SDG COVER PAGE

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No.: 3225.1,3226.1 SDG No.: MYDBB4

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MYDBB4	P4331-01	X	X		
MYDBB5	P4331-02	X	X		
MYDBB6	P4331-03	X	X		
MYDBB7	P4331-04	X	X		
MYDBB7D	P4331-05	X	X		
MYDBB7S	P4331-06	X	X		
MYDBB8	P4331-07	X	X		
MYDBB9	P4331-08	X	X		
MYDBC0	P4331-09	X	X		
MYDBC1	P4331-10	X	X		
MYDBC2	P4331-11	X	X		
MYDBC3	P4331-12	X	X		
MYDBC4	P4331-13	X	X		
MYDBC5	P4331-14	X	X		
MYDBC6	P4331-15	X	X		
MYDBC7	P4331-16	X	X		
MYDBC8	P4331-17	X	X		
MYDBC9	P4331-18	X	X		
MYDBD0	P4331-19	X	X		
MYDBD1	P4331-20	X	X		
MYDBD2	P4331-21	X	X		
MYDBD3	P4331-22	X	X		

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. All edits and manual integrations have been peer-reviewed. Release of the data contained in this hardcopy Complete SDG File and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

68HERH20D0011

SDG # MYDBB4

USEPA CLP COC (LAB COPY)

DateShipped: 10/4/2024
CarrierName: FedEx
AirbillNo: 7790 2090 4704

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-132

No: 9-062424-103902-0081
Lab: Alliance Technical Group LLC
Lab Contact: Mohammad Ahmed
Lab Phone: 908-728-3151

2

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
107A_3-A-0003-01	MYDBB4	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5392 (None) (1)	107A_3-A-0003	06/21/2024 10:14	
107A_3-C-0003-01	MYDBB5	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5393 (None) (1)	107A_3-C-0003	06/21/2024 10:14	
107A_3-A-0008-01	MYDBB6	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5394 (None) (1)	107A_3-A-0008	06/21/2024 10:15	
107A_3-C-0008-03	MYDBB7	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5395 (None) (1)	107A_3-C-0008	06/21/2024 10:07	
107A_3-A-0005-01	MYDBB8	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5396 (None) (1)	107A_3-A-0005	06/21/2024 10:17	
107A_3-B-0005-01	MYDBB9	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5397 (None) (1)	107A_3-B-0005	06/21/2024 10:32	
107A_3-C-0001-01	MYDBC0	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5398 (None) (1)	107A_3-C-0001	06/21/2024 10:20	
107A_3-A-0006-01	MYDBC1	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5399 (None) (1)	107A_3-A-0006	06/21/2024 10:21	
107A_3-B-0004-01	MYDBC2	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5400 (None) (1)	107A_3-B-0004	06/21/2024 10:25	
107A_3-B-0007-01	MYDBC3	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5401 (None) (1)	107A_3-B-0007	06/21/2024 10:26	

Sample(s) to be used for Lab QC: 107A_3-C-0008-03 Tag 9-5395 - Special Instructions: CP-AES 11+Metals:Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn ICP-MS 11+ Metals: Ag, As, Ba,Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se,Tl, V, Zn

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: ICP-AES 11 ICP-MS 11=CLP ICP-AES 11 Metals and ICP-MS 11 Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Ship to Lab	Carolina Cuyamo WESTON	10/03/2024 13:00		10-7-24 1059	21.8°C IR GUN #1
					custody seals intact
					No Temp BK.

68HERH20D0011

SDG # MYDBB4

USEPA CLP COC (LAB COPY)

DateShipped: 10/4/2024
CarrierName: FedEx
AirbillNo: 7790 2090 4704

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-132

No: 9-062424-103902-0081
Lab: Alliance Technical Group LLC
Lab Contact: Mohammad Ahmed
Lab Phone: 908-728-3151

3

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
107A_3-B-0001-01	MYDBC4	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5402 (None) (1)	107A_3-B-0001	06/21/2024 10:26	
107A_3-B-0006-01	MYDBC5	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5403 (None) (1)	107A_3-B-0006	06/21/2024 10:27	
107A_3-B-0002-01	MYDBC6	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5404 (None) (1)	107A_3-B-0002	06/21/2024 10:27	
107A_3-B-0002-02	MYDBC7	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5405 (None) (1)	107A_3-B-0002	06/21/2024 10:28	
107A_3-A-0004-01	MYDBC8	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5406 (None) (1)	107A_3-A-0004	06/21/2024 10:29	
107A_3-B-0008-01	MYDBC9	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5407 (None) (1)	107A_3-B-0008	06/21/2024 10:30	
107A_3-B-0003-01	MYDBD0	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5408 (None) (1)	107A_3-B-0003	06/21/2024 10:31	
107A_3-C-0004-01	MYDBD1	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5409 (None) (1)	107A_3-C-0004	06/21/2024 10:16	
109-D-0001-01	MYDBD2	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5410 (None) (1)	109-D-0001	06/21/2024 09:22	
109-C-0005-01	MYDBD3	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5411 (None) (1)	109-C-0005	06/21/2024 09:03	

Special Instructions: CP-AES 11+Metals:Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn ICP-MS 11+ Metals: Ag, As, Ba,Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se,Tl, V, Zn

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: ICP-AES 11 ICP-MS 11=CLP ICP-AES 11 Metals and ICP-MS 11 Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Shipto Lab	Caroline Cyano Weston	10/03/2024 13:00		10-7-24 1059	21.8°C IR Gun #1
					custody seals intact
					NO TEMP BLK ~~present~~

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 1 of 1
Received By (Print Name) George Nelson		Log-in Date 10/7/2024
Received By (Signature)		
Case Number 51772	SDG No. MYDBB4	MA No. ~~3225.1~~ ~~3225.1~~3225.1,3226.1

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	n/a
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	779020904704 1
6. Shipping Container Temperature Indicator Bottle	Absent
7. Shipping Container Temperature	21.8 Degree C
8. Sample Condition	Intact
9. Sample Tags Sample Tag Numbers	Absent Listed on Traffic Report
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	10/07/2024
12.Time Received	10:59

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MYDBB4	N/A	9-5392	P4331-01	Intact
2	MYDBB5	N/A	9-5393	P4331-02	Intact
3	MYDBB6	N/A	9-5394	P4331-03	Intact
4	MYDBB7	N/A	9-5395	P4331-04	Intact
5	MYDBB7D	N/A	9-5395	P4331-05	Intact
6	MYDBB7S	N/A	9-5395	P4331-06	Intact
7	MYDBB8	N/A	9-5396	P4331-07	Intact
8	MYDBB9	N/A	9-5397	P4331-08	Intact
9	MYDBC0	N/A	9-5398	P4331-09	Intact
10	MYDBC1	N/A	9-5399	P4331-10	Intact
11	MYDBC2	N/A	9-5400	P4331-11	Intact
12	MYDBC3	N/A	9-5401	P4331-12	Intact
13	MYDBC4	N/A	9-5402	P4331-13	Intact
14	MYDBC5	N/A	9-5403	P4331-14	Intact
15	MYDBC6	N/A	9-5404	P4331-15	Intact
16	MYDBC7	N/A	9-5405	P4331-16	Intact
17	MYDBC8	N/A	9-5406	P4331-17	Intact
18	MYDBC9	N/A	9-5407	P4331-18	Intact
19	MYDBD0	N/A	9-5408	P4331-19	Intact
20	MYDBD1	N/A	9-5409	P4331-20	Intact
21	MYDBD2	N/A	9-5410	P4331-21	Intact
22	MYDBD3	N/A	9-5411	P4331-22	Intact
23	N/A	N/A	N/A	N/A	N/A

* Contact SMO and attach record of resolution

Reviewed By		Logbook No.	N/A
Date	10/7/24	Logbook Page No.	N/A

FORM DC-2
COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME	**Alliance Technical Group, LLC**		
LAB CODE	**ACE**		
CONTRACT NO.	**68HERH20D0011**		
CASE NO.	**51772**	SDG NO.	**MYDBB4**
MA NO.	**3225.1,3226.1**	SOW NO.	**SFAM01.1**

All documents delivered in the Complete SDG File must be original documents where possible.
(Reference - Exhibit B Section 2.4)

	PAGE NOs: FROM	PAGE NOs: TO	CHECK LAB	CHECK REGION
1. SDG Cover Page	1	1	✓	
2. Traffic Report/Chain of Custody Record(s)	2	3	✓	
3. Sample Log-In Sheet (DC-1)	4	4	✓	
4. CSF Inventory Sheet (DC-2)	5	7	✓	
5. SDG Narrative	8	17	✓	
6. Communication Logs	NA	NA	✓	
7. Percent Solids Log	18	20	✓	
Analysis Forms and Data (ICP-AES)				
8. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	21	40	✓	
9. Instrument raw data by instrument in analysis order	41	278	✓	
Other Data				
10. Standard and Reagent Preparation Logs	279	430	✓	
11. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	431	432	✓	
12. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	433	439	✓	
13. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
14. Extraction Logs for TCLP and SPLP	NA	NA	✓	
15. Raw GPC Data	NA	NA	✓	
16. Raw Florisil Data	NA	NA	✓	
Analysis Forms and Data (ICP-MS)				
17. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	NA	NA	✓	
18. Instrument raw data by instrument in analysis order	NA	NA	✓	
Other Data				
19. Standard and Reagent Preparation Logs	NA	NA	✓	
20. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	NA	NA	✓	
21. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	NA	NA	✓	
22. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	

	PAGE NOs: FROM	TO	CHECK LAB	REGION
23. Extraction Logs for TCLP and SPLP	NA	NA	✓	
24. Raw GPC Data	NA	NA	✓	
25. Raw Florisil Data	NA	NA	✓	
Analysis Forms and Data (Mercury)				
26. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	NA	NA	✓	
27. Instrument raw data by instrument in analysis order	NA	NA	✓	
Other Data				
28. Standard and Reagent Preparation Logs	NA	NA	✓	
29. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	NA	NA	✓	
30. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	NA	NA	✓	
31. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
32. Extraction Logs for TCLP and SPLP	NA	NA	✓	
33. Raw GPC Data	NA	NA	✓	
34. Raw Florisil Data	NA	NA	✓	
Analysis Forms and Data (Cyanide)				
35. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	NA	NA	✓	
36. Instrument raw data by instrument in analysis order	NA	NA	✓	
Other Data				
37. Standard and Reagent Preparation Logs	NA	NA	✓	
38. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	NA	NA	✓	
39. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	NA	NA	✓	
40. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
41. Extraction Logs for TCLP and SPLP	NA	NA	✓	
42. Raw GPC Data	NA	NA	✓	
43. Raw Florisil Data	NA	NA	✓	

	PAGE NOs: FROM	TO	CHECK LAB	REGION
Additional				
44. EPA Shipping/Receiving Documents				
Airbill (No. of Shipments 1)	440	440	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	441	443	✓	
45. Misc. Shipping/Receiving Records (list all individual records)				
	NA	NA	✓	
46. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
	444	445	✓	
47. Other Records and related Communication Logs (describe or list)				
	NA	NA	✓	

48. Comments:

Completed by: (CLP Lab)		Nimisha Pandya, Document Control Officer	
	(Signature)	(Print Name & Title)	(Date)
Audited by: (EPA)			
	(Signature)	(Print Name & Title)	(Date)

284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # MYDBB4
CASE # 51772
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4331
MODIFIED ANALYSIS #3225.1, 3226.1

A. Number of Samples and Date of Receipt

20 Soil samples were delivered to the laboratory intact on 10/07/2024.

B. Parameters

Test requested for Metals CLP FULL = Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc.

Test requested for Metals CLP MS FULL = Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

C. Cooler Temp

Indicator Bottle**:** Presence**/Absence**

Cooler: 21.8^{o}C

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

Issue 1 : A "P" or "M" prefix was listed at the beginning of a CLP sample ID.

E. Corrective Action taken for above:

Resolution 1 : To maintain COC integrity, ASB requests no changes to the Sample IDs. The laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

F. Analytical Techniques:

All analyses were based on CLP Methodology by method SFAM01.1.

Inter Element correction factors (IECs) are determined annually and correction factor are applied during ICP-AES analysis.

G. Calculation:

Calculation for ICP-AES Soil Sample:

Conversion of Results from mg/L or ppm to mg/kg (Dry Weight Basis):

$$\text{Concentration (mg/kg)} = C \times \frac{Vf}{W \times S} \times DF$$

Where,

C = Instrument value in ppm (The average of all replicate exposures)
Vf = Final digestion volume (mL)
W = Initial aliquot amount (g) (Sample amount taken in prep)
S = % Solids / 100 (Fraction of Percent Solids)
DF = Dilution Factor

Example Calculation For Sample MYDBB4 For Arsenic:

If C = 0.1339229 ppm
Vf = 100 ml
W = 1.23g
S = 0.962(96.2/100)
DF = 1

$$\text{Concentration (mg/kg)} = 0.1339229 \times \frac{100}{1.23 \times 0.962} \times 1$$

$$= 22.63625 \text{ mg/kg}$$

= 23 mg/kg (Reported Result with Signification)

Calculation for ICP-MS Soil Sample:

Conversion of Results from µg /L or ppb to mg/kg :

$$\text{Concentration (mg/kg)} = C \times \frac{Vf}{W \times S} \times DF / 1000$$

Where,

C = Instrument value in ppb (The average of all replicate integrations)
Vf = Final digestion volume (mL)
W = Initial aliquot amount (g) (Fraction of Sample amount taken in prep)
S = % Solids / 100 (Fraction of Percent Solids)

DF = Dilution Factor

Example Calculation For Sample MYDBB4 For Antimony :

If C = ppb
Vf = 500 ml
W = 1.16 g
S = 0.962 (96.2/100)
DF = 1

$$\text{Concentration (mg/kg)} = 1.16 \times \frac{500}{1.23 \times 0.962} \times 1 / 1000$$

$$= 0.49017 \text{ mg/kg}$$

= 0.50 mg/kg (Reported Result with Signification)

H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Spike sample did meet requirements except for Antimony, Selenium, Zinc. Duplicate sample did meet requirements except for Barium, Mangaense. Serial Dilution did meet requirements.

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

Internal Standard Association for ICP-MS analysis.

Target Analyte	Associated Internal Standard
Antimony	159Tb
Arsenic	89Y
Barium	159Tb
Beryllium	6Li
Cadmium	159Tb
Chromium	45Sc
Cobalt	45Sc

284 Sheffield Street
Mountainside, NJ 07092

Copper	45Sc
Lead	209Bi
Nickel	45Sc
Selenium	89Y
Silver	159Tb
Thallium	209Bi
Vanadium	45Sc
Zinc	45Sc

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 Director or his designee, as verified by the following signature.

Signature_____ Name: Nimisha Pandya

Date _____ Title: Document Control Officer

Date: 09/11/2024	**MA:** 3225.1	**Title:** ICP-MS with Modified Preparation Method and Analysis of Soils with Additional Laboratory QC
Method Source: SFAM01.1	**Method:** ICP-MS	
Matrix: Soil/Sediment		

Summary of Modification

The purpose of this modified analysis is to prepare samples by EPA Draft Method 3050C (see below) with additional modified LCS and Matrix Spikes and analyze for the scheduled target analytes by ICP-MS. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in the SOW listed in your current EPA agreement remain unchanged and in full force and effect.

I. Analyte Modifications **Not applicable** ☒

II. Calibration and QC Requirements **Not applicable** ☐

The Laboratory shall:

- Use the Method Detection Limits (MDLs) determined for routine soil analyses (i.e., Method 200.8) to report the results for these analyses. The Laboratory is NOT required to perform an MDL study for Draft Method 3050C.
- Prepare and analyze an additional Laboratory Control Sample (LCS) spiked at the CRQL. Percent Recovery limits do NOT apply to this LCS and no corrective actions are required.
- Prepare a Matrix Spike spiked at three times the levels specified in the SOW.
- Prepare and analyze an additional Matrix Spike sample spiked at five times the levels specified for this Modified Analysis (i.e., 15x the levels specified in the SOW).
- Post-Digestion Spike requirements apply to the 5x Matrix Spike only.
- Post-Digestion Spike corrective actions apply to Sb.

III. Preparation and Method Modifications **Not applicable** ☐

The Laboratory shall:

- Prepare and analyze the sample by EPA Draft Method 3050C as follows:
  - Mix sample thoroughly and transfer 1.00 – 1.50 g to a digestion vessel.
  - Add 10 mL 1:1 HNO_3 and 5 mL 1:1 HCl, heat the sample at 95°C (±3°C) and reflux 10-15 minutes.
  - Add 5 mL concentrated HNO_3 and reflux for 30 minutes at 95°C (±3°C), repeat until digestion complete.
  - Concentrate sample to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Cool sample, add 2mL water and 3 mL 30% H_2O_2. Heat at 95°C (±3°C) and add additional 1 mL aliquots of 30% H_2O_2 until effervescence is minimal.
  - Reduce volume to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Dilute to 100 mL with water, centrifuge or filter as necessary prior to analysis.
- The same sample extracts can be used for ICP-AES analysis. Separate Matrix Spikes and LCS will need to be prepared for both ICP-AES and ICP-MS analyses.
- Analyze the samples starting at an initial 5x dilution. Subsequently, dilute samples as necessary to bring the analyte concentrations within the calibration range of the instrument per the SOW.
- Method Blanks, both LCSs, and all instrument QC are to be analyzed undiluted.

IV. Special Reporting Requirements	**Not applicable** ☐

The Laboratory shall:

- Ensure the SDG Narrative is updated as stated in the SOW, including any technical and administrative problems encountered and the resolution or corrective actions taken. These problems may include interference problems encountered during analysis, dilutions, re-analyses and/or re-preparations performed, and problems with the analysis of samples. Also include a discussion of any SOW Modified Analyses, including a copy of the approved modification form with the SDG Narrative.
- Initial analysis data are reported with a dilution factor of 1.0 and a final volume of 500 mL, per the SOW.
- Report the additional LCS as “LCSD” in the raw data and in the EDD with QCType “Laboratory_Control_Sample_Duplicate”.
- Report the additional Matrix Spike with an “SRE” suffix in the raw data and EDD.
- Report any Post-Digestion Spike of the additional 5x Matrix Spike with an “ARE” suffix.

Date: 09/11/2024	**MA:** 3226.1	**Title:** ICP-AES with Modified Preparation Method and Analysis of Soils with Additional Laboratory QC
Method Source: SFAM01.1	**Method:** ICP-AES	
Matrix: Soil/Sediment		

Summary of Modification

The purpose of this modified analysis is to prepare samples by EPA Draft Method 3050C (see below) with additional modified LCS and Matrix Spikes and analyze for the scheduled target analytes by ICP-AES. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in the SOW listed in your current EPA agreement remain unchanged and in full force and effect.

I. Analyte Modifications **Not applicable** ☒

II. Calibration and QC Requirements **Not applicable** ☐

The Laboratory shall:

- Use the Method Detection Limits determined for routine soil analyses (i.e., Method 3050B) to report the results for these analyses. The Laboratory is NOT required to perform an MDL study for Draft Method 3050C.
- Prepare and analyze an additional Laboratory Control Sample (LCS) spiked at the CRQL. Percent Recovery limits do NOT apply to this LCS and no corrective actions are required.
- Prepare a Matrix Spike spiked at two times the levels specified in the SOW.
- Post-Digestion Spike requirements apply to the 2x Matrix Spike.
- Post-Digestion Spike corrective actions apply to Sb.

III. Preparation and Method Modifications **Not applicable** ☐

The Laboratory shall:

- Prepare and analyze the sample by EPA Draft Method 3050C as follows:
  - Mix sample thoroughly and transfer 1.00 – 1.50 g to a digestion vessel.
  - Add 10 mL 1:1 HNO_3 and 5 mL 1:1 HCl, heat the sample at 95°C (±3°C) and reflux 10 -15 minutes.
  - Add 5 mL concentrated HNO_3 and reflux for 30 minutes at 95°C (±3°C), repeat until digestion complete.
  - Concentrate sample to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Cool sample, add 2mL water and 3 mL 30% H_2O_2. Heat at 95°C (±3°C) and add additional 1 mL aliquots of 30% H_2O_2 until effervescence is minimal.
  - Reduce volume to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Dilute to 100 mL with water, centrifuge or filter as necessary prior to analysis.
- The same sample extracts can also be used for ICP-MS analysis. Separate Matrix Spikes and LCS will need to be prepared for both ICP-AES and ICP-MS analyses.
- Analyze the samples starting at an initial 2x dilution. Subsequently, dilute samples as necessary to bring the analyte concentrations within the calibration range of the instrument per the SOW.
- Verify that the dilution was adequate to reduce interferents to within the method calibration range. This can optionally be verified by visual verification of the spectrogram or by analysis of a serial dilution. There are other acceptable means to provide assurance, e.g. some software may automatically provide guidance to the analyst.
- Method Blanks, both LCS, and all instrument QC are to be analyzed undiluted.

IV. Special Reporting Requirements **Not applicable** ☐

The Laboratory shall:

- Ensure the SDG Narrative is updated as stated in the SOW, including any technical and administrative problems encountered and the resolution or corrective actions taken. These problems may include interference problems encountered during analysis, dilutions, re-analyses and/or re-preparations performed, and problems with the analysis of samples. Also include a discussion of any SOW Modified Analyses, including a copy of the approved modification form with the SDG Narrative.
- Initial analysis data are reported with a dilution factor of 2.0 and a final volume of 100 mL, per the SOW.
- Report the additional LCS as "LCSD" in the raw data and in the EDD with QCType "Laboratory_Control_Sample_Duplicate".
- Ensure that up-to-date Interelement Correction Factors (IECs) are provided with the data package.

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
As 189.042 {479}	☒	1	Fe	-0.000064	0.000000	No
Tl 190.856 {477}	☒	5	Mo	-0.002450	0.000000	No
			Co	0.002248	0.000000	No
			Ti	-0.000500	0.000000	No
			Mn	0.000370	0.000000	No
			V	-0.012340	0.000000	No
Pb 220.353 {453}	☒	6	Mo	-0.001480	0.000000	No
			Al	-0.000075	0.000000	No
			Cu	0.001400	0.000000	No
			Fe	0.000030	0.000000	No
			Mn	0.000340	0.000000	No
			Ni	0.000630	0.000000	No
Se 196.090 {472}	☒	3	Fe	-0.000308	0.000000	No
			Mn	0.000470	0.000000	No
			Co	-0.000630	0.000000	No
Sb 206.833 {463}	☒	4	Cr	0.010700	0.000000	No
			V	-0.001168	0.000000	No
			Mo	-0.002850	0.000000	No
			Ni	-0.000440	0.000000	No
Al 396.152 { 85}	☒	1	Mo	0.037230	0.000000	No
Ba 493.409 { 68}	☐	None				
Be 234.861 {144}	☒	3	Mo	-0.000320	0.000000	No
			Fe	0.000010	0.000000	No
			Mn	-0.000047	0.000000	No
Cd 214.438 {457}	☒	1	Fe	0.000040	0.000000	No
Ca 373.690 { 90}	☐	None				
Cr 267.716 {126}	☒	1	Mn	0.000160	0.000000	No
Co 228.616 {448}	☒	2	Ti	0.001840	0.000000	No
			Mo	-0.001230	0.000000	No
Cu 324.754 {104}	☒	4	Co	-0.000796	0.000000	No
			Fe	-0.000100	0.000000	No
			Mn	0.000345	0.000000	No
			Ni	0.000895	0.000000	No
Fe 259.837 {130}	☐	None				
Mn 257.610 {131}	☒	1	Ni	0.000897	0.000000	No
Mg 279.079 {121}	☐	None				
Ni 231.604 {446}	☐	None				
Ag 328.068 {103}	☒	3	Fe	-0.000100	0.000000	No
			Mn	0.000146	0.000000	No
			V	-0.000889	0.000000	No
Na 818.326 { 41}	☐	None				
V 292.402 {115}	☒	2	Mo	-0.008480	0.000000	No
			Cr	-0.002220	0.000000	No
Zn 206.200 {464}	☐	None				
Zn 213.856 {158}	☒	1	Ni	0.007280	0.000000	No
K 769.896 { 44}	☐	None				
P 177.495 {490}	☒	2	Ni	0.001640	0.000000	No
			Cu	-0.012530	0.000000	No
B 249.678 {135}	☒	3	Co	0.002880	0.000000	No
			V	-0.002000	0.000000	No
			Fe	-0.001360	0.000000	No
Mo 202.030 {467}	☐	None				
S 182.034 {485}	☒	2	Mo	-0.008000	0.000000	No
			Mn	0.002700	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Si 251.611 {134}	☒	2	Mo	0.010520	0.000000	No
			Ti	0.005650	0.000000	No
Sn 189.989 {478}	☐	None				
Ti 336.121 {100}	☒	1	Ni	-0.001000	0.000000	No
Li 670.784 { 50}	☐	None				
Y 224.306 {450}*	☐	None				
Y 360.073 { 94}*	☐	None				
Y 371.030 { 91}*	☐	None				
Y 224.306 {150}*	☐	None				
In 230.606 {446}*	☐	None				
Sr 407.771 { 83}	☐	None				

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/11/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 16:50
In Date: 10/10/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:11
Out Date: 10/11/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB132867

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P4331-01	MYDBB4	1	1.14	8.53	9.67	9.35	96.2	
P4331-02	MYDBB5	2	1.18	8.43	9.61	9.37	97.2	
P4331-03	MYDBB6	3	1.17	8.67	9.84	9.29	93.7	
P4331-04	MYDBB7	4	1.14	8.40	9.54	9.28	96.9	
P4331-05	MYDBB7D	5	1.14	8.40	9.54	9.28	96.9	
P4331-06	MYDBB7S	6	1.14	8.40	9.54	9.28	96.9	
P4331-07	MYDBB8	7	1.16	8.38	9.54	9.00	93.6	
P4331-08	MYDBB9	8	1.15	8.78	9.93	9.45	94.5	
P4331-09	MYDBC0	9	1.15	8.64	9.79	9.47	96.3	
P4331-10	MYDBC1	10	1.18	8.35	9.53	9.11	95.0	
P4331-11	MYDBC2	11	1.17	8.41	9.58	9.39	97.7	
P4331-12	MYDBC3	12	1.18	8.74	9.92	9.6	96.3	
P4331-13	MYDBC4	13	1.18	8.65	9.83	9.55	96.8	
P4331-14	MYDBC5	14	1.16	8.67	9.83	9.53	96.5	
P4331-15	MYDBC6	15	1.17	8.60	9.77	9.54	97.3	
P4331-16	MYDBC7	16	1.16	8.50	9.66	9.32	96.0	
P4331-17	MYDBC8	17	1.15	8.65	9.8	9.59	97.6	
P4331-18	MYDBC9	18	1.15	8.47	9.62	9.2	95.0	
P4331-19	MYDBD0	19	1.15	8.40	9.55	9.22	96.1	
P4331-20	MYDBD1	20	1.18	8.48	9.66	9.4	96.9	
P4331-21	MYDBD2	21	1.15	8.35	9.5	9.03	94.4	
P4331-22	MYDBD3	22	1.18	8.53	9.71	9.29	95.1	

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

WORKLIST(Hardcopy Internal Chain)

LB B2867

WorkList Name : %1-P4331 **WorkList ID :** 184321 **Department :** Wet-Chemistry **Date :** 10-10-2024 13:43:40

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4331-01	MYDBB4	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-02	MYDBB5	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-03	MYDBB6	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-04	MYDBB7	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-05	MYDBB7D	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-06	MYDBB7S	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-07	MYDBB8	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-08	MYDBB9	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-09	MYDBC0	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-10	MYDBC1	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-11	MYDBC2	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-12	MYDBC3	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-13	MYDBC4	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-14	MYDBC5	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-15	MYDBC6	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-16	MYDBC7	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-17	MYDBC8	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-18	MYDBC9	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-19	MYDBD0	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-20	MYDBD1	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO
P4331-21	MYDBD2	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO

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Date/Time 10/10/24 16:00

Raw Sample Received by:

Raw Sample Relinquished by:

Date/Time 10/10/24 17:00

Raw Sample Received by:

Raw Sample Relinquished by:

WORKLIST(Hardcopy Internal Chain)

VB 132867

WorkList Name : %1-P4331 **WorkList ID :** 184321 **Department :** Wet-Chemistry **Date :** 10-10-2024 13:43:40

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4331-22	MYDBD3	Solid	Percent Solids	Cool 4 deg C	USEP01	Q11	06/21/2024	Chemtech -SO

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Date/Time 10/10/24 16:00

Raw Sample Received by: ~~SO (wlf)~~

Raw Sample Relinquished by: CA SM

Date/Time 10/10/24 17:00

Raw Sample Received by: CA SM

Raw Sample Relinquished by: ~~SO (wlf)~~

EPA SAMPLE NO.

MYDBB4

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-01

% Solids: 96.2 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	23000	D	10/25/2024	2127
7440-36-0	Antimony	10	UD'	10/25/2024	2127
7440-38-2	Arsenic	23	D	10/25/2024	2127
7440-39-3	Barium	320	D*	10/25/2024	2127
7440-41-7	Beryllium	1.4	D	10/25/2024	2127
7440-43-9	Cadmium	2.3	D	10/25/2024	2127
7440-70-2	Calcium	8100	D	10/25/2024	2127
7440-47-3	Chromium	49	D	10/25/2024	2127
7440-48-4	Cobalt	26	D	10/25/2024	2127
7440-50-8	Copper	160	D	10/25/2024	2127
7439-89-6	Iron	40000	D	10/25/2024	2127
7439-92-1	Lead	45	D	10/25/2024	2127
7439-95-4	Magnesium	7800	D	10/25/2024	2127
7439-96-5	Manganese	1800	D*	10/25/2024	2127
7440-02-0	Nickel	72	D	10/25/2024	2127
7440-09-7	Potassium	5000	D	10/25/2024	2127
7782-49-2	Selenium	5.9	UD'	10/25/2024	2127
7440-22-4	Silver	1.7	UD	10/25/2024	2127
7440-23-5	Sodium	190	JD	10/25/2024	2127
7440-28-0	Thallium	4.2	UD	10/25/2024	2127
7440-62-2	Vanadium	65	D	10/25/2024	2127
7440-66-6	Zinc	140	D*	10/25/2024	2127

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBB5

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-02

% Solids: 97.2 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	26000	D	10/25/2024	2132
7440-36-0	Antimony	4.3	JD'	10/25/2024	2132
7440-38-2	Arsenic	170	D	10/25/2024	2132
7440-39-3	Barium	450	D*	10/25/2024	2132
7440-41-7	Beryllium	1.7	D	10/25/2024	2132
7440-43-9	Cadmium	16	D	10/25/2024	2132
7440-70-2	Calcium	18000	D	10/25/2024	2132
7440-47-3	Chromium	58	D	10/25/2024	2132
7440-48-4	Cobalt	34	D	10/25/2024	2132
7440-50-8	Copper	2400	D	10/25/2024	2132
7439-89-6	Iron	52000	D	10/25/2024	2132
7439-92-1	Lead	530	D	10/25/2024	2132
7439-95-4	Magnesium	10000	D	10/25/2024	2132
7439-96-5	Manganese	1100	D*	10/25/2024	2132
7440-02-0	Nickel	96	D	10/25/2024	2132
7440-09-7	Potassium	2900	D	10/25/2024	2132
7782-49-2	Selenium	1.9	JD'	10/25/2024	2132
7440-22-4	Silver	2.3	D	10/25/2024	2132
7440-23-5	Sodium	340	JD	10/25/2024	2132
7440-28-0	Thallium	3.8	UD	10/25/2024	2132
7440-62-2	Vanadium	79	D	10/25/2024	2132
7440-66-6	Zinc	1000	D*	10/25/2024	2132

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBB6

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-03

% Solids: 93.7 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	33000	D	10/25/2024	2136
7440-36-0	Antimony	10	UD	10/25/2024	2136
7440-38-2	Arsenic	33	D	10/25/2024	2136
7440-39-3	Barium	590	D*	10/25/2024	2136
7440-41-7	Beryllium	2.0	D	10/25/2024	2136
7440-43-9	Cadmium	3.0	D	10/25/2024	2136
7440-70-2	Calcium	14000	D	10/25/2024	2136
7440-47-3	Chromium	71	D	10/25/2024	2136
7440-48-4	Cobalt	31	D	10/25/2024	2136
7440-50-8	Copper	250	D	10/25/2024	2136
7439-89-6	Iron	48000	D	10/25/2024	2136
7439-92-1	Lead	69	D	10/25/2024	2136
7439-95-4	Magnesium	12000	D	10/25/2024	2136
7439-96-5	Manganese	1300	D*	10/25/2024	2136
7440-02-0	Nickel	130	D	10/25/2024	2136
7440-09-7	Potassium	3400	D	10/25/2024	2136
7782-49-2	Selenium	6.0	UD	10/25/2024	2136
7440-22-4	Silver	1.7	UD	10/25/2024	2136
7440-23-5	Sodium	420	JD	10/25/2024	2136
7440-28-0	Thallium	4.3	UD	10/25/2024	2136
7440-62-2	Vanadium	83	D	10/25/2024	2136
7440-66-6	Zinc	180	D*	10/25/2024	2136

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBB7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-04

% Solids: 96.9 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	24000	D	10/25/2024	2140
7440-36-0	Antimony	1.3	JD'	10/25/2024	2140
7440-38-2	Arsenic	44	D	10/25/2024	2140
7440-39-3	Barium	820	D*	10/25/2024	2140
7440-41-7	Beryllium	1.3	D	10/25/2024	2140
7440-43-9	Cadmium	5.8	D	10/25/2024	2140
7440-70-2	Calcium	9600	D	10/25/2024	2140
7440-47-3	Chromium	57	D	10/25/2024	2140
7440-48-4	Cobalt	31	D	10/25/2024	2140
7440-50-8	Copper	640	D	10/25/2024	2140
7439-89-6	Iron	37000	D	10/25/2024	2140
7439-92-1	Lead	140	D	10/25/2024	2140
7439-95-4	Magnesium	7600	D	10/25/2024	2140
7439-96-5	Manganese	7700	D*	10/28/2024	1935
7440-02-0	Nickel	91	D	10/25/2024	2140
7440-09-7	Potassium	4100	D	10/25/2024	2140
7782-49-2	Selenium	5.9	UD'	10/25/2024	2140
7440-22-4	Silver	1.7	UD	10/25/2024	2140
7440-23-5	Sodium	290	JD	10/25/2024	2140
7440-28-0	Thallium	4.2	UD	10/25/2024	2140
7440-62-2	Vanadium	65	D	10/25/2024	2140
7440-66-6	Zinc	360	D*	10/25/2024	2140

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBB8

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-07

% Solids: 93.6 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	37000	D	10/25/2024	2158
7440-36-0	Antimony	11	UD'	10/25/2024	2158
7440-38-2	Arsenic	36	D	10/25/2024	2158
7440-39-3	Barium	710	D*	10/25/2024	2158
7440-41-7	Beryllium	2.1	D	10/25/2024	2158
7440-43-9	Cadmium	2.7	D	10/25/2024	2158
7440-70-2	Calcium	16000	D	10/25/2024	2158
7440-47-3	Chromium	82	D	10/25/2024	2158
7440-48-4	Cobalt	33	D	10/25/2024	2158
7440-50-8	Copper	250	D	10/25/2024	2158
7439-89-6	Iron	51000	D	10/25/2024	2158
7439-92-1	Lead	72	D	10/25/2024	2158
7439-95-4	Magnesium	12000	D	10/25/2024	2158
7439-96-5	Manganese	1800	D*	10/25/2024	2158
7440-02-0	Nickel	140	D	10/25/2024	2158
7440-09-7	Potassium	3000	D	10/25/2024	2158
7782-49-2	Selenium	6.6	UD'	10/25/2024	2158
7440-22-4	Silver	1.9	UD	10/25/2024	2158
7440-23-5	Sodium	490	JD	10/25/2024	2158
7440-28-0	Thallium	4.7	UD	10/25/2024	2158
7440-62-2	Vanadium	93	D	10/25/2024	2158
7440-66-6	Zinc	170	D*	10/25/2024	2158

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBB9

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-08

% Solids: 94.5 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	35000	D	10/25/2024	2202
7440-36-0	Antimony	0.87	JD'	10/25/2024	2202
7440-38-2	Arsenic	32	D	10/25/2024	2202
7440-39-3	Barium	540	D*	10/25/2024	2202
7440-41-7	Beryllium	2.1	D	10/25/2024	2202
7440-43-9	Cadmium	2.3	D	10/25/2024	2202
7440-70-2	Calcium	12000	D	10/25/2024	2202
7440-47-3	Chromium	76	D	10/25/2024	2202
7440-48-4	Cobalt	26	D	10/25/2024	2202
7440-50-8	Copper	200	D	10/25/2024	2202
7439-89-6	Iron	46000	D	10/25/2024	2202
7439-92-1	Lead	58	D	10/25/2024	2202
7439-95-4	Magnesium	10000	D	10/25/2024	2202
7439-96-5	Manganese	1100	D*	10/25/2024	2202
7440-02-0	Nickel	110	D	10/25/2024	2202
7440-09-7	Potassium	4100	D	10/25/2024	2202
7782-49-2	Selenium	1.5	JD'	10/25/2024	2202
7440-22-4	Silver	1.8	UD	10/25/2024	2202
7440-23-5	Sodium	220	JD	10/25/2024	2202
7440-28-0	Thallium	4.5	UD	10/25/2024	2202
7440-62-2	Vanadium	89	D	10/25/2024	2202
7440-66-6	Zinc	150	D*	10/25/2024	2202

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC0

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-09

% Solids: 96.3 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	18000	D	10/25/2024	2207
7440-36-0	Antimony	9.7	UD	10/25/2024	2207
7440-38-2	Arsenic	28	D	10/25/2024	2207
7440-39-3	Barium	240	D*	10/25/2024	2207
7440-41-7	Beryllium	1.1	D	10/25/2024	2207
7440-43-9	Cadmium	2.4	D	10/25/2024	2207
7440-70-2	Calcium	9200	D	10/25/2024	2207
7440-47-3	Chromium	39	D	10/25/2024	2207
7440-48-4	Cobalt	19	D	10/25/2024	2207
7440-50-8	Copper	270	D	10/25/2024	2207
7439-89-6	Iron	31000	D	10/25/2024	2207
7439-92-1	Lead	70	D	10/25/2024	2207
7439-95-4	Magnesium	6900	D	10/25/2024	2207
7439-96-5	Manganese	830	D*	10/25/2024	2207
7440-02-0	Nickel	52	D	10/25/2024	2207
7440-09-7	Potassium	3400	D	10/25/2024	2207
7782-49-2	Selenium	5.7	UD	10/25/2024	2207
7440-22-4	Silver	1.6	UD	10/25/2024	2207
7440-23-5	Sodium	180	JD	10/25/2024	2207
7440-28-0	Thallium	4.1	UD	10/25/2024	2207
7440-62-2	Vanadium	56	D	10/25/2024	2207
7440-66-6	Zinc	190	D*	10/25/2024	2207

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC1

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-10

% Solids: 95 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	24000	D	10/25/2024	2211
7440-36-0	Antimony	10	UD	10/25/2024	2211
7440-38-2	Arsenic	27	D	10/25/2024	2211
7440-39-3	Barium	470	D*	10/25/2024	2211
7440-41-7	Beryllium	1.5	D	10/25/2024	2211
7440-43-9	Cadmium	2.8	D	10/25/2024	2211
7440-70-2	Calcium	9000	D	10/25/2024	2211
7440-47-3	Chromium	55	D	10/25/2024	2211
7440-48-4	Cobalt	23	D	10/25/2024	2211
7440-50-8	Copper	290	D	10/25/2024	2211
7439-89-6	Iron	35000	D	10/25/2024	2211
7439-92-1	Lead	75	D	10/25/2024	2211
7439-95-4	Magnesium	8200	D	10/25/2024	2211
7439-96-5	Manganese	1100	D*	10/25/2024	2211
7440-02-0	Nickel	93	D	10/25/2024	2211
7440-09-7	Potassium	3400	D	10/25/2024	2211
7782-49-2	Selenium	6.0	UD	10/25/2024	2211
7440-22-4	Silver	1.7	UD	10/25/2024	2211
7440-23-5	Sodium	180	JD	10/25/2024	2211
7440-28-0	Thallium	4.3	UD	10/25/2024	2211
7440-62-2	Vanadium	61	D	10/25/2024	2211
7440-66-6	Zinc	190	D*	10/25/2024	2211

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC2

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-11

% Solids: 97.7 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	13000	D	10/25/2024	2215
7440-36-0	Antimony	0.80	JD'	10/25/2024	2215
7440-38-2	Arsenic	54	D	10/25/2024	2215
7440-39-3	Barium	220	D*	10/25/2024	2215
7440-41-7	Beryllium	0.93	D	10/25/2024	2215
7440-43-9	Cadmium	3.8	D	10/25/2024	2215
7440-70-2	Calcium	4400	D	10/25/2024	2215
7440-47-3	Chromium	37	D	10/25/2024	2215
7440-48-4	Cobalt	19	D	10/25/2024	2215
7440-50-8	Copper	550	D	10/25/2024	2215
7439-89-6	Iron	27000	D	10/25/2024	2215
7439-92-1	Lead	110	D	10/25/2024	2215
7439-95-4	Magnesium	5300	D	10/25/2024	2215
7439-96-5	Manganese	940	D*	10/25/2024	2215
7440-02-0	Nickel	45	D	10/25/2024	2215
7440-09-7	Potassium	2300	D	10/25/2024	2215
7782-49-2	Selenium	5.3	UD'	10/25/2024	2215
7440-22-4	Silver	1.5	UD	10/25/2024	2215
7440-23-5	Sodium	190	JD	10/25/2024	2215
7440-28-0	Thallium	3.8	UD	10/25/2024	2215
7440-62-2	Vanadium	46	D	10/25/2024	2215
7440-66-6	Zinc	240	D*	10/25/2024	2215

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC3

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-12

% Solids: 96.3 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	21000	D	10/25/2024	2229
7440-36-0	Antimony	1.4	JD'	10/25/2024	2229
7440-38-2	Arsenic	93	D	10/25/2024	2229
7440-39-3	Barium	320	D*	10/25/2024	2229
7440-41-7	Beryllium	1.5	D	10/25/2024	2229
7440-43-9	Cadmium	7.7	D	10/25/2024	2229
7440-70-2	Calcium	6500	D	10/25/2024	2229
7440-47-3	Chromium	53	D	10/25/2024	2229
7440-48-4	Cobalt	28	D	10/25/2024	2229
7440-50-8	Copper	1100	D	10/25/2024	2229
7439-89-6	Iron	38000	D	10/25/2024	2229
7439-92-1	Lead	270	D	10/25/2024	2229
7439-95-4	Magnesium	6400	D	10/25/2024	2229
7439-96-5	Manganese	1200	D*	10/25/2024	2229
7440-02-0	Nickel	76	D	10/25/2024	2229
7440-09-7	Potassium	2900	D	10/25/2024	2229
7782-49-2	Selenium	5.6	UD'	10/25/2024	2229
7440-22-4	Silver	1.6	UD	10/25/2024	2229
7440-23-5	Sodium	220	JD	10/25/2024	2229
7440-28-0	Thallium	4.0	UD	10/25/2024	2229
7440-62-2	Vanadium	63	D	10/25/2024	2229
7440-66-6	Zinc	490	D*	10/25/2024	2229

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC4

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-13

% Solids: 96.8 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	19000	D	10/25/2024	2233
7440-36-0	Antimony	9.2	UD	10/25/2024	2233
7440-38-2	Arsenic	57	D	10/25/2024	2233
7440-39-3	Barium	280	D*	10/25/2024	2233
7440-41-7	Beryllium	1.3	D	10/25/2024	2233
7440-43-9	Cadmium	4.5	D	10/25/2024	2233
7440-70-2	Calcium	6700	D	10/25/2024	2233
7440-47-3	Chromium	46	D	10/25/2024	2233
7440-48-4	Cobalt	22	D	10/25/2024	2233
7440-50-8	Copper	560	D	10/25/2024	2233
7439-89-6	Iron	30000	D	10/25/2024	2233
7439-92-1	Lead	130	D	10/25/2024	2233
7439-95-4	Magnesium	5800	D	10/25/2024	2233
7439-96-5	Manganese	990	D*	10/25/2024	2233
7440-02-0	Nickel	71	D	10/25/2024	2233
7440-09-7	Potassium	2500	D	10/25/2024	2233
7782-49-2	Selenium	5.4	UD	10/25/2024	2233
7440-22-4	Silver	1.5	UD	10/25/2024	2233
7440-23-5	Sodium	180	JD	10/25/2024	2233
7440-28-0	Thallium	3.8	UD	10/25/2024	2233
7440-62-2	Vanadium	54	D	10/25/2024	2233
7440-66-6	Zinc	290	D*	10/25/2024	2233

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC5

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-14

% Solids: 96.5 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	24000	D	10/25/2024	2237
7440-36-0	Antimony	1.4	JD'	10/25/2024	2237
7440-38-2	Arsenic	75	D	10/25/2024	2237
7440-39-3	Barium	350	D*	10/25/2024	2237
7440-41-7	Beryllium	1.6	D	10/25/2024	2237
7440-43-9	Cadmium	5.6	D	10/25/2024	2237
7440-70-2	Calcium	6900	D	10/25/2024	2237
7440-47-3	Chromium	60	D	10/25/2024	2237
7440-48-4	Cobalt	27	D	10/25/2024	2237
7440-50-8	Copper	630	D	10/25/2024	2237
7439-89-6	Iron	43000	D	10/25/2024	2237
7439-92-1	Lead	150	D	10/25/2024	2237
7439-95-4	Magnesium	7100	D	10/25/2024	2237
7439-96-5	Manganese	1200	D*	10/25/2024	2237
7440-02-0	Nickel	88	D	10/25/2024	2237
7440-09-7	Potassium	2800	D	10/25/2024	2237
7782-49-2	Selenium	4.9	UD'	10/25/2024	2237
7440-22-4	Silver	1.4	UD	10/25/2024	2237
7440-23-5	Sodium	220	JD	10/25/2024	2237
7440-28-0	Thallium	3.5	UD	10/25/2024	2237
7440-62-2	Vanadium	74	D	10/25/2024	2237
7440-66-6	Zinc	340	D*	10/25/2024	2237

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC6

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-15

% Solids: 97.3 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	15000	D	10/25/2024	2242
7440-36-0	Antimony	1.5	JD'	10/25/2024	2242
7440-38-2	Arsenic	62	D	10/25/2024	2242
7440-39-3	Barium	240	D*	10/25/2024	2242
7440-41-7	Beryllium	1.1	D	10/25/2024	2242
7440-43-9	Cadmium	4.5	D	10/25/2024	2242
7440-70-2	Calcium	4200	D	10/25/2024	2242
7440-47-3	Chromium	37	D	10/25/2024	2242
7440-48-4	Cobalt	23	D	10/25/2024	2242
7440-50-8	Copper	560	D	10/25/2024	2242
7439-89-6	Iron	33000	D	10/25/2024	2242
7439-92-1	Lead	110	D	10/25/2024	2242
7439-95-4	Magnesium	5400	D	10/25/2024	2242
7439-96-5	Manganese	1400	D*	10/25/2024	2242
7440-02-0	Nickel	44	D	10/25/2024	2242
7440-09-7	Potassium	3300	D	10/25/2024	2242
7782-49-2	Selenium	5.3	UD'	10/25/2024	2242
7440-22-4	Silver	1.5	UD	10/25/2024	2242
7440-23-5	Sodium	190	JD	10/25/2024	2242
7440-28-0	Thallium	3.8	UD	10/25/2024	2242
7440-62-2	Vanadium	56	D	10/25/2024	2242
7440-66-6	Zinc	240	D*	10/25/2024	2242

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-16

% Solids: 96 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	13000	D	10/25/2024	2246
7440-36-0	Antimony	1.4	JD'	10/25/2024	2246
7440-38-2	Arsenic	47	D	10/25/2024	2246
7440-39-3	Barium	240	D*	10/25/2024	2246
7440-41-7	Beryllium	1.0	D	10/25/2024	2246
7440-43-9	Cadmium	3.9	D	10/25/2024	2246
7440-70-2	Calcium	3900	D	10/25/2024	2246
7440-47-3	Chromium	33	D	10/25/2024	2246
7440-48-4	Cobalt	22	D	10/25/2024	2246
7440-50-8	Copper	460	D	10/25/2024	2246
7439-89-6	Iron	36000	D	10/25/2024	2246
7439-92-1	Lead	94	D	10/25/2024	2246
7439-95-4	Magnesium	4900	D	10/25/2024	2246
7439-96-5	Manganese	1600	D*	10/25/2024	2246
7440-02-0	Nickel	40	D	10/25/2024	2246
7440-09-7	Potassium	2900	D	10/25/2024	2246
7782-49-2	Selenium	5.4	UD'	10/25/2024	2246
7440-22-4	Silver	1.5	UD	10/25/2024	2246
7440-23-5	Sodium	180	JD	10/25/2024	2246
7440-28-0	Thallium	3.8	UD	10/25/2024	2246
7440-62-2	Vanadium	53	D	10/25/2024	2246
7440-66-6	Zinc	210	D*	10/25/2024	2246

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC8

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-17

% Solids: 97.6 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	16000	D	10/25/2024	2250
7440-36-0	Antimony	1.1	JD'	10/25/2024	2250
7440-38-2	Arsenic	35	D	10/25/2024	2250
7440-39-3	Barium	250	D*	10/25/2024	2250
7440-41-7	Beryllium	1.1	D	10/25/2024	2250
7440-43-9	Cadmium	2.6	D	10/25/2024	2250
7440-70-2	Calcium	5300	D	10/25/2024	2250
7440-47-3	Chromium	40	D	10/25/2024	2250
7440-48-4	Cobalt	19	D	10/25/2024	2250
7440-50-8	Copper	280	D	10/25/2024	2250
7439-89-6	Iron	30000	D	10/25/2024	2250
7439-92-1	Lead	75	D	10/25/2024	2250
7439-95-4	Magnesium	4900	D	10/25/2024	2250
7439-96-5	Manganese	900	D*	10/25/2024	2250
7440-02-0	Nickel	59	D	10/25/2024	2250
7440-09-7	Potassium	2200	D	10/25/2024	2250
7782-49-2	Selenium	5.1	UD'	10/25/2024	2250
7440-22-4	Silver	1.4	UD	10/25/2024	2250
7440-23-5	Sodium	160	JD	10/25/2024	2250
7440-28-0	Thallium	3.6	UD	10/25/2024	2250
7440-62-2	Vanadium	49	D	10/25/2024	2250
7440-66-6	Zinc	170	D*	10/25/2024	2250

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBC9

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-18

% Solids: 95 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	21000	D	10/25/2024	2255
7440-36-0	Antimony	9.4	UD	10/25/2024	2255
7440-38-2	Arsenic	20	D	10/25/2024	2255
7440-39-3	Barium	390	D*	10/25/2024	2255
7440-41-7	Beryllium	1.3	D	10/25/2024	2255
7440-43-9	Cadmium	2.3	D	10/25/2024	2255
7440-70-2	Calcium	8300	D	10/25/2024	2255
7440-47-3	Chromium	43	D	10/25/2024	2255
7440-48-4	Cobalt	20	D	10/25/2024	2255
7440-50-8	Copper	200	D	10/25/2024	2255
7439-89-6	Iron	32000	D	10/25/2024	2255
7439-92-1	Lead	61	D	10/25/2024	2255
7439-95-4	Magnesium	7200	D	10/25/2024	2255
7439-96-5	Manganese	1100	D*	10/25/2024	2255
7440-02-0	Nickel	67	D	10/25/2024	2255
7440-09-7	Potassium	4000	D	10/25/2024	2255
7782-49-2	Selenium	5.5	UD	10/25/2024	2255
7440-22-4	Silver	1.6	UD	10/25/2024	2255
7440-23-5	Sodium	200	JD	10/25/2024	2255
7440-28-0	Thallium	3.9	UD	10/25/2024	2255
7440-62-2	Vanadium	53	D	10/25/2024	2255
7440-66-6	Zinc	190	D*	10/25/2024	2255

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBD0

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-19

% Solids: 96.1 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	20000	D	10/25/2024	2259
7440-36-0	Antimony	10	UD	10/25/2024	2259
7440-38-2	Arsenic	77	D	10/25/2024	2259
7440-39-3	Barium	420	D*	10/25/2024	2259
7440-41-7	Beryllium	1.3	D	10/25/2024	2259
7440-43-9	Cadmium	6.8	D	10/25/2024	2259
7440-70-2	Calcium	6500	D	10/25/2024	2259
7440-47-3	Chromium	49	D	10/25/2024	2259
7440-48-4	Cobalt	24	D	10/25/2024	2259
7440-50-8	Copper	670	D	10/25/2024	2259
7439-89-6	Iron	32000	D	10/25/2024	2259
7439-92-1	Lead	130	D	10/25/2024	2259
7439-95-4	Magnesium	6400	D	10/25/2024	2259
7439-96-5	Manganese	1100	D*	10/25/2024	2259
7440-02-0	Nickel	79	D	10/25/2024	2259
7440-09-7	Potassium	2000	D	10/25/2024	2259
7782-49-2	Selenium	5.8	UD	10/25/2024	2259
7440-22-4	Silver	1.7	UD	10/25/2024	2259
7440-23-5	Sodium	200	JD	10/25/2024	2259
7440-28-0	Thallium	4.2	UD	10/25/2024	2259
7440-62-2	Vanadium	61	D	10/25/2024	2259
7440-66-6	Zinc	390	D*	10/25/2024	2259

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBD1

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-20

% Solids: 96.9 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	15000	D	10/25/2024	2303
7440-36-0	Antimony	8.3	UD'	10/25/2024	2303
7440-38-2	Arsenic	56	D	10/25/2024	2303
7440-39-3	Barium	290	D*	10/25/2024	2303
7440-41-7	Beryllium	1.0	D	10/25/2024	2303
7440-43-9	Cadmium	5.7	D	10/25/2024	2303
7440-70-2	Calcium	5200	D	10/25/2024	2303
7440-47-3	Chromium	41	D	10/25/2024	2303
7440-48-4	Cobalt	20	D	10/25/2024	2303
7440-50-8	Copper	540	D	10/25/2024	2303
7439-89-6	Iron	27000	D	10/25/2024	2303
7439-92-1	Lead	98	D	10/25/2024	2303
7439-95-4	Magnesium	5300	D	10/25/2024	2303
7439-96-5	Manganese	980	D*	10/25/2024	2303
7440-02-0	Nickel	63	D	10/25/2024	2303
7440-09-7	Potassium	1900	D	10/25/2024	2303
7782-49-2	Selenium	4.9	UD'	10/25/2024	2303
7440-22-4	Silver	1.4	UD	10/25/2024	2303
7440-23-5	Sodium	180	JD	10/25/2024	2303
7440-28-0	Thallium	3.5	UD	10/25/2024	2303
7440-62-2	Vanadium	50	D	10/25/2024	2303
7440-66-6	Zinc	320	D*	10/25/2024	2303

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBD2

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-21

% Solids: 94.4 Date Received: 10/07/2024

Analytical Method: ICP_AES

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	34000	D	10/25/2024	2308
7440-36-0	Antimony	4.4	JD'	10/25/2024	2308
7440-38-2	Arsenic	190	D	10/25/2024	2308
7440-39-3	Barium	350	D*	10/25/2024	2308
7440-41-7	Beryllium	2.1	D	10/25/2024	2308
7440-43-9	Cadmium	10	D	10/25/2024	2308
7440-70-2	Calcium	6000	D	10/25/2024	2308
7440-47-3	Chromium	94	D	10/25/2024	2308
7440-48-4	Cobalt	30	D	10/25/2024	2308
7440-50-8	Copper	2300	D	10/25/2024	2308
7439-89-6	Iron	30000	D	10/25/2024	2308
7439-92-1	Lead	450	D	10/25/2024	2308
7439-95-4	Magnesium	6900	D	10/25/2024	2308
7439-96-5	Manganese	890	D*	10/25/2024	2308
7440-02-0	Nickel	87	D	10/25/2024	2308
7440-09-7	Potassium	2300	D	10/25/2024	2308
7782-49-2	Selenium	2.3	JD'	10/25/2024	2308
7440-22-4	Silver	3.1	D	10/25/2024	2308
7440-23-5	Sodium	360	JD	10/25/2024	2308
7440-28-0	Thallium	4.0	UD	10/25/2024	2308
7440-62-2	Vanadium	49	D	10/25/2024	2308
7440-66-6	Zinc	970	D*	10/25/2024	2308

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MYDBD3

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51772 MA No. : 3226.1 SDG No.: MYDBB4

Matrix: SOIL Lab Sample ID: P4331-22

% Solids: 95.1 Date Received: 10/07/2024

Analytical Method: ICP_AES

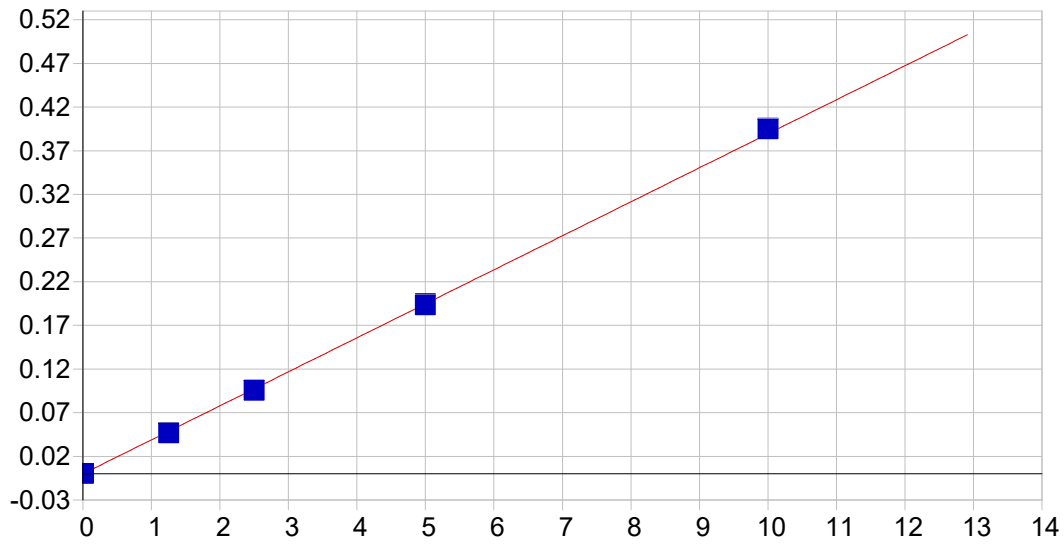
Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	39000	D	10/25/2024	2312
7440-36-0	Antimony	3.9	JD'	10/25/2024	2312
7440-38-2	Arsenic	75	D	10/25/2024	2312
7440-39-3	Barium	400	D*	10/25/2024	2312
7440-41-7	Beryllium	2.7	D	10/25/2024	2312
7440-43-9	Cadmium	8.6	D	10/25/2024	2312
7440-70-2	Calcium	8100	D	10/25/2024	2312
7440-47-3	Chromium	99	D	10/25/2024	2312
7440-48-4	Cobalt	19	D	10/25/2024	2312
7440-50-8	Copper	1300	D	10/25/2024	2312
7439-89-6	Iron	31000	D	10/25/2024	2312
7439-92-1	Lead	340	D	10/25/2024	2312
7439-95-4	Magnesium	8100	D	10/25/2024	2312
7439-96-5	Manganese	670	D*	10/25/2024	2312
7440-02-0	Nickel	100	D	10/25/2024	2312
7440-09-7	Potassium	3900	D	10/25/2024	2312
7782-49-2	Selenium	1.5	JD'	10/25/2024	2312
7440-22-4	Silver	0.37	JD	10/25/2024	2312
7440-23-5	Sodium	220	JD	10/25/2024	2312
7440-28-0	Thallium	3.8	UD	10/25/2024	2312
7440-62-2	Vanadium	48	D	10/25/2024	2312
7440-66-6	Zinc	1100	D*	10/25/2024	2312

NOTE: Hardness (total) is reported in mg/L

Comments:

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



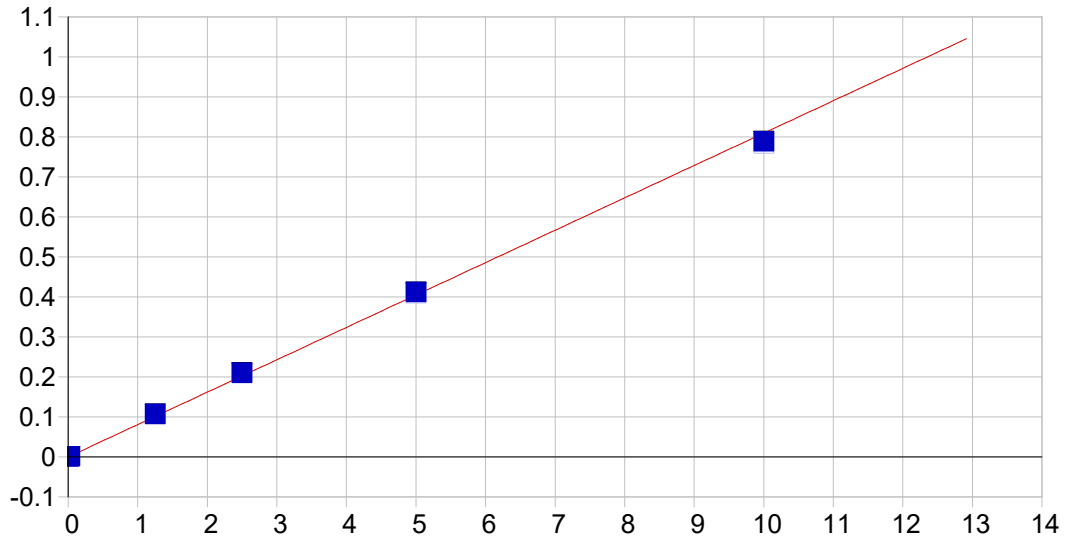
As 189.042 {479}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000047	Re-Slope:	1.000000
A1 (Gain):	0.038948	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999850	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.004900		
Predicted MQL:	0.016334		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00005	.000	1
S1	.01000	.00891	-.001	-10.9	.00030	.000	1
S2	1.2500	1.1950	-.055	-4.40	.04657	.000	1
S3	2.5000	2.4521	-.048	-1.92	.09560	.000	1
S4	5.0000	4.9646	-.035	-.708	.19360	.001	1
S5	10.000	10.139	.139	1.39	.39544	.000	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



