641	1.785945	6.620535	1.683157
#2	1.274587	.0219761	.0017103	.0157414	1.771165	6.827727	1.697281
#3	1.257582	.0216269	.0013630	.0143676	1.767585	6.745344	1.688139

Sample Name: P4860-02 Acquired: 11/19/2024 16:06:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.048902	.0038583	-.008846
Stddev	.005585	.0018496	.000883
%RSD	.5324635	47.93912	9.978662
#1	1.047465	.0059932	-.007853
#2	1.055065	.0027376	-.009542
#3	1.044176	.0028441	-.009144

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2690.090	63223.83	14328.94	1882.316	4574.609
Stddev	7.761	634.50	109.61	13.744	7.543
%RSD	.2885101	1.003580	.7649211	.7301678	.1648991
#1	2683.277	63888.35	14204.18	1889.303	4571.481
#2	2688.454	62624.35	14372.88	1866.482	4569.133
#3	2698.538	63158.80	14409.75	1891.164	4583.214

Sample Name: P4860-03 Acquired: 11/19/2024 16:10:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016912	-.008628	.0836404	-.004014	.0024047	19.52261	.1208627
Stddev	.0011470	.002233	.0002522	.001520	.0008549	.11658	.0008171
%RSD	67.82256	25.88760	.3015033	37.87125	35.54968	.5971419	.6761019

#1	.0015512	-.010894	.0834205	-.003015	.0031755	19.39847	.1199283
#2	.0029017	-.006429	.0835849	-.003264	.0014853	19.53961	.1212163
#3	.0006206	-.008560	.0839157	-.005763	.0025533	19.62975	.1214435

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007458	.0021578	10.33535	.1075790	.0044735	.1590718	29.64722
Stddev	.0000224	.0000250	.05554	.0006038	.0001607	.0004814	.13349
%RSD	3.002120	1.159315	.5373602	.5612466	3.592249	.3026528	.4502640

#1	.0007494	.0021866	10.27227	.1082688	.0044225	.1585798	29.49432
#2	.0007662	.0021455	10.35690	.1073219	.0043444	.1595419	29.70676
#3	.0007219	.0021413	10.37689	.1071464	.0046535	.1590937	29.74057

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1617848	1.804106	.0703472	.0043179	.3401903	.0655924	.3346017
Stddev	.0009962	.005566	.0000447	.0001470	.0076167	.0014079	.0017931
%RSD	.6157415	.3085022	.0635966	3.404707	2.238952	2.146449	.5358816

#1	.1607007	1.801645	.0703458	.0042745	.3341146	.0643511	.3327023
#2	.1619938	1.810478	.0703032	.0041974	.3487353	.0653039	.3362651
#3	.1626599	1.800195	.0703926	.0044817	.3377210	.0671222	.3348378

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.341632	.0180036	.0020245	.0265266	1.213595	6.572662	2.583695
Stddev	.018309	.0007487	.0001180	.0011123	.007187	.026382	.008874
%RSD	1.364677	4.158324	5.827724	4.193280	.5921963	.4013923	.3434521

#1	1.349787	.0171686	.0019276	.0270052	1.205363	6.543355	2.587170
#2	1.320663	.0186150	.0021558	.0273196	1.218623	6.580114	2.573609
#3	1.354447	.0182272	.0019900	.0252551	1.216798	6.594516	2.590305

Sample Name: P4860-03 Acquired: 11/19/2024 16:10:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	1.331182	.0074729	.0186081		
Stddev	.002595	.0008608	.0002097		
%RSD	.1949056	11.51873	1.126811		
#1	1.328407	.0084666	.0184440		
#2	1.331591	.0069958	.0185360		
#3	1.333547	.0069563	.0188443		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2711.045	63532.98	14336.00	1909.729	4596.580
Stddev	5.315	78.75	14.96	8.062	7.101
%RSD	.1960589	.1239491	.1043469	.4221317	.1544947
#1	2716.051	63586.48	14353.01	1912.630	4600.810
#2	2711.619	63442.55	14330.10	1900.619	4600.549
#3	2705.467	63569.91	14324.90	1915.939	4588.382

Sample Name: P4860-04 Acquired: 11/19/2024 16:14:26 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	.0122551	.0051304	.0653763	-.049211	-.001133	29.01428	.0804476	3
Stddev	.0032578	.0016231	.0014689	.001203	.001261	.08315	.0002798	4
%RSD	26.58341	31.63721	2.246786	2.444939	111.2989	.2865890	.3477645	5
#1	.0085270	.0045597	.0642385	-.049964	-.002249	28.98116	.0802155	6
#2	.0136842	.0038698	.0648560	-.047823	-.001384	28.95278	.0807583	7
#3	.0145541	.0069618	.0670345	-.049845	.000235	29.10888	.0803692	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0046767	.0079148	7.769528	.3990428	.0097877	.1142136	225.6148	11
Stddev	.0001234	.0002875	.012865	.0033981	.0000686	.0013204	3.2562	12
%RSD	2.639318	3.632258	.1655769	.8515708	.7010311	1.156082	1.443268	13
#1	.0045620	.0079013	7.784224	.3998554	.0097090	.1140715	225.8099	14
#2	.0048073	.0082088	7.764055	.3953120	.0098349	.1155993	222.2654	15
#3	.0046606	.0076343	7.760305	.4019610	.0098192	.1129700	228.7691	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0644627	.8380715	.0225719	.0020945	.1531664	.2409586	.1696371	
Stddev	.0004943	.0104466	.0004735	.0001414	.0024534	.0004397	.0018916	
%RSD	.7668055	1.246499	2.097868	6.752543	1.601779	.1824845	1.115109	
#1	.0648861	.8479474	.0226352	.0019371	.1503548	.2410880	.1695622	
#2	.0639195	.8271352	.0230106	.0021356	.1548730	.2404687	.1677840	
#3	.0645824	.8391320	.0220699	.0022109	.1542713	.2413190	.1715651	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.8755467	.0936551	.0063072	.0040887	2.056542	5.401094	2.733207	
Stddev	.0510505	.0041705	.0001683	.0005023	.004926	.076249	.006319	
%RSD	5.830702	4.453050	2.667894	12.28447	.2395046	1.411736	.2311836	
#1	.8751648	.0925578	.0061344	.0043104	2.058609	5.409126	2.740128	
#2	.8246882	.0901430	.0064705	.0035137	2.050920	5.321146	2.727747	
#3	.9267871	.0982646	.0063167	.0044419	2.060098	5.473009	2.731744	

Sample Name: P4860-04 Acquired: 11/19/2024 16:14:26 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.296882	.0034103	-.190290
Stddev	.005829	.0004541	.003159
%RSD	.4494491	13.31636	1.659973
#1	1.296534	.0031315	-.190476
#2	1.291235	.0039344	-.187042
#3	1.302877	.0031651	-.193351

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2607.703	60796.53	14113.90	1820.314	4346.397
Stddev	9.408	778.62	36.78	29.625	12.034
%RSD	.3607717	1.280694	.2606073	1.627475	.2768617
#1	2610.142	60592.42	14071.48	1817.122	4350.530
#2	2615.651	61656.87	14136.86	1851.406	4355.819
#3	2597.316	60140.29	14133.37	1792.415	4332.841

Sample Name: CCV05 Acquired: 11/19/2024 16:18:36 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	5.214454	5.210920	5.172696	5.242353	5.215554	10.36362	10.29947	3
Stddev	.016647	.061252	.008907	.010278	.012417	.10439	.01742	4
%RSD	.3192539	1.175460	.1721993	.1960549	.2380773	1.007268	.1691649	5
#1	5.202521	5.147398	5.182981	5.234677	5.207943	10.41772	10.30979	7
#2	5.207370	5.215744	5.167433	5.238353	5.208837	10.42986	10.30925	8
#3	5.233472	5.269617	5.167675	5.254030	5.229883	10.24329	10.27935	9
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	10
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	11
Avg	.2568221	2.579126	25.58120	1.052979	2.580699	1.312746	5.140225	12
Stddev	.0023589	.004297	.27804	.003265	.004530	.000876	.033445	13
%RSD	.9185125	.1666189	1.086875	.3100877	.1755206	.0667086	.6506441	14
#1	.2580509	2.583985	25.73897	1.055879	2.585504	1.312074	5.173018	15
#2	.2583129	2.575824	25.74447	1.053615	2.576507	1.312428	5.141491	16
#3	.2541024	2.577569	25.26017	1.049443	2.580084	1.313736	5.106165	17
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	2.539836	25.58909	2.587902	1.291213	25.33888	2.586596	2.636953	
Stddev	.034843	.26759	.003821	.004377	.27425	.026204	.007634	
%RSD	1.371878	1.045702	.1476485	.3389498	1.082326	1.013069	.2895044	
#1	2.560374	25.72095	2.591275	1.295997	25.60451	2.600368	2.644778	
#2	2.559529	25.76516	2.583752	1.290233	25.35539	2.603042	2.636556	
#3	2.499605	25.28117	2.588679	1.287410	25.05675	2.556378	2.629525	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	25.70181	5.108152	5.290266	5.180153	5.100383	5.099799	5.186793	
Stddev	.16026	.044153	.008956	.003925	.065591	.020609	.017471	
%RSD	.6235473	.8643546	.1692995	.0757713	1.286003	.4041090	.3368357	
#1	25.84343	5.137248	5.282232	5.180323	5.144032	5.093992	5.183269	
#2	25.73416	5.129860	5.288642	5.176146	5.132162	5.082718	5.171352	
#3	25.52784	5.057348	5.299923	5.183990	5.024956	5.122689	5.205757	

Sample Name: CCV05 Acquired: 11/19/2024 16:18:36 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	4.997121	5.035715	5.238599		
Stddev	.013739	.089745	.073912		
%RSD	.2749429	1.782173	1.410918		
#1	4.983236	5.104722	5.313244		
#2	4.997418	5.068165	5.237109		
#3	5.010710	4.934259	5.165442		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2516.624	58335.67	13866.70	1745.899	4105.548
Stddev	4.345	255.56	142.63	10.929	8.553
%RSD	.1726552	.4380884	1.028577	.6259538	.2083306
#1	2515.437	58043.01	13749.40	1733.378	4097.949
#2	2521.439	58449.24	13825.23	1753.522	4114.810
#3	2512.995	58514.77	14025.47	1750.797	4103.884

Sample Name: CCB05 Acquired: 11/19/2024 16:22:47 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004637	-.003492	-.000186	.0011034	.0012418	.0014925	-.000925
Stddev	.0018800	.000459	.000718	.0003536	.0013217	.0003103	.000194
%RSD	405.4264	13.13567	386.1918	32.04667	106.4271	20.79314	20.98309
#1	-.001064	-.003935	-.000800	.0008949	.0000196	.0018265	-.000703
#2	.002563	-.003019	.000603	.0009037	.0026444	.0014378	-.001064
#3	-.000108	-.003523	-.000361	.0015117	.0010615	.0012131	-.001008
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000039	.0000573	-.021394	.0003009	-.000188	-.000146	-.001721
Stddev	.000034	.0000548	.005025	.0002884	.000146	.000175	.001216
%RSD	87.87791	95.52649	23.48949	95.84725	77.93025	119.7843	70.64848
#1	.000000	.0001205	-.017524	.0005382	-.000113	-.000243	-.002001
#2	-.000055	.0000234	-.019584	.0003847	-.000356	-.000251	-.000390
#3	-.000061	.0000281	-.027073	-.000020	-.000094	.000056	-.002773
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000528	.0021929	-.000334	-.000175	.0237542	-.000366	-.001071
Stddev	.0002163	.0032619	.000187	.000258	.0119995	.000823	.000009
%RSD	409.8789	148.7427	56.02134	147.3259	50.51521	224.7169	.8460392
#1	-.000151	-.000531	-.000287	-.000045	.0134768	.000085	-.001082
#2	.000029	.005808	-.000541	-.000472	.0208449	-.001316	-.001065
#3	.000280	.001302	-.000175	-.000008	.0369407	.000133	-.001067
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0889038	.0035648	.0001408	.0102591	.0002724	.0094652	.0004207
Stddev	.0157273	.0002804	.0001207	.0005098	.0000593	.0034665	.0017036
%RSD	17.69029	7.864602	85.77488	4.969771	21.78743	36.62316	404.9305
#1	.0709092	.0035805	.0002769	.0103983	.0002563	.0076224	.0005393
#2	.0957811	.0032769	.0000986	.0106849	.0002228	.0134638	-.001339
#3	.1000211	.0038370	.0000468	.0096941	.0003381	.0073094	.002062

Sample Name: CCB05 Acquired: 11/19/2024 16:22:47 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004996	-.000379	.0000599
Stddev	.002041	.001380	.0000110
%RSD	40.84993	363.9452	18.41103
#1	-.007248	-.001329	.0000643
#2	-.003270	-.001012	.0000473
#3	-.004468	.001204	.0000680

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2716.434	63451.05	14202.89	1910.265	4707.124
Stddev	3.675	144.17	58.12	4.384	8.498
%RSD	.1352755	.2272174	.4092238	.2295201	.1805344
#1	2715.566	63297.52	14136.17	1905.617	4714.265
#2	2720.465	63472.07	14229.93	1914.326	4709.381
#3	2713.271	63583.56	14242.56	1910.852	4697.725

Sample Name: P4860-05 Acquired: 11/19/2024 16:27:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	.0149951	.0003458	.0333837	-.025046	.0025074	17.52067	.0479309	3
Stddev	.0029436	.0012244	.0020984	.003683	.0005216	.16561	.0004934	4
%RSD	19.63020	354.0946	6.285580	14.70629	20.80355	.9452390	1.029399	5
#1	.0171524	.0008460	.0321692	-.024304	.0029226	17.34448	.0474882	6
#2	.0116418	-.001050	.0358067	-.029044	.0019219	17.54439	.0478416	7
#3	.0161911	.001241	.0321752	-.021790	.0026778	17.67315	.0484628	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0026160	.0038235	2.222566	.1016936	.0064705	.0530668	126.5327	11
Stddev	.0001403	.0001071	.007191	.0005205	.0001427	.0007405	.5276	12
%RSD	5.364836	2.800091	.3235644	.5118034	2.205370	1.395359	.4169553	13
#1	.0025583	.0038659	2.214433	.1014668	.0065688	.0539059	125.9365	14
#2	.0027760	.0037018	2.228082	.1022890	.0065360	.0525050	126.9392	15
#3	.0025137	.0039029	2.225185	.1013251	.0063069	.0527896	126.7225	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0732717	1.253832	.0138482	.0008853	.1246999	.1206382	.0922691	
Stddev	.0002776	.009196	.0004233	.0002699	.0100173	.0011616	.0004749	
%RSD	.3788723	.7334371	3.056571	30.49123	8.033125	.9628984	.5146838	
#1	.0729779	1.243310	.0133596	.0009843	.1148968	.1193785	.0921384	
#2	.0733078	1.260332	.0140804	.0005799	.1242843	.1208689	.0918733	
#3	.0735295	1.257854	.0141045	.0010918	.1349185	.1216671	.0927957	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.803632	.0577654	.0022046	-.001793	1.376818	6.245893	1.027125	
Stddev	.034204	.0004941	.0002387	.000331	.013287	.034800	.002995	
%RSD	1.896381	.8554380	10.82494	18.45797	.9650472	.5571740	.2916058	
#1	1.764847	.0580061	.0021659	-.001601	1.362334	6.205772	1.030413	
#2	1.829482	.0580930	.0024603	-.002175	1.379681	6.267909	1.026410	
#3	1.816566	.0571970	.0019877	-.001603	1.388441	6.263997	1.024551	

Sample Name: P4860-05 Acquired: 11/19/2024 16:27:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.187311	.0073231	-.108191
Stddev	.007834	.0010001	.000411
%RSD	.6597851	13.65730	.3800686

#1	1.189562	.0072760	-.107769
#2	1.193772	.0083459	-.108591
#3	1.178598	.0063473	-.108212

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2703.886	62686.54	14595.02	1893.488	4535.549
Stddev	7.131	144.02	50.05	11.936	11.049
%RSD	.2637398	.2297390	.3428920	.6303888	.2436028

#1	2695.663	62795.87	14649.38	1901.838	4523.226
#2	2708.371	62523.36	14584.83	1879.816	4538.847
#3	2707.624	62740.39	14550.86	1898.809	4544.573

Sample Name: P4860-06 Acquired: 11/19/2024 16:31:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056492	-.003507	.0237337	-.017330	.0015512	12.50546	.0182493
Stddev	.0020507	.002782	.0003992	.001582	.0004872	.03303	.0006953
%RSD	36.30015	79.31673	1.682183	9.130614	31.40596	.2640869	3.809994
#1	.0056783	-.005828	.0239951	-.015714	.0018956	12.48861	.0175736
#2	.0076851	-.000424	.0239318	-.018876	.0017642	12.54352	.0189626
#3	.0035841	-.004270	.0232741	-.017401	.0009938	12.48427	.0182116
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018293	.0024487	1.197728	.0637945	.0032884	.0332744	87.79931
Stddev	.0000374	.0001088	.010444	.0004275	.0001503	.0011734	.20214
%RSD	2.042947	4.444703	.8719614	.6701039	4.569497	3.526509	.2302244
#1	.0018698	.0025524	1.209679	.0642814	.0032775	.0337825	87.57269
#2	.0017961	.0023354	1.190356	.0636216	.0031438	.0319325	87.86421
#3	.0018220	.0024583	1.193150	.0634806	.0034437	.0341082	87.96102
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0429755	.3876120	.0072252	.0007790	.0291724	.0820274	.0602105
Stddev	.0002757	.0049160	.0000999	.0001103	.0052921	.0014504	.0006944
%RSD	.6414070	1.268273	1.382946	14.15563	18.14081	1.768200	1.153218
#1	.0430140	.3874010	.0071411	.0006755	.0237802	.0803914	.0608121
#2	.0432299	.3828049	.0073357	.0008950	.0343584	.0831557	.0594507
#3	.0426827	.3926301	.0071989	.0007667	.0293784	.0825351	.0603688
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5052800	.0336477	.0025332	-.002779	1.436515	3.149768	.6991428
Stddev	.0167731	.0007519	.0002117	.001087	.007135	.003121	.0007824
%RSD	3.319569	2.234538	8.355761	39.09052	.4966725	.0990904	.1119082
#1	.4865968	.0335010	.0027337	-.001730	1.434722	3.148225	.6989581
#2	.5102012	.0329800	.0023119	-.003900	1.444375	3.147719	.6984693
#3	.5190420	.0344621	.0025539	-.002708	1.430447	3.153360	.7000010

Sample Name: P4860-06 Acquired: 11/19/2024 16:31:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1639930	.0015141	-.081369
Stddev	.0019944	.0022305	.000206
%RSD	1.216153	147.3186	.2528633
#1	.1630414	.0001590	-.081174
#2	.1626526	.0002948	-.081348
#3	.1662849	.0040885	-.081584

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2691.598	62488.64	14239.56	1874.973	4555.819
Stddev	14.354	58.32	68.64	3.578	20.888
%RSD	.5332813	.0933293	.4820327	.1908076	.4585007
#1	2678.101	62421.88	14233.33	1872.881	4542.211
#2	2706.677	62529.67	14174.25	1872.935	4579.869
#3	2690.017	62514.36	14311.11	1879.104	4545.376

Sample Name: P4860-07 Acquired: 11/19/2024 16:35:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	.0029739	-.007953	.2313763	-.009319	.0011549	12.82657	.0888737	3
Stddev	.0014707	.000674	.0001556	.001571	.0008758	.15293	.0009297	4
%RSD	49.45147	8.474721	.0672468	16.86031	75.82646	1.192263	1.046052	5
#1	.0016211	-.007879	.2314759	-.008202	.0008816	12.65642	.0878701	7
#2	.0045393	-.007318	.2314561	-.008638	.0021348	12.95255	.0890455	8
#3	.0027614	-.008660	.2311970	-.011115	.0004484	12.87074	.0897054	9
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	10
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	11
Avg	.0011877	.0021605	6.198548	.0772146	.0053016	.0594491	51.19177	12
Stddev	.0000763	.0000230	.070147	.0001604	.0001241	.0002201	.33745	13
%RSD	6.427043	1.065781	1.131667	.2077126	2.340165	.3702244	.6591963	14
#1	.0011018	.0021544	6.117762	.0772078	.0053447	.0595546	50.89522	15
#2	.0012476	.0021411	6.244015	.0770578	.0053983	.0595967	51.12115	16
#3	.0012138	.0021859	6.233868	.0773783	.0051617	.0591962	51.55895	17
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.1444592	1.638929	.0129566	.0009225	.1251724	.0840563	.1606919	
Stddev	.0014176	.039008	.0003187	.0000526	.0103465	.0002786	.0008259	
%RSD	.9813066	2.380069	2.459696	5.704643	8.265780	.3314601	.5139937	
#1	.1430009	1.593889	.0128501	.0008618	.1147886	.0837539	.1616456	
#2	.1445445	1.661843	.0133149	.0009541	.1354811	.0843026	.1602053	
#3	.1458323	1.661055	.0127048	.0009518	.1252474	.0841125	.1602249	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.7960306	.0247384	.0019601	.0300933	1.513592	4.973580	.6885785	
Stddev	.0037845	.0003460	.0002818	.0010735	.015995	.027377	.0015992	
%RSD	.4754239	1.398735	14.37608	3.567115	1.056728	.5504564	.2322481	
#1	.7987380	.0247338	.0016351	.0297452	1.495529	4.949883	.6897771	
#2	.7976475	.0250866	.0021093	.0292371	1.525960	4.967307	.6891958	
#3	.7917062	.0243947	.0021360	.0312976	1.519286	5.003549	.6867627	

Sample Name: P4860-07 Acquired: 11/19/2024 16:35:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5161531	.0036642	-.030217
Stddev	.0023273	.0012519	.000262
%RSD	.4508885	34.16587	.8677288
#1	.5146704	.0039388	-.030235
#2	.5188354	.0022978	-.029946
#3	.5149534	.0047561	-.030470

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2670.729	62527.31	14427.62	1872.332	4552.240
Stddev	1.538	30.26	73.30	4.063	1.806
%RSD	.0575876	.0484010	.5080379	.2169833	.0396820
#1	2671.064	62519.77	14510.12	1867.644	4551.691
#2	2672.072	62560.63	14369.99	1874.835	4554.257
#3	2669.051	62501.52	14402.76	1874.516	4550.772

Sample Name: P4860-08 Acquired: 11/19/2024 16:39:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	.0056849	-.006077	.0472452	-.019668	.0007658	20.72917	.0660227	3
Stddev	.0022175	.002026	.0008481	.000742	.0003566	.05325	.0002586	4
%RSD	39.00616	33.33565	1.795124	3.772154	46.56326	.2568890	.3916037	5
#1	.0031418	-.005790	.0472108	-.018812	.0006277	20.70430	.0657350	6
#2	.0066983	-.004210	.0481099	-.020074	.0011708	20.79030	.0660973	7
#3	.0072147	-.008231	.0464147	-.020119	.0004989	20.69290	.0662356	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0020473	.0037374	13.01558	.1126233	.0051306	.0768976	100.8216	11
Stddev	.0000417	.0002732	.09383	.0009319	.0001018	.0019204	1.7282	12
%RSD	2.034793	7.308706	.7209158	.8274953	1.984596	2.497296	1.714159	13
#1	.0020783	.0040527	12.90744	.1116828	.0050502	.0791073	98.9339	14
#2	.0020636	.0035726	13.07542	.1126406	.0050964	.0759536	101.2050	15
#3	.0019999	.0035868	13.06389	.1135464	.0052451	.0756321	102.3260	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0734252	1.325037	.0101918	.0033632	1.282927	.1315546	.1837258	
Stddev	.0004196	.020178	.0001314	.0003771	.018029	.0003382	.0026025	
%RSD	.5714166	1.522837	1.289014	11.21195	1.405281	.2570543	1.416513	
#1	.0729421	1.313137	.0103423	.0029281	1.264599	.1315185	.1815449	
#2	.0736351	1.348334	.0100997	.0035955	1.283541	.1319094	.1830257	
#3	.0736984	1.313638	.0101335	.0035659	1.300641	.1312359	.1866067	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.846597	.0517215	.0025127	.0029577	1.967894	5.995298	2.109541	
Stddev	.035866	.0021141	.0002123	.0007653	.007011	.080639	.016610	
%RSD	1.942297	4.087523	8.446899	25.87552	.3562872	1.345039	.7873709	
#1	1.814570	.0495264	.0027480	.0027784	1.961807	5.906355	2.124218	
#2	1.839872	.0518939	.0024544	.0037968	1.975560	6.015905	2.091510	
#3	1.885350	.0537441	.0023357	.0022980	1.966314	6.063634	2.112896	

Sample Name: P4860-08 Acquired: 11/19/2024 16:39:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	.6512184	.0055689	-.064248		
Stddev	.0013595	.0008966	.001742		
%RSD	.2087615	16.10043	2.711070		
#1	.6525220	.0053134	-.062365		
#2	.6498092	.0048279	-.064575		
#3	.6513239	.0065656	-.065802		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2567.307	59922.98	14094.01	1775.092	4366.658
Stddev	6.317	531.49	33.40	22.459	9.146
%RSD	.2460529	.8869550	.2369998	1.265253	.2094547
#1	2562.015	60363.71	14055.62	1794.875	4361.362
#2	2574.300	60072.48	14116.38	1779.724	4377.219
#3	2565.605	59332.75	14110.05	1750.678	4361.392

Sample Name: P4860-09 Acquired: 11/19/2024 16:44:04 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	2
Avg	-.001650	-.012595	.0257386	-.011011	.0003915	11.99819	.0157282	3
Stddev	.002360	.001811	.0010383	.002254	.0006694	.08020	.0003815	4
%RSD	142.9931	14.37881	4.033963	20.47146	170.9903	.6684264	2.425607	5
#1	-.002552	-.010767	.0247540	-.011446	.0011292	11.98495	.0156453	6
#2	-.003427	-.014389	.0256386	-.013016	.0002227	12.08419	.0153949	7
#3	.001027	-.012628	.0268233	-.008571	-.000177	11.92544	.0161443	8
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	9
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	10
Avg	.0012224	.0022012	3.063337	.1614175	.0031742	.0403982	65.42242	11
Stddev	.0000731	.0001653	.027706	.0036333	.0001240	.0009069	1.11563	12
%RSD	5.978087	7.510573	.9044231	2.250860	3.905519	2.244998	1.705271	13
#1	.0011578	.0021980	3.081215	.1596239	.0030313	.0409416	64.54125	14
#2	.0013017	.0023681	3.077374	.1590299	.0032380	.0409018	65.04921	15
#3	.0012078	.0020375	3.031422	.1655988	.0032532	.0393512	66.67682	16
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138	17
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0602206	.4847203	.0090604	.0012768	1.231188	.1359759	.1125541	
Stddev	.0004384	.0115440	.0002671	.0001249	.022163	.0006604	.0023395	
%RSD	.7279662	2.381571	2.947563	9.779663	1.800100	.4856758	2.078527	
#1	.0597178	.4786019	.0089232	.0011328	1.211791	.1362896	.1102811	
#2	.0605228	.4980355	.0093682	.0013420	1.226428	.1364210	.1124262	
#3	.0604212	.4775234	.0088898	.0013555	1.255343	.1352171	.1149548	
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.174415	.0276450	.0031672	-.001326	1.735650	3.160258	1.086351	
Stddev	.041873	.0015430	.0002731	.000471	.010508	.032535	.001809	
%RSD	3.565428	5.581574	8.621334	35.48194	.6054272	1.029507	.1664842	
#1	1.147797	.0269403	.0029364	-.001581	1.731975	3.136792	1.088425	
#2	1.152767	.0265801	.0030966	-.000783	1.747501	3.146583	1.085523	
#3	1.222680	.0294145	.0034686	-.001615	1.727472	3.197398	1.085104	

Sample Name: P4860-09 Acquired: 11/19/2024 16:44:04 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	3.130931	.0006265	-.050562		
Stddev	.007436	.0007149	.001229		
%RSD	.2375168	114.1156	2.430277		
#1	3.139276	-.000166	-.049649		
#2	3.128509	.000822	-.050079		
#3	3.125007	.001223	-.051959		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2614.336	62698.62	14171.82	1833.388	4496.666
Stddev	9.379	905.08	67.06	26.158	14.839
%RSD	.3587444	1.443543	.4732191	1.426737	.3300098
#1	2612.965	63297.36	14200.51	1853.718	4497.025
#2	2605.717	63141.07	14095.19	1842.569	4481.650
#3	2624.324	61657.42	14219.77	1803.878	4511.322

Sample Name: P4860-10 Acquired: 11/19/2024 16:48:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018545	-.007404	.0121681	-.004891	.0012892	4.822766	.0101648
Stddev	.0022014	.002082	.0014297	.001142	.0005675	.012947	.0003282
%RSD	118.7079	28.12060	11.74938	23.33794	44.02110	.2684526	3.228655

#1	.0000519	-.006055	.0105292	-.003574	.0008787	4.834773	.0101819
#2	.0012036	-.006354	.0128155	-.005509	.0010521	4.809049	.0104841
#3	.0043079	-.009802	.0131595	-.005591	.0019369	4.824475	.0098284

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006356	.0009084	1.796536	.0567424	.0016045	.0210442	34.10225
Stddev	.0000677	.0000762	.004412	.0003645	.0001315	.0004207	.23129
%RSD	10.65864	8.392495	.2455878	.6423236	8.195349	1.999220	.6782365

#1	.0006294	.0009459	1.791542	.0564629	.0014769	.0206882	33.85735
#2	.0007063	.0009585	1.798158	.0566097	.0017395	.0209359	34.31697
#3	.0005712	.0008206	1.799908	.0571547	.0015972	.0215085	34.13245

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0443014	.1980587	.0100077	.0002623	.3375402	.0730763	.0569509
Stddev	.0003307	.0017568	.0002244	.0003885	.0084403	.0006346	.0003884
%RSD	.7465461	.8870233	2.241940	148.1275	2.500539	.8683946	.6820847

#1	.0446803	.1961602	.0097975	-.000020	.3310364	.0730460	.0565417
#2	.0441535	.1983890	.0102439	.000705	.3470781	.0724574	.0573146
#3	.0440705	.1996270	.0099816	.000101	.3345060	.0737255	.0569963

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5605190	.0139783	.0014322	-.001980	.9540692	1.449662	.3722934
Stddev	.0346725	.0003669	.0001369	.000124	.0024573	.008317	.0017174
%RSD	6.185786	2.624604	9.561442	6.287264	.2575617	.5736973	.4612960

#1	.5205193	.0135673	.0013706	-.001893	.9562856	1.440315	.3741399
#2	.5790347	.0142728	.0015891	-.002123	.9514267	1.452427	.3707438
#3	.5820030	.0140948	.0013369	-.001925	.9544953	1.456244	.3719967

Sample Name: P4860-10 Acquired: 11/19/2024 16:48:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2400726	-.001128	-.026710
Stddev	.0013710	.001295	.000283
%RSD	.5710939	114.8343	1.058160
#1	.2413122	-.002618	-.026406
#2	.2403057	-.000481	-.026964
#3	.2386000	-.000284	-.026759

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2707.129	63331.20	14270.87	1911.640	4665.462
Stddev	2.487	502.31	53.85	15.014	9.258
%RSD	.0918502	.7931474	.3773239	.7854214	.1984298
#1	2709.656	63880.34	14208.90	1925.504	4676.102
#2	2707.046	62894.91	14306.22	1895.693	4661.034
#3	2704.685	63218.36	14297.50	1913.724	4659.250

Sample Name: P4870-01 Acquired: 11/19/2024 16:52:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1448359	.0040161	.3866067	-.133733	-.000464	170.4514
Stddev	.0004408	.0017732	.0027347	.000201	.003311	1.1236
%RSD	.3043376	44.15077	.7073661	.1505125	714.3659	.6591869
#1	.1445179	.0034763	.3896507	-.133573	.002182	169.1903
#2	.1453391	.0025757	.3858123	-.133667	-.004177	170.8181
#3	.1446508	.0059965	.3843571	-.133959	.000604	171.3459
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.092074	.0219642	.0473443	83.69444	.2730640	.3132144
Stddev	.005466	.0000849	.0016396	.40724	.0023863	.0023770
%RSD	.5005130	.3867382	3.463044	.4865781	.8738881	.7589118
#1	1.094050	.0219500	.0484139	83.31841	.2753869	.3158424
#2	1.096278	.0220554	.0481623	84.12699	.2731859	.3125864
#3	1.085895	.0218873	.0454567	83.63793	.2706191	.3112145
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7529863	541.6553	26.76969	53.53855	.2344825	-.005566
Stddev	.0079722	3.8441	.12792	.29948	.0016480	.000802
%RSD	1.058748	.7096866	.4778408	.5593733	.7028211	14.40027
#1	.7576685	542.4708	26.72682	53.26436	.2363653	-.006280
#2	.7575092	537.4689	26.91353	53.85814	.2333019	-.005719
#3	.7437812	545.0262	26.66870	53.49315	.2337802	-.004699
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.31444	.7297782	1.448236	9.402358	.5093181	.0153488
Stddev	.09752	.0044399	.011621	.100017	.0071897	.0003098
%RSD	.7324719	.6083956	.8024425	1.063740	1.411635	2.018381
#1	13.42268	.7256965	1.459717	9.504380	.5095169	.0155218
#2	13.23340	.7345057	1.448512	9.304476	.5020311	.0149912
#3	13.28724	.7291325	1.436480	9.398217	.5164064	.0155335

Sample Name: P4870-01 Acquired: 11/19/2024 16:52:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0431870	4.490665	F 15.49684	F 10.35639	1.458427	.1959311
Stddev	.0007711	.017296	.09584	.10942	.013544	.0022068
%RSD	1.785367	.3851567	.6184414	1.056546	.9286474	1.126311
#1	.0440013	4.489281	15.55220	10.45826	1.469972	.1979492
#2	.0430915	4.508611	15.38617	10.37018	1.461790	.1962693
#3	.0424681	4.474102	15.55214	10.24073	1.443518	.1935747

Elem	Sr4077
Units	ppm
Avg	-.174675
Stddev	.005697
%RSD	3.261354
#1	-.175086
#2	-.168783
#3	-.180154

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2783.329	65787.55	15260.86	1961.302	3949.148
Stddev	22.114	347.75	87.88	16.540	29.393
%RSD	.7945075	.5285885	.5758829	.8433214	.7442938
#1	2762.374	65422.90	15232.36	1942.403	3921.838
#2	2781.168	66115.48	15190.77	1973.136	3945.349
#3	2806.443	65824.27	15359.46	1968.368	3980.256

Sample Name: P4870-04 Acquired: 11/19/2024 16:57:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0804745	-.044003	.4592647	-.044081	-.003606	110.1131
Stddev	.0037819	.004596	.0011076	.002416	.000706	.3869
%RSD	4.699545	10.44571	.2411744	5.479888	19.57166	.3513286
#1	.0790715	-.039269	.4598450	-.046487	-.004150	109.6764
#2	.0847574	-.044290	.4579875	-.041656	-.002809	110.4128
#3	.0775945	-.048449	.4599616	-.044101	-.003861	110.2501
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.033585	.0130669	.0216398	31.10685	.2458704	.1577893
Stddev	.005974	.0000174	.0003546	.14697	.0012405	.0012234
%RSD	.5779407	.1332464	1.638584	.4724790	.5045338	.7753389
#1	1.031170	.0130765	.0217892	30.93958	.2460477	.1581359
#2	1.040388	.0130468	.0212349	31.21528	.2445508	.1564300
#3	1.029196	.0130774	.0218952	31.16571	.2470128	.1588020
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3591459	190.4757	7.993201	79.10720	.2761197	.0009956
Stddev	.0016881	.5873	.033326	.54286	.0012517	.0001482
%RSD	.4700368	.3083554	.4169264	.6862278	.4533300	14.88140
#1	.3603131	190.3742	7.977075	78.51953	.2767961	.0008806
#2	.3572103	189.9457	8.031523	79.21216	.2746753	.0011628
#3	.3599144	191.1072	7.971006	79.58992	.2768877	.0009434
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.986774	.4654505	1.359868	29.22068	.1191123	.0016663
Stddev	.026874	.0008923	.006944	.04910	.0015472	.0004084
%RSD	.2990399	.1916984	.5106588	.1680296	1.298933	24.50699
#1	9.014562	.4647981	1.363583	29.22302	.1198863	.0021115
#2	8.960919	.4650861	1.351857	29.17045	.1173308	.0015785
#3	8.984840	.4664673	1.364165	29.26856	.1201197	.0013090

Sample Name: P4870-04 Acquired: 11/19/2024 16:57:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006959	8.804344	F 19.85442	F 10.00077	.3039697	.2386393
Stddev	.000310	.038337	.13444	.09378	.0013542	.0028346
%RSD	4.461217	.4354341	.6771093	.9377337	.4454961	1.187820
#1	-.006815	8.762880	19.79915	10.08896	.3026008	.2387403
#2	-.006746	8.838503	19.75643	9.90225	.3039997	.2414221
#3	-.007315	8.811650	20.00768	10.01110	.3053086	.2357556

Elem	Sr4077
Units	ppm
Avg	-.071610
Stddev	.001196
%RSD	1.670646
#1	-.071472
#2	-.070489
#3	-.072870

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3046.097	71567.23	16942.03	2140.536	3925.447
Stddev	18.665	238.27	55.87	11.339	25.153
%RSD	.6127663	.3329263	.3297591	.5297390	.6407593
#1	3032.056	71354.10	16940.33	2131.845	3905.381
#2	3067.278	71824.47	16887.03	2153.362	3953.664
#3	3038.956	71523.13	16998.73	2136.400	3917.295

Sample Name: P4870-07 Acquired: 11/19/2024 17:01:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0981214	-.039644	.5781394	-.042862	-.002245	103.9555
Stddev	.0025369	.000420	.0040545	.001719	.000963	.5311
%RSD	2.585416	1.058515	.7013088	4.009738	42.90784	.5108832
#1	.1009993	-.039176	.5800047	-.041921	-.001210	104.5602
#2	.0962092	-.039987	.5809255	-.041820	-.002408	103.7417
#3	.0971557	-.039770	.5734879	-.044846	-.003116	103.5647
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.075954	.0126291	.0205227	44.46200	.2377836	.1510042
Stddev	.008581	.0001442	.0004917	.18324	.0002748	.0013187
%RSD	.7975675	1.142124	2.395869	.4121360	.1155900	.8732672
#1	1.085741	.0127671	.0210250	44.53619	.2378137	.1524017
#2	1.072402	.0126409	.0205008	44.25329	.2380421	.1508292
#3	1.069719	.0124793	.0200423	44.59651	.2374949	.1497818
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6221766	186.4987	6.955623	74.44797	.2635029	.0007570
Stddev	.0063979	.9340	.037729	.33362	.0019707	.0001922
%RSD	1.028302	.5008336	.5424206	.4481231	.7478845	25.39085
#1	.6279579	185.7918	6.988404	74.55804	.2646879	.0005852
#2	.6232691	186.1466	6.914383	74.07323	.2645928	.0007212
#3	.6153028	187.5576	6.964082	74.71265	.2612280	.0009646
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.097591	.4540256	1.372411	36.06969	.1184154	.0033996
Stddev	.022986	.0024966	.001230	.08178	.0021055	.0000576
%RSD	.4509251	.5498867	.0896151	.2267153	1.778108	1.694259
#1	5.111751	.4568493	1.373117	36.08561	.1163028	.0034060
#2	5.109953	.4531168	1.373126	36.14233	.1184295	.0034537
#3	5.071069	.4521106	1.370991	35.98112	.1205138	.0033390

Sample Name: P4870-07 Acquired: 11/19/2024 17:01:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0023668	8.098696	F 21.01892	F 11.38450	.1427708	.2279918
Stddev	.0007039	.042445	.03966	.15695	.0020722	.0042324
%RSD	29.73999	.5240962	.1886695	1.378585	1.451420	1.856404
#1	.0030620	8.146783	20.97691	11.53720	.1442753	.2328522
#2	.0023841	8.066449	21.02412	11.39269	.1404072	.2260046
#3	.0016545	8.082856	21.05571	11.22363	.1436298	.2251187

Elem	Sr4077
Units	ppm
Avg	.0068231
Stddev	.0020724
%RSD	30.37372
#1	.0091124
#2	.0062819
#3	.0050749

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3046.270	71551.19	16971.74	2109.033	3922.670
Stddev	24.649	163.57	135.18	1.217	38.740
%RSD	.8091597	.2286026	.7965257	.0577070	.9875879
#1	3018.633	71385.56	16815.77	2108.653	3881.044
#2	3054.197	71555.39	17044.07	2110.395	3929.299
#3	3065.981	71712.62	17055.36	2108.052	3957.668

Sample Name: P4870-10 Acquired: 11/19/2024 17:05:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0647660	-.012927	.3996891	-.068169	-.001732	145.1581
Stddev	.0006526	.004906	.0030040	.002111	.002458	1.9922
%RSD	1.007640	37.94951	.7515720	3.097320	141.9295	1.372416
#1	.0647852	-.018250	.3989606	-.070239	-.003504	143.1075
#2	.0641040	-.008586	.3971163	-.068249	-.002766	145.2806
#3	.0654087	-.011946	.4029902	-.066018	.001074	147.0862
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.258180	.0145167	.0257613	32.55623	.2773371	.1587680
Stddev	.012117	.0001326	.0002086	.53480	.0031577	.0010258
%RSD	.9630435	.9134367	.8098703	1.642705	1.138575	.6460736
#1	1.246585	.0144723	.0260020	31.94232	.2798491	.1590108
#2	1.257195	.0144121	.0256497	32.80533	.2737924	.1576426
#3	1.270759	.0146658	.0256323	32.92104	.2783698	.1596505
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4122492	285.7766	6.516753	62.74894	.3227160	-.000873
Stddev	.0022209	2.2767	.091256	1.05959	.0024315	.000550
%RSD	.5387365	.7966804	1.400330	1.688623	.7534476	62.98825
#1	.4132179	285.3508	6.417405	61.54132	.3225643	-.001504
#2	.4097084	283.7428	6.536010	63.18253	.3203638	-.000614
#3	.4138212	288.2361	6.596844	63.52297	.3252197	-.000500
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.283007	.4239627	.8838921	21.89478	.1798913	-.000019
Stddev	.081126	.0077602	.0066922	.25253	.0003287	.000177
%RSD	1.291195	1.830387	.7571292	1.153382	.1827331	945.7410
#1	6.325214	.4154671	.8868972	22.01564	.1801525	-.000138
#2	6.189479	.4257430	.8762241	21.60454	.1795222	-.000103
#3	6.334328	.4306781	.8885550	22.06417	.1799994	.000185

Sample Name: P4870-10 Acquired: 11/19/2024 17:05:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0119647	4.678672	F 19.38995	7.642003	.3240687	.2606613
Stddev	.0017192	.054018	.17699	.053086	.0046459	.0017270
%RSD	14.36859	1.154564	.9127901	.6946638	1.433611	.6625600
#1	.0136964	4.621182	19.41879	7.701293	.3281883	.2596648
#2	.0102584	4.686461	19.20032	7.598878	.3190330	.2596635
#3	.0119393	4.728373	19.55075	7.625840	.3249847	.2626555

Elem	Sr4077
Units	ppm
Avg	-.044839
Stddev	.001722
%RSD	3.841463
#1	-.046686
#2	-.043276
#3	-.044557

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3026.331	70535.93	16794.04	2073.246	4052.577
Stddev	16.190	598.25	127.11	11.962	23.518
%RSD	.5349644	.8481488	.7568651	.5769518	.5803273
#1	3009.700	70094.89	16935.20	2065.367	4038.678
#2	3042.040	71216.90	16758.28	2087.010	4079.730
#3	3027.252	70296.00	16688.65	2067.361	4039.321

Sample Name: CCV06 Acquired: 11/19/2024 17:19:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	5.266167	5.299796	5.239455	5.309398	5.275207	10.48806	10.40381
Stddev	.019674	.104175	.012258	.020388	.011566	.02954	.08910
%RSD	.3735830	1.965633	.2339586	.3839951	.2192448	.2816555	.8564229

#1	5.288834	5.419688	5.246341	5.327160	5.288095	10.51831	10.50056
#2	5.256139	5.231374	5.225302	5.287137	5.265733	10.45928	10.32513
#3	5.253528	5.248327	5.246722	5.313898	5.271791	10.48658	10.38572

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2605391	2.606454	25.75202	1.058079	2.601618	1.328597	5.191708
Stddev	.0006345	.005004	.10829	.000659	.005397	.003647	.026354
%RSD	.2435454	.1919876	.4205134	.0622610	.2074488	.2744754	.5076240

#1	.2611969	2.608125	25.83953	1.058008	2.605526	1.332789	5.221018
#2	.2599308	2.600828	25.63091	1.058770	2.595460	1.326158	5.184142
#3	.2604897	2.610408	25.78562	1.057459	2.603868	1.326844	5.169964

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.544765	25.79341	2.610836	1.309004	25.85270	2.598481	2.675314
Stddev	.018204	.09852	.004983	.002614	.18627	.003531	.004119
%RSD	.7153595	.3819740	.1908591	.1996853	.7205067	.1358901	.1539581

#1	2.565774	25.82736	2.613880	1.311040	26.01200	2.601844	2.673884
#2	2.533652	25.68240	2.605086	1.306056	25.89821	2.594803	2.672101
#3	2.534869	25.87047	2.613543	1.309915	25.64790	2.598797	2.679957

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.92972	5.228620	5.321310	5.236835	5.137782	5.168560	5.482556
Stddev	.07172	.025907	.014315	.020687	.021172	.025494	.065615
%RSD	.2765965	.4954809	.2690154	.3950341	.4120856	.4932480	1.196788

#1	25.97420	5.258072	5.337829	5.256480	5.161892	5.141040	5.558195
#2	25.96797	5.209353	5.312535	5.215243	5.129229	5.173270	5.448511
#3	25.84698	5.218436	5.313566	5.238782	5.122224	5.191371	5.440961

Sample Name: CCV06 Acquired: 11/19/2024 17:19:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	5.119305	5.082187	5.222871		
Stddev	.040810	.053261	.065759		
%RSD	.7971706	1.047998	1.259062		
#1	5.162081	5.131982	5.294480		
#2	5.080797	5.088548	5.208939		
#3	5.115038	5.026031	5.165194		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2496.702	57714.34	13746.37	1736.771	4068.455
Stddev	4.395	154.02	76.82	6.443	4.286
%RSD	.1760369	.2668651	.5588315	.3709691	.1053575
#1	2492.574	57548.69	13661.67	1741.970	4063.565
#2	2496.210	57853.22	13811.54	1738.780	4071.567
#3	2501.323	57741.09	13765.90	1729.563	4070.232

Sample Name: CCB06 Acquired: 11/19/2024 17:24:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005051	.0019218	.0010899	.0013875	.0016161	.0302180
Stddev	.0004315	.0006365	.0004832	.0009181	.0011296	.0150766
%RSD	85.44040	33.12084	44.33867	66.17024	69.89610	49.89280
#1	.0005435	.0019521	.0011536	.0009136	.0015082	.0470089
#2	.0000556	.0025427	.0015381	.0024458	.0027958	.0258045
#3	.0009161	.0012707	.0005779	.0008032	.0005443	.0178407
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0219732	.0001033	.0001017	.0598054	.0004557	-.000052
Stddev	.0164010	.0000734	.0000441	.0500340	.0005143	.000149
%RSD	74.64100	71.03494	43.29780	83.66144	112.8661	286.1044
#1	.0397242	.0001617	.0000675	.1159098	.0002974	-.000145
#2	.0188135	.0001272	.0000863	.0436958	.0010305	-.000130
#3	.0073819	.0000210	.0001514	.0198106	.0000391	.000119
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000159	.0101402	.0065111	.0621765	-.000197	-.000090
Stddev	.000193	.0056720	.0040884	.0360996	.000137	.000290
%RSD	121.3237	55.93595	62.79201	58.05996	69.24647	321.6950
#1	.000019	.0166028	.0108412	.0987436	-.000076	.000243
#2	-.000132	.0078298	.0059749	.0612227	-.000345	-.000222
#3	-.000364	.0059880	.0027172	.0265632	-.000171	-.000291
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0253564	.0055595	.0011518	.0773000	.0099897	.0006680
Stddev	.0308998	.0038001	.0004709	.0166851	.0008321	.0002441
%RSD	121.8621	68.35299	40.88098	21.58491	8.329764	36.54112
#1	.0600816	.0099201	.0016443	.0959809	.0105522	.0008632
#2	.0150940	.0038031	.0011051	.0720419	.0103830	.0007464
#3	.0008934	.0029554	.0007061	.0638774	.0090338	.0003943

Sample Name: CCB06 Acquired: 11/19/2024 17:24:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.003656	.0137524	.0377672	.0010183	-.003312	.0078177
Stddev	.000657	.0074289	.0179290	.0009319	.001740	.0065387
%RSD	17.97291	54.01876	47.47250	91.51570	52.53553	83.63989
#1	-.002962	.0216411	.0576021	-.000020	-.004965	.0142479
#2	-.004269	.0127259	.0329858	.001291	-.001496	.0080296
#3	-.003736	.0068901	.0227135	.001783	-.003476	.0011756

Elem	Sr4077
Units	ppm
Avg	F .0124164
Stddev	.0085813
%RSD	69.11260
#1	.0216719
#2	.0108530
#3	.0047243

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2625.535	60376.30	13920.74	1803.774	4623.671
Stddev	2.820	167.18	53.22	3.681	1.360
%RSD	.1073967	.2769038	.3823004	.2040790	.0294220
#1	2626.230	60198.73	13859.51	1800.623	4623.196
#2	2622.433	60530.68	13955.86	1807.820	4622.612
#3	2627.942	60399.49	13946.84	1802.878	4625.205

Sample Name: PB165047BL Acquired: 11/19/2024 17:28:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000539	-.000417	.0002028	.0002932	.0005838	.0063623	-.000875
Stddev	.0022990	.000947	.0010471	.0010084	.0005066	.0021096	.000348
%RSD	4267.831	227.1255	516.3167	343.9311	86.78472	33.15766	39.74992
#1	-.002473	-.001444	.0005287	.0004773	.0006179	.0063536	-.001276
#2	.000612	.000423	.0010482	.0011968	.0010725	.0042571	-.000680
#3	.002022	-.000230	-.000968	-.000795	.0000609	.0084763	-.000668
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000039	.0000169	.0091653	.0002216	-.000074	-.000206	-.004289
Stddev	.000068	.0000592	.0009497	.0003441	.000290	.000081	.002844
%RSD	176.3647	348.9878	10.36249	155.2892	390.4183	39.38771	66.29992
#1	.000035	.0000842	.0102612	.0005956	-.000212	-.000132	-.001552
#2	-.000052	-.000027	.0086525	-.000082	-.000269	-.000193	-.004087
#3	-.000099	-.000006	.0085822	.000151	.000259	-.000293	-.007228
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001755	-.007774	.0000295	-.000139	-.016119	-.000489	.0005342
Stddev	.0001404	.005117	.0002098	.000161	.007870	.001016	.0002626
%RSD	79.98661	65.81961	711.1816	115.7665	48.82510	207.7225	49.15860
#1	.0003308	-.003785	.0002692	-.000306	-.021594	-.001083	.0005016
#2	.0001380	-.013543	-.000060	.000015	-.019662	.000684	.0002894
#3	.0000576	-.005993	-.000121	-.000127	-.007100	-.001068	.0008115
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0346690	.0052955	-.000169	-.003740	.0003260	.0048383	-.000297
Stddev	.0203547	.0005193	.000131	.000511	.0005846	.0044331	.001539
%RSD	58.71158	9.806236	77.20006	13.67074	179.3144	91.62526	517.5627
#1	.0157864	.0058221	-.000266	-.004172	.0008751	.0034327	.001387
#2	.0319901	.0052805	-.000021	-.003176	-.000289	.0012784	-.000648
#3	.0562305	.0047839	-.000221	-.003874	.000392	.0098037	-.001630

Sample Name: PB165047BL Acquired: 11/19/2024 17:28:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002756	-.000610	-.000059
Stddev	.002765	.001402	.000034
%RSD	100.3041	229.8557	57.08691

#1	-.001621	-.000496	-.000098
#2	-.005908	.000731	-.000036
#3	-.000740	-.002065	-.000044

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2685.589	61264.28	13809.81	1876.562	4669.027
Stddev	1.039	107.38	3.03	3.620	1.602
%RSD	.0386890	.1752779	.0219689	.1928798	.0343194

#1	2684.857	61223.39	13806.41	1872.886	4667.613
#2	2685.132	61183.34	13810.74	1876.679	4668.700
#3	2686.779	61386.10	13812.26	1880.122	4670.767

Sample Name: PB165047BS Acquired: 11/19/2024 17:32:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8295257	2.250458	1.053349	2.087089	.8107741	2.118107
Stddev	.0051940	.025422	.001710	.006942	.0012342	.018204
%RSD	.6261414	1.129633	.1623037	.3326224	.1522245	.8594580
#1	.8346526	2.266413	1.055007	2.094290	.8118969	2.103353
#2	.8242671	2.221141	1.053449	2.080439	.8094526	2.112518
#3	.8296575	2.263819	1.051592	2.086537	.8109728	2.138451
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2167987	.2244786	.2106587	1.125897	.4306755	.2117401
Stddev	.0010628	.0018093	.0003841	.014477	.0010435	.0003821
%RSD	.4902235	.8059828	.1823333	1.285823	.2422933	.1804628
#1	.2160983	.2224366	.2105460	1.118353	.4300694	.2112997
#2	.2162761	.2251175	.2103435	1.116749	.4300767	.2119833
#3	.2180216	.2258818	.2110865	1.142588	.4318804	.2119373
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3298824	3.082929	.2225739	2.142875	.5317538	.0786257
Stddev	.0003738	.020880	.0013408	.023211	.0008283	.0003050
%RSD	.1133227	.6772762	.6024099	1.083155	.1557630	.3878865
#1	.3300394	3.063555	.2211039	2.118728	.5314802	.0783449
#2	.3301521	3.080188	.2228882	2.144878	.5310970	.0789501
#3	.3294556	3.105044	.2237298	2.165019	.5326843	.0785822
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.850131	.3254542	.2212399	9.811735	.3372268	.4320248
Stddev	.019009	.0025656	.0011726	.063182	.0021908	.0006194
%RSD	.6669654	.7883100	.5300262	.6439468	.6496641	.1433618
#1	2.851417	.3226037	.2225936	9.872315	.3347258	.4323384
#2	2.830512	.3261810	.2205875	9.746238	.3381476	.4313114
#3	2.868465	.3275780	.2205385	9.816652	.3388070	.4324248

Sample Name: PB165047BS Acquired: 11/19/2024 17:32:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7305443	.2125809	F .7320324	6.380269	F -.010693	.2009792
Stddev	.0011638	.0018497	.0136390	.018333	.001472	.0008306
%RSD	.1593088	.8701086	1.863164	.2873356	13.76815	.4132676
#1	.7318447	.2112296	.7271362	6.398906	-.009000	.2010287
#2	.7301879	.2118242	.7215175	6.362256	-.011410	.2001249
#3	.7296004	.2146890	.7474437	6.379643	-.011671	.2017838

Elem	Sr4077
Units	ppm
Avg	.2214556
Stddev	.0014958
%RSD	.6754561
#1	.2204287
#2	.2207663
#3	.2231718

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2678.847	61873.05	13482.05	1894.788	4528.284
Stddev	4.905	263.76	63.40	16.007	4.319
%RSD	.1831009	.4262977	.4702680	.8448142	.0953753
#1	2676.548	61611.18	13543.25	1879.065	4529.809
#2	2675.513	62138.67	13486.24	1911.066	4523.409
#3	2684.479	61869.30	13416.65	1894.232	4531.633

Sample Name: LR1 Acquired: 11/19/2024 17:51:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0397976	-.028747	.0066392	-.328647	-.014771	1976.940	.0338811
Stddev	.0129222	.002166	.0098264	.013389	.006039	8.922	.0079794
%RSD	32.46976	7.533433	148.0065	4.073872	40.88501	.4512940	23.55119
#1	.0377974	-.026278	-.002031	-.318971	-.011080	1972.718	.0430905
#2	.0279922	-.030322	.017313	-.323043	-.021740	1970.913	.0295234
#3	.0536033	-.029642	.004636	-.343927	-.011492	1987.189	.0290294
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0114262	.1651057	1760.683	.0000859	.0512683	.1300035	1067.942
Stddev	.0002071	.0024073	3.199	.0001408	.0007589	.0116298	4.765
%RSD	1.812293	1.458068	.1816633	163.8635	1.480146	8.945736	.4461945
#1	.0115925	.1678845	1757.169	-.000008	.0520426	.1363011	1062.669
#2	.0114920	.1637815	1761.454	.000018	.0505260	.1371263	1069.219
#3	.0111943	.1636512	1763.425	.000248	.0512363	.1165830	1071.939
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.129609	1911.416	.0222814	-.042749	2060.327	.0878589	.3486346
Stddev	.004132	4.609	.0014215	.001380	11.897	.0005616	.0046399
%RSD	3.188004	.2411412	6.379874	3.228986	.5774098	.6392452	1.330883
#1	-.124861	1908.212	.0217679	-.044061	2074.020	.0876488	.3433057
#2	-.132389	1916.698	.0238883	-.042876	2052.528	.0874326	.3517791
#3	-.131578	1909.337	.0211880	-.041309	2054.435	.0884953	.3508192
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1333.962	.3625430	-.015153	.0105338	-.038970	.1617722	.1066153
Stddev	9.875	.0042583	.001459	.0020662	.000685	.0072481	.0062997
%RSD	.7402505	1.174561	9.627534	19.61475	1.758768	4.480457	5.908823
#1	1335.763	.3580409	-.016480	.0095210	-.039183	.1539155	.1134217
#2	1342.813	.3665062	-.013591	.0091694	-.039524	.1632026	.1009892
#3	1323.312	.3630819	-.015388	.0129110	-.038204	.1681985	.1054350

Sample Name: LR1 Acquired: 11/19/2024 17:51:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.195736	.6180572	-1.05385
Stddev	.013406	.0061945	.00482
%RSD	6.849206	1.002257	.4569619
#1	-.180260	.6144470	-1.04851
#2	-.203771	.6145148	-1.05517
#3	-.203178	.6252099	-1.05787

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1518.922	36775.08	10234.82	1062.723	2149.082
Stddev	9.987	50.49	28.22	6.049	12.623
%RSD	.6574804	.1372991	.2757476	.5692320	.5873711
#1	1507.516	36764.24	10234.83	1066.447	2134.584
#2	1523.157	36730.90	10263.04	1055.743	2155.027
#3	1526.093	36830.12	10206.60	1065.979	2157.636

Sample Name: LR2 Acquired: 11/19/2024 17:56:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0096753	-.041582	241.1496	.0059750	-.000615	2.996840	^F *****
Stddev	.0029509	.001525	1.0490	.0012601	.001834	1.932082	----
%RSD	30.49891	3.668579	.4349839	21.09003	298.1757	64.47064	----
#1	.0105183	-.040448	242.0966	.0050508	-.001386	5.105186	^ ----
#2	.0121129	-.043316	241.3301	.0074104	.001478	2.574409	^ ----
#3	.0063947	-.040983	240.0221	.0054637	-.001938	1.310925	^ ----
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003347	-.006398	3.124756	.0114296	-.018207	241.2186	1.733472
Stddev	.000018	.000234	2.133240	.0002688	.000291	1.8662	1.153686
%RSD	.5293583	3.660078	68.26900	2.352161	1.598051	.7736739	66.55347
#1	-.003367	-.006585	5.500563	.0116980	-.017915	242.9363	2.990234
#2	-.003338	-.006474	2.500210	.0114305	-.018497	239.2328	1.487717
#3	-.003336	-.006136	1.373497	.0111603	-.018211	241.4867	.722465
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.90412	2.904660	47.60555	.0018063	2.280257	-.019525	32.22652
Stddev	.15643	2.161554	.20995	.0003842	1.601286	.000556	.25297
%RSD	.3407682	74.41679	.4410233	21.27227	70.22391	2.848340	.7849807
#1	45.86171	5.300625	47.79277	.0022491	4.099020	-.020016	32.44789
#2	46.07738	2.312342	47.64532	.0016087	1.659311	-.019637	32.28088
#3	45.77327	1.101012	47.37855	.0015610	1.082442	-.018921	31.95079
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.256810	-.000507	-.006375	-.003182	-.045711	.0001422	3.725247
Stddev	.758146	.001711	.000285	.000919	.000283	.0018426	.067671
%RSD	60.32309	337.2479	4.472676	28.87404	.6187244	1296.148	1.816542
#1	2.120749	.001265	-.006661	-.004147	-.045540	.0012642	3.776956
#2	.947283	-.000637	-.006090	-.002319	-.046038	.0011466	3.750127
#3	.702397	-.002150	-.006375	-.003079	-.045557	-.001984	3.648658

Sample Name: LR2 Acquired: 11/19/2024 17:56:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.025668	.0002717	.0006249
Stddev	.007383	.0017330	.0011661
%RSD	28.76506	637.8862	186.6157
#1	-.026052	.0022127	-.000642
#2	-.018100	-.000277	.000863
#3	-.032852	-.001120	.001654

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2243.283	60696.32	13707.23	1753.542	4255.662
Stddev	17.196	54.93	101.16	4.533	24.278
%RSD	.7665681	.0904949	.7380404	.2585191	.5704968
#1	2224.827	60634.03	13590.43	1754.007	4228.171
#2	2258.854	60737.82	13767.45	1757.825	4274.167
#3	2246.167	60717.10	13763.80	1748.795	4264.647

Sample Name: CCV07 Acquired: 11/19/2024 18:01:12 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	5.065827	4.937236	5.019439	5.096101	5.079452	10.25340	10.56510
Stddev	.018729	.039579	.031152	.018865	.017095	.03163	.34168
%RSD	.3697116	.8016424	.6206366	.3701777	.3365555	.3084992	3.234002

#1	5.086869	4.979828	5.050574	5.117249	5.099161	10.26106	10.92571
#2	5.050982	4.930291	5.019474	5.081004	5.068638	10.28050	10.52341
#3	5.059630	4.901589	4.988269	5.090051	5.070558	10.21864	10.24619

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2557015	2.485292	25.07741	1.020604	2.487304	1.293530	4.986168
Stddev	.0013347	.015721	.08013	.004691	.016786	.006983	.009026
%RSD	.5219622	.6325585	.3195288	.4596348	.6748867	.5398049	.1810227

#1	.2569406	2.500739	25.03697	1.026006	2.503985	1.301343	4.996578
#2	.2558754	2.485825	25.16971	1.018254	2.487514	1.291348	4.981393
#3	.2542884	2.469311	25.02557	1.017553	2.470414	1.287899	4.980532

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.601531	25.11179	2.498052	1.265786	25.55142	2.544088	2.478544
Stddev	.108724	.11122	.014522	.002736	.16821	.006556	.010110
%RSD	4.179244	.4428966	.5813269	.2161815	.6583104	.2577031	.4078937

#1	2.721821	25.01027	2.512124	1.268851	25.74391	2.540590	2.471121
#2	2.572510	25.23067	2.498912	1.263589	25.47766	2.551651	2.474452
#3	2.510262	25.09443	2.483119	1.264918	25.43269	2.540022	2.490058

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.17355	5.151639	5.087718	4.990683	5.033914	4.945669	5.162757
Stddev	.10483	.021399	.021517	.035295	.020312	.027474	.068584
%RSD	.4164196	.4153780	.4229262	.7072140	.4035058	.5555260	1.328435

#1	25.26523	5.166340	5.111683	5.024388	5.048772	4.916791	5.224497
#2	25.19616	5.161488	5.081416	4.993672	5.042202	4.971482	5.174840
#3	25.05926	5.127089	5.070056	4.953989	5.010769	4.948733	5.088935

Sample Name: CCV07 Acquired: 11/19/2024 18:01:12 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	4.864697	5.015318	5.139707		
Stddev	.031504	.039677	.025642		
%RSD	.6475970	.7911069	.4989064		
#1	4.895403	5.059187	5.129801		
#2	4.866236	5.004825	5.168824		
#3	4.832452	4.981943	5.120495		
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2553.955	59030.34	13781.20	1771.313	4177.188
Stddev	8.909	227.17	77.55	4.371	20.944
%RSD	.3488172	.3848439	.5627216	.2467680	.5013845
#1	2543.701	58768.58	13705.22	1768.583	4154.298
#2	2558.368	59146.47	13778.14	1776.355	4181.876
#3	2559.795	59175.98	13860.23	1769.003	4195.391