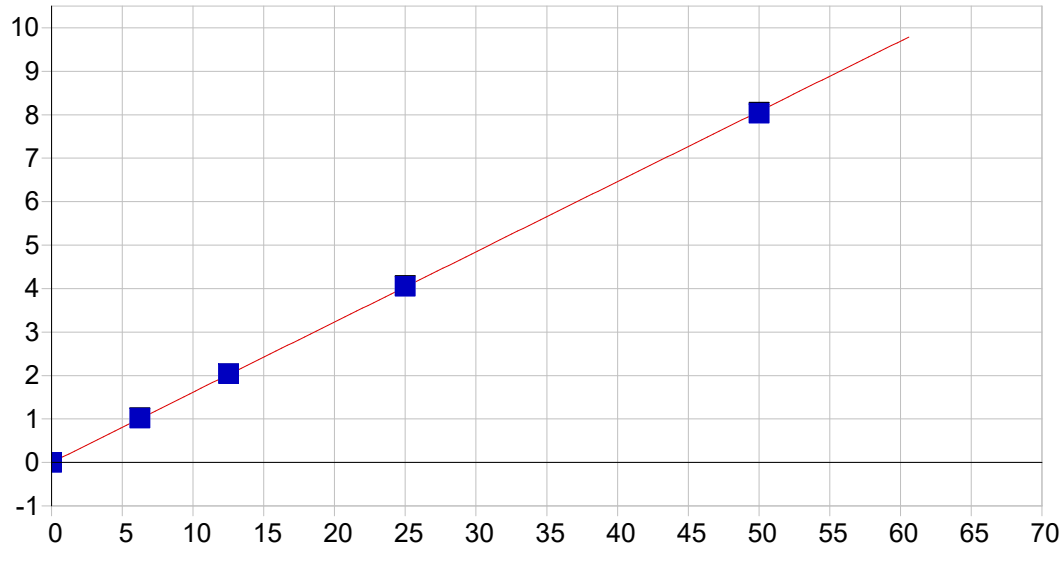
Tl 190.856 {477}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000053	Re-Slope:	1.000000
A1 (Gain):	0.080959	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999556	Status:	OK.
Std Error of Est:	0.000064		
Predicted MDL:	0.002755		
Predicted MQL:	0.009183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00005	.000	1
S1	.02500	.02318	-.002	-7.28	.00178	.000	1
S2	1.2500	1.3238	.074	5.90	.10642	.000	1
S3	2.5000	2.5964	.096	3.86	.20875	.001	1
S4	5.0000	5.0893	.089	1.79	.40918	.000	1
S5	10.000	9.7423	-.258	-2.58	.78310	.001	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



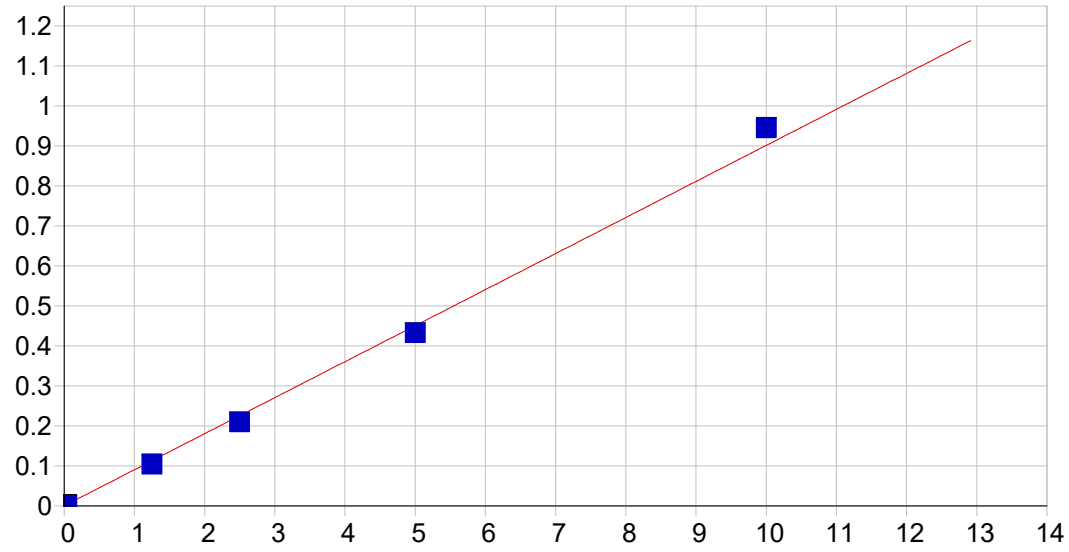
Pb 220.353 {453}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000858	Re-Slope:	1.000000
A1 (Gain):	0.161550	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000040		
Predicted MDL:	0.003072		
Predicted MQL:	0.010241		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00086	.000	1
S1	.01000	.00868	-.001	-13.2	.00055	.000	1
S2	6.2500	6.3202	.070	1.12	1.0199	.003	1
S3	12.500	12.619	.119	.953	2.0373	.003	1
S4	25.000	25.101	.101	.405	4.0532	.009	1
S5	50.000	49.711	-.289	-.578	8.0279	.025	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



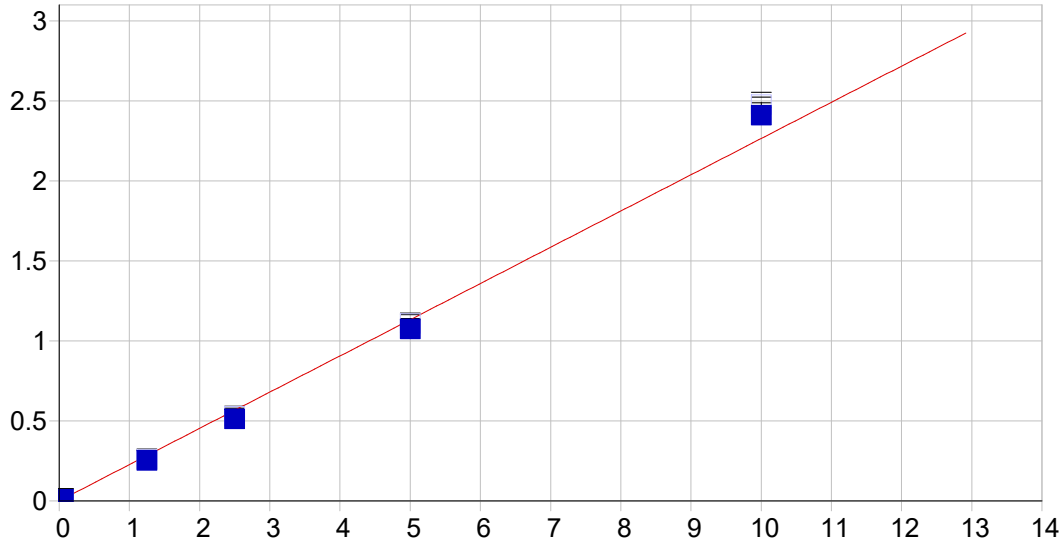
Se 196.090 {472}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000295	Re-Slope:	1.000000
A1 (Gain):	0.090112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998535	Status:	OK.
Std Error of Est:	0.000153		
Predicted MDL:	0.004727		
Predicted MQL:	0.015755		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00030	.000	1
S1	.03500	.02649	-.009	-24.3	.00268	.001	1
S2	1.2500	1.1478	-.102	-8.17	.10351	.001	1
S3	2.5000	2.3238	-.176	-7.05	.20927	.000	1
S4	5.0000	4.7976	-.202	-4.05	.43176	.000	1
S5	10.000	10.489	.489	4.89	.94379	.001	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

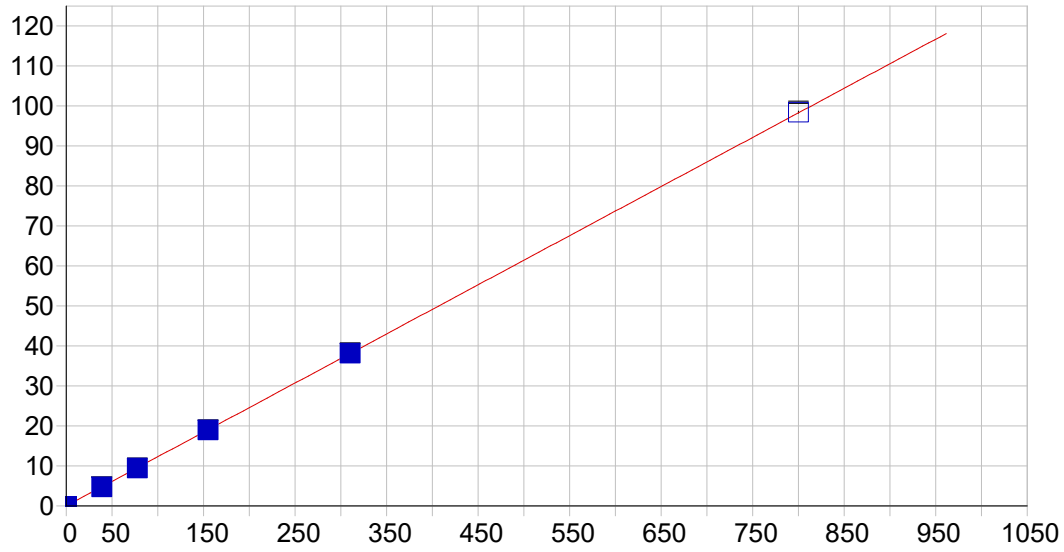


Sb 206.833 {463}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000502	Re-Slope:	1.000000
A1 (Gain):	0.226406	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997658	Status:	OK.
Std Error of Est:	0.000657		
Predicted MDL:	0.002267		
Predicted MQL:	0.007557		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00051	.000	1
S1	.06000	.05430	-.006	-9.50	.01280	.000	1
S2	1.2500	1.1122	-.138	-11.0	.26066	.001	1
S3	2.5000	2.2589	-.241	-9.65	.52863	.002	1
S4	5.0000	4.7415	-.258	-5.17	1.1074	.005	1
S5	10.000	10.643	.643	6.43	2.4770	.015	1



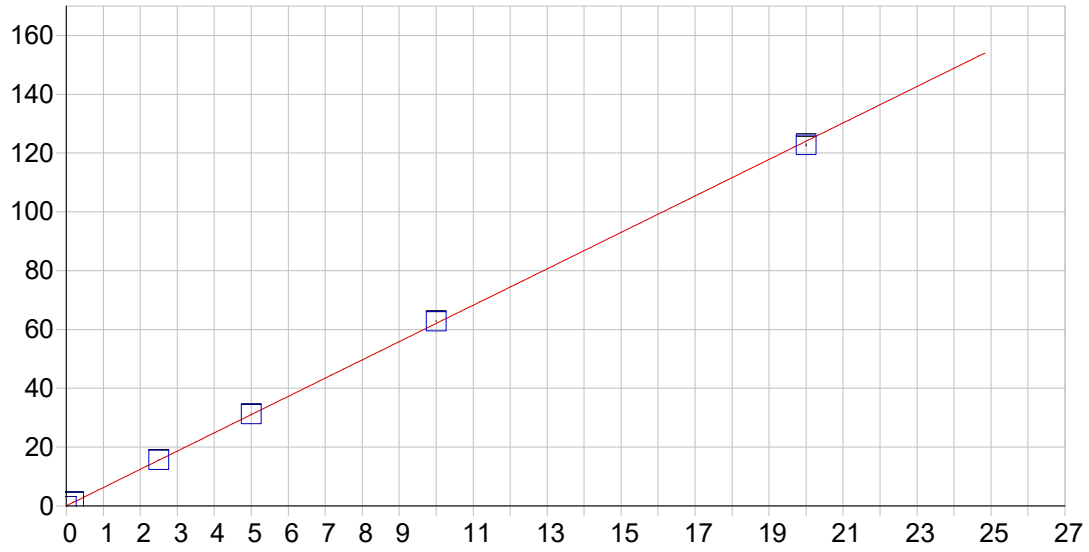
Al 396.152 { 85}

Date of Fit:	10/25/2024 19:52:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010766	Re-Slope:	1.000000
A1 (Gain):	0.122855	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000313		
Predicted MDL:	0.013230		
Predicted MQL:	0.044101		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00003	.000	.000	.01077	.001	1
S1	.20000	.17115	-.029	-14.4	.03184	.001	1
S2	38.750	38.595	-.155	-.399	4.7581	.028	1
S3	77.500	76.562	-.938	-1.21	9.4283	.024	1
S4	155.00	154.23	-.768	-.496	18.982	.043	1
S5	310.00	310.57	.570	.184	38.212	.072	1
S6	800.00	801.32	1.32	.165	98.457	.280	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



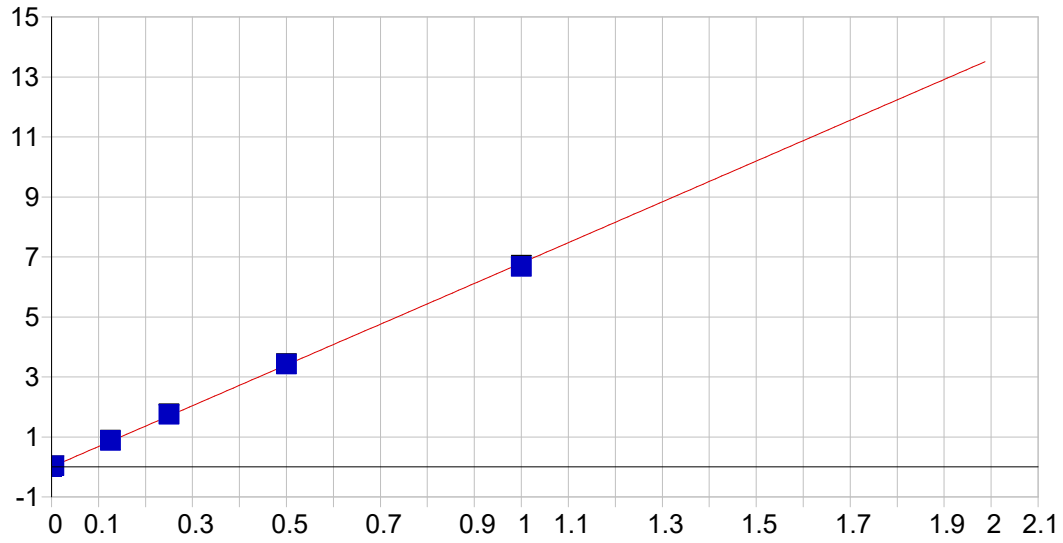
Ba 493.409 { 68}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.031170	Re-Slope:	1.000000
A1 (Gain):	6.200801	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999925	Status:	OK.
Std Error of Est:	0.008050		
Predicted MDL:	0.000827		
Predicted MQL:	0.002756		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.03105	.004	1
S1	.20000	.21547	.015	7.73	1.3672	.007	1
S2	2.5000	2.5283	.028	1.13	15.709	.024	1
S3	5.0000	5.0370	.037	.739	31.264	.116	1
S4	10.000	10.128	.128	1.28	62.835	.195	1
S5	20.000	19.791	-.209	-1.05	122.75	.412	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



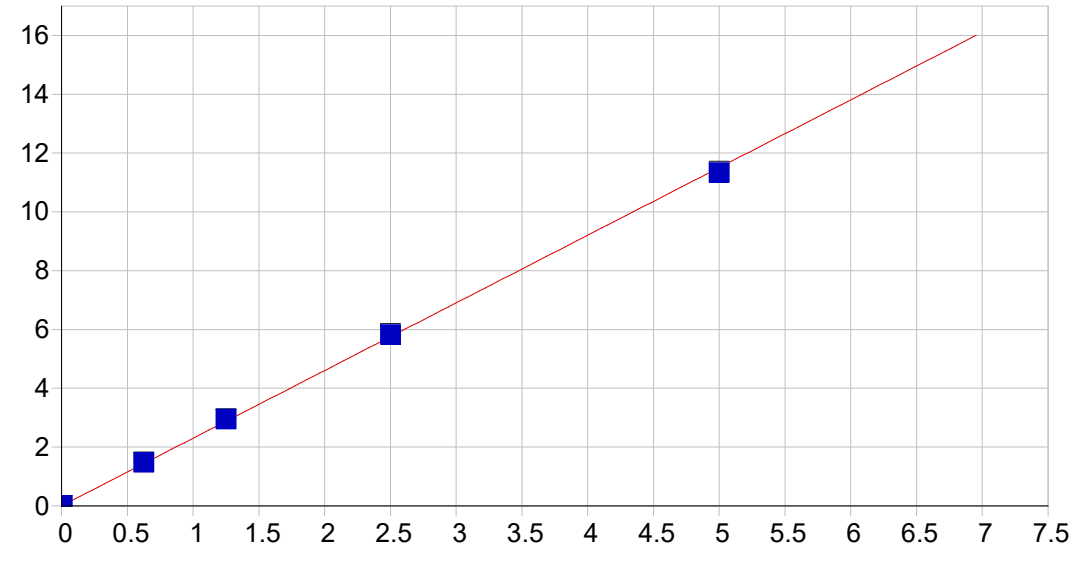
Be 234.861 {144}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001969	Re-Slope:	1.000000
A1 (Gain):	6.798982	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999792	Status:	OK.
Std Error of Est:	0.000519		
Predicted MDL:	0.000135		
Predicted MQL:	0.000451		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00197	.001	1
S1	.00500	.00548	.000	9.60	.03527	.001	1
S2	.12500	.13003	.005	4.03	.88076	.005	1
S3	.25000	.25734	.007	2.94	1.7450	.016	1
S4	.50000	.50395	.004	.790	3.4189	.012	1
S5	1.0000	.98319	-.017	-1.68	6.6718	.039	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



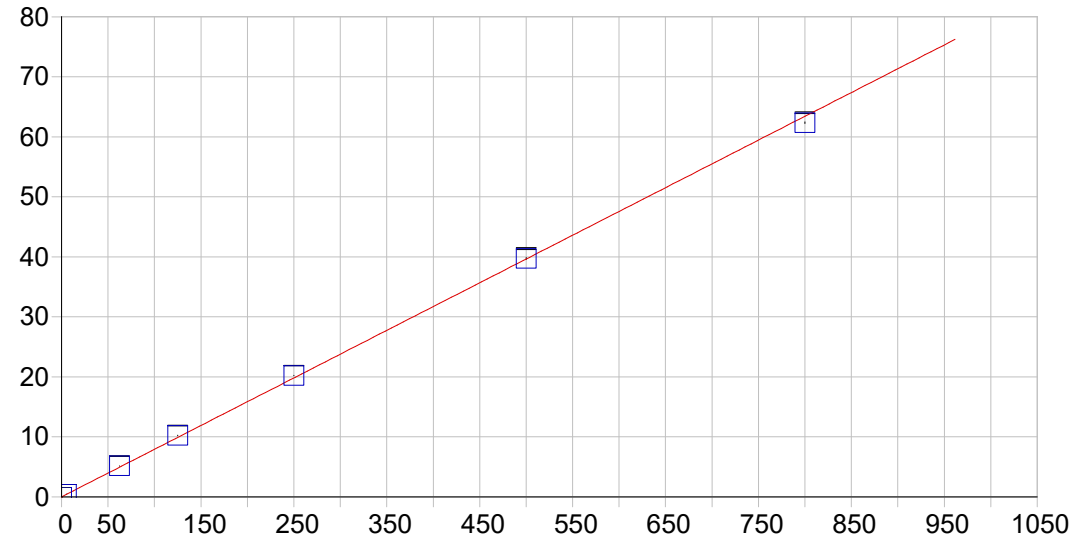
Cd 214.438 {457}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000613	Re-Slope:	1.000000
A1 (Gain):	2.301637	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999850	Status:	OK.
Std Error of Est:	0.000335		
Predicted MDL:	0.000131		
Predicted MQL:	0.000435		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00061	.000	1
S1	.00500	.00500	.000	.069	.01214	.000	1
S2	.62500	.64273	.018	2.84	1.4834	.003	1
S3	1.2500	1.2801	.030	2.41	2.9539	.005	1
S4	2.5000	2.5304	.030	1.21	5.8384	.017	1
S5	5.0000	4.9218	-.078	-1.56	11.356	.033	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



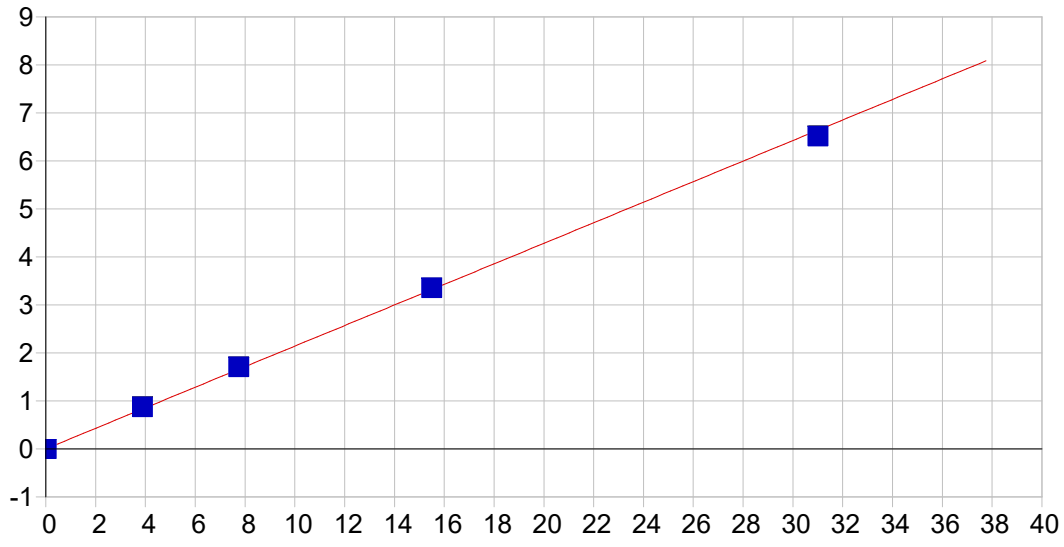
Ca 373.690 { 90}

Date of Fit:	10/25/2024 19:52:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.007624	Re-Slope:	1.000000
A1 (Gain):	0.079260	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999816	Status:	OK.
Std Error of Est:	0.005311		
Predicted MDL:	0.016430		
Predicted MQL:	0.054766		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00098	-.001	.000	.00755	.000	1
S1	5.0000	5.5795	.580	11.6	.44986	.004	1
S2	62.500	65.071	2.57	4.11	5.1652	.030	1
S3	125.00	129.07	4.07	3.26	10.238	.045	1
S4	250.00	255.13	5.13	2.05	20.229	.044	1
S5	500.00	501.16	1.16	.231	39.729	.146	1
S6	800.00	786.49	-13.5	-1.69	62.345	.123	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



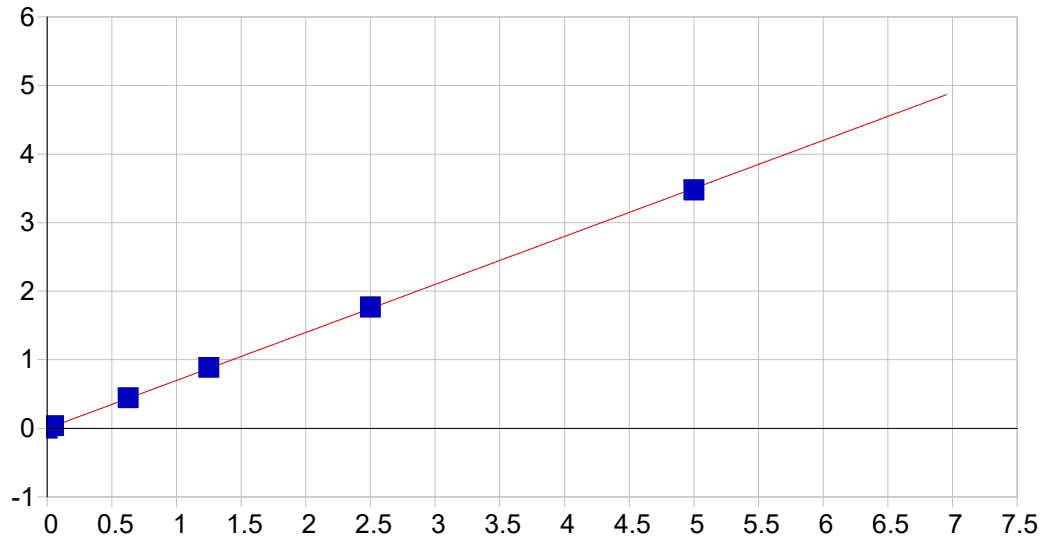
Cr 267.716 {126}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000077	Re-Slope:	1.000000
A1 (Gain):	0.214160	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999743	Status:	OK.
Std Error of Est:	0.000144		
Predicted MDL:	0.000929		
Predicted MQL:	0.003097		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00008	.000	1
S1	.01000	.01039	.000	3.91	.00215	.000	1
S2	3.8750	4.0864	.211	5.46	.87600	.003	1
S3	7.7500	7.9558	.206	2.65	1.7056	.004	1
S4	15.500	15.669	.169	1.09	3.3594	.003	1
S5	31.000	30.413	-.587	-1.89	6.5207	.006	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



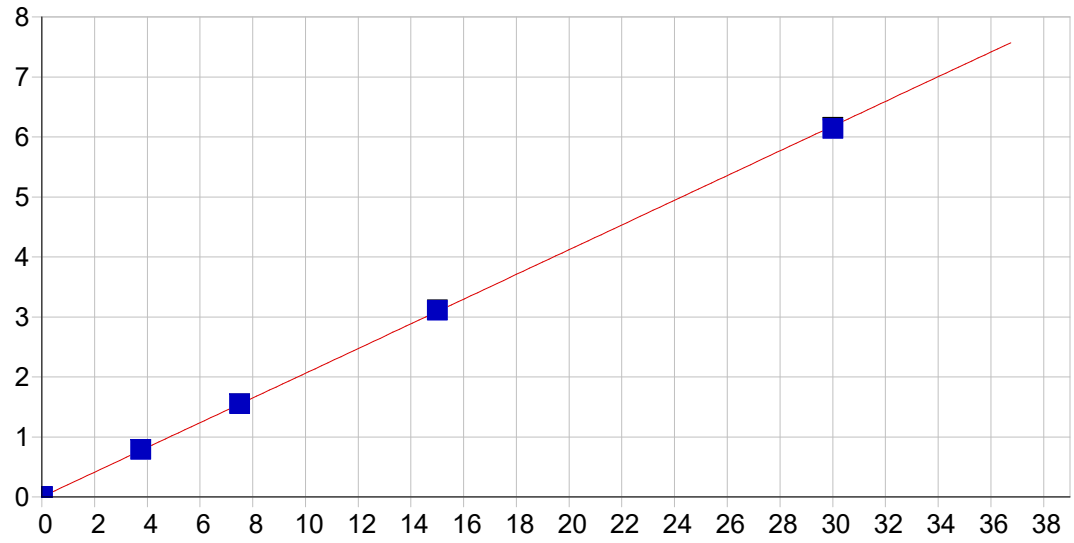
Co 228.616 {448}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000489	Re-Slope:	1.000000
A1 (Gain):	0.699920	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999964	Status:	OK.
Std Error of Est:	0.000159		
Predicted MDL:	0.000496		
Predicted MQL:	0.001655		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00049	.000	1
S1	.05000	.05109	.001	2.18	.03539	.000	1
S2	.62500	.63088	.006	.941	.44161	.000	1
S3	1.2500	1.2625	.013	1.00	.88425	.001	1
S4	2.5000	2.5203	.020	.811	1.7656	.006	1
S5	5.0000	4.9602	-.040	-.795	3.4755	.011	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



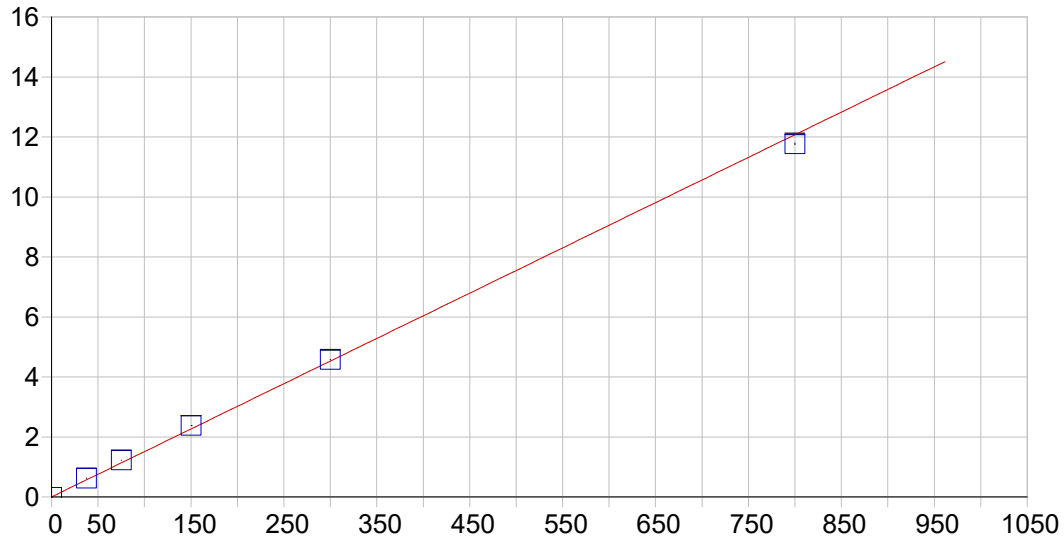
Cu 324.754 {104}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000853	Re-Slope:	1.000000
A1 (Gain):	0.205959	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	OK.
Std Error of Est:	0.000079		
Predicted MDL:	0.003865		
Predicted MQL:	0.012883		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00085	.001	1
S1	.02500	.02967	.005	18.7	.00696	.001	1
S2	3.7500	3.8158	.066	1.76	.78626	.003	1
S3	7.5000	7.5323	.032	.430	1.5512	.004	1
S4	15.000	15.090	.090	.599	3.1068	.008	1
S5	30.000	29.807	-.193	-.642	6.1360	.017	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



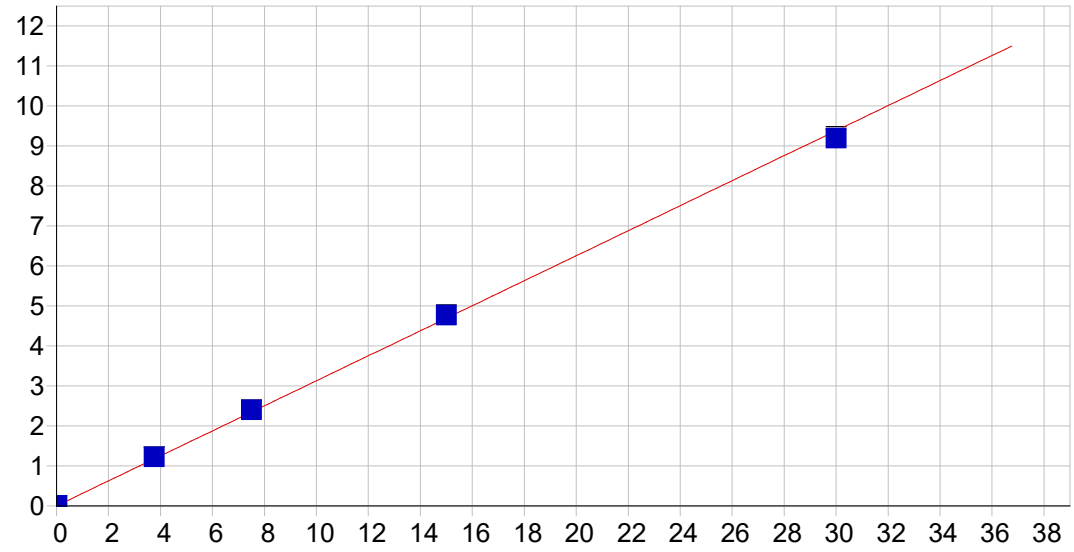
Fe 259.837 {130}

Date of Fit:	10/25/2024 19:52:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001286	Re-Slope:	1.000000
A1 (Gain):	0.015090	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999368	Status:	OK.
Std Error of Est:	0.000234		
Predicted MDL:	0.024471		
Predicted MQL:	0.081569		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00129	.000	1
S1	.10000	.07708	-.023	-22.9	.00245	.000	1
S2	37.500	41.096	3.60	9.59	.62143	.003	1
S3	75.000	80.871	5.87	7.83	1.2216	.005	1
S4	150.00	157.42	7.42	4.95	2.3768	.001	1
S5	300.00	303.32	3.32	1.11	4.5784	.010	1
S6	800.00	779.81	-20.2	-2.52	11.769	.028	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

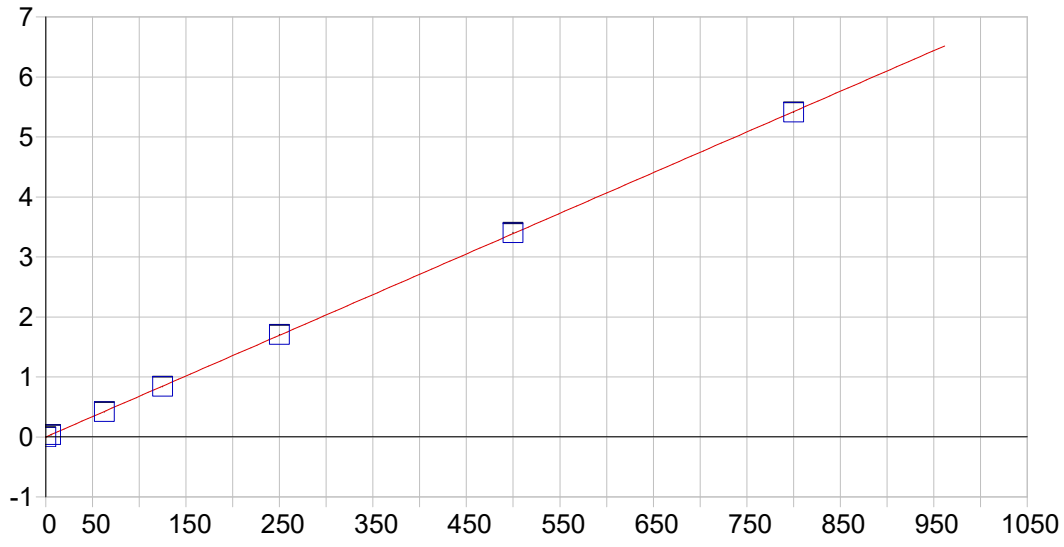


Mn 257.610 {131}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000446	Re-Slope:	1.000000
A1 (Gain):	0.312814	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999751	Status:	OK.
Std Error of Est:	0.000248		
Predicted MDL:	0.001234		
Predicted MQL:	0.004115		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00045	.000	1
S1	.01500	.01571	.001	4.75	.00537	.000	1
S2	3.7500	3.9228	.173	4.61	1.2277	.001	1
S3	7.5000	7.6695	.170	2.26	2.3999	.012	1
S4	15.000	15.254	.254	1.69	4.7727	.009	1
S5	30.000	29.403	-.597	-1.99	9.1996	.035	1



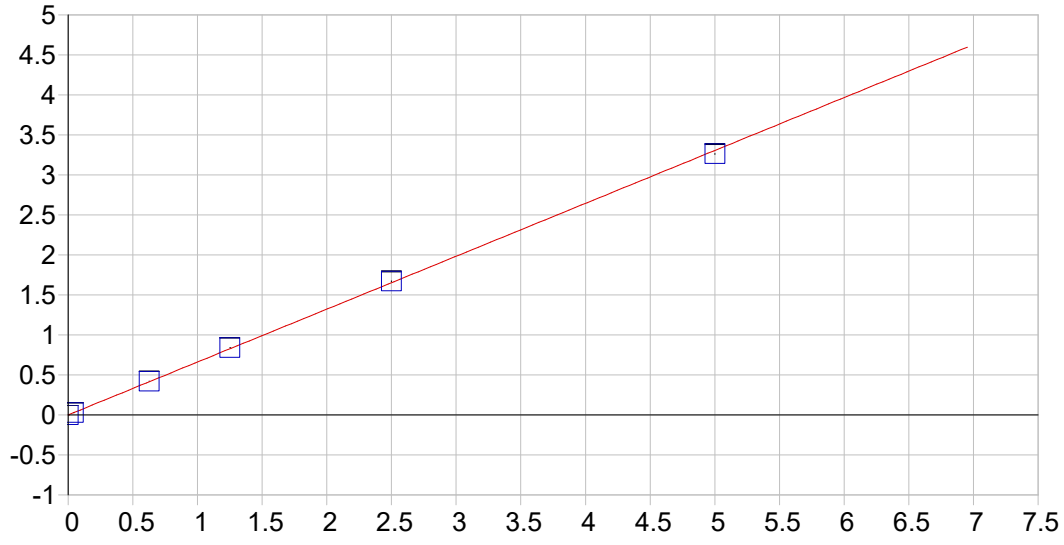
Mg 279.079 {121}

Date of Fit:	10/25/2024 19:52:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000056	Re-Slope:	1.000000
A1 (Gain):	0.006776	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000141		
Predicted MDL:	0.064350		
Predicted MQL:	0.214501		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00025	-.000	.000	-.00006	.000	1
S1	5.0000	5.3304	.330	6.61	.03606	.000	1
S2	62.500	61.655	-.845	-1.35	.41771	.002	1
S3	125.00	123.78	-1.22	-.975	.83868	.004	1
S4	250.00	251.36	1.36	.542	1.7031	.004	1
S5	500.00	501.82	1.82	.363	3.4002	.013	1
S6	800.00	798.56	-1.44	-.180	5.4109	.004	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



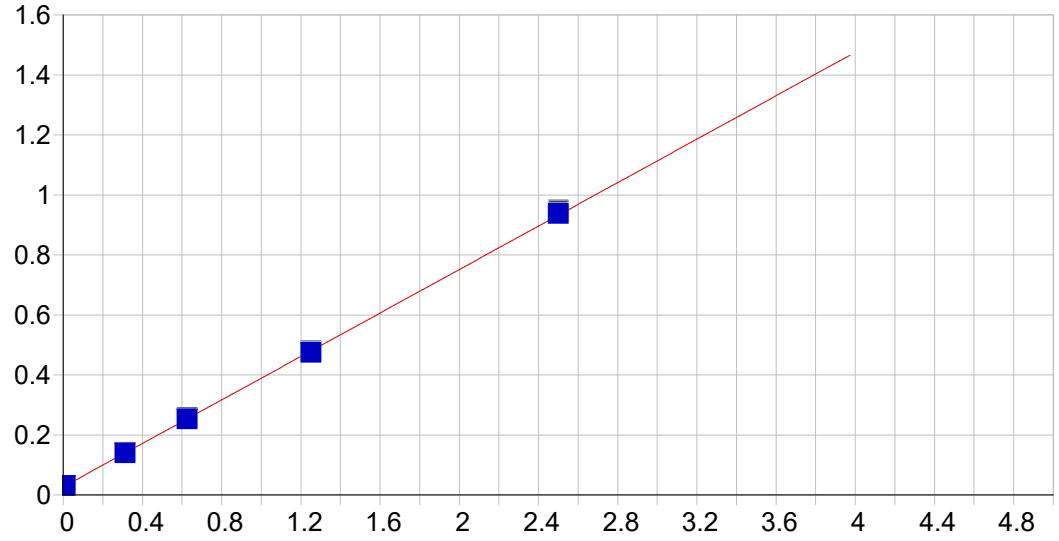
Ni 231.604 {446}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000158	Re-Slope:	1.000000
A1 (Gain):	0.661137	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	0.000234		
Predicted MDL:	0.000558		
Predicted MQL:	0.001861		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00016	.000	1
S1	.04000	.04328	.003	8.21	.02846	.000	1
S2	.62500	.63830	.013	2.13	.42185	.001	1
S3	1.2500	1.2718	.022	1.75	.84071	.001	1
S4	2.5000	2.5271	.027	1.08	1.6706	.007	1
S5	5.0000	4.9345	-.066	-1.31	3.2622	.007	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



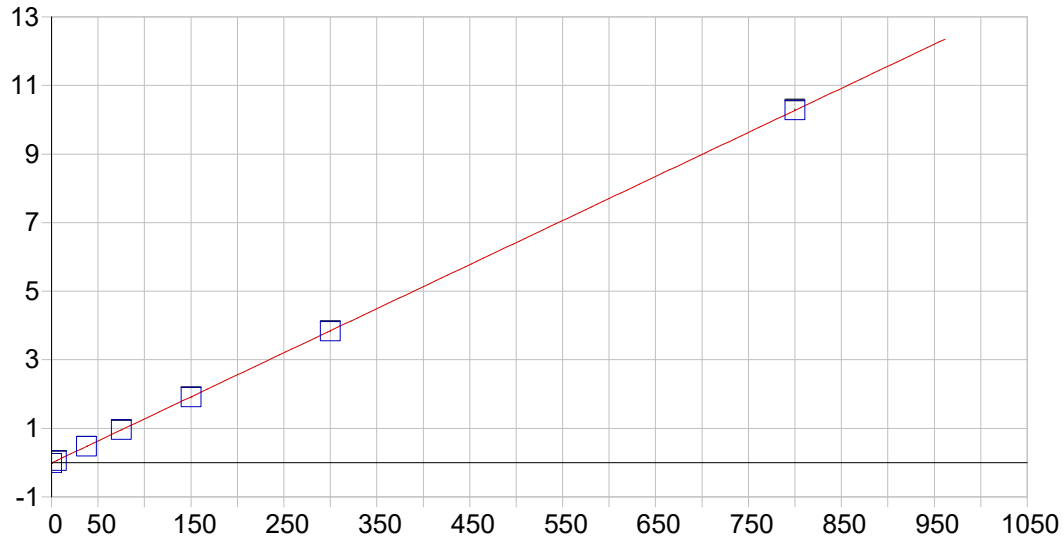
Ag 328.068 {103}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.026912	Re-Slope:	1.000000
A1 (Gain):	0.362165	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000032		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.02691	.000	1
S1	.01000	.01164	.002	16.4	.03112	.000	1
S2	.31250	.31141	-.001	-.347	.14091	.000	1
S3	.62500	.62462	-.000	-.061	.25556	.002	1
S4	1.2500	1.2358	-.014	-1.13	.47936	.001	1
S5	2.5000	2.5140	.014	.561	.94716	.003	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



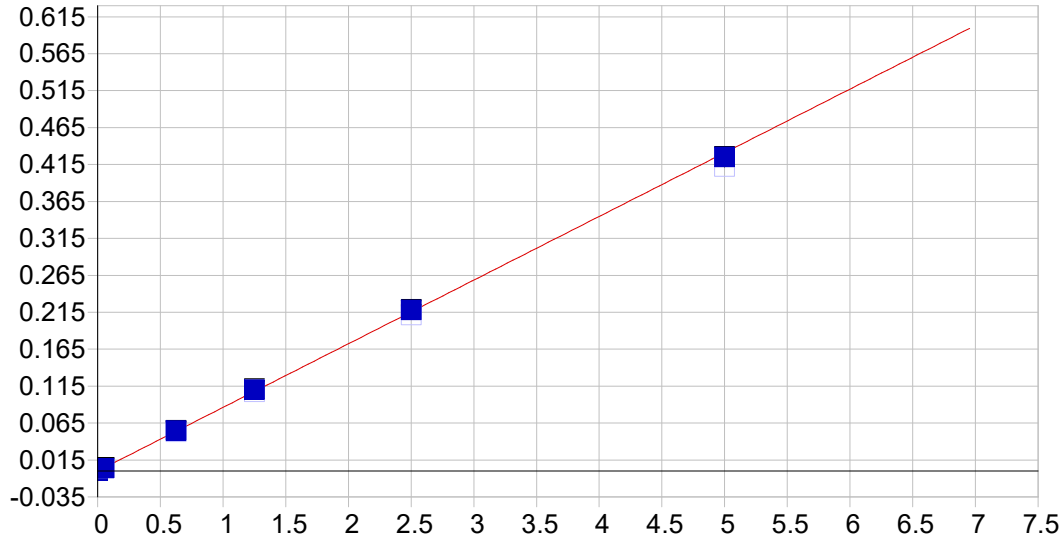
Na 818.326 { 41}

Date of Fit:	10/25/2024 19:52:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.010787	Re-Slope:	1.000000
A1 (Gain):	0.012856	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000091		
Predicted MDL:	0.273282		
Predicted MQL:	0.910941		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	-.01079	.003	1
S1	5.0000	5.0145	.014	.290	.05368	.003	1
S2	37.500	37.703	.203	.540	.47390	.002	1
S3	75.000	75.291	.291	.388	.95713	.004	1
S4	150.00	149.46	-.537	-.358	1.9107	.002	1
S5	300.00	299.20	-.797	-.266	3.8356	.008	1
S6	800.00	800.83	.826	.103	10.284	.024	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



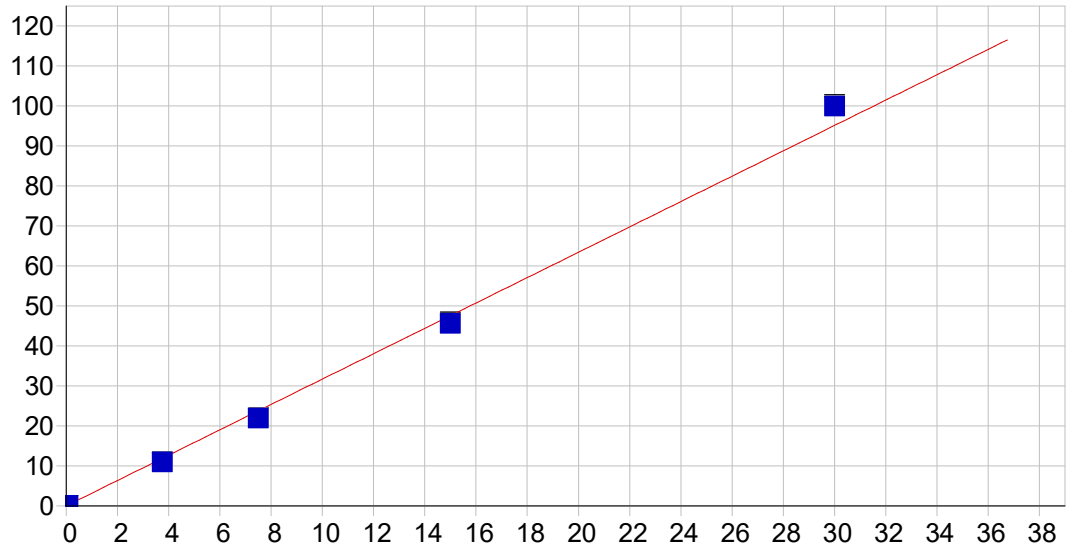
V 292.402 {115}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000049	Re-Slope:	1.000000
A1 (Gain):	0.086195	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999886	Status:	OK.
Std Error of Est:	0.000034		
Predicted MDL:	0.009024		
Predicted MQL:	0.030081		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00005	.000	1
S1	.05000	.04896	-.001	-2.08	.00416	.001	1
S2	.62500	.63376	.009	1.40	.05292	.001	1
S3	1.2500	1.2797	.030	2.37	.10694	.001	1
S4	2.5000	2.5281	.028	1.12	.21124	.001	1
S5	5.0000	4.9345	-.065	-1.31	.41204	.001	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



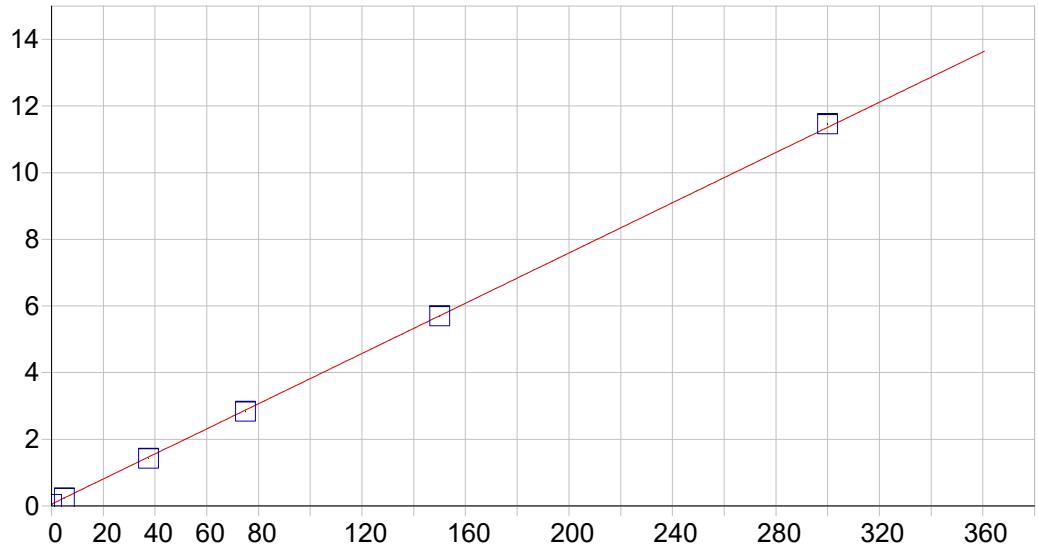
Zn 213.856 {158}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.009395	Re-Slope:	1.000000
A1 (Gain):	3.170963	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998470	Status:	OK.
Std Error of Est:	0.012509		
Predicted MDL:	0.000431		
Predicted MQL:	0.001438		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00944	.001	1
S1	.06000	.05581	-.004	-6.98	.18729	.001	1
S2	3.7500	3.4446	-.305	-8.14	10.946	.023	1
S3	7.5000	6.9158	-.584	-7.79	21.968	.115	1
S4	15.000	14.378	-.622	-4.15	45.659	.339	1
S5	30.000	31.516	1.52	5.05	100.06	.312	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



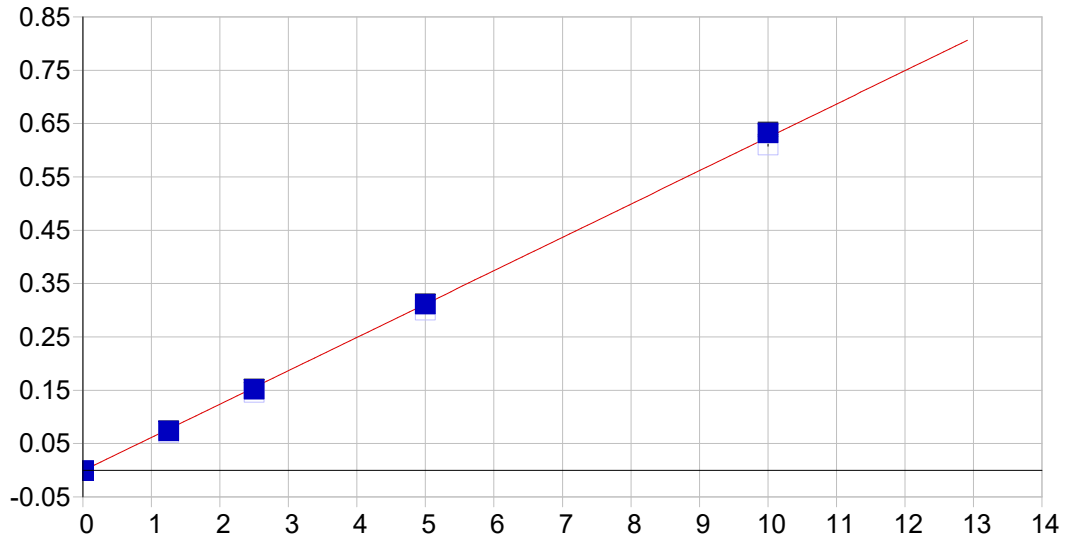
K 769.896 { 44}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.053435	Re-Slope:	1.000000
A1 (Gain):	0.037684	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999929	Status:	OK.
Std Error of Est:	0.000929		
Predicted MDL:	0.121058		
Predicted MQL:	0.403526		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00028	.000	.000	.05345	.001	1
S1	5.0000	4.9181	-.082	-1.64	.23877	.004	1
S2	37.500	36.360	-1.14	-3.04	1.4236	.007	1
S3	75.000	73.773	-1.23	-1.64	2.8335	.010	1
S4	150.00	149.74	-.264	-.176	5.6961	.008	1
S5	300.00	302.71	2.71	.905	11.461	.019	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



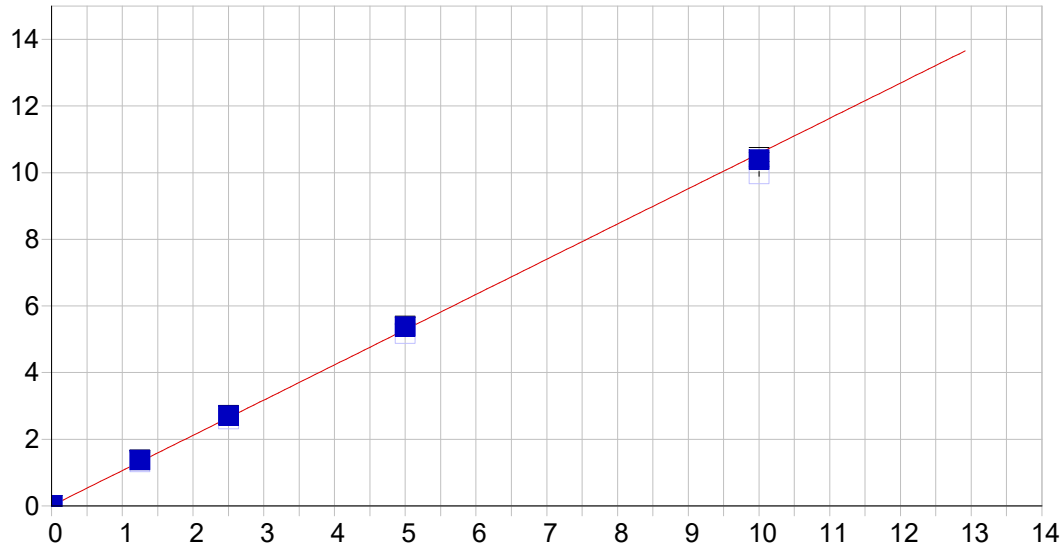
P 177.495 {490}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001011	Re-Slope:	1.000000
A1 (Gain):	0.062512	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999811	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	0.003068		
Predicted MQL:	0.010227		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00101	.000	1
S1	.01000	.00758	-.002	-24.2	-.00055	.000	1
S2	1.2500	1.1903	-.060	-4.78	.07052	.000	1
S3	2.5000	2.4400	-.060	-2.40	.14577	.000	1
S4	5.0000	4.9928	-.007	-.144	.29961	.000	1
S5	10.000	10.129	.129	1.29	.60922	.002	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



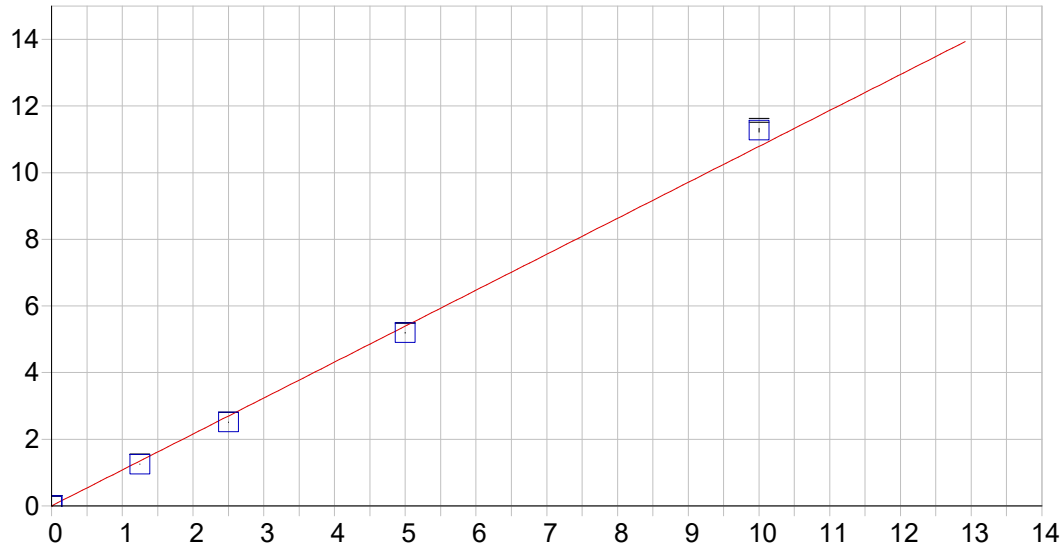
B 249.678 {135}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003383	Re-Slope:	1.000000
A1 (Gain):	1.057102	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999581	Status:	OK.
Std Error of Est:	0.000492		
Predicted MDL:	0.000995		
Predicted MQL:	0.003316		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00339	.001	1
S1	.01000	.00164	-.008	-83.6	.00502	.000	1
S2	1.2500	1.2962	.046	3.70	1.3203	.002	1
S3	2.5000	2.5554	.055	2.22	2.5981	.008	1
S4	5.0000	5.0839	.084	1.68	5.1643	.018	1
S5	10.000	9.8231	-.177	-1.77	9.9607	.070	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



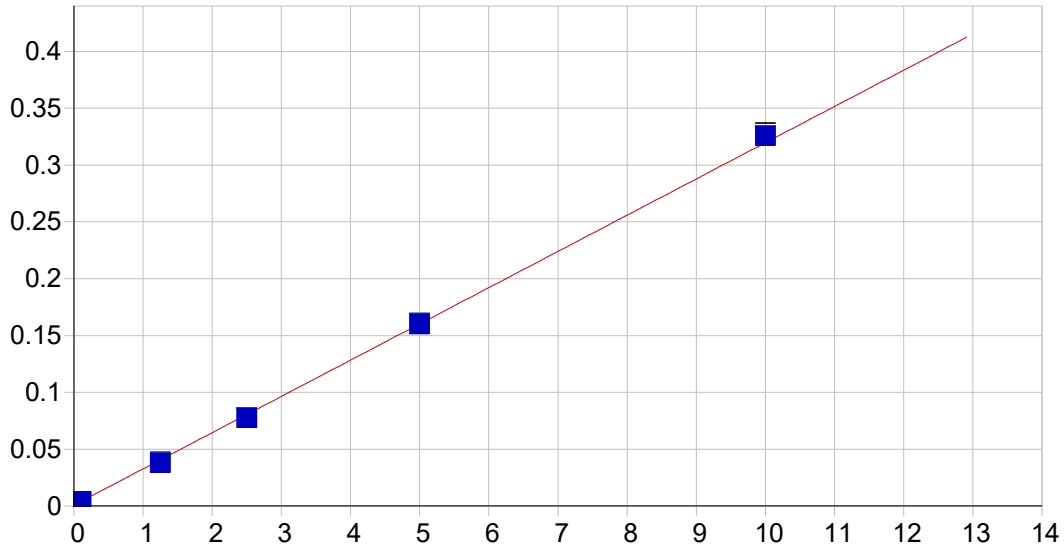
Mo 202.030 {467}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000390	Re-Slope:	1.000000
A1 (Gain):	1.078807	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998785	Status:	OK.
Std Error of Est:	0.000892		
Predicted MDL:	0.000426		
Predicted MQL:	0.001420		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00039	.000	1
S1	.01000	.00913	-.001	-8.67	.01024	.000	1
S2	1.2500	1.1577	-.092	-7.38	1.2494	.004	1
S3	2.5000	2.3281	-.172	-6.87	2.5120	.003	1
S4	5.0000	4.8158	-.184	-3.68	5.1957	.013	1
S5	10.000	10.449	.449	4.49	11.273	.054	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



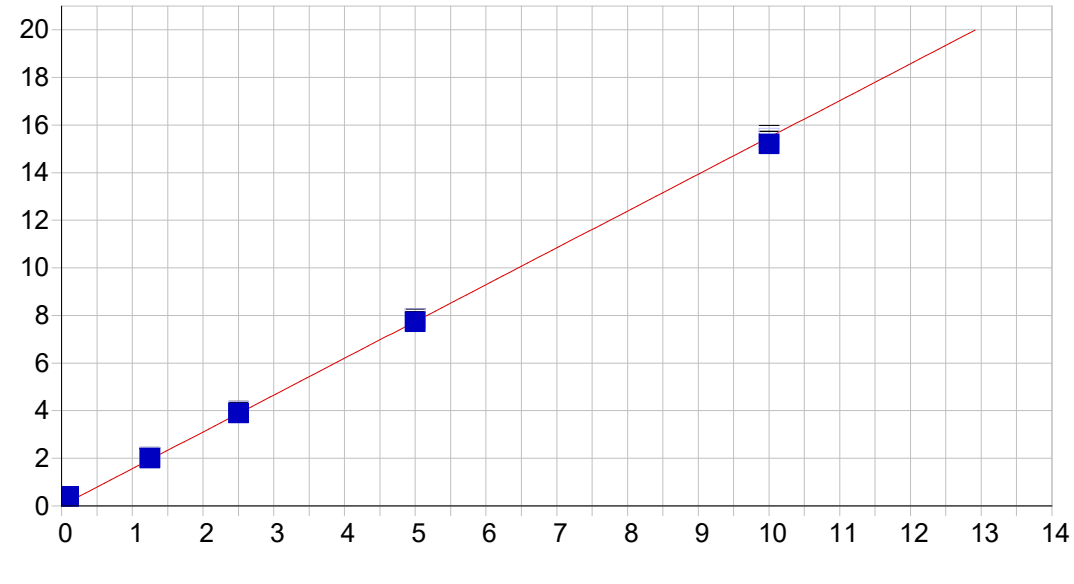
S 182.034 {485}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000719	Re-Slope:	1.000000
A1 (Gain):	0.031901	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999627	Status:	OK.
Std Error of Est:	0.000046		
Predicted MDL:	0.005873		
Predicted MQL:	0.019576		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00072	.000	1
S1	.10000	.08520	-.015	-14.8	.00344	.000	1
S2	1.2500	1.1721	-.078	-6.23	.03812	.000	1
S3	2.5000	2.4079	-.092	-3.68	.07754	.000	1
S4	5.0000	4.9943	-.006	-.113	.16006	.001	1
S5	10.000	10.190	.190	1.90	.32584	.002	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