Sample Name: CCB07 Acquired: 11/19/2024 18:05:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014847	.0014597	.0022453	.0026075	.0037128	.0413156
Stddev	.0023719	.0017664	.0007808	.0019232	.0010470	.0166911
%RSD	159.7598	121.0083	34.77666	73.75729	28.19999	40.39904
#1	-.000944	.0026353	.0031436	.0026760	.0048423	.0588222
#2	.001603	.0023153	.0018631	.0044955	.0027747	.0395433
#3	.003795	-.000572	.0017292	.0006509	.0035215	.0255814
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0258050	.0001143	.0006212	.0818416	.0006109	.0005590
Stddev	.0181333	.0000552	.0000661	.0421101	.0003622	.0001312
%RSD	70.27059	48.34199	10.63419	51.45319	59.28611	23.47378
#1	.0453397	.0001770	.0006559	.1247257	.0009549	.0006899
#2	.0225656	.0000730	.0005450	.0802483	.0006450	.0004275
#3	.0095097	.0000928	.0006626	.0405507	.0002329	.0005594
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019142	.0169101	.0076839	.0761709	.0005180	.0001079
Stddev	.0003935	.0076120	.0043825	.0354160	.0004825	.0001649
%RSD	20.55739	45.01428	57.03434	46.49545	93.16073	152.7660
#1	.0016876	.0247895	.0123680	.1125449	.0007082	.0002617
#2	.0023686	.0163436	.0070003	.0741700	-.000031	.0001284
#3	.0016864	.0095972	.0036834	.0417978	.000876	-.000066
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2900565	.0063430	.0014606	.2324288	.0041265	.0015637
Stddev	.0362717	.0047256	.0000506	.0165252	.0002943	.0003690
%RSD	12.50506	74.50152	3.464674	7.109775	7.132645	23.60039
#1	.3306313	.0105709	.0015190	.2514704	.0043681	.0016713
#2	.2787637	.0072164	.0014316	.2239784	.0037987	.0011528
#3	.2607745	.0012416	.0014312	.2218377	.0042127	.0018670

Sample Name: CCB07 Acquired: 11/19/2024 18:05:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.002788	.0152080	.0294282	.0018736	-.000001	F .0104251
Stddev	.000573	.0082754	.0148630	.0015233	.001825	.0074443
%RSD	20.54861	54.41460	50.50588	81.30559	321066.3	71.40716
#1	-.002750	.0239849	.0459130	.0028645	-.001221	.0186900
#2	-.003379	.0140918	.0253210	.0001195	-.000878	.0083386
#3	-.002235	.0075474	.0170508	.0026368	.002098	.0042467

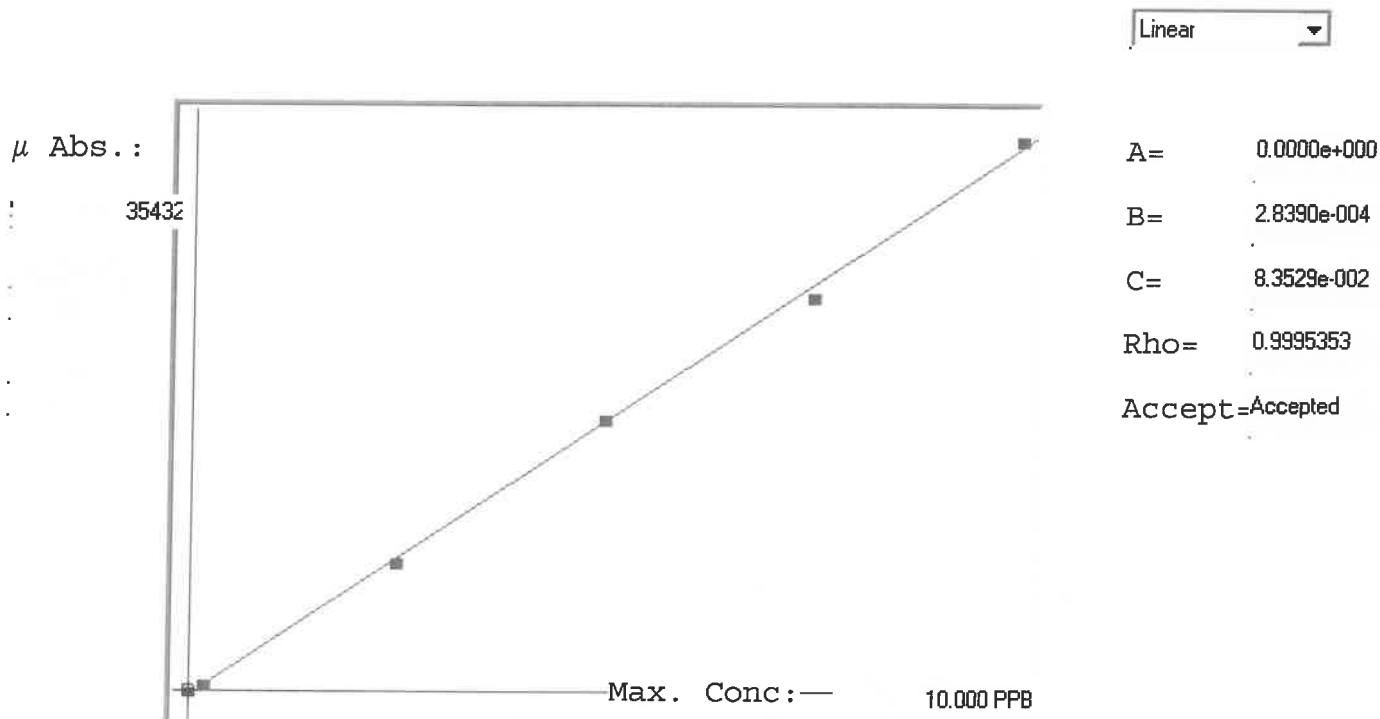
Elem	Sr4077
Units	ppm
Avg	F .0141954
Stddev	.0092296
%RSD	65.01807
#1	.0241437
#2	.0125316
#3	.0059109

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2650.543	62802.55	13891.81	1866.712	4694.042
Stddev	10.701	304.57	46.47	11.273	12.535
%RSD	.4037444	.4849614	.3345138	.6038749	.2670370
#1	2641.907	62655.10	13838.71	1857.914	4682.991
#2	2647.206	62599.77	13911.64	1862.802	4691.472
#3	2662.515	63152.78	13925.08	1879.419	4707.663

LB133297

7470A

INSTRUMENT ID: CV1



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	0/00
0.0	0.000	0.053	0.053	-109	0.000	-109	0				12
0.2	0.200	0.223	0.023	490	0.0 %	490					-2
2.5	2.500	2.450	-0.050	8334	0.0 %	8334					1
5.0	5.000	5.050	0.050	17494	0.0 %	17494					3
7.5	7.500	7.283	-0.217	25358	0.0 %	25358					1
10.0	10.000	10.143	0.143	35432	0.0 %	35432					

LB133297 INSTRUMENT ID : CV1

Method: 7470A

Operator: Admin

Date of Analysis: 05 Nov 2024 11:28:30

Sample ID	Extended ID	µ Abs	Conc	Std Conc	Method	Units	Date	Type	Type
0.0 - 1	50	-109	-	0.000	7470A	PPB	05 Nov 2024 11:33:52	S	Std
0.2 - 1	502	490	-	0.200	7470A	PPB	05 Nov 2024 11:36:09	S	Std
2.5 - 1	52.5	8334	-	2.500	7470A	PPB	05 Nov 2024 11:38:25	S	Std
5.0 - 1	55	17494	-	5.000	7470A	PPB	05 Nov 2024 11:40:42	S	Std
7.5 - 1	57.5	25358	-	7.500	7470A	PPB	05 Nov 2024 11:42:58	S	Std
10.0 - 1	510	35432	-	10.000	7470A	PPB	05 Nov 2024 11:55:45	S	Std
ICV69 - 1	ICV69	13346	3.8724	-	7470A	PPB	05 Nov 2024 11:58:34	U	SMPL
ICB69 - 1	ICB69	-361	-0.0190	-	7470A	PPB	05 Nov 2024 12:00:49	U	SMPL
CCV26 - 1	CCV26	16471	4.7596	-	7470A	PPB	05 Nov 2024 12:03:05	U	SMPL
CCB26 - 1	CCB26	-363	-0.0195	-	7470A	PPB	05 Nov 2024 12:05:21	U	SMPL
CRA - 1	CRA	459	0.2138	-	7470A	PPB	05 Nov 2024 12:07:37	U	SMPL
HighStd - 1	HighStd	35445	10.1463	-	7470A	PPB	05 Nov 2024 12:09:53	U	SMPL
ChkStd - 1	ChkStd	21940	6.3122	-	7470A	PPB	05 Nov 2024 12:12:08	U	SMPL
PB164660BL - 1	PBW	-510	-0.0613	-	7470A	PPB	05 Nov 2024 12:14:26	U	SMPL
PB164660BS - 1	LCSW	13579	3.9386	-	7470A	PPB	05 Nov 2024 12:16:44	U	SMPL
P4640-04 - 1	MH-3	-367	-0.0207	-	7470A	PPB	05 Nov 2024 12:19:00	U	SMPL
P4643-04 - 1	BP-F9-ADDITIONAL	-129	0.0469	-	7470A	PPB	05 Nov 2024 12:21:18	U	SMPL
P4643-08 - 1	BP-F8	-85	0.0594	-	7470A	PPB	05 Nov 2024 12:23:35	U	SMPL
P4643-12 - 1	TP-9	-89	0.0583	-	7470A	PPB	05 Nov 2024 12:25:51	U	SMPL
P4645-04 - 1	Z-02-WC	-77	0.0617	-	7470A	PPB	05 Nov 2024 12:28:06	U	SMPL
CCV27 - 1	CCV27	17236	4.9768	-	7470A	PPB	05 Nov 2024 12:30:22	U	SMPL
CCB27 - 1	CCB27	-327	-0.0093	-	7470A	PPB	05 Nov 2024 12:32:36	U	SMPL
P4659-04 - 1	MH-2	-77	0.0617	-	7470A	PPB	05 Nov 2024 12:34:53	U	SMPL
P4660-03 - 1	WC-TA2-01-C	-55	0.0679	-	7470A	PPB	05 Nov 2024 12:37:08	U	SMPL
P4660-07 - 1	WC-WOOD-01-C	-73	0.0628	-	7470A	PPB	05 Nov 2024 12:39:24	U	SMPL
P4660-11 - 1	WC-CONCRETE-01-C	-72	0.0631	-	7470A	PPB	05 Nov 2024 12:41:39	U	SMPL
P4667-04 - 1	BP-F-6	-84	0.0597	-	7470A	PPB	05 Nov 2024 12:43:55	U	SMPL
P4667-08 - 1	BP-F-5	-78	0.0614	-	7470A	PPB	05 Nov 2024 12:46:11	U	SMPL
P4667-12 - 1	BP-F-10	-64	0.0654	-	7470A	PPB	05 Nov 2024 12:48:28	U	SMPL
P4667-16 - 1	BP-F-7	-58	0.0671	-	7470A	PPB	05 Nov 2024 12:50:44	U	SMPL
P4679-04 - 1	MH-1	-59	0.0668	-	7470A	PPB	05 Nov 2024 12:53:01	U	SMPL
P4680-04 - 1	BP-F26	0	0.0835	-	7470A	PPB	05 Nov 2024 12:55:16	U	SMPL
CCV28 - 1	CCV28	17106	4.9399	-	7470A	PPB	05 Nov 2024 12:57:32	U	SMPL
CCB28 - 1	CCB28	-300	-0.0016	-	7470A	PPB	05 Nov 2024 12:59:48	U	SMPL
P4680-08 - 1	BP-F25	-103	0.0543	-	7470A	PPB	05 Nov 2024 13:02:04	U	SMPL
P4682-02 - 1	BELL-SHOP-RAGS	-73	0.0628	-	7470A	PPB	05 Nov 2024 13:04:19	U	SMPL
P4684-01 - 1	MECHANIC-ST-SWEEPINGS	-57	0.0673	-	7470A	PPB	05 Nov 2024 13:06:35	U	SMPL
P4684-01DUP - 1	MECHANIC-ST-SWEEPINGS DUP	-28	0.0756	-	7470A	PPB	05 Nov 2024 13:08:50	U	SMPL
P4684-01MS - 1	MECHANIC-ST-SWEEPINGSMS	15929	4.8057	-	7470A	PPB	05 Nov 2024 13:11:06	U	SMPL
P4684-01MSD - 1	MECHANIC-ST-SWEEPINGSMSD	14622	4.2347	-	7470A	PPB	05 Nov 2024 13:13:22	U	SMPL
PB164687BL - 1	PBW	-305	-0.0031	-	7470A	PPB	05 Nov 2024 13:15:40	U	SMPL
PB164687BS - 1	LCSW	12294	3.5738	-	7470A	PPB	05 Nov 2024 13:22:37	U	SMPL
P4652-01 - 1	RW5-SP100-50-20241030	-251	0.0123	-	7470A	PPB	05 Nov 2024 13:24:54	U	SMPL
P4652-03 - 1	RW5-SP301-303-50-20241030	-166	0.0364	-	7470A	PPB	05 Nov 2024 13:27:11	U	SMPL
CCV29 - 1	CCV29	17742	5.1204	-	7470A	PPB	05 Nov 2024 13:32:08	U	SMPL
CCB29 - 1	CCB29	-352	-0.0164	-	7470A	PPB	05 Nov 2024 13:34:24	U	SMPL
P4652-04 - 1	RW5-SP100-90-20241030	-140	0.0438	-	7470A	PPB	05 Nov 2024 13:36:41	U	SMPL
P4652-06 - 1	RW5-SP301-303-90-20241030	-105	0.0537	-	7470A	PPB	05 Nov 2024 13:38:57	U	SMPL
P4661-03 - 1	102324-A	303	0.1696	-	7470A	PPB	05 Nov 2024 13:46:15	U	SMPL
P4661-03DUP - 1	102324-ADUP	171	0.1321	-	7470A	PPB	05 Nov 2024 13:48:30	U	SMPL
P4661-03MS - 1	102324-AMS	11553	3.3634	-	7470A	PPB	05 Nov 2024 13:50:47	U	SMPL
P4661-03MSD - 1	102324-AMSD	11171	3.2550	-	7470A	PPB	05 Nov 2024 13:53:03	U	SMPL
P4662-04DLX10 - 1	102524-D	166	0.1307	-	7470A	PPB	05 Nov 2024 13:59:42	U	SMPL
P4673-01 - 1	OUTFALL-001	165	0.1304	-	7470A	PPB	05 Nov 2024 14:01:58	U	SMPL
P4673-02 - 1	OUTFALL-002	-79	0.0611	-	7470A	PPB	05 Nov 2024 14:04:15	U	SMPL
P4673-03 - 1	OUTFALL-003	-27	0.0759	-	7470A	PPB	05 Nov 2024 14:06:30	U	SMPL
CCV30 - 1	CCV30	18033	5.2031	-	7470A	PPB	05 Nov 2024 14:08:45	U	SMPL
CCB30 - 1	CCB30	-114	0.0512	-	7470A	PPB	05 Nov 2024 14:11:01	U	SMPL
P4673-04 - 1	OUTFALL-004	-110	0.0523	-	7470A	PPB	05 Nov 2024 14:13:18	U	SMPL
P4673-05 - 1	OUTFALL-005	-87	0.0588	-	7470A	PPB	05 Nov 2024 14:15:34	U	SMPL
P4673-06 - 1	OUTFALL-006	31	0.0923	-	7470A	PPB	05 Nov 2024 14:17:49	U	SMPL
P4673-07 - 1	OUTFALL-007	-111	0.0520	-	7470A	PPB	05 Nov 2024 14:20:04	U	SMPL
P4674-01 - 1	OUTFALL-001	-7	0.0815	-	7470A	PPB	05 Nov 2024 14:22:20	U	SMPL
P4684-03 - 1	MECHANIC-ST-OIL-WATER	981	0.3620	-	7470A	PPB	05 Nov 2024 14:24:36	U	SMPL
PB164560TB - 1	PB164560TB	-198	0.0273	-	7470A	PPB	05 Nov 2024 14:26:52	U	SMPL
CCV31 - 1	CCV31	18853	5.4359	-	7470A	PPB	05 Nov 2024 14:29:09	U	SMPL
CCB31 - 1	CCB31	-146	0.0421	-	7470A	PPB	05 Nov 2024 14:31:26	U	SMPL
P4684-01LX5 - 1		-68	0.0642	-	7470A	PPB	05 Nov 2024 14:33:43	U	SMPL
P4684-01A - 1		14276	4.1365	-	7470A	PPB	05 Nov 2024 14:35:59	U	SMPL
P4661-03LX5 - 1		-91	0.0577	-	7470A	PPB	05 Nov 2024 14:38:15	U	SMPL
P4661-03A - 1		11752	3.4199	-	7470A	PPB	05 Nov 2024 14:40:33	U	SMPL
CCV32 - 1	CCV32	17695	5.1071	-	7470A	PPB	05 Nov 2024 14:42:49	U	SMPL
CCB32 - 1	CCB32	-159	0.0384	-	7470A	PPB	05 Nov 2024 14:45:07	U	SMPL

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: 11/04/2024 Time : 11:30 Temp : 95 °C

End Digest Date: 11/04/2024 Time : 14:35 Temp : 95 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: JEP

Supervisor Signature: [Signature]

Temp : 1. 95°C 2. N/A

Standardized Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6000
LFS-2	0.25	M6009
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	M6115
1:1 HCL	5.00	MP82127
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 Temp: 95 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/7/24 15:00	JEP Met Dig	57 (Metals 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
P4652-01	RW5-SP100-50-20241030	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	8
P4652-03	RW5-SP301-303-50-20241030	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	9
P4652-04	RW5-SP100-90-20241030	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	10
P4652-06	RW5-SP301-303-90-20241030	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	11
P4661-03	102324-A	<2	50	25	Light Brown	Yellow	Clear	Clear	N/A	12
P4662-04	102524-D	<2	50	25	Brown	Yellow	Cloudy	Clear	Oil sample	13
P4673-01	OUTFALL-001	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	14
P4673-02	OUTFALL-002	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	15
P4673-03	OUTFALL-003	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	16
P4673-04	OUTFALL-004	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	17
P4673-05	OUTFALL-005	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	18
P4673-06	OUTFALL-006	<2	50	25	Black	Colorless	Clear	Clear	N/A	19
P4673-07	OUTFALL-007	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	20
P4673-07DUP	OUTFALL-007DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	21
P4673-07MS	OUTFALL-007MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6000,M6009	22
P4673-07MSD	OUTFALL-007MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6000,M6009	23
P4674-01	OUTFALL-001	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	24
P4684-03	MECHANIC-ST-OIL-WATER	<2	50	25	Brown	Colorless	Clear	Clear	N/A	25
PB164645BL	PBW645	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	26
PB164645BS	LCS645	<2	50	25	Colorless	Colorless	Clear	Clear	M6000,M6009	27

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB164645 Worklist ID : 185089 Department : Digestion Date : 11-04-2024 10:04:36

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4652-01	RW5-SP100-50-20241030	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETRO6	K61	10/30/2024	6010D
P4652-03	RW5-SP301-303-50-20241030	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETRO6	K61	10/30/2024	6010D
P4652-04	RW5-SP100-90-20241030	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETRO6	K61	10/30/2024	6010D
P4652-06	RW5-SP301-303-90-20241030	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETRO6	K61	10/30/2024	6010D
P4661-03	102324-A	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	K51	10/31/2024	6010D
P4662-04	102524-D	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	K61	10/31/2024	6010D
P4673-01	OUTFALL-001	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4673-02	OUTFALL-002	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4673-03	OUTFALL-003	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4673-04	OUTFALL-004	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4673-05	OUTFALL-005	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4673-06	OUTFALL-006	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4673-07	OUTFALL-007	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4674-01	OUTFALL-001	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	6010D
P4684-03	MECHANIC-ST-OIL-WATER	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	L13	11/01/2024	6010D

Date/Time 11/4/24 11:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 11/4/24 12:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

SOP ID : M7470A-Mercury-19

SDG No : NA

Matrix : WATER

Pipette ID : HG A

Balance ID : N/A

Filter paper ID : NA

pH Strip ID : M4909

Hood ID : #1

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

Start Digest Date: 11/04/2024 Time : 14:40 Temp : 94 °C

End Digest Date: 11/04/2024 Time : 16:40 Temp : 95 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature:

Supervisor Signature:

Temp : 1. 94°C 2. N/A

Standardized Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP83023
CCV	30mL	MP83025
CRA	30mL	MP83027
Blank Spike	0.48mL	MP83015
Matrix Spike	0.48mL	MP83015

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.5mL	MP82651
KMnO4 (5%)	4.5mL	MP82652
K2S2O8 (5%)	2.5mL	MP82653
Hydroxylamine HCL (12%)	2.0mL	MP82654
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

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
0.0 ppb	S0	30mL	MP83017
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30mL	MP83018
2.5 ppb	S2.5	30mL	MP83019
5.0 ppb	S5.0	30mL	MP83020
7.5 ppb	S7.5	30mL	MP83021
10.0 ppb	S10.0	30mL	MP83022
ICV	ICV	30mL	MP83023
ICB	ICB	30mL	MP83024
CCV	CCV	30mL	MP83025
CCB	CCB	30mL	MP83026
CRI	CRI	30mL	MP83027
CHK STD	CHK STD	30mL	MP83028

Extraction Conformance/Non-Conformance Comments:

N/A		
Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/04/24 @ 19:10	MB. Dig. Lab	MB. metals Lab
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
P4652-01	RW5-SP100-50-20241030	30	30	<2	N/A	3-25
P4652-03	RW5-SP301-303-50-20241030	30	30	<2	N/A	26
P4652-04	RW5-SP100-90-20241030	30	30	<2	N/A	27
P4652-06	RW5-SP301-303-90-20241030	30	30	<2	N/A	28
P4661-03	102324-A	30	30	<2	N/A	29
P4661-03DUP	102324-ADUP	30	30	<2	N/A	30
P4661-03MS	102324-AMS	30	30	<2	MP83015	31
P4661-03MSD	102324-AMSD	30	30	<2	MP83015	32
P4662-04	102524-D	30	30	<2	N/A	33
P4673-01	OUTFALL-001	30	30	<2	N/A	34
P4673-02	OUTFALL-002	30	30	<2	N/A	35
P4673-03	OUTFALL-003	30	30	<2	N/A	36
P4673-04	OUTFALL-004	30	30	<2	N/A	37
P4673-05	OUTFALL-005	30	30	<2	N/A	38
P4673-06	OUTFALL-006	30	30	<2	N/A	39
P4673-07	OUTFALL-007	30	30	<2	N/A	40
P4674-01	OUTFALL-001	30	30	<2	N/A	41
P4684-03	MECHANIC-ST-OIL-WATER	30	30	<2	N/A	42
PB164687BL	PBW687	30	30	<2	N/A	43
PB164687BS	LCS687	30	30	<2	MP83015	44

WORKLIST(Hardcopy Internal Chain)

WorkList Name : 110524_7470

WorkList ID : 185122

Department : Digestion

Date : 11-04-2024 07:49:37

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4673-01	OUTFALL-001	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4673-02	OUTFALL-002	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4673-03	OUTFALL-003	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4673-04	OUTFALL-004	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4673-05	OUTFALL-005	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4673-06	OUTFALL-006	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4673-07	OUTFALL-007	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4674-01	OUTFALL-001	Water	Mercury	1:1 HNO3 to pH < 2	RSBE01	K51	10/31/2024	7470A
P4652-01	RW5-SP100-50-20241030	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	K61	10/30/2024	7470A
P4652-03	RW5-SP301-303-50-20241030	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	K61	10/30/2024	7470A
P4652-04	RW5-SP100-90-20241030	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	K61	10/30/2024	7470A
P4652-06	RW5-SP301-303-90-20241030	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	K61	10/30/2024	7470A
P4661-03	102324-A	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	K51	10/31/2024	7470A
P4662-04	102524-D	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	K61	10/31/2024	7470A
P4684-03	MECHANIC-ST-OIL-WATER	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	L13	11/01/2024	7470A

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133297

Review By	jaswal	Review On	11/5/2024 10:16:23 PM
Supervise By	mohan	Supervise On	11/5/2024 10:17:20 PM

STD. NAME	STD REF.#
ICAL Standard	MP83017,MP83018,MP83019,MP83020,MP83021,MP83022
ICV Standard	MP83023
CCV Standard	MP83025
ICSA Standard	
CRI Standard	MP83027
LCS Standard	
Chk Standard	MP83024,MP83026,MP83028,MP8300

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/05/24 11:33		Mohan	OK
2	S0.2	S0.2	CAL2	11/05/24 11:36		Mohan	OK
3	S2.5	S2.5	CAL3	11/05/24 11:38		Mohan	OK
4	S5	S5	CAL4	11/05/24 11:40		Mohan	OK
5	S7.5	S7.5	CAL5	11/05/24 11:42		Mohan	OK
6	S10	S10	CAL6	11/05/24 11:55		Mohan	OK
7	ICV69	ICV69	ICV	11/05/24 11:58		Mohan	OK
8	ICB69	ICB69	ICB	11/05/24 12:00		Mohan	OK
9	CCV26	CCV26	CCV	11/05/24 12:03		Mohan	OK
10	CCB26	CCB26	CCB	11/05/24 12:05		Mohan	OK
11	CRA	CRA	CRDL	11/05/24 12:07		Mohan	OK
12	HighStd	HighStd	HIGH STD	11/05/24 12:09		Mohan	OK
13	ChkStd	ChkStd	SAM	11/05/24 12:12		Mohan	OK
14	PB164660BL	PB164660BL	MB	11/05/24 12:14		Mohan	OK
15	PB164660BS	PB164660BS	LCS	11/05/24 12:16		Mohan	OK
16	P4640-04	MH-3	SAM	11/05/24 12:19		Mohan	OK
17	P4643-04	BP-F9-ADDITIONAL	SAM	11/05/24 12:21		Mohan	OK
18	P4643-08	BP-F8	SAM	11/05/24 12:23		Mohan	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133297

Review By	jaswal	Review On	11/5/2024 10:16:23 PM
Supervise By	mohan	Supervise On	11/5/2024 10:17:20 PM

STD. NAME	STD REF.#
ICAL Standard	MP83017,MP83018,MP83019,MP83020,MP83021,MP83022
ICV Standard	MP83023
CCV Standard	MP83025
ICSA Standard	
CRI Standard	MP83027
LCS Standard	
Chk Standard	MP83024,MP83026,MP83028,MP8300

19	P4643-12	TP-9	SAM	11/05/24 12:25		Mohan	OK
20	P4645-04	Z-02-WC	SAM	11/05/24 12:28		Mohan	OK
21	CCV27	CCV27	CCV	11/05/24 12:30		Mohan	OK
22	CCB27	CCB27	CCB	11/05/24 12:32		Mohan	OK
23	P4659-04	MH-2	SAM	11/05/24 12:34		Mohan	OK
24	P4660-03	WC-TA2-01-C	SAM	11/05/24 12:37		Mohan	OK
25	P4660-07	WC-WOOD-01-C	SAM	11/05/24 12:39		Mohan	OK
26	P4660-11	WC-CONCRETE-01-C	SAM	11/05/24 12:41		Mohan	OK
27	P4667-04	BP-F-6	SAM	11/05/24 12:43		Mohan	OK
28	P4667-08	BP-F-5	SAM	11/05/24 12:46		Mohan	OK
29	P4667-12	TP-10	SAM	11/05/24 12:48		Mohan	OK
30	P4667-16	BP-F-7	SAM	11/05/24 12:50		Mohan	OK
31	P4679-04	MH-1	SAM	11/05/24 12:53		Mohan	OK
32	P4680-04	BP-F26	SAM	11/05/24 12:55		Mohan	OK
33	CCV28	CCV28	CCV	11/05/24 12:57		Mohan	OK
34	CCB28	CCB28	CCB	11/05/24 12:59		Mohan	OK
35	P4680-08	BP-F25	SAM	11/05/24 13:02		Mohan	OK
36	P4682-02	BELL-SHOP-RAGS	SAM	11/05/24 13:04		Mohan	OK
37	P4684-01	MECHANIC-ST-SWEI	SAM	11/05/24 13:06		Mohan	OK
38	P4684-01DUP	MECHANIC-ST-SWEI	DUP	11/05/24 13:08		Mohan	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133297

Review By	jaswal	Review On	11/5/2024 10:16:23 PM
Supervise By	mohan	Supervise On	11/5/2024 10:17:20 PM

STD. NAME	STD REF.#
ICAL Standard	MP83017,MP83018,MP83019,MP83020,MP83021,MP83022
ICV Standard	MP83023
CCV Standard	MP83025
ICSA Standard	
CRI Standard	MP83027
LCS Standard	
Chk Standard	MP83024,MP83026,MP83028,MP8300

39	P4684-01MS	MECHANIC-ST-SWEI	MS	11/05/24 13:11		Mohan	OK
40	P4684-01MSD	MECHANIC-ST-SWEI	MSD	11/05/24 13:13		Mohan	OK
41	PB164687BL	PB164687BL	MB	11/05/24 13:15		Mohan	OK
42	PB164687BS	PB164687BS	LCS	11/05/24 13:22		Mohan	OK
43	P4652-01	RW5-SP100-50-2024	SAM	11/05/24 13:24		Mohan	OK
44	P4652-03	RW5-SP301-303-50-2	SAM	11/05/24 13:27		Mohan	OK
45	CCV29	CCV29	CCV	11/05/24 13:32		Mohan	OK
46	CCB29	CCB29	CCB	11/05/24 13:34		Mohan	OK
47	P4652-04	RW5-SP100-90-2024	SAM	11/05/24 13:36		Mohan	OK
48	P4652-06	RW5-SP301-303-90-2	SAM	11/05/24 13:38		Mohan	OK
49	P4661-03	102324-A	SAM	11/05/24 13:46		Mohan	OK
50	P4661-03DUP	102324-ADUP	DUP	11/05/24 13:48		Mohan	OK
51	P4661-03MS	102324-AMS	MS	11/05/24 13:50		Mohan	OK
52	P4661-03MSD	102324-AMSD	MSD	11/05/24 13:53		Mohan	OK
53	P4662-04DL	102524-DDL	SAM	11/05/24 13:59	Stright 10X	Mohan	OK
54	P4673-01	OUTFALL-001	SAM	11/05/24 14:01		Mohan	OK
55	P4673-02	OUTFALL-002	SAM	11/05/24 14:04		Mohan	OK
56	P4673-03	OUTFALL-003	SAM	11/05/24 14:06		Mohan	OK
57	CCV30	CCV30	CCV	11/05/24 14:08		Mohan	OK
58	CCB30	CCB30	CCB	11/05/24 14:11		Mohan	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133297

Review By	jaswal	Review On	11/5/2024 10:16:23 PM
Supervise By	mohan	Supervise On	11/5/2024 10:17:20 PM

STD. NAME	STD REF.#
ICAL Standard	MP83017,MP83018,MP83019,MP83020,MP83021,MP83022
ICV Standard	MP83023
CCV Standard	MP83025
ICSA Standard	
CRI Standard	MP83027
LCS Standard	
Chk Standard	MP83024,MP83026,MP83028,MP8300

59	P4673-04	OUTFALL-004	SAM	11/05/24 14:13		Mohan	OK
60	P4673-05	OUTFALL-005	SAM	11/05/24 14:15		Mohan	OK
61	P4673-06	OUTFALL-006	SAM	11/05/24 14:17		Mohan	OK
62	P4673-07	OUTFALL-007	SAM	11/05/24 14:20		Mohan	OK
63	P4674-01	OUTFALL-001	SAM	11/05/24 14:22		Mohan	OK
64	P4684-03	MECHANIC-ST-OIL-V	SAM	11/05/24 14:24		Mohan	OK
65	PB164560TB	PB164560TB	MB	11/05/24 14:26		Mohan	OK
66	CCV31	CCV31	CCV	11/05/24 14:29		Mohan	OK
67	CCB31	CCB31	CCB	11/05/24 14:31		Mohan	OK
68	P4684-01L	MECHANIC-ST-SWEI	SD	11/05/24 14:33		Mohan	OK
69	P4684-01A	MECHANIC-ST-SWEI	PS	11/05/24 14:35		Mohan	OK
70	P4661-03L	102324-AL	SD	11/05/24 14:38		Mohan	OK
71	P4661-03A	102324-AA	PS	11/05/24 14:40		Mohan	OK
72	CCV32	CCV32	CCV	11/05/24 14:42		Mohan	OK
73	CCB32	CCB32	CCB	11/05/24 14:45		Mohan	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133323

Review By	kareem	Review On	11/7/2024 1:15:13 PM
Supervise By	mohan	Supervise On	11/11/2024 12:01:52 AM
STD. NAME	STD REF.#		
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084		
ICV Standard	MP83085		
CCV Standard	MP83088		
ICSA Standard	MP83086 MP83087		
CRI Standard	MP83084		
LCS Standard			
Chk Standard	MP83091 MP83092		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/06/24 17:09		Kareem	OK
2	S1	S1	CAL2	11/06/24 17:13		Kareem	OK
3	S2	S2	CAL3	11/06/24 17:17		Kareem	OK
4	S3	S3	CAL4	11/06/24 17:22		Kareem	OK
5	S4	S4	CAL5	11/06/24 17:26		Kareem	OK
6	S5	S5	CAL6	11/06/24 17:30		Kareem	OK
7	ICV01	ICV01	ICV	11/06/24 17:34		Kareem	OK
8	LLICV01	LLICV01	LLICV	11/06/24 17:38		Kareem	OK
9	ICB01	ICB01	ICB	11/06/24 17:43		Kareem	OK
10	CRI01	CRI01	CRDL	11/06/24 18:04		Kareem	OK
11	ICSA01	ICSA01	ICSA	11/06/24 18:08		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	11/06/24 18:13		Kareem	OK
13	CCV01	CCV01	CCV	11/06/24 18:23		Kareem	OK
14	CCB01	CCB01	CCB	11/06/24 18:27		Kareem	OK
15	P4709-01	HR-02-110424	SAM	11/06/24 18:31		Kareem	OK
16	P4709-03	HR-03-110424	SAM	11/06/24 18:35		Kareem	OK
17	CCV02	CCV02	CCV	11/06/24 18:39		Kareem	OK
18	CCB02	CCB02	CCB	11/06/24 18:44		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133323

Review By	kareem	Review On	11/7/2024 1:15:13 PM
Supervise By	mohan	Supervise On	11/11/2024 12:01:52 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

19	P4652-01	RW5-SP100-50-2024	SAM	11/06/24 18:49		Kareem	OK
20	P4679-01	MH-1	SAM	11/06/24 18:53		Kareem	OK
21	P4659-01	MH-2	SAM	11/06/24 18:57		Kareem	OK
22	P4652-03	RW5-SP301-303-50-2	SAM	11/06/24 19:02		Kareem	OK
23	P4652-04	RW5-SP100-90-2024	SAM	11/06/24 19:06		Kareem	OK
24	P4652-06	RW5-SP301-303-90-2	SAM	11/06/24 19:11		Kareem	OK
25	P4661-03	102324-A	SAM	11/06/24 19:15		Kareem	OK
26	P4680-01	BP-F26	SAM	11/06/24 19:19		Kareem	OK
27	P4680-05	BP-F25	SAM	11/06/24 19:24		Kareem	OK
28	P4680-05DUP	BP-F25DUP	DUP	11/06/24 19:28		Kareem	OK
29	CCV03	CCV03	CCV	11/06/24 19:32		Kareem	OK
30	CCB03	CCB03	CCB	11/06/24 19:36		Kareem	OK
31	P4680-05L	BP-F25L	SD	11/06/24 19:40		Kareem	OK
32	P4680-05MS	BP-F25MS	MS	11/06/24 19:44	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
33	P4680-05MSD	BP-F25MSD	MSD	11/06/24 19:48	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
34	P4680-05A	BP-F25A	PS	11/06/24 19:52	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
35	PB164634BL	PB164634BL	MB	11/06/24 19:56	NOT USE	Kareem	Not Ok

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133323

Review By	kareem	Review On	11/7/2024 1:15:13 PM
Supervise By	mohan	Supervise On	11/11/2024 12:01:52 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

36	P4662-04DL	102524-DDL	SAM	11/06/24 20:05	Straight 5x Dilution for all elements	Kareem	OK
37	P4673-01	OUTFALL-001	SAM	11/06/24 20:09		Kareem	OK
38	P4673-02	OUTFALL-002	SAM	11/06/24 20:13		Kareem	OK
39	P4673-03	OUTFALL-003	SAM	11/06/24 20:18		Kareem	OK
40	CCV04	CCV04	CCV	11/06/24 20:22		Kareem	OK
41	CCB04	CCB04	CCB	11/06/24 20:26		Kareem	OK
42	P4673-04	OUTFALL-004	SAM	11/06/24 20:31		Kareem	OK
43	P4673-05	OUTFALL-005	SAM	11/06/24 20:35		Kareem	OK
44	P4673-06	OUTFALL-006	SAM	11/06/24 20:39		Kareem	OK
45	P4673-07	OUTFALL-007	SAM	11/06/24 20:44		Kareem	OK
46	P4673-07DUP	OUTFALL-007DUP	DUP	11/06/24 20:48		Kareem	OK
47	P4673-07L	OUTFALL-007L	SD	11/06/24 20:52		Kareem	OK
48	P4673-07MS	OUTFALL-007MS	MS	11/06/24 20:57	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
49	P4673-07MSD	OUTFALL-007MSD	MSD	11/06/24 21:01	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
50	P4673-07A	OUTFALL-007A	PS	11/06/24 21:05	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
51	P4674-01	OUTFALL-001	SAM	11/06/24 21:09		Kareem	OK
52	CCV05	CCV05	CCV	11/06/24 21:13		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133323

Review By	kareem	Review On	11/7/2024 1:15:13 PM
Supervise By	mohan	Supervise On	11/11/2024 12:01:52 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

53	CCB05	CCB05	CCB	11/06/24 21:17		Kareem	OK
54	P4684-03	MECHANIC-ST-OIL-V	SAM	11/06/24 21:22	Fe high & Ag (OverSaturated)	Kareem	Dilution
55	PB164645BL	PB164645BL	MB	11/06/24 21:26	NOT USE	Kareem	Not Ok
56	PB164645BS	PB164645BS	LCS	11/06/24 21:30	NOT USE - fail for Na	Kareem	Not Ok
57	P4658-01	B-131-1-SB02	SAM	11/06/24 21:34		Kareem	OK
58	P4658-02	B-131-2-SB02	SAM	11/06/24 21:39		Kareem	OK
59	P4658-03	B-131-3-SB02	SAM	11/06/24 21:43		Kareem	OK
60	P4364-15	SB-07-0.167-0.667	SAM	11/06/24 21:47	NOT USE	Kareem	Not Ok
61	P4364-16	SB-08-0.167-0.667	SAM	11/06/24 21:52	NOT USE	Kareem	Not Ok
62	P4364-14	SB-06-0.167-0.667	SAM	11/06/24 21:56		Kareem	OK
63	P4364-14DUP	SB-06-0.167-0.667DU	DUP	11/06/24 22:01		Kareem	OK
64	CCV06	CCV06	CCV	11/06/24 22:11		Kareem	OK
65	CCB06	CCB06	CCB	11/06/24 22:15		Kareem	OK
66	P4364-14L	SB-06-0.167-0.667L	SD	11/06/24 22:19		Kareem	OK
67	P4364-14MS	SB-06-0.167-0.667MS	MS	11/06/24 22:23	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
68	P4364-14MSD	SB-06-0.167-0.667MS	MSD	11/06/24 22:28	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
69	P4364-14A	SB-06-0.167-0.667A	PS	11/06/24 22:33	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133323

Review By	kareem	Review On	11/7/2024 1:15:13 PM
Supervise By	mohan	Supervise On	11/11/2024 12:01:52 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

70	P4667-01	BP-F-6	SAM	11/06/24 22:38		Kareem	OK
71	P4667-05	BP-F-5	SAM	11/06/24 22:42		Kareem	OK
72	P4667-09	TP-10	SAM	11/06/24 22:46		Kareem	OK
73	P4667-13	BP-F-7	SAM	11/06/24 22:50		Kareem	OK
74	P4675-01	COMP-1	SAM	11/06/24 22:54		Kareem	OK
75	P4675-02	COMP-2	SAM	11/06/24 22:59		Kareem	OK
76	CCV07	CCV07	CCV	11/06/24 23:03		Kareem	OK
77	CCB07	CCB07	CCB	11/06/24 23:07		Kareem	OK
78	P4675-03	COMP-3	SAM	11/06/24 23:12		Kareem	OK
79	P4675-04	COMP-4	SAM	11/06/24 23:16		Kareem	OK
80	P4675-05	COMP-5	SAM	11/06/24 23:20		Kareem	OK
81	P4675-06	COMP-6	SAM	11/06/24 23:25		Kareem	OK
82	P4685-01	OK-01-11012024	SAM	11/06/24 23:29		Kareem	OK
83	P4685-01DUP	OK-01-11012024DUP	DUP	11/06/24 23:33		Kareem	OK
84	P4685-01L	OK-01-11012024L	SD	11/06/24 23:37		Kareem	OK
85	P4685-01MS	OK-01-11012024MS	MS	11/06/24 23:41	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
86	P4685-01MSD	OK-01-11012024MSD	MSD	11/06/24 23:45	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133323

Review By	kareem	Review On	11/7/2024 1:15:13 PM
Supervise By	mohan	Supervise On	11/11/2024 12:01:52 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

87	P4685-01A	OK-01-11012024A	PS	11/06/24 23:49	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
88	CCV08	CCV08	CCV	11/06/24 23:59		Kareem	OK
89	CCB08	CCB08	CCB	11/07/24 00:03		Kareem	OK
90	P4397-04	WB-301-SW	SAM	11/07/24 00:07	Na (Over Saturated)	Kareem	Dilution
91	P4397-04DUP	WB-301-SWDUP	DUP	11/07/24 00:12	Na (Over Saturated)	Kareem	Dilution
92	P4397-04L	WB-301-SWL	SD	11/07/24 00:16		Kareem	OK
93	P4397-04MS	WB-301-SWMS	MS	11/07/24 00:21	Na (Over Saturated)	Kareem	Dilution
94	P4397-04MSD	WB-301-SWMSD	MSD	11/07/24 00:25	Na (Over Saturated)	Kareem	Dilution
95	P4397-04A	WB-301-SWA	PS	11/07/24 00:29	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
96	PB164647BS	PB164647BS	LCS	11/07/24 00:38	NOT USE	Kareem	Not Ok
97	LR1	LR1	HIGH STD	11/07/24 00:43		Kareem	OK
98	LR2	LR2	HIGH STD	11/07/24 00:48		Kareem	OK
99	CCV09	CCV09	CCV	11/07/24 00:53		Kareem	OK
100	CCB09	CCB09	CCB	11/07/24 00:57		Kareem	OK
101	P4397-04DL	WB-301-SWDL	SAM	11/07/24 01:01	5x for Na	Kareem	Confirms
102	P4397-04DUPDL	WB-301-SWDUPDL	DUP	11/07/24 01:06	5x for Na	Kareem	Confirms
103	P4397-04LDL	WB-301-SWLDL	SD	11/07/24 01:10	Not Required	Kareem	Not Ok
104	P4397-04MSDL	WB-301-SWMSDL	MS	11/07/24 01:15	5x for Na	Kareem	Confirms

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133323

Review By	kareem	Review On	11/7/2024 1:15:13 PM
Supervise By	mohan	Supervise On	11/11/2024 12:01:52 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

105	P4397-04MSDDL	WB-301-SWMSDDL	MSD	11/07/24 01:19	5x for Na	Kareem	Confirms
106	P4397-04ADL	WB-301-SWADL	PS	11/07/24 01:24	Not Required	Kareem	Not Ok
107	P4684-03DL	MECHANIC-ST-OIL-V	SAM	11/07/24 01:28	5x for Fe,Ag	Kareem	Confirms
108	P4364-16DL	SB-08-0.167-0.667DL	SAM	11/07/24 01:33	NOT USE	Kareem	Not Ok
109	PB164563BL	PB164563BL	MB	11/07/24 01:37	NOT USE	Kareem	Not Ok
110	PB164563BS	PB164563BS	LCS	11/07/24 01:41	NOT USE - fail for K,Na	Kareem	Not Ok
111	CCV10	CCV10	CCV	11/07/24 01:49		Kareem	OK
112	CCB10	CCB10	CCB	11/07/24 01:53		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133524

Review By	Review On
Supervise By	Supervise On

STD. NAME	STD REF.#
ICAL Standard ICV Standard CCV Standard ICSA Standard CRI Standard LCS Standard Chk Standard	

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/19/24 10:55		Kareem	OK
2	S1	S1	CAL2	11/19/24 11:00		Kareem	OK
3	S2	S2	CAL3	11/19/24 11:04		Kareem	OK
4	S3	S3	CAL4	11/19/24 11:08		Kareem	OK
5	S4	S4	CAL5	11/19/24 11:13		Kareem	OK
6	S5	S5	CAL6	11/19/24 11:17		Kareem	OK
7	ICV01	ICV01	ICV	11/19/24 11:25		Kareem	OK
8	LLICV01	LLICV01	LLICV	11/19/24 11:34		Kareem	OK
9	ICB01	ICB01	ICB	11/19/24 11:38		Kareem	OK
10	CRI01	CRI01	CRDL	11/19/24 11:43		Kareem	OK
11	ICSA01	ICSA01	ICSA	11/19/24 11:47		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	11/19/24 11:51		Kareem	OK
13	CCV01	CCV01	CCV	11/19/24 12:43		Kareem	OK
14	CCB01	CCB01	CCB	11/19/24 12:48		Kareem	OK
15	PB165067BL	PB165067BL	MB	11/19/24 12:52		Kareem	OK
16	PB165067BS	PB165067BS	LCS	11/19/24 12:56		Kareem	OK
17	PB164759BL	PB164759BL	MB	11/19/24 13:00		Kareem	OK
18	PB164759BS	PB164759BS	LCS	11/19/24 13:05		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133524

Review By	Review On
Supervise By	Supervise On

STD. NAME	STD REF.#
ICAL Standard ICV Standard CCV Standard ICSA Standard CRI Standard LCS Standard Chk Standard	

19	PB164645BL	PB164645BL	MB	11/19/24 13:09		Kareem	OK
20	PB164645BS	PB164645BS	LCS	11/19/24 13:13		Kareem	OK
21	PB164944TB	PB164944TB	MB	11/19/24 13:17		Kareem	OK
22	P4892-01	WB-310-TOP	SAM	11/19/24 13:22	Cr high	Kareem	Dilution
23	P4892-02	WB-310-BOT	SAM	11/19/24 13:26		Kareem	OK
24	P4893-01	MH-763	SAM	11/19/24 13:30		Kareem	OK
25	CCV02	CCV02	CCV	11/19/24 13:34		Kareem	OK
26	CCB02	CCB02	CCB	11/19/24 13:38		Kareem	OK
27	P4893-05	MH-762	SAM	11/19/24 13:42		Kareem	OK
28	P4908-01	SP-1	SAM	11/19/24 13:46		Kareem	OK
29	P4908-03	SP-2	SAM	11/19/24 13:51		Kareem	OK
30	P4909-01	BU-02-111824	SAM	11/19/24 13:55		Kareem	OK
31	P4909-01DUP	BU-02-111824DUP	DUP	11/19/24 13:59		Kareem	OK
32	P4909-01L	BU-02-111824L	SD	11/19/24 14:03		Kareem	OK
33	P4909-01MS	BU-02-111824MS	MS	11/19/24 14:08		Kareem	OK
34	P4909-01MSD	BU-02-111824MSD	MSD	11/19/24 14:12		Kareem	OK
35	P4909-01A	BU-02-111824A	PS	11/19/24 14:16		Kareem	OK
36	P4890-01	#3711	SAM	11/19/24 14:20		Kareem	OK
37	CCV03	CCV03	CCV	11/19/24 14:24		Kareem	OK
38	CCB03	CCB03	CCB	11/19/24 14:28		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133524

Review By	Review On
Supervise By	Supervise On

STD. NAME	STD REF.#
ICAL Standard ICV Standard CCV Standard ICSA Standard CRI Standard LCS Standard Chk Standard	

39	P4890-02	D3617	SAM	11/19/24 14:37		Kareem	OK
40	P4890-03	D3690	SAM	11/19/24 14:41		Kareem	OK
41	P4849-02	RR-1	SAM	11/19/24 14:56		Kareem	OK
42	PB165019TB	PB165019TB	MB	11/19/24 15:00		Kareem	OK
43	P4870-13	TP-1	SAM	11/19/24 15:05		Kareem	OK
44	P4870-14	MH-735	SAM	11/19/24 15:09		Kareem	OK
45	P4870-15	MH-736	SAM	11/19/24 15:13		Kareem	OK
46	P4870-16	TP-15	SAM	11/19/24 15:18		Kareem	OK
47	P4887-02	MH-739	SAM	11/19/24 15:22		Kareem	OK
48	P4887-06	MH-760	SAM	11/19/24 15:27		Kareem	OK
49	CCV04	CCV04	CCV	11/19/24 15:31		Kareem	OK
50	CCB04	CCB04	CCB	11/19/24 15:36		Kareem	OK
51	PB164986TB	PB164986TB	MB	11/19/24 15:40	fail for Cr	Kareem	Not Ok
52	PB165049BL	PB165049BL	MB	11/19/24 15:44		Kareem	OK
53	PB165049BS	PB165049BS	LCS	11/19/24 15:49		Kareem	OK
54	P4892-01DL	WB-310-TOPDL	SAM	11/19/24 15:53	5x for Cr	Kareem	Confirms
55	P4341-02	10324-0	SAM	11/19/24 15:57		Kareem	OK
56	P4860-01	DUP-01	SAM	11/19/24 16:01		Kareem	OK
57	P4860-02	PH2-BOT-001	SAM	11/19/24 16:06		Kareem	OK
58	P4860-03	PH2-BOT-002	SAM	11/19/24 16:10		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133524

Review By	Review On
Supervise By	Supervise On

STD. NAME	STD REF.#
ICAL Standard ICV Standard CCV Standard ICSA Standard CRI Standard LCS Standard Chk Standard	

59	P4860-04	PH2-BOT-003	SAM	11/19/24 16:14		Kareem	OK
60	CCV05	CCV05	CCV	11/19/24 16:18		Kareem	OK
61	CCB05	CCB05	CCB	11/19/24 16:22		Kareem	OK
62	P4860-05	PH2-BOT-004	SAM	11/19/24 16:27		Kareem	OK
63	P4860-06	PH2-BOT-009	SAM	11/19/24 16:31		Kareem	OK
64	P4860-07	PH2-BOT-008	SAM	11/19/24 16:35		Kareem	OK
65	P4860-08	PH2-BOT-007	SAM	11/19/24 16:39		Kareem	OK
66	P4860-09	PH2-BOT-006	SAM	11/19/24 16:44		Kareem	OK
67	P4860-10	PH2-BOT-005	SAM	11/19/24 16:48		Kareem	OK
68	P4870-01	TP-1	SAM	11/19/24 16:52		Kareem	OK
69	P4870-04	MH-735	SAM	11/19/24 16:57		Kareem	OK
70	P4870-07	MH-736	SAM	11/19/24 17:01		Kareem	OK
71	P4870-10	TP-15	SAM	11/19/24 17:05		Kareem	OK
72	CCV06	CCV06	CCV	11/19/24 17:19		Kareem	OK
73	CCB06	CCB06	CCB	11/19/24 17:24		Kareem	OK
74	PB165047BL	PB165047BL	MB	11/19/24 17:28		Kareem	OK
75	PB165047BS	PB165047BS	LCS	11/19/24 17:32		Kareem	OK
76	LR1	LR1	HIGH STD	11/19/24 17:51		Kareem	OK
77	LR2	LR2	HIGH STD	11/19/24 17:56		Kareem	OK
78	CCV07	CCV07	CCV	11/19/24 18:01		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133524

Review By	Review On
Supervise By	Supervise On

STD. NAME	STD REF.#
ICAL Standard	
ICV Standard	
CCV Standard	
ICSA Standard	
CRI Standard	
LCS Standard	
Chk Standard	

79	CCB07	CCB07	CCB	11/19/24 18:05		Kareem	OK
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Prep Standard - Chemical Standard Summary

Order ID : P4652
Test : Mercury, Metals ICP-TAL
Prepbatch ID : PB164645, PB164687,
Sequence ID/Qc Batch ID: LB133297, LB133323, LB133323, LB133524,

Standard ID :
 MP73080, MP82127, MP82651, MP82652, MP82653, MP82654, MP83015, MP83017, MP83018, MP83019, MP83020, MP83021, MP83022, MP83023, MP83024, MP83025, MP83026, MP83027, MP83028, MP83030, MP83078, MP83079, MP83081, MP83082, MP83083, MP83084, MP83085, MP83086, MP83087, MP83088, MP83091, MP83092,

Chemical ID :
 M4371, M4465, M4916, M5062, M5130, M5192, M5218, M5223, M5288, M5295, M5296, M5390, M5394, M5404, M5429, M5467, M5498, M5501, M5515, M5658, M5673, M5697, M5698, M5747, M5748, M5769, M5798, M5799, M5800, M5801, M5802, M5806, M5814, M5815, M5816, M5817, M5818, M5819, M5820, M5875, M5882, M5953, M5962, M5970, M5978, M5982, M5984, M5985, M6000, M6009, M6021, M6023, M6028, M6030, M6033, M6040, M6080, M6095, M6111, M6115, M6117, W2606, W3112,

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
903	ICP AES RINSE SOLN	MP73080	12/27/2022	01/08/2023	Bin He	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 12/28/2022

FROM 200.00000ml of M5404 + 9800.00000ml of W2606 = 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>
170	1:1HCL	MP82127	09/03/2024	02/08/2025	Janvi Patel	None	None	Sarabjit Jaswal 09/03/2024

FROM 1250.00000ml of M6040 + 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>
3965	2:1 H2SO4 : HNO3	MP82651	09/30/2024	03/25/2025	Mohan Bera	None	None	Sarabjit Jaswal
								10/04/2024

FROM 1600.00000ml of M5673 + 800.00000ml of M6080 = 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 %	MP82652	09/30/2024	04/03/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
								10/04/2024

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 %	MP82653	09/30/2024	04/03/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
10/04/2024								

FROM 100.00000ml of M4465 + 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>
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP82654	09/30/2024	04/03/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
10/04/2024								

FROM 2000.00000ml of W3112 + 240.00000gram of M4371 + 240.00000gram of M5501 = 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.	MP83015	11/04/2024	11/05/2024	Mohan Bera	None	None	Sarabjit Jaswal 11/04/2024

FROM 1.00000ml of M6115 + 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	MP83017	11/04/2024	11/05/2024	Mohan Bera	None	None	Sarabjit Jaswal 11/04/2024

FROM 2.50000ml of M6115 + 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	MP83018	11/04/2024	11/05/2024	Mohan Bera	None	None	Sarabjit Jaswal
11/04/2024								

FROM 2.50000ml of M6115 + 247.30000ml of W3112 + 0.20000ml of MP83015 = 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	MP83019	11/04/2024	11/05/2024	Mohan Bera	None	None	Sarabjit Jaswal
11/04/2024								

FROM 2.50000ml of M6115 + 245.00000ml of W3112 + 2.50000ml of MP83015 = 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	MP83020	11/04/2024	11/05/2024	Mohan Bera	None	None	Sarabjit Jaswal
11/04/2024								

FROM 2.50000ml of M6115 + 242.50000ml of W3112 + 5.00000ml of MP83015 = 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	MP83021	11/04/2024	11/05/2024	Mohan Bera	None	None	Sarabjit Jaswal
11/04/2024								

FROM 2.50000ml of M6115 + 240.00000ml of W3112 + 7.50000ml of MP83015 = 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	MP83022	11/04/2024	11/05/2024	Mohan Bera	None	None	Sarabjit Jaswal
								11/04/2024

FROM 2.50000ml of M6115 + 237.50000ml of W3112 + 10.00000ml of MP83015 = 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	MP83023	11/04/2024	11/05/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal
								11/04/2024

FROM 2.50000ml of M5953 + 2.50000ml of M6115 + 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)	MP83024	11/04/2024	11/05/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 11/04/2024

FROM 2.50000ml of M6115 + 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)	MP83025	11/04/2024	11/05/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 11/04/2024

FROM 485.00000ml of W3112 + 5.00000ml of M6115 + 10.00000ml of MP83015 = 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>
1352	CCB (Hg 0.00 PPB SOLUTION)	MP83026	11/04/2024	11/05/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/04/2024

FROM 495.00000ml of W3112 + 5.00000ml of M6115 = 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)	MP83027	11/04/2024	11/05/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/04/2024

FROM 2.50000ml of M6115 + 247.30000ml of W3112 + 0.20000ml of MP83015 = 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>
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP83028	11/04/2024	11/05/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/04/2024

FROM 2.50000ml of M6115 + 240.50000ml of W3112 + 7.00000ml of MP83015 = 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>
68	STANNOUS CHLORIDE SOLUTION	MP83030	11/04/2024	11/05/2024	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 11/04/2024

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6095 = 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>
902	ICP AES CAL BLK (SO/ICB/CCB)	MP83078	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 125.00000ml of M6111 + 2350.00000ml of W3112 + 25.00000ml of M6117 = Final Quantity: 2500.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
907	ICP AES STD S (S5)	MP83079	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 5.00000ml of M5296 + 5.00000ml of M5394 + 5.00000ml of M5802 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M5982 + 460.00000ml of MP83078 = 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>
909	ICP AES STD S3	MP83081	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
11/07/2024								

FROM 25.00000ml of MP83079 + 75.00000ml of MP83078 = 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	MP83082	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
11/07/2024								

FROM 16.00000ml of MP83079 + 184.00000ml of MP83078 = 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	MP83083	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5515 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6033 + 0.06000ml of M5747 + 0.10000ml of M5697 + 0.10000ml of M5698 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M5982 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5819 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M5802 + 0.50000ml of M5390 + 0.50000ml of M5814 + 1.00000ml of M5192 + 1.00000ml of M5288 + 1.00000ml of M5498 + 1.00000ml of M5769 + 1.00000ml of M5806 + 1.00000ml of M5978 + 2.00000ml of M5816 + 2.00000ml of M5818 + 77.68000ml of MP83078 = 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	MP83084	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 2.00000ml of MP83083 + 98.00000ml of MP83078 = 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>
912	ICP AES ICV SOLN	MP83085	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.25000ml of M5218 + 0.25000ml of M5982 + 10.00000ml of M5295 + 89.77500ml of MP83078 = 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>
904	ICP AES ICSA SOLN	MP83086	11/06/2024	11/19/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 25.00000ml of M5130 + 225.00000ml of MP83078 = 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	MP83087	11/06/2024	11/19/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
11/07/2024								

FROM 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5296 + 0.10000ml of M5970 + 1.00000ml of M5982 + 10.00000ml of M5130 + 10.00000ml of M5223 + 79.50000ml of MP83078 = 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	MP83088	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
11/07/2024								

FROM 50.00000ml of MP83078 + 50.00000ml of MP83079 = 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>
919	ICP AES INTERNAL STD	MP83091	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 1.00000ml of M5984 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6117 = 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>
513	RINSE SOLN	MP83092	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 200.00000ml of M6117 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-2196-01 / Hydroxylamine Hydrochloride, Crystal (cs/4x500g)	0000215387	06/25/2025	07/01/2019 / RICHARD	06/07/2019 / RICHARD	M4371

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)	0000234156	08/06/2025	07/23/2019 / jaswal	07/25/2019 / manojkumar	M4465

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 #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5130

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	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

CHEMICAL RECEIPT LOG BOOK

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	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

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	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5223

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	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	02/05/2025	08/07/2024 / jaswal	02/20/2020 / bin	M5295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

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	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

CHEMICAL RECEIPT LOG BOOK

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-MEB714159	01/13/2027	11/28/2022 / bin	09/19/2022 / bin	M5394

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)	22C0462001	06/12/2023	12/20/2022 / Al-Terek	02/11/2022 / Al-Terek	M5404

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

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.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

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	07/24/2023 / mohan	04/14/2023 / mohan	M5501

CHEMICAL RECEIPT LOG BOOK

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	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

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 #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	09/21/2023 / mohan	09/05/2023 / mohan	M5673

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

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.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	05/24/2024 / Jaswal	01/03/2024 / bin	M5769

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

CHEMICAL RECEIPT LOG BOOK

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	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

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	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	12/29/2026	05/20/2024 / Jaswal	02/09/2024 / jaswal	M5816

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57116 / S, 10000 PPM, 125 ml	071123	07/11/2026	03/01/2024 / jaswal	02/09/2024 / jaswal	M5817

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57014 / Si, 1000 PPM, 125 ml	122023	12/20/2026	03/06/2024 / jaswal	02/09/2024 / jaswal	M5818

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	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

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 #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

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 #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0415	01/01/2025	07/01/2024 / mohan	03/30/2023 / mohan	M5953

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	07/01/2024 / Jaswal	07/01/2024 / Jaswal	M5970

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5978

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	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

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	02/20/2029	08/05/2024 / kareem	06/14/2024 / Jaswal	M5984

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

CHEMICAL RECEIPT LOG BOOK

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	T2-MEB723367	08/30/2026	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6000

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	U2-MEB731108	03/17/2028	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6009

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.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	01/25/2019 / Jaswal	M6028

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

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	02/08/2025	08/09/2024 / jaswal	08/01/2024 / Janvi	M6040

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2025	10/02/2024 / Janvi	09/02/2024 / Janvi	M6080

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)		03/17/2029	10/26/2024 / Janvi	10/21/2024 / Janvi	M6095

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)	22F0762009	05/09/2027	11/04/2024 / Eman	09/29/2024 / Janvi	M6111

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)	24B1362001	05/04/2025	11/02/2024 / Janvi	09/29/2024 / Eman	M6115

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)	24B1362001	05/06/2025	11/06/2024 / Janvi	09/29/2024 / Eman	M6117

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

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.



M6028



CERTIFIED WEIGHT REPORT:

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

Solvent: 24002546 Nitric Acid
Lot #

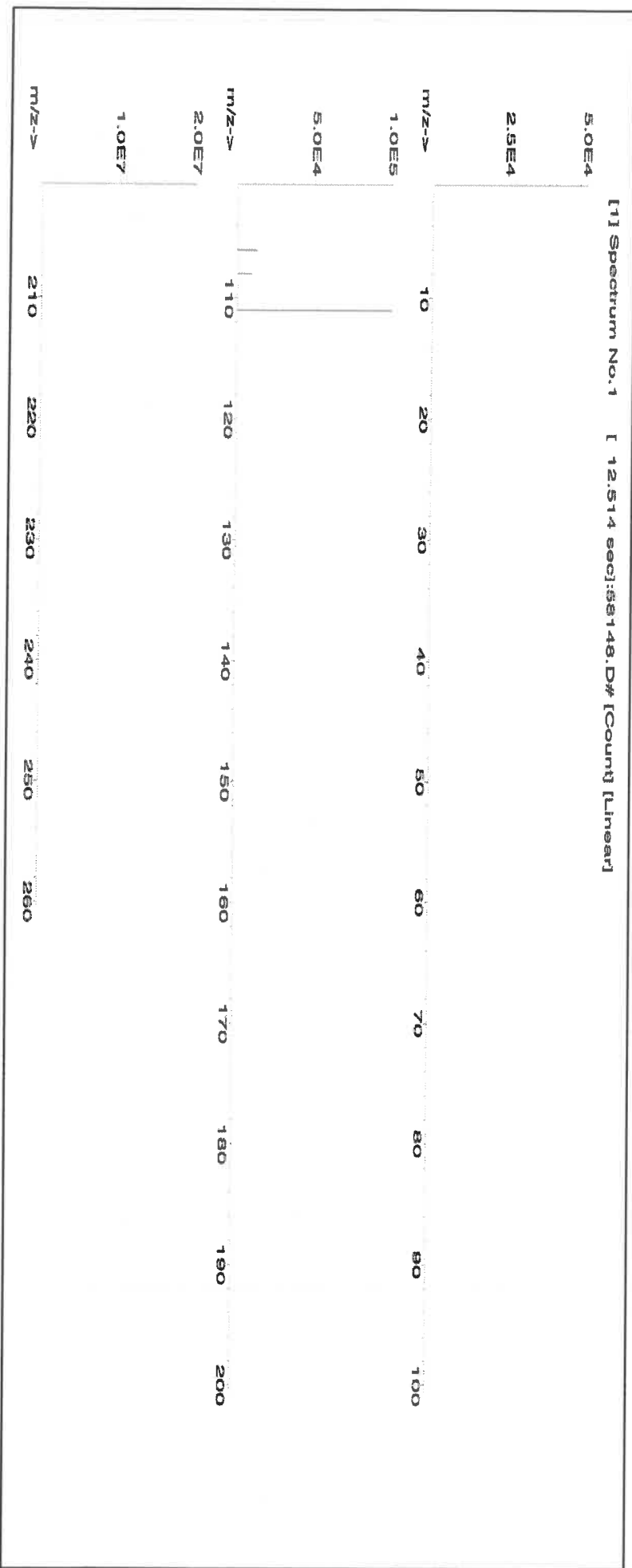
Expiration Date: 070127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.07
SE-05 Balance Uncertainty 0.100
Flask Uncertainty

2% 40.0
(mL) Nitric Acid

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

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

1. Cadmium nitrate tetrahydrate (Cd) IN024 CDM09221A1 1000 99.999 0.10 36.5 5.4797 5.4804 1000.1 2.0 10022-68-1 0.01 mg/m3 or-rat 60.2mg/kg 3108





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).