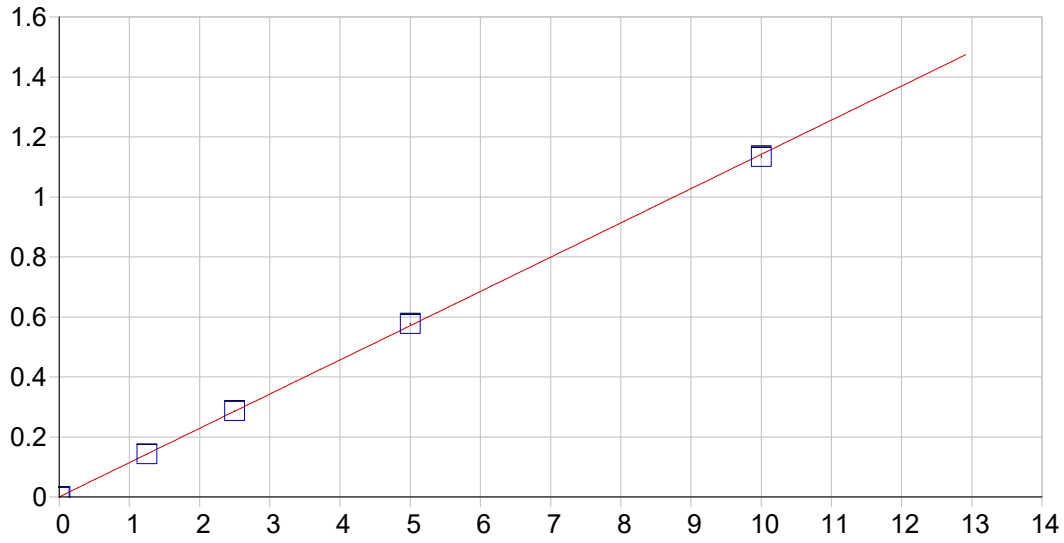
Si 251.611 {134}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.014497	Re-Slope:	1.000000
A1 (Gain):	1.546658	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.994714	Status:	OK.
Std Error of Est:	0.008621		
Predicted MDL:	0.000586		
Predicted MQL:	0.001952		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00014	-.000	.000	.01427	.001	1
S1	.10000	.24234	.142	142.	.39035	.002	1
S2	1.2500	1.2876	.038	3.01	2.0373	.005	1
S3	2.5000	2.5125	.012	.500	3.9630	.019	1
S4	5.0000	4.9912	-.009	-.176	7.8593	.007	1
S5	10.000	9.8176	-.182	-1.82	15.449	.119	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5



Sn 189.989 {478}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000161	Re-Slope:	1.000000
A1 (Gain):	0.114138	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	0.001652		
Predicted MQL:	0.005506		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00016	.000	1
S1	.00700	.00680	-.000	-2.82	.00094	.000	1
S2	1.2500	1.2488	-.001	-.093	.14270	.001	1
S3	2.5000	2.5113	.011	.452	.28680	.001	1
S4	5.0000	5.0528	.053	1.06	.57688	.002	1
S5	10.000	9.9372	-.063	-.628	1.1344	.002	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
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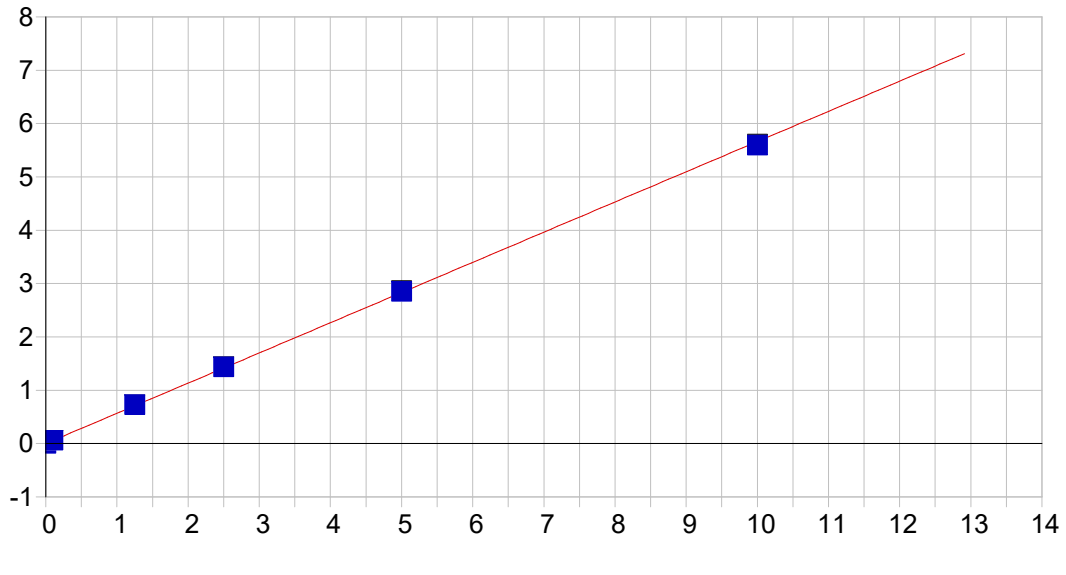
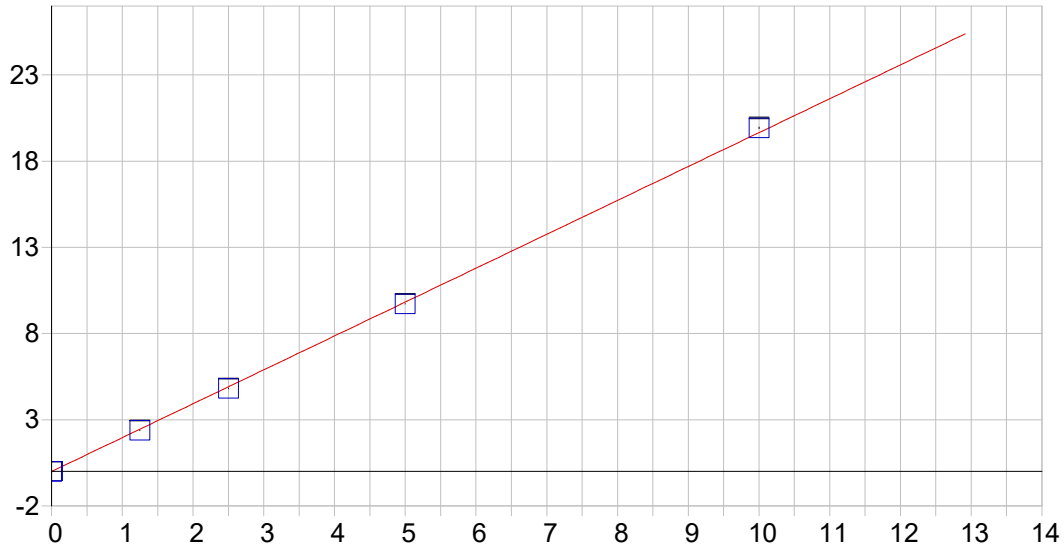


Ti 336.121 {100}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000840	Re-Slope:	1.000000
A1 (Gain):	0.566157	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000407		
Predicted MDL:	0.001629		
Predicted MQL:	0.005428		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00084	.001	1
S1	.10000	.10293	.003	2.93	.05909	.001	1
S2	1.2500	1.2850	.035	2.80	.72801	.006	1
S3	2.5000	2.5402	.040	1.61	1.4383	.004	1
S4	5.0000	5.0405	.041	.811	2.8532	.008	1
S5	10.000	9.8813	-.119	-1.19	5.5924	.018	1

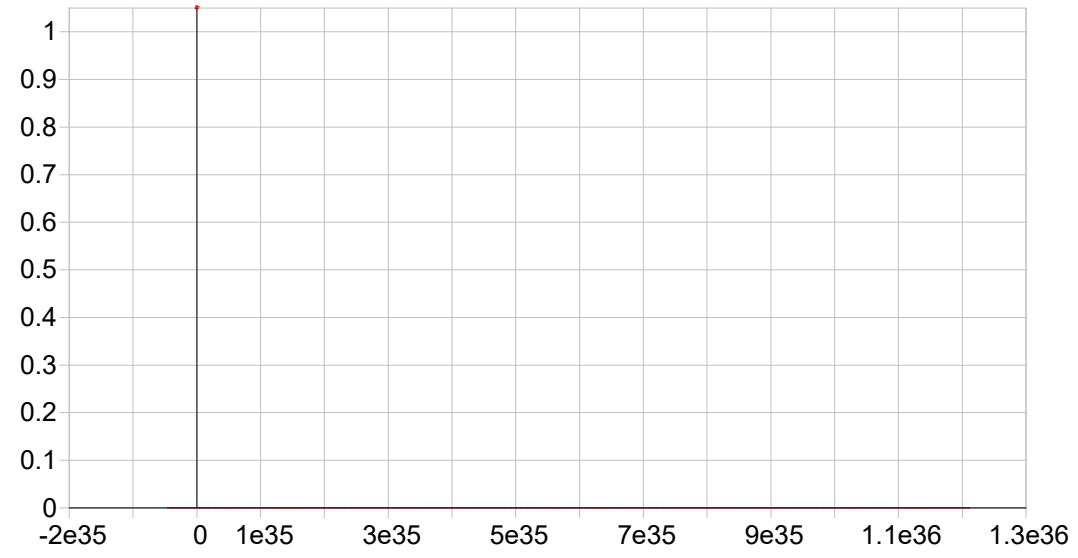


Li 670.784 { 50}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.004250	Re-Slope:	1.000000
A1 (Gain):	1.966069	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999869	Status:	OK.
Std Error of Est:	0.000653		
Predicted MDL:	0.001783		
Predicted MQL:	0.005942		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00425	.003	1
S5	10.000	10.142	.142	1.42	19.935	.050	1
S4	5.0000	4.9456	-.054	-1.09	9.7192	.012	1
S3	2.5000	2.4497	-.050	-2.01	4.8121	.021	1
S2	1.2500	1.2115	-.039	-3.08	2.3776	.019	1
S1	.01500	.01630	.001	8.65	.02779	.002	1

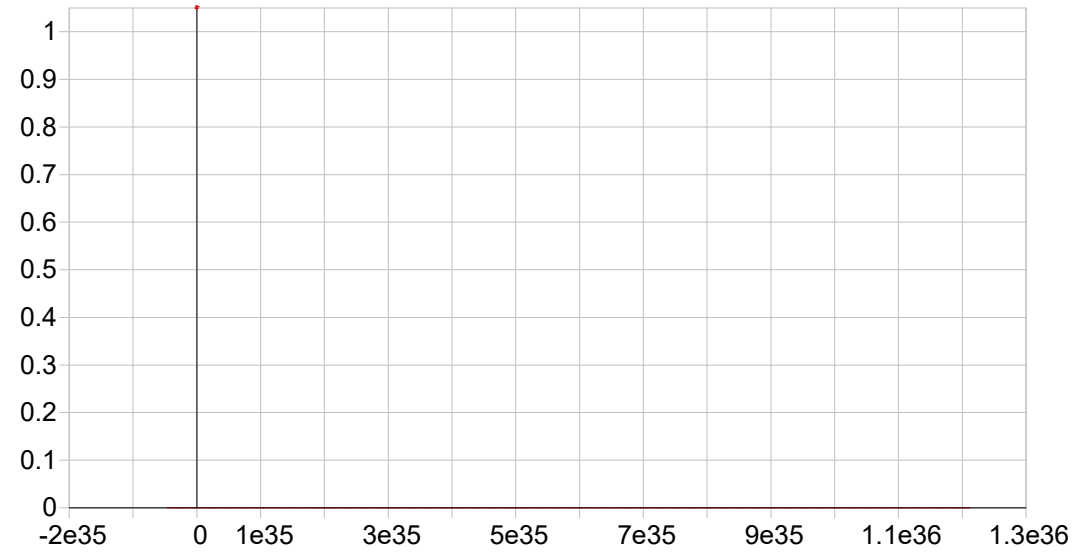


Y 224.306 {450}*

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
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



Y 360.073 { 94}*

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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On:10/30/2024 6:08:53 AM
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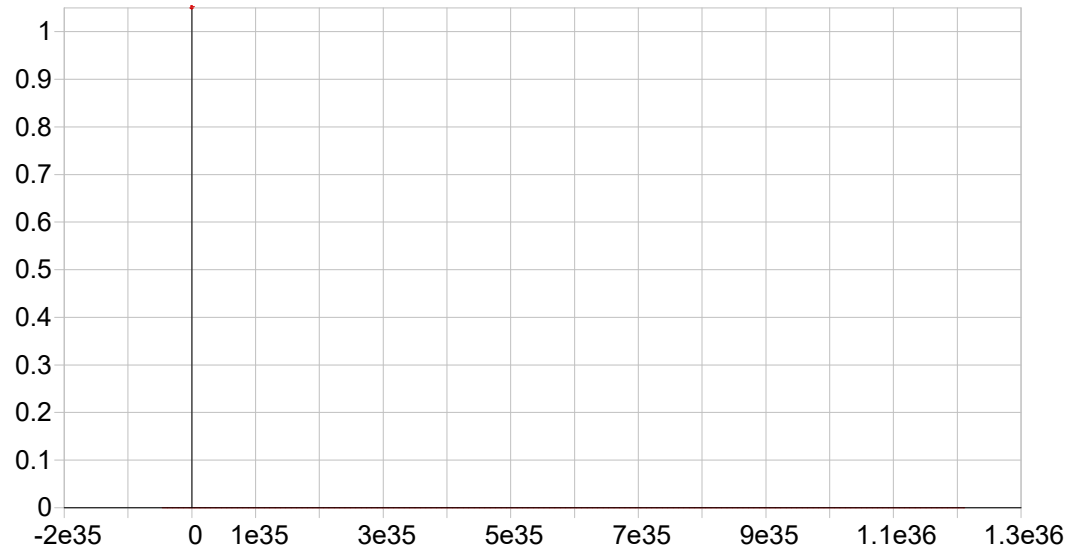
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

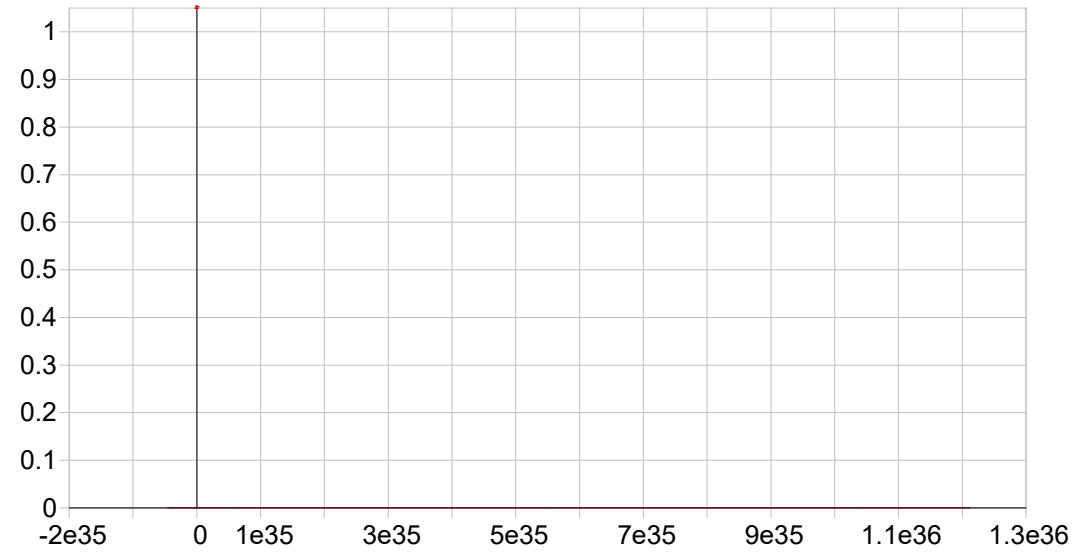
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 371.030 { 91}*

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	
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				

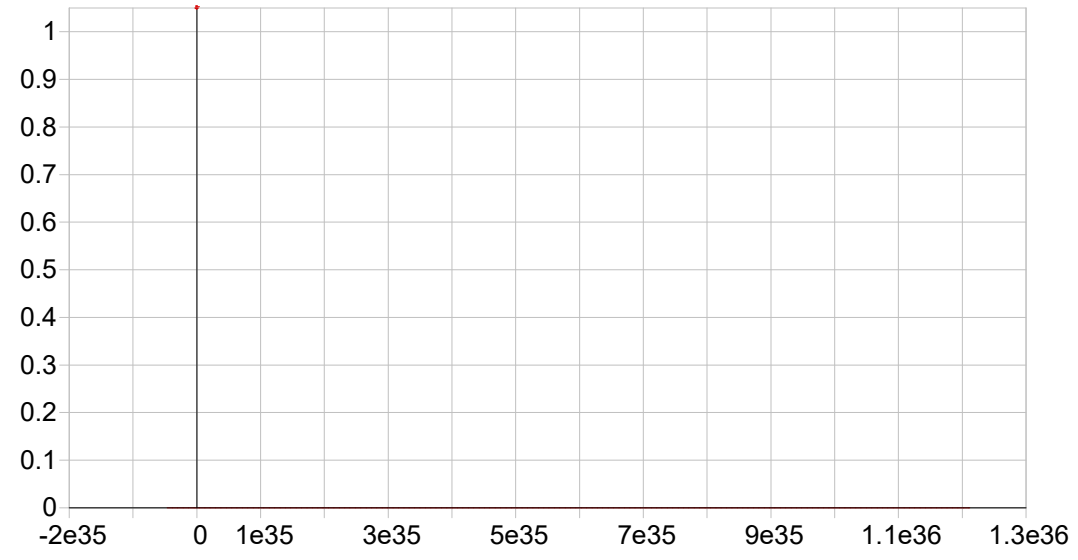
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 224.306 {150}*

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	
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



In 230.606 {446}*

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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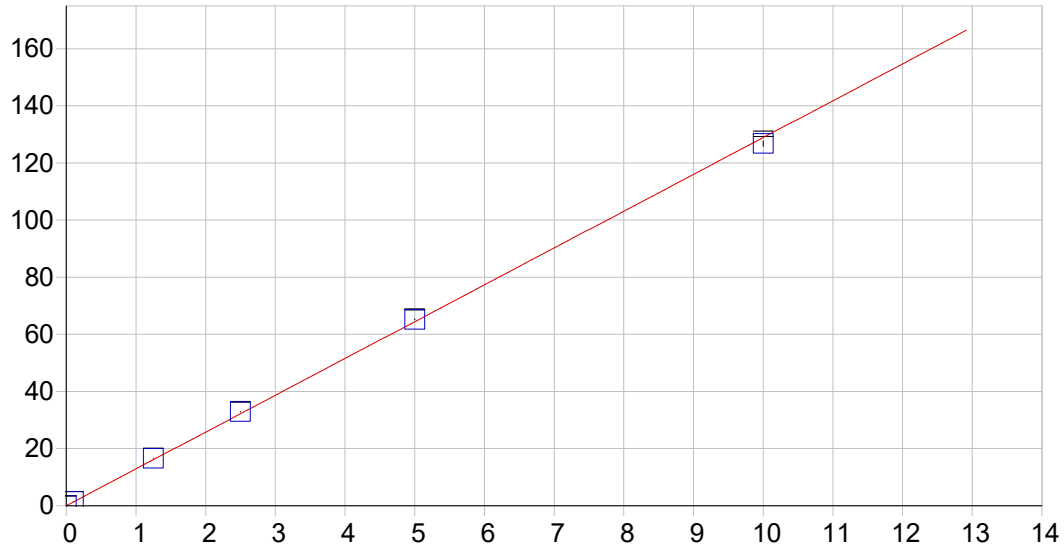
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Sr 407.771 { 83}

Date of Fit:	10/25/2024 19:48:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003238	Re-Slope:	1.000000
A1 (Gain):	12.889235	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999821	Status:	OK.
Std Error of Est:	0.012977		
Predicted MDL:	0.000115		
Predicted MQL:	0.000383		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00305	.001	1
S1	.10000	.10958	.010	9.58	1.4157	.008	1
S2	1.2500	1.2879	.038	3.03	16.603	.050	1
S3	2.5000	2.5554	.055	2.22	32.940	.109	1
S4	5.0000	5.0617	.062	1.23	65.245	.170	1
S5	10.000	9.8354	-.165	-1.65	126.77	.912	1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S0 Acquired: 10/25/2024 19:21:49 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 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	-.00005	-.00005	-.00086	.00030	.00051	.01077	.03105	-.00197
Stddev	.00018	.00009	.00029	.00019	.00047	.00091	.00387	.00098
%RSD	383.15	167.21	33.398	64.432	92.851	8.4427	12.470	49.414
#1	-.00023	-.00012	-.00085	.00031	.00006	.01180	.03419	-.00211
#2	-.00004	.00005	-.00058	.00010	.00100	.01044	.03223	-.00094
#3	.00013	-.00008	-.00115	.00048	.00046	.01007	.02672	-.00288

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00061	.00755	-.00008	-.00049	.00085	.00129	.00045	-.00006
Stddev	.00019	.00012	.00003	.00003	.00061	.00026	.00029	.00019
%RSD	30.333	1.6066	43.093	5.5136	71.678	20.019	65.696	329.18
#1	.00048	.00744	-.00006	-.00048	.00034	.00150	.00011	-.00017
#2	.00053	.00753	-.00005	-.00047	.00069	.00100	.00064	-.00017
#3	.00083	.00768	-.00012	-.00052	.00153	.00136	.00059	.00016

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00016	.02691	-.01079	-.00005	.00944	.05345	-.00101	.00339
Stddev	.00024	.00011	.00347	.00025	.00102	.00062	.00001	.00072
%RSD	146.82	.39709	32.204	510.90	10.804	1.1654	1.2213	21.112
#1	-.00034	.02698	-.01144	.00010	.01030	.05412	-.00100	.00259
#2	.00011	.02679	-.00703	-.00034	.00969	.05289	-.00102	.00363
#3	-.00025	.02697	-.01389	.00009	.00831	.05333	-.00102	.00396

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00039	.00072	.01427	.00016	.00084	-.00425	.00305
Stddev	.00027	.00014	.00055	.00006	.00092	.00348	.00103
%RSD	68.292	19.186	3.8436	36.046	110.15	81.815	33.645
#1	.00023	.00084	.01434	.00018	.00181	-.00810	.00246
#2	.00070	.00057	.01479	.00021	.00071	-.00133	.00424
#3	.00024	.00076	.01370	.00010	-.00001	-.00332	.00246

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S0 Acquired: 10/25/2024 19:21:49 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 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	939.45	21720.	2719.3	791.92	1818.5
Stddev	.89	42.	7.1	3.90	1.8
%RSD	.09494	.19430	.26056	.49192	.09893
#1	940.48	21719.	2721.4	792.02	1816.8
#2	938.96	21763.	2711.4	795.76	1818.3
#3	938.90	21679.	2725.1	787.97	1820.4

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S1 Acquired: 10/25/2024 19:26:28 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 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	.00030	.00178	.00055	.00268	.01280	.03184	1.3672	.03527
Stddev	.00016	.00010	.00038	.00058	.00034	.00073	.0069	.00110
%RSD	54.756	5.4865	68.816	21.667	2.6364	2.3073	.50669	3.1138
#1	.00033	.00186	.00019	.00314	.01255	.03197	1.3639	.03417
#2	.00012	.00180	.00051	.00287	.01266	.03249	1.3626	.03527
#3	.00045	.00167	.00094	.00203	.01318	.03104	1.3752	.03637

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01214	.44986	.00215	.03539	.00696	.00245	.00537	.03606
Stddev	.00014	.00448	.00003	.00028	.00085	.00007	.00040	.00027
%RSD	1.1522	.99570	1.4821	.79210	12.204	2.9284	7.4903	.75710
#1	.01208	.44606	.00212	.03541	.00689	.00253	.00578	.03576
#2	.01204	.44872	.00219	.03510	.00785	.00242	.00537	.03613
#3	.01230	.45480	.00215	.03566	.00615	.00240	.00497	.03629

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02846	.03112	.05368	.00416	.18729	.23877	-.00055	.00502
Stddev	.00011	.00011	.00322	.00072	.00142	.00389	.00008	.00018
%RSD	.37233	.36516	6.0032	17.272	.75557	1.6274	14.649	3.5109
#1	.02854	.03103	.05021	.00385	.18627	.23484	-.00063	.00507
#2	.02850	.03124	.05423	.00365	.18670	.23885	-.00056	.00516
#3	.02834	.03107	.05659	.00498	.18891	.24261	-.00047	.00482

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01024	.00344	.39035	.00094	.05909	.02779	1.4157
Stddev	.00017	.00025	.00172	.00019	.00118	.00171	.0080
%RSD	1.6879	7.1468	.44011	20.245	1.9927	6.1491	.56369
#1	.01026	.00328	.39045	.00109	.05836	.02606	1.4073
#2	.01041	.00372	.38859	.00100	.05846	.02948	1.4164
#3	.01006	.00331	.39202	.00072	.06045	.02783	1.4232

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S1 Acquired: 10/25/2024 19:26:28 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 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	936.91	21720.	2687.9	791.90	1798.8
Stddev	.80	60.	8.1	2.34	1.6
%RSD	.08508	.27436	.30309	.29612	.08848
#1	936.39	21719.	2682.5	791.30	1799.2
#2	937.83	21662.	2697.2	789.91	1800.2
#3	936.52	21781.	2683.8	794.49	1797.1

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S2 Acquired: 10/25/2024 19:31:03 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 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	.04657	.10642	1.0199	.10351	.26066	4.7581	15.709	.88076
Stddev	.00017	.00048	.0031	.00071	.00099	.0277	.024	.00518
%RSD	.35690	.44752	.30367	.68530	.38150	.58258	.15004	.58813
#1	.04655	.10658	1.0175	.10400	.26075	4.7379	15.699	.88156
#2	.04641	.10588	1.0188	.10270	.25963	4.7897	15.736	.88550
#3	.04674	.10679	1.0234	.10384	.26161	4.7467	15.692	.87523

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.4834	5.1652	.87600	.44161	.78626	.62143	1.2277	.41771
Stddev	.0026	.0297	.00297	.00028	.00346	.00327	.0011	.00201
%RSD	.17709	.57536	.33918	.06375	.44010	.52677	.08643	.48007
#1	1.4822	5.1315	.87413	.44163	.78347	.61881	1.2281	.41541
#2	1.4815	5.1879	.87445	.44132	.79013	.62510	1.2285	.41910
#3	1.4864	5.1762	.87943	.44188	.78518	.62039	1.2265	.41862

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.42185	.14091	.47390	.05292	10.946	1.4236	.07052	1.3203
Stddev	.00088	.00044	.00246	.00058	.023	.0069	.00024	.0018
%RSD	.20895	.31073	.51941	1.1039	.20956	.48350	.33454	.13373
#1	.42097	.14056	.47674	.05226	10.973	1.4170	.07073	1.3192
#2	.42185	.14079	.47267	.05335	10.931	1.4307	.07027	1.3223
#3	.42273	.14140	.47230	.05316	10.936	1.4231	.07057	1.3193

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.2494	.03812	2.0373	.14270	.72801	2.3776	16.603
Stddev	.0045	.00039	.0050	.00065	.00580	.0194	.050
%RSD	.35755	1.0283	.24287	.45709	.79687	.81552	.30274
#1	1.2470	.03785	2.0375	.14283	.72205	2.3614	16.567
#2	1.2466	.03857	2.0422	.14200	.73364	2.3991	16.660
#3	1.2545	.03793	2.0323	.14328	.72833	2.3724	16.581

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S2 Acquired: 10/25/2024 19:31:03 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 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	896.18	21660.	2725.5	756.51	1658.4
Stddev	1.06	34.	4.9	2.22	.9
%RSD	.11849	.15467	.17893	.29409	.05617
#1	895.50	21635.	2726.2	753.96	1657.9
#2	897.40	21698.	2720.2	757.52	1659.5
#3	895.63	21647.	2729.9	758.06	1657.9

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S3 Acquired: 10/25/2024 19:35:18 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 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	.09560	.20875	2.0373	.20927	.52863	9.4283	31.264	1.7450
Stddev	.00016	.00118	.0030	.00018	.00197	.0240	.116	.0156
%RSD	.17166	.56492	.14785	.08551	.37252	.25434	.36958	.89584
#1	.09541	.20746	2.0343	.20910	.53070	9.4302	31.150	1.7540
#2	.09570	.20978	2.0404	.20946	.52677	9.4513	31.381	1.7540
#3	.09569	.20902	2.0371	.20926	.52842	9.4034	31.263	1.7269

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.9539	10.238	1.7056	.88425	1.5512	1.2216	2.3999	.83868
Stddev	.0046	.045	.0038	.00051	.0044	.0052	.0118	.00406
%RSD	.15506	.44002	.22431	.05748	.28504	.42341	.49169	.48441
#1	2.9486	10.254	1.7078	.88368	1.5490	1.2255	2.3868	.83873
#2	2.9566	10.273	1.7012	.88440	1.5563	1.2237	2.4097	.84272
#3	2.9565	10.187	1.7079	.88466	1.5483	1.2158	2.4033	.83459

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.84071	.25556	.95713	.10694	21.968	2.8335	.14577	2.5981
Stddev	.00112	.00154	.00405	.00102	.115	.0104	.00039	.0082
%RSD	.13290	.60347	.42266	.95273	.52477	.36639	.26594	.31540
#1	.83958	.25734	.95989	.10591	21.848	2.8240	.14598	2.6018
#2	.84182	.25475	.95901	.10795	21.977	2.8446	.14601	2.6038
#3	.84071	.25460	.95248	.10696	22.078	2.8318	.14532	2.5887

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.5120	.07754	3.9630	.28680	1.4383	4.8121	32.940
Stddev	.0025	.00020	.0193	.00076	.0042	.0212	.109
%RSD	.09960	.25758	.48617	.26436	.29110	.44031	.33021
#1	2.5109	.07765	3.9774	.28723	1.4403	4.8208	32.851
#2	2.5102	.07766	3.9705	.28724	1.4411	4.8276	33.061
#3	2.5149	.07731	3.9411	.28592	1.4335	4.7880	32.908

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S3 Acquired: 10/25/2024 19:35:18 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 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	854.31	21236.	2702.3	708.62	1569.9
Stddev	.67	73.	8.7	2.86	2.1
%RSD	.07896	.34357	.32336	.40325	.13062
#1	853.91	21158.	2696.8	711.22	1571.3
#2	855.09	21304.	2697.6	709.09	1567.6
#3	853.93	21245.	2712.3	705.56	1570.9

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S4 Acquired: 10/25/2024 19:39:32 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 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	.19360	.40918	4.0532	.43176	1.1074	18.982	62.835	3.4189
Stddev	.00088	.00022	.0088	.00049	.0048	.043	.195	.0120
%RSD	.45634	.05329	.21700	.11285	.43379	.22883	.31083	.34942
#1	.19377	.40937	4.0518	.43121	1.1039	18.976	62.831	3.4327
#2	.19265	.40895	4.0452	.43193	1.1055	19.028	63.032	3.4113
#3	.19440	.40923	4.0627	.43215	1.1129	18.942	62.641	3.4128

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.8384	20.229	3.3594	1.7656	3.1068	2.3768	4.7727	1.7031
Stddev	.0172	.044	.0029	.0059	.0081	.0014	.0087	.0042
%RSD	.29484	.21706	.08728	.33355	.26232	.05798	.18225	.24606
#1	5.8437	20.255	3.3565	1.7669	3.1083	2.3761	4.7705	1.7028
#2	5.8192	20.255	3.3593	1.7592	3.1140	2.3784	4.7824	1.7075
#3	5.8524	20.179	3.3624	1.7708	3.0980	2.3760	4.7654	1.6991

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.6706	.47936	1.9107	.21124	45.659	5.6961	.29961	5.1643
Stddev	.0070	.00103	.0020	.00090	.339	.0076	.00049	.0181
%RSD	.41662	.21406	.10319	.42712	.74162	.13257	.16338	.34979
#1	1.6737	.47887	1.9116	.21225	45.271	5.6996	.29931	5.1485
#2	1.6626	.48054	1.9119	.21098	45.806	5.7013	.29934	5.1840
#3	1.6754	.47867	1.9084	.21050	45.899	5.6874	.30017	5.1604

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.1957	.16006	7.8593	.57688	2.8532	9.7192	65.245
Stddev	.0130	.00079	.0066	.00218	.0078	.0124	.170
%RSD	.24972	.49622	.08421	.37708	.27492	.12750	.26013
#1	5.1852	.16002	7.8658	.57726	2.8499	9.7210	65.213
#2	5.1916	.15929	7.8594	.57454	2.8621	9.7306	65.094
#3	5.2102	.16087	7.8526	.57884	2.8475	9.7060	65.429

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S4 Acquired: 10/25/2024 19:39:32 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 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	778.95	20429.	2604.0	624.65	1461.1
Stddev	1.88	24.	7.2	4.90	3.4
%RSD	.24074	.11521	.27696	.78394	.23543
#1	780.07	20446.	2604.0	630.19	1461.1
#2	780.00	20402.	2596.8	620.93	1464.6
#3	776.79	20438.	2611.2	622.81	1457.8

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S5 Acquired: 10/25/2024 19:43:55 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 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	.39544	.78310	8.0279	.94379	2.4770	38.212	122.75	6.6718
Stddev	.00029	.00094	.0253	.00123	.0150	.071	.41	.0394
%RSD	.07297	.11971	.31552	.12987	.60414	.18712	.33580	.59000
#1	.39576	.78207	8.0018	.94443	2.4647	38.205	122.51	6.6731
#2	.39538	.78331	8.0294	.94238	2.4725	38.144	122.52	6.6318
#3	.39519	.78391	8.0524	.94456	2.4936	38.286	123.23	6.7105

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.356	39.729	6.5207	3.4755	6.1360	4.5784	9.1996	3.4002
Stddev	.033	.146	.0064	.0111	.0175	.0095	.0348	.0125
%RSD	.28834	.36814	.09836	.31839	.28458	.20804	.37849	.36764
#1	11.323	39.725	6.5222	3.4646	6.1256	4.5763	9.1989	3.3964
#2	11.359	39.586	6.5261	3.4753	6.1263	4.5702	9.1651	3.3901
#3	11.388	39.878	6.5136	3.4867	6.1562	4.5889	9.2348	3.4142

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.2622	.94716	3.8356	.41204	100.06	11.461	.60922	9.9607
Stddev	.0066	.00251	.0076	.00055	.31	.019	.00173	.0698
%RSD	.20164	.26474	.19802	.13250	.31194	.16417	.28449	.70109
#1	3.2560	.94915	3.8392	.41147	99.808	11.443	.60734	9.9091
#2	3.2615	.94434	3.8269	.41210	99.964	11.460	.61076	9.9329
#3	3.2691	.94798	3.8408	.41256	100.41	11.480	.60956	10.040

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.273	.32584	15.449	1.1344	5.5924	19.935	126.77
Stddev	.054	.00249	.119	.0024	.0176	.050	.91
%RSD	.48044	.76527	.76740	.21264	.31456	.25059	.71929
#1	11.227	.32310	15.373	1.1320	5.5950	19.943	126.05
#2	11.259	.32642	15.389	1.1342	5.5736	19.882	126.48
#3	11.333	.32799	15.586	1.1368	5.6085	19.981	127.80

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S5 Acquired: 10/25/2024 19:43:55 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 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	667.39	19653.	2556.4	496.60	1357.0
Stddev	3.09	19.	16.1	1.49	4.4
%RSD	.46329	.09459	.63095	.30008	.32158
#1	669.66	19646.	2567.8	497.58	1361.0
#2	668.64	19640.	2563.4	497.33	1357.7
#3	663.87	19674.	2537.9	494.88	1352.3

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: S6 Acquired: 10/25/2024 19:48:20 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S06 Custom ID2: Custom ID3:
Comment:

Elem	Al3961	Ca3736	Fe2598	Mg2790	Na8183
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	98.457	62.345	11.769	5.4109	10.284
Stddev	.280	.123	.028	.0039	.024
%RSD	.28397	.19791	.23527	.07250	.22875
#1	98.215	62.478	11.797	5.4135	10.299
#2	98.763	62.323	11.767	5.4129	10.297
#3	98.394	62.234	11.742	5.4064	10.257

Int. Std.	Y_3710
Units	Cts/S
Avg	2519.1
Stddev	6.0
%RSD	.23917
#1	2514.7
#2	2516.7
#3	2526.0

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICV001 Acquired: 10/25/2024 19:53:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.027522	1.012621	.9770539	1.060301	1.082634	2.266892
Stddev	.009530	.003661	.0010421	.000454	.003717	.015689
%RSD	.9275164	.3615198	.1066538	.0428492	.3432883	.6921097
#1	1.038480	1.013927	.9758542	1.060373	1.078974	2.267780
#2	1.022924	1.008486	.9777335	1.060714	1.086405	2.282119
#3	1.021163	1.015449	.9775740	1.059814	1.082523	2.250778

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5071198	.5295631	.4798542	10.09039	.5532329	.4928492
Stddev	.0016305	.0006842	.0004852	.02977	.0019729	.0012968
%RSD	.3215275	.1292075	.1011233	.2950235	.3566098	.2631238
#1	.5061404	.5289477	.4794387	10.09558	.5509797	.4916742
#2	.5090021	.5302999	.4797363	10.11722	.5546506	.4926329
#3	.5062170	.5294417	.4803875	10.05836	.5540684	.4942406

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4897321	10.92565	.5283765	5.467466	.5043284	.2410471
Stddev	.0031313	.01936	.0030937	.102643	.0010259	.0005179
%RSD	.6393948	.1771725	.5855083	1.877335	.2034160	.2148402
#1	.4862026	10.93067	.5251953	5.573243	.5044321	.2412031
#2	.4921764	10.90428	.5313745	5.460881	.5032546	.2414691
#3	.4908174	10.94200	.5285598	5.368275	.5052985	.2404692

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.988818	.5217548	1.042568	9.660322	F .0046855	F .0217000
Stddev	.118504	.0137847	.002383	.096421	.0033416	.0016765
%RSD	1.186367	2.641993	.2285802	.9981086	71.31963	7.725795
#1	9.950156	.5118138	1.044394	9.555568	.0085387	.0215749
#2	10.12182	.5159595	1.043439	9.745362	.0029357	.0234355
#3	9.89447	.5374910	1.039872	9.680035	.0025820	.0200895

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICV001 Acquired: 10/25/2024 19:53:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV001 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.000371	F -.009016	F .0006600	F -.000576	F .0001142	F .0075500
Stddev	.000170	.003075	.0005106	.001519	.0017690	.0010415
%RSD	45.87240	34.10710	77.36233	263.7712	1549.231	13.79418
#1	-.000234	-.009330	.0007011	.001056	-.001332	.0064418
#2	-.000316	-.005796	.0011488	-.001949	-.000412	.0076996
#3	-.000561	-.011923	.0001301	-.000834	.002087	.0085085

Elem	Sr4077
Units	ppm
Avg	F .0010464
Stddev	.0000428
%RSD	4.086361
#1	.0010869
#2	.0010504
#3	.0010017

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	934.2899	21938.78	2694.107	797.3218	1787.529
Stddev	1.7454	16.26	2.987	1.8949	2.838
%RSD	.1868114	.0741026	.1108652	.2376641	.1587455
#1	936.2428	21925.12	2694.530	795.1889	1788.020
#2	932.8823	21956.76	2690.932	797.9657	1790.089
#3	933.7446	21934.46	2696.860	798.8110	1784.478

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICB001 Acquired: 10/25/2024 19:57:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025572	-.003382	.0002216	-.002008	-.001334	-.096297	-.000645
Stddev	.0003476	.003478	.0030604	.004100	.000941	.006732	.001535
%RSD	13.59180	102.8383	1380.789	204.1906	70.50620	6.991212	237.9013
#1	.0023759	-.002344	-.002378	-.000924	-.000291	-.099844	.000093
#2	.0023377	-.000541	-.000552	.001441	-.002117	-.100514	-.002409
#3	.0029579	-.007261	.003595	-.006542	-.001595	-.088533	.000381

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000079	-.000059	-.057125	-.000813	.0003131	.0022612	-.060906
Stddev	.000006	.000092	.021881	.000307	.0003495	.0011862	.018767
%RSD	7.331812	155.6890	38.30372	37.73542	111.6340	52.45939	30.81324
#1	-.000073	-.000002	-.035414	-.000736	.0006500	.0033388	-.071392
#2	-.000080	-.000165	-.079173	-.001150	-.000048	.0024548	-.039239
#3	-.000085	-.000010	-.056788	-.000551	.000337	.0009901	-.072086

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001713	-.029335	-.000514	-.000262	.2537041	-.003399	-.002019
Stddev	.001950	.067810	.000180	.000257	.1813354	.005014	.000918
%RSD	113.8799	231.1552	35.02141	98.26824	71.47513	147.5314	45.49576
#1	-.003248	-.006283	-.000671	-.000540	.1574191	.001868	-.001575
#2	.000482	.023943	-.000555	-.000033	.1408205	-.003950	-.001407
#3	-.002371	-.105667	-.000317	-.000213	.4628727	-.008115	-.003075

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4001705	.0003245	.0075401	-.000504	-.014912	-.001586	.0002348
Stddev	.0938398	.0023851	.0012208	.000222	.001855	.000124	.0014843
%RSD	23.44996	734.9367	16.19079	44.01099	12.43821	7.818015	632.0490
#1	.4907126	-.002001	.0061339	-.000633	-.012781	-.001595	.0019487
#2	.4064505	.000210	.0083293	-.000631	-.015790	-.001457	-.000625
#3	.3033484	.002765	.0081570	-.000248	-.016165	-.001705	-.000619

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICB001 Acquired: 10/25/2024 19:57:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB001 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000136	.0087124	-.000235
Stddev	.001231	.0012082	.000048
%RSD	908.2207	13.86791	20.56736
#1	-.001516	.0096360	-.000238
#2	.000262	.0073450	-.000282
#3	.000848	.0091562	-.000186

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	954.4878	22013.87	2691.713	804.0112	1852.219
Stddev	1.0781	24.37	17.326	2.5103	2.713
%RSD	.1129484	.1107137	.6436792	.3122204	.1464852
#1	953.2491	21992.31	2672.171	805.0200	1849.093
#2	955.0003	22040.31	2697.771	805.8601	1853.958
#3	955.2141	22008.98	2705.196	801.1534	1853.606

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICSA001 Acquired: 10/25/2024 20:02:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018695	-.019157	.0038249	-.000766	-.000992	235.1652
Stddev	.0014451	.003722	.0013401	.012494	.002817	.6068
%RSD	77.29820	19.43046	35.03719	1631.605	283.8865	.2580395
#1	.0019738	-.022876	.0053704	-.007109	.002055	234.7077
#2	.0032596	-.019163	.0031190	-.008815	-.001530	235.8536
#3	.0003751	-.015432	.0029853	.013627	-.003503	234.9344

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049219	.0011989	.0010532	243.0171	.0503997	.0013449
Stddev	.0011234	.0001269	.0002368	.7865	.0006124	.0006672
%RSD	22.82413	10.58289	22.48721	.3236326	1.215085	49.60482
#1	.0037631	.0013349	.0013067	242.1681	.0502225	.0014814
#2	.0049963	.0011781	.0010154	243.7208	.0510812	.0006201
#3	.0060062	.0010837	.0008375	243.1623	.0498955	.0019334

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016232	102.3657	.0083231	238.8901	.0032460	.0035565
Stddev	.0022753	.0184	.0015248	.8897	.0004802	.0003856
%RSD	140.1728	.0180012	18.31981	.3724502	14.79322	10.84086
#1	.0024977	102.3454	.0083258	237.8638	.0027195	.0035009
#2	.0033314	102.3705	.0067970	239.3626	.0036598	.0032018
#3	-.000960	102.3813	.0098466	239.4439	.0033587	.0039668

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4393055	-.000638	.0091891	.2045891	.0060049	F .1091823
Stddev	.2484594	.007318	.0006826	.0700721	.0047893	.0015219
%RSD	56.55731	1146.475	7.428688	34.25018	79.75532	1.393868
#1	.7209318	.002660	.0085712	.2705883	.0113990	.1108163
#2	.3458956	.004450	.0090741	.2121256	.0022517	.1078053
#3	.2510892	-.009025	.0099219	.1310533	.0043641	.1089254

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICSA001 Acquired: 10/25/2024 20:02:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA001 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000535	-.007387	-.001788	-.003295	-.000912	.0075559
Stddev	.001023	.001533	.000512	.000809	.000978	.0015899
%RSD	191.1936	20.75107	28.63696	24.54725	107.3275	21.04258
#1	-.000319	-.008787	-.001614	-.002513	-.001953	.0088063
#2	.000363	-.007625	-.002365	-.003242	-.000011	.0057665
#3	-.001649	-.005749	-.001386	-.004128	-.000771	.0080947

Elem	Sr4077
Units	ppm
Avg	F .1009781
Stddev	.0003030
%RSD	.3000524
#1	.1013223
#2	.1008599
#3	.1007519

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	883.9425	20714.87	2626.551	745.0840	1545.288
Stddev	.4403	54.72	9.861	2.3236	1.936
%RSD	.0498161	.2641565	.3754440	.3118557	.1252668
#1	884.0874	20723.78	2635.339	742.6324	1543.279
#2	883.4479	20764.59	2615.886	747.2538	1545.445
#3	884.2921	20656.24	2628.427	745.3658	1547.141

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICSAB001 Acquired: 10/25/2024 20:17:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0907096	.0840554	.0503687	.0451550	.5433609	244.6560
Stddev	.0025517	.0030192	.0049220	.0052542	.0089797	1.2965
%RSD	2.813010	3.591865	9.771961	11.63599	1.652612	.5299229
#1	.0881797	.0871791	.0447178	.0506151	.5392672	243.4945
#2	.0932825	.0838341	.0526684	.0447155	.5371575	246.0547
#3	.0906666	.0811529	.0537199	.0401343	.5536579	244.4189

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5263870	.5363746	.9885212	254.3390	.6041611	.5122291
Stddev	.0020081	.0056754	.0003647	1.6237	.0023830	.0015048
%RSD	.3814871	1.058112	.0368920	.6383912	.3944345	.2937723
#1	.5250481	.5299153	.9884299	252.7910	.6058488	.5106968
#2	.5286959	.5405627	.9882108	256.0290	.6051994	.5122859
#3	.5254169	.5386458	.9889228	254.1970	.6014351	.5137048

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4955806	107.0670	.5384413	248.8652	1.031150	.2065300
Stddev	.0052762	.6977	.0022465	1.9783	.001735	.0014355
%RSD	1.064640	.6516435	.4172197	.7949399	.1682488	.6950601
#1	.4911471	106.6799	.5360913	246.9811	1.029173	.2056751
#2	.5014162	107.8724	.5405676	250.9259	1.032420	.2081873
#3	.4941785	106.6487	.5386649	248.6887	1.031857	.2057276

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2563065	.5292307	.9149360	.1074534	F .0147728	F .1132782
Stddev	.1344694	.0065368	.0042249	.0613625	.0050780	.0011127
%RSD	52.46428	1.235143	.4617721	57.10617	34.37375	.9822893
#1	.1345100	.5300703	.9104240	.1448689	.0132752	.1140855
#2	.4006087	.5353071	.9187987	.0366360	.0106121	.1120089
#3	.2338008	.5223147	.9155852	.1408554	.0204312	.1137403

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: ICSAB001 Acquired: 10/25/2024 20:17:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB001 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000628	-.003491	-.000222	-.003043	-.002786	.0074468
Stddev	.000173	.001851	.000765	.001506	.002816	.0005104
%RSD	27.55755	53.02221	344.2672	49.50152	101.0860	6.853864
#1	-.000542	-.005087	-.000964	-.003148	.000035	.0074982
#2	-.000827	-.001462	.000563	-.001487	-.002796	.0069126
#3	-.000515	-.003924	-.000266	-.004494	-.005597	.0079295

Elem	Sr4077
Units	ppm
Avg	F .1049188
Stddev	.0005900
%RSD	.5623463
#1	.1044261
#2	.1055726
#3	.1047575

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	870.5406	20605.29	2611.927	739.6634	1533.881
Stddev	1.9141	54.69	19.541	2.5592	1.727
%RSD	.2198699	.2654369	.7481451	.3459928	.1126031
#1	869.3399	20573.84	2634.158	742.2966	1532.055
#2	872.7480	20573.58	2597.467	737.1853	1534.097
#3	869.5340	20668.44	2604.155	739.5084	1535.489

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCV001 Acquired: 10/25/2024 20:43:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.723188	4.687119	23.28747	4.593380	4.569419	392.3116
Stddev	.013651	.027745	.17040	.042147	.037939	.7534
%RSD	.2890292	.5919397	.7317025	.9175554	.8302723	.1920466
#1	4.713772	4.676575	23.25671	4.570540	4.563103	391.5979
#2	4.716947	4.666192	23.13455	4.567582	4.535035	392.2375
#3	4.738844	4.718590	23.47115	4.642017	4.610119	393.0993

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.617946	.4914338	2.280130	389.0695	14.67498	2.375195
Stddev	.015152	.0033089	.016149	2.1697	.02637	.017504
%RSD	.1575416	.6733226	.7082444	.5576720	.1796796	.7369517
#1	9.629396	.4890232	2.275748	387.7804	14.67390	2.373029
#2	9.623678	.4900717	2.266625	387.8536	14.70187	2.358874
#3	9.600764	.4952063	2.298018	391.5746	14.64917	2.393681

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.39313	399.3526	14.23654	390.1513	2.362968	1.200398
Stddev	.04267	1.6041	.01917	1.8674	.018100	.001589
%RSD	.2964780	.4016861	.1346838	.4786377	.7659986	.1323813
#1	14.34467	398.4573	14.22430	388.5813	2.357386	1.200348
#2	14.42509	398.3960	14.22668	389.6562	2.348316	1.202012
#3	14.40963	401.2046	14.25864	392.2164	2.383201	1.198835

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	394.3691	2.378819	13.89008	146.3011	4.791506	5.028045
Stddev	1.6165	.004758	.07167	.4234	.031240	.032603
%RSD	.4099055	.1999990	.5160085	.2894327	.6519791	.6484224
#1	393.0047	2.379690	13.97212	146.1511	4.773766	5.003734
#2	393.9481	2.383081	13.85846	145.9731	4.773174	5.015307
#3	396.1545	2.373686	13.83965	146.7791	4.827576	5.065094

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCV001 Acquired: 10/25/2024 20:43:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV001 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 4.493511	4.760410	5.013152	4.685665	4.733165	4.997933
Stddev	.034442	.036156	.023977	.029688	.010005	.023308
%RSD	.7664794	.7595167	.4782883	.6336004	.2113861	.4663597
#1	4.484273	4.733251	4.996048	4.684703	4.725337	4.977789
#2	4.464630	4.746529	5.002849	4.656470	4.729719	4.992548
#3	4.531629	4.801449	5.040559	4.715823	4.744437	5.023463

Elem	Sr4077
Units	ppm
Avg	4.922549
Stddev	.002504
%RSD	.0508637
#1	4.922489
#2	4.920076
#3	4.925082

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	752.5908	19833.72	2536.918	612.4527	1390.845
Stddev	4.8469	32.23	12.621	3.1876	9.070
%RSD	.6440334	.1624836	.4974902	.5204720	.6521024
#1	753.7089	19811.30	2543.931	608.7737	1390.828
#2	756.7809	19819.21	2544.475	614.3920	1399.924
#3	747.2825	19870.65	2522.348	614.1923	1381.785

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCB001 Acquired: 10/25/2024 20:47:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001285	-.004138	.0017235	-.002671	-.000903	-.107984	-.000329
Stddev	.001910	.002027	.0021551	.004888	.002013	.003805	.000671
%RSD	148.5646	48.99495	125.0409	183.0439	222.9847	3.523305	203.6990
#1	.000235	-.005156	.0013291	-.000059	-.001937	-.108259	-.000057
#2	-.000662	-.005453	-.000207	.000357	.001417	-.111643	-.001094
#3	-.003429	-.001803	.004049	-.008310	-.002188	-.104049	.000162

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000132	-.000067	-.036437	-.000352	-.000035	.0044122	-.051468
Stddev	.000146	.000112	.030456	.000125	.000134	.0057811	.022471
%RSD	111.2065	167.0989	83.58702	35.34906	379.7829	131.0243	43.65961
#1	-.000175	-.000190	-.071265	-.000478	-.000038	.0055542	-.029911
#2	-.000251	.000030	-.014798	-.000349	.000100	.0095370	-.074753
#3	.000031	-.000042	-.023247	-.000229	-.000168	-.001855	-.049741

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001841	-.019419	-.000632	.0011353	-.050007	-.007523	-.002441
Stddev	.000563	.049646	.000360	.0003954	.189618	.003738	.000404
%RSD	30.59355	255.6583	56.95481	34.82877	379.1864	49.68041	16.54087
#1	-.001216	-.059520	-.000271	.0013556	-.219132	-.004652	-.002885
#2	-.001999	-.034845	-.000636	.0013714	.154982	-.006168	-.002097
#3	-.002309	.036109	-.000991	.0006788	-.085869	-.011750	-.002339

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3117793	-.002548	.0082576	-.000128	-.014952	-.001032	-.000763
Stddev	.0739640	.000751	.0000922	.000324	.003530	.000310	.000785
%RSD	23.72319	29.46678	1.116413	252.7261	23.61096	30.07387	102.8738
#1	.3638326	-.003296	.0083081	-.000345	-.013925	-.000738	.000133
#2	.2271138	-.002555	.0083136	-.000284	-.018882	-.001357	-.001329
#3	.3443915	-.001794	.0081512	.000244	-.012050	-.001003	-.001093

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCB001 Acquired: 10/25/2024 20:47:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB001 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001891	.0072839	-.000180
Stddev	.000999	.0019063	.000034
%RSD	52.79735	26.17132	18.64386
#1	-.001793	.0094286	-.000218
#2	-.002936	.0057826	-.000165
#3	-.000946	.0066403	-.000156

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	932.0830	21660.86	2624.084	794.1828	1819.229
Stddev	2.5687	20.87	12.595	2.5323	1.725
%RSD	.2755838	.0963673	.4799942	.3188556	.0948340
#1	929.9370	21638.84	2610.761	791.2587	1818.963
#2	934.9291	21663.38	2625.696	795.6448	1821.072
#3	931.3830	21680.36	2635.796	795.6448	1817.653

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-01DLX2 Acquired: 10/25/2024 20:52:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2604245	-.038046	.5303368	.0012789	.0013529	228.1817
Stddev	.0063079	.003162	.0050585	.0030008	.0019330	.0916
%RSD	2.422180	8.311711	.9538306	234.6402	142.8843	.0401283
#1	.2543569	-.039368	.5355794	.0033267	.0019072	228.2871
#2	.2599687	-.040333	.5299459	.0026756	.0029482	228.1369
#3	.2669480	-.034437	.5254851	-.002166	-.000797	228.1212

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.033204	.0119751	.0171752	109.7186	.4676901	.1688979
Stddev	.004642	.0001088	.0001785	.0489	.0010358	.0002628
%RSD	.0577865	.9083294	1.039295	.0445717	.2214763	.1555773
#1	8.030313	.0119347	.0169827	109.7573	.4675645	.1691046
#2	8.038559	.0118923	.0173353	109.6636	.4687830	.1689869
#3	8.030742	.0120983	.0172074	109.7349	.4667229	.1686022

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.973814	236.6603	5.169045	67.18852	.7687710	-.013274
Stddev	.007875	.1212	.008110	.07258	.0020885	.000402
%RSD	.3989709	.0512275	.1568925	.1080201	.2716670	3.031596
#1	1.971649	236.7010	5.169514	67.26633	.7708703	-.012850
#2	1.967248	236.7560	5.160710	67.12267	.7687494	-.013651
#3	1.982545	236.5240	5.176909	67.17657	.7666934	-.013322

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.075584	.4852593	1.241744	15.44504	F 13.11621	.2958382
Stddev	.098883	.0015987	.008516	.08103	.03221	.0004665
%RSD	4.764100	.3294430	.6858429	.5246230	.2455727	.1576938
#1	1.989572	.4862214	1.251466	15.53284	13.14392	.2957035
#2	2.183622	.4861427	1.238162	15.37314	13.12385	.2963573
#3	2.053557	.4834139	1.235602	15.42914	13.08087	.2954539

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-01DLX2 Acquired: 10/25/2024 20:52:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF4 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000185	1.768606	3.798677	.0182739	5.798114	.1224779
Stddev	.000848	.009560	.012885	.0032104	.014534	.0019839
%RSD	458.2263	.5405447	.3392055	17.56821	.2506649	1.619798
#1	-.000545	1.779598	3.812566	.0196765	5.814842	.1243077
#2	.000784	1.763992	3.787112	.0146009	5.790920	.1227566
#3	-.000795	1.762228	3.796351	.0205443	5.788581	.1203694

Elem	Sr4077
Units	ppm
Avg	1.184101
Stddev	.001480
%RSD	.1249814
#1	1.184612
#2	1.185257
#3	1.182433

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1040.307	24666.99	3111.594	892.3505	1611.499
Stddev	1.311	23.04	13.647	4.6991	.721
%RSD	.1260116	.0934139	.4385869	.5265936	.0447218
#1	1039.235	24652.61	3098.718	886.9333	1610.794
#2	1041.769	24693.57	3125.900	895.3262	1611.469
#3	1039.918	24654.79	3110.164	894.7921	1612.235

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-02DLX2 Acquired: 10/25/2024 20:56:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4040338	-.035346	.9548916	.0033870	.0051545	183.4544	3.427962
Stddev	.0042146	.003312	.0035567	.0034074	.0021635	.7884	.005299
%RSD	1.043127	9.369451	.3724691	100.6016	41.97355	.4297634	.1545743
#1	.4013796	-.033720	.9511047	-.000547	.0056991	182.8593	3.423992
#2	.4018283	-.039156	.9554084	.005420	.0027707	184.3486	3.433979
#3	.4088935	-.033161	.9581615	.005288	.0069938	183.1552	3.425916

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0111911	.0270156	64.78984	.4149973	.1275141	3.949254	194.6982
Stddev	.0002001	.0001315	.44369	.0008531	.0008064	.017682	.9569
%RSD	1.788160	.4867341	.6848181	.2055658	.6324026	.4477209	.4914537
#1	.0112210	.0268736	64.55045	.4149300	.1284129	3.944276	193.7634
#2	.0113746	.0271332	65.30181	.4141799	.1272754	3.968891	195.6756
#3	.0109777	.0270398	64.51725	.4158820	.1268540	3.934595	194.6557

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.754257	47.53615	.5142145	-.007029	1.335742	.3649008	2.418539
Stddev	.010946	.40031	.0006629	.000223	.173095	.0036180	.006100
%RSD	.2302360	.8421262	.1289087	3.168216	12.95869	.9915094	.2522173
#1	4.741738	47.11640	.5139050	-.006885	1.248952	.3679915	2.425567
#2	4.762024	47.91369	.5137629	-.007286	1.223213	.3657899	2.414615
#3	4.759008	47.57835	.5149755	-.006917	1.535062	.3609212	2.415435

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.06919	8.167718	.2518728	.0004844	1.863815	5.463507	.0589494
Stddev	.04783	.013240	.0022693	.0008119	.006146	.049969	.0018542
%RSD	.3399813	.1621041	.9009524	167.5971	.3297484	.9146003	3.145377
#1	14.05128	8.182177	.2495650	-.000036	1.862716	5.420976	.0602112
#2	14.12339	8.156187	.2541014	.001420	1.858293	5.518541	.0598165
#3	14.03289	8.164788	.2519520	.000069	1.870436	5.451005	.0568206

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-02DLX2 Acquired: 10/25/2024 20:56:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.036516	.0934487	.5754216
Stddev	.018353	.0006054	.0016157
%RSD	.4546620	.6478398	.2807853
#1	4.019285	.0929348	.5743887
#2	4.055815	.0941161	.5772835
#3	4.034447	.0932953	.5745925

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1031.074	24206.92	3041.220	872.6220	1664.396
Stddev	.297	7.12	23.956	2.6302	1.945
%RSD	.0287664	.0294134	.7877193	.3014087	.1168418
#1	1031.176	24200.01	3060.726	869.5891	1664.024
#2	1030.741	24206.51	3014.480	874.2750	1662.664
#3	1031.307	24214.23	3048.453	874.0020	1666.500

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-03DLX2 Acquired: 10/25/2024 21:01:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3653609	-.032406	.8886946	.0037368	.0091070	185.1703	3.300192
Stddev	.0021205	.004378	.0032738	.0015759	.0025205	.6266	.010478
%RSD	.5803930	13.50981	.3683827	42.17191	27.67683	.3383676	.3175098
#1	.3674009	-.032187	.8914918	.0024149	.0118248	185.3053	3.306373
#2	.3631681	-.036890	.8850939	.0054807	.0068463	185.7183	3.306110
#3	.3655136	-.028142	.8894982	.0033147	.0086498	184.4872	3.288093

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0105972	.0254240	63.59706	.4109263	.1226785	3.624603	207.2121
Stddev	.0000616	.0003622	.15390	.0014074	.0001258	.025584	.7588
%RSD	.5814168	1.424747	.2419901	.3425031	.1025148	.7058340	.3661919
#1	.0106461	.0255024	63.55536	.4120179	.1226969	3.629411	207.3070
#2	.0105280	.0250290	63.76751	.4114233	.1225446	3.647442	207.9191
#3	.0106177	.0257406	63.46831	.4093378	.1227941	3.596957	206.4104

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.291171	47.52369	.5001281	-.006726	1.542160	.3582455	2.598574
Stddev	.024824	.16297	.0031777	.000214	.396068	.0062290	.010316
%RSD	.5784812	.3429220	.6353662	3.188503	25.68271	1.738761	.3969901
#1	4.278938	47.61967	.4967397	-.006496	1.683687	.3571218	2.607922
#2	4.319737	47.61588	.5006031	-.006760	1.848022	.3649598	2.600294
#3	4.274838	47.33553	.5030415	-.006921	1.094769	.3526547	2.587506

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.19685	8.028634	.2650200	.0006717	1.854712	5.881091	.1420599
Stddev	.05561	.020974	.0027430	.0005568	.002843	.016439	.0026843
%RSD	.3917302	.2612435	1.035035	82.89627	.1532907	.2795294	1.889524
#1	14.13805	8.017852	.2643146	.0010301	1.851430	5.882644	.1401137
#2	14.20389	8.015244	.2680469	.0000302	1.856291	5.896699	.1451221
#3	14.24860	8.052806	.2626986	.0009548	1.856416	5.863930	.1409439