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

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: CHEM-CLP-4
 Lot Number: S2-MEB711673
 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 ± 6 µg/mL	Molybdenum, Mo	1 000 ± 6 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 6 µg/mL
Titanium, Ti	1 000 ± 7 µg/mL		

Density: 1.030 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

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

November 02, 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

- **November 02, 2026**

- The date after which this CRM/RM should not be used.
- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

300 Technology Drive
 Christiansburg, VA 24073 USA
 inorganicventures.com

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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-1	
Lot Number:	T2-MEB714417	
Matrix:	5% (v/v) HNO ₃	
Value / Analyte(s):	5 000 µg/mL ea:	Potassium, Sodium,
	Calcium, Magnesium,	
	2 000 µg/mL ea:	Barium,
	Aluminum,	
	1 000 µg/mL ea:	
	Iron,	
	500 µg/mL ea:	Vanadium, Cobalt,
	Nickel,	
	Zinc,	
	Manganese,	
	250 µg/mL ea:	Copper,
	Silver,	
	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	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 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
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

<https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver>

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 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

- January 27, 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





Refine your results. Redefine your industry.

Certificate of Analysis

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2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CLPP-CAL-3
Lot Number: T2-MEB714159
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 ± 8 µg/mL	Cadmium, Cd	500.0 ± 2.1 µg/mL
Lead, Pb	1 000 ± 5 µg/mL	Selenium, Se	1 000 ± 8 µg/mL
Thallium, Tl	1 000 ± 7 µg/mL		

Density: 1.043 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 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

- **January 13, 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





Refine your results. Redefine your industry. RD:05/14/2024

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO ₃

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	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
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	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
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	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
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	IC 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:

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

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

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

- 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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 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

- August 30, 2026

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

RD:05/14/2024

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: WW-LFS-2
Lot Number: U2-MEB731108
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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO ₂	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 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
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO ₂	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

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

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

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

March 17, 2023

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

11.2 Lot Expiration Date

- **March 17, 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



M4371

Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)

Rec - 06.07.19



avantortm

Material No.: 2196-01
Batch No.: 0000215387
Manufactured Date: 2018/06/27
Retest Date: 2025/06/25
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (NH ₂ OH · HCl) (by KMnO ₄ titrn)	>= 96.0 %	99.1
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.017
Titrate Free Acid (meq/g)	<= 0.25	0.19
Ammonium (NH ₄)	Passes Test	PT
Sulfur Compounds (as SO ₄)	<= 0.005 %	< 0.003
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	4
Trace Impurities - Iron (Fe)	<= 5 ppm	< 3
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	< 0.005

For Laboratory, Research or Manufacturing Use

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

ISO

Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier

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.

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

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

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.

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





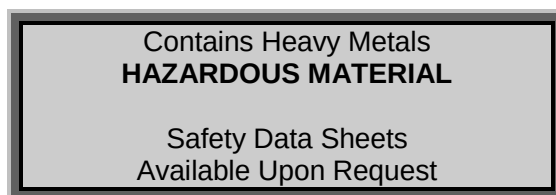
Instructions for QATS Reference Material: ICP-AES ICS

**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.



(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.

ICSA
M5126
M5127
M5128
M5129
M5130

ICSB
M5219
M5220
M5221
M5222
M5223



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: 57042
Lot Number: 051722
Description: Molybdenum (Mo)

Lot # M5192
Solvent: R: 06/17/22

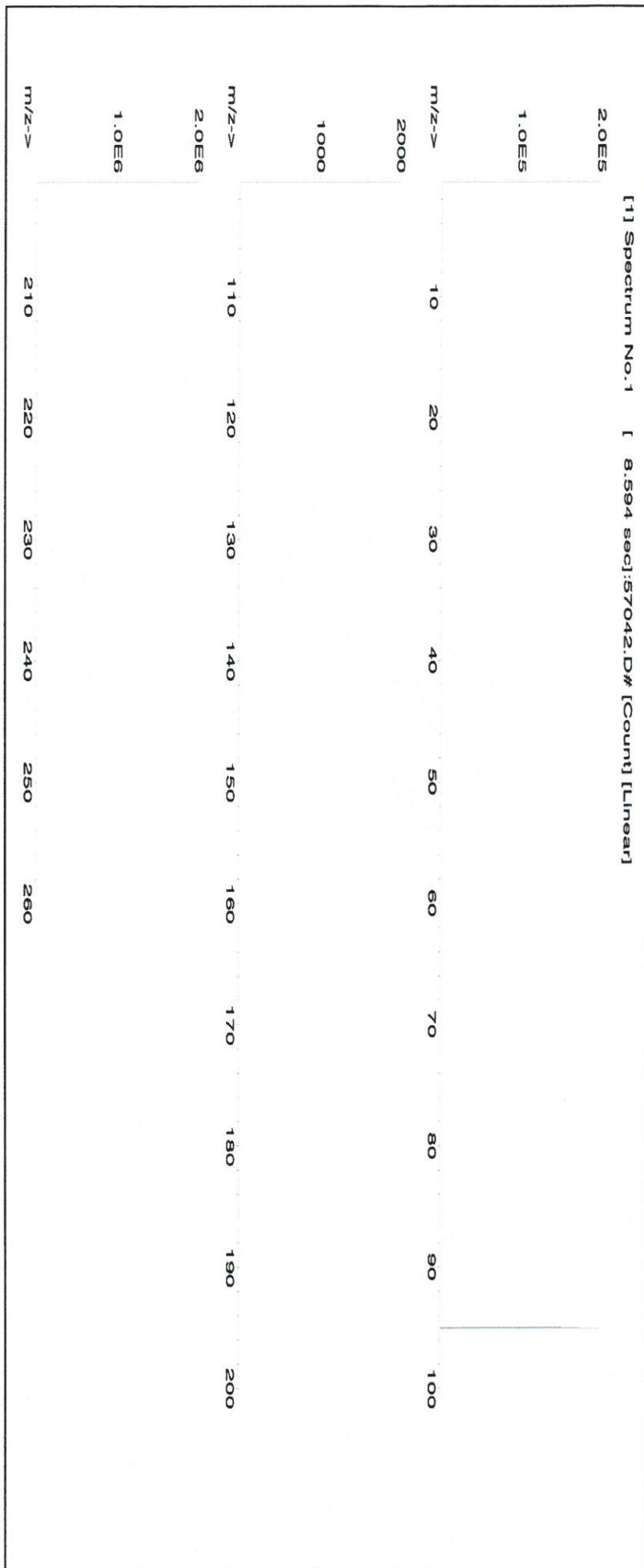
Expiration Date: 051725
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 3000.41

Balance Uncertainty: 0.058
Flask Uncertainty: 0.084

Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Ruelas
	051722

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	NIST SRM
----------	-------------	------------	-----------------	-------------------	------------------	-----------------------	-----------------------	---------------------	----------------------------------	--	----------

1. Ammonium molybdate (Mo) 58142 022222 0.1000 300.0 0.084 1000 10001.0 1000.0 2.1 13106-76-8 5 mg(Mo)/m3 or-trat 333 mg/kg 3134





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	T	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Certificate of Analysis

300 Technology Drive
 Christiansburg, VA 24073 USA
 inorganicventures.com

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

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-QC-4
 Lot Number: S2-MEB711674
 Matrix: 3% (v/v) HNO₃
 3% (v/v) HF
 Value / Analyte(s): 1 000 µg/mL ea:
 Boron, Molybdenum,
 Silicon, Tin,
 Titanium

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
Boron, B	1 000 ± 7 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	1 001 ± 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	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

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

November 02, 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

- **November 02, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

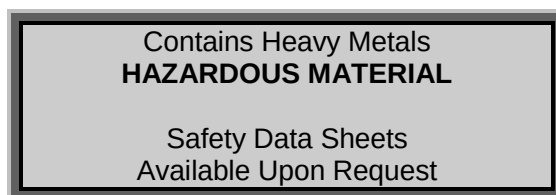


**QATS LABORATORY INORGANIC REFERENCE MATERIAL
 INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)**

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.



(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.

ICSA
M5126
M5127
M5128
M5129
M5130

ICSB
M5219
M5220
M5221
M5222
M5223



CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

Solvent: 20510011 Nitric Acid
Lot #

Expiration Date: 071125
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
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

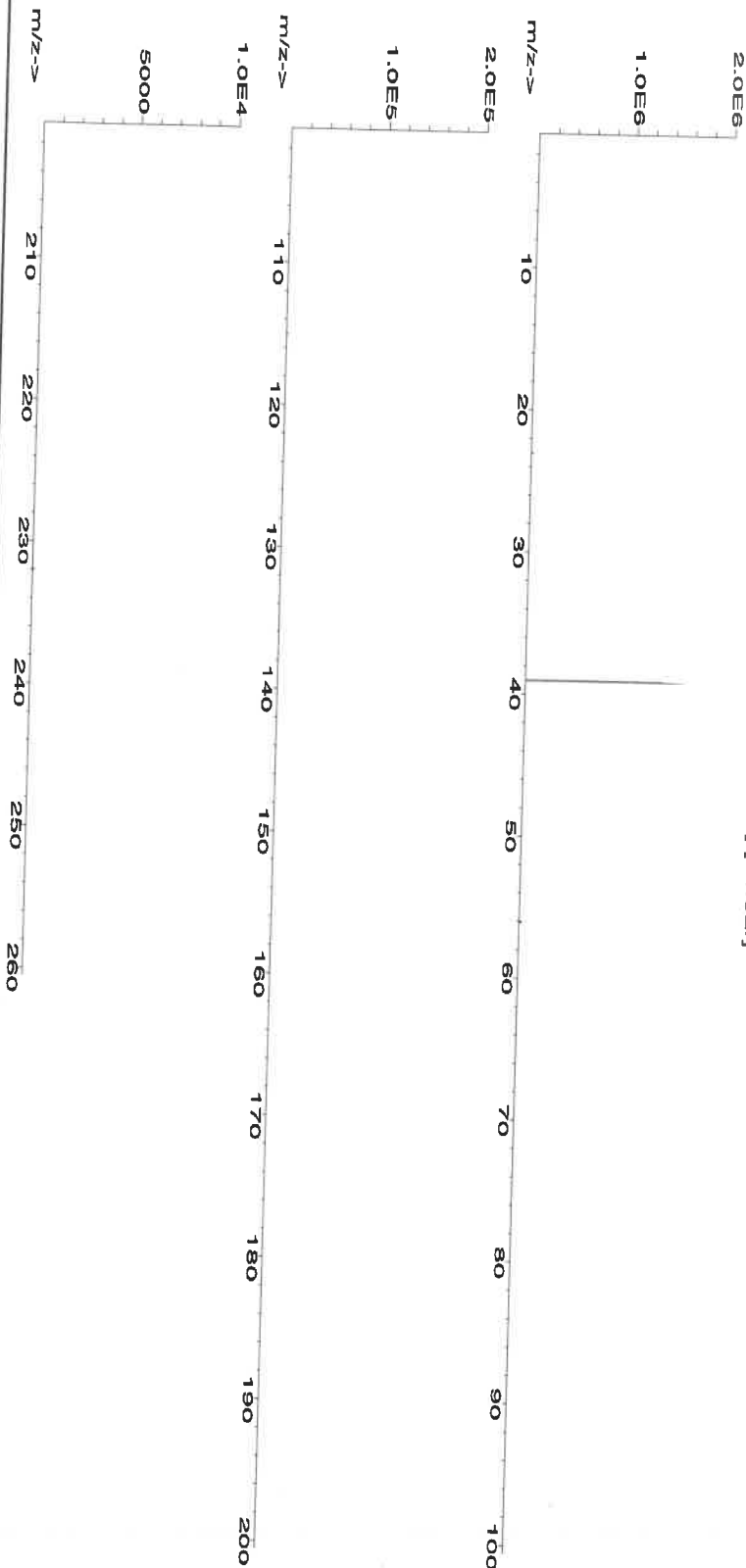
Formulated By:	Lawrence Barry
	071122
Reviewed By:	Pedro L. Rentas
	071122

Compound

1. Potassium nitrate (K)

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
IN034	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	10000.2	20.0	7757-79-1	5 mg/m3	or-rat 3015 mg/kg	3141a

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



R: 4/20/21

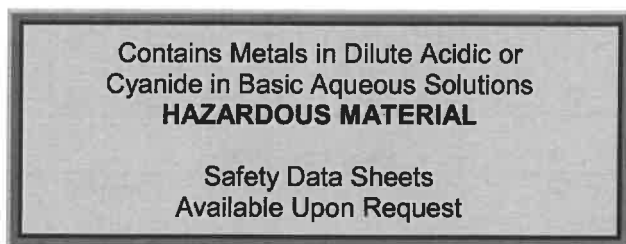
Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

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.



M5291
M5292
M5293
M5294
M5295

(A) **SAMPLE DESCRIPTION**

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) **BREAKAGE OR MISSING ITEMS**

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) **ANALYSIS OF SAMPLES**

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





Instructions for QATS Reference Material: *Inorganic ICV Solutions*

- ICV1-1014** For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.
- ICV5-0415** For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.
- ICV6-0400** For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (µg/L) (after 10-fold dilution)	Concentration (µg/L) (after 50-fold dilution)
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	Concentration (µg/L) (after 100-fold dilution)	Analyte	Concentration (µg/L) (after 100-fold dilution)
Hg	4.0	CN ⁻	99

P4652-METALS



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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.02	Er	<0.2	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	<0.02	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:

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

Certified by:

Ben. P. R.

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

Nitric Acid
CMOS



M5402 M5403 M5404
M5405 M5406 M5407

Material No.: 9606-03
Batch No.: 22C0462001
Manufactured Date: 2022-02-11
Retest Date: 2027-02-10
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 - 70.0 %	69.4 %
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	1.2 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	1.7 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	< 50 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 >>>

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

Nitric Acid
CMOS



Material No.: 9606-03
Batch No.: 22C0462001

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	< 10 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	7 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	2 par/ml

>>> Continued on page 3 >>>

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

Nitric Acid
CMOS



Material No.: 9606-03
Batch No.: 22C0462001

Test	Specification	Result
------	---------------	--------

For Microelectronic Use
Country of Origin: USA
Packaging Site: Phillipsburg 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 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700



Certified Reference Material CRM

M5429 R1 0126/23 (B)

CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL):

Solvent: 20510011 Nitric Acid

2% 20.0 (mL)

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Lawrence Barry 070622
Reviewed By: Pedro L. Rentas 070622

SDS Information

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

Actual Conc. (µg/mL)

Actual Weight (g)

Target Weight (g)

Assay Purity (%)

Purity (%)

Nominal Conc. (µg/mL)

Lot Number

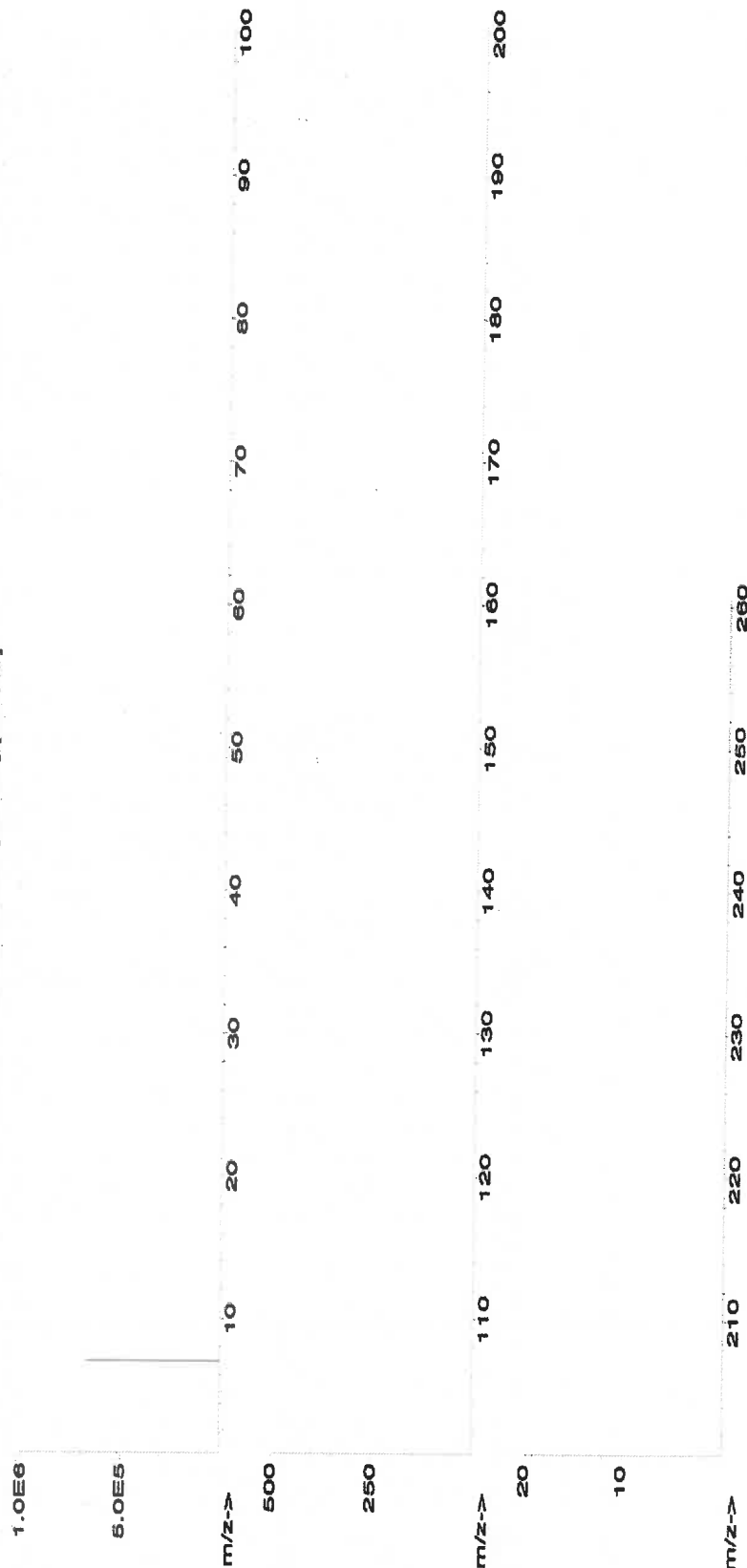
RM#

Compound

1. Lithium nitrate (Li)

IN019 LZ042019A1 10000 99.999 0.10 10.0 100.0134 100.0173 10000.4 20.0 7790-69-4 5 mg/m3 of-Rat 1426 mg/kg NA

[1] Spectrum No.1 [9.619 sec]:58103.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	La	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	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 WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL):

Solvent: 21110221 Nitric Acid

2% 20.0 mL
Nitric Acid

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

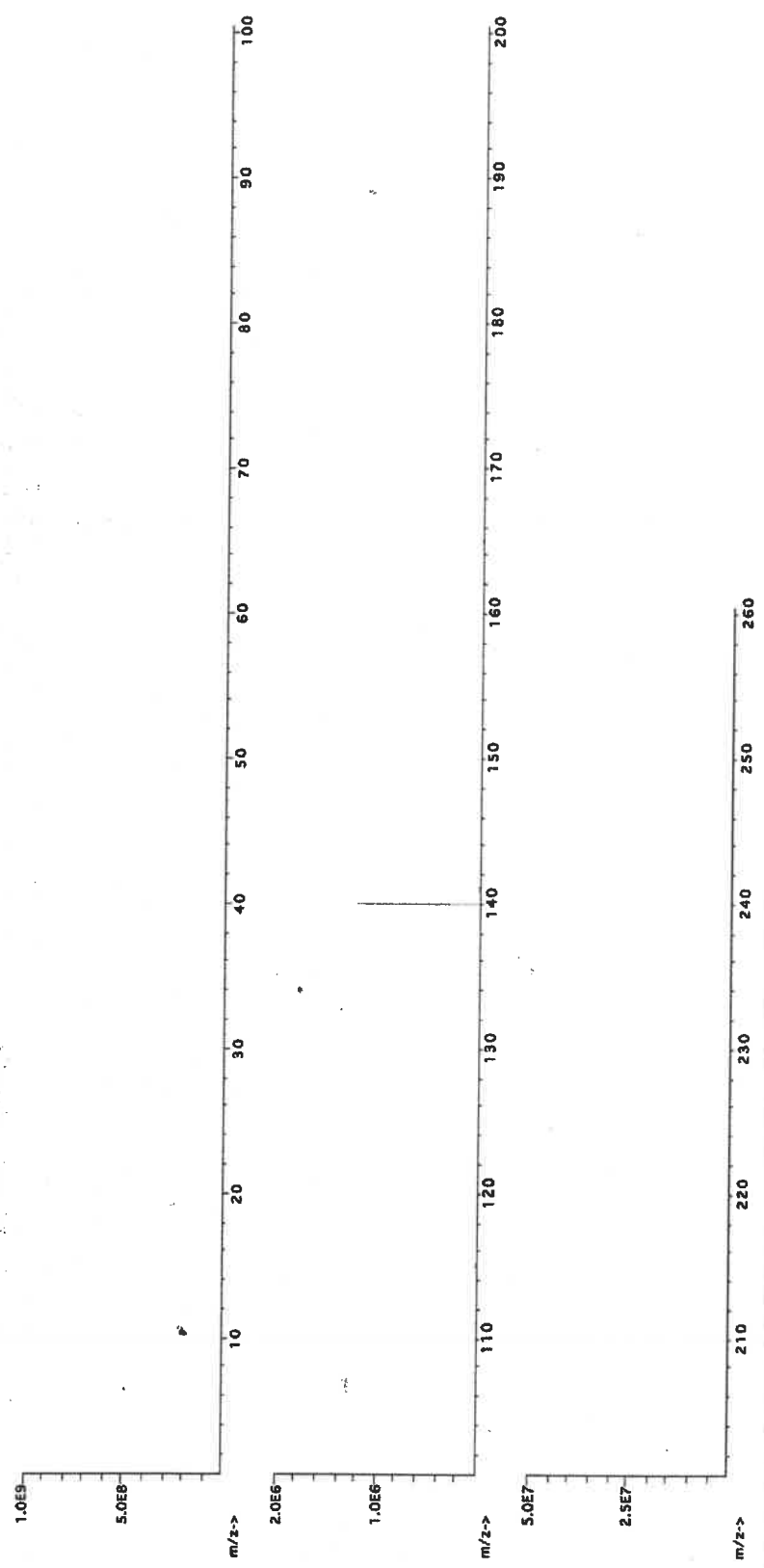
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

SDS Information

Expanded Uncertainty +/- (µg/mL) CAS# OSHA PEL (TWA) LD50 SRM

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM
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
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	La	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<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
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
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
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
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
																U	<0.02
																V	<0.02
																Yb	<0.02
																Y	<0.02
																Zn	<0.02
																Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * 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: 031523

Description:

Calcium (Ca)

Expiration Date:

031526

Recommended Storage: Ambient (20 °C)

10000

NIST Test Number:

BLn9

Weight shown below was diluted to (mL): 3000.41

d to (mL): 3000.41

5E-05 Balance Uncertainty

0.058 **Flask | Invertinty**

Solvent: 21110221 Nitric Acid

Solvent: 21110221

Concentration	Chemical
2%	Nitric Acid
60.0	

(mL)

Nitric Acid

(mL)

SDS Information

Expanded

Uncertainty

Actual

Actual

Target

Unit Assay

Incert

Purity

Nomina

Lot

Commentary

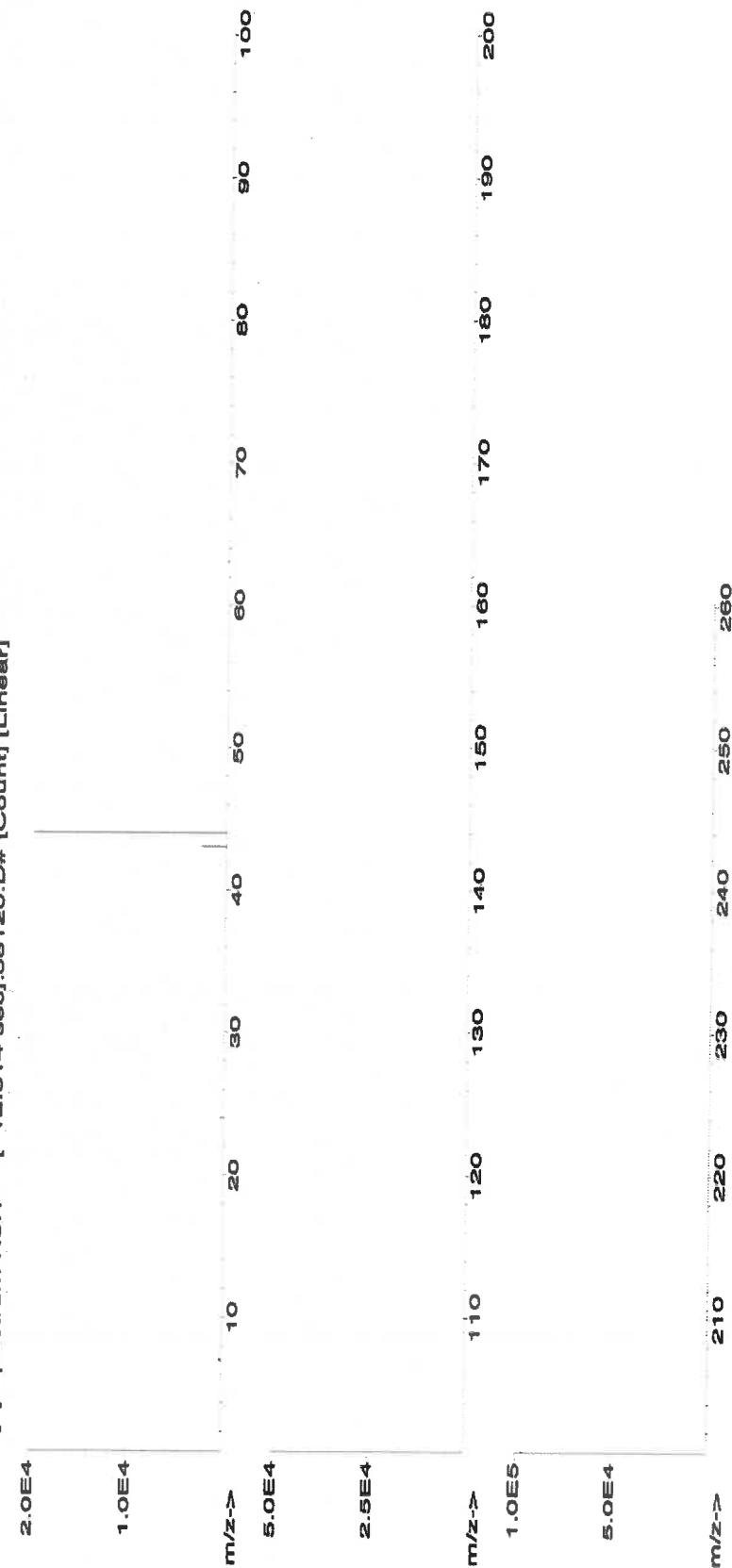
(Solvent Safety Info. On Attached pg.)

NIST

SRM :

[illegible]

[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
Sb	<0.02	Ca	<0.02	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<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	Ti	<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
Be	<0.01	Cr	<0.02	Ga	<0.2	Fe	<0.02	Hg	<0.2	P	<0.2	Ru	<0.02	Sr	<0.02	Tm	<0.02
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
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02
																W	<0.02
																U	<0.02
																V	<0.02
																Yb	<0.02
																Y	<0.02
																Zn	<0.02
																Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent



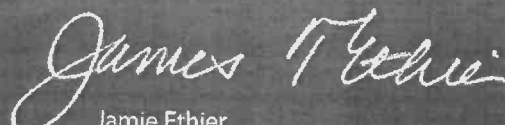
M5497 - M5508
And on 4/14/23
063

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 2

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

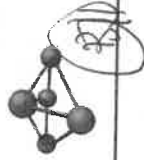
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700



Certified Reference Material CRM



MS54-MS55 R:03/17/22

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58126
092122
Iron (Fe)

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

092125
Ambient (20 °C)
10000
6UTB

Weight shown below was diluted to (mL):

5000.1

5E-05 Balance Uncertainty
0.12 Flask Uncertainty

Lot #

Solvent: 20510011 Nitric Acid

7.0% 350.0 Nitric Acid
(mL)

Formulated By:	Giovanni Esposito	092122
Reviewed By:	Pedro L. Rentas	092122

Expanded Uncertainty

SDS Information

(Solvent Safety Info. On Attached pg.)

LD50 OSHA PEL (TWA)

CAS#

± (µg/mL)

Actual Conc. (µg/mL)

Actual Weight (g)

Target Weight (g)

Assay (%)

Purity (%)

Uncertainty (%)

Nominal Conc. (µg/mL)

Lot Number

RM#

Compound

1. Iron (Fe)

IN346 2224912-500

10000

99.985

0.10

100.0

50.0034

50.0111

10001.5

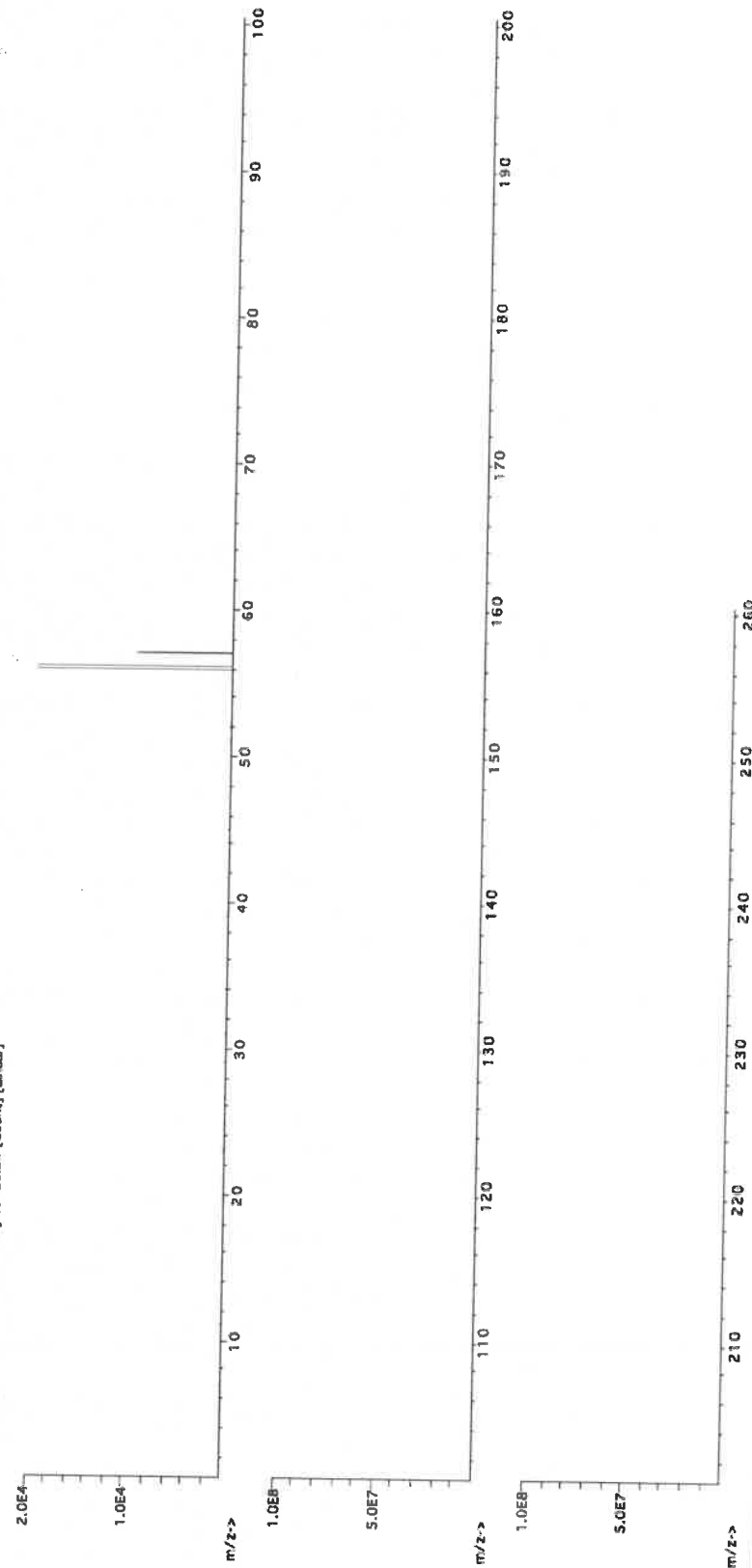
20.0

7439-88-6

5 mg/m3

orl-rat 7500mg/kg 3126a

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





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	La	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.02	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	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.05
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

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

Lot # 2110221
Solvent: Nitric Acid

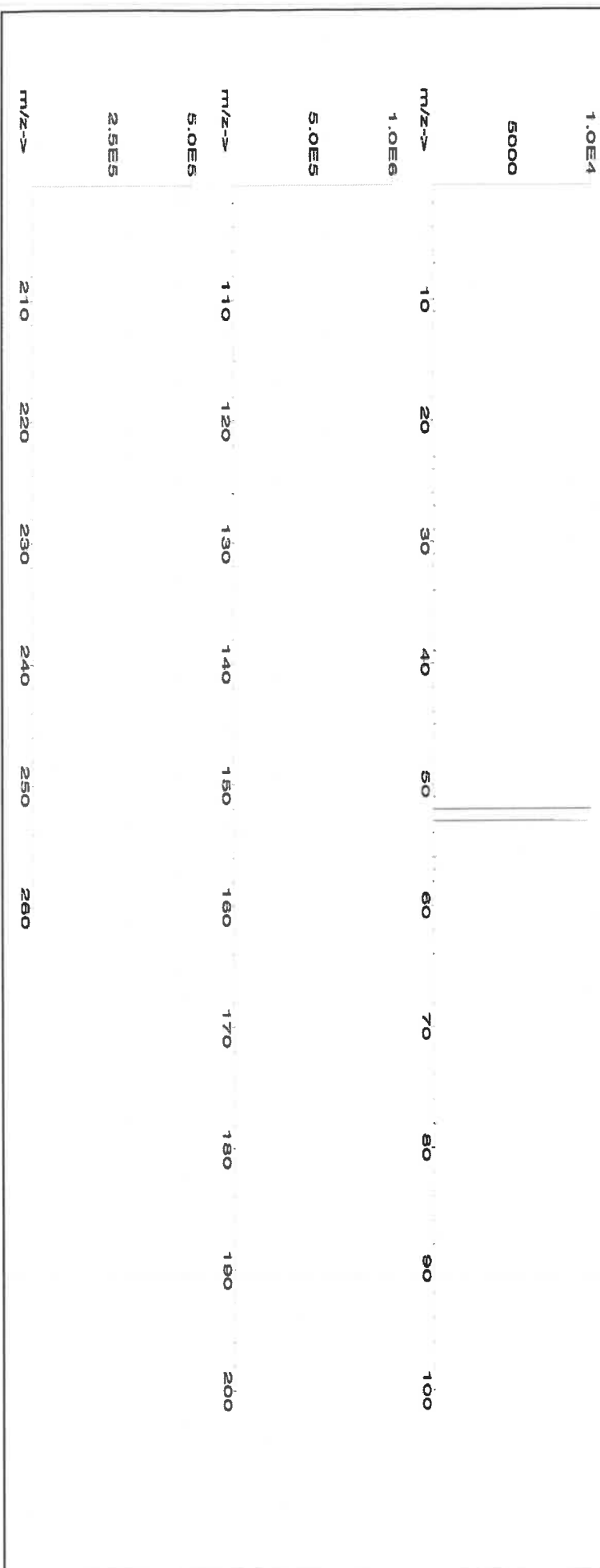
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

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





Certified Reference Material CRM



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

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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™



Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H ₂ SO ₄)	95.0 – 98.0 %	96.1 %
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 and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 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	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

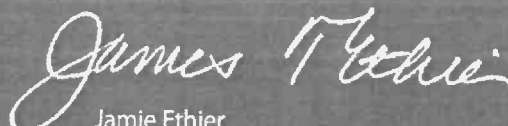


Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities – Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities – Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality



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
Flask Uncertainty

2.0%
40.0
(mL)
Nitric Acid

Formulated By: Benson Chan 102523

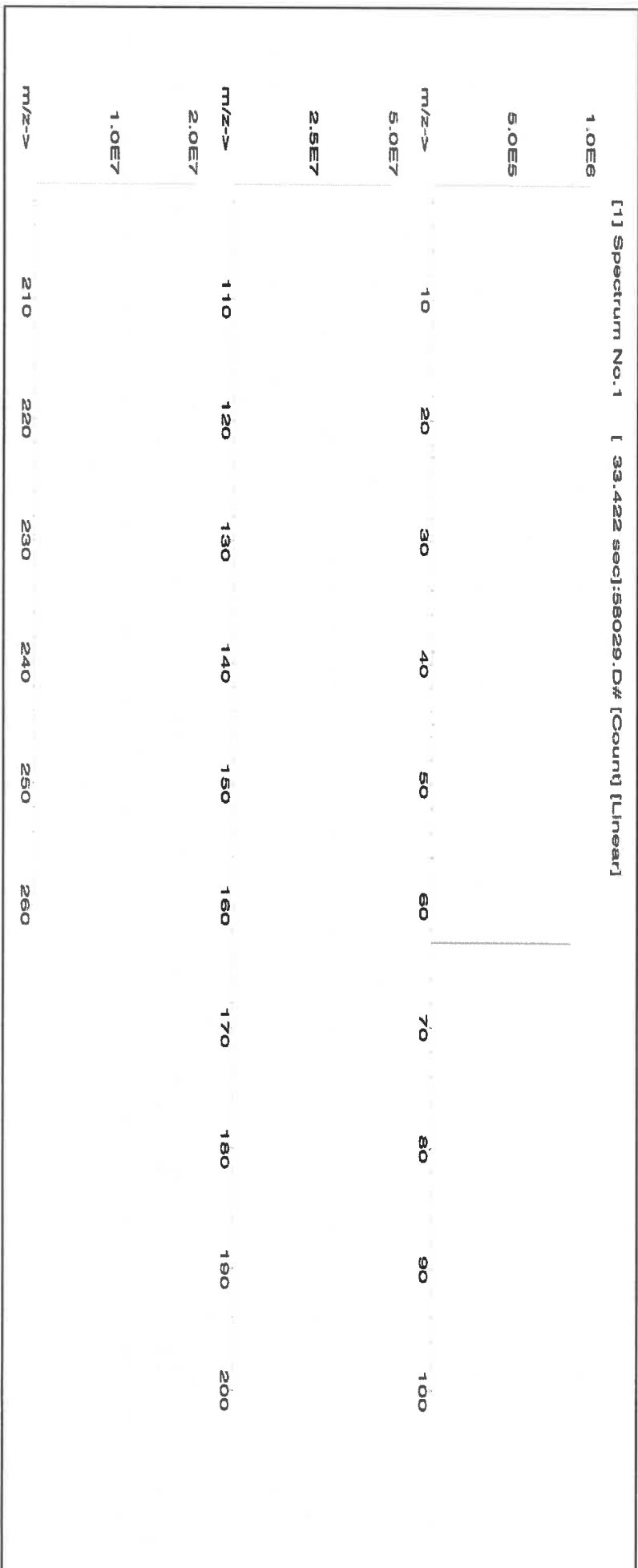
Reviewed By: Pedro L. Rentas 102523

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

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
Si	<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	T	<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:

[Signature]

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



Certified Reference Material CRM
M5648 A: 10123123



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

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58025
102623
Manganese (Mn)

Lot #
Solvent:

24002546
Nitric Acid

Expiration Date:

102626

Recommended Storage:
Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

3000.41

5E-05
Balance Uncertainty

0.058
Flask Uncertainty

Formulated By:	Benson Chan	102623
Reviewed By:	Pedro L. Ruelas	102623

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. Manganese(II) nitrate tetrahydrate (Mn) 58125 071123 0.1000 300.0 0.084 1000 10000.1 1000.0 2.1 20694-39-7 5 mg/m3 or-rel>300mg/kg 3132

[1] Spectrum No.1 [34.243 sec]:57025.D# [Count] [Linear]

5.0E6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</
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<https://Absolutestandards.com>

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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<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 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: 57082
Lot Number: 100923
Description: Lead (Pb)

Solvent: 24002546 Nitric Acid

Lot #

R: 12/20/23 MS747

Formulated By:	Lawrence Barry
	100923
Reviewed By:	Pedro L. Rentes
	100923

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2% 60.0 Nitric Acid (mL)

Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

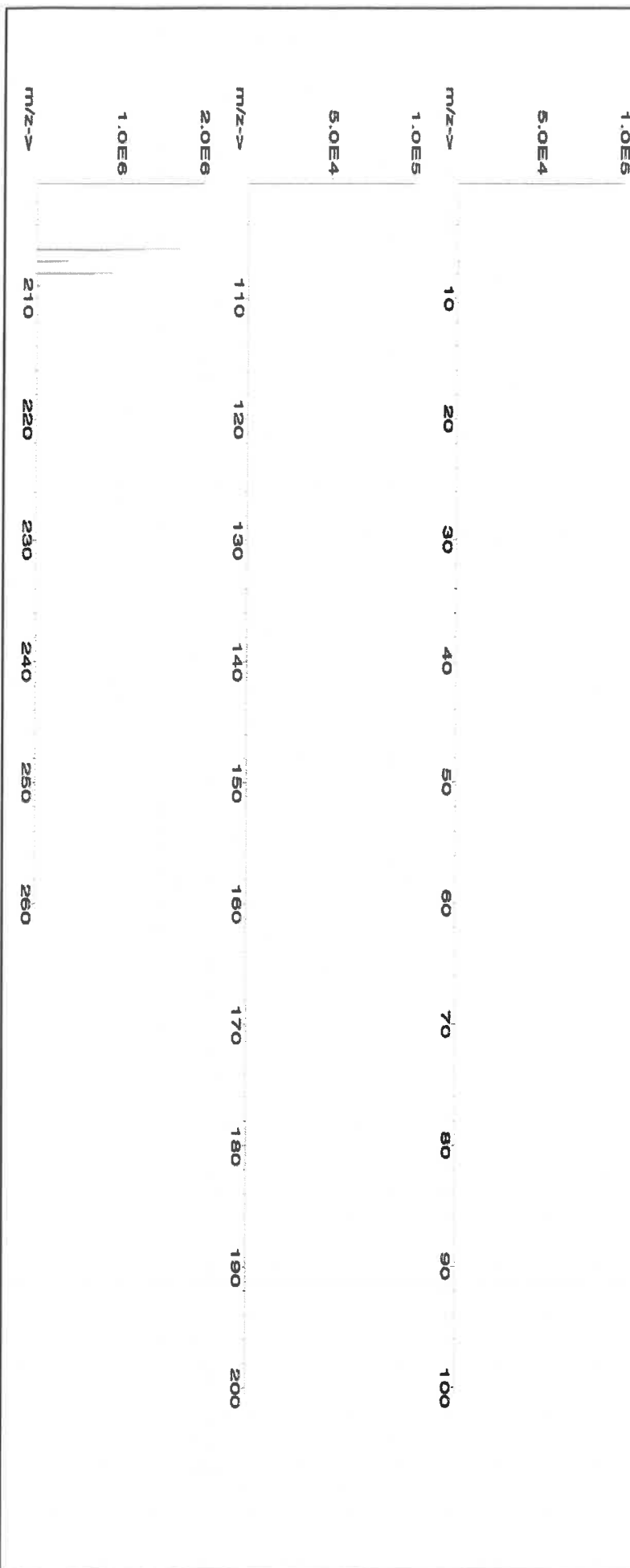
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded		NIST
										Uncertainty	+/- (µg/mL)	

SDS Information

(Solvent Safety Info. On Attached pg.)
CAS# OSHA PEL (TWA) LD50 SRM

1. Lead(II) nitrate (Pb) IN029 PB0122016A1 1000 99.999 0.10 62.5 4.80071 4.80077 1000.0 2.0 10099-74-8 0.05 mg/m3 Intyms-ret 89 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	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Ba	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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: **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**
NIST Test Number: **6U7B**

2.0%
40.0 (mL)
Nitric Acid

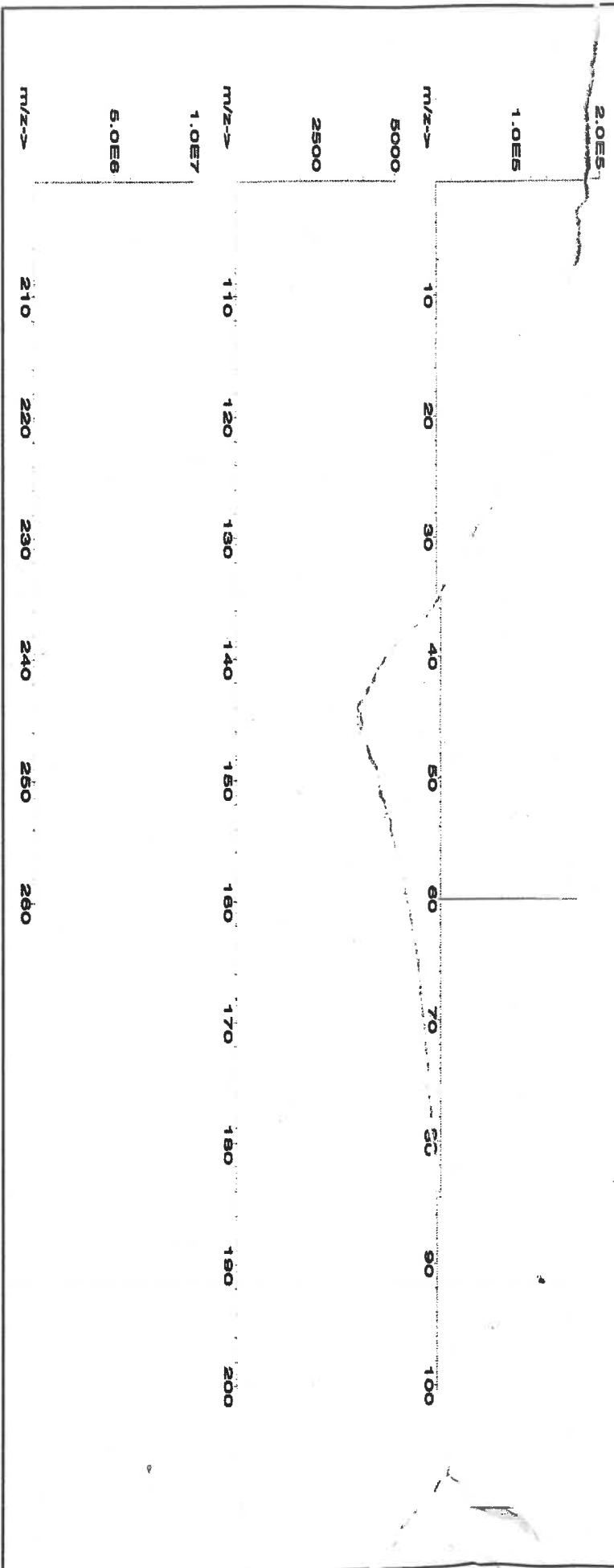
Volume shown below was diluted to (mL): **2000.02**
Balance Uncertainty: **5E-05**
Flask Uncertainty: **0.056**

Formulated By:	<i>Lawrence Barry</i>	091223
Reviewed By:	<i>Pedro L. Renteria</i>	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]:56028.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).



M5768 M5769
Certified Reference Material CRM
R: 1/13/24



CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)
Solvent: 24002546 Nitric Acid
Lot #

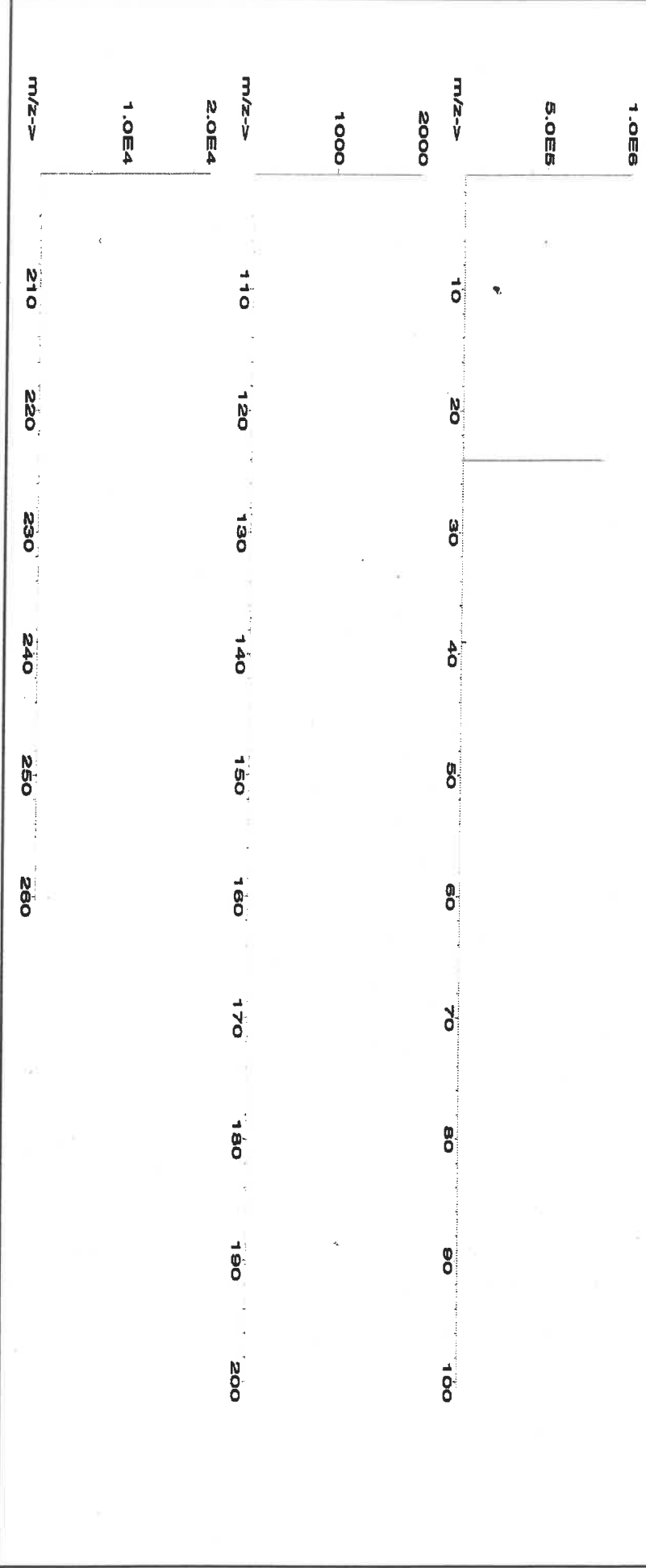
Expiration Date: 091826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02
Purity: 99.999
Uncertainty: 0.10
Assay: 8.51
Target Weight (g): 234.9118
Actual Weight (g): 234.9126
Actual Concentration (µg/mL): 10000.0
Expanded Uncertainty: 20.0
CAS#: 13446-18-9
OSHA PEL (TWA): NA
LD50: or-rat 5440 mg/kg 3131a

Weight shown below was diluted to (mL): 2000.02
Purity: 99.999
Uncertainty: 0.10
Assay: 8.51
Target Weight (g): 234.9118
Actual Weight (g): 234.9126
Actual Concentration (µg/mL): 10000.0
Expanded Uncertainty: 20.0
CAS#: 13446-18-9
OSHA PEL (TWA): NA
LD50: or-rat 5440 mg/kg 3131a

Formulated By:	Lawrence Barry	091823
Reviewed By:	Pedro L. Rentas	091823

Compound	Lot	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	10000	99.999	0.10	8.51	234.9118	234.9126	10000.0	20.0	13446-18-9	NA		or-rat 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	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

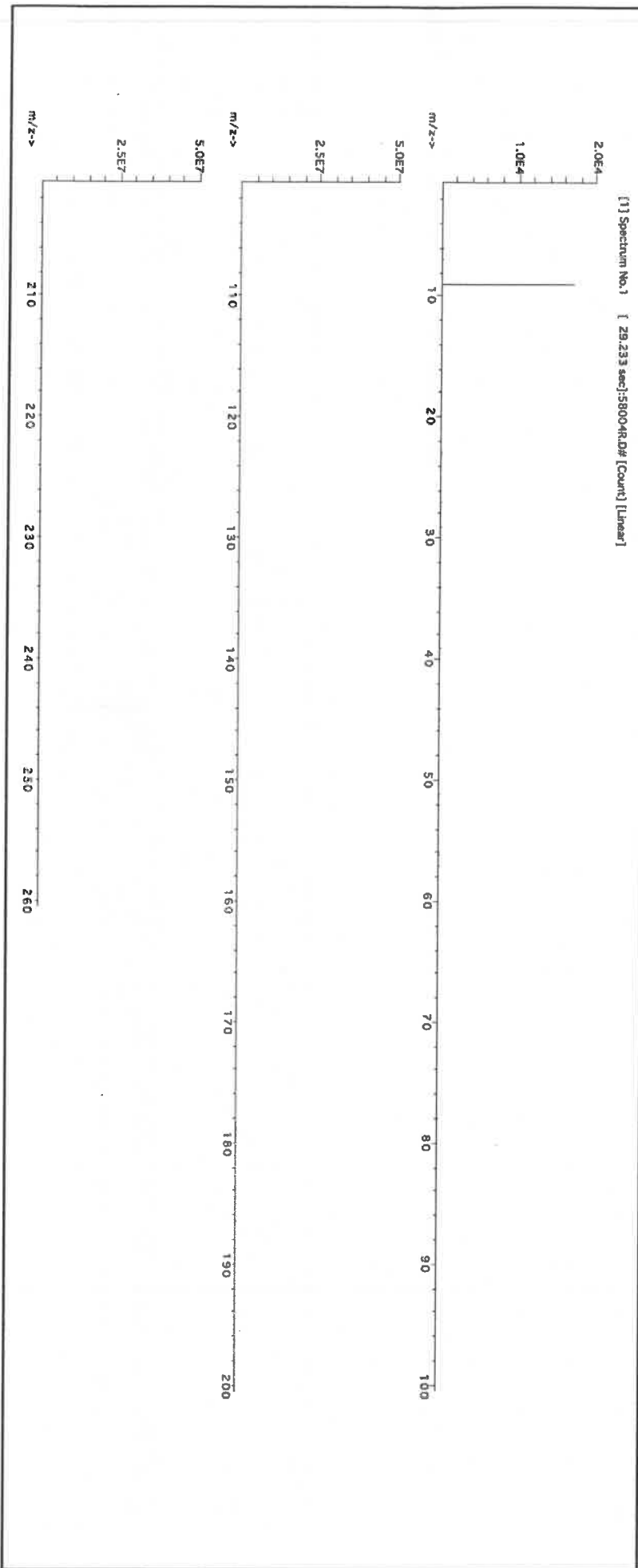
0.058 Flask Uncertainty

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

SDS Information

Compound	Part Number	Lot	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-rat 3.16mg/kg	NA
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

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

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

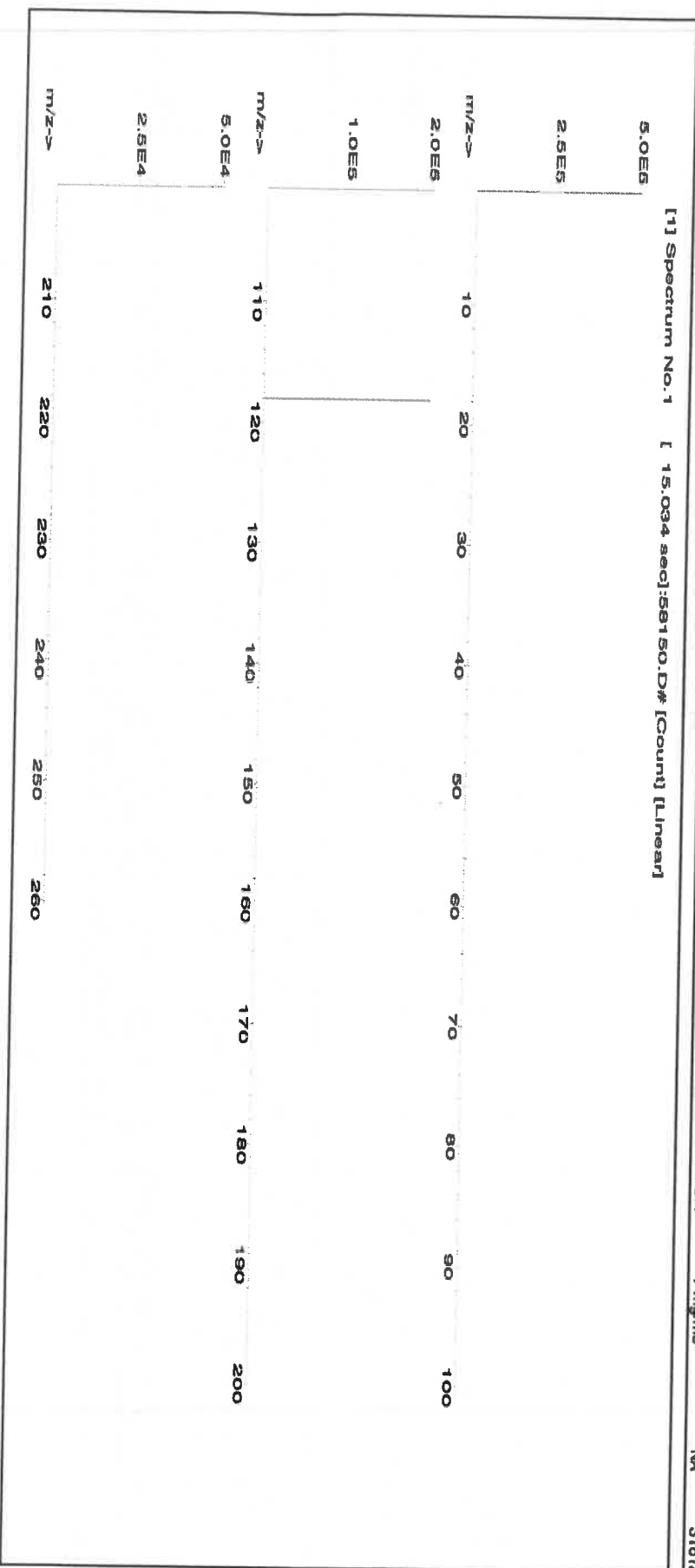
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.0058 Flask Uncertainty

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

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

1. Ammonium hexafluoroantimonate(V) (Sn) INO10 SMD042023A1 1000 99.99 0.10 44.2 1.13107 1.13286 1001.6 2.0 16919-24-7 7 mg/m3 NA 3161a

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



R: 02/09/24 115800 (54)

CERTIFIED WEIGHT REPORT:

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

Expiration Date: 091926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lot # 24002546
Solvent: Nitric Acid

2.0% Nitric Acid
40.0 (mL)

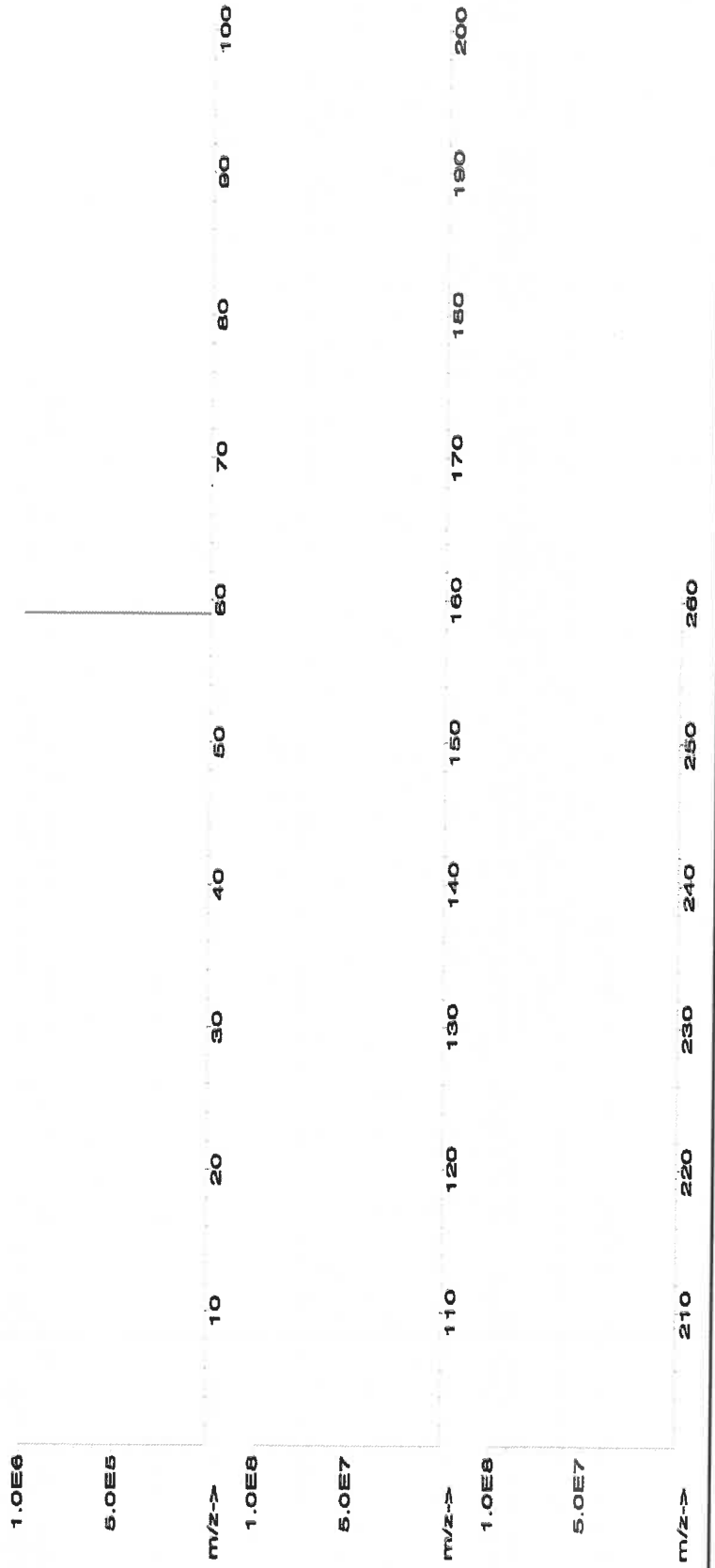
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

SDS Information

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

1. Cobalt(II) nitrate hexahydrate (Co) 58127 050923 0.1000 200.0 0.084 1000 10000.0 1000.0 2.2 10026-22-9 0.02 mg/m3 orl-rat 691 mg/kg 3113

[1] Spectrum No.1 [34.243 sec]:58027.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ca	<0.02	Fe	<0.02	Hg	<0.2	P	<0.2	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Cé	<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	<0.2	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

Ben. L.