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-03DLX2 Acquired: 10/25/2024 21:01:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.614371	.0990085	.5658940
Stddev	.018669	.0022520	.0020895
%RSD	.4045743	2.274502	.3692291
#1	4.613812	.0965630	.5669085
#2	4.633313	.1009967	.5672826
#3	4.595988	.0994657	.5634910

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1019.792	23929.92	3000.739	861.0218	1657.180
Stddev	1.252	20.41	16.842	5.6373	2.538
%RSD	.1227629	.0852765	.5612690	.6547274	.1531433
#1	1020.836	23926.88	2996.829	856.0780	1659.977
#2	1020.136	23911.21	2986.197	859.8266	1656.541
#3	1018.404	23951.68	3019.193	867.1610	1655.024

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-04DLX2 Acquired: 10/25/2024 21:05:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4723183	.0605978	.9936071	.1530809	.1627925	188.1249	6.810427
Stddev	.0155295	.0015596	.0050317	.0061567	.0026842	.3048	.106609
%RSD	3.287928	2.573633	.5064097	4.021865	1.648823	.1620454	1.565382
#1	.4581014	.0623261	.9986072	.1459730	.1611212	188.4455	6.700082
#2	.4888912	.0592957	.9936699	.1565199	.1658887	188.0903	6.818339
#3	.4699623	.0601715	.9885443	.1567499	.1613677	187.8388	6.912859

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1006595	.1228415	65.16457	.8032281	1.125542	4.364798	197.5450
Stddev	.0019842	.0008002	.21705	.0017992	.003792	.012979	.0354
%RSD	1.971203	.6513646	.3330827	.2239953	.3369308	.2973583	.0179322
#1	.0986094	.1220459	65.37902	.8018053	1.121458	4.364331	197.5206
#2	.1007985	.1228325	65.16968	.8026284	1.126214	4.352058	197.5856
#3	.1025704	.1236461	64.94500	.8052505	1.128953	4.378004	197.5287

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.613940	47.97899	1.519550	.0792412	1.391566	1.222265	3.166808
Stddev	.044329	.14180	.005846	.0015247	.153547	.024436	.016120
%RSD	.7896209	.2955526	.3847043	1.924103	11.03408	1.999258	.5090381
#1	5.571493	48.12758	1.512976	.0777385	1.382366	1.195151	3.148430
#2	5.610390	47.84513	1.521509	.0791982	1.549506	1.229060	3.178555
#3	5.659937	47.96426	1.524164	.0807869	1.242826	1.242585	3.173440

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.12170	8.160309	.2527464	.0008697	1.877573	5.682863	.0590512
Stddev	.04734	.005308	.0011057	.0003721	.004024	.015208	.0031198
%RSD	.3352636	.0650525	.4374711	42.77647	.2143034	.2676138	5.283163
#1	14.12088	8.155070	.2538390	.0011808	1.880930	5.692713	.0616767
#2	14.16945	8.160171	.2527721	.0004576	1.873113	5.665348	.0556023
#3	14.07477	8.165685	.2516281	.0009709	1.878677	5.690529	.0598747

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-04DLX2 Acquired: 10/25/2024 21:05:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.062979	.0943719	.5788779
Stddev	.003474	.0008899	.0012528
%RSD	.0855010	.9429948	.2164181
#1	4.066283	.0944846	.5803237
#2	4.063296	.0934310	.5781135
#3	4.059357	.0952001	.5781964

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1012.146	23901.22	2980.374	859.1484	1642.931
Stddev	1.934	27.58	11.446	1.6664	1.213
%RSD	.1910345	.1154057	.3840373	.1939628	.0738012
#1	1009.927	23925.62	2981.105	861.0696	1641.641
#2	1013.471	23906.76	2991.437	858.0940	1643.106
#3	1013.040	23871.29	2968.580	858.2817	1644.047

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-02LDLX10 Acquired: 10/25/2024 21:09:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0881927	-.008862	.2013150	-.002306	-.002259	41.28166	.7682945
Stddev	.0033226	.002235	.0024603	.003692	.000570	.13726	.0042517
%RSD	3.767482	25.21750	1.222135	160.0747	25.24421	.3324940	.5533966
#1	.0895467	-.008825	.1984787	-.001866	-.002703	41.43945	.7729059
#2	.0844068	-.011115	.2025919	-.006199	-.001616	41.18986	.7674477
#3	.0906245	-.006646	.2028744	.001146	-.002459	41.21567	.7645300

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026131	.0051646	14.98987	.0946863	.0258097	.9111978	45.63999
Stddev	.0001181	.0000956	.13851	.0008829	.0004091	.0047211	.27787
%RSD	4.519504	1.851162	.9240164	.9324063	1.585082	.5181152	.6088369
#1	.0024773	.0051402	15.13339	.0944423	.0256964	.9125512	45.94837
#2	.0026708	.0050835	14.97924	.0956655	.0254692	.9059479	45.40904
#3	.0026914	.0052700	14.85698	.0939511	.0262635	.9150944	45.56258

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.090413	10.82226	.1058952	-.001199	.1188876	.0846302	.5564980
Stddev	.008120	.03635	.0007075	.000450	.1140307	.0063529	.0020766
%RSD	.7446945	.3358776	.6681118	37.56107	95.91474	7.506674	.3731494
#1	1.099746	10.84297	.1054960	-.001668	-.008212	.0795893	.5541566
#2	1.084969	10.78029	.1054775	-.000770	.212226	.0917660	.5581165
#3	1.086522	10.84353	.1067121	-.001160	.152649	.0825353	.5572210

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.285624	1.658099	.0609847	-.000823	.3639693	1.282280	.0107636
Stddev	.095341	.007633	.0011455	.000267	.0083391	.012249	.0023133
%RSD	2.901764	.4603291	1.878395	32.44240	2.291162	.9552706	21.49206
#1	3.385193	1.651885	.0607048	-.001081	.3593582	1.296106	.0092954
#2	3.195165	1.655793	.0600050	-.000548	.3735957	1.272783	.0134303
#3	3.276514	1.666618	.0622442	-.000841	.3589540	1.277950	.0095652

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4333-02LDLX10 Acquired: 10/25/2024 21:09:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF5L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.9256017	.0252813	.1308323
Stddev	.0062920	.0007591	.0005768
%RSD	.6797785	3.002806	.4408517
#1	.9327466	.0256355	.1314676
#2	.9231704	.0244098	.1306879
#3	.9208880	.0257986	.1303415

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	957.8694	22342.33	2722.602	813.2281	1759.084
Stddev	2.3997	38.85	18.515	2.9183	1.850
%RSD	.2505294	.1738840	.6800302	.3588548	.1051486
#1	955.3231	22384.87	2701.320	816.2029	1756.966
#2	958.1961	22308.72	2734.997	813.1116	1759.902
#3	960.0891	22333.40	2731.491	810.3697	1760.383

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164280BL Acquired: 10/25/2024 21:14:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS280 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007872	-.006221	-.000674	-.000903	-.002546	-.069125	-.000287
Stddev	.0039806	.002269	.001451	.002791	.000932	.009068	.000354
%RSD	505.6710	36.46362	215.1458	308.9808	36.59079	13.11782	123.2427
#1	.0037796	-.007218	.000302	-.003705	-.001687	-.073708	-.000298
#2	.0023125	-.003625	.000017	-.000884	-.003536	-.058681	-.000635
#3	-.003731	-.007821	-.002341	.001878	-.002414	-.074987	.000072

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000064	-.000215	-.053782	-.001648	.0002883	.0017358	-.060199
Stddev	.000064	.000028	.039948	.001018	.0004791	.0017832	.012733
%RSD	100.2338	12.84072	74.27892	61.78489	166.1867	102.7295	21.15230
#1	.000006	-.000195	-.052376	-.002075	.0007672	-.000201	-.074253
#2	-.000120	-.000202	-.094414	-.000486	.0002888	.002100	-.056916
#3	-.000078	-.000246	-.014555	-.002382	-.000191	.003308	-.049429

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001438	-.058414	-.000149	.0006487	-.126512	-.003508	-.002349
Stddev	.000118	.056916	.000328	.0003781	.171065	.004991	.000242
%RSD	8.186746	97.43558	219.7177	58.28659	135.2165	142.2500	10.32174
#1	-.001350	-.086868	-.000313	.0005986	.064554	-.008538	-.002119
#2	-.001572	-.095491	-.000363	.0002982	-.265445	-.003431	-.002327
#3	-.001392	.007118	.000228	.0010494	-.178644	.001443	-.002602

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1224234	-.001475	.0025286	-.000407	-.015508	.0005205	-.000740
Stddev	.0348091	.001021	.0005959	.000327	.005793	.0003535	.000794
%RSD	28.43340	69.23647	23.56484	80.38506	37.35615	67.91587	107.2445
#1	.1018931	-.001945	.0021354	-.000782	-.011206	.0008411	.000127
#2	.1626144	-.000303	.0022362	-.000263	-.022095	.0001414	-.000915
#3	.1027627	-.002176	.0032142	-.000177	-.013222	.0005789	-.001433

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164280BL Acquired: 10/25/2024 21:14:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS280 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0000624	.0046282	-.000300
Stddev	.0009791	.0023112	.000103
%RSD	1570.009	49.93831	34.37208
#1	.0000251	.0070122	-.000181
#2	-.000898	.0023973	-.000359
#3	.001060	.0044751	-.000360

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	934.6843	21680.94	2623.146	792.9206	1817.439
Stddev	.7742	28.15	19.745	1.2817	1.556
%RSD	.0828347	.1298541	.7527139	.1616489	.0856036
#1	933.9617	21649.03	2613.739	791.4585	1815.835
#2	934.5897	21702.29	2609.864	793.8509	1817.541
#3	935.5015	21691.48	2645.836	793.4523	1818.941

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164280BS Acquired: 10/25/2024 21:18:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS280 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0161721	.0456461	.0205662	.0563212	.1028081	F .2748653
Stddev	.0024774	.0019224	.0015830	.0024105	.0018485	.0021713
%RSD	15.31883	4.211437	7.696998	4.279870	1.798047	.7899620
#1	.0143773	.0474205	.0190436	.0543919	.1049426	.2758227
#2	.0189985	.0436039	.0204517	.0555484	.1017478	.2723798
#3	.0151404	.0459139	.0222034	.0590233	.1017340	.2763933

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4106796	.0104467	.0098062	10.52954	.0216419	.0978825
Stddev	.0013038	.0001833	.0000533	.08136	.0002790	.0005713
%RSD	.3174692	1.754316	.5432698	.7726642	1.289418	.5836453
#1	.4094369	.0105793	.0097450	10.43756	.0219641	.0973069
#2	.4105649	.0102376	.0098427	10.55899	.0214853	.0978914
#3	.4120369	.0105233	.0098307	10.59207	.0214763	.0984493

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0518082	.1477120	.0314760	9.932416	.0809368	.0216769
Stddev	.0030363	.0269873	.0003869	.069601	.0003614	.0004787
%RSD	5.860617	18.27021	1.229247	.7007468	.4464769	2.208120
#1	.0526451	.1218881	.0314203	9.959097	.0806658	.0212522
#2	.0543382	.1757289	.0311199	9.853422	.0807975	.0215828
#3	.0484412	.1455191	.0318877	9.984730	.0813471	.0221956

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.952940	.0986622	.1065281	9.729706	.0157774	F .0028998
Stddev	.239762	.0074193	.0014507	.222141	.0013999	.0011236
%RSD	2.408956	7.519896	1.361817	2.283125	8.873078	38.74565
#1	9.681621	.1071142	.1076359	9.976598	.0171257	.0018406
#2	10.04090	.0932244	.1048860	9.666512	.0143310	.0040782
#3	10.13630	.0956479	.1070623	9.546009	.0158754	.0027806

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164280BS Acquired: 10/25/2024 21:18:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS280 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0174994	.1569160	F .4675699	.0130207	.1988775	.0328808
Stddev	.0004834	.0074770	.0035426	.0011251	.0018637	.0016677
%RSD	2.762163	4.764982	.7576617	8.641024	.9371289	5.072004
#1	.0177841	.1597377	.4647655	.0140649	.2004833	.0346096
#2	.0169413	.1625716	.4663931	.0131681	.1968338	.0327510
#3	.0177728	.1484388	.4715512	.0118292	.1993155	.0312818

Elem	Sr4077
Units	ppm
Avg	.2084698
Stddev	.0003523
%RSD	.1689904
#1	.2082210
#2	.2088730
#3	.2083155

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	937.5334	21631.38	2636.339	785.7601	1781.263
Stddev	1.3256	28.39	11.939	4.0834	1.810
%RSD	.1413974	.1312601	.4528639	.5196781	.1015882
#1	936.2394	21644.24	2645.071	784.4268	1780.811
#2	938.8886	21651.07	2641.211	790.3435	1779.722
#3	937.4721	21598.83	2622.734	782.5100	1783.256

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164280BSD Acquired: 10/25/2024 21:23:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD280 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089434	.0220934	.0112705	.0294281	.0521510	.1742703	.2130678
Stddev	.0038243	.0012032	.0006177	.0034975	.0002812	.0117441	.0014776
%RSD	42.76059	5.446022	5.480938	11.88510	.5392541	6.739021	.6934752
#1	.0129874	.0217630	.0105761	.0270497	.0518874	.1820449	.2147705
#2	.0053853	.0210899	.0114761	.0334440	.0524470	.1800053	.2123106
#3	.0084575	.0234273	.0117591	.0277905	.0521186	.1607606	.2121224

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054480	.0050353	5.515754	.0106638	.0509139	.0309834	.0529703
Stddev	.0001853	.0001457	.044284	.0016611	.0001221	.0016711	.0274605
%RSD	3.401649	2.894075	.8028554	15.57670	.2399222	5.393513	51.84140
#1	.0054419	.0050228	5.476339	.0087519	.0507864	.0323818	.0829264
#2	.0052658	.0048963	5.563673	.0114870	.0509256	.0291327	.0469953
#3	.0056363	.0051869	5.507250	.0117524	.0510298	.0314356	.0289892

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0160406	5.239556	.0426465	.0113677	5.416370	.0540299	.0615730
Stddev	.0010320	.031240	.0008081	.0004859	.125606	.0091822	.0001999
%RSD	6.433494	.5962245	1.894918	4.273942	2.319003	16.99469	.3245939
#1	.0156897	5.217821	.0424824	.0118772	5.519363	.0567088	.0615841
#2	.0152297	5.275355	.0419331	.0109096	5.276436	.0438062	.0617670
#3	.0172022	5.225491	.0435241	.0113163	5.453311	.0615748	.0613678

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.138155	.0109417	.0017502	.0092688	.0778393	.2453368	.0066459
Stddev	.152093	.0014862	.0011738	.0003503	.0041988	.0025619	.0011340
%RSD	2.960078	13.58268	67.06875	3.779820	5.394254	1.044252	17.06325
#1	5.092404	.0094987	.0006122	.0096652	.0816604	.2457590	.0075506
#2	5.307873	.0124676	.0016816	.0091404	.0785133	.2476614	.0053737
#3	5.014189	.0108588	.0029568	.0090007	.0733442	.2425900	.0070133

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164280BSD Acquired: 10/25/2024 21:23:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD280 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1026885	.0181323	.1085037
Stddev	.0015734	.0012496	.0002831
%RSD	1.532259	6.891362	.2609057
#1	.1043506	.0186313	.1085184
#2	.1012220	.0167104	.1087792
#3	.1024930	.0190553	.1082135

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	940.0729	21740.11	2634.951	795.4223	1808.343
Stddev	1.1082	47.95	15.795	2.1355	2.572
%RSD	.1178868	.2205445	.5994258	.2684718	.1422256
#1	941.1759	21685.51	2629.450	797.3527	1805.443
#2	940.0832	21775.33	2622.643	795.7859	1809.235
#3	938.9596	21759.49	2652.761	793.1284	1810.350

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-01DLX2 Acquired: 10/25/2024 21:27:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1339229	-.031949	.2655502	.0005073	.0006429	135.2396	1.888160
Stddev	.0124590	.000339	.0039268	.0026957	.0014011	.4530	.001483
%RSD	9.303075	1.060186	1.478757	531.3833	217.9491	.3349311	.0785326
#1	.1469135	-.032219	.2692595	-.001784	.0004953	134.7640	1.887681
#2	.1327810	-.031569	.2614371	.003478	-.000679	135.2888	1.886976
#3	.1220742	-.032059	.2659541	-.000172	.002112	135.6659	1.889823

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0085199	.0136162	47.81256	.2901707	.1519402	.9694255	238.4938
Stddev	.0001200	.0000481	.35875	.0015209	.0006338	.0021318	1.6168
%RSD	1.408980	.3530319	.7503357	.5241429	.4171600	.2198992	.6779097
#1	.0086584	.0135622	47.45188	.2887659	.1512388	.9709674	236.7396
#2	.0084489	.0136542	47.81642	.2917859	.1524720	.9703162	238.8178
#3	.0084522	.0136322	48.16936	.2899605	.1521097	.9669928	239.9241

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.35135	45.87267	.4239574	-.019512	1.100318	.3822973	.8536440
Stddev	.01162	.19664	.0004980	.000234	.389424	.0132893	.0018252
%RSD	.1122854	.4286592	.1174658	1.201348	35.39192	3.476174	.2138140
#1	10.35391	45.67597	.4236759	-.019334	1.476782	.3672584	.8515413
#2	10.36149	46.06925	.4245324	-.019425	.699115	.3924587	.8545721
#3	10.33866	45.87280	.4236638	-.019778	1.125055	.3871748	.8548188

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.57717	9.687446	.2731304	-.000611	1.033805	5.348944	.0096568
Stddev	.15438	.024206	.0031906	.000374	.010338	.022488	.0031373
%RSD	.5219601	.2498679	1.168176	61.19741	1.000008	.4204213	32.48789
#1	29.56062	9.697336	.2694475	-.001041	1.030921	5.326700	.0068816
#2	29.43172	9.659861	.2748833	-.000419	1.045279	5.348463	.0090280
#3	29.73915	9.705141	.2750603	-.000372	1.025215	5.371668	.0130610

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-01DLX2 Acquired: 10/25/2024 21:27:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.755696	.0966103	.4607725
Stddev	.015668	.0029697	.0005663
%RSD	.4171750	3.073873	.1229071
#1	3.745490	.0933034	.4602087
#2	3.747862	.0974783	.4607676
#3	3.773736	.0990493	.4613413

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1040.247	24517.52	3044.194	888.7716	1665.286
Stddev	2.410	44.93	5.002	1.5198	1.000
%RSD	.2316549	.1832712	.1643257	.1709949	.0600649
#1	1040.699	24490.41	3049.710	888.5951	1666.102
#2	1042.399	24492.77	3042.921	887.3478	1665.586
#3	1037.644	24569.39	3039.951	890.3719	1664.171

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-02DLX2 Acquired: 10/25/2024 21:32:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.102175	-.051026	3.474336	.0128052	.0284433	173.1207
Stddev	.011073	.003518	.012804	.0013778	.0028056	.8998
%RSD	1.004673	6.894287	.3685450	10.75948	9.863797	.5197763
#1	1.092410	-.049182	3.476235	.0139840	.0254347	172.3248
#2	1.114206	-.055083	3.460688	.0112905	.0309881	172.9402
#3	1.099909	-.048814	3.486086	.0131411	.0289071	174.0971

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.947036	.0113245	.1036153	120.9614	.3829051	.2231299
Stddev	.013394	.0002597	.0002764	.5919	.0019039	.0012088
%RSD	.4544948	2.292877	.2667357	.4893093	.4972235	.5417636
#1	2.936933	.0113401	.1036253	120.5089	.3847343	.2229092
#2	2.941946	.0110574	.1033341	120.7440	.3830465	.2220467
#3	2.962229	.0115760	.1038866	121.6312	.3809344	.2244339

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.83155	345.9379	7.043363	67.93535	.6351804	.0152408
Stddev	.09034	1.7458	.048657	.63810	.0008379	.0009585
%RSD	.5706309	.5046566	.6908239	.9392760	.1319153	6.289034
#1	15.76042	344.2017	7.018207	67.45808	.6357038	.0160866
#2	15.80104	345.9190	7.012434	67.68785	.6342140	.0154361
#3	15.93319	347.6931	7.099449	68.66013	.6356235	.0141996

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.251234	.5198928	6.577891	18.89816	F 14.06021	.3825726
Stddev	.143151	.0055441	.016353	.19709	.03111	.0028157
%RSD	6.358780	1.066397	.2485990	1.042902	.2212408	.7359795
#1	2.112172	.5141098	6.594471	18.72397	14.06469	.3798753
#2	2.398150	.5251623	6.561776	18.85843	14.02711	.3823490
#3	2.243378	.5204064	6.577426	19.11209	14.08883	.3854933

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-02DLX2 Acquired: 10/25/2024 21:32:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB5 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016690	11.26570	5.403175	.0371452	5.137316	.1129800
Stddev	.0007194	.01433	.039702	.0029983	.033721	.0003776
%RSD	43.10505	.1272005	.7347842	8.071713	.6564017	.3342294
#1	.0023907	11.25049	5.358317	.0339407	5.107031	.1134057
#2	.0009520	11.26766	5.417419	.0398823	5.131262	.1128486
#3	.0016642	11.27895	5.433790	.0376127	5.173654	.1126855

Elem	Sr4077
Units	ppm
Avg	.6436886
Stddev	.0037853
%RSD	.5880565
#1	.6416996
#2	.6413124
#3	.6480537

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1021.878	24487.78	3059.162	878.7746	1609.495
Stddev	1.880	95.80	15.091	1.8864	2.335
%RSD	.1839357	.3911959	.4932910	.2146678	.1450872
#1	1019.908	24378.58	3075.414	876.8698	1608.352
#2	1023.652	24557.64	3056.478	880.6421	1612.182
#3	1022.073	24527.11	3045.593	878.8120	1607.952

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-03DLX2 Acquired: 10/25/2024 21:36:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1919498	-.044516	.4012627	.0023572	.0033351	195.8639
Stddev	.0067822	.003701	.0027026	.0062653	.0018203	.8052
%RSD	3.533326	8.312940	.6735300	265.7988	54.58038	.4110900
#1	.1843857	-.042524	.3999762	-.001292	.0013442	196.0002
#2	.1939746	-.042238	.4043683	-.001228	.0049144	196.5922
#3	.1974889	-.048786	.3994437	.009592	.0037468	194.9992

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.470801	.0114056	.0176513	79.91133	.4167489	.1784181
Stddev	.012193	.0000408	.0002157	.41008	.0013571	.0001564
%RSD	.3512946	.3577865	1.221848	.5131640	.3256335	.0876602
#1	3.475572	.0113913	.0174624	79.81717	.4157158	.1785642
#2	3.479887	.0113740	.0176051	80.36030	.4182859	.1782531
#3	3.456944	.0114517	.0178863	79.55653	.4162451	.1784369

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.475994	280.1367	7.367538	69.14780	.7722758	-.020274
Stddev	.008959	.9798	.027270	.62212	.0029994	.000173
%RSD	.6070088	.3497624	.3701353	.8996989	.3883885	.8536287
#1	1.478529	279.9484	7.364530	68.86386	.7741500	-.020074
#2	1.483412	281.1970	7.396187	69.86123	.7688164	-.020378
#3	1.466040	279.2647	7.341897	68.71831	.7738610	-.020369

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.445314	.4872047	1.033374	20.17352	F 15.81204	.3173751
Stddev	.133248	.0040384	.004606	.03208	.03314	.0012549
%RSD	5.449097	.8288931	.4457146	.1590082	.2095625	.3954039
#1	2.501595	.4830064	1.038339	20.20849	15.78411	.3167125
#2	2.541186	.4910615	1.032542	20.16661	15.80335	.3188224
#3	2.293160	.4875462	1.029241	20.14546	15.84865	.3165904

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-03DLX2 Acquired: 10/25/2024 21:36:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB6 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001165	1.658264	4.732357	.0117823	5.653318	.1254368
Stddev	.000461	.003228	.035528	.0020157	.027328	.0021026
%RSD	39.59724	.1946346	.7507497	17.10774	.4833966	1.676192
#1	-.000857	1.654589	4.715316	.0126991	5.666947	.1253521
#2	-.000942	1.660641	4.773195	.0131766	5.671151	.1275804
#3	-.001695	1.659560	4.708559	.0094711	5.621856	.1233779

Elem	Sr4077
Units	ppm
Avg	.9838074
Stddev	.0031117
%RSD	.3162910
#1	.9842805
#2	.9866555
#3	.9804863

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1065.821	25072.77	3173.858	904.8424	1654.423
Stddev	4.815	35.73	19.224	2.4224	4.018
%RSD	.4517624	.1425107	.6056856	.2677129	.2428451
#1	1064.113	25113.91	3188.057	904.2124	1652.843
#2	1071.258	25054.93	3151.982	902.7972	1658.991
#3	1062.094	25049.47	3181.534	907.5175	1651.436

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-04DLX2 Acquired: 10/25/2024 21:40:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2628124	-.016547	.8590473	.0044432	.0079905	140.0960
Stddev	.0127625	.005455	.0046180	.0026719	.0011513	.2681
%RSD	4.856116	32.96948	.5375685	60.13505	14.40871	.1913438
#1	.2729949	-.019712	.8642254	.0055495	.0086979	140.2299
#2	.2484952	-.019680	.8575613	.0063843	.0066620	139.7874
#3	.2669470	-.010247	.8553553	.0013958	.0086116	140.2708

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.902485	.0079742	.0345814	57.03664	.3421871	.1858924
Stddev	.015380	.0002534	.0001260	.04848	.0007520	.0005790
%RSD	.3137190	3.177891	.3642645	.0849959	.2197491	.3114941
#1	4.914431	.0076848	.0346307	57.08253	.3429842	.1860865
#2	4.885132	.0081560	.0344382	56.98593	.3414905	.1852413
#3	4.907893	.0080819	.0346753	57.04146	.3420865	.1863495

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.804462	217.3900	F 38.84354	45.54574	.5401797	-.013555
Stddev	.008253	.7168	.13437	.07969	.0012770	.000180
%RSD	.2169397	.3297101	.3459236	.1749688	.2363991	1.328978
#1	3.809008	217.9330	38.77036	45.63667	.5404206	-.013711
#2	3.794936	216.5776	38.76164	45.48810	.5387994	-.013597
#3	3.809444	217.6595	38.99861	45.51243	.5413190	-.013358

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.713417	.3881357	2.124913	24.12236	F 12.65629	.2666065
Stddev	.267235	.0050062	.007229	.07886	.02504	.0005271
%RSD	15.59662	1.289813	.3401817	.3269002	.1978646	.1976890
#1	1.420529	.3844206	2.122013	24.20493	12.63623	.2671348
#2	1.775736	.3861578	2.133141	24.11432	12.64829	.2660807
#3	1.943986	.3938287	2.119585	24.04783	12.68436	.2666040

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-04DLX2 Acquired: 10/25/2024 21:40:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000771	3.319402	5.543616	.0256151	4.402115	.0881171
Stddev	.000297	.012117	.011316	.0020310	.004407	.0011601
%RSD	38.47147	.3650284	.2041237	7.928892	.1001121	1.316526
#1	-.000670	3.333392	5.531810	.0235522	4.405174	.0878141
#2	-.001105	3.312227	5.544671	.0256804	4.397063	.0871387
#3	-.000538	3.312587	5.554367	.0276126	4.404108	.0893987

Elem	Sr4077
Units	ppm
Avg	.7295282
Stddev	.0015622
%RSD	.2141360
#1	.7307160
#2	.7277586
#3	.7301101

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1047.255	24523.51	3068.150	880.8866	1693.295
Stddev	1.655	41.89	11.127	1.6614	3.826
%RSD	.1580465	.1708281	.3626743	.1886066	.2259385
#1	1046.384	24548.82	3078.738	882.8047	1691.571
#2	1049.164	24546.55	3069.160	879.9601	1697.680
#3	1046.218	24475.15	3056.552	879.8951	1690.635

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-05DLX2 Acquired: 10/25/2024 21:45:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2715946	-.032172	.8878214	.0089043	.0097216	148.0528
Stddev	.0015121	.003175	.0025480	.0049522	.0017547	.4767
%RSD	.5567328	9.867880	.2869894	55.61563	18.04960	.3219719
#1	.2722257	-.029509	.8872807	.0048412	.0099712	148.4182
#2	.2726888	-.035685	.8905963	.0074512	.0113381	148.2265
#3	.2698692	-.031321	.8855872	.0144204	.0078554	147.5136

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.647704	.0091959	.0360021	60.65235	.3480986	.1678993
Stddev	.008162	.0000712	.0002706	.18431	.0017814	.0006934
%RSD	.3082605	.7747282	.7515647	.3038759	.5117538	.4129890
#1	2.656398	.0092242	.0357851	60.66356	.3465050	.1676515
#2	2.646509	.0092487	.0359158	60.83080	.3477690	.1673638
#3	2.640206	.0091149	.0363052	60.46270	.3500218	.1686825

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.888073	233.6301	8.577599	45.33174	.5145513	-.009906
Stddev	.010332	.6507	.018809	.36413	.0005650	.000309
%RSD	.2657362	.2785329	.2192753	.8032524	.1098018	3.119058
#1	3.899696	233.9550	8.599291	45.65835	.5143164	-.010053
#2	3.879931	234.0543	8.567678	45.39775	.5151958	-.009551
#3	3.884592	232.8808	8.565829	44.93912	.5141416	-.010114

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.491746	.3971107	2.172917	25.58042	F 12.93535	.2845478
Stddev	.045534	.0128951	.011058	.13576	.01798	.0014310
%RSD	3.052413	3.247229	.5088988	.5307289	.1389685	.5028908
#1	1.500615	.3883739	2.183111	25.73253	12.95532	.2857930
#2	1.532193	.4119211	2.174479	25.47155	12.92046	.2848659
#3	1.442430	.3910372	2.161161	25.53717	12.93028	.2829846

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-05DLX2 Acquired: 10/25/2024 21:45:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7D Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007711	3.586211	5.740462	.0200969	4.872992	.0939670
Stddev	.0004064	.012610	.019165	.0019335	.011110	.0012991
%RSD	52.71115	.3516277	.3338549	9.620905	.2279851	1.382473
#1	.0009579	3.575402	5.761913	.0214161	4.877128	.0947717
#2	.0010505	3.583165	5.734449	.0178775	4.881441	.0946609
#3	.0003048	3.600064	5.725025	.0209973	4.860408	.0924683

Elem	Sr4077
Units	ppm
Avg	.5922466
Stddev	.0012006
%RSD	.2027209
#1	.5934177
#2	.5923038
#3	.5910185

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1020.842	24159.60	3000.620	867.5060	1659.611
Stddev	1.052	35.41	7.190	4.6122	3.091
%RSD	.1030359	.1465678	.2396025	.5316595	.1862463
#1	1021.125	24200.01	2995.388	864.8061	1656.158
#2	1021.722	24134.01	2997.654	864.8804	1662.120
#3	1019.677	24144.77	3008.818	872.8315	1660.556

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-06DLX2 Acquired: 10/25/2024 21:49:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3417361	.0661235	.8940163	.1411804	.1563333	144.6523
Stddev	.0041819	.0063009	.0083560	.0020113	.0028812	.1802
%RSD	1.223717	9.529017	.9346607	1.424621	1.843000	.1245669
#1	.3372098	.0592591	.8915665	.1431793	.1596376	144.8595
#2	.3425424	.0716441	.8871590	.1412049	.1543453	144.5325
#3	.3454562	.0674673	.9033234	.1391569	.1550170	144.5649

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.372858	.0963130	.1258761	58.80829	.7109524	1.138758
Stddev	.009972	.0004158	.0004927	.20636	.0011964	.002666
%RSD	.1190975	.4316947	.3914231	.3509098	.1682857	.2341252
#1	8.369772	.0967364	.1260241	58.90270	.7103746	1.138779
#2	8.364795	.0959053	.1253263	58.57161	.7101546	1.136082
#3	8.384009	.0962972	.1262778	58.95057	.7123281	1.141414

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.195261	223.4530	F 39.09741	46.40391	1.500086	.0723879
Stddev	.005549	.3605	.06295	.04715	.003968	.0006216
%RSD	.1322775	.1613364	.1610138	.1016040	.2645119	.8587201
#1	4.189277	223.8672	39.13257	46.45120	1.497134	.0722060
#2	4.200238	223.2107	39.02473	46.35691	1.498529	.0718776
#3	4.196269	223.2810	39.13492	46.40362	1.504597	.0730802

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.647547	1.297654	2.829339	24.32565	F 12.61318	.2702849
Stddev	.113368	.007587	.012654	.01834	.03777	.0016858
%RSD	6.881013	.5846561	.4472440	.0753990	.2994875	.6237009
#1	1.607554	1.305742	2.843498	24.31248	12.59828	.2715059
#2	1.559596	1.296523	2.825387	24.31787	12.58513	.2683615
#3	1.775491	1.290696	2.819134	24.34660	12.65614	.2709873

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-06DLX2 Acquired: 10/25/2024 21:49:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7S Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001300	3.303202	5.651630	.0255822	4.437923	.0900446
Stddev	.000226	.001338	.008333	.0009420	.006299	.0017941
%RSD	17.39176	.0405002	.1474408	3.682249	.1419440	1.992450
#1	-.001239	3.301740	5.658576	.0266206	4.437938	.0918900
#2	-.001551	3.303503	5.653923	.0253434	4.431616	.0899371
#3	-.001111	3.304364	5.642390	.0247825	4.444215	.0883067

Elem	Sr4077
Units	ppm
Avg	.7264346
Stddev	.0000986
%RSD	.0135690
#1	.7264560
#2	.7265206
#3	.7263270

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1016.608	24110.09	2982.196	868.4060	1656.096
Stddev	1.739	35.33	5.871	4.2637	.983
%RSD	.1710623	.1465502	.1968683	.4909795	.0593848
#1	1014.929	24104.56	2977.935	863.4888	1656.197
#2	1018.401	24147.86	2979.761	871.0774	1657.025
#3	1016.494	24077.85	2988.893	870.6517	1655.065

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-04LDLX10 Acquired: 10/25/2024 21:53:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0614946	-.005929	.1822123	.0030241	-.001431	31.88937	1.091816
Stddev	.0023207	.000816	.0031463	.0068265	.000870	.09438	.001825
%RSD	3.773751	13.75733	1.726735	225.7320	60.79195	.2959694	.1671659
#1	.0611318	-.006079	.1801117	.0104499	-.002421	31.86533	1.091732
#2	.0639754	-.006660	.1858297	-.002979	-.000790	31.99345	1.093682
#3	.0593768	-.005049	.1806956	.001601	-.001082	31.80934	1.090035

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018846	.0067220	13.59888	.0776975	.0385607	.8764169	51.94087
Stddev	.0000935	.0001959	.05802	.0001488	.0005493	.0038798	.19889
%RSD	4.960311	2.914857	.4266327	.1915622	1.424574	.4426893	.3829114
#1	.0019038	.0069072	13.54226	.0775809	.0380716	.8724698	51.87901
#2	.0019670	.0067421	13.65820	.0776465	.0384555	.8802257	52.16334
#3	.0017830	.0065168	13.59619	.0778651	.0391551	.8765552	51.78027

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.973219	10.55229	.1133557	-.002837	.2120380	.0891893	.4922126
Stddev	.011898	.02434	.0012140	.000224	.1786348	.0037515	.0013871
%RSD	.1325899	.2306382	1.070948	7.879717	84.24658	4.206218	.2818144
#1	8.977555	10.54305	.1122785	-.003057	.3699315	.0899331	.4937539
#2	8.959762	10.53392	.1146712	-.002610	.0181451	.0925132	.4918190
#3	8.982340	10.57989	.1131174	-.002843	.2480374	.0851216	.4910647

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.472505	2.617040	.0632947	-.000620	.6592876	1.316600	.0046482
Stddev	.122516	.010794	.0006447	.000270	.0107198	.001080	.0007068
%RSD	2.238748	.4124543	1.018517	43.56217	1.625960	.0819929	15.20689
#1	5.510178	2.608049	.0639756	-.000477	.6469128	1.317034	.0051206
#2	5.335577	2.629011	.0626938	-.000931	.6652260	1.315371	.0038356
#3	5.571760	2.614060	.0632148	-.000451	.6657239	1.317395	.0049885

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-04LDLX10 Acquired: 10/25/2024 21:53:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.016735	.0229260	.1664525
Stddev	.003468	.0009443	.0001352
%RSD	.3411166	4.118969	.0812357
#1	1.018203	.0228158	.1663087
#2	1.019228	.0220415	.1665770
#3	1.012774	.0239205	.1664719

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	960.6333	22442.96	2737.587	819.9891	1763.323
Stddev	2.0534	44.36	2.330	1.8080	.959
%RSD	.2137588	.1976737	.0851049	.2204874	.0544113
#1	961.5713	22424.10	2735.836	818.0842	1764.410
#2	962.0503	22411.15	2736.694	821.6813	1762.963
#3	958.2784	22493.64	2740.231	820.2017	1762.595

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-07DLX2 Acquired: 10/25/2024 21:58:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1904255	-.043350	.3790094	.0021748	.0015288	197.2796
Stddev	.0075867	.003161	.0052514	.0040271	.0033658	.4342
%RSD	3.984050	7.291735	1.385561	185.1716	220.1664	.2201021
#1	.1926978	-.040575	.3730927	.0063169	.0011461	197.3021
#2	.1966163	-.042685	.3831177	-.001727	-.001629	197.7021
#3	.1819624	-.046791	.3808177	.001934	.005070	196.8345

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.746914	.0110299	.0145008	86.43375	.4311722	.1745529
Stddev	.007321	.0002623	.0002261	.25790	.0003791	.0005334
%RSD	.1953899	2.377801	1.559372	.2983743	.0879310	.3056071
#1	3.744006	.0112354	.0145971	86.51300	.4315514	.1748929
#2	3.755243	.0111199	.0142425	86.64272	.4311723	.1739381
#3	3.741495	.0107345	.0146629	86.14553	.4307931	.1748278

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.325307	266.8389	9.281151	63.10841	.7309954	-.017664
Stddev	.009043	.8170	.020768	.24546	.0009613	.000690
%RSD	.6823136	.3061812	.2237614	.3889511	.1315088	3.905995
#1	1.325166	266.7754	9.267577	63.10649	.7298912	-.017482
#2	1.334419	267.6859	9.305058	63.35483	.7316462	-.018426
#3	1.316335	266.0555	9.270817	62.86392	.7314487	-.017082

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.613348	.4906252	.8732641	15.75677	F 13.46036	.3038797
Stddev	.112320	.0107114	.0030619	.09035	.02394	.0025958
%RSD	4.297946	2.183209	.3506331	.5734250	.1778546	.8542141
#1	2.598354	.4926303	.8699849	15.66111	13.48751	.3062685
#2	2.732412	.4790530	.8737588	15.84066	13.45126	.3042532
#3	2.509278	.5001923	.8760485	15.76854	13.44230	.3011174

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-07DLX2 Acquired: 10/25/2024 21:58:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB8 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001578	1.043586	4.026941	.0121615	5.134957	.1206227
Stddev	.000324	.014026	.021423	.0004940	.014510	.0008171
%RSD	20.53667	1.343988	.5319826	4.062266	.2825760	.6774007
#1	-.001691	1.031691	4.019946	.0124559	5.137163	.1210218
#2	-.001830	1.059052	4.050987	.0115912	5.148238	.1211635
#3	-.001212	1.040015	4.009890	.0124375	5.119470	.1196828

Elem	Sr4077
Units	ppm
Avg	1.017445
Stddev	.003238
%RSD	.3182759
#1	1.017292
#2	1.020757
#3	1.014286

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1043.932	24458.55	3069.689	876.7954	1626.549
Stddev	1.123	68.11	8.659	2.4977	1.480
%RSD	.1075944	.2784771	.2820834	.2848676	.0909849
#1	1043.101	24493.71	3073.343	878.4895	1624.886
#2	1045.210	24501.90	3059.801	877.9697	1627.719
#3	1043.486	24380.05	3075.921	873.9269	1627.044

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-08DLX2 Acquired: 10/25/2024 22:02:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1766094	-.040594	.3245996	.0081377	.0048656	193.6045
Stddev	.0048446	.000049	.0010763	.0119870	.0048903	.1124
%RSD	2.743104	.1203665	.3315645	147.3010	100.5087	.0580679
#1	.1812610	-.040619	.3243314	.0077013	.0078395	193.6921
#2	.1769749	-.040537	.3236829	.0203369	.0075359	193.6438
#3	.1715925	-.040624	.3257847	-.003625	-.000779	193.4777

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.033857	.0115386	.0128440	64.10354	.4219162	.1467015
Stddev	.000992	.0002292	.0002178	.07970	.0005510	.0010086
%RSD	.0326838	1.986502	1.695547	.1243306	.1305982	.6875186
#1	3.034089	.0117198	.0128248	64.14940	.4224513	.1458766
#2	3.034713	.0112809	.0126364	64.14971	.4219469	.1464021
#3	3.032770	.0116151	.0130707	64.01151	.4213506	.1478260

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.126451	256.6969	6.256774	55.76360	.6014482	-.017322
Stddev	.008391	.4638	.005115	.32803	.0021948	.000410
%RSD	.7449121	.1806740	.0817590	.5882512	.3649129	2.366636
#1	1.127732	256.5150	6.250867	55.88966	.5999448	-.017576
#2	1.134128	257.2241	6.259738	56.00990	.6004330	-.017542
#3	1.117494	256.3517	6.259716	55.39124	.6039668	-.016849

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.228924	.4931709	.8437765	22.86744	F 10.64918	.3005675
Stddev	.089889	.0127394	.0050428	.11799	.04667	.0015321
%RSD	7.314415	2.583161	.5976450	.5159889	.4382810	.5097430
#1	1.166233	.5058947	.8483533	22.73132	10.61145	.2988993
#2	1.331910	.4804159	.8446058	22.94065	10.63472	.3008915
#3	1.188629	.4932022	.8383705	22.93035	10.70138	.3019117

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-08DLX2 Acquired: 10/25/2024 22:02:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB9 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001233	1.524665	4.830428	.0212957	4.668423	.1161378
Stddev	.000760	.007586	.016223	.0035469	.006401	.0006692
%RSD	61.64916	.4975653	.3358544	16.65563	.1371088	.5762233
#1	-.000356	1.520580	4.825460	.0228770	4.664838	.1169091
#2	-.001703	1.519997	4.848554	.0237770	4.675813	.1157115
#3	-.001640	1.533419	4.817270	.0172332	4.664617	.1157928

Elem	Sr4077
Units	ppm
Avg	.7960489
Stddev	.0006737
%RSD	.0846277
#1	.7960011
#2	.7967452
#3	.7954004

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1034.883	24177.47	3022.265	874.8385	1647.237
Stddev	2.465	70.88	6.524	3.1214	3.008
%RSD	.2382391	.2931720	.2158527	.3567938	.1826261
#1	1035.161	24217.74	3025.517	871.3500	1648.601
#2	1037.197	24219.06	3014.755	875.7981	1649.321
#3	1032.290	24095.63	3026.523	877.3674	1643.788

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-09DLX2 Acquired: 10/25/2024 22:07:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1702464	-.030665	.4290650	.0064632	.0029308	109.1528	1.446355
Stddev	.0089358	.003475	.0052399	.0067788	.0004238	.1357	.002197
%RSD	5.248751	11.33103	1.221245	104.8830	14.46178	.1243401	.1519224
#1	.1599372	-.034044	.4345773	.0007739	.0033187	109.3028	1.448552
#2	.1750297	-.030848	.4284694	.0139637	.0029953	109.1174	1.446356
#3	.1757724	-.027102	.4241483	.0046521	.0024784	109.0383	1.444158

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067530	.0148998	56.72244	.2404538	.1138667	1.665400	188.6519
Stddev	.0001426	.0002313	.08394	.0007821	.0003457	.003389	.4887
%RSD	2.112002	1.552497	.1479920	.3252473	.3036044	.2034774	.2590502
#1	.0066380	.0150791	56.81043	.2396315	.1137562	1.665969	189.2135
#2	.0067084	.0146387	56.71365	.2405417	.1135896	1.661763	188.3229
#3	.0069125	.0149816	56.64323	.2411882	.1142541	1.668468	188.4194

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.100118	42.46976	.3203894	-.011016	1.097516	.3460962	1.172619
Stddev	.016742	.03326	.0014631	.000213	.124201	.0057007	.002557
%RSD	.3282728	.0783212	.4566707	1.934869	11.31656	1.647137	.2180337
#1	5.105484	42.43157	.3216370	-.010975	1.219135	.3478578	1.169692
#2	5.081350	42.49242	.3187790	-.010826	.970884	.3507082	1.174417
#3	5.113519	42.48530	.3207521	-.011246	1.102530	.3397227	1.173747

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.69447	8.266822	.2275710	-.000238	2.121872	5.345013	.0174627
Stddev	.05550	.002519	.0001288	.000687	.007139	.011905	.0008932
%RSD	.2681863	.0304736	.0566135	288.4774	.3364307	.2227232	5.114776
#1	20.65521	8.268585	.2277004	-.000146	2.121567	5.357038	.0183555
#2	20.75796	8.263937	.2274427	-.000966	2.129159	5.333232	.0165692
#3	20.67024	8.267945	.2275700	.000398	2.114891	5.344770	.0174633

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-09DLX2 Acquired: 10/25/2024 22:07:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.591928	.0765070	.3949479
Stddev	.010014	.0004683	.0009776
%RSD	.2787880	.6121179	.2475294
#1	3.602655	.0762714	.3960760
#2	3.590302	.0762033	.3944185
#3	3.582826	.0770464	.3943491

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1000.364	23621.68	2927.534	852.3053	1677.275
Stddev	1.570	46.67	10.897	.7131	4.578
%RSD	.1569895	.1975620	.3722181	.0836730	.2729361
#1	999.158	23597.92	2916.507	851.5375	1672.286
#2	1002.140	23675.44	2938.296	852.9470	1681.282
#3	999.793	23591.66	2927.798	852.4312	1678.257

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-10DLX2 Acquired: 10/25/2024 22:11:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1533141	-.031689	.4353677	.0059350	.0014355	140.8059
Stddev	.0037520	.004846	.0013217	.0059646	.0025686	.1594
%RSD	2.447265	15.29141	.3035777	100.4999	178.9332	.1131961
#1	.1537906	-.031436	.4349599	.0127477	.0039979	140.6364
#2	.1493466	-.026974	.4342980	.0034042	.0014477	140.9528
#3	.1568050	-.036656	.4368452	.0016530	-.001139	140.8284

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.715622	.0085923	.0162650	52.18143	.3166815	.1355248
Stddev	.002627	.0000613	.0000829	.04619	.0054936	.0006062
%RSD	.0967446	.7132147	.5099573	.0885225	1.734728	.4472776
#1	2.715988	.0085417	.0162103	52.23449	.3135712	.1350026
#2	2.718047	.0086604	.0163604	52.15015	.3230245	.1353823
#3	2.712831	.0085747	.0162242	52.15966	.3134487	.1361896

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.653146	202.3047	6.456030	47.28140	.5377484	-.010338
Stddev	.007323	.3204	.011052	.03461	.0018247	.001590
%RSD	.4429577	.1583895	.1711933	.0731926	.3393270	15.38046
#1	1.661216	202.0301	6.445241	47.28936	.5391307	-.011063
#2	1.651298	202.6568	6.467328	47.24350	.5356801	-.008515
#3	1.646924	202.2272	6.455523	47.31133	.5384345	-.011437

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.050710	.3540495	1.090153	19.71271	F 11.56415	.2350583
Stddev	.179151	.0071659	.016959	.05415	.02213	.0011298
%RSD	17.05047	2.023979	1.555633	.2747147	.1913345	.4806304
#1	1.063175	.3516097	1.076594	19.69645	11.54088	.2337996
#2	1.223303	.3484222	1.109168	19.77313	11.56665	.2359844
#3	.865652	.3621167	1.084697	19.66855	11.58492	.2353910

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-10DLX2 Acquired: 10/25/2024 22:11:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC1 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001461	1.457478	7.091680	.0145815	4.793815	.0900392
Stddev	.000489	.013473	.028884	.0005771	.011964	.0012885
%RSD	33.45407	.9244091	.4072910	3.957503	.2495766	1.431009
#1	-.001443	1.450453	7.080109	.0147979	4.780455	.0885517
#2	-.000981	1.473012	7.070377	.0139275	4.803540	.0907581
#3	-.001958	1.448970	7.124556	.0150191	4.797451	.0908079

Elem	Sr4077
Units	ppm
Avg	.5897077
Stddev	.0013391
%RSD	.2270747
#1	.5888575
#2	.5912513
#3	.5890144

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1016.277	23709.57	2969.290	859.4302	1666.097
Stddev	.951	374.88	4.295	13.5674	2.956
%RSD	.0936068	1.581142	.1446379	1.578653	.1774454
#1	1015.302	23875.76	2967.551	868.6390	1663.241
#2	1017.203	23280.32	2974.181	843.8498	1669.144
#3	1016.326	23972.62	2966.137	865.8018	1665.905

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-11DLX2 Acquired: 10/25/2024 22:15:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3547223	-.026380	.6919078	.0068578	.0052689	87.77474	1.455015
Stddev	.0047829	.003602	.0020863	.0040831	.0039402	.08592	.003028
%RSD	1.348347	13.65547	.3015331	59.53969	74.78206	.0978843	.2081378
#1	.3602360	-.023359	.6896657	.0083645	.0031528	87.80080	1.457109
#2	.3516914	-.030366	.6922657	.0022354	.0028390	87.84462	1.456393
#3	.3522395	-.025414	.6937920	.0099735	.0098151	87.67881	1.451542

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0061121	.0252713	28.71706	.2449791	.1235648	3.645160	175.6744
Stddev	.0001495	.0003345	.09911	.0006898	.0006183	.009863	.3162
%RSD	2.445378	1.323501	.3451128	.2815689	.5003663	.2705722	.1799982
#1	.0062736	.0253060	28.72311	.2442180	.1236258	3.650632	175.6936
#2	.0060840	.0249208	28.81300	.2455631	.1241503	3.633775	175.9805
#3	.0059786	.0255870	28.61507	.2451561	.1229183	3.651075	175.3490

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.195941	35.21856	.2942653	-.009375	1.243654	.3019831	1.568333
Stddev	.011409	.03466	.0002538	.000539	.312045	.0033599	.003170
%RSD	.1841331	.0984123	.0862372	5.744504	25.09096	1.112607	.2021017
#1	6.197735	35.17855	.2943557	-.009592	.890692	.3056724	1.564710
#2	6.206347	35.23796	.2939788	-.008762	1.482865	.2990989	1.570595
#3	6.183742	35.23918	.2944615	-.009771	1.357406	.3011781	1.569693

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.31999	8.085175	.1963385	.0004222	1.122160	6.899551	.0184614
Stddev	.14484	.025596	.0009780	.0005033	.008652	.011942	.0021021
%RSD	.9454184	.3165844	.4980952	119.2029	.7710020	.1730860	11.38648
#1	15.19486	8.107481	.1953575	.0009663	1.127468	6.910002	.0177694
#2	15.28646	8.057229	.1963447	-.000027	1.112176	6.886534	.0208222
#3	15.47865	8.090815	.1973134	.000327	1.126836	6.902116	.0167925

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-11DLX2 Acquired: 10/25/2024 22:15:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.771368	.0609728	.4434440
Stddev	.010233	.0014928	.0007899
%RSD	.2144575	2.448370	.1781313
#1	4.777262	.0616670	.4442957
#2	4.777289	.0592593	.4433008
#3	4.759552	.0619921	.4427355

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1016.111	23986.43	2943.194	863.3446	1698.452
Stddev	.767	39.91	4.308	.2340	4.729
%RSD	.0754891	.1663737	.1463570	.0271008	.2784050
#1	1015.599	23982.85	2938.377	863.1511	1694.392
#2	1016.993	23948.43	2946.675	863.2781	1703.644
#3	1015.741	24028.00	2944.531	863.6046	1697.321

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCV002 Acquired: 10/25/2024 22:20:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.740633	4.735625	23.41366	4.584632	4.534663	393.7157
Stddev	.030073	.013301	.08853	.021966	.016061	.3423
%RSD	.6343606	.2808780	.3781226	.4791314	.3541832	.0869360
#1	4.771563	4.723542	23.46219	4.559448	4.521389	393.6068
#2	4.711498	4.733455	23.31148	4.599839	4.530083	393.4412
#3	4.738839	4.749878	23.46733	4.594609	4.552516	394.0992

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.753403	.4933936	2.294388	389.9822	14.84081	2.381416
Stddev	.035769	.0026033	.007770	.6774	.03482	.007975
%RSD	.3667306	.5276311	.3386337	.1737022	.2346538	.3348698
#1	9.779774	.4905242	2.298373	389.2271	14.82009	2.384923
#2	9.712689	.4940522	2.285434	390.5365	14.82132	2.372289
#3	9.767745	.4956043	2.299356	390.1830	14.88102	2.387036

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.48050	400.7752	14.47034	390.8466	2.370996	1.190356
Stddev	.03528	1.2830	.02780	.7849	.006680	.005541
%RSD	.2436503	.3201313	.1921312	.2008305	.2817374	.4655083
#1	14.50893	399.3237	14.48602	390.0482	2.377065	1.187186
#2	14.44102	401.2440	14.43824	391.6173	2.363839	1.187128
#3	14.49156	401.7578	14.48676	390.8744	2.372083	1.196755

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	396.8973	2.387315	13.97571	148.2976	4.817863	5.069074
Stddev	.3561	.004539	.01569	.4544	.014442	.030806
%RSD	.0897146	.1901481	.1122522	.3064062	.2997575	.6077203
#1	396.4942	2.386753	13.96075	148.0591	4.821159	5.039764
#2	397.1691	2.383084	13.99204	148.0121	4.802058	5.066273
#3	397.0287	2.392110	13.97433	148.8216	4.830372	5.101185

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCV002 Acquired: 10/25/2024 22:20:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV002 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 4.479013	4.783114	5.064407	4.721773	4.752646	4.988912
Stddev	.018630	.009549	.029900	.005600	.003543	.006186
%RSD	.4159348	.1996497	.5903851	.1186028	.0745488	.1240023
#1	4.464480	4.778049	5.031125	4.726176	4.755791	4.981774
#2	4.472544	4.777163	5.073098	4.715470	4.748808	4.992231
#3	4.500015	4.794129	5.088998	4.723674	4.753339	4.992730

Elem	Sr4077
Units	ppm
Avg	4.962480
Stddev	.009069
%RSD	.1827412
#1	4.963347
#2	4.953010
#3	4.971085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	758.5341	19840.33	2520.335	611.7626	1394.182
Stddev	2.5880	35.61	10.021	.9508	6.189
%RSD	.3411796	.1794957	.3975990	.1554212	.4438802
#1	758.9771	19833.30	2530.701	612.6374	1390.450
#2	760.8719	19878.93	2519.605	610.7506	1401.326
#3	755.7532	19808.76	2510.699	611.8998	1390.771

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCB002 Acquired: 10/25/2024 22:24:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035462	-.003393	.0025019	.0004441	-.001843	-.106391	.0000146
Stddev	.0053656	.000418	.0010306	.0018797	.001659	.024149	.0004579
%RSD	151.3034	12.30830	41.19284	423.2958	90.00348	22.69857	3137.130
#1	-.001939	-.003464	.0026472	.0025234	.000061	-.129743	-.000473
#2	.003795	-.002944	.0034520	-.000057	-.002979	-.081517	.000435
#3	.008783	-.003770	.0014063	-.001135	-.002611	-.107912	.000082

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000139	-.000170	-.034153	-.000470	.0003087	.0053532	-.067882
Stddev	.000200	.000029	.015167	.000548	.0003424	.0025170	.018071
%RSD	143.9728	17.26411	44.40948	116.5078	110.9407	47.01874	26.62170
#1	-.000208	-.000203	-.037191	-.000505	-.000060	.0059595	-.060679
#2	.000087	-.000158	-.017697	.000094	.000368	.0025884	-.054523
#3	-.000295	-.000148	-.047572	-.000999	.000617	.0075116	-.088444

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001311	-.110333	-.000593	.0004862	.0875388	-.003665	-.002365
Stddev	.000875	.057719	.000550	.0002382	.0797110	.008234	.000523
%RSD	66.74671	52.31381	92.70984	48.98248	91.05792	224.6638	22.11245
#1	-.000555	-.126251	-.000868	.0002635	.1360970	-.012030	-.002539
#2	-.001108	-.158423	.000040	.0004579	.1309754	.004431	-.002779
#3	-.002269	-.046325	-.000951	.0007373	-.004456	-.003395	-.001777

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2044133	-.001685	.0071507	-.000243	-.008386	-.000774	.0015620
Stddev	.0290526	.001849	.0017628	.000093	.001746	.000401	.0011490
%RSD	14.21269	109.6827	24.65183	38.37314	20.82200	51.86238	73.56130
#1	.2075016	-.002746	.0071491	-.000316	-.010371	-.001217	.0004579
#2	.1739399	.000449	.0089142	-.000275	-.007089	-.000672	.0027512
#3	.2317984	-.002759	.0053887	-.000138	-.007697	-.000433	.0014770

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCB002 Acquired: 10/25/2024 22:24:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB002 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000960	.0040345	-.000223
Stddev	.000339	.0013913	.000061
%RSD	35.35453	34.48389	27.19306
#1	-.001334	.0024332	-.000243
#2	-.000671	.0047243	-.000155
#3	-.000875	.0049462	-.000270

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	945.5665	21764.89	2629.298	796.5413	1832.395
Stddev	2.3928	52.32	4.648	5.0961	4.503
%RSD	.2530586	.2403823	.1767818	.6397832	.2457224
#1	944.1322	21806.65	2624.318	798.9011	1827.208
#2	948.3288	21781.81	2630.054	800.0299	1834.684
#3	944.2384	21706.20	2633.521	790.6930	1835.294

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-12DLX2 Acquired: 10/25/2024 22:29:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5804179	-.035051	1.672682	.0067366	.0088585	128.4929
Stddev	.0035201	.001677	.002518	.0031920	.0026465	.1433
%RSD	.6064690	4.784724	.1505515	47.38312	29.87554	.1115089
#1	.5776644	-.033133	1.670337	.0103994	.0069434	128.3705
#2	.5843840	-.035775	1.675344	.0052608	.0077537	128.4577
#3	.5792054	-.036244	1.672365	.0045495	.0118784	128.6505

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.005448	.0090867	.0478254	40.62365	.3289832	.1744567
Stddev	.003770	.0002899	.0001376	.07950	.0006287	.0004311
%RSD	.1879977	3.190658	.2876627	.1956889	.1911000	.2471122
#1	2.001287	.0089677	.0476688	40.63534	.3286090	.1741693
#2	2.006419	.0094172	.0479270	40.69665	.3286316	.1742485
#3	2.008637	.0088752	.0478803	40.53895	.3297090	.1749524

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.792402	234.6043	7.383325	40.00835	.4747669	-.002697
Stddev	.020717	.5636	.013068	.13135	.0001834	.000352
%RSD	.3050095	.2402483	.1769937	.3283150	.0386228	13.06083
#1	6.777832	234.4491	7.370164	39.85831	.4749258	-.002458
#2	6.783254	234.1345	7.383513	40.06413	.4748086	-.002531
#3	6.816118	235.2292	7.396298	40.10261	.4745662	-.003101

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.336513	.3938020	3.038458	17.99175	F 10.24174	.2671247
Stddev	.268222	.0054880	.009666	.08453	.02330	.0016714
%RSD	20.06880	1.393581	.3181353	.4698413	.2274920	.6256947
#1	1.645993	.3910550	3.048216	17.89487	10.21943	.2670476
#2	1.171303	.3902300	3.038270	18.05054	10.26592	.2654933
#3	1.192243	.4001210	3.028886	18.02983	10.23986	.2688334

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-12DLX2 Acquired: 10/25/2024 22:29:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC3 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007883	2.454717	6.068154	.0279829	4.797095	.0835114
Stddev	.0005205	.014005	.008728	.0007396	.009153	.0027237
%RSD	66.03239	.5705294	.1438399	2.643051	.1907947	3.261521
#1	.0003013	2.439170	6.077849	.0282398	4.787129	.0836067
#2	.0013369	2.458635	6.060920	.0271491	4.799033	.0807412
#3	.0007268	2.466345	6.065692	.0285597	4.805124	.0861862

Elem	Sr4077
Units	ppm
Avg	.4475417
Stddev	.0011286
%RSD	.2521686
#1	.4462621
#2	.4479680
#3	.4483950

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1055.359	24911.20	3070.516	895.7833	1724.031
Stddev	.618	21.16	.787	.9197	2.007
%RSD	.0585704	.0849274	.0256268	.1026680	.1164340
#1	1054.904	24935.60	3071.171	894.8195	1724.898
#2	1055.112	24900.07	3069.644	895.8790	1721.736
#3	1056.063	24897.94	3070.734	896.6514	1725.459

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-13DLX2 Acquired: 10/25/2024 22:33:22 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3690599	-.031382	.8525438	.0056598	.0034757	121.4647	1.833473
Stddev	.0030116	.003687	.0031934	.0062665	.0009955	.2833	.004224
%RSD	.8160134	11.74746	.3745749	110.7197	28.64281	.2332050	.2304075
#1	.3678245	-.030896	.8537000	-.000808	.0028279	121.2174	1.833851
#2	.3724927	-.027962	.8549981	.011704	.0046220	121.7737	1.837496
#3	.3668625	-.035287	.8489334	.006083	.0029772	121.4030	1.829072

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0082331	.0295336	43.87508	.2972487	.1443376	3.660660	196.4701
Stddev	.0002315	.0001803	.13459	.0016070	.0011333	.005846	.7203
%RSD	2.811308	.6105690	.3067552	.5406067	.7851439	.1596873	.3666408
#1	.0082305	.0295873	43.71969	.2978827	.1453277	3.660074	195.8969
#2	.0084659	.0296809	43.95076	.2984420	.1445835	3.666777	197.2787
#3	.0080030	.0293325	43.95480	.2954215	.1431015	3.655130	196.2346