- * 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: 57033
Lot Number: 111323
Description: Arsenic (As)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 111326
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB
Volume shown below was diluted to (mL): 4000.0

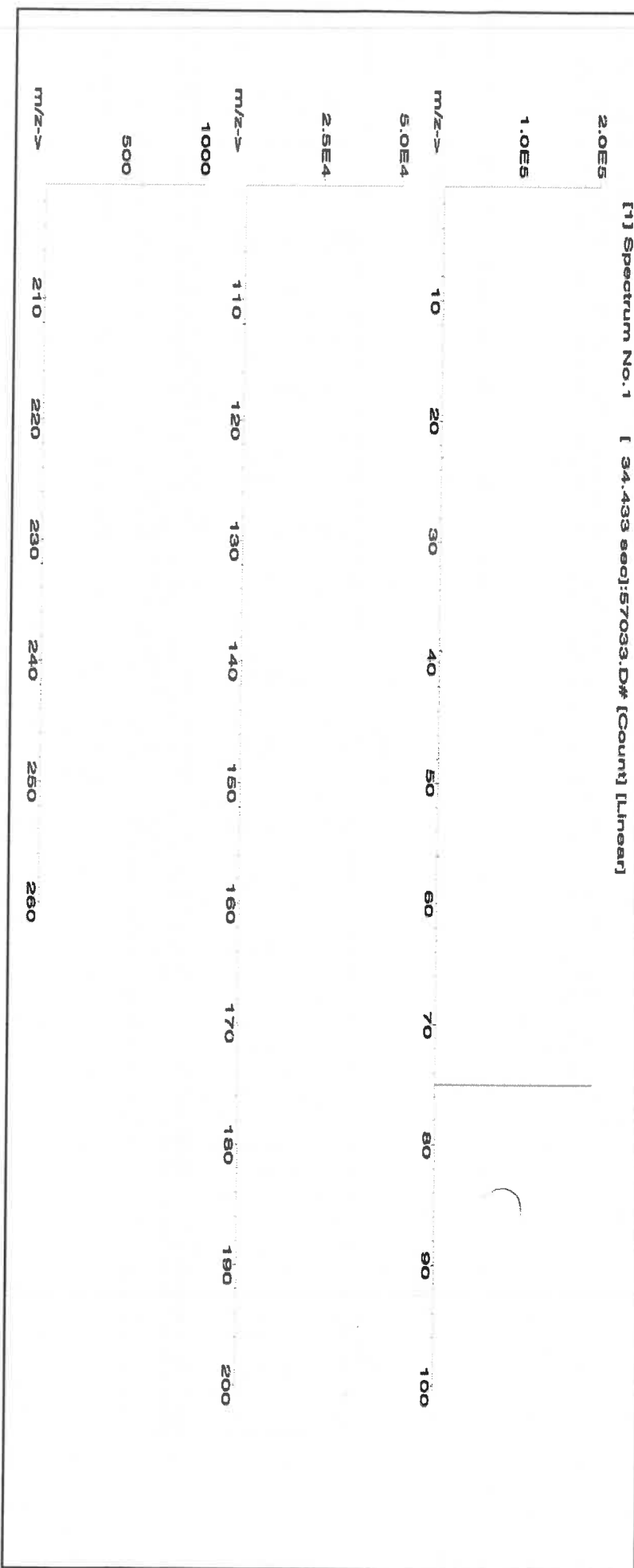
Balance Uncertainty: 5E-05
Flask Uncertainty: 0.06

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

SDS Information									
Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
1. Arsenic (As)	57033	020522	0.1000	400.0	0.084	1000	10001.0	1000.0	2.0

(Solute Safety Info. On Attached pg.) CAS# OSHA PEL (TWA) LD50 NIST SRM

[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	Tc	<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	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
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	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.
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- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED 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

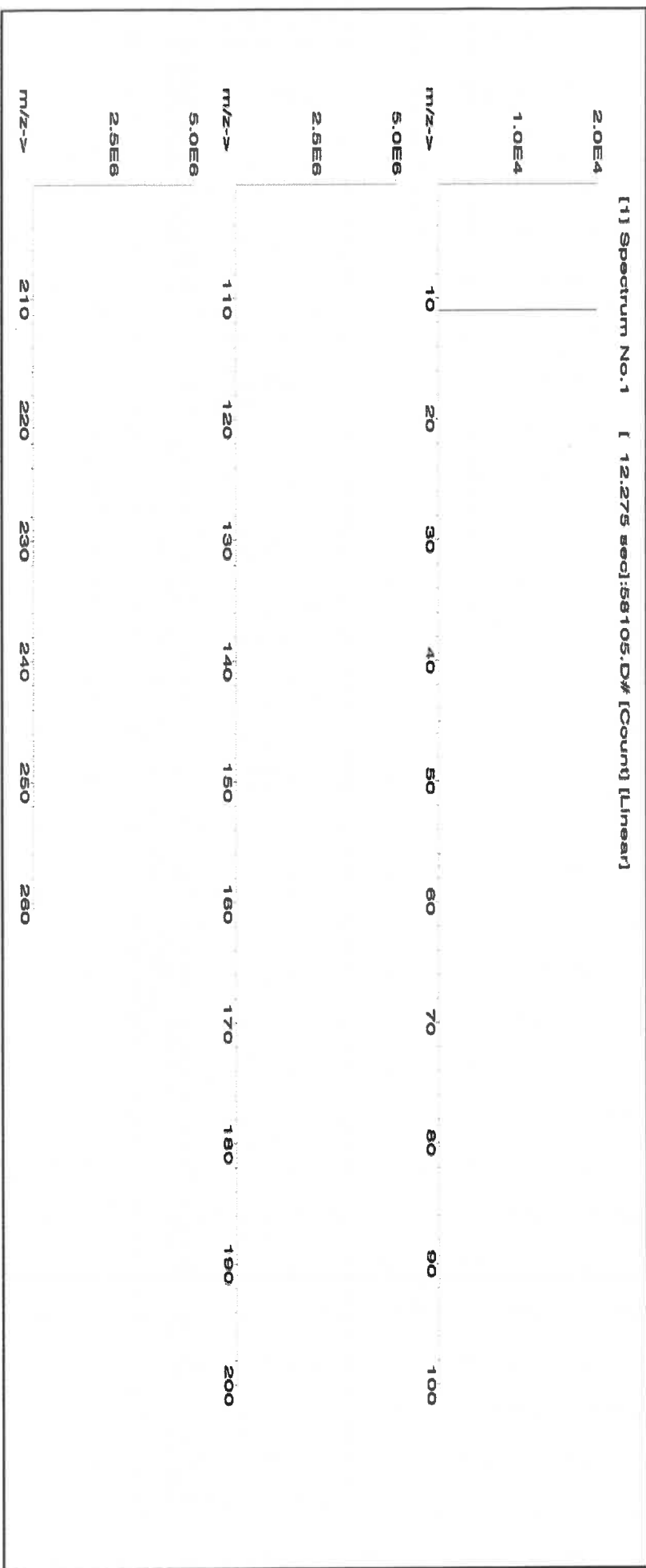
2.0% 40.0 (mL) Ammonium hydroxide

Weight shown below was diluted to (mL): 1999.48 0.058 Balance Uncertainty
Flask 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/mL	3107	ort-nat 2660 mg/kg
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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:

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



CERTIFIED WEIGHT REPORT:

Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

Solvent: 21110221 Nitric Acid

Lot #

R102109124 M5815

Expiration Date: 041726
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

2% 40.0 (mL) Nitric Acid

Weight shown below was diluted to (mL): 2000.02 0.058 Balance Uncertainty
Flask Uncertainty

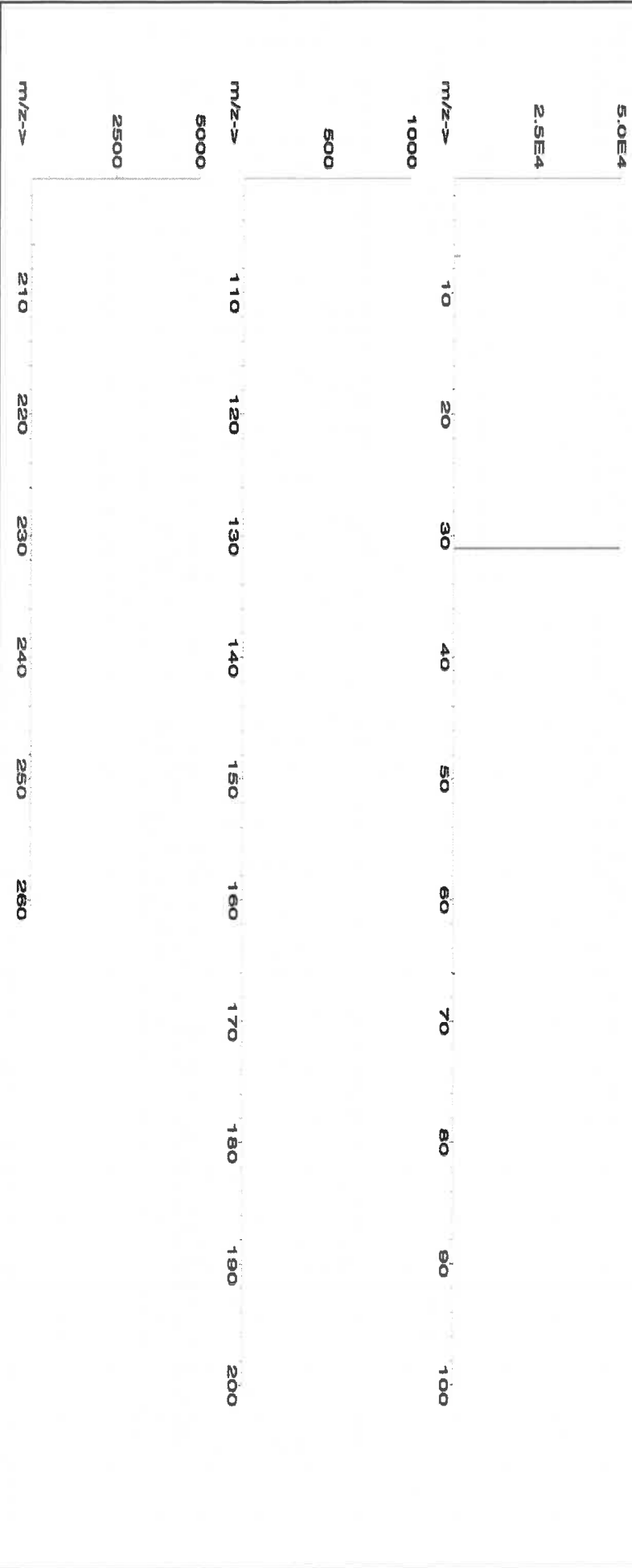
Formulated By:	Lawrence Barry
	041723
Reviewed By:	Pedro L. Rentas
	041723

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium dihydrogen phosphate (P) IN008 P082019A1 10000 99.999 0.10 27.5 72.7287 72.7289 10000.0 20.0 7722-76-1 5 mg/m3 or-hal->2000mg/kg 3186

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57016
122923
Sulfur (S)

Solvent: 122923

ASTM Type 1 Water

Expiration Date:

122926

Recommended Storage:
Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6L7B

Weight shown below was diluted to (mL):

4000.0

SE-05 Balance Uncertainty
0.06 Flask Uncertainty

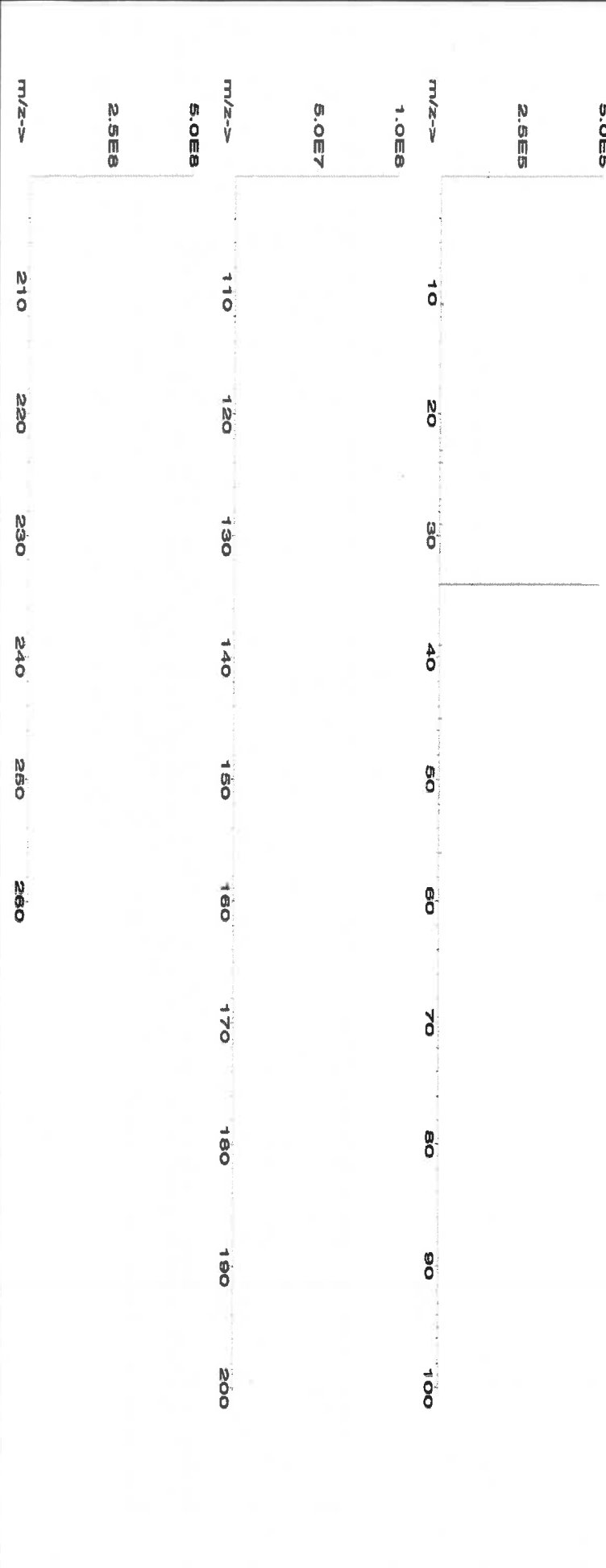
Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

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. Ammonium sulfate (S) IN117 SLBR225V 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]





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	La	<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	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	Ti	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

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

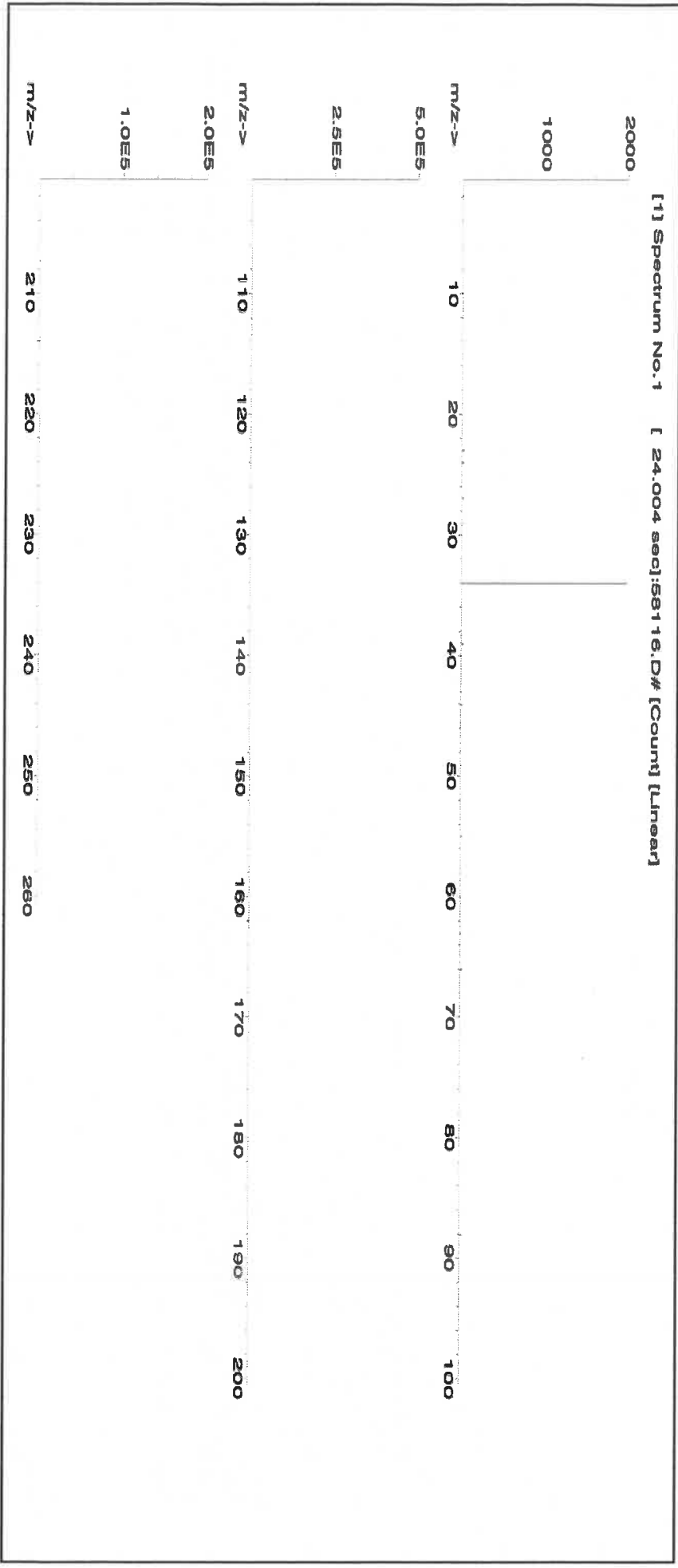
Solvent: **071123** Lot #
ASTM Type 1 Water

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

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

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

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

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

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

Physical Characterization:

(T)= Target analyte

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * 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: **57014**
Lot Number: **122023**
Description: **Silicon (Si)**

Solvent: **24002546 Nitric Acid**

Lot #

R: 02/09/24 M5818

Expiration Date: **122026**

2% 40.0 (mL) Nitric Acid

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

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

NIST Test Number: **6UTB**

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): **1999.48 0.058 Flask Uncertainty**

Aleah O Brady	
Formulated By:	Aleah O Brady
Reviewed By:	Pedro L. Rentas
	122023

Compound

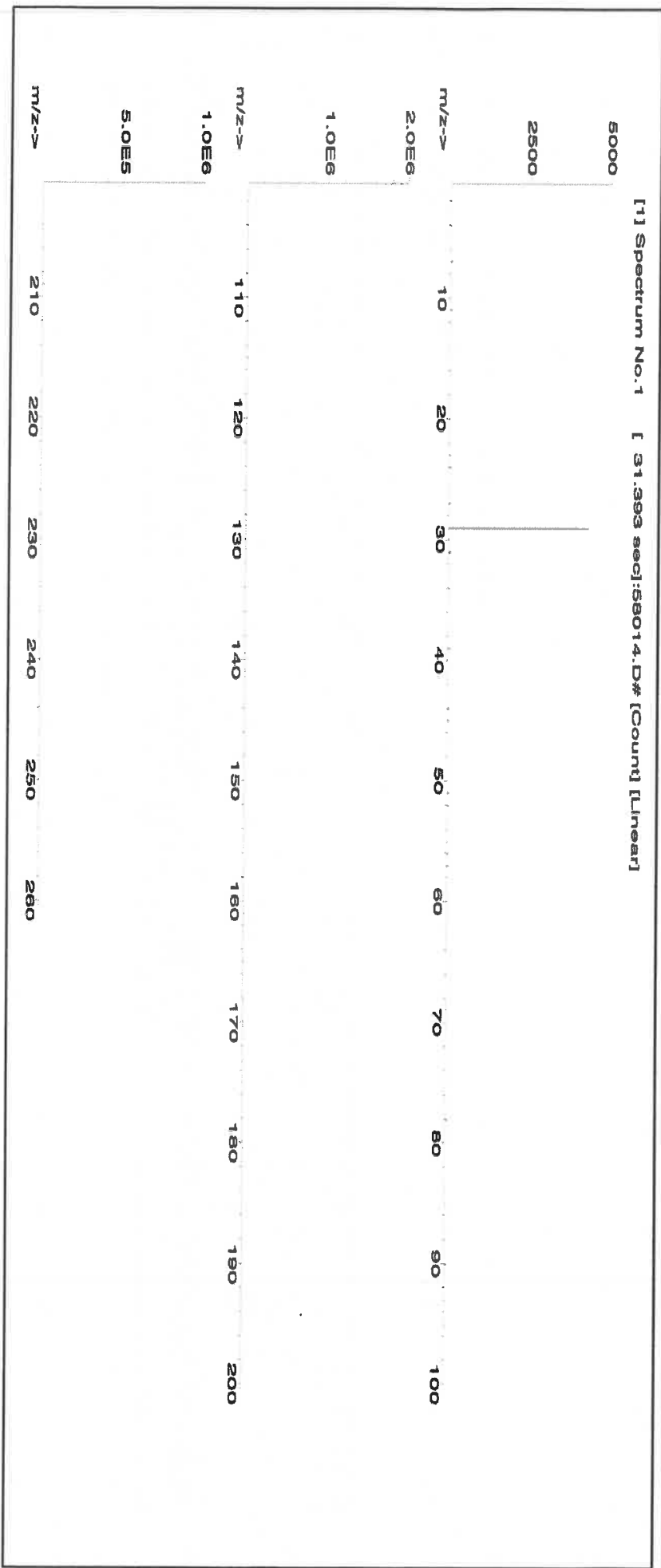
RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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SDS Information

(Solvent Safety Info. On Attached pg.)

1. Ammonium hexafluorosilicate (Si) IN009 S1D08022A1 1000 99.999 0.10 14.4 13.8854 13.8855 1000.0 2.0 18919-19-0 2.5 mg/m3 off-mus 70 mg/kg NA

[1] Spectrum No. 1 [31.393 sec]:58014.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	<0.2	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Bu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Ru	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

[Signature]

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



CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

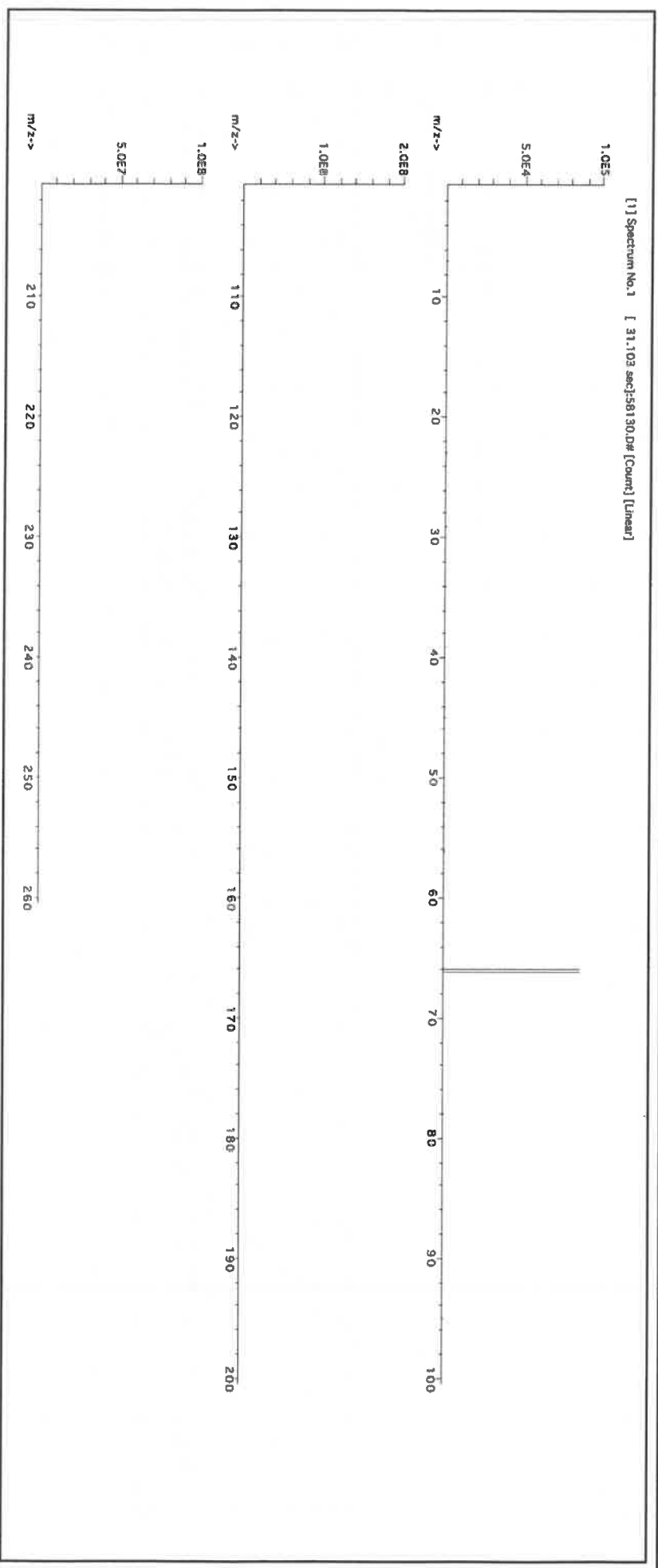
Solvent: 24002546 Nitric Acid

Expiration Date: 111626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4
Balance Uncertainty: 5E-05
Flask Uncertainty: 0.06

Formulated By:	Benson Chan
111623	
Reviewed By:	Pedro L. Reintias
111623	

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. Zinc nitrate hexahydrate (Zn)	IN016 ZNE03021A1	1000	99.999	0.10	24.3	12.3475	12.3502	1000.2	2.0
								10196-166	1 mg/mL
									on-rat 1190mg/kg 3168





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	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	<0.2	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



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

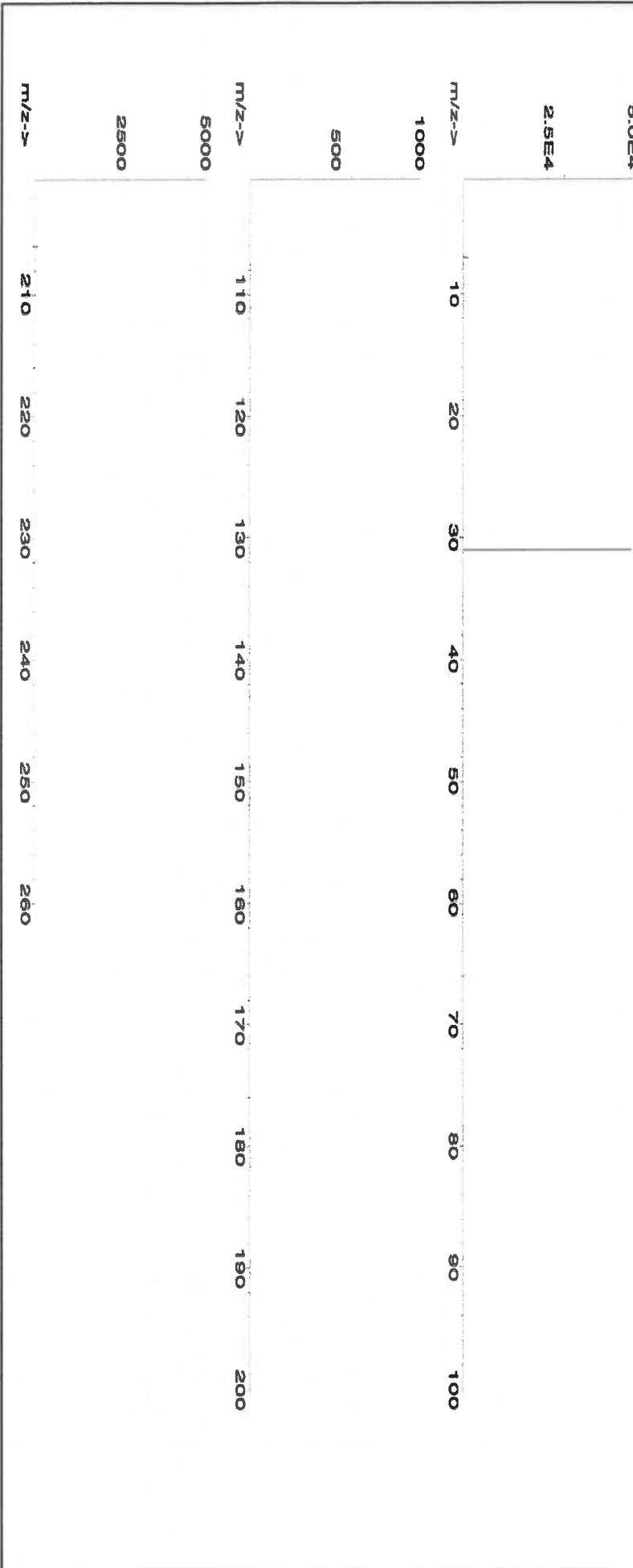
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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. Ammonium dihydrogen phosphate (P) IN008 PY062019A1 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:

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



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

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

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.



M5528-32
M5953
3/30/23

(A) **SAMPLE DESCRIPTION**

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) **BREAKAGE OR MISSING ITEMS**

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) **ANALYSIS OF SAMPLES**

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





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

Instructions for QATS Reference Material: Inorganic ICV Solutions

ICV1-1014

For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415

For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400

For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration ($\mu\text{g/L}$) (after 10-fold dilution)	Concentration ($\mu\text{g/L}$) (after 50-fold dilution)
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	100
Cr	520	2000
Co	520	100
Cu	510	100
Fe	10000	100
Pb	1000	2000
Mg	6000	200
Mn	520	1200
Ni	530	100
K	9900	110
Se	1000	2000
Ag	250	200
Na	10000	50
Tl	1000	2000
V	500	210
Zn	1000	100
		200

ICV5-0415		ICV6-0400	
Element	Concentration ($\mu\text{g/L}$) (after 100-fold dilution)	Analyte	Concentration ($\mu\text{g/L}$) (after 100-fold dilution)
Hg	4.0	CN ⁻	99

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 # Solvent:

24002546

Nitric Acid

2.0% 40.0 (mL)

Nitric Acid

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

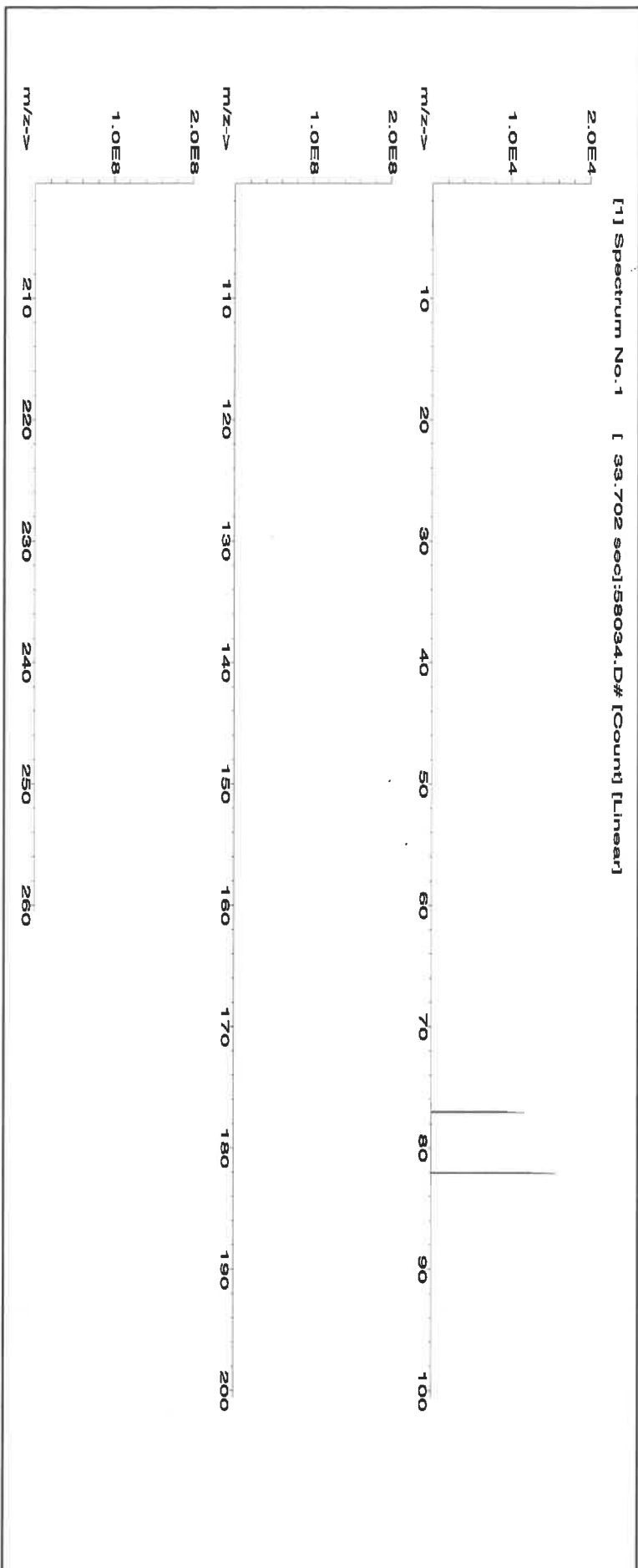
SE-05 Balance Uncertainty
0.100 Flask Uncertainty

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rantas	060624

Compound

Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	NIST SRM
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1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	1000.0	2.2	7782-49-2	0.2 mg/m3	or-tral 6700 mg/kg	3149
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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	T	Tb	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Absolute Standards, Inc.
800-368-1131
www.absolute-standards.com



Certified Reference Material CRM
M5970 M5971 R1 710124



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

CERTIFIED WEIGHT REPORT:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 06/21/27
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

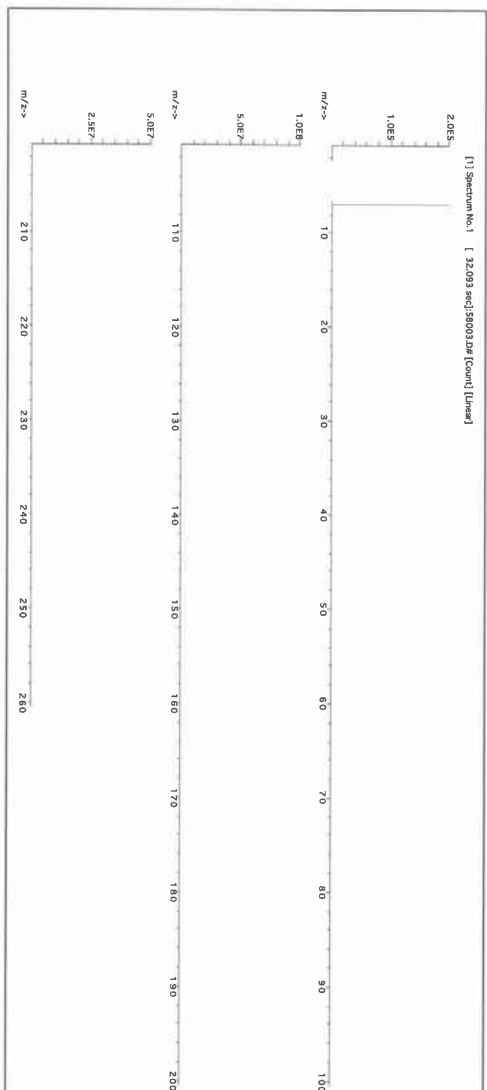
2.0% 5.0 (mL) Nitric Acid

<i>Microvite Capable</i>	
Formulated By:	062124
<i>Petro L. Parias</i>	
Reviewed By:	062124

Compound		SDS Information														
		(Solvent Safety Info. On Attachment pg.)														
		Part	Lot	Dilution	Initial	Uncertainty	Nominal	Initial	Final	Expanded	Uncertainty	CAS#	OSHA PEL (TWA)	LD50	SM	
Number	Factor	Number	Factor	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	Conc. (µg/mL)	

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 [Lines]



Part # 57003 Lot # 062124

1 of 2

Printed: 6/24/2024, 11:20:08 PM

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Certified Reference Material CRM



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

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

Trace Metals Verification by ICP-MS (µg/mL)															
Al	<0.02	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	Mg	<0.02	Nb	<0.02	Rb	<0.02	Si	<0.02
As	<0.2	Ce	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rh	<0.02	Ag	<0.02
Ba	<0.02	Cr	<0.02	Ga	<0.02	Te	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Nd	<0.02
Be	<0.01	Co	<0.02	Ge	<0.02	Ta	<0.02	K	<0.02	Sc	<0.02	Sr	<0.02	S	<0.02
Bi	<0.02	Cu	<0.02	Au	<0.02	Tb	<0.02	Nd	<0.02	Se	<0.02	Sn	<0.02	Ta	<0.02
B	<0.02														

(T) = Target analyte

Physical Characterization:

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

Certified by:

[Signature]

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

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0

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

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

M Ag	<	0.000536	M Eu	<	0.000268	O Na	<	0.032670	M Se	<	0.001204	O Zn	<	0.003267
M Al	<	0.000872	O Fe	<	0.003225	O Nb	<	0.043560	O Si	<	0.004735	O Zr	<	0.043560
M As	<	0.008586	M Ga	<	0.000268	M Nd	<	0.000268	M Sm	<	0.000268			
M Au	<	0.004577	M Gd	<	0.000268	O Ni	<	0.010890	M Sn	<	0.000986			
O B	<	0.008929	M Ge	<	0.002146	M Os	<	0.000269	O Sr	<	0.000986			
M Ba	<	0.002683	M Hf	<	0.002161	O P	<	0.054450	M Ta	<	0.010560			
M Be	<	0.005366	M Hg	<	0.003231	M Pb	<	0.001073	M Tb	<	0.000268			
M Bi	<	0.001609	M Ho	<	0.000268	M Pd	<	0.000268	M Te	<	0.001341			
O Ca	<	0.000676	M In	<	0.002683	M Pr	<	0.000268	M Th	<	0.053663			
M Cd	<	0.000268	M Ir	<	0.000269	M Pt	<	0.000536	S Ti	<	0.000268			
M Co	<	0.000268	M K	<	0.001172	M Rb	<	0.000268	M Tl	<	0.000268			
M Cr	<	0.000752	O Li	<	0.000268	M Re	<	0.000268	M Tm	<	0.000268			
M Cs	<	0.000268	M Lu	<	0.000268	M Rh	<	0.000268	M U	<	0.000268			
O Cu	<	0.010890	O Mg	<	0.005445	I S	<	0.006976	M Y	<	0.002146			
M Dy	<	0.000268	O Mn	<	0.003267	M Sb	<	0.006976	M Yb	<	0.000536			
M Er	<	0.000268	M Mo	<	0.000774	O Sc	<	0.004900						

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

Atomic Weight; Valence: Soluble in concentrated HCl, HF, H₃PO₄, H₂SO₄ and HNO₃. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F⁻ away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements forming the hydrated oxide in all dilute acids except HF. Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability: 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)₆-2 for months in 1% HNO₃ / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)₆-2 chemically stable for years in 2-5% HNO₃ / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H₂O / HF caution - powder reacts violently): Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H₂O / HF / H₂SO₄); K₂SiO₇ - no KF if silica not present); Organic Matrices (Dry ash at 450EC in P10 and dissolve by heating with 1:1:1 H₂O / HF / H₂SO₄ or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystaline form).

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

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.00028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.00034 µg/mL	1	W, Mo, Co

HAZARDOUS INFORMATION

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

8.0

HOMOGENEITY

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

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

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

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- June 17, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date:

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS
- 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

TD978L

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R. Gaines



Certified Reference Material CRM



45982

R: 6/11/24

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:57038
031524
Strontium (Sr)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:031527
Ambient (20 °C)
1000
6UTB2% 40.0 Nitric Acid
(mL)Weight shown below was diluted to (mL): 2000.07
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

Expanded

SDS Information

Uncertainty

(Solvent Safety Info. On Attached pg.)

+/- (µg/mL)

CAS#

LD50

NIST

SRM

Actual

Conc. (µg/mL)

Weight (g)

Target

Weight (g)

Purity (%)

Assay

Purity (%)

Nominal

Conc. (µg/mL)

Lot

Number

RM#

Compound

1. Strontium nitrate (Sr)

IN017 SR2022018A1

1000

89.997

0.10

41.2

4.85470

4.85502

1000.1

2.0

10042-76-9

NA

orl-rat >2000mg/kg 3153a

[1] Spectrum No.1 [14.495 sec]:58136.D# [Count] [Linear]

5.0E6

2.5E6

m/z->

1.0E6

5.0E5

m/z->

5.0E6

2.5E6

m/z->



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
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
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Ti	<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
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
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
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02
																W	<0.02
																U	<0.02
																V	<0.02
																Yb	<0.02
																Y	<0.02
																Zn	<0.02
																Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

[Signature]

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

02-METALS 031524

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

M5984
R: 6/14/24

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

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>. 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



Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
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M5985
R: 6/14/24

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: 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:

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

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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





CERTIFIED WEIGHT REPORT:

Lot #

Part Number:

Solvent: 20510011 Nitric Acid

Lot Number:

58113

Description:

Aluminum (Al)

Expiration Date:

011623

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

10000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

2000.02

5E-05 Balance Uncertainty

0.058 Flask Uncertainty

2% 40.0 (mL) Nitric Acid

Giovanni Esposito

011623

Reviewed By: Pedro L. Rentas

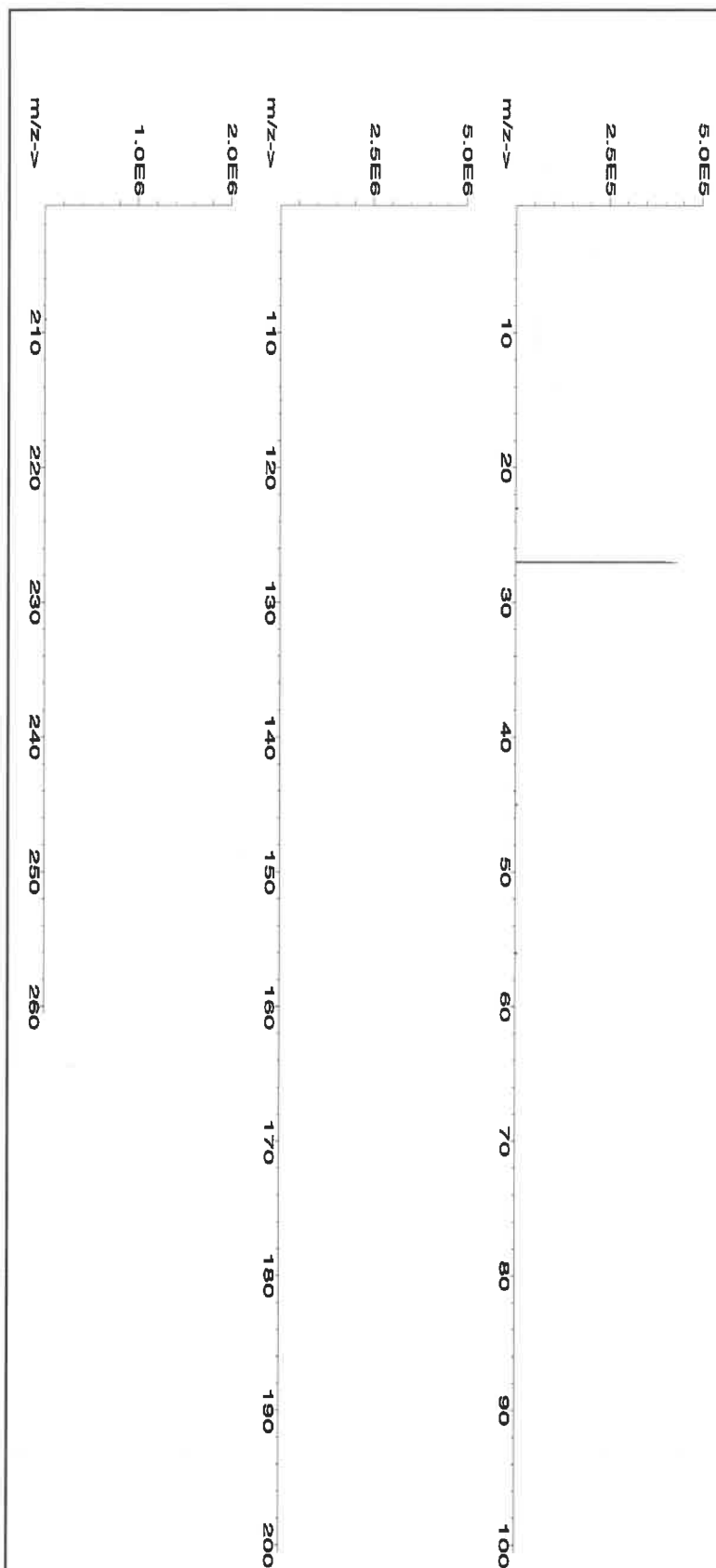
011623

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. Aluminum nitrate nonahydrate (Al) IN022 ALUM12021A1 10000 99.999 0.10 7.30 273.9779 274.0078 10001.1 20.0 7784-27-2 2 mg/m3 or-rat 3671 mg/kg 3101a

[1] Spectrum No. 1 [15.014 sec]:58113.D# [Count] [Linear]



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

 **avantor™**



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

 **avantorsm**



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 >>>

Nitric Acid 69%
CMOS

avantor™



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

R: 9/2/24

Certificate of Analysis

M6080, M6081, M6082, M6083, M6084

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

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™



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

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

>>> Continued on page 3 >>>



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

g Croak

Jamie Croak
Director Quality Operations, Bioscience Production

Hydrochloric Acid, 36.5–38.0%

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis

avantor™



M6094
M6095

metdig
10/21/24

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

 **avantor™**



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

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

Receive date
9/29/24
Met diag.

 avantor™



Material No.: 9530-33
Batch No.: 22F0762009
Manufactured Date: 2022-05-10
Retest Date: 2027-05-09
Revision No.: 0

M6109
M6110
M6111

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	1.190
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	0.8 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	14.9 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	< 0.4 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	0.2 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



Material No.: 9530-33
Batch No.: 22F0762009

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	0.8 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	< 0.2 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	1.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	0.7 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	< 0.8 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	0.8 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

 **avantor™**

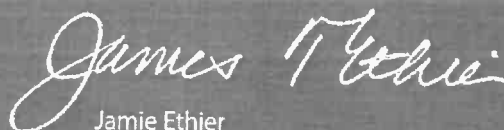


Material No.: 9530-33
Batch No.: 22F0762009

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

Nitric Acid 69%
CMOS

avantor™



Receive:
9/29/24
met dig

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.6 %
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	< 0.2 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	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™



Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 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	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>



Nitric Acid 69%
CMOS

avantor™



Receive:
9/29/24
met dig

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.6 %
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	< 0.2 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	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™



Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 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	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>





Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Solvent: 24002546 Nitric Acid

Lot #

Aleah O Brady
Formulated By: Aleah O Brady
Reviewed By: Pedro L. Rentas

122223

Pedro L. Rentas
Reviewed By: Pedro L. Rentas

122223

Expiration Date: 122226
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

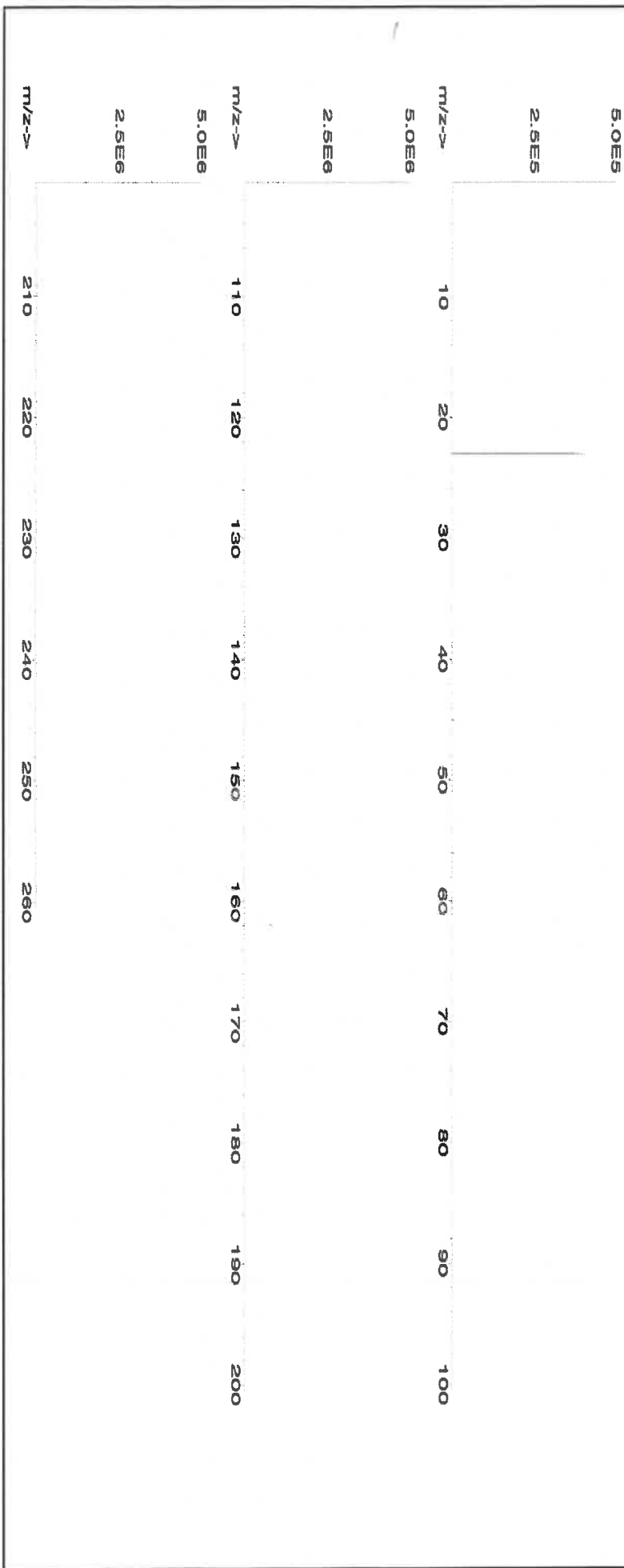
Expanded

SDS Information

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

1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.999 0.10 26.9 111.5406 111.5479 10000.7 20.0 7631-99-4 5 mg/m3 or-trat 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	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	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<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:

57051
120523
Antimony (Sb)

Lot #
Solvent:

24002546
Nitric Acid

2.0%
60.0
Nitric Acid
(mL)

Expiration Date:

120526

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6U7B

Volume shown below was diluted to (mL):

3000.41

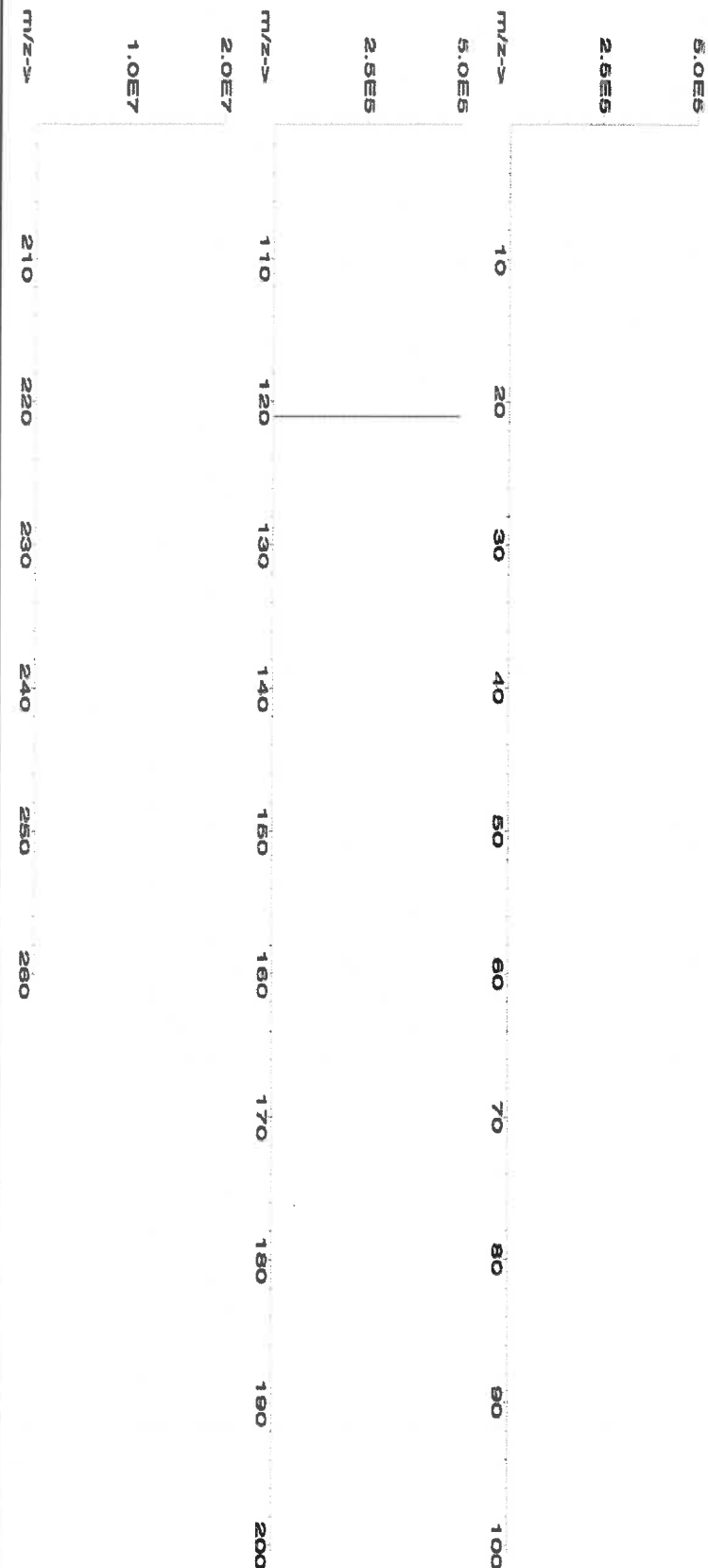
Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rientas	120523

Compound

Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Antimony (Sb) 58151 100923 0.1000 300.0 0.084 1000 10001.4 1000.0 2.1 7440-36-0 0.5 mg/m3 or-rel 7000 mg/kg 3102a

[1] Spectrum No.1 [17.964 sec]:58051.D# [Count] [Linear]





Certified Reference Material CRM



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

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

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

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



CERTIFIED WEIGHT REPORT:

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

Lot #
Solvent: 24002546 Nitric Acid

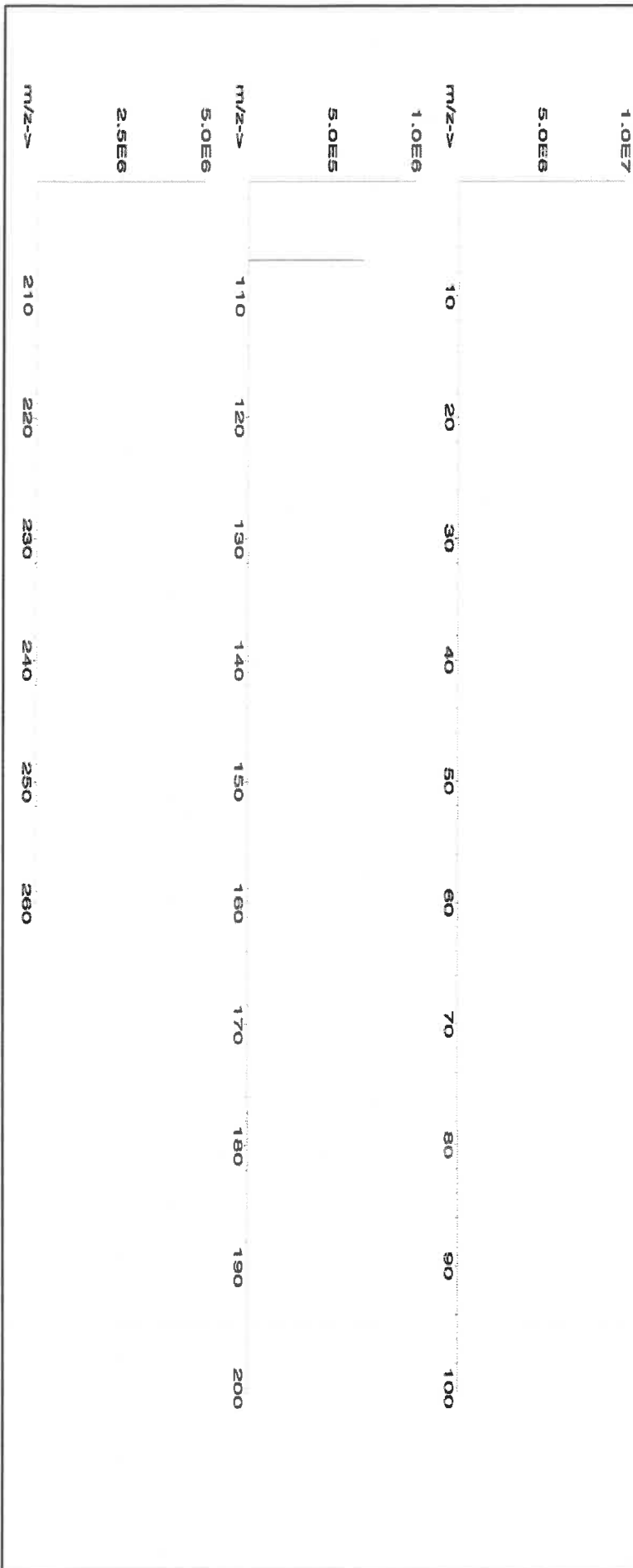
Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
122823	

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

1. Silver nitrate (Ag) IN035 J0612AGA1 1000.0 99.999 0.10 63.7 6.27992 6.27998 1000.0 2.0 7761-88-8 10 µg/m³ NA 3151

[1] Spectrum No. 1 [14.044 sec]:58147.D# [Count] [Linear]





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

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

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

Physical Characterization:

(T)= Target analyte

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 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: 57081
Lot Number: 062724
Description: Thallium (TI)

Lot #

Solvent: 24002546 Nitric Acid

Aleah O'Brady
Formulated By: Aleah O'Brady 062724

Expiration Date:

062727

2% 40.0 Nitric Acid (mL)

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

5E-05 Balance Uncertainty

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

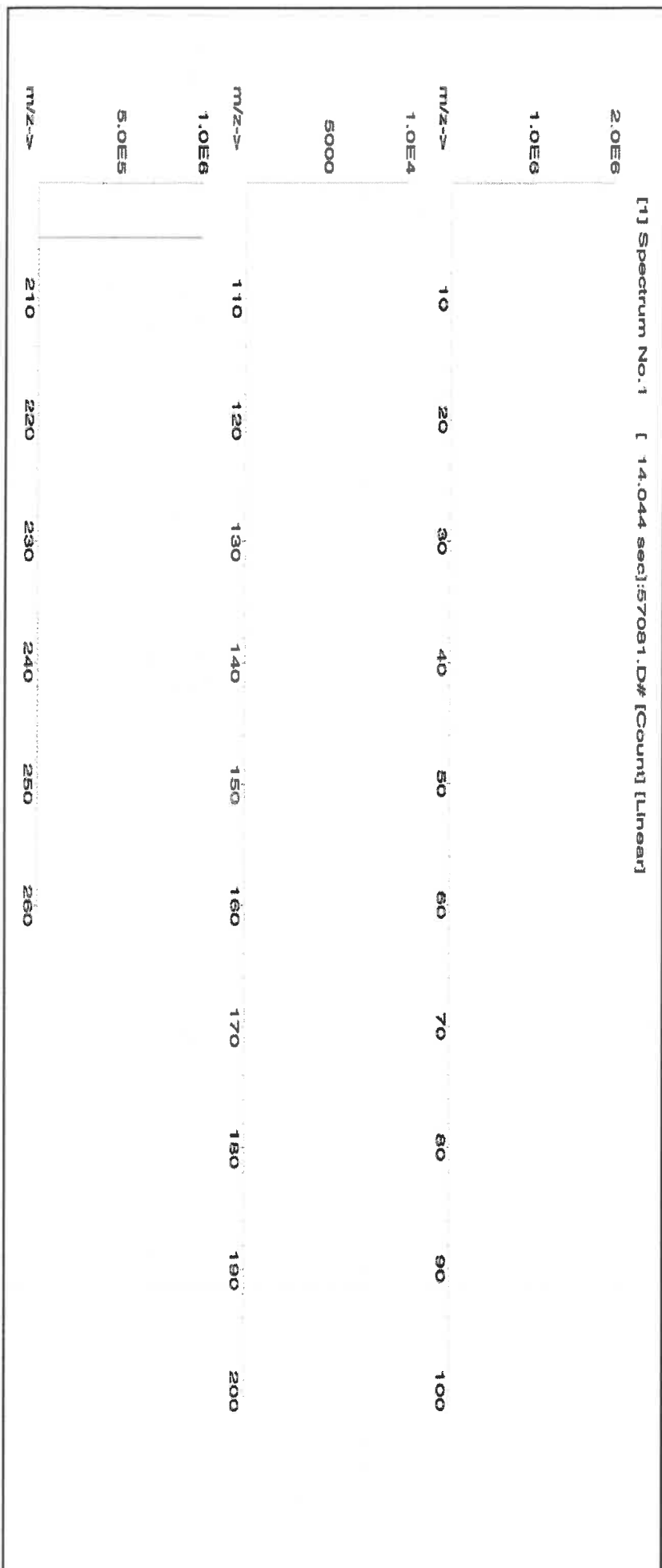
Pedro L. Renteria
Reviewed By: Pedro L. Renterias 062724

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Thallium nitrate (TI) IN037 BCCF4399 1000 99.999 0.10 77.0 2.5975 2.5977 1000.1 2.0 10102-45-1 0.1 mg/m3 or-mus 15mg/kg 3158

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM

M6021



CERTIFIED WEIGHT REPORT:

Part Number: 57023
Lot Number: 062424
Description: Vanadium (V)

Lot # 24002546
Solvent: Nitric Acid

<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	<i>Pedro L. Rantas</i>
	Pedro L. Rantas
	062424

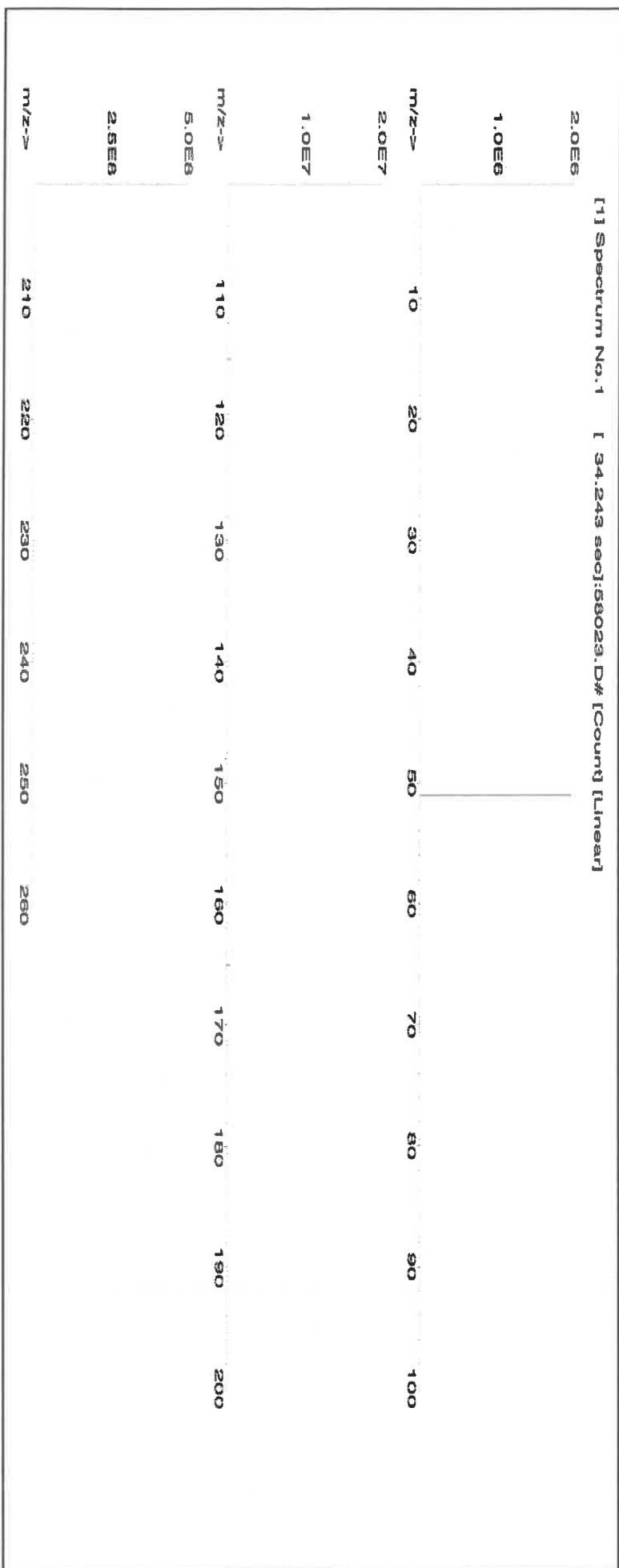
Expiration Date: 062427
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2.0% 40.0 (mL) Nitric Acid

Volume shown below was diluted to (mL): 2000.3 0.06 Flask Uncertainty

SDS Information									
Expanded Uncertainty (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			Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



SHIPPING DOCUMENTS

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Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488