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.433352	38.12128	.4636232	-.010216	1.205406	.3503640	1.903281
Stddev	.015963	.07519	.0007005	.000509	.144777	.0089017	.011394
%RSD	.2481226	.1972288	.1510974	4.981677	12.01064	2.540688	.5986443
#1	6.425488	38.07320	.4639255	-.009880	1.368629	.3459873	1.894835
#2	6.451721	38.20792	.4641218	-.009966	1.155084	.3606067	1.916240
#3	6.422847	38.08271	.4628223	-.010801	1.092505	.3444980	1.898768

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.02506	9.510875	.2260750	-.000597	1.587200	7.392486	.0165597
Stddev	.13216	.028362	.0016860	.000807	.013854	.014293	.0008730
%RSD	.8247339	.2982057	.7457680	135.2620	.8728787	.1933512	5.271940
#1	16.11544	9.499755	.2277911	-.001527	1.586216	7.399860	.0174987
#2	16.08637	9.543112	.2260131	-.000181	1.601520	7.401586	.0164080
#3	15.87338	9.489757	.2244208	-.000082	1.573864	7.376011	.0157725

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-13DLX2 Acquired: 10/25/2024 22:33:22 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.265738	.0780415	.4435663
Stddev	.014110	.0015294	.0010508
%RSD	.3307717	1.959672	.2369044
#1	4.257163	.0771412	.4429699
#2	4.282023	.0798074	.4447796
#3	4.258027	.0771760	.4429494

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1051.558	24912.40	3072.758	899.0858	1723.801
Stddev	2.764	56.75	7.583	4.9513	6.854
%RSD	.2628324	.2277934	.2467852	.5507052	.3976107
#1	1051.318	24954.72	3074.327	903.6256	1720.114
#2	1048.921	24847.91	3064.513	893.8062	1719.580
#3	1054.433	24934.57	3079.434	899.8255	1731.709

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-14DLX2 Acquired: 10/25/2024 22:37:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5370197	-.046266	1.045863	.0039027	.0099306	171.6824
Stddev	.0021546	.004926	.000654	.0062718	.0022923	.3582
%RSD	.4012065	10.64814	.0624919	160.7042	23.08295	.2086655
#1	.5351145	-.041603	1.045896	.0005953	.0096709	171.9060
#2	.5365868	-.045776	1.045194	-.000023	.0077793	171.2692
#3	.5393579	-.051420	1.046500	.011136	.0123417	171.8720

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.511419	.0115919	.0401775	48.88875	.4281454	.1956481
Stddev	.005580	.0000866	.0002474	.06613	.0011110	.0009842
%RSD	.2221888	.7469657	.6156739	.1352700	.2594879	.5030504
#1	2.509856	.0116340	.0399810	48.95938	.4293850	.1964115
#2	2.506787	.0116493	.0400963	48.82830	.4278119	.1945373
#3	2.517614	.0114923	.0404553	48.87858	.4272394	.1959953

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.490057	303.3789	8.357720	50.35789	.6316054	-.016280
Stddev	.008382	.1219	.033104	.13621	.0013336	.000363
%RSD	.1866778	.0401806	.3960868	.2704916	.2111390	2.230189
#1	4.499688	303.5132	8.356748	50.29800	.6322932	-.015941
#2	4.484413	303.2753	8.325113	50.51379	.6300683	-.016235
#3	4.486070	303.3482	8.391299	50.26189	.6324546	-.016663

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.539327	.5259889	2.415843	20.29391	F 11.16249	.3365557
Stddev	.254375	.0027337	.011497	.03881	.00911	.0004147
%RSD	16.52507	.5197319	.4758921	.1912199	.0816046	.1232215
#1	1.248569	.5239296	2.405129	20.29823	11.15264	.3361033
#2	1.648633	.5249467	2.427989	20.25313	11.17061	.3366460
#3	1.720779	.5290904	2.414412	20.33038	11.16421	.3369179

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-14DLX2 Acquired: 10/25/2024 22:37:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC5 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006737	2.202095	4.060580	.0297600	5.329100	.1138526
Stddev	.0001980	.004786	.004444	.0036078	.009590	.0008176
%RSD	29.38538	.2173493	.1094508	12.12288	.1799517	.7180833
#1	.0004512	2.201074	4.055791	.0295625	5.332247	.1129593
#2	.0008304	2.197901	4.064571	.0262551	5.318332	.1145636
#3	.0007395	2.207309	4.061378	.0334626	5.336721	.1140348

Elem	Sr4077
Units	ppm
Avg	.5391689
Stddev	.0003350
%RSD	.0621300
#1	.5392622
#2	.5387971
#3	.5394473

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1054.442	24888.38	3089.851	897.7709	1653.159
Stddev	.744	62.86	4.170	1.9735	3.719
%RSD	.0705179	.2525578	.1349490	.2198263	.2249337
#1	1055.300	24819.76	3085.268	898.8641	1649.464
#2	1053.992	24902.22	3090.866	895.4926	1656.900
#3	1054.033	24943.17	3093.420	898.9558	1653.113

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-15DLX2 Acquired: 10/25/2024 22:42:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4072123	-.032709	.7090701	-.001213	.0097054	95.23086	1.544955
Stddev	.0117815	.001358	.0064770	.001604	.0018782	.32171	.003725
%RSD	2.893207	4.153082	.9134472	132.2714	19.35221	.3378242	.2411182
#1	.4143327	-.031298	.7042357	.000620	.0094668	94.98697	1.544736
#2	.3936133	-.034008	.7065453	-.001895	.0116915	95.11014	1.541344
#3	.4136910	-.032823	.7164292	-.002362	.0079579	95.59547	1.548785

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068784	.0294400	27.63478	.2404366	.1536923	3.690923	218.5272
Stddev	.0001896	.0001340	.11681	.0004441	.0004689	.007574	.8936
%RSD	2.756050	.4551581	.4226749	.1847208	.3050902	.2052046	.4089382
#1	.0066604	.0295042	27.51132	.2399481	.1531762	3.686339	217.7034
#2	.0069703	.0292859	27.74354	.2408161	.1538088	3.686764	218.4011
#3	.0070045	.0295297	27.64946	.2405457	.1540920	3.699665	219.4772

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.320269	35.54309	.2856346	-.012836	1.217910	.3654692	1.553642
Stddev	.025261	.12946	.0005832	.000336	.162070	.0153448	.001350
%RSD	.2710314	.3642276	.2041791	2.620444	13.30721	4.198651	.0869179
#1	9.304363	35.41169	.2857377	-.013017	1.368280	.3478625	1.552104
#2	9.307046	35.67051	.2850067	-.013044	1.239205	.3725510	1.554186
#3	9.349396	35.54707	.2861594	-.012448	1.046245	.3759942	1.554634

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.42451	6.806028	.2380337	.0022440	.7398555	3.063755	.0147555
Stddev	.10488	.014070	.0011652	.0007274	.0057128	.002335	.0021543
%RSD	.4895543	.2067223	.4894961	32.41468	.7721478	.0762183	14.59984
#1	21.35272	6.791155	.2367772	.0018868	.7356044	3.061553	.0142621
#2	21.37593	6.807802	.2382456	.0017642	.7463493	3.066204	.0128907
#3	21.54488	6.819126	.2390784	.0030809	.7376127	3.063510	.0171136

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-15DLX2 Acquired: 10/25/2024 22:42:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.283000	.0712211	.3953130
Stddev	.012937	.0011344	.0012763
%RSD	.3020647	1.592829	.3228582
#1	4.276318	.0720832	.3942562
#2	4.274769	.0716442	.3949518
#3	4.297912	.0699359	.3967310

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1039.138	24248.20	2990.309	876.1382	1698.327
Stddev	2.812	88.51	10.176	3.8415	2.102
%RSD	.2706513	.3650344	.3402950	.4384590	.1237741
#1	1042.385	24278.56	2998.228	879.3387	1700.582
#2	1037.452	24317.54	2993.868	877.1978	1697.977
#3	1037.578	24148.50	2978.832	871.8781	1696.421

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-16DLX2 Acquired: 10/25/2024 22:46:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3074193	-.027170	.6151892	-.000404	.0090097	84.48912	1.587264
Stddev	.0029464	.000768	.0032210	.001472	.0022108	.10473	.004964
%RSD	.9584198	2.828414	.5235859	364.3712	24.53789	.1239574	.3127303
#1	.3059847	-.027969	.6154985	.001044	.0112215	84.43868	1.591071
#2	.3054650	-.026437	.6182444	-.000357	.0067999	84.60953	1.589071
#3	.3108082	-.027103	.6118246	-.001899	.0090078	84.41915	1.581649

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065840	.0253069	25.35499	.2173418	.1407014	2.996485	232.9608
Stddev	.0000986	.0001005	.12417	.0001841	.0012457	.008573	.5605
%RSD	1.496897	.3971963	.4897137	.0846826	.8853714	.2861177	.2405869
#1	.0066812	.0253708	25.23086	.2171755	.1400166	3.003171	232.3168
#2	.0064841	.0253589	25.47919	.2173103	.1399484	2.999466	233.2276
#3	.0065868	.0251910	25.35491	.2175396	.1421393	2.986819	233.3381

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.65555	32.23981	.2613106	-.015230	1.187032	.3486315	1.345506
Stddev	.02905	.14642	.0010812	.000158	.285754	.0028254	.003480
%RSD	.2726259	.4541579	.4137464	1.035098	24.07300	.8104225	.2586605
#1	10.68211	32.20787	.2606631	-.015239	1.422150	.3475273	1.344765
#2	10.66003	32.39957	.2607100	-.015068	.868986	.3518422	1.349297
#3	10.62453	32.11200	.2625588	-.015383	1.269960	.3465249	1.342455

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.84294	6.401859	.2541540	.0014506	.8043793	4.098059	.0173982
Stddev	.15756	.015951	.0005582	.0007535	.0086408	.013897	.0018026
%RSD	.8361916	.2491545	.2196355	51.93943	1.074215	.3391060	10.36092
#1	18.95516	6.391754	.2538800	.0009847	.7946271	4.092605	.0158740
#2	18.91085	6.393576	.2547962	.0010473	.8110814	4.113856	.0169328
#3	18.66281	6.420247	.2537856	.0023199	.8074292	4.087717	.0193879

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-16DLX2 Acquired: 10/25/2024 22:46:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.197593	.0631683	.3365839
Stddev	.006186	.0008125	.0005199
%RSD	.1473618	1.286167	.1544532
#1	4.195837	.0641011	.3369172
#2	4.204467	.0627885	.3368497
#3	4.192476	.0626154	.3359849

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1020.811	23967.06	2927.650	866.4801	1707.504
Stddev	.402	30.56	11.428	3.2847	1.573
%RSD	.0393765	.1274932	.3903527	.3790826	.0921068
#1	1020.504	23975.98	2930.322	865.4019	1706.101
#2	1020.664	23933.03	2915.122	863.8700	1709.204
#3	1021.266	23992.16	2937.505	870.1684	1707.206

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-17DLX2 Acquired: 10/25/2024 22:50:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2400315	-.028977	.5186087	.0052412	.0074343	108.0681	1.721533
Stddev	.0041723	.003724	.0030623	.0030397	.0015524	.2900	.005208
%RSD	1.738214	12.85254	.5904803	57.99612	20.88110	.2683700	.3025441
#1	.2398242	-.032497	.5188684	.0021237	.0074858	107.7796	1.719635
#2	.2443036	-.029357	.5154249	.0081966	.0089602	108.3596	1.727424
#3	.2359668	-.025078	.5215329	.0054034	.0058568	108.0651	1.717540

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0076834	.0177549	36.66396	.2747314	.1292114	1.964636	206.7527
Stddev	.0001606	.0000518	.15878	.0004951	.0002761	.008077	.0992
%RSD	2.090484	.2919235	.4330682	.1802126	.2136488	.4111353	.0479853
#1	.0075438	.0178109	36.55649	.2748816	.1295295	1.959381	206.8612
#2	.0076476	.0177087	36.84633	.2751341	.1290702	1.973937	206.7301
#3	.0078590	.0177449	36.58904	.2741786	.1290345	1.960591	206.6667

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.253382	33.64428	.4068471	-.012171	1.134746	.3416746	1.141071
Stddev	.024637	.18419	.0008302	.000918	.214436	.0029326	.003444
%RSD	.3939844	.5474624	.2040486	7.540920	18.89725	.8583141	.3017826
#1	6.255858	33.72403	.4065863	-.012693	1.273346	.3416045	1.144827
#2	6.276688	33.77515	.4061787	-.011111	.887752	.3387777	1.140322
#3	6.227600	33.43365	.4077764	-.012708	1.243141	.3446417	1.138063

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.43085	7.685668	.2314283	-.000718	1.443818	4.339563	.0103693
Stddev	.09987	.016373	.0007442	.000389	.004908	.016267	.0010161
%RSD	.6472117	.2130296	.3215566	54.15840	.3399174	.3748584	9.799462
#1	15.53603	7.692736	.2319736	-.001122	1.446668	4.343197	.0092092
#2	15.41918	7.697320	.2305805	-.000685	1.438151	4.353706	.0111016
#3	15.33732	7.666949	.2317309	-.000347	1.446636	4.321786	.0107971

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-17DLX2 Acquired: 10/25/2024 22:50:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.480584	.0728332	.3771125
Stddev	.008781	.0009577	.0007402
%RSD	.1959850	1.314889	.1962731
#1	4.477814	.0730708	.3765662
#2	4.490416	.0717790	.3779549
#3	4.473522	.0736496	.3768164

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1014.347	23880.01	2927.140	864.9608	1702.708
Stddev	.340	118.10	15.868	2.0842	3.076
%RSD	.0335356	.4945705	.5421090	.2409604	.1806551
#1	1014.130	23942.51	2925.682	862.9515	1699.480
#2	1014.739	23743.79	2912.051	864.8183	1705.605
#3	1014.172	23953.74	2943.687	867.1126	1703.039

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-18DLX2 Acquired: 10/25/2024 22:55:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1246800	-.031488	.3853312	-.005091	.0031289	134.8379
Stddev	.0039284	.003325	.0021128	.004677	.0003202	.4635
%RSD	3.150817	10.55908	.5482975	91.87631	10.23487	.3437544
#1	.1235323	-.031544	.3870767	.000085	.0028649	135.3728
#2	.1214532	-.028135	.3829824	-.009015	.0030367	134.5561
#3	.1290545	-.034784	.3859345	-.006343	.0034851	134.5847

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.476991	.0082182	.0144913	52.68755	.2711771	.1255624
Stddev	.004942	.0000754	.0002354	.34538	.0019975	.0008198
%RSD	.1994978	.9169117	1.624341	.6555266	.7366095	.6528843
#1	2.482678	.0082225	.0142734	53.06387	.2712370	.1247325
#2	2.474550	.0081407	.0147409	52.38504	.2731440	.1263717
#3	2.473745	.0082912	.0144596	52.61375	.2691503	.1255832

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.278967	201.1456	6.686819	45.53236	.4248254	-.014196
Stddev	.007862	.8837	.021358	.28819	.0013635	.000491
%RSD	.6147000	.4393285	.3193999	.6329250	.3209591	3.455735
#1	1.285497	202.1150	6.691880	45.85788	.4232520	-.014736
#2	1.270240	200.3851	6.663386	45.30979	.4255628	-.014076
#3	1.281163	200.9367	6.705192	45.42940	.4256614	-.013778

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.283108	.3355370	1.179936	25.56227	F 10.67307	.2391074
Stddev	.301473	.0069732	.002135	.05773	.01851	.0020699
%RSD	23.49553	2.078218	.1809567	.2258366	.1734469	.8656908
#1	1.095083	.3315308	1.178911	25.61279	10.69387	.2413102
#2	1.123405	.3314913	1.182390	25.49935	10.65841	.2372027
#3	1.630834	.3435889	1.178506	25.57468	10.66694	.2388093

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-18DLX2 Acquired: 10/25/2024 22:55:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBC9 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000128	1.962336	4.521635	.0138915	4.388298	.0900111
Stddev	.000602	.005321	.030975	.0010245	.011801	.0012602
%RSD	470.5016	.2711636	.6850312	7.375013	.2689240	1.400054
#1	.000273	1.965838	4.557085	.0127457	4.401917	.0903083
#2	-.000820	1.956213	4.499798	.0142097	4.381092	.0910961
#3	.000163	1.964957	4.508023	.0147192	4.381884	.0886288

Elem	Sr4077
Units	ppm
Avg	.6051191
Stddev	.0019839
%RSD	.3278462
#1	.6074055
#2	.6038527
#3	.6040992

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1018.445	24127.02	2977.344	872.4870	1670.776
Stddev	.906	17.98	17.163	.6480	.173
%RSD	.0889994	.0745215	.5764380	.0742750	.0103607
#1	1019.122	24119.44	2959.499	872.2006	1670.975
#2	1017.415	24114.08	2993.732	872.0315	1670.685
#3	1018.798	24147.55	2978.800	873.2289	1670.666

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-19DLX2 Acquired: 10/25/2024 22:59:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4644402	-.030019	.7872854	-.003417	.0023890	119.0256	2.512293
Stddev	.0090233	.004281	.0045919	.001532	.0026383	.2648	.000905
%RSD	1.942839	14.25975	.5832574	44.82924	110.4349	.2224522	.0360379
#1	.4743359	-.031600	.7916314	-.003247	-.000464	119.3301	2.511291
#2	.4623168	-.033284	.7824818	-.005027	.004740	118.8972	2.512538
#3	.4566680	-.025172	.7877431	-.001978	.002891	118.8495	2.513051

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0079383	.0405657	38.79267	.2966354	.1447761	4.003639	194.3079
Stddev	.0000865	.0001496	.22824	.0010827	.0004572	.019101	.8276
%RSD	1.089373	.3686818	.5883511	.3649884	.3158337	.4770851	.4259099
#1	.0078801	.0407067	39.02872	.2961858	.1451068	4.024181	195.2534
#2	.0078970	.0404089	38.77613	.2978705	.1442543	3.986415	193.7148
#3	.0080376	.0405815	38.57315	.2958500	.1449672	4.000320	193.9557

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.412168	38.59661	.4769427	-.010086	1.205290	.3645246	2.345052
Stddev	.005830	.20744	.0004974	.000267	.238680	.0028622	.004973
%RSD	.0909231	.5374666	.1042898	2.645368	19.80270	.7851981	.2120587
#1	6.418850	38.56314	.4772664	-.009872	1.312662	.3630085	2.339314
#2	6.408120	38.40793	.4763699	-.010000	1.371425	.3627393	2.348107
#3	6.409533	38.81875	.4771917	-.010385	.931782	.3678260	2.347736

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.22838	9.094324	.2153884	-.000572	.8489392	7.033572	.0135939
Stddev	.02305	.016063	.0015839	.000686	.0064294	.037128	.0019742
%RSD	.1884891	.1766252	.7353726	119.7633	.7573514	.5278621	14.52293
#1	12.24104	9.093002	.2169120	-.000252	.8460150	7.075048	.0158054
#2	12.20178	9.078963	.2137504	-.001360	.8444916	7.003439	.0129672
#3	12.24233	9.111007	.2155027	-.000106	.8563110	7.022229	.0120091

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-19DLX2 Acquired: 10/25/2024 22:59:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.301866	.0766063	.5570521
Stddev	.010929	.0008371	.0006361
%RSD	.2540577	1.092735	.1141936
#1	4.313808	.0769497	.5577866
#2	4.299428	.0756521	.5566843
#3	4.292361	.0772171	.5566853

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1030.546	24480.78	3003.272	882.8545	1687.474
Stddev	.346	70.02	17.924	2.2030	3.428
%RSD	.0335522	.2860294	.5968255	.2495312	.2031415
#1	1030.943	24417.06	2982.728	883.0291	1686.565
#2	1030.308	24469.54	3011.365	880.5694	1691.265
#3	1030.388	24555.74	3015.723	884.9650	1684.593

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-20DLX2 Acquired: 10/25/2024 23:03:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4064623	-.028067	.7082030	.0072599	.0034221	108.4728	2.064468
Stddev	.0071743	.003498	.0035240	.0018910	.0014868	.1329	.003699
%RSD	1.765049	12.46146	.4975990	26.04705	43.44668	.1225640	.1791620
#1	.4129018	-.025186	.7103689	.0054043	.0040765	108.3275	2.060213
#2	.3987293	-.031959	.7101034	.0091844	.0044694	108.5884	2.066277
#3	.4077559	-.027058	.7041367	.0071909	.0017203	108.5026	2.066915

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072685	.0411176	37.81653	.2925276	.1430203	3.890292	196.5073
Stddev	.0002094	.0002490	.13531	.0017207	.0001742	.008130	.5411
%RSD	2.880850	.6055063	.3578041	.5882074	.1218118	.2089690	.2753820
#1	.0071723	.0410988	37.66255	.2908360	.1429198	3.886518	196.1129
#2	.0075087	.0408785	37.91646	.2924707	.1429197	3.899622	197.1243
#3	.0071245	.0413754	37.87059	.2942760	.1432215	3.884735	196.2848

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.080731	38.25652	.4544746	-.011146	1.324350	.3629911	2.311042
Stddev	.017271	.18340	.0015118	.000364	.223914	.0062545	.016384
%RSD	.2439117	.4794066	.3326535	3.269220	16.90744	1.723033	.7089392
#1	7.066540	38.27743	.4535557	-.011338	1.566232	.3701514	2.326954
#2	7.075691	38.42857	.4536486	-.011374	1.124306	.3585951	2.311950
#3	7.099960	38.06355	.4562195	-.010726	1.282512	.3602267	2.294223

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.80505	8.795238	.2214539	-.000183	1.193929	5.672481	.0127002
Stddev	.11637	.015687	.0005993	.000187	.008778	.024470	.0006434
%RSD	.8429815	.1783598	.2706341	102.3743	.7351968	.4313803	5.066186
#1	13.75532	8.812044	.2208015	.000019	1.195413	5.649722	.0128172
#2	13.72182	8.792685	.2215801	-.000218	1.201870	5.698362	.0132771
#3	13.93803	8.780983	.2219801	-.000350	1.184504	5.669359	.0120063

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-20DLX2 Acquired: 10/25/2024 23:03:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.547266	.0742563	.4989897
Stddev	.012781	.0007067	.0015108
%RSD	.2810799	.9517012	.3027707
#1	4.532651	.0741255	.4973785
#2	4.556354	.0750193	.5003746
#3	4.552791	.0736242	.4992161

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1032.328	24192.97	2997.551	867.0799	1691.743
Stddev	.866	23.66	3.846	7.9386	.947
%RSD	.0838499	.0977969	.1282999	.9155558	.0559843
#1	1032.985	24172.94	2999.743	858.6924	1690.715
#2	1031.347	24219.08	2993.111	868.0708	1691.934
#3	1032.653	24186.90	2999.800	874.4766	1692.581

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-21DLX2 Acquired: 10/25/2024 23:08:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.193421	-.033505	2.810465	.0144056	.0273116	210.9647
Stddev	.008916	.001302	.003118	.0125247	.0020506	1.0446
%RSD	.7471035	3.884761	.1109302	86.94281	7.508155	.4951553
#1	1.186547	-.034980	2.812949	.0215156	.0261976	209.7751
#2	1.190221	-.033016	2.806966	.0217572	.0260592	211.7323
#3	1.203496	-.032519	2.811479	-.000056	.0296781	211.3867

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.201544	.0131510	.0647196	37.60245	.5822642	.1891553
Stddev	.009086	.0000567	.0001360	.29096	.0016345	.0004147
%RSD	.4127026	.4307357	.2100982	.7737735	.2807131	.2192526
#1	2.191629	.0131378	.0648635	37.26672	.5830978	.1890238
#2	2.203530	.0131021	.0647019	37.75938	.5833139	.1896198
#3	2.209472	.0132130	.0645933	37.78125	.5803810	.1888222

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.01839	187.5333	5.569360	42.76902	.5436296	.0189784
Stddev	.04713	.7102	.010923	.17712	.0020765	.0004017
%RSD	.3361936	.3786887	.1961200	.4141259	.3819759	2.116543
#1	13.97443	186.7186	5.567048	42.65262	.5438428	.0187249
#2	14.06815	187.8601	5.559779	42.97285	.5414547	.0194415
#3	14.01258	188.0213	5.581254	42.68159	.5455913	.0187687

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.210669	.3074852	6.050774	14.51841	F 10.42775	.2675115
Stddev	.092620	.0101959	.020715	.10617	.01989	.0027252
%RSD	4.189670	3.315906	.3423508	.7312566	.1907587	1.018730
#1	2.314895	.3153717	6.030242	14.39615	10.44884	.2645069
#2	2.137792	.2959717	6.071667	14.58729	10.40932	.2682037
#3	2.179320	.3111124	6.050413	14.57180	10.42508	.2698238

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-21DLX2 Acquired: 10/25/2024 23:08:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD2 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065271	2.908917	5.637115	.0893122	5.277493	.0775643
Stddev	.0005269	.025399	.032606	.0032177	.018815	.0021609
%RSD	8.072920	.8731331	.5784158	3.602735	.3565057	2.785943
#1	.0063452	2.935769	5.612880	.0910656	5.255853	.0753196
#2	.0061153	2.885277	5.624280	.0855987	5.289982	.0796303
#3	.0071209	2.905704	5.674185	.0912724	5.286643	.0777430

Elem	Sr4077
Units	ppm
Avg	.6025976
Stddev	.0024230
%RSD	.4020940
#1	.5999675
#2	.6047390
#3	.6030863

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1010.401	23640.12	2933.584	853.0428	1669.205
Stddev	2.966	32.60	11.858	4.4076	2.249
%RSD	.2935523	.1379074	.4042139	.5166924	.1347224
#1	1007.233	23653.04	2946.939	856.9151	1666.615
#2	1013.112	23603.04	2929.523	848.2464	1670.667
#3	1010.857	23664.28	2924.290	853.9668	1670.332

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-22DLX2 Acquired: 10/25/2024 23:12:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5015352	-.035693	2.234131	.0098636	.0260693	256.9676
Stddev	.0105492	.000769	.003822	.0015288	.0014113	.5389
%RSD	2.103389	2.155417	.1710533	15.49951	5.413754	.2097171
#1	.5088568	-.034898	2.230156	.0090319	.0275070	256.9576
#2	.5063055	-.036434	2.234458	.0116280	.0260150	256.4337
#3	.4894434	-.035746	2.237779	.0089310	.0246859	257.5114

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.646812	.0182341	.0569416	53.71456	.6608878	.1263484
Stddev	.009025	.0001048	.0002956	.10509	.0005216	.0001772
%RSD	.3409839	.5747561	.5190358	.1956519	.0789201	.1402481
#1	2.652972	.0182097	.0566290	53.70862	.6609375	.1263810
#2	2.636453	.0183489	.0569793	53.61256	.6603431	.1261572
#3	2.651013	.0181437	.0572165	53.82250	.6613827	.1265071

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.305046	202.9089	4.429277	53.80027	.6651742	.0024554
Stddev	.022612	.7470	.025039	.11183	.0020547	.0000506
%RSD	.2722659	.3681330	.5653090	.2078588	.3088937	2.060118
#1	8.297377	202.4168	4.455682	53.74390	.6630522	.0024834
#2	8.287267	202.5414	4.405875	53.72785	.6653164	.0024858
#3	8.330495	203.7684	4.426274	53.92907	.6671542	.0023970

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.478228	.3198025	7.019785	25.64152	F 11.80130	.3321694
Stddev	.189056	.0044328	.025800	.08413	.02597	.0007958
%RSD	12.78938	1.386117	.3675286	.3281079	.2200730	.2395896
#1	1.687034	.3197264	7.049318	25.61368	11.77304	.3328704
#2	1.428981	.3242729	7.001635	25.73605	11.82412	.3323334
#3	1.318668	.3154082	7.008400	25.57485	11.80672	.3313043

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4331-22DLX2 Acquired: 10/25/2024 23:12:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD3 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068199	5.356786	5.923499	.1298353	5.324457	.0947766
Stddev	.0000368	.007128	.021646	.0002509	.013664	.0003713
%RSD	.5397933	.1330727	.3654241	.1932768	.2566251	.3917281
#1	.0067779	5.348995	5.925160	.1301243	5.328961	.0948709
#2	.0068465	5.358381	5.901071	.1297102	5.309110	.0943673
#3	.0068354	5.362981	5.944267	.1296716	5.335301	.0950916

Elem	Sr4077
Units	ppm
Avg	.6781981
Stddev	.0016378
%RSD	.2414928
#1	.6797036
#2	.6764542
#3	.6784364

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	993.7392	23540.32	2909.790	853.0913	1648.495
Stddev	.8674	48.71	3.184	3.2318	1.894
%RSD	.0872821	.2069072	.1094403	.3788381	.1148827
#1	994.7274	23502.42	2910.989	849.5666	1650.680
#2	993.3867	23523.27	2912.200	853.7920	1647.339
#3	993.1037	23595.26	2906.180	855.9153	1647.465

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164276BL Acquired: 10/25/2024 23:17:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS276 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001353	-.000613	.0027186	-.003702	-.002306	-.108851	-.000373
Stddev	.004521	.002663	.0019459	.002013	.001603	.006220	.000546
%RSD	334.0230	434.3761	71.57730	54.38491	69.49963	5.714383	146.4237
#1	-.002080	-.002047	.0044329	-.002377	-.002113	-.102301	.000248
#2	-.005467	.002459	.0031193	-.006018	-.003997	-.114678	-.000586
#3	.003486	-.002251	.0006035	-.002710	-.000809	-.109573	-.000780

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000090	-.000254	-.043476	-.000537	.0000879	-.000222	-.049358
Stddev	.000100	.000026	.006092	.000861	.0004745	.003624	.026589
%RSD	111.1913	10.39574	14.01131	160.2798	539.9637	1630.762	53.86979
#1	-.000195	-.000232	-.036443	-.001400	-.000102	-.003382	-.078904
#2	-.000080	-.000246	-.046891	-.000532	-.000262	.003735	-.027355
#3	.000004	-.000283	-.047094	.000321	.000628	-.001020	-.041816

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003383	-.075918	-.000263	.0005790	.0659340	-.005340	-.002746
Stddev	.001275	.055443	.000401	.0002866	.1292418	.009022	.000332
%RSD	37.69742	73.03100	152.7563	49.49242	196.0168	168.9636	12.08985
#1	-.004137	-.058281	-.000048	.0002607	.2124837	.004873	-.002402
#2	-.001911	-.031438	-.000014	.0008165	.0170691	-.008663	-.002772
#3	-.004102	-.138034	-.000725	.0006597	-.031751	-.012228	-.003065

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.045074	-.000425	.0015720	-.000149	-.008121	.0001588	.0002013
Stddev	.088597	.004232	.0002780	.000124	.002253	.0004425	.0001792
%RSD	196.5570	996.5597	17.68656	83.62936	27.74758	278.6269	89.01505
#1	-.145259	-.004035	.0015476	-.000215	-.010362	.0005659	.0002249
#2	.022953	-.001471	.0018615	-.000225	-.005855	.0002227	.0003675
#3	-.012917	.004232	.0013070	-.000005	-.008146	-.000312	.0000115

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164276BL Acquired: 10/25/2024 23:17:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS276 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001144	.0030479	-.000254
Stddev	.001548	.0008940	.000028
%RSD	135.3318	29.33236	11.20134
#1	-.000844	.0031571	-.000287
#2	-.002819	.0038822	-.000237
#3	.000232	.0021043	-.000238

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	941.7433	21853.72	2639.004	802.1754	1829.361
Stddev	.7403	5.09	11.528	3.9798	.321
%RSD	.0786109	.0232892	.4368439	.4961275	.0175253
#1	941.9654	21856.39	2627.679	799.8255	1829.056
#2	940.9174	21856.92	2638.607	799.9302	1829.330
#3	942.3472	21847.85	2650.725	806.7705	1829.695

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164276BS Acquired: 10/25/2024 23:21:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS276 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0186848	.0485142	.0228427	.0569819	.1079871	.3512615
Stddev	.0032382	.0008647	.0018664	.0014503	.0032654	.0090931
%RSD	17.33081	1.782433	8.170628	2.545152	3.023874	2.588698
#1	.0197580	.0476924	.0207803	.0580452	.1075979	.3472715
#2	.0212502	.0494163	.0233323	.0553298	.1114296	.3616675
#3	.0150462	.0484339	.0244155	.0575706	.1049337	.3448456

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4201872	.0110221	.0100693	11.01803	.0213830	.1008147
Stddev	.0001296	.0001986	.0001324	.04687	.0002876	.0001738
%RSD	.0308362	1.801341	1.315127	.4254103	1.344843	.1723866
#1	.4202928	.0111915	.0099274	10.96685	.0212587	.1009550
#2	.4200426	.0110712	.0101896	11.02834	.0211786	.1008689
#3	.4202262	.0108036	.0100908	11.05888	.0217119	.1006203

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0512005	.1538018	.0319522	10.37789	.0841866	.0220271
Stddev	.0026381	.0156296	.0002362	.11886	.0003249	.0007172
%RSD	5.152480	10.16216	.7392728	1.145332	.3859024	3.256012
#1	.0520285	.1718080	.0318423	10.45758	.0841613	.0228217
#2	.0482478	.1437426	.0322234	10.24127	.0838751	.0214278
#3	.0533254	.1458547	.0317910	10.43481	.0845234	.0218317

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.62037	.1102017	.1091280	10.06344	.0163057	F .0019448
Stddev	.21882	.0042519	.0005976	.11449	.0015695	.0004460
%RSD	2.060385	3.858302	.5475820	1.137722	9.625648	22.93394
#1	10.45719	.1098483	.1086889	10.14308	.0173494	.0021558
#2	10.53489	.1146193	.1098085	9.93223	.0145007	.0022461
#3	10.86903	.1061375	.1088866	10.11501	.0170670	.0014324

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164276BS Acquired: 10/25/2024 23:21:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS276 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0183419	.1606819	F .4837228	.0143458	.2059465	.0328764
Stddev	.0004218	.0018236	.0010879	.0005720	.0023395	.0010515
%RSD	2.299918	1.134909	.2248986	3.987445	1.135990	3.198475
#1	.0185958	.1585766	.4831597	.0139294	.2079681	.0321432
#2	.0178549	.1617671	.4849769	.0141099	.2064877	.0324048
#3	.0185749	.1617021	.4830320	.0149980	.2033839	.0340812

Elem	Sr4077
Units	ppm
Avg	.2141258
Stddev	.0002612
%RSD	.1219925
#1	.2138362
#2	.2143436
#3	.2141976

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	941.4627	21857.07	2656.919	796.6036	1787.340
Stddev	1.1610	62.79	6.034	2.3099	1.822
%RSD	.1233219	.2872551	.2270911	.2899744	.1019141
#1	940.2004	21786.78	2653.337	797.9944	1787.119
#2	942.4848	21907.59	2653.535	793.9371	1789.262
#3	941.7030	21876.84	2663.885	797.8792	1785.640

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164276BSD Acquired: 10/25/2024 23:26:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD276 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068299	.0203268	.0100456	.0255240	.0477075	.0878356	.2043973
Stddev	.0044562	.0024239	.0012753	.0008909	.0015681	.0071344	.0005323
%RSD	65.24607	11.92455	12.69508	3.490374	3.286854	8.122423	.2604408
#1	.0029531	.0180582	.0108947	.0254124	.0468198	.0918091	.2048254
#2	.0116985	.0200416	.0085791	.0246941	.0495181	.0920986	.2045651
#3	.0058381	.0228807	.0106629	.0264654	.0467847	.0795993	.2038012

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051651	.0047472	5.230865	.0101423	.0480797	.0250944	.0299405
Stddev	.0001405	.0000399	.023243	.0006937	.0003608	.0038720	.0093696
%RSD	2.719500	.8401638	.4443434	6.839574	.7503466	15.42989	31.29395
#1	.0051105	.0047922	5.204247	.0099979	.0479421	.0280986	.0403325
#2	.0053247	.0047333	5.247148	.0108968	.0478080	.0207246	.0273509
#3	.0050602	.0047162	5.241200	.0095322	.0484891	.0264600	.0221381

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138029	4.932454	.0407075	.0107823	4.885018	.0426161	.0513815
Stddev	.0014742	.077304	.0006591	.0004951	.368083	.0055806	.0001242
%RSD	10.68066	1.567252	1.619168	4.591658	7.534946	13.09512	.2416332
#1	.0140999	5.019701	.0409689	.0111630	5.025547	.0478202	.0513413
#2	.0151060	4.905167	.0411958	.0102226	4.467371	.0367229	.0515209
#3	.0122027	4.872495	.0399578	.0109612	5.162134	.0433050	.0512825

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.876221	.0062153	.0012542	.0083976	.0699088	.2327709	.0069089
Stddev	.084295	.0013928	.0002748	.0001960	.0058267	.0008503	.0008511
%RSD	1.728688	22.40970	21.91283	2.333630	8.334769	.3652859	12.31917
#1	4.781358	.0075377	.0015268	.0085237	.0723695	.2317975	.0068137
#2	4.942528	.0047614	.0009772	.0081719	.0632554	.2333687	.0061095
#3	4.904778	.0063468	.0012588	.0084973	.0741016	.2331466	.0078037

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: PB164276BSD Acquired: 10/25/2024 23:26:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD276 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0973705	.0157204	.1033183
Stddev	.0003945	.0008836	.0003769
%RSD	.4051451	5.620600	.3647551
#1	.0974741	.0147752	.1037210
#2	.0969346	.0158602	.1032596
#3	.0977029	.0165257	.1029742

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	947.2802	21812.96	2635.933	799.9625	1811.399
Stddev	2.8114	30.73	7.877	1.8358	.523
%RSD	.2967884	.1408590	.2988156	.2294805	.0288511
#1	944.1317	21800.74	2644.950	797.9312	1810.997
#2	948.1693	21790.22	2630.393	800.4535	1811.210
#3	949.5396	21847.91	2632.457	801.5029	1811.990

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-01DLX2 Acquired: 10/25/2024 23:30:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7626565	-.028802	3.806659	.0399612	.0695554	578.3869	1.946560
Stddev	.0068935	.005281	.016120	.0027413	.0070400	1.3732	.006077
%RSD	.9038772	18.33440	.4234600	6.860007	10.12140	.2374252	.3121726
#1	.7575390	-.022865	3.803758	.0425852	.0776832	578.0549	1.951977
#2	.7599353	-.032975	3.792187	.0371159	.0653657	577.2101	1.939989
#3	.7704953	-.030566	3.824033	.0401825	.0656174	579.8957	1.947714

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0374389	.0897198	33.38226	1.621721	.1169612	21.50553	144.4458
Stddev	.0003473	.0005217	.09817	.003955	.0001731	.04597	.4461
%RSD	.9275407	.5814308	.2940746	.2438614	.1479782	.2137809	.3088215
#1	.0378397	.0895126	33.41416	1.619724	.1167845	21.49209	144.2702
#2	.0372505	.0893337	33.27211	1.619163	.1171304	21.46777	144.1142
#3	.0372266	.0903133	33.46051	1.626276	.1169687	21.55673	144.9529

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.638716	75.67240	.9492961	.0296551	2.434939	.3435731	14.82322
Stddev	.018677	.25046	.0038856	.0004950	.073542	.0055697	.04374
%RSD	.4026390	.3309839	.4093122	1.669293	3.020270	1.621114	.2951105
#1	4.653194	75.49140	.9495141	.0302263	2.350420	.3494864	14.78278
#2	4.617634	75.56756	.9453061	.0293519	2.470076	.3384264	14.81723
#3	4.645321	75.95825	.9530681	.0293870	2.484322	.3428064	14.86966

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.79402	8.687283	.5142434	.0249451	6.655645	10.46362	.3403145
Stddev	.03018	.049294	.0008696	.0010111	.021284	.03792	.0023493
%RSD	.1910717	.5674325	.1691046	4.053445	.3197960	.3623923	.6903291
#1	15.76551	8.659631	.5136273	.0259564	6.632005	10.42276	.3383761
#2	15.79091	8.658021	.5138647	.0249449	6.661646	10.47040	.3396402
#3	15.82562	8.744196	.5152381	.0239341	6.673286	10.49768	.3429272

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-01DLX2 Acquired: 10/25/2024 23:30:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.525737	.1004156	.4509206
Stddev	.029112	.0003847	.0011324
%RSD	.5268445	.3830932	.2511301
#1	5.519575	.1008097	.4515088
#2	5.500200	.1000411	.4496151
#3	5.557437	.1003961	.4516378

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	955.8960	22421.50	2854.056	817.0946	1603.054
Stddev	2.1234	33.76	5.735	.7018	3.279
%RSD	.2221409	.1505476	.2009298	.0858906	.2045640
#1	956.4773	22394.40	2859.388	817.7894	1602.531
#2	957.6682	22410.79	2847.990	816.3860	1606.563
#3	953.5424	22459.31	2854.791	817.1084	1600.067

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-02DLX2 Acquired: 10/25/2024 23:34:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8566869	-.045592	3.689319	.0212588	.0286788	278.7037	2.554711
Stddev	.0038909	.003400	.002423	.0081633	.0008566	.8137	.003223
%RSD	.4541841	7.457418	.0656754	38.39973	2.986838	.2919456	.1261563
#1	.8522923	-.047324	3.687916	.0284990	.0287730	278.3872	2.551156
#2	.8580750	-.041675	3.687925	.0124114	.0277790	279.6280	2.557442
#3	.8596935	-.047777	3.692117	.0228659	.0294844	278.0958	2.555534

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0200756	.0737470	38.33845	.7170991	.1378308	14.09408	316.6257
Stddev	.0002112	.0000962	.24917	.0021487	.0006123	.04228	1.7299
%RSD	1.051857	.1304079	.6499157	.2996357	.4442314	.2999529	.5463610
#1	.0200927	.0738246	38.36619	.7146182	.1382909	14.05558	316.5238
#2	.0198564	.0736394	38.57258	.7183639	.1371359	14.13932	318.4042
#3	.0202777	.0737769	38.07657	.7183153	.1380658	14.08734	314.9489

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.596218	50.65564	.6379369	.0073614	1.706334	.3198794	10.41542
Stddev	.010808	.25504	.0014061	.0003350	.206516	.0128934	.02208
%RSD	.2351541	.5034713	.2204092	4.550190	12.10292	4.030694	.2120348
#1	4.592127	50.87222	.6363243	.0070803	1.908330	.3344423	10.43725
#2	4.608475	50.72017	.6385805	.0072717	1.495577	.3099184	10.41591
#3	4.588053	50.37454	.6389061	.0077320	1.715096	.3152776	10.39309

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.67802	9.314636	.4577678	.0088271	6.850274	6.905528	.5368453
Stddev	.15247	.019254	.0020510	.0005668	.017467	.016706	.0018889
%RSD	.7748462	.2067113	.4480530	6.420935	.2549857	.2419235	.3518478
#1	19.58957	9.321659	.4571918	.0085428	6.842670	6.916820	.5349816
#2	19.85408	9.292855	.4600453	.0084587	6.837898	6.913426	.5367959
#3	19.59041	9.329392	.4560665	.0094798	6.870254	6.886337	.5387583

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-02DLX2 Acquired: 10/25/2024 23:34:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.647304	.0842971	.4312165
Stddev	.013462	.0012202	.0012900
%RSD	.2896680	1.447474	.2991600
#1	4.645582	.0830925	.4309232
#2	4.661543	.0855323	.4326279
#3	4.634786	.0842666	.4300983

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	981.6095	23199.88	2890.841	843.6830	1653.354
Stddev	2.4268	24.21	9.885	2.3029	1.380
%RSD	.2472220	.1043484	.3419583	.2729522	.0834423
#1	978.8598	23205.44	2884.018	842.5769	1651.795
#2	983.4517	23173.37	2886.327	842.1420	1654.417
#3	982.5170	23220.82	2902.177	846.3303	1653.850

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-03DLX2 Acquired: 10/25/2024 23:39:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4740780	-.030947	4.424558	.0347344	.0895303	643.9924	1.656933
Stddev	.0075176	.003225	.004763	.0012480	.0033507	.1182	.004342
%RSD	1.585726	10.41973	.1076421	3.592994	3.742514	.0183572	.2620405
#1	.4727583	-.034662	4.429770	.0346429	.0901406	643.9102	1.655356
#2	.4673076	-.029305	4.423471	.0360256	.0925339	643.9391	1.661843
#3	.4821680	-.028873	4.420432	.0335346	.0859165	644.1279	1.653600

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0440560	.0827041	29.99091	2.202828	.1189533	25.74417	129.3664
Stddev	.0004327	.0004749	.10181	.005925	.0003657	.04725	.1719
%RSD	.9821083	.5741914	.3394782	.2689839	.3074214	.1835507	.1328986
#1	.0437003	.0826747	30.05124	2.196525	.1185498	25.71214	129.3815
#2	.0439299	.0831930	29.87336	2.203674	.1192627	25.79844	129.1875
#3	.0445376	.0822446	30.04812	2.208285	.1190476	25.72193	129.5304

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.411425	106.4840	1.252670	.0421648	2.248252	.3451508	17.14880
Stddev	.008109	.1420	.001952	.0007010	.108392	.0165474	.10950
%RSD	.1838278	.1333267	.1557996	1.662438	4.821148	4.794265	.6385409
#1	4.404668	106.3366	1.253078	.0415566	2.136528	.3260797	17.03918
#2	4.420418	106.4956	1.254386	.0420062	2.255255	.3557041	17.14903
#3	4.409189	106.6199	1.250547	.0429314	2.352972	.3536687	17.25819

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.79437	5.022766	.6898050	.0394023	7.991650	11.24041	.4104308
Stddev	.07841	.011339	.0028141	.0008674	.010840	.03415	.0032747
%RSD	.4964490	.2257423	.4079578	2.201333	.1356457	.3037906	.7978680
#1	15.77556	5.032180	.6888295	.0399014	7.991315	11.22646	.4106057
#2	15.88048	5.025938	.6876084	.0399048	8.002655	11.21546	.4136146
#3	15.72708	5.010179	.6929770	.0384008	7.980982	11.27933	.4070722

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-03DLX2 Acquired: 10/25/2024 23:39:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.855726	.0799731	.3023523
Stddev	.010443	.0005257	.0001531
%RSD	.1783344	.6573980	.0506260
#1	5.844482	.0798719	.3022230
#2	5.857576	.0795053	.3025213
#3	5.865121	.0805420	.3023126

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	926.9081	21924.47	2828.495	797.0705	1587.359
Stddev	3.7858	59.79	7.029	3.1274	4.789
%RSD	.4084303	.2726959	.2485188	.3923587	.3016898
#1	924.9436	21979.51	2825.304	799.8654	1582.564
#2	924.5084	21933.03	2836.554	797.6535	1587.369
#3	931.2723	21860.86	2823.626	793.6927	1592.142

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-04DLX2 Acquired: 10/25/2024 23:43:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.062532	-.037927	3.156996	.0116533	.0388728	353.4977
Stddev	.006089	.008876	.004595	.0085184	.0024815	.7945
%RSD	.5731110	23.40290	.1455566	73.09801	6.383749	.2247477
#1	1.066948	-.031093	3.154391	.0201155	.0405535	354.1381
#2	1.065063	-.047959	3.154295	.0117646	.0360226	353.7463
#3	1.055585	-.034730	3.162302	.0030799	.0400422	352.6086

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.421642	.0239199	.0798324	48.54522	.9997852	.1855387
Stddev	.007150	.0001737	.0000525	.21162	.0041399	.0008710
%RSD	.2089586	.7263038	.0658108	.4359207	.4140746	.4694488
#1	3.427801	.0237592	.0797733	48.72332	1.004201	.1861167
#2	3.423325	.0238961	.0798738	48.60106	.999163	.1845369
#3	3.413801	.0241043	.0798501	48.31128	.995992	.1859626

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.98010	225.2745	5.578204	61.21359	.8932996	.0141355
Stddev	.04505	.9884	.008084	.21746	.0014941	.0003015
%RSD	.3007320	.4387336	.1449143	.3552528	.1672506	2.133108
#1	15.03197	225.7538	5.584922	61.41189	.8915856	.0143885
#2	14.95765	225.9317	5.569233	61.24785	.8939867	.0142163
#3	14.95069	224.1378	5.580457	60.98103	.8943264	.0138019

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.896570	.4128654	9.138243	19.12287	F 17.25427	.3795468
Stddev	.227342	.0034475	.035713	.07586	.01262	.0006310
%RSD	4.642891	.8350281	.3908090	.3966815	.0731464	.1662636
#1	5.111124	.4167236	9.170790	19.05714	17.24108	.3795182
#2	4.658299	.4117855	9.143898	19.10559	17.25548	.3789305
#3	4.920285	.4100871	9.100039	19.20587	17.26623	.3801916

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-04DLX2 Acquired: 10/25/2024 23:43:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD7 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0142149	7.222131	6.245345	.1830128	5.926977	.1038733
Stddev	.0003986	.021351	.023487	.0038595	.010453	.0013297
%RSD	2.803770	.2956328	.3760666	2.108890	.1763593	1.280115
#1	.0139467	7.214562	6.269198	.1856284	5.933939	.1039970
#2	.0146728	7.246235	6.222243	.1848299	5.932034	.1024861
#3	.0140251	7.205595	6.244593	.1785801	5.914957	.1051368

Elem	Sr4077
Units	ppm
Avg	.9763073
Stddev	.0010244
%RSD	.1049304
#1	.9770991
#2	.9766724
#3	.9751503

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	998.8782	23690.45	3002.240	859.0096	1622.793
Stddev	2.8569	124.68	14.315	4.7917	.884
%RSD	.2860098	.5263053	.4768147	.5578220	.0544661
#1	995.5794	23621.91	2985.875	855.1896	1623.035
#2	1000.503	23615.06	3008.403	857.4531	1623.531
#3	1000.552	23834.37	3012.440	864.3861	1621.814

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-05DLX2 Acquired: 10/25/2024 23:47:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5796010	-.034035	5.177779	.0593465	.1124260	734.2845	1.902872
Stddev	.0075991	.002087	.011933	.0027665	.0052082	7.0471	.004389
%RSD	1.311086	6.132853	.2304632	4.661655	4.632584	.9597294	.2306621
#1	.5846282	-.032555	5.167609	.0603753	.1108132	738.1203	1.897817
#2	.5708591	-.033128	5.174814	.0614513	.1082150	738.5817	1.905087
#3	.5833156	-.036423	5.190915	.0562130	.1182499	726.1515	1.905713

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0515412	.0951642	34.79357	2.088341	.1260001	28.06105	154.3322
Stddev	.0001879	.0003832	.19055	.003796	.0009047	.05842	.3760
%RSD	.3646367	.4026625	.5476522	.1817772	.7180201	.2081982	.2436056
#1	.0513665	.0955128	34.66103	2.089617	.1250943	27.99444	154.0629
#2	.0517401	.0947539	35.01193	2.091334	.1260022	28.08512	154.7617
#3	.0515170	.0952260	34.70774	2.084071	.1269038	28.10360	154.1719

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.919578	122.3862	1.136188	.0468536	2.791742	.3918892	19.18139
Stddev	.007683	.2204	.001748	.0006913	.189819	.0028134	.14662
%RSD	.1561643	.1801152	.1538592	1.475529	6.799302	.7178956	.7643931
#1	4.911238	122.1448	1.134587	.0471537	2.928048	.3886684	19.31548
#2	4.921127	122.5768	1.135924	.0473441	2.574939	.3931329	19.02483
#3	4.926368	122.4370	1.138053	.0460629	2.872237	.3938664	19.20385

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.80738	6.379793	.7992326	.0450706	10.00207	10.61083	.4255630
Stddev	.07103	.015541	.0044254	.0006762	.00101	.04484	.0026334
%RSD	.3776548	.2436007	.5537069	1.500267	.0101245	.4225723	.6187996
#1	18.72539	6.375196	.7990461	.0449305	10.00236	10.57298	.4253333
#2	18.85014	6.367069	.8037484	.0458059	10.00095	10.66035	.4283037
#3	18.84662	6.397114	.7949034	.0444755	10.00291	10.59917	.4230520

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-05DLX2 Acquired: 10/25/2024 23:47:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.247204	.0936447	.3748377
Stddev	.012700	.0008747	.0006973
%RSD	.2032835	.9340489	.1860198
#1	6.233655	.0926759	.3740326
#2	6.249120	.0938818	.3752483
#3	6.258836	.0943764	.3752322

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	937.6940	21927.71	2868.953	798.5454	1565.245
Stddev	2.8509	78.04	12.854	6.4083	1.376
%RSD	.3040364	.3559171	.4480510	.8024977	.0878796
#1	935.4974	21875.77	2875.833	791.6916	1566.522
#2	940.9158	21889.91	2854.123	804.3880	1565.425
#3	936.6689	22017.46	2876.903	799.5565	1563.789

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-06DLX2 Acquired: 10/25/2024 23:52:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.564870	-.023958	3.493834	.0093844	.0355515	192.6533
Stddev	.013300	.021388	.011963	.0031869	.0029002	.3595
%RSD	.8498961	89.27244	.3424106	33.95969	8.157665	.1866086
#1	1.554235	.000610	3.480103	.0092630	.0379123	193.0670
#2	1.560592	-.034064	3.499390	.0062600	.0323142	192.4762
#3	1.579782	-.038420	3.502009	.0126303	.0364280	192.4168

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.301150	.0134603	.0611009	38.46369	.6071379	.1522875
Stddev	.001766	.0001345	.0000992	.13881	.0025361	.0001935
%RSD	.0767640	.9995476	.1623486	.3608769	.4177130	.1270834
#1	2.303003	.0136142	.0609952	38.53959	.6051005	.1521673
#2	2.300962	.0134013	.0611920	38.30348	.6063348	.1521843
#3	2.299485	.0133653	.0611154	38.54799	.6099783	.1525107

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.75048	203.7090	4.552890	52.25068	.6145135	.0207283
Stddev	.02254	.7650	.004830	.10738	.0015656	.0004423
%RSD	.1918432	.3755535	.1060870	.2055128	.2547738	2.133888
#1	11.76050	204.5775	4.548369	52.30015	.6142929	.0202965
#2	11.76627	203.4149	4.552324	52.12748	.6130699	.0211804
#3	11.72466	203.1347	4.557979	52.32442	.6161777	.0207081

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.667526	.3386104	5.565277	13.72363	F 13.84254	.2796656
Stddev	.095885	.0068185	.018068	.09493	.03909	.0011926
%RSD	2.614444	2.013674	.3246564	.6917593	.2823929	.4264413
#1	3.710326	.3462135	5.566888	13.77093	13.81946	.2802131
#2	3.734558	.3330378	5.582486	13.78562	13.82049	.2804863
#3	3.557695	.3365799	5.546458	13.61434	13.88767	.2782976

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: P4332-06DLX2 Acquired: 10/25/2024 23:52:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBD9 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0080207	3.997741	6.039745	.0966016	5.257491	.0698493
Stddev	.0004748	.010726	.025848	.0007022	.013124	.0009708
%RSD	5.919091	.2683032	.4279597	.7268817	.2496322	1.389790
#1	.0083316	3.990306	6.025138	.0972901	5.272175	.0689600
#2	.0082563	3.992879	6.024508	.0966284	5.253394	.0697030
#3	.0074742	4.010037	6.069589	.0958865	5.246904	.0708849

Elem	Sr4077
Units	ppm
Avg	.7563072
Stddev	.0012622
%RSD	.1668893
#1	.7577536
#2	.7557391
#3	.7554288

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1009.922	23657.35	2942.768	857.3603	1674.078
Stddev	3.081	67.54	9.978	5.4553	2.697
%RSD	.3050636	.2855103	.3390751	.6362898	.1611008
#1	1013.336	23697.49	2947.771	857.9273	1675.985
#2	1009.081	23579.37	2949.255	851.6437	1675.256
#3	1007.348	23695.20	2931.278	862.5100	1670.992

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCV003 Acquired: 10/25/2024 23:56:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.706348	4.705200	23.31890	4.609472	4.566534	397.3742	9.749340
Stddev	.007341	.007902	.08505	.013786	.011839	1.0419	.026923
%RSD	.1559907	.1679387	.3647136	.2990757	.2592460	.2621866	.2761516
#1	4.703858	4.697390	23.26544	4.622406	4.563591	396.8382	9.718864
#2	4.700577	4.713190	23.27430	4.594969	4.556444	396.7095	9.759264
#3	4.714611	4.705020	23.41698	4.611040	4.579566	398.5750	9.769892

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4943553	2.286462	394.6768	14.79197	2.378994	14.50123	404.3989
Stddev	.0033898	.009085	1.8739	.01054	.008389	.01971	1.8893
%RSD	.6856927	.3973211	.4748016	.0712582	.3526154	.1359059	.4671803
#1	.4922950	2.280968	394.7019	14.80335	2.371530	14.50406	404.0526
#2	.4925033	2.281470	392.7905	14.78253	2.377380	14.48026	402.7067
#3	.4982676	2.296948	396.5381	14.79004	2.388073	14.51937	406.4373

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.37046	394.7738	2.367176	1.204464	402.7215	2.413144	13.95472
Stddev	.05013	1.7068	.006404	.004445	1.1655	.017859	.13427
%RSD	.3488251	.4323364	.2705350	.3690132	.2894120	.7400885	.9621965
#1	14.31339	394.3913	2.361390	1.203693	401.6443	2.399557	13.83191
#2	14.39066	393.2907	2.366082	1.209243	402.5614	2.406502	13.93416
#3	14.40735	396.6393	2.374057	1.200455	403.9588	2.433373	14.09808

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	148.7705	4.827142	5.142330	4.517262	4.786663	5.139181	4.693217
Stddev	.4207	.013908	.026238	.014153	.010739	.024799	.007881
%RSD	.2827902	.2881231	.5102433	.3133161	.2243541	.4825420	.1679137
#1	148.3550	4.816714	5.160799	4.508513	4.782254	5.148414	4.694646
#2	148.7604	4.821780	5.112296	4.509682	4.778830	5.111091	4.684720
#3	149.1962	4.842934	5.153894	4.533591	4.798905	5.158040	4.700285

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCV003 Acquired: 10/25/2024 23:56:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV003 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.792837	5.126652	4.971101
Stddev	.011888	.022911	.008540
%RSD	.2480282	.4468995	.1718006
#1	4.781622	5.127176	4.961728
#2	4.791589	5.103483	4.973133
#3	4.805299	5.149296	4.978442

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	755.5717	19804.33	2499.634	613.3551	1397.836
Stddev	1.7526	25.06	14.484	6.0335	3.039
%RSD	.2319592	.1265584	.5794543	.9836863	.2174041
#1	756.7063	19829.98	2500.563	619.3806	1400.352
#2	756.4556	19779.89	2513.631	613.3709	1398.697
#3	753.5531	19803.13	2484.708	607.3137	1394.459

Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCB003 Acquired: 10/26/2024 0:00:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001932	-.002713	-.000668	-.004555	-.002886	-.095178	-.000304
Stddev	.004134	.002228	.001826	.001185	.001971	.004974	.000378
%RSD	213.9709	82.11563	273.4314	26.01296	68.29511	5.226303	124.4132
#1	-.000450	-.005238	.000850	-.005639	-.003225	-.090932	.000102
#2	-.006603	-.001877	-.000160	-.004737	-.004664	-.093951	-.000368
#3	.001257	-.001024	-.002693	-.003290	-.000767	-.100651	-.000645

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000039	-.000049	-.051142	-.000883	.0000981	.0049121	-.069213
Stddev	.000061	.000082	.017671	.000787	.0003107	.0029573	.015563
%RSD	157.1392	169.4266	34.55333	89.20229	316.7884	60.20426	22.48522
#1	-.000110	-.000048	-.071506	-.001742	-.000218	.0081039	-.057041
#2	.000001	.000033	-.042074	-.000710	.000403	.0022650	-.086748
#3	-.000008	-.000131	-.039846	-.000196	.000109	.0043675	-.063851

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000614	-.093779	-.000046	.0013416	.0497514	-.004030	-.001993
Stddev	.000550	.047398	.000396	.0001077	.2596015	.003014	.000308
%RSD	89.45985	50.54190	862.7100	8.029304	521.7971	74.79989	15.44410
#1	-.001151	-.145882	-.000437	.0013501	.3331297	-.007337	-.002177
#2	-.000640	-.082237	-.000056	.0012299	-.176587	-.003317	-.001638
#3	-.000053	-.053219	.000355	.0014448	-.007289	-.001436	-.002165

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1240014	-.001440	.0078891	-.000307	-.011195	.0006322	.0004721
Stddev	.0208651	.001994	.0008759	.000265	.001531	.0001182	.0021463
%RSD	16.82652	138.4636	11.10286	86.20329	13.67543	18.70028	454.6648
#1	.1165977	-.003059	.0088857	-.000002	-.009914	.0006309	-.001895
#2	.1078477	-.002050	.0075400	-.000474	-.010781	.0005146	.001018
#3	.1475588	.000788	.0072415	-.000446	-.012891	.0007511	.002292

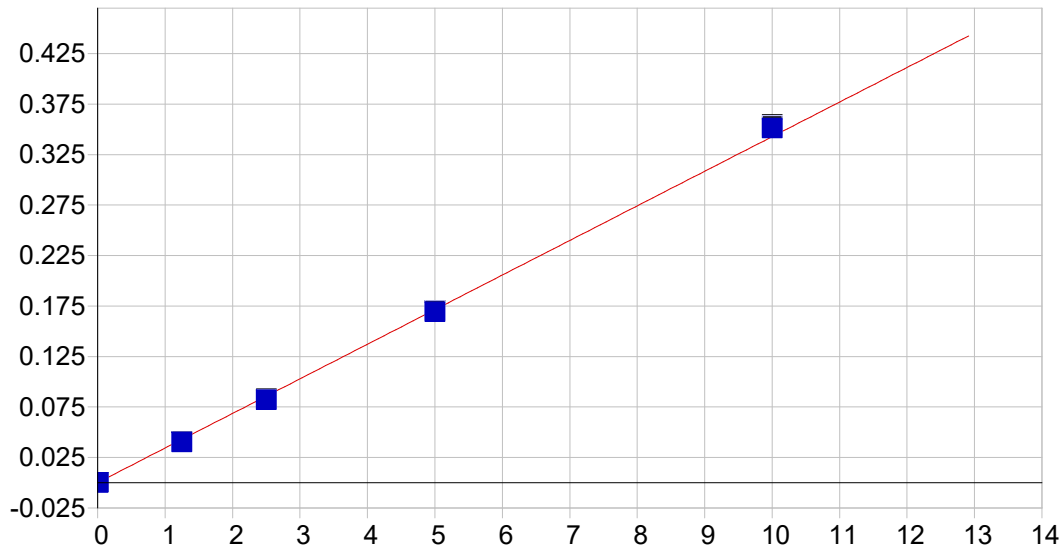
Reviewed By:jaswal
On:10/30/2024 6:08:53 AM
Inst Id :P5

Sample Name: CCB003 Acquired: 10/26/2024 0:00:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v709) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB003 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000323	.0040298	-.000269
Stddev	.001528	.0015456	.000026
%RSD	473.3334	38.35477	9.615813
#1	.000479	.0038640	-.000295
#2	.000637	.0025738	-.000243
#3	-.002084	.0056516	-.000270

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	940.9196	21777.70	2607.419	799.8211	1831.536
Stddev	2.6977	47.11	5.311	1.8788	2.120
%RSD	.2867048	.2163446	.2036714	.2348965	.1157758
#1	938.4239	21729.51	2604.689	797.6820	1829.415
#2	940.5532	21779.94	2613.539	801.2033	1831.538
#3	943.7818	21823.66	2604.029	800.5780	1833.656

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



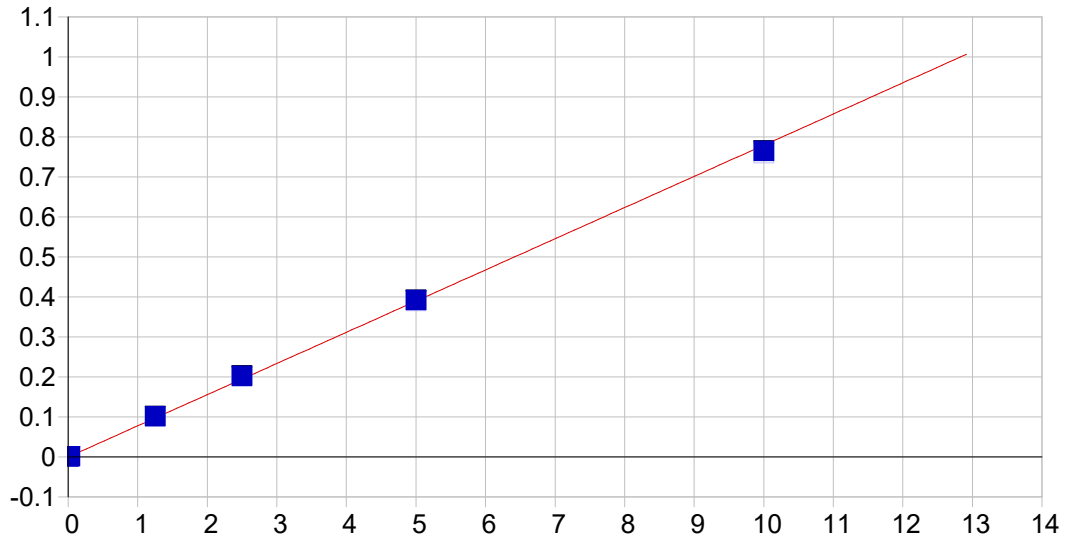
As 189.042 {479}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000111	Re-Slope:	1.000000
A1 (Gain):	0.034263	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999571	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.005195		
Predicted MQL:	0.017318		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00011	.000	1
S1	.01000	.01035	.000	3.51	.00047	.000	1
S2	1.2500	1.1706	-.079	-6.35	.04054	.000	1
S3	2.5000	2.3958	-.104	-4.17	.08284	.000	1
S4	5.0000	4.9356	-.064	-1.29	.17051	.000	1
S5	10.000	10.248	.248	2.48	.35379	.001	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



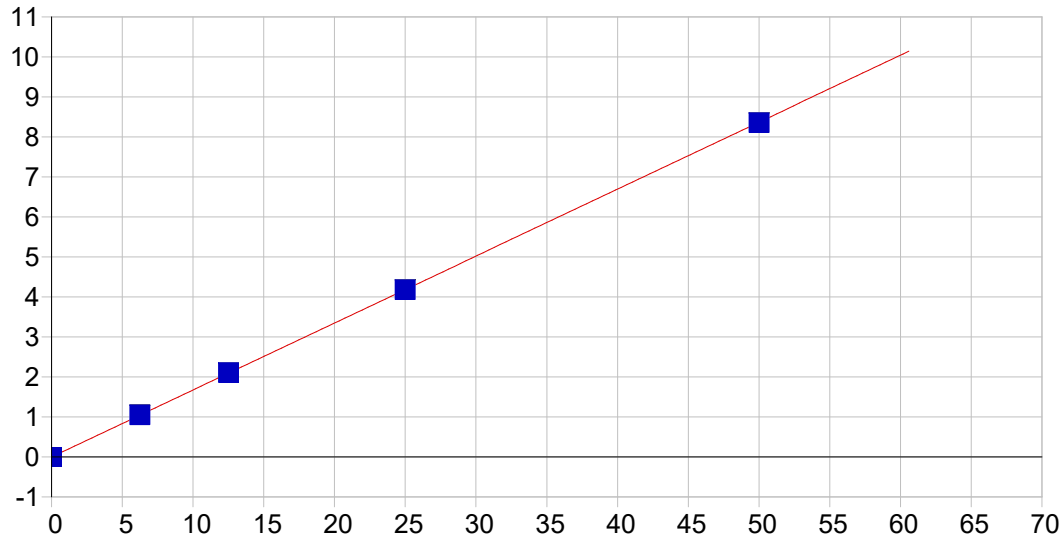
Tl 190.856 {477}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000296	Re-Slope:	1.000000
A1 (Gain):	0.077955	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999736	Status:	OK.
Std Error of Est:	0.000047		
Predicted MDL:	0.003088		
Predicted MQL:	0.010294		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00030	.000	1
S1	.02500	.02591	.001	3.65	.00168	.000	1
S2	1.2500	1.3053	.055	4.42	.10079	.000	1
S3	2.5000	2.5961	.096	3.84	.20074	.001	1
S4	5.0000	5.0322	.032	.643	.38930	.000	1
S5	10.000	9.8155	-.184	-1.84	.75951	.000	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



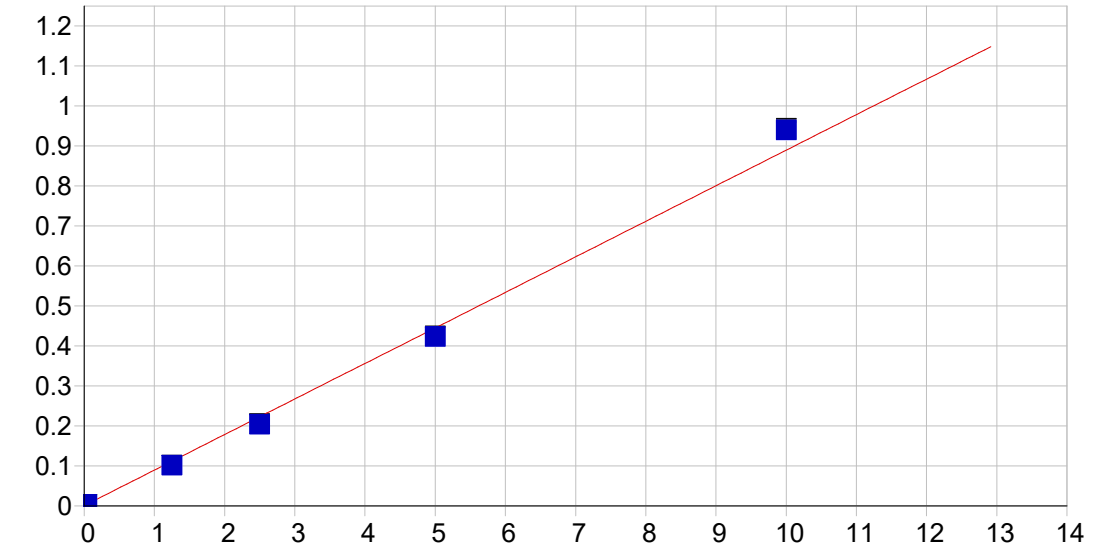
Pb 220.353 {453}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000900	Re-Slope:	1.000000
A1 (Gain):	0.167382	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.003195		
Predicted MQL:	0.010651		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00090	.000	1
S1	.01000	.01018	.000	1.77	.00081	.000	1
S2	6.2500	6.2659	.016	.254	1.0476	.004	1
S3	12.500	12.590	.090	.724	2.1060	.006	1
S4	25.000	24.976	-.024	-.094	4.1787	.005	1
S5	50.000	49.917	-.083	-.166	8.3522	.007	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



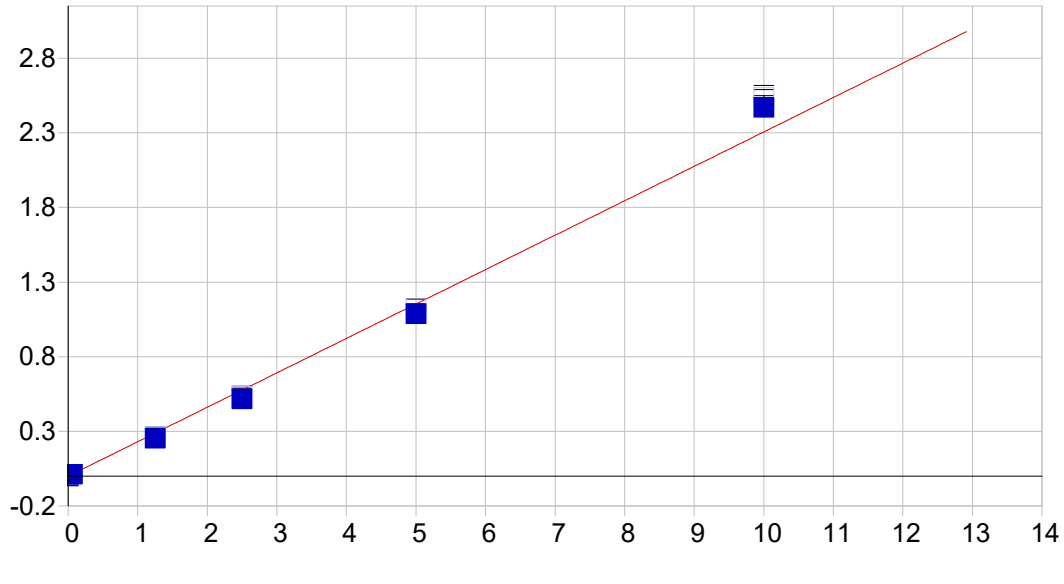
Se 196.090 {472}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000680	Re-Slope:	1.000000
A1 (Gain):	0.088880	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998033	Status:	OK.
Std Error of Est:	0.000175		
Predicted MDL:	0.005015		
Predicted MQL:	0.016715		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00068	.000	1
S1	.03500	.03269	-.002	-6.60	.00358	.000	1
S2	1.2500	1.1341	-.116	-9.27	.10127	.000	1
S3	2.5000	2.2890	-.211	-8.44	.20370	.001	1
S4	5.0000	4.7543	-.246	-4.91	.42240	.001	1
S5	10.000	10.575	.575	5.75	.93889	.004	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



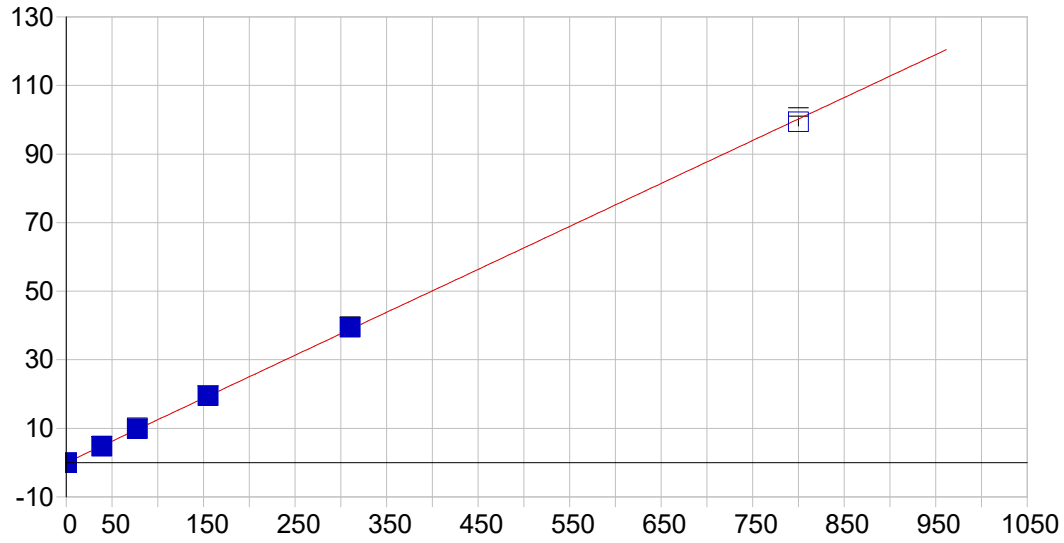
Sb 206.833 {463}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000140	Re-Slope:	1.000000
A1 (Gain):	0.230651	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997176	Status:	OK.
Std Error of Est:	0.000735		
Predicted MDL:	0.002371		
Predicted MQL:	0.007903		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	-.00014	.000	1
S1	.06000	.05648	-.004	-5.86	.01289	.001	1
S2	1.2500	1.0929	-.157	-12.6	.26045	.001	1
S3	2.5000	2.2426	-.257	-10.3	.53415	.002	1
S4	5.0000	4.7112	-.289	-5.78	1.1206	.001	1
S5	10.000	10.707	.707	7.07	2.5374	.013	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



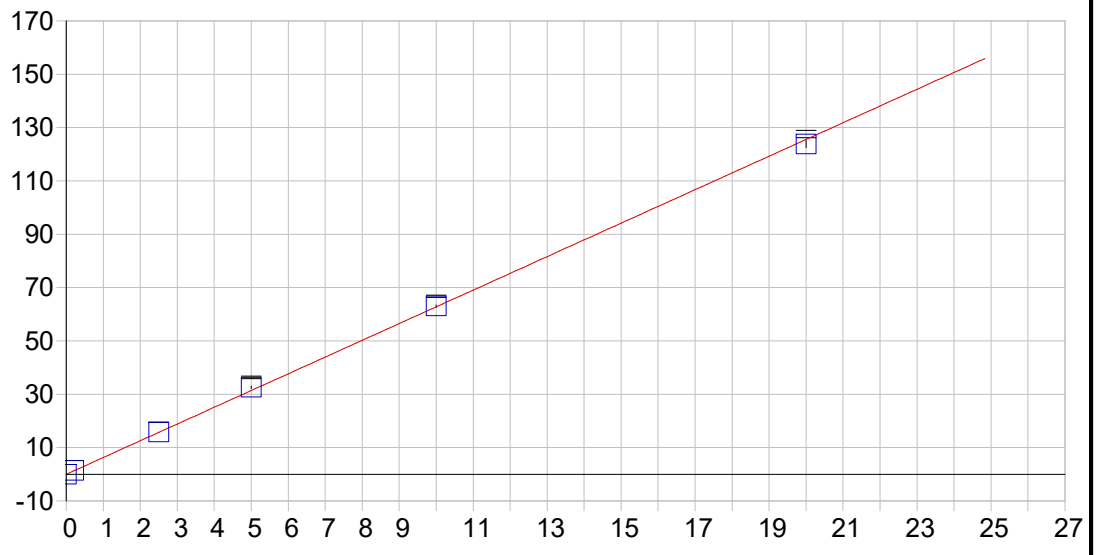
Al 396.152 { 85}

Date of Fit:	10/28/2024 17:21:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.003309	Re-Slope:	1.000000
A1 (Gain):	0.125275	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000878		
Predicted MDL:	0.014456		
Predicted MQL:	0.048188		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	-.00331	.002	1
S1	.20000	.21211	.012	6.06	.02331	.002	1
S2	38.750	38.181	-.569	-1.47	4.7856	.003	1
S3	77.500	79.120	1.62	2.09	9.9202	.136	1
S4	155.00	155.69	.690	.445	19.524	.093	1
S5	310.00	314.83	4.83	1.56	39.484	.105	1
S6	800.00	793.41	-6.59	-.824	99.391	1.24	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



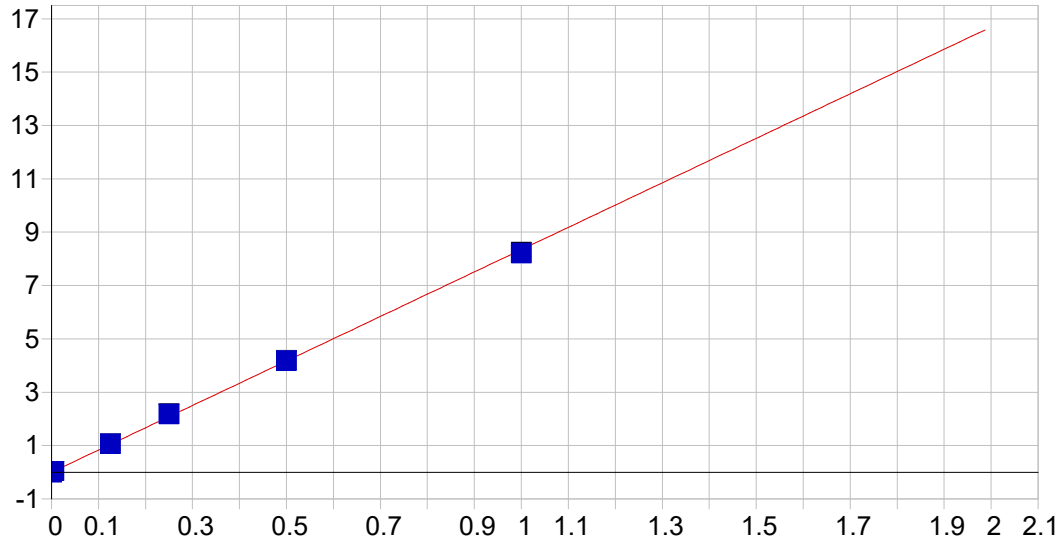
Ba 493.409 { 68}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000530	Re-Slope:	1.000000
A1 (Gain):	6.277063	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999824	Status:	OK.
Std Error of Est:	0.012531		
Predicted MDL:	0.000557		
Predicted MQL:	0.001858		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	.00036	.003	1
S1	.20000	.21953	.020	9.76	1.3785	.006	1
S2	2.5000	2.5151	.015	.602	15.788	.054	1
S3	5.0000	5.1941	.194	3.88	32.604	.465	1
S4	10.000	10.040	.040	.397	63.021	.418	1
S5	20.000	19.732	-.268	-1.34	123.86	1.39	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



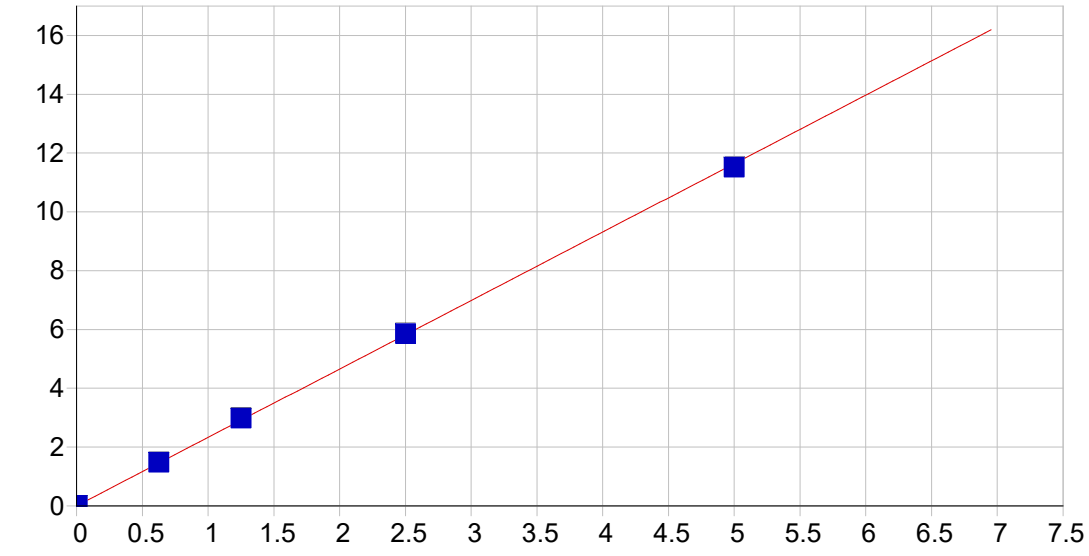
Be 234.861 {144}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.002641	Re-Slope:	1.000000
A1 (Gain):	8.348016	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999757	Status:	OK.
Std Error of Est:	0.000690		
Predicted MDL:	0.000125		
Predicted MQL:	0.000416		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00265	.001	1
S1	.00500	.00556	.001	11.2	.04376	.001	1
S2	.12500	.12775	.003	2.20	1.0621	.005	1
S3	.25000	.26159	.012	4.64	2.1778	.012	1
S4	.50000	.50087	.001	.175	4.1720	.012	1
S5	1.0000	.98422	-.016	-1.58	8.2002	.035	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



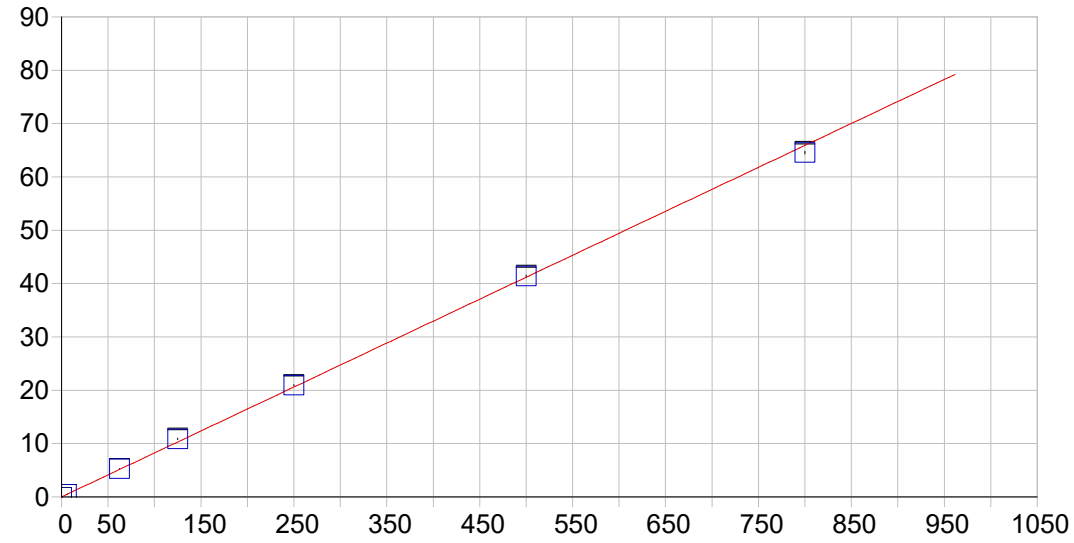
Cd 214.438 {457}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000821	Re-Slope:	1.000000
A1 (Gain):	2.328421	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999913	Status:	OK.
Std Error of Est:	0.000258		
Predicted MDL:	0.000138		
Predicted MQL:	0.000460		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00082	.000	1
S1	.00500	.00555	.001	11.0	.01376	.000	1
S2	.62500	.63669	.012	1.87	1.4868	.002	1
S3	1.2500	1.2783	.028	2.26	2.9842	.009	1
S4	2.5000	2.5152	.015	.608	5.8712	.009	1
S5	5.0000	4.9443	-.056	-1.11	11.541	.011	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



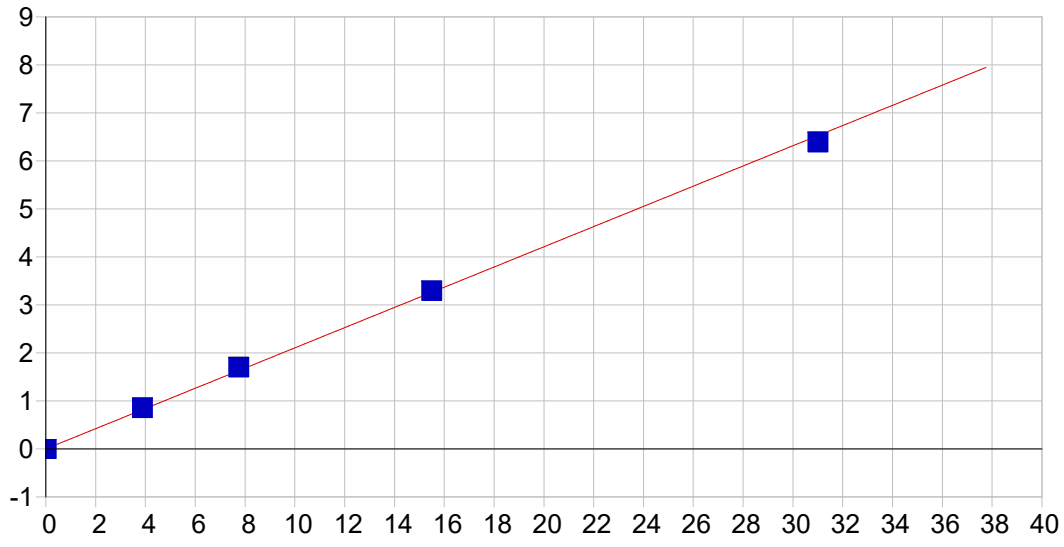
Ca 373.690 { 90}

Date of Fit:	10/28/2024 17:21:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005737	Re-Slope:	1.000000
A1 (Gain):	0.082376	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999725	Status:	OK.
Std Error of Est:	0.006747		
Predicted MDL:	0.017571		
Predicted MQL:	0.058571		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00115	-.001	.000	.00564	.002	1
S1	5.0000	5.7237	.724	14.5	.47724	.000	1
S2	62.500	64.173	1.67	2.68	5.2921	.022	1
S3	125.00	131.99	6.99	5.59	10.879	.154	1
S4	250.00	254.32	4.32	1.73	20.956	.125	1
S5	500.00	502.55	2.55	.511	41.404	.168	1
S6	800.00	783.73	-16.3	-2.03	64.567	.252	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



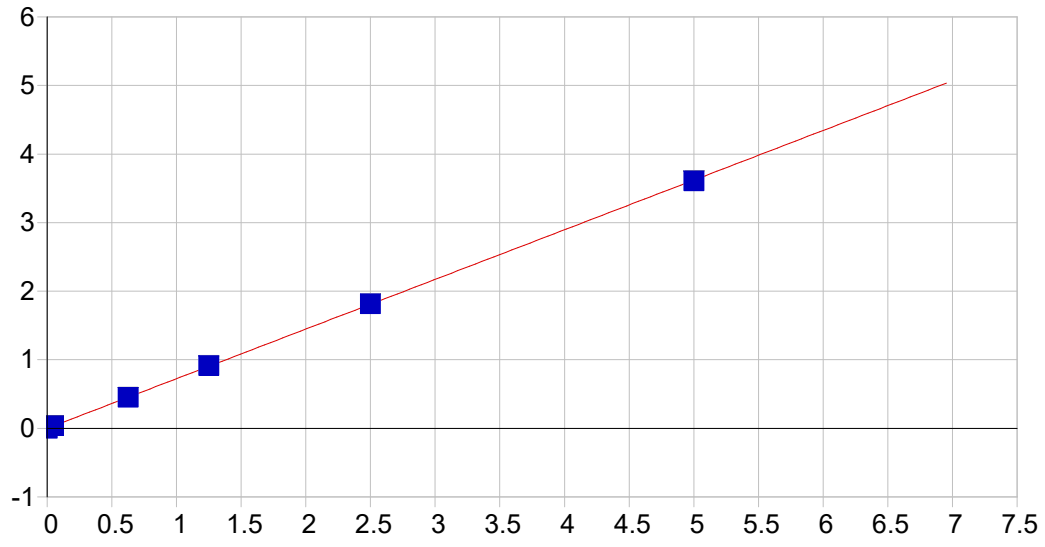
Cr 267.716 {126}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000261	Re-Slope:	1.000000
A1 (Gain):	0.210503	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999681	Status:	OK.
Std Error of Est:	0.000157		
Predicted MDL:	0.000984		
Predicted MQL:	0.003279		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00026	.000	1
S1	.01000	.01150	.002	15.0	.00216	.000	1
S2	3.8750	4.0600	.185	4.77	.85530	.001	1
S3	7.7500	8.0680	.318	4.10	1.6999	.003	1
S4	15.500	15.648	.148	.954	3.2973	.005	1
S5	31.000	30.348	-.652	-2.10	6.3953	.003	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



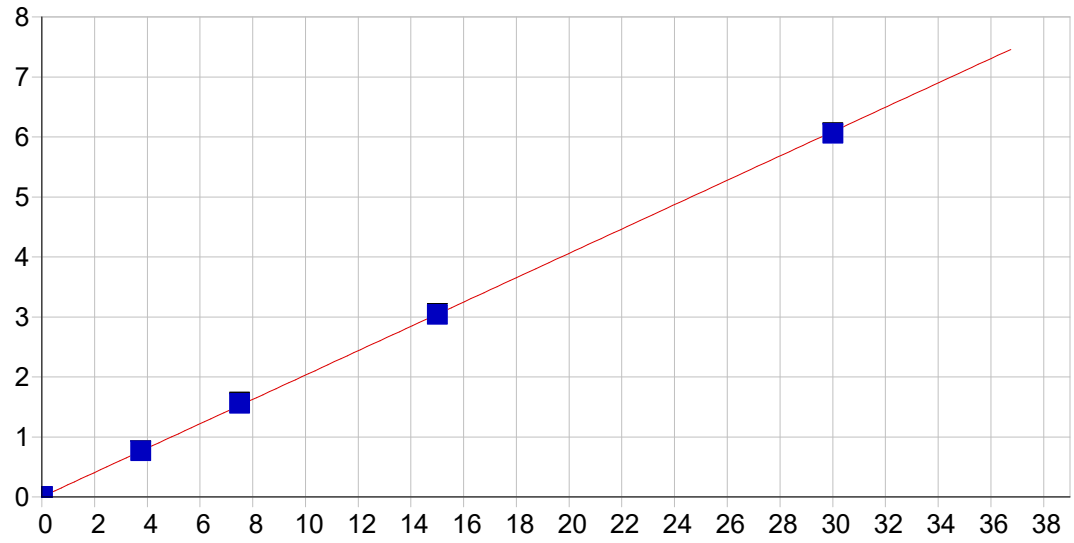
Co 228.616 {448}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000305	Re-Slope:	1.000000
A1 (Gain):	0.724041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000101		
Predicted MDL:	0.000516		
Predicted MQL:	0.001721		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00031	.000	1
S1	.05000	.05204	.002	4.08	.03750	.000	1
S2	.62500	.62407	-.001	-.149	.45210	.000	1
S3	1.2500	1.2605	.010	.839	.91345	.003	1
S4	2.5000	2.5068	.007	.273	1.8170	.002	1
S5	5.0000	4.9816	-.018	-.369	3.6110	.003	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



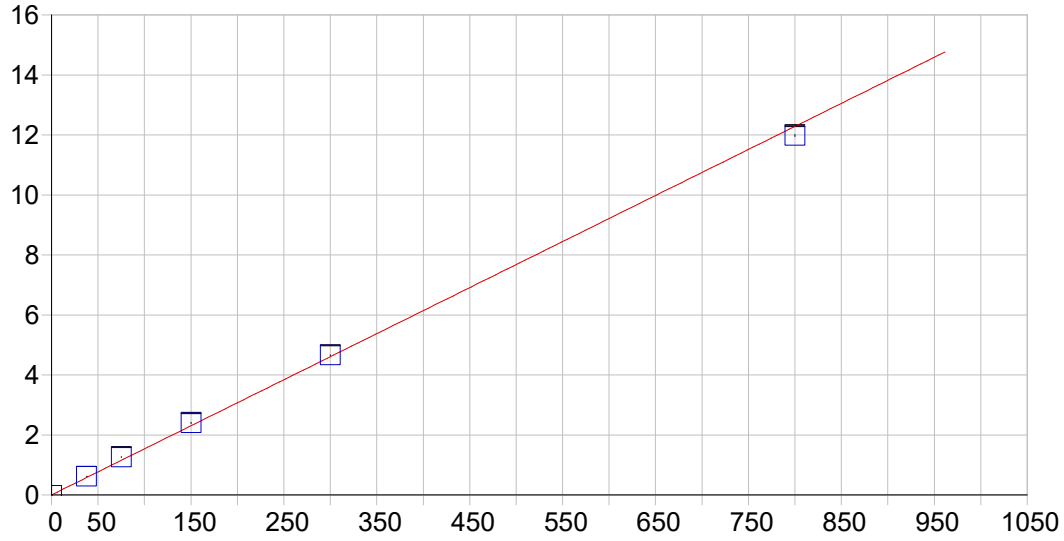
Cu 324.754 {104}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001820	Re-Slope:	1.000000
A1 (Gain):	0.202882	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999958	Status:	OK.
Std Error of Est:	0.000085		
Predicted MDL:	0.004308		
Predicted MQL:	0.014360		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00182	.001	1
S1	.02500	.02464	-.000	-1.43	.00682	.000	1
S2	3.7500	3.7635	.013	.359	.76487	.002	1
S3	7.5000	7.6684	.168	2.25	1.5566	.021	1
S4	15.000	14.976	-.024	-.157	3.0383	.016	1
S5	30.000	29.842	-.158	-.527	6.0523	.013	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



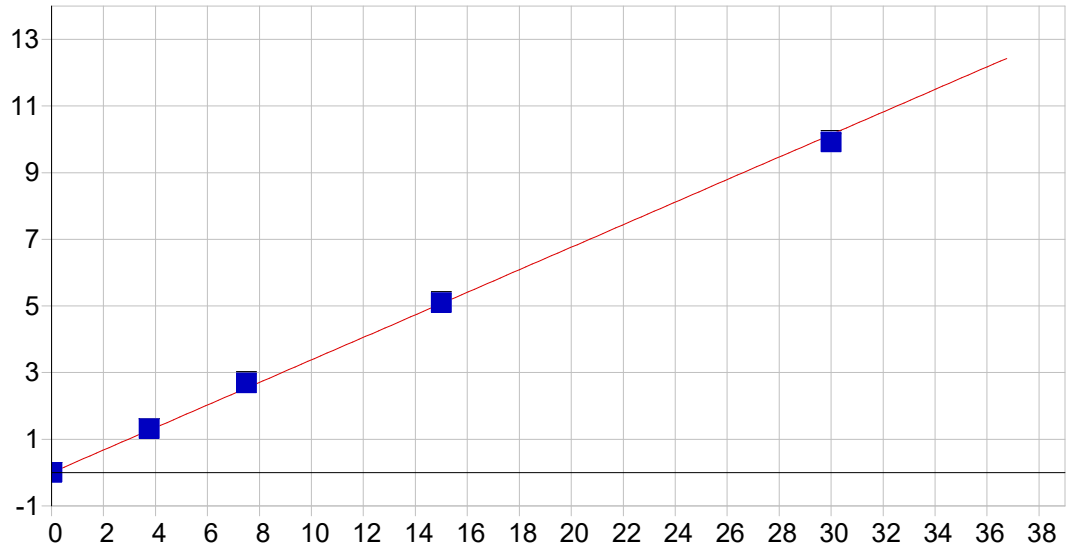
Fe 259.837 {130}

Date of Fit:	10/28/2024 17:21:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000407	Re-Slope:	1.000000
A1 (Gain):	0.015354	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999371	Status:	OK.
Std Error of Est:	0.000238		
Predicted MDL:	0.026222		
Predicted MQL:	0.087407		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	.00041	.000	1
S1	.10000	.10966	.010	9.66	.00209	.000	1
S2	37.500	40.337	2.84	7.56	.61974	.003	1
S3	75.000	82.188	7.19	9.58	1.2623	.019	1
S4	150.00	156.40	6.40	4.27	2.4019	.019	1
S5	300.00	303.49	3.49	1.16	4.6603	.016	1
S6	800.00	780.07	-19.9	-2.49	11.978	.031	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



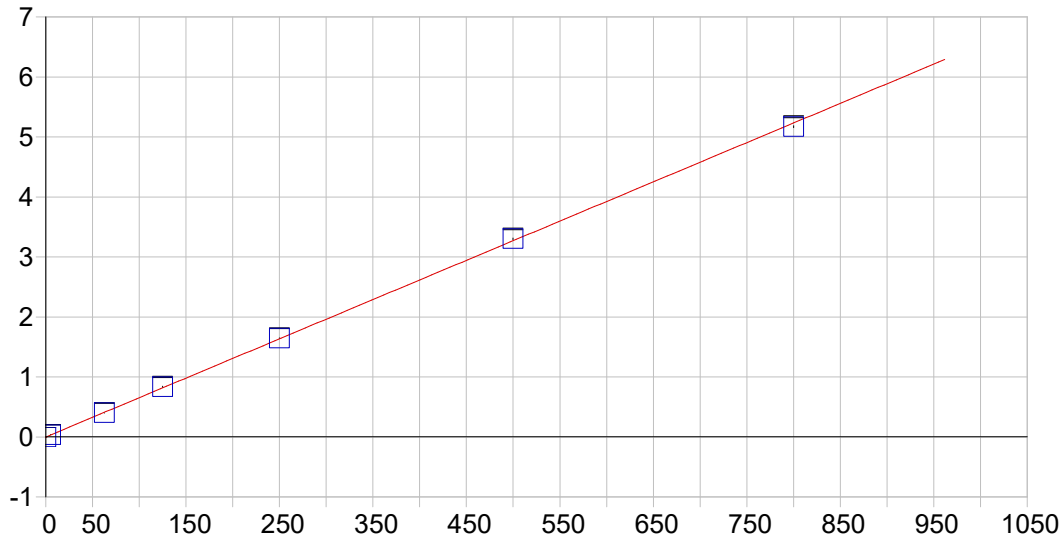
Mn 257.610 {131}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000164	Re-Slope:	1.000000
A1 (Gain):	0.338173	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999569	Status:	OK.
Std Error of Est:	0.000353		
Predicted MDL:	0.001267		
Predicted MQL:	0.004222		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00017	.000	1
S1	.01500	.01762	.003	17.5	.00581	.001	1
S2	3.7500	3.8940	.144	3.84	1.3169	.004	1
S3	7.5000	7.9489	.449	5.99	2.6883	.034	1
S4	15.000	15.081	.081	.541	5.1006	.029	1
S5	30.000	29.323	-.677	-2.26	9.9177	.046	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



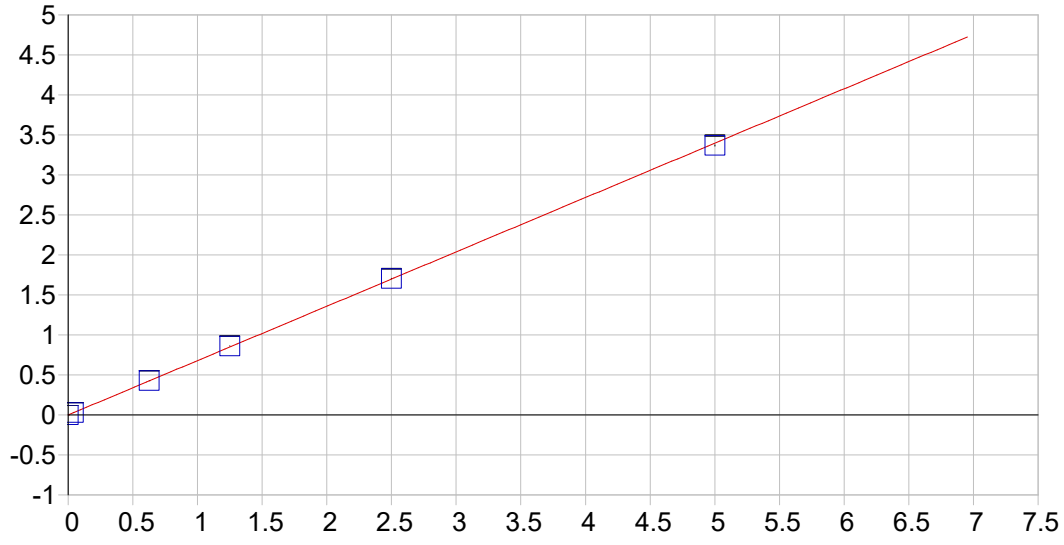
Mg 279.079 {121}

Date of Fit:	10/28/2024 17:21:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000399	Re-Slope:	1.000000
A1 (Gain):	0.006540	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999898	Status:	OK.
Std Error of Est:	0.000326		
Predicted MDL:	0.073561		
Predicted MQL:	0.245205		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00080	-.001	.000	-.00040	.000	1
S1	5.0000	5.7535	.753	15.1	.03723	.000	1
S2	62.500	61.369	-1.13	-1.81	.40098	.002	1
S3	125.00	127.75	2.75	2.20	.83510	.011	1
S4	250.00	251.51	1.51	.604	1.6446	.005	1
S5	500.00	505.09	5.09	1.02	3.3030	.014	1
S6	800.00	791.03	-8.97	-1.12	5.1732	.016	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



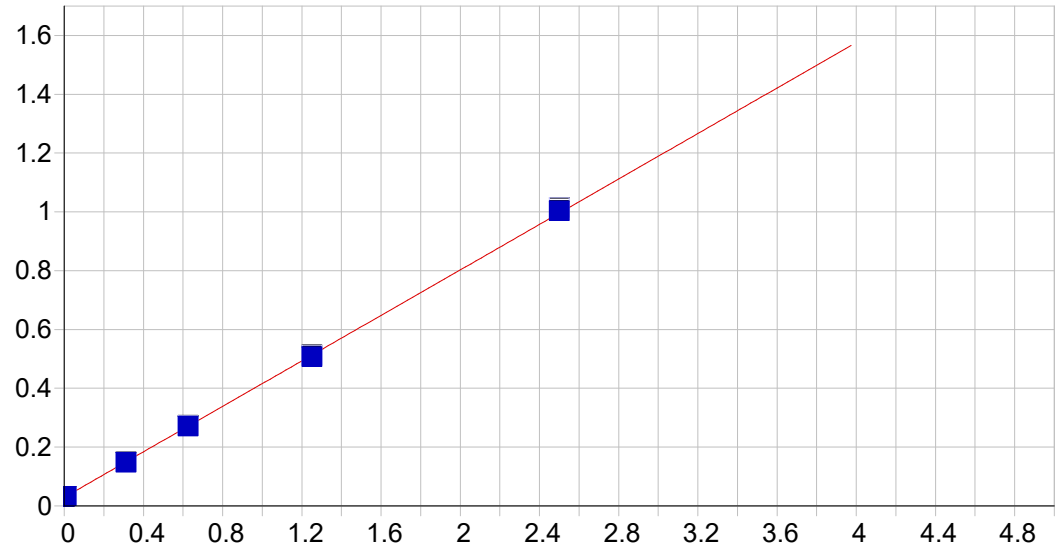
Ni 231.604 {446}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000731	Re-Slope:	1.000000
A1 (Gain):	0.679492	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000189		
Predicted MDL:	0.000588		
Predicted MQL:	0.001959		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00073	.000	1
S1	.04000	.04467	.005	11.7	.02962	.001	1
S2	.62500	.63149	.006	1.04	.42836	.001	1
S3	1.2500	1.2691	.019	1.53	.86161	.003	1
S4	2.5000	2.5108	.011	.432	1.7053	.004	1
S5	5.0000	4.9589	-.041	-.821	3.3688	.007	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



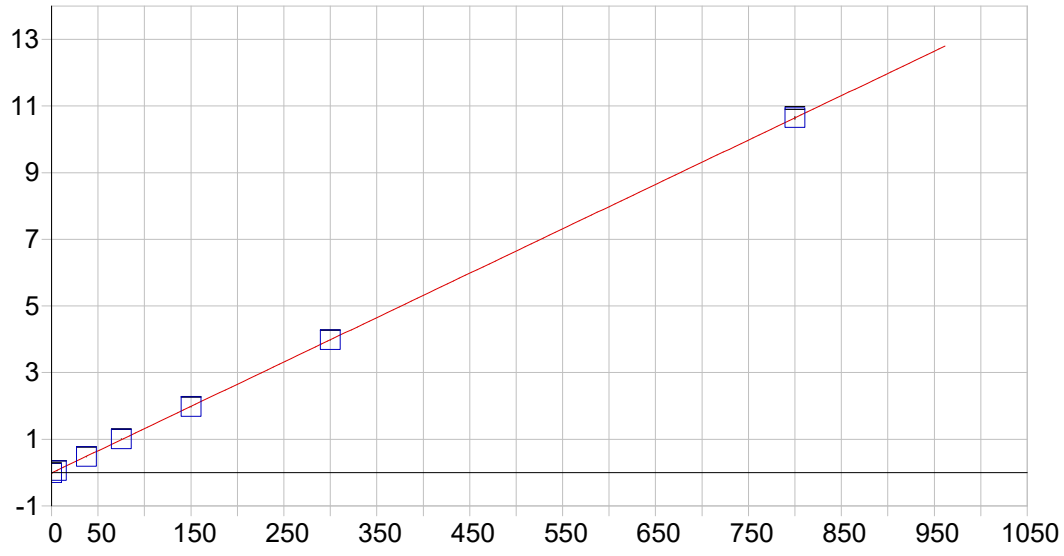
Ag 328.068 {103}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.029394	Re-Slope:	1.000000
A1 (Gain):	0.386645	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.02939	.000	1
S1	.01000	.01058	.001	5.79	.03347	.000	1
S2	.31250	.30726	-.005	-1.68	.14950	.000	1
S3	.62500	.62492	-.000	-.012	.27362	.000	1
S4	1.2500	1.2355	-.015	-1.16	.51229	.001	1
S5	2.5000	2.5193	.019	.771	1.0139	.001	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



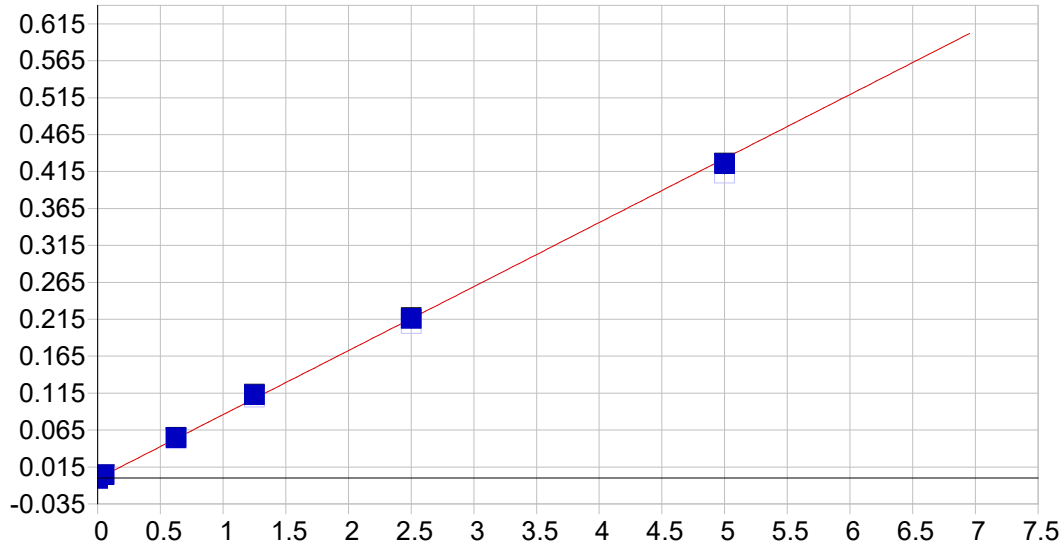
Na 818.326 { 41}

Date of Fit:	10/28/2024 17:21:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.012008	Re-Slope:	1.000000
A1 (Gain):	0.013321	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000237		
Predicted MDL:	0.298043		
Predicted MQL:	0.993477		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00006	-.000	.000	-.01201	.006	1
S1	5.0000	5.0870	.087	1.74	.05576	.003	1
S2	37.500	36.754	-.746	-1.99	.47761	.005	1
S3	75.000	76.421	1.42	1.90	1.0060	.011	1
S4	150.00	149.48	-.517	-.345	1.9793	.008	1
S5	300.00	299.71	-.293	-.098	3.9805	.008	1
S6	800.00	800.05	.047	.006	10.646	.043	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



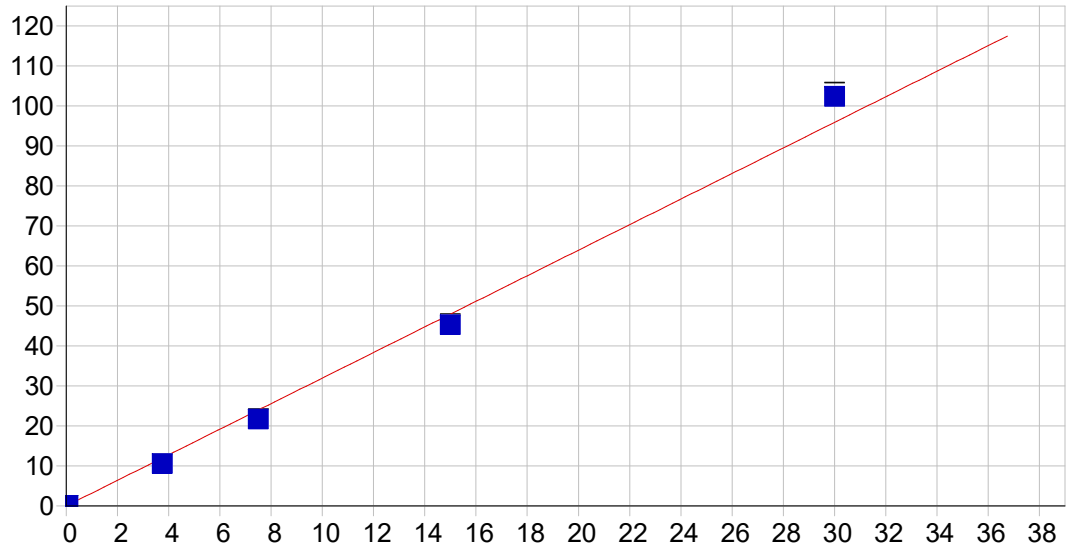
V 292.402 {115}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000844	Re-Slope:	1.000000
A1 (Gain):	0.086690	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999660	Status:	OK.
Std Error of Est:	0.000058		
Predicted MDL:	0.010012		
Predicted MQL:	0.033375		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00084	.001	1
S1	.05000	.05927	.009	18.5	.00428	.000	1
S2	.62500	.63875	.014	2.20	.05286	.001	1
S3	1.2500	1.3084	.058	4.67	.10925	.001	1
S4	2.5000	2.4983	-.002	-.068	.20907	.001	1
S5	5.0000	4.9200	-.080	-1.60	.41236	.001	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



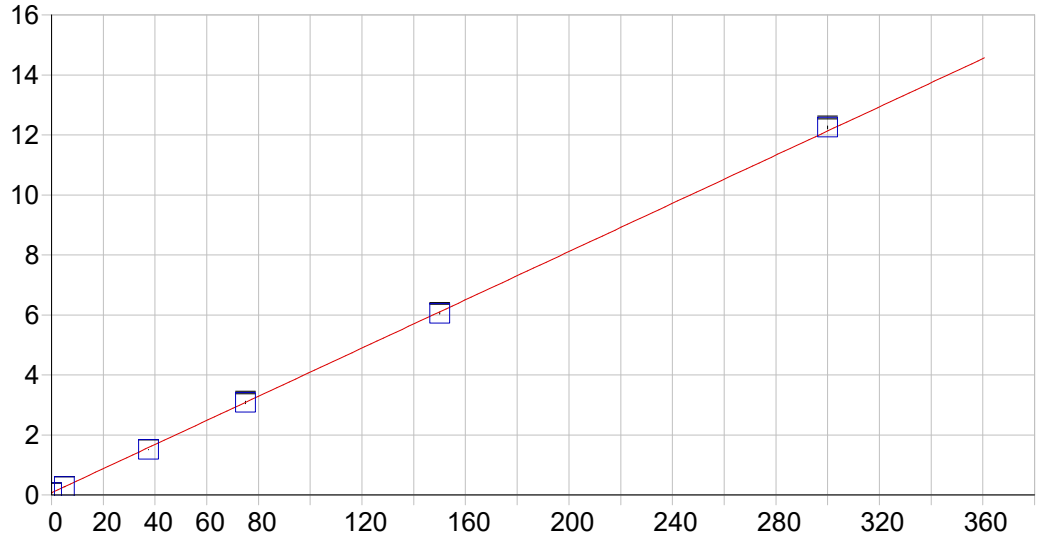
Zn 213.856 {158}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002192	Re-Slope:	1.000000
A1 (Gain):	3.197077	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997271	Status:	OK.
Std Error of Est:	0.016859		
Predicted MDL:	0.000433		
Predicted MQL:	0.001442		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00224	.001	1
S1	.06000	.05696	-.003	-5.07	.18522	.001	1
S2	3.7500	3.2943	-.456	-12.2	10.549	.013	1
S3	7.5000	6.7762	-.724	-9.65	21.695	.074	1
S4	15.000	14.158	-.842	-5.61	45.324	.201	1
S5	30.000	32.025	2.02	6.75	102.50	.938	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



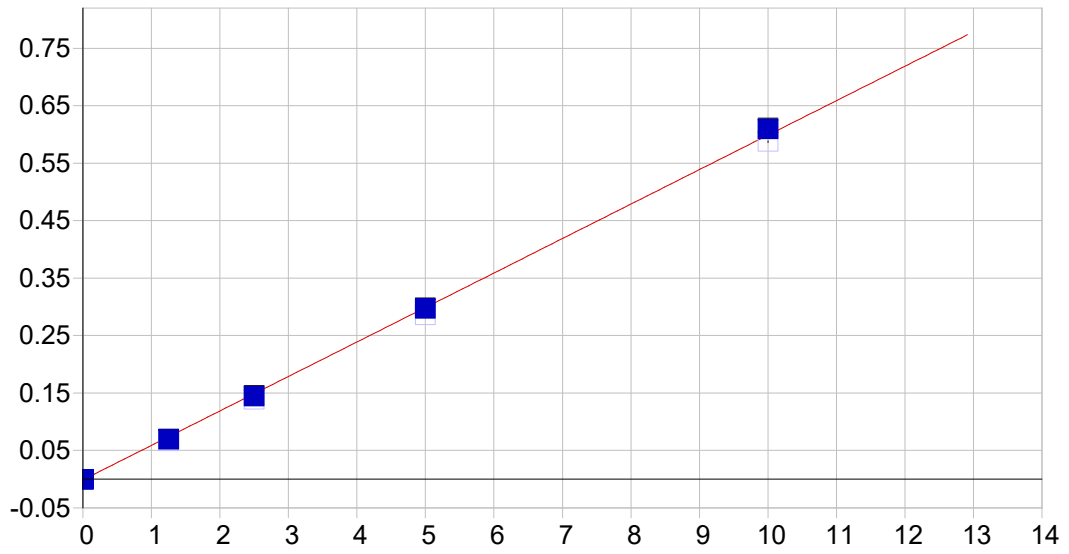
K 769.896 { 44}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.071976	Re-Slope:	1.000000
A1 (Gain):	0.040195	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999894	Status:	OK.
Std Error of Est:	0.001209		
Predicted MDL:	0.128821		
Predicted MQL:	0.429403		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00009	.000	.000	.07198	.004	1
S1	5.0000	5.1439	.144	2.88	.27873	.003	1
S2	37.500	35.818	-1.68	-4.49	1.5117	.006	1
S3	75.000	74.816	-.184	-.246	3.0792	.042	1
S4	150.00	148.73	-1.27	-.848	6.0501	.026	1
S5	300.00	302.99	2.99	.998	12.251	.046	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



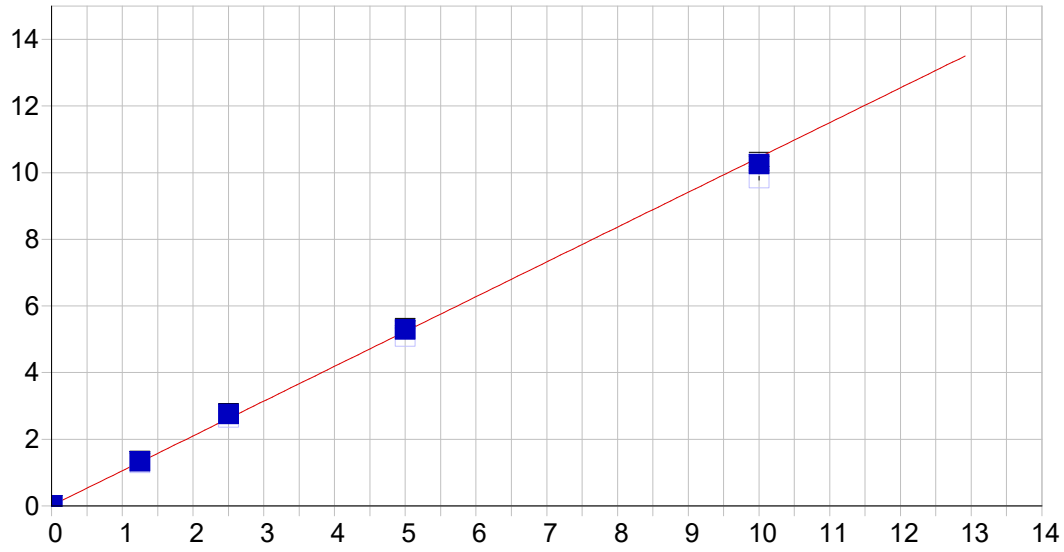
P 177.495 {490}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001142	Re-Slope:	1.000000
A1 (Gain):	0.059992	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999690	Status:	OK.
Std Error of Est:	0.000024		
Predicted MDL:	0.003409		
Predicted MQL:	0.011363		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00114	.000	1
S1	.01000	.01259	.003	25.9	-.00040	.000	1
S2	1.2500	1.1750	-.075	-6.00	.06659	.000	1
S3	2.5000	2.4260	-.074	-2.96	.13889	.001	1
S4	5.0000	4.9673	-.033	-.655	.28583	.001	1
S5	10.000	10.179	.179	1.79	.58746	.002	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



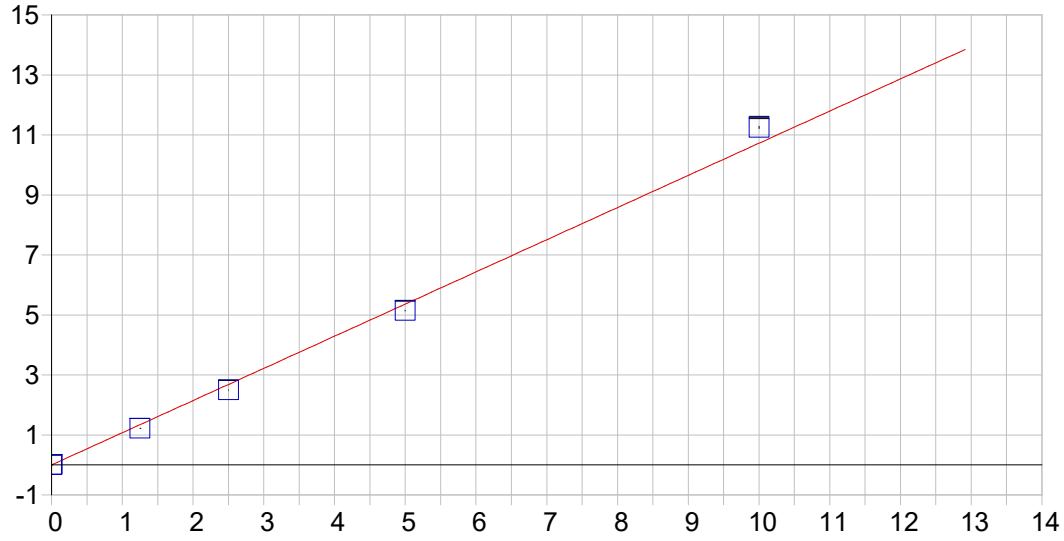
B 249.678 {135}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.009848	Re-Slope:	1.000000
A1 (Gain):	1.044726	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999415	Status:	OK.
Std Error of Est:	0.000575		
Predicted MDL:	0.001130		
Predicted MQL:	0.003767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00986	.001	1
S1	.01000	.00055	-.009	-94.5	.01033	.001	1
S2	1.2500	1.2688	.019	1.51	1.2827	.005	1
S3	2.5000	2.6294	.129	5.18	2.6515	.019	1
S4	5.0000	5.0544	.054	1.09	5.0795	.036	1
S5	10.000	9.8071	-.193	-1.93	9.8340	.062	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



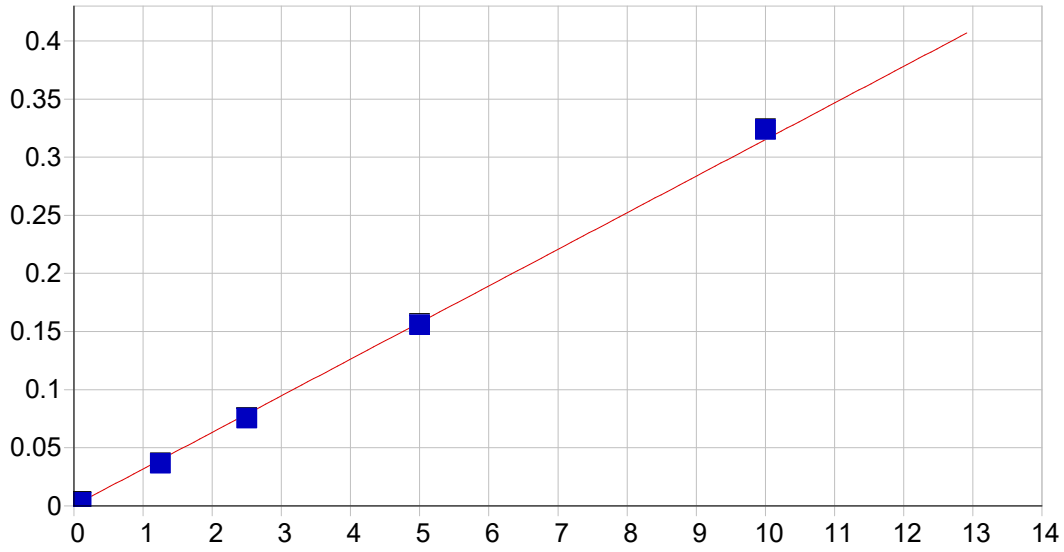
Mo 202.030 {467}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	1.072273	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998551	Status:	OK.
Std Error of Est:	0.000969		
Predicted MDL:	0.000454		
Predicted MQL:	0.001515		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00001	.000	1
S1	.01000	.00931	-.001	-6.95	.00997	.001	1
S2	1.2500	1.1363	-.114	-9.10	1.2184	.002	1
S3	2.5000	2.3257	-.174	-6.97	2.4938	.007	1
S4	5.0000	4.7997	-.200	-4.01	5.1466	.013	1
S5	10.000	10.489	.489	4.89	11.247	.038	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



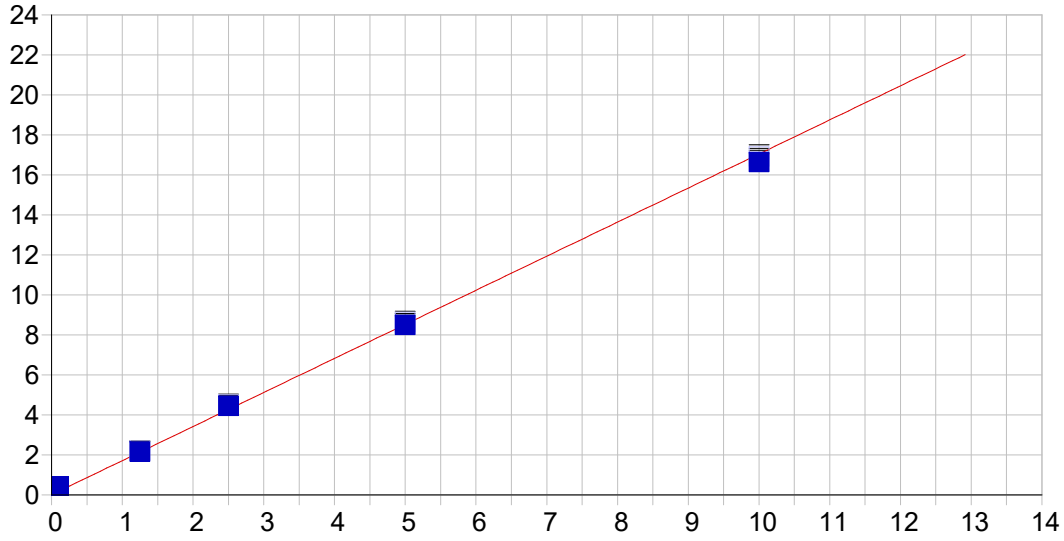
S 182.034 {485}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000312	Re-Slope:	1.000000
A1 (Gain):	0.031482	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999457	Status:	OK.
Std Error of Est:	0.000055		
Predicted MDL:	0.006365		
Predicted MQL:	0.021218		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00031	.000	1
S1	.10000	.09573	-.004	-4.27	.00332	.000	1
S2	1.2500	1.1536	-.096	-7.71	.03663	.000	1
S3	2.5000	2.3892	-.111	-4.43	.07554	.000	1
S4	5.0000	4.9418	-.058	-1.16	.15590	.001	1
S5	10.000	10.270	.270	2.70	.32366	.001	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



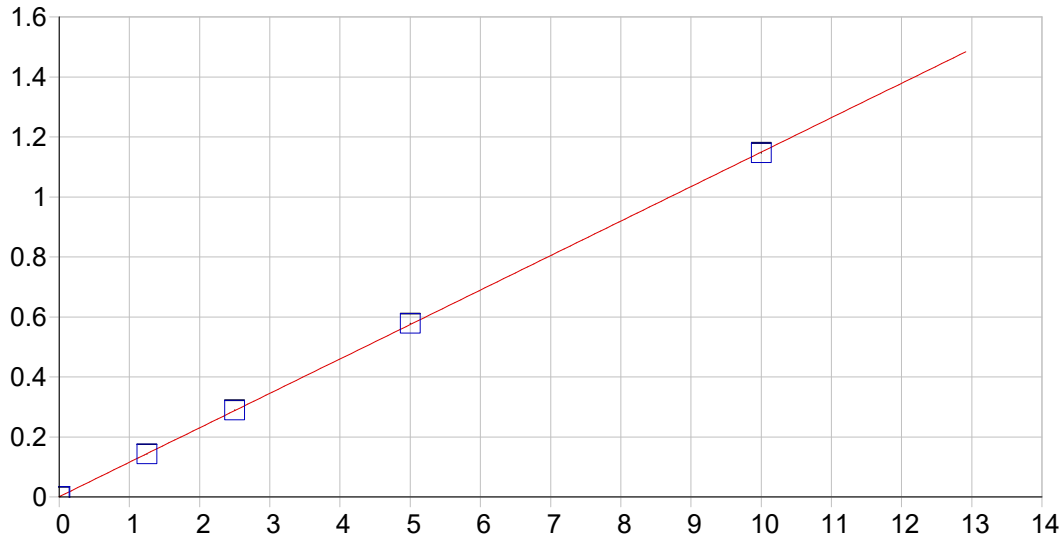
Si 251.611 {134}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010036	Re-Slope:	1.000000
A1 (Gain):	1.703680	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.994837	Status:	OK.
Std Error of Est:	0.009384		
Predicted MDL:	0.000597		
Predicted MQL:	0.001989		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00014	-.000	.000	.00980	.000	1
S1	.10000	.23868	.139	139.	.41782	.001	1
S2	1.2500	1.2659	.016	1.27	2.2012	.011	1
S3	2.5000	2.6012	.101	4.05	4.5105	.036	1
S4	5.0000	4.9821	-.018	-.357	8.6357	.058	1
S5	10.000	9.7634	-.237	-2.37	16.919	.085	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

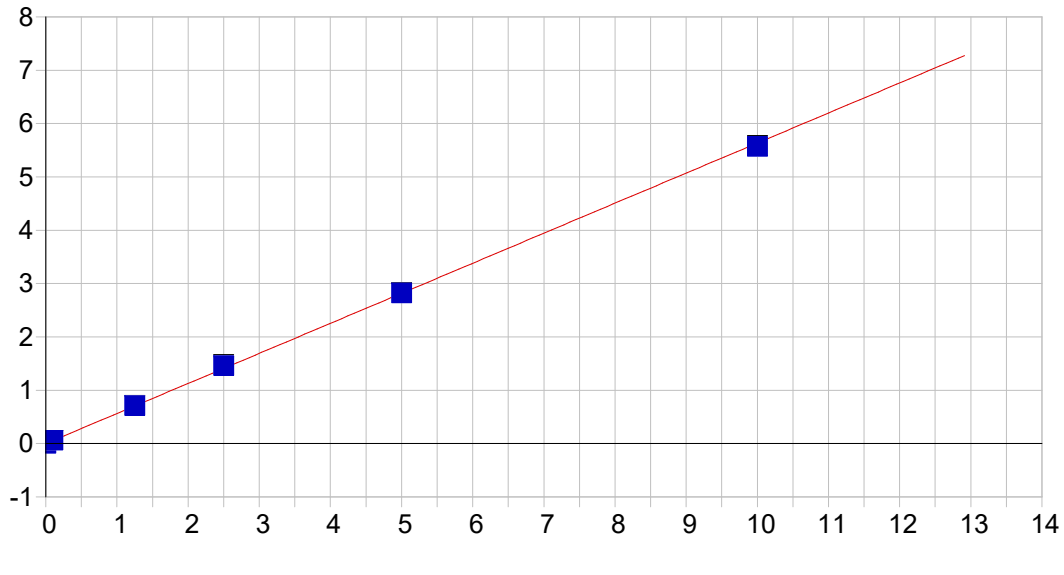


Sn 189.989 {478}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000571	Re-Slope:	1.000000
A1 (Gain):	0.114850	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.001752		
Predicted MQL:	0.005841		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00057	.000	1
S1	.00700	.00452	-.002	-35.4	.00109	.000	1
S2	1.2500	1.2358	-.014	-1.14	.14250	.000	1
S3	2.5000	2.5084	.008	.334	.28866	.001	1
S4	5.0000	5.0257	.026	.514	.57777	.001	1
S5	10.000	9.9826	-.017	-.174	1.1471	.002	1



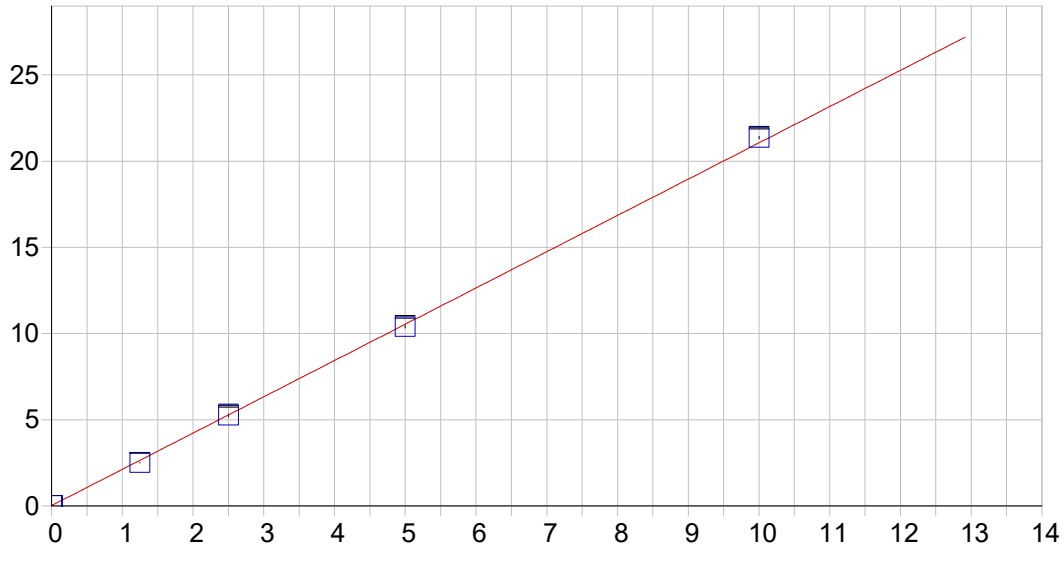
Ti 336.121 {100}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000431	Re-Slope:	1.000000
A1 (Gain):	0.563458	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999858	Status:	OK.
Std Error of Est:	0.000504		
Predicted MDL:	0.001806		
Predicted MQL:	0.006019		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00042	.001	1
S1	.10000	.10784	.008	7.84	.06117	.001	1
S2	1.2500	1.2615	.011	.916	.71085	.003	1
S3	2.5000	2.5885	.088	3.54	1.4582	.019	1
S4	5.0000	5.0126	.013	.253	2.8234	.009	1
S5	10.000	9.8796	-.120	-1.20	5.5644	.018	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



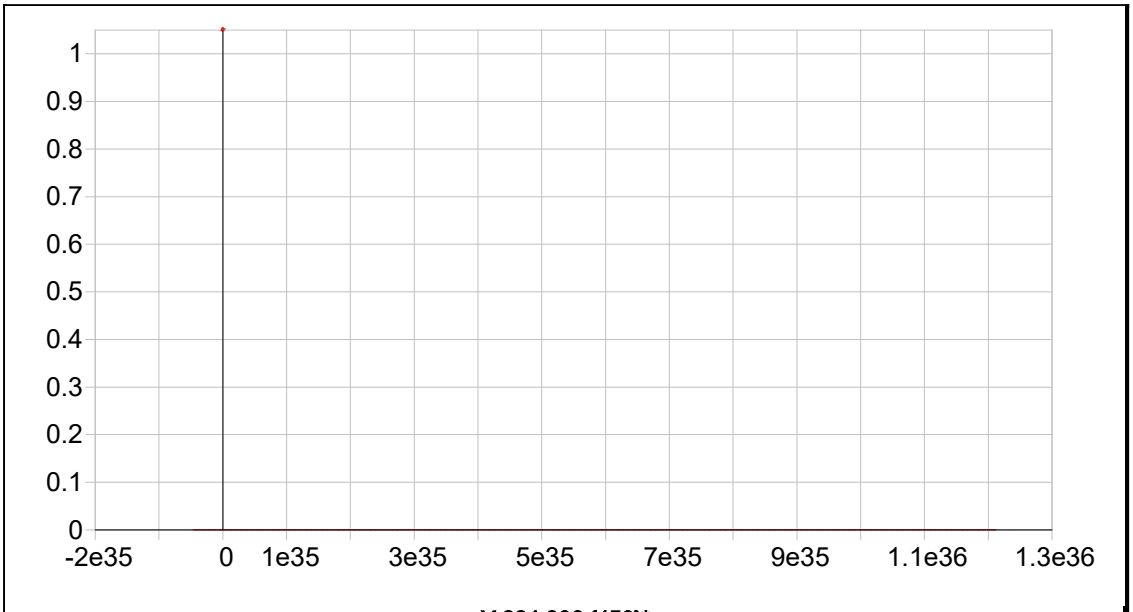
Li 670.784 { 50}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.016283	Re-Slope:	1.000000
A1 (Gain):	2.104613	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999820	Status:	OK.
Std Error of Est:	0.000819		
Predicted MDL:	0.001888		
Predicted MQL:	0.006292		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.01628	.003	1
S5	10.000	10.150	.150	1.50	21.377	.073	1
S4	5.0000	4.9307	-.069	-1.39	10.393	.077	1
S3	2.5000	2.4855	-.014	-.580	5.2473	.081	1
S2	1.2500	1.1843	-.066	-5.26	2.5087	.013	1
S1	.01500	.01488	-.000	-.826	.04759	.003	1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

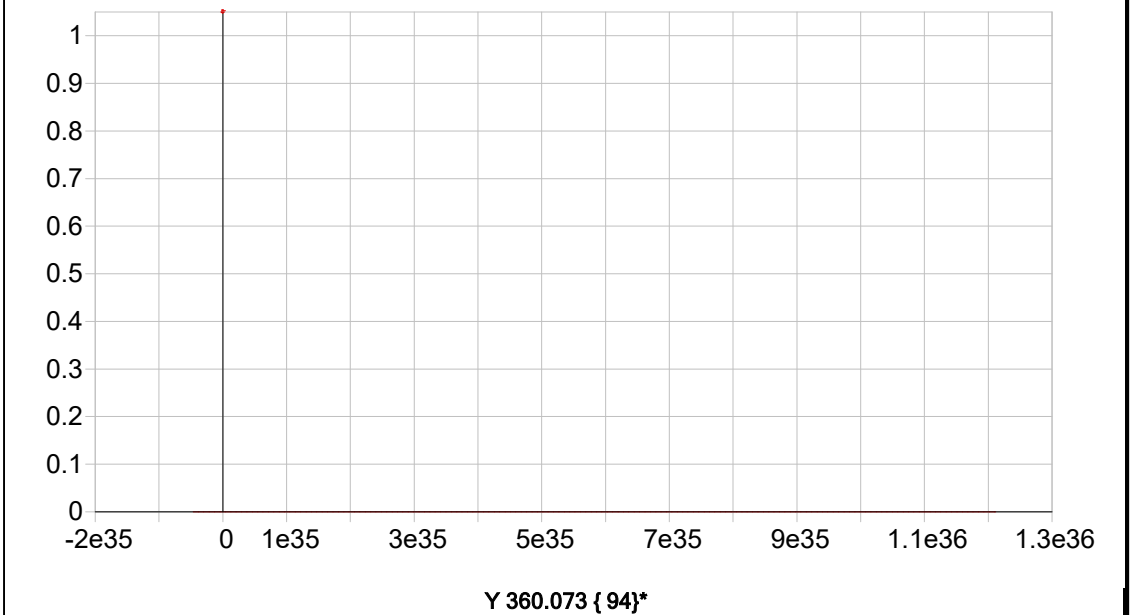


Y 224.306 {450}*

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
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



Y 360.073 { 94}*

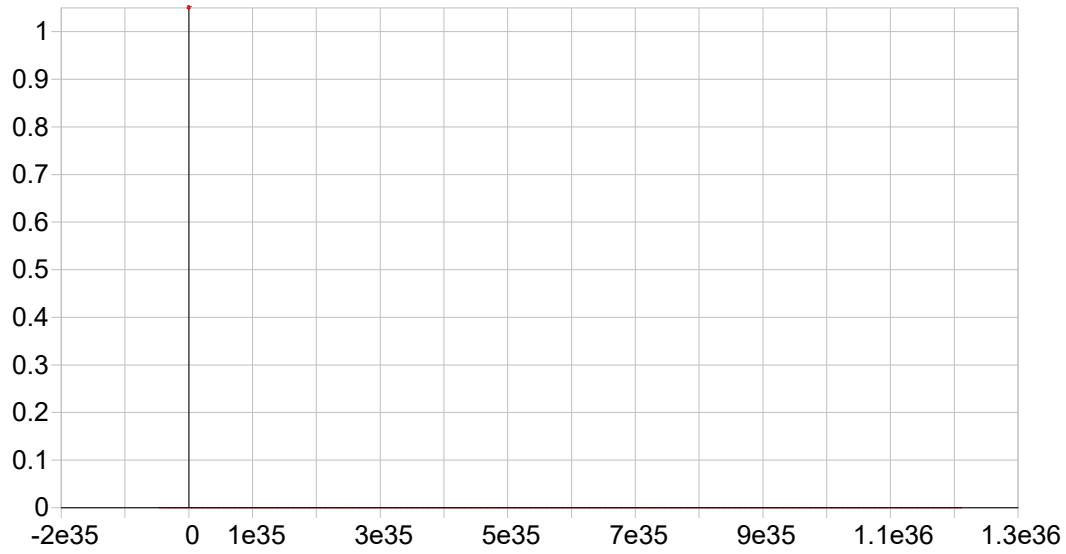
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

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



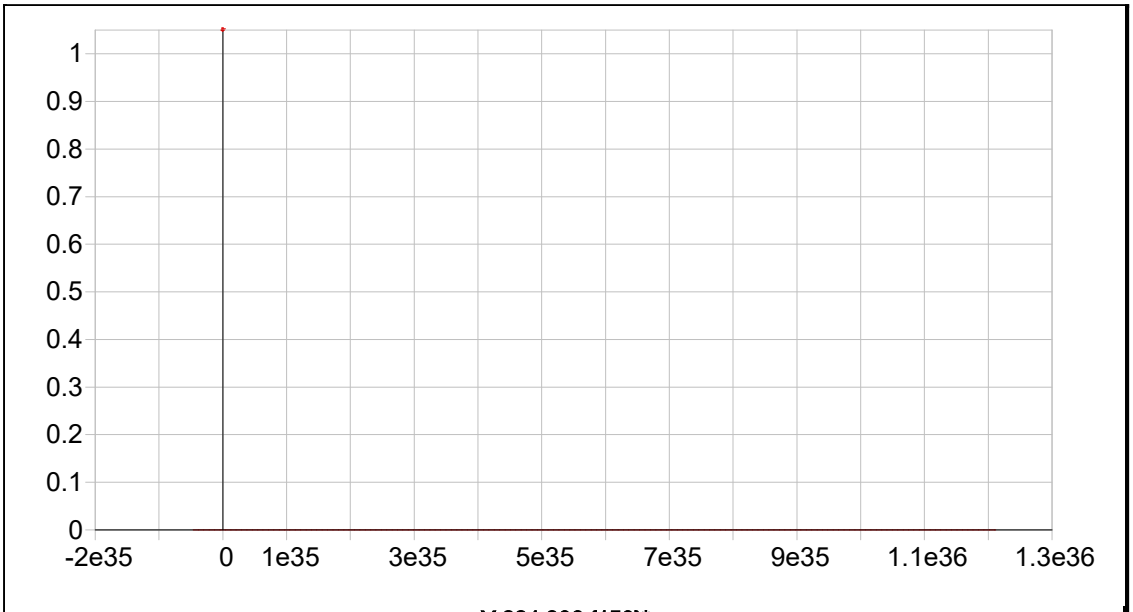
Y 371.030 { 91}*

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
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

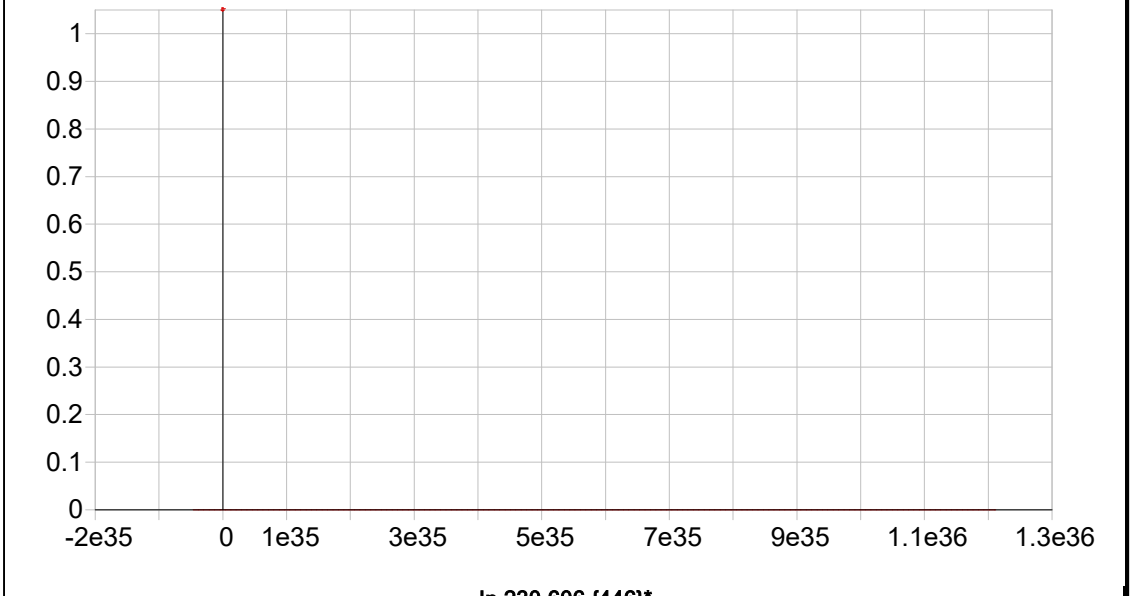
Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5



Y 224.306 {150}*

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	
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



In 230.606 {446}*

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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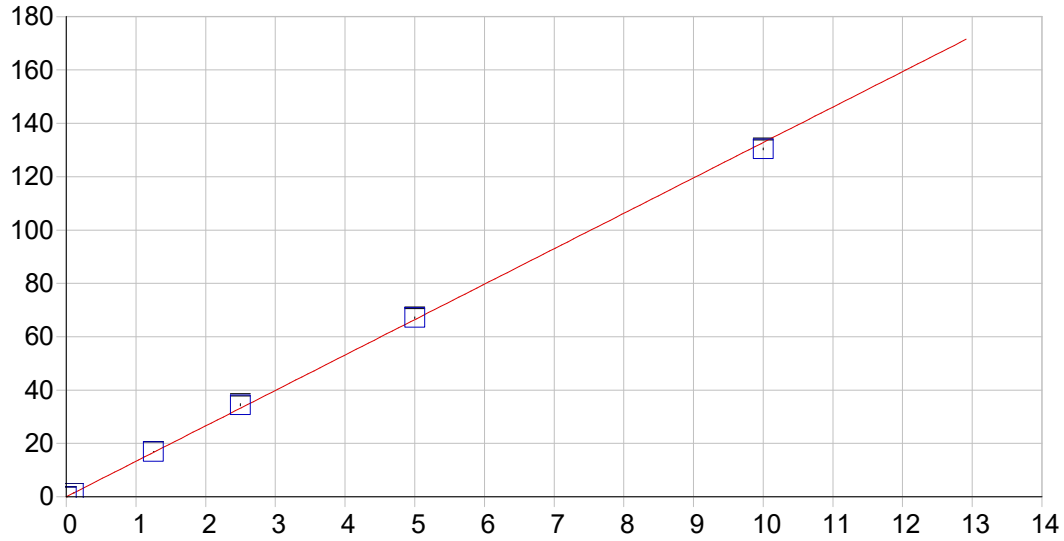
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Sr 407.771 { 83}

Date of Fit:	10/28/2024 17:16:26	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004731	Re-Slope:	1.000000
A1 (Gain):	13.282069	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999763	Status:	OK.
Std Error of Est:	0.015354		
Predicted MDL:	0.000123		
Predicted MQL:	0.000409		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.00453	.001	1
S1	.10000	.11050	.011	10.5	1.4725	.000	1
S2	1.2500	1.2714	.021	1.71	16.892	.014	1
S3	2.5000	2.5941	.094	3.76	34.460	.425	1
S4	5.0000	5.0554	.055	1.11	67.151	.299	1
S5	10.000	9.8186	-.181	-1.81	130.42	.411	1

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Sample Name: S0 Acquired: 10/28/2024 16:50:07 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 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	.00011	-.00030	-.00090	.00068	-.00014	-.00331	.00036	-.00265
Stddev	.00034	.00012	.00021	.00031	.00020	.00152	.00289	.00068
%RSD	305.67	39.184	23.716	45.460	145.39	45.871	796.21	25.691
#1	.00021	-.00030	-.00109	.00065	.00007	-.00315	-.00118	-.00316
#2	.00039	-.00041	-.00067	.00039	-.00032	-.00188	.00369	-.00291
#3	-.00027	-.00018	-.00094	.00101	-.00015	-.00490	-.00143	-.00188

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00082	.00564	-.00026	-.00031	.00182	.00041	-.00017	-.00040
Stddev	.00013	.00186	.00003	.00029	.00067	.00010	.00043	.00037
%RSD	16.136	32.877	11.192	94.247	36.589	25.128	262.01	92.256
#1	.00087	.00448	-.00025	-.00039	.00142	.00050	-.00058	-.00017
#2	.00067	.00778	-.00024	.00002	.00259	.00041	.00029	-.00021
#3	.00092	.00466	-.00029	-.00054	.00145	.00030	-.00020	-.00083

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00073	.02939	-.01201	-.00084	.00224	.07198	-.00114	.00986
Stddev	.00015	.00010	.00650	.00056	.00096	.00442	.00018	.00064
%RSD	20.152	.32457	54.098	65.980	42.679	6.1349	15.644	6.5092
#1	-.00087	.02938	-.01908	-.00135	.00242	.07699	-.00127	.00963
#2	-.00076	.02950	-.01064	-.00094	.00121	.07027	-.00122	.01058
#3	-.00058	.02931	-.00630	-.00024	.00310	.06867	-.00094	.00936

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00001	.00031	.00980	.00057	.00042	.01628	.00453
Stddev	.00007	.00012	.00008	.00014	.00095	.00269	.00101
%RSD	1079.4	39.936	.77902	24.471	223.04	16.520	22.306
#1	.00000	.00039	.00985	.00046	.00146	.01917	.00511
#2	-.00008	.00038	.00971	.00053	-.00039	.01385	.00512
#3	.00006	.00017	.00983	.00073	.00020	.01583	.00336

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S0 Acquired: 10/28/2024 16:50:07 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 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	894.90	21346.	2440.4	788.31	1709.5
Stddev	1.07	38.	10.0	1.58	1.6
%RSD	.11918	.17712	.40875	.20001	.09310
#1	893.77	21313.	2432.0	787.44	1707.8
#2	895.02	21387.	2437.8	790.13	1709.8
#3	895.90	21339.	2451.4	787.35	1711.0

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S1 Acquired: 10/28/2024 16:54:42 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 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	.00047	.00168	.00081	.00358	.01289	.02331	1.3785	.04376
Stddev	.00019	.00016	.00024	.00017	.00085	.00168	.0064	.00087
%RSD	41.360	9.4237	29.486	4.7310	6.5805	7.2006	.46426	1.9906
#1	.00049	.00168	.00098	.00363	.01386	.02297	1.3733	.04351
#2	.00026	.00184	.00090	.00373	.01248	.02183	1.3856	.04472
#3	.00065	.00152	.00054	.00340	.01232	.02513	1.3766	.04304

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01376	.47724	.00216	.03750	.00682	.00209	.00581	.03723
Stddev	.00024	.00036	.00010	.00037	.00038	.00035	.00056	.00045
%RSD	1.7384	.07579	4.6341	.98002	5.5848	16.797	9.6583	1.2092
#1	.01355	.47760	.00222	.03782	.00667	.00205	.00516	.03751
#2	.01371	.47723	.00223	.03758	.00725	.00176	.00619	.03671
#3	.01402	.47688	.00205	.03710	.00653	.00246	.00607	.03747

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02962	.03347	.05576	.00428	.18522	.27873	-.00040	.01033
Stddev	.00061	.00009	.00308	.00043	.00150	.00340	.00020	.00134
%RSD	2.0695	.25523	5.5327	9.9224	.80757	1.2193	50.471	12.979
#1	.03027	.03339	.05484	.00421	.18364	.27690	-.00044	.00893
#2	.02904	.03346	.05324	.00474	.18539	.27664	-.00018	.01160
#3	.02956	.03356	.05920	.00390	.18662	.28265	-.00058	.01046

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00997	.00332	.41782	.00109	.06117	.04759	1.4725
Stddev	.00054	.00021	.00058	.00011	.00103	.00317	.0003
%RSD	5.4153	6.1712	.13862	10.078	1.6912	6.6511	.01684
#1	.00949	.00350	.41716	.00096	.06237	.05114	1.4726
#2	.00986	.00310	.41805	.00116	.06057	.04658	1.4722
#3	.01055	.00338	.41825	.00115	.06059	.04505	1.4726

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S1 Acquired: 10/28/2024 16:54:42 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 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	897.19	21423.	2461.9	791.00	1692.7
Stddev	2.10	15.	8.6	.60	1.2
%RSD	.23437	.07224	.34810	.07591	.07156
#1	898.84	21414.	2470.7	791.68	1692.7
#2	897.89	21441.	2461.6	790.54	1693.9
#3	894.82	21415.	2453.5	790.79	1691.4

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S2 Acquired: 10/28/2024 16:59:14 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 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	.04054	.10079	1.0476	.10127	.26045	4.7856	15.788	1.0621
Stddev	.00044	.00012	.0037	.00029	.00080	.0032	.054	.0047
%RSD	1.0773	.11927	.35378	.29092	.30839	.06757	.34044	.44074
#1	.04031	.10078	1.0518	.10099	.26071	4.7820	15.746	1.0577
#2	.04104	.10091	1.0463	.10158	.25955	4.7867	15.848	1.0617
#3	.04026	.10067	1.0447	.10123	.26110	4.7882	15.769	1.0670

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.4868	5.2921	.85530	.45210	.76487	.61974	1.3169	.40098
Stddev	.0018	.0223	.00090	.00037	.00161	.00273	.0040	.00155
%RSD	.12105	.42128	.10561	.08184	.21070	.44056	.30299	.38594
#1	1.4889	5.2732	.85469	.45233	.76670	.61751	1.3128	.39952
#2	1.4856	5.3167	.85486	.45229	.76366	.62279	1.3208	.40260
#3	1.4859	5.2863	.85633	.45167	.76426	.61894	1.3171	.40080

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.42836	.14950	.47761	.05286	10.549	1.5117	.06659	1.2827
Stddev	.00120	.00013	.00525	.00063	.013	.0060	.00032	.0047
%RSD	.28042	.08579	1.0988	1.1957	.12535	.39409	.48001	.36399
#1	.42974	.14949	.47241	.05326	10.534	1.5144	.06678	1.2785
#2	.42782	.14937	.48291	.05214	10.558	1.5048	.06622	1.2820
#3	.42753	.14963	.47750	.05320	10.554	1.5158	.06678	1.2877

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.2184	.03663	2.2012	.14250	.71085	2.5087	16.892
Stddev	.0019	.00019	.0105	.00050	.00311	.0126	.014
%RSD	.15853	.51363	.47719	.34775	.43747	.50334	.08398
#1	1.2161	.03668	2.1891	.14303	.71138	2.4969	16.891
#2	1.2196	.03643	2.2071	.14241	.70751	2.5220	16.906
#3	1.2193	.03679	2.2075	.14205	.71366	2.5073	16.878

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S2 Acquired: 10/28/2024 16:59:14 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 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	846.71	21067.	2482.6	740.73	1539.7
Stddev	1.21	50.	7.5	.65	1.9
%RSD	.14281	.23896	.30027	.08761	.12300
#1	847.39	21010.	2491.2	740.33	1537.8
#2	847.43	21104.	2478.1	740.38	1541.6
#3	845.32	21089.	2478.5	741.48	1539.8

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S3 Acquired: 10/28/2024 17:03:32 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 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	.08284	.20074	2.1060	.20370	.53415	9.9202	32.604	2.1778
Stddev	.00012	.00126	.0060	.00133	.00237	.1365	.465	.0118
%RSD	.14199	.62915	.28578	.65135	.44458	1.3759	1.4253	.53943
#1	.08272	.20219	2.1098	.20498	.53680	10.075	33.131	2.1909
#2	.08286	.19990	2.1091	.20381	.53344	9.8168	32.251	2.1741
#3	.08295	.20013	2.0991	.20233	.53221	9.8688	32.432	2.1683

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.9842	10.879	1.6999	.91345	1.5566	1.2623	2.6883	.83510
Stddev	.0090	.154	.0031	.00279	.0205	.0185	.0344	.01090
%RSD	.30081	1.4178	.18377	.30489	1.3203	1.4669	1.2800	1.3049
#1	2.9916	11.054	1.6963	.91556	1.5803	1.2833	2.7276	.84715
#2	2.9868	10.765	1.7016	.91449	1.5433	1.2483	2.6636	.82593
#3	2.9742	10.817	1.7018	.91029	1.5463	1.2554	2.6738	.83223

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.86161	.27362	1.0060	.10925	21.695	3.0792	.13889	2.6515
Stddev	.00257	.00037	.0113	.00099	.074	.0418	.00113	.0193
%RSD	.29834	.13383	1.1182	.90364	.34063	1.3574	.81557	.72705
#1	.86349	.27385	1.0184	.11028	21.751	3.1272	.14019	2.6737
#2	.86265	.27382	.99637	.10915	21.724	3.0515	.13829	2.6417
#3	.85868	.27320	1.0033	.10831	21.611	3.0587	.13817	2.6390

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.4938	.07554	4.5105	.28866	1.4582	5.2473	34.460
Stddev	.0067	.00048	.0360	.00107	.0194	.0812	.425
%RSD	.26791	.63838	.79815	.37165	1.3300	1.5465	1.2348
#1	2.5011	.07566	4.5516	.28987	1.4804	5.3407	34.948
#2	2.4923	.07594	4.4846	.28824	1.4445	5.1941	34.168
#3	2.4880	.07500	4.4952	.28786	1.4498	5.2071	34.263

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S3 Acquired: 10/28/2024 17:03:32 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 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	806.23	20497.	2367.2	691.41	1463.9
Stddev	3.13	31.	19.2	4.19	5.1
%RSD	.38874	.15223	.81238	.60648	.34622
#1	803.65	20496.	2345.1	687.45	1461.4
#2	805.32	20466.	2376.2	690.97	1460.5
#3	809.72	20528.	2380.2	695.80	1469.7

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S4 Acquired: 10/28/2024 17:07:48 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 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	.17051	.38930	4.1787	.42240	1.1206	19.524	63.021	4.1720
Stddev	.00008	.00005	.0051	.00146	.0008	.093	.418	.0119
%RSD	.04860	.01163	.12144	.34658	.06682	.47501	.66369	.28471
#1	.17059	.38927	4.1792	.42364	1.1214	19.438	62.664	4.1585
#2	.17043	.38935	4.1733	.42079	1.1204	19.623	63.481	4.1763
#3	.17050	.38928	4.1834	.42277	1.1199	19.511	62.917	4.1810

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.8712	20.956	3.2973	1.8170	3.0383	2.4019	5.1006	1.6446
Stddev	.0092	.125	.0052	.0017	.0164	.0188	.0294	.0046
%RSD	.15723	.59531	.15761	.09175	.54047	.78089	.57615	.28221
#1	5.8813	20.857	3.3025	1.8171	3.0219	2.3915	5.0711	1.6405
#2	5.8632	21.096	3.2974	1.8152	3.0548	2.4235	5.1298	1.6496
#3	5.8691	20.916	3.2921	1.8186	3.0382	2.3905	5.1009	1.6435

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.7053	.51229	1.9793	.20907	45.324	6.0501	.28583	5.0795
Stddev	.0043	.00118	.0080	.00142	.201	.0263	.00148	.0365
%RSD	.25473	.22986	.40280	.67998	.44298	.43534	.51939	.71810
#1	1.7094	.51330	1.9753	.20803	45.380	6.0202	.28749	5.0377
#2	1.7008	.51100	1.9885	.21069	45.491	6.0701	.28463	5.0956
#3	1.7058	.51257	1.9741	.20850	45.102	6.0599	.28536	5.1050

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.1466	.15590	8.6357	.57777	2.8234	10.393	67.151
Stddev	.0126	.00080	.0576	.00104	.0094	.077	.299
%RSD	.24540	.51278	.66661	.18061	.33221	.74186	.44470
#1	5.1606	.15670	8.5696	.57884	2.8155	10.330	66.848
#2	5.1431	.15510	8.6632	.57773	2.8338	10.479	67.445
#3	5.1360	.15592	8.6745	.57675	2.8210	10.371	67.159

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S4 Acquired: 10/28/2024 17:07:48 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 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	739.79	20064.	2380.6	612.40	1374.2
Stddev	2.21	92.	8.9	3.45	3.5
%RSD	.29940	.46094	.37555	.56361	.25126
#1	737.43	19960.	2390.6	609.72	1371.4
#2	741.82	20137.	2378.1	611.18	1378.1
#3	740.13	20095.	2373.2	616.29	1373.1

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S5 Acquired: 10/28/2024 17:12:00 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 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	.35379	.75951	8.3522	.93889	2.5374	39.484	123.86	8.2002
Stddev	.00098	.00044	.0074	.00399	.0134	.105	1.39	.0352
%RSD	.27795	.05775	.08841	.42504	.52793	.26471	1.1224	.42952
#1	.35312	.75911	8.3469	.93556	2.5231	39.463	123.26	8.2156
#2	.35334	.75944	8.3490	.93780	2.5395	39.598	125.45	8.2251
#3	.35492	.75998	8.3606	.94331	2.5497	39.392	122.86	8.1599

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.541	41.404	6.3953	3.6110	6.0523	4.6603	9.9177	3.3030
Stddev	.011	.168	.0034	.0026	.0131	.0161	.0464	.0138
%RSD	.09733	.40672	.05361	.07152	.21702	.34465	.46747	.41841
#1	11.532	41.403	6.3961	3.6080	6.0516	4.6575	9.9064	3.3001
#2	11.538	41.573	6.3983	3.6125	6.0658	4.6776	9.9687	3.3181
#3	11.554	41.236	6.3916	3.6124	6.0396	4.6458	9.8781	3.2909

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.3688	1.0139	3.9805	.41236	102.50	12.251	.58746	9.8340
Stddev	.0072	.0009	.0076	.00054	.94	.046	.00161	.0616
%RSD	.21354	.09032	.19117	.13123	.91543	.37201	.27487	.62656
#1	3.3612	1.0134	3.9754	.41261	101.94	12.236	.58595	9.8438
#2	3.3697	1.0149	3.9892	.41272	101.98	12.302	.58916	9.8900
#3	3.3756	1.0133	3.9768	.41173	103.59	12.214	.58728	9.7680

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.247	.32366	16.919	1.1471	5.5644	21.377	130.42
Stddev	.038	.00060	.085	.0017	.0183	.073	.41
%RSD	.33690	.18661	.50282	.14383	.32918	.34220	.31485
#1	11.208	.32299	16.959	1.1452	5.5505	21.407	130.09
#2	11.250	.32379	16.977	1.1484	5.5851	21.431	130.88
#3	11.283	.32418	16.822	1.1476	5.5574	21.294	130.28

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S5 Acquired: 10/28/2024 17:12:00 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 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	631.19	19415.	2348.7	476.37	1271.8
Stddev	2.42	34.	11.4	4.66	1.5
%RSD	.38333	.17642	.48329	.97718	.12054
#1	633.96	19450.	2345.4	480.17	1273.6
#2	630.12	19381.	2339.4	477.76	1270.8
#3	629.49	19414.	2361.4	471.18	1271.0

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: S6 Acquired: 10/28/2024 17:16:26 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S06 Custom ID2: Custom ID3:
Comment:

Elem	Al3961	Ca3736	Fe2598	Mg2790	Na8183
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	99.391	64.567	11.978	5.1732	10.646
Stddev	1.241	.252	.031	.0159	.043
%RSD	1.2483	.39103	.26080	.30835	.39981
#1	99.955	64.385	11.957	5.1635	10.608
#2	97.968	64.460	11.962	5.1646	10.637
#3	100.25	64.855	12.014	5.1916	10.692

Int. Std.	Y_3710
Units	Cts/S
Avg	2329.8
Stddev	7.3
%RSD	.31176
#1	2324.2
#2	2338.0
#3	2327.2

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICV003 Acquired: 10/28/2024 19:08:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.078664	1.037446	.9720514	1.081029	1.035867	2.342887
Stddev	.011770	.004737	.0036240	.012413	.003482	.015104
%RSD	1.091154	.4566217	.3728189	1.148250	.3361547	.6446725
#1	1.065420	1.035506	.9696841	1.079689	1.035546	2.333595
#2	1.087927	1.033985	.9702468	1.094057	1.039498	2.334751
#3	1.082645	1.042845	.9762234	1.069340	1.032556	2.360314

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5010504	.5233597	.4942827	9.955398	.5496429	.4884985
Stddev	.0015272	.0016482	.0006224	.041153	.0000826	.0011275
%RSD	.3048001	.3149262	.1259294	.4133705	.0150237	.2308034
#1	.5006211	.5223478	.4935725	9.937399	.5496073	.4877158
#2	.5027463	.5252616	.4945421	10.00248	.5497374	.4897908
#3	.4997838	.5224697	.4947335	9.92631	.5495842	.4879889

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4810785	10.62924	.5232464	5.567925	.5002298	.2371295
Stddev	.0030982	.02330	.0031212	.053667	.0008384	.0006863
%RSD	.6440070	.2192127	.5965060	.9638673	.1676004	.2894296
#1	.4777708	10.61685	.5217899	5.629016	.4994899	.2366602
#2	.4815523	10.65612	.5268296	5.528374	.5011404	.2379172
#3	.4839126	10.61477	.5211197	5.546384	.5000590	.2368111

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.513826	.5288124	1.005705	9.001118	F .0040577	F .0043204
Stddev	.176364	.0070920	.003631	.052636	.0005397	.0017096
%RSD	1.853763	1.341110	.3610237	.5847770	13.30011	39.56952
#1	9.420758	.5362592	1.002908	8.997117	.0043900	.0061869
#2	9.403491	.5280396	1.004400	9.055641	.0034350	.0039439
#3	9.717229	.5221386	1.009808	8.950597	.0043480	.0028305

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICV003 Acquired: 10/28/2024 19:08:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV003 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.000117	F -.002917	F .0022244	F -.003544	F -.000981	F -.005330
Stddev	.000650	.004817	.0007010	.000968	.000981	.001833
%RSD	556.9064	165.1094	31.51304	27.31765	99.99607	34.38548
#1	.000204	-.008459	.0023071	-.002596	-.002089	-.006947
#2	.000310	-.000556	.0014857	-.004531	-.000226	-.005704
#3	-.000864	.000263	.0028804	-.003506	-.000627	-.003339

Elem	Sr4077
Units	ppm
Avg	F .0011315
Stddev	.0000890
%RSD	7.867062
#1	.0011198
#2	.0010490
#3	.0012258

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	884.3386	21398.77	2438.517	786.1499	1659.502
Stddev	2.0046	30.82	7.601	2.1476	1.025
%RSD	.2266798	.1440461	.3116943	.2731847	.0617441
#1	884.6459	21426.95	2435.630	788.3443	1659.290
#2	882.1981	21365.85	2432.783	786.0529	1658.600
#3	886.1718	21403.52	2447.138	784.0523	1660.616

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICB003 Acquired: 10/28/2024 19:13:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001040	-.001424	-.002010	-.001285	.0015155	.0098783	-.000114
Stddev	.003547	.002972	.003478	.002614	.0013398	.0062509	.000707
%RSD	341.0673	208.7232	173.0612	203.4915	88.41181	63.27894	621.3058
#1	-.004547	-.000834	.001209	-.002529	.0028390	.0031592	.000651
#2	.002545	.001209	-.001540	.001719	.0015475	.0109544	-.000743
#3	-.001117	-.004647	-.005699	-.003044	.0001599	.0155213	-.000248

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000575	.0000917	.0086801	-.000024	-.000205	-.002395	-.000273
Stddev	.0000316	.0001253	.0177688	.000243	.000292	.001845	.019078
%RSD	54.87924	136.5718	204.7059	994.2427	142.5325	77.03291	6999.673
#1	.0000255	.0000623	-.004048	.000240	-.000451	-.004221	-.021526
#2	.0000584	.0002291	.028981	-.000239	-.000282	-.000532	.005335
#3	.0000887	-.000016	.001108	-.000074	.000118	-.002431	.015373

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001418	-.014514	.0001511	-.001029	-.384958	.0008381	-.000502
Stddev	.0010105	.043638	.0002473	.000266	.111532	.0097614	.000137
%RSD	712.6596	300.6518	163.6375	25.84014	28.97259	1164.706	27.36296
#1	-.000766	-.064765	.0000235	-.001201	-.474531	.0118646	-.000552
#2	.001230	.007383	.0004362	-.001162	-.420309	-.006699	-.000608
#3	-.000039	.013839	-.000006	-.000723	-.260034	-.002651	-.000347

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.090009	-.000436	-.005405	.0000869	-.001293	.0004008	-.000945
Stddev	.120703	.001183	.000328	.0003230	.002333	.0004852	.000687
%RSD	134.1020	271.4998	6.076446	371.8334	180.4091	121.0652	72.70149
#1	-.210639	.000626	-.005477	.0002860	-.003972	.0009586	-.000715
#2	-.090155	-.001711	-.005693	.0002604	-.000205	.0000772	-.000402
#3	.030768	-.000222	-.005047	-.000286	.000297	.0001664	-.001717

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICB003 Acquired: 10/28/2024 19:13:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB003 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0004787	-.006673	-.000083
Stddev	.0023828	.000841	.000187
%RSD	497.7894	12.60799	224.4955
#1	-.001672	-.007393	.000048
#2	.000068	-.006879	-.000298
#3	.003040	-.005748	-.000001

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	889.8567	21419.27	2447.550	792.1008	1697.821
Stddev	2.9180	52.42	7.957	2.6861	1.771
%RSD	.3279195	.2447098	.3250889	.3391145	.1043254
#1	887.1446	21464.01	2440.979	794.2672	1696.461
#2	892.9443	21432.19	2456.396	789.0953	1699.824
#3	889.4814	21361.60	2445.275	792.9399	1697.177

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICSA003 Acquired: 10/28/2024 19:17:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007846	-.015988	-.002151	.0000019	-.000077	251.3202
Stddev	.006053	.004647	.004718	.0052222	.003960	.3831
%RSD	77.15349	29.06759	219.3920	275274.5	5175.119	.1524223
#1	-.008327	-.010752	.003277	.0059980	-.001315	251.1984
#2	-.013644	-.017588	-.004452	-.002443	-.003269	251.0128
#3	-.001566	-.019623	-.005276	-.003550	.004355	251.7493

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0064597	.0008621	-.000232	259.4607	.0523903	.0004650
Stddev	.0002546	.0001734	.000103	.7244	.0006775	.0003441
%RSD	3.941681	20.10843	44.52257	.2791761	1.293078	73.99192
#1	.0066360	.0007514	-.000327	258.7267	.0526370	.0002380
#2	.0065752	.0010619	-.000246	259.4805	.0516241	.0002962
#3	.0061678	.0007730	-.000122	260.1750	.0529098	.0008609

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005828	108.7115	.0133048	266.7336	.0053297	.0021678
Stddev	.004455	.1873	.0008298	1.2726	.0006050	.0006230
%RSD	76.45038	.1722688	6.236799	.4771053	11.35076	28.73916
#1	-.008528	108.6766	.0142614	265.4308	.0046530	.0026376
#2	-.000685	108.5441	.0128730	266.7962	.0055177	.0014611
#3	-.008270	108.9138	.0127799	267.9737	.0058183	.0024048

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1663788	.0034444	.0119702	-.277285	.0013684	F .0934425
Stddev	.0998646	.0098583	.0009091	.091952	.0046864	.0010767
%RSD	60.02245	286.2128	7.594772	33.16168	342.4866	1.152274
#1	.2786765	.0128094	.0114561	-.265295	-.000907	.0937015
#2	.0875393	-.006842	.0130199	-.374644	-.001746	.0943660
#3	.1329206	.004366	.0114346	-.191916	.006758	.0922598

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICSA003 Acquired: 10/28/2024 19:17:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA003 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001075	.0008877	-.000178	-.006282	-.002913	-.002834
Stddev	.000127	.0044225	.000122	.001094	.001213	.000803
%RSD	11.81771	498.1654	68.27889	17.41216	41.65848	28.31788
#1	-.000972	.0056104	-.000315	-.007540	-.001960	-.003613
#2	-.001037	-.003156	-.000139	-.005752	-.004279	-.002881
#3	-.001217	.000209	-.000081	-.005554	-.002500	-.002009

Elem	Sr4077
Units	ppm
Avg	F .1061372
Stddev	.0002736
%RSD	.2577451
#1	.1063327
#2	.1058246
#3	.1062544

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	828.5441	20302.21	2428.485	746.7120	1414.605
Stddev	.4707	11.14	5.268	3.7340	1.651
%RSD	.0568113	.0548747	.2169103	.5000650	.1167121
#1	828.7971	20290.65	2430.503	742.5824	1415.886
#2	828.8343	20303.08	2432.446	749.8505	1415.187
#3	828.0010	20312.88	2422.507	747.7032	1412.742

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICSAB003 Acquired: 10/28/2024 19:22:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0969261	.0948334	.0502517	.0416081	.5462845	249.5636
Stddev	.0071761	.0080311	.0010099	.0048997	.0065579	.8182
%RSD	7.403648	8.468686	2.009653	11.77593	1.200451	.3278544
#1	.1028121	.1017717	.0492458	.0398476	.5534621	248.6213
#2	.0889321	.0860356	.0502438	.0471449	.5406058	249.9753
#3	.0990340	.0966927	.0512655	.0378319	.5447858	250.0942

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5350161	.5527466	1.048570	258.5707	.6062788	.5229227
Stddev	.0029268	.0035255	.002532	1.3317	.0004927	.0008015
%RSD	.5470591	.6378101	.2414620	.5150310	.0812689	.1532669
#1	.5317407	.5489429	1.051336	257.1215	.6065506	.5233595
#2	.5359324	.5559047	1.048011	258.8500	.6065758	.5234109
#3	.5373751	.5533921	1.046365	259.7406	.6057101	.5219977

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4871421	108.4525	.5450590	266.5091	1.046342	.1946679
Stddev	.0035678	.7329	.0040449	1.7376	.003851	.0009885
%RSD	.7323981	.6757533	.7420954	.6519919	.3680380	.5077773
#1	.4834763	107.6915	.5425961	264.7061	1.050632	.1956715
#2	.4873468	108.5126	.5428536	266.6483	1.045212	.1936953
#3	.4906031	109.1535	.5497272	268.1730	1.043183	.1946369

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2173245	.5371490	.8919006	-.207540	.0073633	F .0944911
Stddev	.4240496	.0126382	.0050300	.114396	.0009737	.0026937
%RSD	195.1228	2.352828	.5639581	55.12004	13.22322	2.850719
#1	.1652306	.5263941	.8930022	-.110189	.0084303	.0914144
#2	.6650143	.5339841	.8864111	-.333537	.0071366	.0956344
#3	-.178271	.5510689	.8962884	-.178894	.0065229	.0964246

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: ICSAB003 Acquired: 10/28/2024 19:22:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB003 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000893	-.004659	.0003407	-.006749	-.001405	-.006569
Stddev	.000396	.007401	.0006475	.001798	.001845	.001810
%RSD	44.36588	158.8625	190.0611	26.64589	131.3269	27.55791
#1	-.001346	-.008556	.0003323	-.005637	-.001076	-.008631
#2	-.000610	-.009297	.0009923	-.008824	-.003392	-.005831
#3	-.000723	.003876	-.000303	-.005786	.000253	-.005244

Elem	Sr4077
Units	ppm
Avg	F .1047886
Stddev	.0002211
%RSD	.2109987
#1	.1047140
#2	.1046145
#3	.1050374

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	825.1297	20285.26	2401.580	738.1757	1421.127
Stddev	1.5856	62.59	13.392	.8239	3.528
%RSD	.1921674	.3085722	.5576271	.1116191	.2482532
#1	823.3364	20213.45	2417.043	737.2607	1417.237
#2	826.3459	20313.99	2393.915	738.8589	1422.025
#3	825.7070	20328.33	2393.782	738.4075	1424.119

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCV010 Acquired: 10/28/2024 19:26:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV010 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.941507	4.699998	24.21311	4.601187	4.660863	400.6474	9.879030
Stddev	.024708	.009939	.04382	.020521	.009593	11.1051	.257614
%RSD	.5000189	.2114761	.1809754	.4460025	.2058279	2.771785	2.607689
#1	4.961624	4.706277	24.20449	4.600277	4.650003	388.0423	9.585855
#2	4.913927	4.688538	24.17425	4.581136	4.668184	408.9885	10.06922
#3	4.948970	4.705178	24.26060	4.622148	4.664402	404.9115	9.98201

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5069454	2.449892	398.6945	15.00056	2.455330	14.58067	402.9704
Stddev	.0143017	.004988	10.6781	.01685	.006052	.37793	10.4536
%RSD	2.821160	.2035881	2.678256	.1123309	.2464667	2.591994	2.594147
#1	.4908825	2.450592	386.5841	15.02001	2.454494	14.15342	391.0938
#2	.5182976	2.444592	406.7559	14.99126	2.449740	14.87127	410.7764
#3	.5116562	2.454493	402.7434	14.99040	2.461756	14.71732	407.0411

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.54535	406.1419	2.442156	1.245060	394.6330	2.429961	13.82457
Stddev	.40401	11.3610	.005478	.004562	10.6553	.060566	.11279
%RSD	2.777561	2.797309	.2243061	.3664103	2.700057	2.492464	.8158481
#1	14.08815	393.2552	2.441911	1.247211	382.4400	2.360026	13.79808
#2	14.85425	414.7121	2.436805	1.239820	402.1559	2.464751	13.94825
#3	14.69364	410.4583	2.447753	1.248149	399.3031	2.465106	13.72739

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	150.0326	4.861596	5.007468	4.629596	4.929202	4.886833	4.898249
Stddev	3.9544	.013600	.115198	.005842	.015835	.120164	.016394
%RSD	2.635702	.2797515	2.300514	.1261793	.3212488	2.458938	.3346885
#1	145.5267	4.846512	4.879715	4.634164	4.912445	4.753330	4.891114
#2	152.9258	4.865353	5.103436	4.623014	4.931243	4.986328	4.886632
#3	151.6453	4.872922	5.039254	4.631609	4.943917	4.920843	4.917002

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCV010 Acquired: 10/28/2024 19:26:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV010 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.856820	4.942454	4.933512
Stddev	.133413	.129966	.137257
%RSD	2.746918	2.629585	2.782139
#1	4.706009	4.793714	4.778276
#2	4.959446	5.034101	5.038804
#3	4.905005	4.999547	4.983456

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	713.8864	19550.27	2349.119	599.1166	1294.574
Stddev	.2388	72.88	56.900	3.5946	2.186
%RSD	.0334503	.3728014	2.422206	.5999857	.1688630
#1	713.6138	19519.97	2414.196	599.7757	1294.103
#2	714.0587	19633.42	2308.743	595.2381	1296.957
#3	713.9868	19497.42	2324.418	602.3361	1292.662

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCB010 Acquired: 10/28/2024 19:30:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB010 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026222	-.001582	.0006889	.0030083	.0009942	.0274027	.0005320
Stddev	.0020682	.002123	.0013054	.0063015	.0006411	.0169054	.0002711
%RSD	78.87450	134.1927	189.4918	209.4673	64.48432	61.69233	50.94458
#1	.0020759	-.001120	.0021833	.0047827	.0014722	.0090186	.0003364
#2	.0049087	.000272	-.000229	-.003990	.0002657	.0309107	.0004183
#3	.0008820	-.003899	.000113	.008232	.0012446	.0422789	.0008414

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001041	.0001656	.0311601	.0014152	-.000004	-.001634	-.000563
Stddev	.0000852	.0000437	.0261247	.0005959	.000100	.003026	.039124
%RSD	81.87680	26.36955	83.84016	42.10776	2552.920	185.2431	6947.329
#1	.0000155	.0001195	.0039462	.0019360	-.000120	-.005087	-.043771
#2	.0001855	.0001711	.0334955	.0015443	.000049	-.000368	.032466
#3	.0001112	.0002064	.0560388	.0007654	.000059	.000554	.009615

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002256	-.016944	.0008738	-.001537	-.204550	.0066502	.0008807
Stddev	.0007813	.030146	.0005646	.000320	.015686	.0026479	.0001200
%RSD	346.2639	177.9100	64.61771	20.84346	7.668740	39.81724	13.62638
#1	-.000154	-.030366	.0002719	-.001352	-.216074	.0061707	.0009386
#2	-.000293	-.038049	.0009577	-.001352	-.210889	.0042748	.0009608
#3	.001124	.017581	.0013918	-.001907	-.186686	.0095051	.0007427

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0159429	.0003882	.0013004	.0004358	.0005818	.0003588	-.000562
Stddev	.0276948	.0021255	.0005561	.0001079	.0050871	.0009194	.001292
%RSD	173.7121	547.5092	42.76785	24.75580	874.3535	256.2500	229.9720
#1	.0395321	-.002026	.0012186	.0004561	.0018555	.0011383	.000615
#2	-.014551	.001978	.0018928	.0003192	.0049110	-.000655	-.001945
#3	.022848	.001212	.0007896	.0005321	-.005021	.000593	-.000356

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCB010 Acquired: 10/28/2024 19:30:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB010 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002089	.0002656	.0001938
Stddev	.0021764	.0022484	.0000859
%RSD	1041.695	846.6850	44.31430
#1	.0021737	-.002323	.0002236
#2	.0005836	.001733	.0000970
#3	-.002131	.001386	.0002609

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	893.4099	21432.94	2430.227	792.3353	1700.180
Stddev	.7819	6.16	10.708	4.3826	1.324
%RSD	.0875131	.0287263	.4406180	.5531188	.0778914
#1	892.6519	21426.11	2421.671	788.7862	1701.171
#2	893.3642	21434.64	2426.775	797.2339	1698.676
#3	894.2136	21438.07	2442.236	790.9856	1700.693

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04DLX5 Acquired: 10/28/2024 19:35:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1254107	-.008545	.3799615	-.011442	.0035574	65.08144	2.240925
Stddev	.0060888	.003106	.0032578	.001043	.0045307	.15704	.004338
%RSD	4.855061	36.34161	.8574109	9.116426	127.3603	.2412960	.1935808
#1	.1200462	-.012110	.3798454	-.012646	.0007578	64.97427	2.239465
#2	.1320287	-.006425	.3767634	-.010862	.0087846	65.26170	2.245804
#3	.1241573	-.007101	.3832759	-.010818	.0011297	65.00834	2.237505

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033856	.0133477	27.67078	.1592165	.0792091	1.747956	102.2759
Stddev	.0002122	.0000363	.12119	.0006946	.0003167	.005559	.2911
%RSD	6.266875	.2718685	.4379591	.4362355	.3998092	.3180184	.2845806
#1	.0032222	.0133896	27.53791	.1599018	.0788437	1.748285	101.9974
#2	.0033091	.0133274	27.69922	.1585130	.0793791	1.742240	102.5780
#3	.0036254	.0133262	27.77522	.1592349	.0794045	1.753343	102.2521

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.36357	22.24819	.2362882	-.007417	.4400725	.1786932	.9429995
Stddev	.01663	.15457	.0014891	.000258	.2034620	.0036327	.0052095
%RSD	.0905624	.6947733	.6301824	3.473612	46.23374	2.032951	.5524428
#1	18.36319	22.18215	.2352572	-.007585	.5514657	.1791783	.9458338
#2	18.38039	22.13761	.2356120	-.007120	.2052379	.1820589	.9461775
#3	18.34714	22.42482	.2379953	-.007545	.5635140	.1748422	.9369874

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.79654	5.420046	.1132857	-.000954	1.411776	2.899337	.0096320
Stddev	.15944	.010683	.0009518	.000612	.007465	.010338	.0005405
%RSD	1.476749	.1971100	.8402212	64.15605	.5287823	.3565662	5.611408
#1	10.62538	5.419399	.1128790	-.000276	1.417704	2.887672	.0097973
#2	10.94085	5.409700	.1143733	-.001119	1.414232	2.907364	.0090282
#3	10.82337	5.431038	.1126047	-.001467	1.403392	2.902975	.0100705

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04DLX5 Acquired: 10/28/2024 19:35:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.134490	.0344914	.3339215
Stddev	.005694	.0016633	.0004141
%RSD	.2667807	4.822292	.1240201
#1	2.128947	.0363624	.3342161
#2	2.140325	.0331804	.3341002
#3	2.134197	.0339314	.3334480

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	932.5784	22530.37	2622.646	830.5711	1606.345
Stddev	1.7715	41.86	8.446	4.8277	.906
%RSD	.1899541	.1857927	.3220391	.5812521	.0563791
#1	931.4920	22502.49	2629.873	826.6524	1605.324
#2	934.6225	22510.12	2613.362	829.0969	1607.051
#3	931.6205	22578.50	2624.704	835.9640	1606.662

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-05DLX5 Acquired: 10/28/2024 19:39:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1251288	-.017541	.3877036	-.003655	.0063109	67.42986	1.194813
Stddev	.0068347	.004178	.0018661	.001108	.0001494	.08428	.001273
%RSD	5.462158	23.81833	.4813090	30.32115	2.366508	.1249903	.1065223
#1	.1174928	-.014613	.3873575	-.004214	.0064516	67.33782	1.193351
#2	.1306737	-.022325	.3897185	-.002379	.0061542	67.44851	1.195674
#3	.1272200	-.015683	.3860348	-.004373	.0063270	67.50326	1.195415

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041506	.0137480	28.53285	.1598295	.0713813	1.772181	107.2731
Stddev	.0000670	.0002826	.09423	.0005448	.0005134	.006625	.1857
%RSD	1.613297	2.055501	.3302577	.3408369	.7192753	.3738256	.1730986
#1	.0042257	.0138568	28.64111	.1604577	.0718327	1.768479	107.4588
#2	.0040972	.0139601	28.48816	.1595433	.0714884	1.768235	107.2730
#3	.0041288	.0134272	28.46927	.1594875	.0708227	1.779829	107.0874

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.930572	21.68828	.2231802	-.005972	.3074624	.1839350	.9582523
Stddev	.005913	.01251	.0013788	.000211	.1959028	.0036507	.0059368
%RSD	.1504468	.0576962	.6177990	3.540709	63.71601	1.984773	.6195469
#1	3.925156	21.67422	.2226417	-.005746	.4424919	.1798441	.9517997
#2	3.929679	21.69242	.2247470	-.006165	.0827752	.1868615	.9634833
#3	3.936881	21.69819	.2221520	-.006006	.3971200	.1850994	.9594739

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.26312	5.485966	.1178278	-.000000	1.521465	2.942741	.0092934
Stddev	.07276	.033123	.0005449	.000097	.008693	.009645	.0005192
%RSD	.6460253	.6037786	.4624522	28432.02	.5713647	.3277713	5.586432
#1	11.23396	5.520198	.1179638	.000110	1.520549	2.946896	.0095930
#2	11.20946	5.483624	.1182919	-.000043	1.530579	2.949613	.0095933
#3	11.34594	5.454076	.1172278	-.000068	1.513266	2.931715	.0086939

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-05DLX5 Acquired: 10/28/2024 19:39:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.299695	.0342090	.2673877
Stddev	.005800	.0013619	.0003484
%RSD	.2522171	3.981251	.1302904
#1	2.298385	.0326454	.2672085
#2	2.306038	.0348444	.2677893
#3	2.294662	.0351370	.2671655

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	929.6522	22611.63	2638.072	833.5511	1604.325
Stddev	.6988	40.82	9.006	4.9284	2.054
%RSD	.0751638	.1805229	.3413995	.5912527	.1280473
#1	930.2760	22649.04	2631.204	837.7840	1605.065
#2	929.7836	22617.76	2634.744	828.1406	1602.004
#3	928.8971	22568.09	2648.269	834.7289	1605.907

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-06DLX5 Acquired: 10/28/2024 19:44:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1262540	.0271130	.3415683	.0531063	.0329228	53.33832	3.629950
Stddev	.0037524	.0054993	.0031564	.0007170	.0012403	.24413	.016665
%RSD	2.972084	20.28289	.9240824	1.350183	3.767294	.4576920	.4590924
#1	.1289660	.0216462	.3387946	.0538354	.0342846	53.12951	3.616434
#2	.1278243	.0326442	.3409075	.0524020	.0318578	53.27873	3.624847
#3	.1219715	.0270487	.3450028	.0530816	.0326260	53.60673	3.648570

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0427457	.0510751	24.33852	.2911707	.4537501	1.633446	89.16979
Stddev	.0003491	.0002052	.11321	.0007828	.0011565	.010299	.54722
%RSD	.8166104	.4016681	.4651288	.2688439	.2548782	.6304799	.6136838
#1	.0424514	.0511069	24.24790	.2919327	.4524322	1.622032	88.72307
#2	.0426544	.0512626	24.30223	.2903686	.4542222	1.636265	89.00614
#3	.0431314	.0508560	24.46542	.2912110	.4545958	1.642042	89.78017

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.85128	16.70230	.5737623	.0314193	.1847504	.5435663	1.110601
Stddev	.06802	.17794	.0018442	.0002695	.2490547	.0067910	.005210
%RSD	.6268074	1.065344	.3214259	.8577292	134.8061	1.249345	.4691527
#1	10.79639	16.49829	.5752586	.0311648	.0032008	.5361003	1.110994
#2	10.83009	16.82544	.5743264	.0317016	.0823723	.5452228	1.105206
#3	10.92737	16.78317	.5717019	.0313914	.4686780	.5493758	1.115604

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.257223	4.658344	.0956537	-.001012	1.107781	2.673450	.0071896
Stddev	.084527	.019827	.0009345	.000427	.006250	.013487	.0006494
%RSD	1.023675	.4256247	.9769382	42.17032	.5641679	.5044788	9.031941
#1	8.244266	4.670788	.0949915	-.000715	1.113439	2.664763	.0074895
#2	8.179922	4.668764	.0952470	-.001502	1.101073	2.666600	.0076347
#3	8.347480	4.635479	.0967226	-.000820	1.108831	2.688987	.0064444

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-06DLX5 Acquired: 10/28/2024 19:44:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.833513	.0242481	.2290404
Stddev	.011573	.0012222	.0010173
%RSD	.6311701	5.040182	.4441577
#1	1.820246	.0254945	.2283550
#2	1.841531	.0230518	.2285569
#3	1.838762	.0241979	.2302093

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	936.5137	22658.05	2602.798	830.9462	1627.524
Stddev	1.0665	43.10	12.580	3.7161	2.114
%RSD	.1138785	.1901994	.4833148	.4472079	.1298933
#1	937.7435	22673.91	2615.010	834.0973	1625.841
#2	935.9538	22609.27	2603.506	831.8931	1626.835
#3	935.8438	22690.96	2589.880	826.8483	1629.897

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04LDLX25 Acquired: 10/28/2024 19:48:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0303899	-.002148	.0784257	.0017151	.0026041	13.69453	.4657802
Stddev	.0010551	.001064	.0012113	.0019133	.0014164	.04538	.0005969
%RSD	3.471836	49.55185	1.544468	111.5524	54.39183	.3313423	.1281466
#1	.0295337	-.002216	.0790128	.0032553	.0019685	13.64940	.4653231
#2	.0300673	-.003177	.0770327	-.000427	.0016168	13.69406	.4664555
#3	.0315686	-.001051	.0792314	.002317	.0042269	13.74015	.4655620

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007643	.0025392	5.827135	.0335129	.0156038	.3678964	21.76360
Stddev	.0000760	.0000762	.017833	.0007187	.0002157	.0039170	.00843
%RSD	9.944716	3.000276	.3060277	2.144513	1.382229	1.064691	.0387246
#1	.0008446	.0024717	5.842269	.0339872	.0156522	.3697337	21.77128
#2	.0006934	.0026218	5.831660	.0326860	.0157911	.3705571	21.76495
#3	.0007550	.0025242	5.807476	.0338656	.0153680	.3633986	21.75459

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.937671	4.647003	.0474939	-.002263	-.037506	.0422338	.2025165
Stddev	.008307	.030829	.0002503	.000219	.384637	.0064882	.0000348
%RSD	.2109664	.6634263	.5271114	9.686767	1025.530	15.36260	.0171746
#1	3.944024	4.634484	.0475117	-.002495	-.225735	.0464907	.2025038
#2	3.940719	4.682122	.0472352	-.002060	.404995	.0454444	.2024899
#3	3.928271	4.624402	.0477349	-.002233	-.291777	.0347662	.2025559

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.244122	1.072509	.0197466	-.000551	.2774473	.6335001	-.001132
Stddev	.134401	.002423	.0009729	.000090	.0032010	.0017773	.001102
%RSD	5.989007	.2259401	4.927014	16.40650	1.153719	.2805549	97.40887
#1	2.392587	1.071629	.0208632	-.000469	.2754538	.6320109	.000080
#2	2.130748	1.070649	.0190812	-.000648	.2757484	.6330216	-.002076
#3	2.209030	1.075250	.0192954	-.000536	.2811395	.6354676	-.001399

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04LDLX25 Acquired: 10/28/2024 19:48:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4516013	.0034312	.0703134
Stddev	.0007207	.0011248	.0001959
%RSD	.1595898	32.78286	.2785641
#1	.4515897	.0042879	.0705299
#2	.4523278	.0038484	.0701484
#3	.4508865	.0021574	.0702620

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	910.3551	21775.84	2484.144	805.2837	1681.378
Stddev	.6796	2.32	5.623	2.5712	2.369
%RSD	.0746564	.0106389	.2263494	.3192960	.1408712
#1	910.9433	21778.06	2483.171	805.9657	1681.036
#2	909.6111	21773.44	2490.189	802.4402	1683.899
#3	910.5110	21776.01	2479.070	807.4452	1679.199

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04ADLREX2 Acquired: 10/28/2024 19:53:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2849880	-.022691	.8887508	.1144735	.1953505	144.4283
Stddev	.0085085	.002429	.0005773	.0052835	.0026562	.5378
%RSD	2.985573	10.70356	.0649568	4.615520	1.359731	.3723645
#1	.2940638	-.021878	.8893814	.1121094	.1983959	144.3102
#2	.2771916	-.020772	.8882482	.1205264	.1941435	145.0154
#3	.2837086	-.025422	.8886229	.1107849	.1935120	143.9594

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.944030	.0073822	.0327662	60.37106	.3488211	.1898290
Stddev	.029250	.0000867	.0002052	.32350	.0011667	.0005037
%RSD	.5916272	1.174947	.6263036	.5358452	.3344776	.2653634
#1	4.947262	.0073262	.0327036	60.26337	.3487541	.1897990
#2	4.971530	.0074821	.0325997	60.73467	.3500199	.1893409
#3	4.913298	.0073382	.0329955	60.11515	.3476893	.1903471

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.832518	221.1044	F 39.59190	48.99461	.5578277	-.014730
Stddev	.014334	.9363	.21086	.04686	.0018832	.000151
%RSD	.3740194	.4234629	.5325797	.0956406	.3375915	1.023960
#1	3.816890	220.9286	39.57436	49.00282	.5580939	-.014606
#2	3.845055	222.1162	39.81097	49.03683	.5558256	-.014898
#3	3.835608	220.2685	39.39035	48.94419	.5595636	-.014687

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.391997	.3977601	5.019716	24.38039	F 12.86913	.2446465
Stddev	.266733	.0122111	.016835	.06403	.02482	.0018322
%RSD	19.16192	3.069967	.3353681	.2626379	.1928788	.7489176
#1	1.436600	.4110491	5.032072	24.40718	12.85120	.2443589
#2	1.633617	.3951975	5.026534	24.42667	12.85873	.2466056
#3	1.105774	.3870337	5.000542	24.30731	12.89746	.2429752

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04ADLREX2 Acquired: 10/28/2024 19:53:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000715	3.403300	6.365746	.0224587	4.699533	.0810488
Stddev	.000790	.002203	.030462	.0025244	.019267	.0011250
%RSD	110.4640	.0647395	.4785243	11.24015	.4099675	1.388016
#1	.000044	3.405251	6.348363	.0219431	4.704127	.0808783
#2	-.000657	3.403738	6.400920	.0202319	4.716087	.0822493
#3	-.001532	3.400911	6.347956	.0252011	4.678384	.0800188

Elem	Sr4077
Units	ppm
Avg	.7370551
Stddev	.0006081
%RSD	.0825026
#1	.7374336
#2	.7373781
#3	.7363537

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	978.7773	23915.89	2803.252	871.2782	1542.652
Stddev	1.2535	62.88	16.413	3.8164	3.034
%RSD	.1280644	.2629419	.5854962	.4380242	.1966808
#1	977.9287	23912.65	2810.599	869.3658	1540.334
#2	980.2170	23854.69	2784.449	868.7961	1546.086
#3	978.1863	23980.33	2814.707	875.6727	1541.536

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4332-13ADLREX2 Acquired: 10/28/2024 19:57:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBE6A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7448430	-.025914	1.920093	.1394164	.2166195	174.2852
Stddev	.0161302	.009347	.001847	.0074705	.0015572	.7199
%RSD	2.165591	36.06708	.0962132	5.358374	.7188666	.4130866
#1	.7443727	-.016255	1.919456	.1430051	.2156272	173.8710
#2	.7289530	-.026575	1.918648	.1308288	.2184143	173.8682
#3	.7612032	-.034913	1.922174	.1444153	.2158171	175.1166

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.011498	.0104553	.0456015	49.38189	1.426332	.1557529
Stddev	.021372	.0000694	.0004159	.31109	.001880	.0011231
%RSD	.7096737	.6639377	.9120316	.6299767	.1318058	.7210483
#1	2.996826	.0105286	.0455022	49.29001	1.424827	.1562681
#2	3.001649	.0103906	.0452443	49.12708	1.428440	.1544647
#3	3.036018	.0104468	.0460581	49.72857	1.425730	.1565258

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.700557	187.5578	4.828051	47.68571	.5746992	.0041739
Stddev	.040667	.9983	.023562	.25687	.0024384	.0005159
%RSD	.5281085	.5322854	.4880291	.5386807	.4242968	12.36042
#1	7.670481	187.5009	4.823278	47.52806	.5754745	.0046226
#2	7.684363	186.5892	4.807240	47.54695	.5719674	.0042891
#3	7.746826	188.5834	4.853634	47.98212	.5766558	.0036102

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.120767	.3522801	3.998220	14.88627	F 11.62127	.2283919
Stddev	.235179	.0083016	.010207	.05340	.02662	.0008712
%RSD	11.08931	2.356530	.2552960	.3587445	.2290642	.3814714
#1	1.928511	.3514505	3.994058	14.83613	11.61126	.2278305
#2	2.382989	.3444244	3.990751	14.88024	11.60111	.2279497
#3	2.050801	.3609653	4.009850	14.94243	11.65145	.2293956

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4332-13ADLREX2 Acquired: 10/28/2024 19:57:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBE6A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037586	3.701548	5.695056	.0572800	4.914430	.0628846
Stddev	.0003294	.011864	.026074	.0004784	.020983	.0015527
%RSD	8.764096	.3205224	.4578378	.8352593	.4269758	2.469168
#1	.0034209	3.698828	5.707777	.0578260	4.897439	.0646701
#2	.0037760	3.691279	5.665063	.0569342	4.907966	.0618506
#3	.0040790	3.714536	5.712328	.0570798	4.937885	.0621331

Elem	Sr4077
Units	ppm
Avg	.7352857
Stddev	.0024200
%RSD	.3291169
#1	.7336510
#2	.7341404
#3	.7380657

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	953.1221	23396.61	2762.570	846.8430	1551.812
Stddev	3.8961	37.38	13.265	2.6164	4.350
%RSD	.4087693	.1597567	.4801842	.3089570	.2803256
#1	956.4593	23354.33	2756.068	846.3645	1552.756
#2	954.0662	23425.26	2777.832	849.6655	1555.613
#3	948.8407	23410.24	2753.811	844.4988	1547.068

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4333-01DLX2 Acquired: 10/28/2024 20:01:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2729041	-.043165	.5432346	-.019846	.0099203	235.7873
Stddev	.0041042	.008796	.0028577	.002203	.0040038	.6393
%RSD	1.503891	20.37808	.5260574	11.10289	40.35922	.2711504
#1	.2776253	-.052547	.5465342	-.022050	.0145330	235.9961
#2	.2701870	-.041843	.5416178	-.017643	.0073445	236.2962
#3	.2709000	-.035105	.5415518	-.019844	.0078835	235.0697

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.299817	.0117116	.0136664	113.1166	.4776223	.1726616
Stddev	.024830	.0003350	.0002009	.2427	.0014667	.0006260
%RSD	.2991611	2.860211	1.469642	.2145328	.3070864	.3625381
#1	8.303660	.0113252	.0137776	113.0831	.4790917	.1729543
#2	8.322501	.0118896	.0134346	113.3743	.4776168	.1730875
#3	8.273289	.0119200	.0137871	112.8925	.4761583	.1719429

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.998639	238.9316	5.293501	72.36869	.7964357	-.015158
Stddev	.010382	.8052	.015478	.49524	.0023042	.000068
%RSD	.5194402	.3369903	.2923979	.6843286	.2893195	.4503137
#1	2.001962	239.4343	5.293968	72.52880	.7982675	-.015170
#2	2.006952	239.3575	5.308740	72.76406	.7971912	-.015219
#3	1.987002	238.0029	5.277794	71.81320	.7938486	-.015084

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.021554	.5084881	1.229870	15.53023	F 13.32171	.2674178
Stddev	.281525	.0064346	.003557	.16233	.06640	.0023839
%RSD	13.92616	1.265429	.2892388	1.045259	.4984516	.8914475
#1	2.339388	.5149687	1.225930	15.39115	13.38018	.2700599
#2	1.921738	.5083951	1.230838	15.70860	13.33544	.2667656
#3	1.803538	.5021006	1.232844	15.49093	13.24952	.2654279

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4333-01DLX2 Acquired: 10/28/2024 20:01:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBF4 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000365	1.830317	4.860551	.0136133	6.224903	.1083885
Stddev	.000466	.018864	.020218	.0019025	.013143	.0009075
%RSD	127.8267	1.030630	.4159604	13.97542	.2111284	.8372506
#1	-.000333	1.848556	4.851090	.0119960	6.235745	.1079415
#2	.000085	1.810885	4.883765	.0157095	6.228679	.1094328
#3	-.000846	1.831510	4.846798	.0131345	6.210286	.1077913

Elem	Sr4077
Units	ppm
Avg	1.196833
Stddev	.004533
%RSD	.3787581
#1	1.201215
#2	1.197122
#3	1.192162

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1001.212	24519.15	2888.943	895.1386	1501.085
Stddev	1.725	47.60	11.408	3.1065	2.967
%RSD	.1722880	.1941307	.3948958	.3470440	.1976834
#1	1002.903	24504.28	2895.994	897.2244	1500.568
#2	1001.276	24480.76	2875.781	896.6231	1504.277
#3	999.455	24572.41	2895.053	891.5684	1498.410

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: PB164280BL Acquired: 10/28/2024 20:06:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS280 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000692	-.000472	-.000294	-.001045	.0006709	.0168287	.0006269
Stddev	.002154	.000991	.000666	.001293	.0011936	.0125461	.0004427
%RSD	311.2460	209.7981	226.6422	123.6944	177.9147	74.55194	70.62033
#1	.001538	-.000188	-.000298	-.002445	.0015192	.0024816	.0007431
#2	-.000853	.000346	.000374	.000105	-.000694	.0222627	.0001377
#3	-.002760	-.001574	-.000958	-.000796	.001187	.0257418	.0009999

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000010	.0000024	.0249557	.0002660	-.000272	-.001412	-.002348
Stddev	.0000403	.0000963	.0085604	.0008465	.000248	.002248	.015101
%RSD	4024.880	4051.134	34.30223	318.2123	91.22777	159.1662	643.2011
#1	.0000070	-.000043	.0310804	-.000702	-.000133	-.000165	-.015006
#2	.0000380	-.000063	.0286124	.000865	-.000124	-.004007	-.006405
#3	-.000042	.000113	.0151743	.000636	-.000559	-.000065	.014368

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003924	.0196814	.0001407	.0001631	-.072973	-.003433	-.000111
Stddev	.0010330	.0283916	.0002439	.0003997	.133737	.007239	.000237
%RSD	263.2520	144.2565	173.3910	245.1171	183.2681	210.8985	214.1640
#1	.0004211	.0052667	.0001528	.0000628	-.148681	-.011552	-.000352
#2	-.000655	.0523887	.0003784	-.000177	.081443	-.001097	-.000102
#3	.001411	.0013888	-.000109	.000603	-.151682	.002351	.000122

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.096607	.0003855	-.003288	.0000958	-.000452	.0022729	-.001321
Stddev	.054846	.0014214	.000443	.0004568	.001546	.0008140	.001425
%RSD	56.77188	368.7433	13.48917	476.5730	342.2748	35.81110	107.8871
#1	-.106096	-.000813	-.003152	-.000422	.001118	.0031824	.000182
#2	-.037636	.000014	-.002928	.000440	-.001972	.0020235	-.001493
#3	-.146089	.001956	-.003783	.000269	-.000502	.0016128	-.002652

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: PB164280BL Acquired: 10/28/2024 20:06:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS280 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0004227	-.006645	-.000083
Stddev	.0008440	.001796	.000083
%RSD	199.6621	27.03000	100.6544
#1	-.000320	-.007223	-.000090
#2	.000247	-.004631	.000004
#3	.001341	-.008082	-.000163

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	892.6408	21421.92	2417.869	795.7486	1701.205
Stddev	1.6256	99.90	5.068	2.8153	2.111
%RSD	.1821147	.4663637	.2096113	.3537986	.1241013
#1	890.7693	21386.10	2412.075	792.5224	1700.177
#2	893.7023	21534.80	2421.479	797.0151	1703.633
#3	893.4509	21344.87	2420.054	797.7082	1699.804

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: PB164280BS Acquired: 10/28/2024 20:10:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS280 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0248869	.0531188	.0205680	.0695593	.1072324	.4003350
Stddev	.0028842	.0022553	.0020151	.0020903	.0012849	.0147094
%RSD	11.58931	4.245752	9.797302	3.005094	1.198201	3.674280
#1	.0278670	.0556053	.0228374	.0706542	.1058017	.4042224
#2	.0221092	.0512052	.0198782	.0671490	.1082879	.4127104
#3	.0246845	.0525459	.0189883	.0708747	.1076077	.3840724

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4173073	.0109793	.0106845	10.84069	.0225939	.1010375
Stddev	.0029118	.0001607	.0000747	.10376	.0005561	.0001921
%RSD	.6977496	1.463257	.6993602	.9571086	2.461256	.1901295
#1	.4165035	.0110441	.0106255	10.82858	.0229369	.1009034
#2	.4205366	.0110974	.0107685	10.94997	.0219523	.1009514
#3	.4148819	.0107963	.0106594	10.74352	.0228926	.1012576

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0524318	.2167206	.0329084	10.85535	.0853916	.0213539
Stddev	.0007793	.0039170	.0009220	.06985	.0004440	.0002941
%RSD	1.486320	1.807404	2.801829	.6434244	.5199999	1.377164
#1	.0524366	.2190475	.0339420	10.88970	.0849591	.0211204
#2	.0532088	.2189162	.0321703	10.90136	.0853694	.0212571
#3	.0516502	.2121983	.0326131	10.77498	.0858463	.0216841

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.15078	.1184543	.1060781	9.840706	.0170822	F -.003396
Stddev	.13611	.0110800	.0007120	.063068	.0009949	.001265
%RSD	1.340879	9.353791	.6711958	.6408884	5.823888	37.24656
#1	10.00173	.1280189	.1065176	9.882290	.0165854	-.004732
#2	10.18212	.1063130	.1052567	9.871688	.0164335	-.002217
#3	10.26848	.1210311	.1064602	9.768139	.0182276	-.003240

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: PB164280BS Acquired: 10/28/2024 20:10:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS280 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0186137	.1758455	F .4618842	.0136553	.2083956	.0241534
Stddev	.0005541	.0029194	.0012934	.0008716	.0016285	.0003393
%RSD	2.976631	1.660231	.2800305	6.382902	.7814458	1.404779
#1	.0180603	.1792162	.4606253	.0127420	.2097966	.0240285
#2	.0191684	.1741142	.4632096	.0137456	.2066089	.0245375
#3	.0186124	.1742062	.4618177	.0144782	.2087814	.0238943

Elem	Sr4077
Units	ppm
Avg	.2116807
Stddev	.0003203
%RSD	.1512899
#1	.2116437
#2	.2120179
#3	.2113806

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	893.5205	21388.27	2431.099	792.6058	1664.469
Stddev	1.4888	13.21	16.403	2.2407	.897
%RSD	.1666232	.0617750	.6747155	.2826966	.0538957
#1	892.7319	21395.27	2441.801	790.9599	1665.170
#2	895.2378	21396.51	2412.214	791.7000	1664.779
#3	892.5919	21373.03	2439.281	795.1576	1663.458

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: PB164280BSD Acquired: 10/28/2024 20:15:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD280 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077021	.0253271	.0095668	.0313149	.0555557	.2080938	.2204923
Stddev	.0020062	.0013667	.0030011	.0053177	.0018272	.0176201	.0004770
%RSD	26.04795	5.396158	31.37017	16.98132	3.288897	8.467379	.2163492
#1	.0053915	.0244521	.0128541	.0252270	.0534820	.2056631	.2208534
#2	.0090014	.0269020	.0088729	.0336656	.0562562	.1918152	.2206721
#3	.0087135	.0246272	.0069734	.0350521	.0569290	.2268030	.2199515

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060322	.0055918	5.703537	.0117626	.0529595	.0232786	.1239332
Stddev	.0001217	.0002135	.024392	.0003414	.0007240	.0023852	.0048775
%RSD	2.016629	3.819015	.4276621	2.902275	1.367185	10.24644	3.935562
#1	.0060800	.0058106	5.684686	.0119494	.0528482	.0255499	.1188015
#2	.0061227	.0055808	5.694839	.0113686	.0522975	.0207938	.1244893
#3	.0058939	.0053839	5.731085	.0119699	.0537328	.0234921	.1285088

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0167790	5.797621	.0452280	.0111903	5.104707	.0599429	.0567884
Stddev	.0015736	.021665	.0002047	.0010323	.311342	.0075660	.0011144
%RSD	9.378414	.3736889	.4526420	9.224830	6.099123	12.62194	1.962466
#1	.0157762	5.820403	.0453883	.0101899	4.748837	.0518956	.0560590
#2	.0159681	5.795179	.0452984	.0122517	5.326816	.0610213	.0580713
#3	.0185927	5.777279	.0449974	.0111293	5.238467	.0669118	.0562350

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.026292	.0098777	-.004527	.0100643	.0940418	.2413138	.0059947
Stddev	.093256	.0020658	.000406	.0003894	.0032378	.0013442	.0017281
%RSD	1.855362	20.91398	8.977431	3.869164	3.442937	.5570420	28.82745
#1	5.015542	.0102657	-.004959	.0096509	.0971281	.2398395	.0042219
#2	5.124457	.0117220	-.004153	.0101179	.0943260	.2424713	.0076743
#3	4.938876	.0076454	-.004469	.0104241	.0906712	.2416305	.0060880

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: PB164280BSD Acquired: 10/28/2024 20:15:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD280 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1087490	.0083151	.1115204
Stddev	.0011684	.0012366	.0003454
%RSD	1.074405	14.87147	.3097495
#1	.1074569	.0090411	.1117178
#2	.1097313	.0068873	.1117218
#3	.1090588	.0090170	.1111215

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	892.0290	21350.05	2466.098	788.1773	1677.082
Stddev	1.7239	308.78	4.205	12.0722	3.582
%RSD	.1932580	1.446272	.1704988	1.531665	.2135970
#1	892.2658	21532.53	2468.804	792.8571	1674.616
#2	893.6223	20993.53	2468.236	774.4657	1681.191
#3	890.1989	21524.08	2461.254	797.2089	1675.438

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCV011 Acquired: 10/28/2024 20:20:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV011 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.018454	4.744518	24.51366	4.694102	4.696275	405.5701	10.02058
Stddev	.009402	.027883	.13985	.017256	.020203	.9436	.03658
%RSD	.1873412	.5876873	.5704852	.3676150	.4302017	.2326525	.3650924
#1	5.019163	4.753281	24.54229	4.702024	4.690100	406.6573	10.05999
#2	5.008718	4.713306	24.36171	4.674307	4.679879	405.0886	10.01403
#3	5.027481	4.766967	24.63697	4.705974	4.718845	404.9644	9.98771

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5114162	2.485105	403.1088	15.09630	2.482826	14.78656	406.9310
Stddev	.0029562	.010946	1.7555	.00945	.013707	.03803	2.1438
%RSD	.5780412	.4404567	.4355018	.0626291	.5520755	.2572014	.5268242
#1	.5146217	2.488323	405.1305	15.08538	2.487569	14.82991	409.4022
#2	.5087972	2.472911	402.2262	15.10202	2.467377	14.75883	405.8213
#3	.5108296	2.494082	401.9697	15.10149	2.493531	14.77093	405.5695

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.68290	409.6602	2.469859	1.250078	399.0665	2.449745	13.99410
Stddev	.08123	1.8596	.011149	.007505	1.4396	.022713	.05409
%RSD	.5532481	.4539340	.4513946	.6003601	.3607529	.9271672	.3865313
#1	14.77662	411.7756	2.474001	1.245751	400.7278	2.466678	13.93784
#2	14.63278	408.2834	2.457232	1.245739	398.2864	2.423934	14.04572
#3	14.63930	408.9214	2.478344	1.258744	398.1852	2.458624	13.99874

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	152.4684	4.927316	5.016878	4.658863	5.014476	4.899053	4.953601
Stddev	.5082	.022766	.017466	.019767	.025226	.028465	.026475
%RSD	.3333321	.4620272	.3481365	.4242855	.5030628	.5810289	.5344631
#1	153.0309	4.928775	5.029481	4.657144	5.027948	4.927490	4.957935
#2	152.0424	4.903855	4.996941	4.640012	4.985374	4.870560	4.925226
#3	152.3318	4.949316	5.024211	4.679434	5.030105	4.899110	4.977641

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCV011 Acquired: 10/28/2024 20:20:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV011 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.918061	4.976839	5.027856
Stddev	.008134	.018280	.014976
%RSD	.1653951	.3672948	.2978638
#1	4.926453	4.997606	5.044702
#2	4.910212	4.969723	5.016051
#3	4.917517	4.963187	5.022814

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	713.3372	19555.82	2357.361	593.8635	1289.763
Stddev	1.5148	40.45	11.699	3.6246	5.320
%RSD	.2123533	.2068610	.4962885	.6103450	.4124584
#1	713.9241	19602.15	2344.149	597.5525	1288.275
#2	714.4708	19537.87	2366.407	590.3068	1295.669
#3	711.6168	19527.45	2361.529	593.7313	1285.347

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCB011 Acquired: 10/28/2024 20:24:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB011 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010262	-.000891	.0018146	.0042285	-.002774	.0686086	.0008489
Stddev	.0005161	.001618	.0013871	.0014743	.001447	.0064980	.0002838
%RSD	50.29338	181.5400	76.43834	34.86689	52.15195	9.471080	33.42778
#1	.0004310	-.000703	.0033454	.0031492	-.004431	.0704616	.0011378
#2	.0012977	-.002596	.0006413	.0036280	-.001762	.0613854	.0008383
#3	.0013498	.000625	.0014571	.0059084	-.002129	.0739789	.0005706

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000239	.0001179	.0308645	.0013955	-.000247	.0011080	.0307219
Stddev	.0000456	.0001842	.0135528	.0007070	.000077	.0012637	.0095261
%RSD	191.0085	156.1632	43.91044	50.65929	31.03653	114.0554	31.00760
#1	.0000408	.0003102	.0359181	.0006185	-.000202	.0016814	.0348770
#2	-.000028	.0001006	.0155111	.0020008	-.000204	.0019833	.0198240
#3	.000059	-.000057	.0411644	.0015672	-.000336	-.000341	.0374648

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008474	-.007742	.0006118	.0007225	-.183051	.0005232	.0012483
Stddev	.0007175	.065018	.0004137	.0003353	.282101	.0040773	.0003729
%RSD	84.66385	839.7693	67.61494	46.41249	154.1107	779.2354	29.87242
#1	.0003625	.030561	.0001832	.0008004	-.498242	.0013545	.0008712
#2	.0005083	.029025	.0006436	.0010120	.045763	.0041209	.0012569
#3	.0016716	-.082813	.0010087	.0003551	-.096674	-.003906	.0016168

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0753384	-.000105	.0016362	.0006020	-.003840	.0022496	-.002784
Stddev	.0959728	.000962	.0006745	.0003572	.008442	.0002699	.001082
%RSD	127.3890	916.4180	41.22047	59.33215	219.8254	11.99603	38.86593
#1	-.024672	-.000721	.0024149	.0004725	-.013589	.0021796	-.001997
#2	.166686	-.000597	.0012323	.0003277	.001010	.0020216	-.002337
#3	.084001	.001003	.0012616	.0010059	.001058	.0025476	-.004018

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCB011 Acquired: 10/28/2024 20:24:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB011 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0004568	-.003060	.0002810
Stddev	.0005530	.000639	.0000489
%RSD	121.0585	20.88412	17.41492
#1	.0010818	-.003730	.0002743
#2	.0000313	-.002994	.0002358
#3	.0002573	-.002457	.0003329

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	887.4168	21272.03	2408.802	789.8866	1691.384
Stddev	1.7188	26.93	2.081	1.4760	4.771
%RSD	.1936813	.1266138	.0863846	.1868571	.2820838
#1	885.4391	21287.87	2407.225	791.5753	1685.879
#2	888.2616	21240.93	2411.161	789.2416	1693.963
#3	888.5496	21287.29	2408.021	788.8429	1694.312

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04ADLX2 Acquired: 10/28/2024 21:02:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2805403	-.022761	.8840731	.0338921	.1130097	143.9140
Stddev	.0068141	.007310	.0026023	.0031863	.0023523	.4274
%RSD	2.428934	32.11802	.2943547	9.401189	2.081457	.2970051
#1	.2881492	-.017589	.8818934	.0302211	.1102955	144.1989
#2	.2784711	-.019568	.8869542	.0359399	.1142785	144.1206
#3	.2750007	-.031124	.8833717	.0355152	.1144552	143.4226

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.927041	.0072105	.0331471	60.78722	.3410094	.1890684
Stddev	.022598	.0001265	.0002792	.32217	.0026239	.0005420
%RSD	.4586585	1.753700	.8423725	.5299903	.7694642	.2866803
#1	4.948204	.0070821	.0328483	61.03816	.3423263	.1884427
#2	4.929679	.0073349	.0331917	60.89959	.3379878	.1893926
#3	4.903239	.0072144	.0334014	60.42392	.3427141	.1893700

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.770063	219.5702	F 39.24515	48.67474	.5548386	-.013297
Stddev	.007680	.8521	.17325	.25838	.0004363	.000482
%RSD	.2037129	.3880563	.4414527	.5308362	.0786416	3.627792
#1	3.773838	220.3291	39.35828	48.75536	.5544480	-.013261
#2	3.775126	219.7330	39.33147	48.88319	.5553095	-.013796
#3	3.761226	218.6485	39.04570	48.38566	.5547582	-.012833

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.546168	.3949892	5.070368	24.15372	F 12.58438	.2393360
Stddev	.115972	.0158855	.012281	.05968	.03430	.0010335
%RSD	7.500600	4.021745	.2422175	.2470639	.2725263	.4318331
#1	1.611985	.4118696	5.061631	24.10003	12.61596	.2392397
#2	1.412262	.3927648	5.084410	24.21797	12.54789	.2383540
#3	1.614258	.3803332	5.065063	24.14316	12.58929	.2404143

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4331-04ADLX2 Acquired: 10/28/2024 21:02:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBB7A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001077	3.355119	6.506378	.0243021	4.688358	.0767673
Stddev	.000725	.013043	.028501	.0014717	.016351	.0015390
%RSD	67.36782	.3887510	.4380483	6.055718	.3487547	2.004821
#1	-.000921	3.340415	6.496155	.0227079	4.705522	.0776259
#2	-.001867	3.365293	6.538581	.0256089	4.686589	.0776855
#3	-.000442	3.359649	6.484399	.0245894	4.672964	.0749905

Elem	Sr4077
Units	ppm
Avg	.7309388
Stddev	.0024231
%RSD	.3315034
#1	.7333623
#2	.7309380
#3	.7285161

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	970.2315	23835.25	2815.439	867.4824	1525.274
Stddev	.3276	61.60	10.364	1.9089	3.180
%RSD	.0337693	.2584309	.3681215	.2200488	.2084988
#1	969.8588	23802.69	2809.291	868.4552	1522.936
#2	970.3615	23906.29	2809.620	865.2830	1528.895
#3	970.4742	23796.76	2827.405	868.7088	1523.991

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4332-13ADLX2 Acquired: 10/28/2024 21:06:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBE6A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7316895	-.030242	1.890432	.0354351	.1253287	173.4903
Stddev	.0072590	.001709	.005555	.0027691	.0006842	.0440
%RSD	.9920859	5.652781	.2938663	7.814549	.5459629	.0253402
#1	.7368018	-.031234	1.886657	.0354002	.1246083	173.4415
#2	.7233808	-.028268	1.887829	.0326836	.1254082	173.5027
#3	.7348858	-.031223	1.896811	.0382214	.1259698	173.5268

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.982733	.0104582	.0448496	49.26519	1.411382	.1537619
Stddev	.007233	.0000511	.0001371	.10905	.004072	.0006960
%RSD	.2425065	.4887694	.3056831	.2213496	.2885136	.4526510
#1	2.989866	.0105139	.0449942	49.34677	1.408072	.1544276
#2	2.982930	.0104473	.0447216	49.30748	1.410146	.1530391
#3	2.975403	.0104134	.0448329	49.14134	1.415929	.1538189

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.610567	185.5841	4.785484	47.57253	.5661109	.0056445
Stddev	.005132	.0608	.003218	.12625	.0008915	.0008732
%RSD	.0674307	.0327753	.0672391	.2653840	.1574862	15.46998
#1	7.607691	185.6542	4.789163	47.71314	.5662206	.0055023
#2	7.607517	185.5450	4.784092	47.53554	.5651695	.0048512
#3	7.616492	185.5532	4.783197	47.46891	.5669424	.0065801

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.957961	.3496748	3.954697	14.88305	F 11.39879	.2233132
Stddev	.462759	.0090160	.012715	.08597	.01821	.0005281
%RSD	23.63476	2.578398	.3215088	.5776301	.1597238	.2364764
#1	2.336480	.3550367	3.952241	14.91362	11.38105	.2227964
#2	1.442069	.3392656	3.968460	14.78597	11.39789	.2232915
#3	2.095335	.3547221	3.943389	14.94956	11.41743	.2238518

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: P4332-13ADLX2 Acquired: 10/28/2024 21:06:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYDBE6A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037536	3.619870	6.014390	.0532029	4.888036	.0638215
Stddev	.0006302	.023942	.020328	.0026171	.005201	.0012237
%RSD	16.79011	.6614037	.3379962	4.918999	.1063941	1.917349
#1	.0038538	3.592434	5.990951	.0555115	4.883655	.0624294
#2	.0043277	3.630643	6.025002	.0537373	4.893783	.0643076
#3	.0030793	3.636533	6.027216	.0503599	4.886668	.0647274

Elem	Sr4077
Units	ppm
Avg	.7273469
Stddev	.0004513
%RSD	.0620517
#1	.7271201
#2	.7278666
#3	.7270540

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	950.3952	23252.99	2726.149	847.9870	1546.624
Stddev	2.8714	62.87	5.250	2.2919	.256
%RSD	.3021253	.2703598	.1925661	.2702790	.0165716
#1	948.5386	23257.81	2728.148	846.6136	1546.480
#2	953.7025	23313.31	2730.105	846.7146	1546.471
#3	948.9446	23187.85	2720.193	850.6328	1546.920

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCV012 Acquired: 10/28/2024 21:11:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV012 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.059708	4.754607	24.59974	4.701570	4.731331	406.7932	9.996499
Stddev	.012536	.016583	.06452	.015145	.015302	.7169	.035590
%RSD	.2477526	.3487870	.2622935	.3221271	.3234238	.1762402	.3560293
#1	5.046346	4.735987	24.52785	4.706565	4.719852	406.7535	9.992125
#2	5.061570	4.760044	24.61874	4.684558	4.725437	407.5292	10.03408
#3	5.071209	4.767789	24.65263	4.713586	4.748703	406.0970	9.96330

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5087233	2.486625	402.5279	15.12990	2.488973	14.90040	405.7926
Stddev	.0019325	.006193	1.6705	.01642	.008117	.02087	1.3436
%RSD	.3798702	.2490387	.4150096	.1085577	.3261242	.1400936	.3311116
#1	.5093335	2.480119	402.2204	15.14361	2.480532	14.88943	405.8139
#2	.5102771	2.487308	404.3308	15.13440	2.489665	14.92448	407.1255
#3	.5065594	2.492447	401.0324	15.11170	2.496722	14.88730	404.4385

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.61729	408.7825	2.474640	1.246055	399.8836	2.465032	14.03084
Stddev	.06181	1.6954	.005611	.004545	1.2755	.016877	.06926
%RSD	.4228403	.4147375	.2267442	.3647489	.3189748	.6846518	.4936332
#1	14.62790	408.2761	2.470540	1.250026	400.2502	2.455286	14.10054
#2	14.67311	410.6733	2.472346	1.247040	400.9356	2.455290	13.96203
#3	14.55087	407.3980	2.481035	1.241098	398.4649	2.484520	14.02996

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	152.8130	4.963348	5.012584	4.688830	5.026015	4.915279	4.977031
Stddev	.5615	.015257	.017243	.005448	.015304	.013697	.014770
%RSD	.3674739	.3073844	.3440013	.1162008	.3045031	.2786603	.2967603
#1	152.8291	4.945739	5.022719	4.686111	5.009786	4.922758	4.966200
#2	153.3663	4.972582	5.022360	4.685276	5.028073	4.923609	4.993855
#3	152.2435	4.971724	4.992674	4.695103	5.040187	4.899471	4.971038

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCV012 Acquired: 10/28/2024 21:11:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV012 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.925573	4.977623	5.042828
Stddev	.013169	.025030	.008078
%RSD	.2673531	.5028462	.1601880
#1	4.924699	4.966686	5.043373
#2	4.939157	5.006260	5.050620
#3	4.912863	4.959923	5.034491

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	707.9484	19420.68	2337.760	590.6848	1280.679
Stddev	1.2191	42.47	8.348	2.1586	3.834
%RSD	.1722087	.2186590	.3571101	.3654424	.2993642
#1	709.3541	19425.06	2339.611	588.2529	1285.066
#2	707.1790	19376.19	2328.641	592.3740	1277.974
#3	707.3122	19460.77	2345.028	591.4276	1278.997

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCB012 Acquired: 10/28/2024 21:15:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB012 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041944	.0019825	.0030606	.0013742	.0020690	.0943474	.0008526
Stddev	.0064112	.0018115	.0034904	.0029162	.0027179	.0155626	.0001231
%RSD	152.8518	91.37438	114.0424	212.2035	131.3627	16.49497	14.44399
#1	-.001014	.0022577	.0064629	-.000345	.0047683	.0893165	.0007314
#2	.002242	.0000492	.0032306	-.000274	.0021060	.1118031	.0009776
#3	.011355	.0036407	-.000512	.004741	-.000667	.0819226	.0008486

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000429	.0001472	.0336965	.0017087	.0001846	.0028517	.0512472
Stddev	.0001856	.0000395	.0212860	.0004083	.0001513	.0023847	.0295077
%RSD	432.7439	26.85637	63.16998	23.89848	81.99924	83.62225	57.57904
#1	-.000129	.0001056	.0131928	.0015937	.0002712	.0018597	.0509978
#2	.000017	.0001842	.0556869	.0021622	.0002727	.0055723	.0218651
#3	.000240	.0001517	.0322096	.0013701	.0000098	.0011232	.0808788

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015368	.0748241	.0004668	-.000751	.0703309	.0124129	.0018037
Stddev	.0008582	.0302706	.0002868	.000480	.1143743	.0037680	.0002036
%RSD	55.83936	40.45564	61.43595	63.90824	162.6232	30.35598	11.28943
#1	.0015106	.1090004	.0005951	-.001099	.1631504	.0083300	.0019804
#2	.0024078	.0513885	.0001383	-.000950	-.057442	.0131521	.0015810
#3	.0006921	.0640833	.0006672	-.000203	.105284	.0157565	.0018496

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0339034	.0009821	.0017260	.0006684	-.006059	.0025694	-.003234
Stddev	.0581976	.0026637	.0011731	.0002141	.001273	.0003433	.001047
%RSD	171.6574	271.2239	67.96837	32.02868	21.01749	13.36084	32.37647
#1	.0548138	-.001660	.0005070	.0008848	-.004601	.0029588	-.002063
#2	.0787567	.003667	.0018239	.0004568	-.006954	.0023106	-.003559
#3	-.031860	.000940	.0028471	.0006637	-.006621	.0024387	-.004081

Reviewed By:jaswal
On:10/30/2024 8:19:54 AM
Inst Id :P5

Sample Name: CCB012 Acquired: 10/28/2024 21:15:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB012 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0016039	-.002206	.0004252
Stddev	.0012917	.000738	.0001831
%RSD	80.53324	33.45319	43.05548
#1	.0018915	-.003039	.0003999
#2	.0027276	-.001940	.0006195
#3	.0001927	-.001637	.0002561

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	890.0024	21411.25	2447.837	788.1291	1688.442
Stddev	1.2070	33.53	5.211	3.7715	3.774
%RSD	.1356180	.1565996	.2128732	.4785401	.2234974
#1	889.6414	21403.25	2443.746	791.7747	1684.401
#2	891.3488	21448.05	2453.704	788.3695	1691.874
#3	889.0172	21382.44	2446.061	784.2432	1689.051

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Prep Standard - Chemical Standard Summary

Order ID : P4331

Test : Metals CLP Full

Prepbatch ID : PB164276,

Sequence ID/Qc Batch ID: LB133139,LB133180,

Standard ID :
MP81119,MP82127,MP82441,MP82442,MP82443,MP82444,MP82445,MP82446,MP82450,MP82451,MP82452,MP82453,MP82455,MP82456,MP82568,MP82589,MP82590,MP82631,MP82632,MP82711,MP82731,

Chemical ID :
M4960,M5130,M5192,M5218,M5223,M5288,M5289,M5295,M5296,M5390,M5394,M5429,M5467,M5473,M5498,M5513,M5515,M5519,M5634,M5658,M5697,M5698,M5747,M5748,M5769,M5798,M5799,M5800,M5801,M5802,M5806,M5814,M5815,M5816,M5817,M5818,M5819,M5820,M5875,M5935,M5961,M5962,M5970,M5976,M5978,M5982,M5984,M5990,M5999,M6021,M6023,M6025,M6028,M6030,M6033,M6037,M6040,M6090,W2606,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
169	1:1HNO3	MP81119	06/21/2024	04/24/2025	Al-Terek Isaac	METALS_SCALE_2 (M SC-2)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/21/2024

FROM 1250.00000ml of M5935 + 1250.00000ml of W2606 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP82441	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 125.00000ml of M6040 + 2350.00000ml of W3112 + 25.00000ml of M6037 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2480	ICP AES STD 6 ISM01.3	MP82442	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 4.00000ml of M5289 + 4.00000ml of M5498 + 4.00000ml of M5515 + 4.00000ml of M5769 + 4.00000ml of M5806 + 30.00000ml of MP82441 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1004	ICPAES ISM01.2 (S5)	MP82443	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.25000ml of M5798 + 0.50000ml of M5429 + 0.50000ml of M5473 + 0.50000ml of M5815 + 0.50000ml of M5817 + 12.50000ml of M5519 + 12.50000ml of M5698 + 12.50000ml of M5806 + 12.50000ml of M5819 + 13.75000ml of M5697 + 14.50000ml of M5515 + 14.50000ml of M5658 + 14.50000ml of M6033 + 2.00000ml of M5513 + 22.50000ml of M5498 + 22.50000ml of M5769 + 5.00000ml of M5296 + 5.00000ml of M5394 + 5.00000ml of M5802 + 5.00000ml of M5818 + 5.00000ml of M5875 + 303.50000ml of MP82441 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1005	ICPAES ISM01.2(S4)	MP82444	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 250.00000ml of MP82441 + 250.00000ml of MP82443 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1007	ICPAES ISM01.2(S3)	MP82445	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of MP82443 + 75.00000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1008	ICPAES ISM01.2(S2)	MP82446	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 12.50000ml of MP82443 + 87.50000ml of MP82441 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2054	ICV-ICPAES	MP82450	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.50000ml of M5218 + 0.50000ml of M5816 + 0.50000ml of M5820 + 0.50000ml of M5970 + 0.50000ml of M5982 + 10.00000ml of M5295 + 87.50000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP82451	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of M5130 + 225.00000ml of MP82441 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
905	ICP AES ICSAB SOLN	MP82452	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of M5130 + 25.00000ml of M5223 + 200.00000ml of MP82441 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1119	ICPAES ISM01.2(CCV)	MP82453	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.75000ml of M5498 + 0.75000ml of M5769 + 1.22500ml of M6033 + 1.25000ml of M5515 + 1.25000ml of M5806 + 19.77500ml of MP82441 + 25.00000ml of MP82443 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP82455	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 1.00000ml of M5984 + 10.00000ml of M4960 + 1969.00000ml of W3112 + 20.00000ml of M6037 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP82456	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 200.00000ml of M6037 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP82568	09/28/2024	10/31/2024	Sarabjit Jaswal	None	None	Mohan Bera 09/30/2024

FROM 25.00000ml of M6040 + 4925.00000ml of W3112 + 50.00000ml of M6037 = Final Quantity: 5000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3747	SB 10PPM	MP82589	09/28/2024	10/31/2024	Sarabjit Jaswal	None	None	Mohan Bera 09/30/2024

FROM 0.10000ml of M5802 + 9.90000ml of MP82568 = Final Quantity: 10.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1883	SE 10PPM	MP82590	09/28/2024	10/31/2024	Sarabjit Jaswal	None	None	Mohan Bera 09/30/2024

FROM 0.10000ml of M5962 + 9.90000ml of MP82568 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
994	ICPAES ISM01.2 S1 (CONC.)	MP82631	10/02/2024	10/23/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/02/2024

FROM 0.02000ml of M5815 + 0.03000ml of M5429 + 0.10000ml of M5798 + 0.10000ml of M6028 + 0.14000ml of M5799 + 0.20000ml of M5473 + 0.20000ml of M5515 + 0.20000ml of M5658 + 0.20000ml of M5801 + 0.20000ml of M5817 + 0.20000ml of M5976 + 0.20000ml of M6025 + 0.20000ml of M6030 + 0.30000ml of M5698 + 0.40000ml of M6033 + 0.50000ml of M5697 + 0.50000ml of M6023 + 0.70000ml of M5962 + 0.80000ml of M5961 + 1.00000ml of M5800 + 1.00000ml of M6021 + 1.20000ml of M5802 + 1.20000ml of M5819 + 10.00000ml of M5498 + 10.00000ml of M5519 + 10.00000ml of M5769 + 10.00000ml of M5806 + 10.00000ml of M5818 + 2.00000ml of M5978 + 4.00000ml of M5390 + 34.24000ml of MP82441 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1003	ICPAES ISM01.2 S1	MP82632	10/02/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/02/2024

FROM 0.50000ml of MP82631 + 87.50000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP82711	10/07/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/07/2024

FROM 0.00300ml of M6028 + 0.03000ml of M5798 + 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 MP82441 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
921	ICPAES SPIKE SOL#6	MP82731	10/04/2024	10/30/2024	Sarabjit Jaswal	METALS_SCALE_2 (M SC-2)	METALS_PIPETTE_3 (A)	Mohan Bera 10/08/2024

FROM 2.50000ml of M5962 + 50.00000ml of M5990 + 50.00000ml of M5999 + 147.50000ml of MP82441 = Final Quantity: 250.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	100721	10/07/2024	10/09/2021 / jaswal	10/08/2021 / jaswal	M4960

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

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Aluminum (Al) 10,000PPM	070622	07/06/2025	09/02/2022 / jaswal	07/12/2022 / jaswal	M5289

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

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 #
Absolute Standards, Inc.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

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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.	57138 / Sr, 10000 PPM, 125 ml	082922	08/29/2025	03/16/2023 / jaswal	03/16/2023 / jaswal	M5473

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 #
Absolute Standards, Inc.	57182 / Pb, 10000 PPM, 125 ml	061522	06/15/2025	03/19/2023 / bin	03/17/2023 / bin	M5513

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.	57119 / Potassium (K) 10,000PPM	120822	12/08/2025	01/08/2024 / bin	03/17/2023 / bin	M5519

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1403 / Hydrogen Peroxide, 30% 1 gal	820803	02/03/2025	04/18/2024 / jaswal	08/03/2022 / Al-Terek	M5634

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

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

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

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

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CHEMICAL RECEIPT LOG BOOK

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

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

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CHEMICAL RECEIPT LOG BOOK

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

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

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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-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	12/08/2024	06/21/2024 / Al-Terek	06/07/2024 / Al-Terek	M5935

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57028 / Ni, 1000 PPM, 125 ml	041124	04/11/2027	07/02/2024 / Jaswal	06/11/2024 / Jaswal	M5961

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

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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	CGMO1-1 / MOLYBDENUM 125mL 1000ug/mL	T2-MO720876	07/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5976

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	CLPP-SPK-5 / CLP Spike Standard 5	V2-MEB742037	03/12/2029	10/04/2024 / Jaswal	02/22/2024 / Jaswal	M5990

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-1 / SOIL/WATER SPIKE SOLN 1, 125mL	T2-MEB721963	07/27/2027	09/04/2024 / Jaswal	02/22/2024 / kareem	M5999

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 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57082 / Pb, 1000 PPM, 125 ml	061224	06/12/2027	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

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

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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-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	02/02/2025	08/24/2024 / Janvi	08/01/2024 / Janvi	M6037

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	03/25/2029	10/18/2024 / Janvi	09/10/2024 / Janvi	M6090

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 / Iwona	07/03/2024 / Iwona	W3112

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R: 02/22/24 M5986 M5987, M5988, M5989-M5990

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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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-SPK-5
Lot Number:	V2-MEB742037
Matrix:	5% (v/v) HNO_3
Value / Analyte(s):	100 µg/mL ea: Antimony,
	50 µg/mL ea: Selenium, Cadmium, Thallium,
	40 µg/mL ea: Arsenic,
	20 µg/mL ea: Lead

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.7 µg/mL	Arsenic, As	40.00 ± 0.26 µg/mL
Cadmium, Cd	49.99 ± 0.22 µg/mL	Lead, Pb	19.99 ± 0.09 µg/mL
Selenium, Se	50.00 ± 0.23 µg/mL	Thallium, Tl	50.00 ± 0.22 µg/mL

Density: 1.025 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
Cd	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	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:

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 12, 2024

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

11.2 Lot Expiration Date

- March 12, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R 8/15/24

M6028

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

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CERTIFIED WEIGHT REPORT:

Part Number:	**57048**		**Lot #**		
Lot Number:	**070124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Cadmium (Cd)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	070127				
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):	2000.07	0.100	Flask Uncertainty		

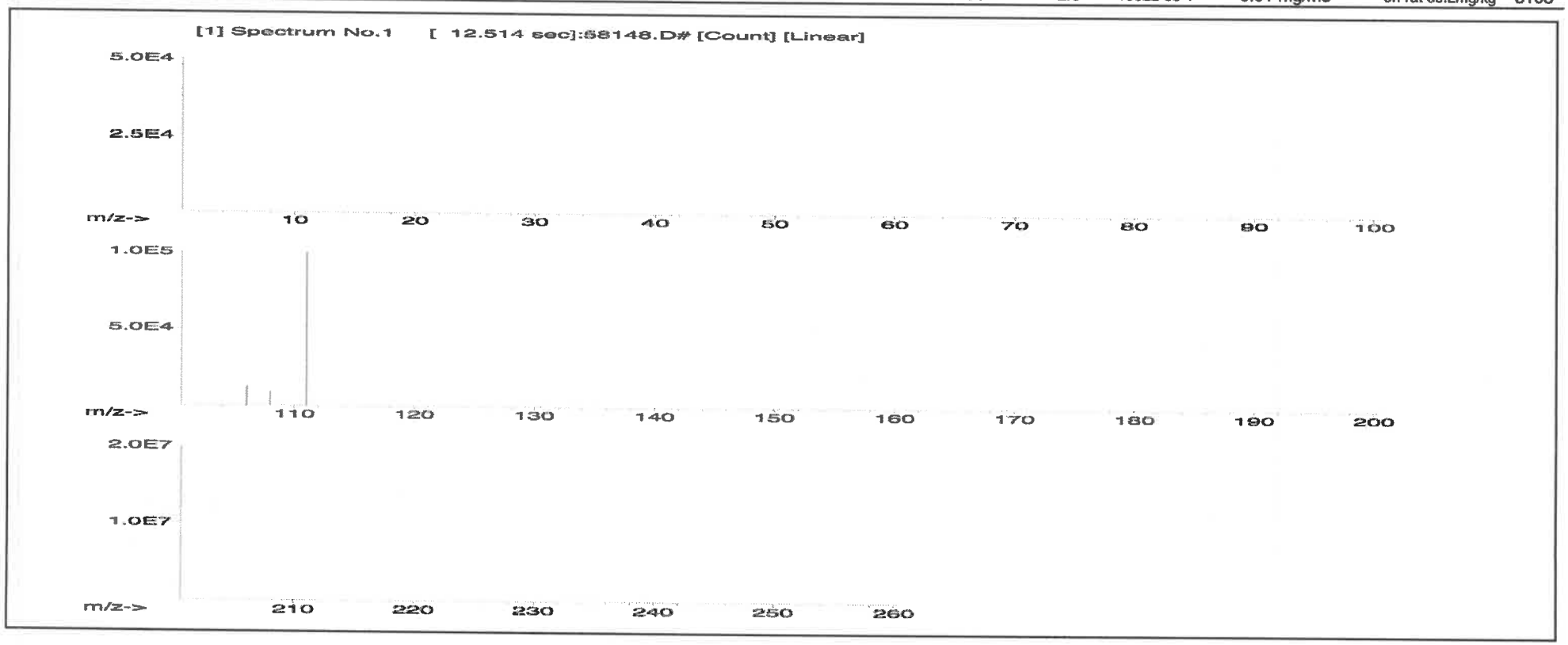
Aleah O'Brady

Formulated By:	Aleah O'Brady	070124

Pedro Rentas

Reviewed By:	Pedro L. Rentas	070124

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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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	T	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	<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 certifed (+/-) 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).

M5296 OP: 09/19/2022 BH

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 ºC)

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.

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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:

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- 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

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Certificate of Analysis

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Christiansburg, VA 24073 USA
inorganicventures.com

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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**2 000 ± 7 µg/mL**	**Barium, Ba**	**2 000 ± 9 µg/mL**
Beryllium, Be	**50.00 ± 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 ºC)

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

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

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:

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

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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

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

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X_a = mean of Assay Method A with

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

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- 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"

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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: _____

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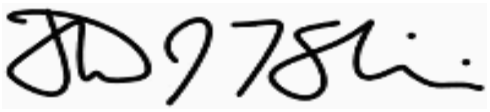
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 ºC)

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

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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:

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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X_a = mean of Assay Method A with

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

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u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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- 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.

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- 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

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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

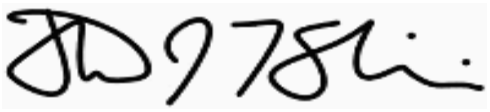
- Sealed TCT Bag Open Date: _____

- 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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

R: 8/5/24

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CERTIFIED WEIGHT REPORT:

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

Expiration Date: 110926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

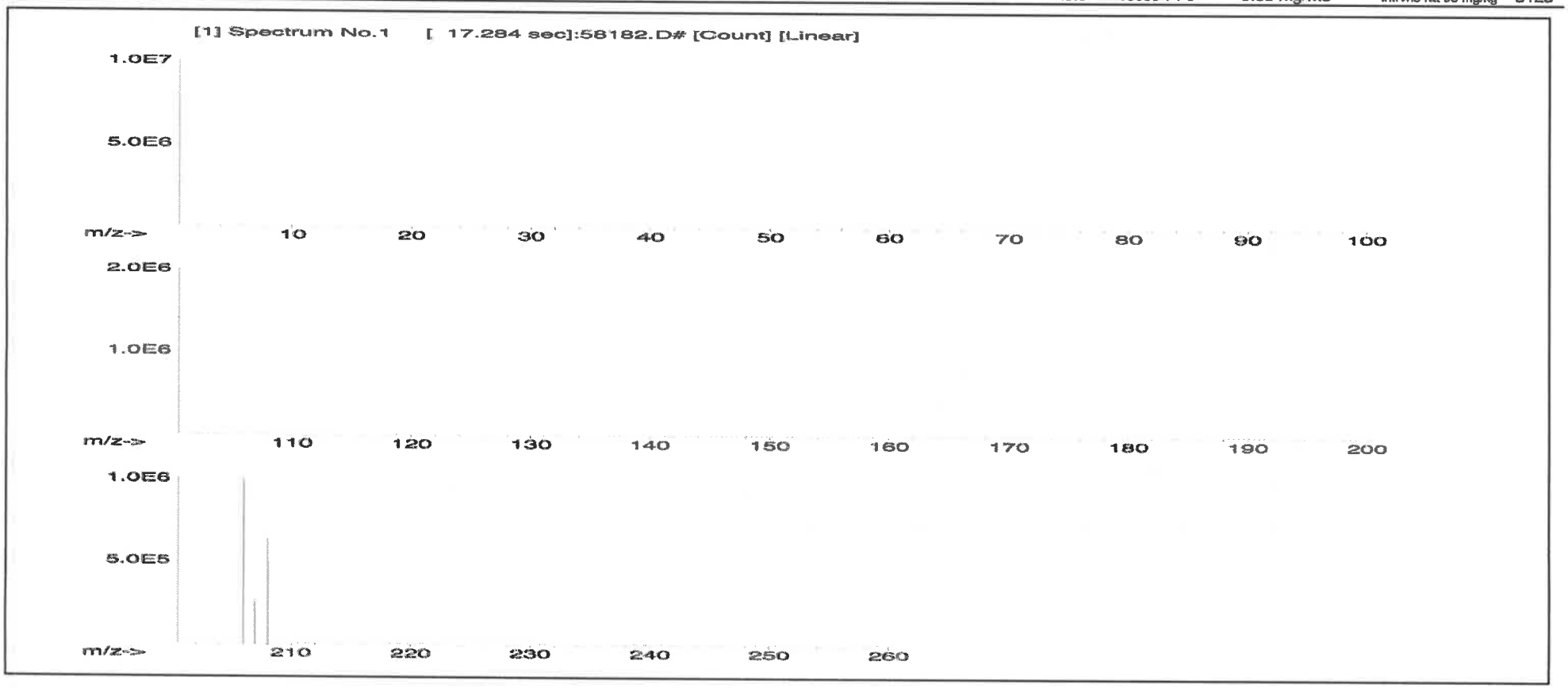
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

		Lot #	
Solvent:	24002546		Nitric Acid
	2%	40.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

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

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	10000	99.999	0.10	62.5	32.0006	32.0040	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	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:

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 certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M4960 R: 10/08/21 BH

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

CERTIFIED WEIGHT REPORT:

Part Number:	**58149**		**Lot #**		
Lot Number:	**100721**	**Solvent:**	20370011	Nitric Acid	
Description:	**Indium (In)**				
		5%	25.0 (mL)	Nitric Acid	
Expiration Date:	100724				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	500.06	0.058	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	100721
Reviewed By:	Pedro L. Rentas	100721

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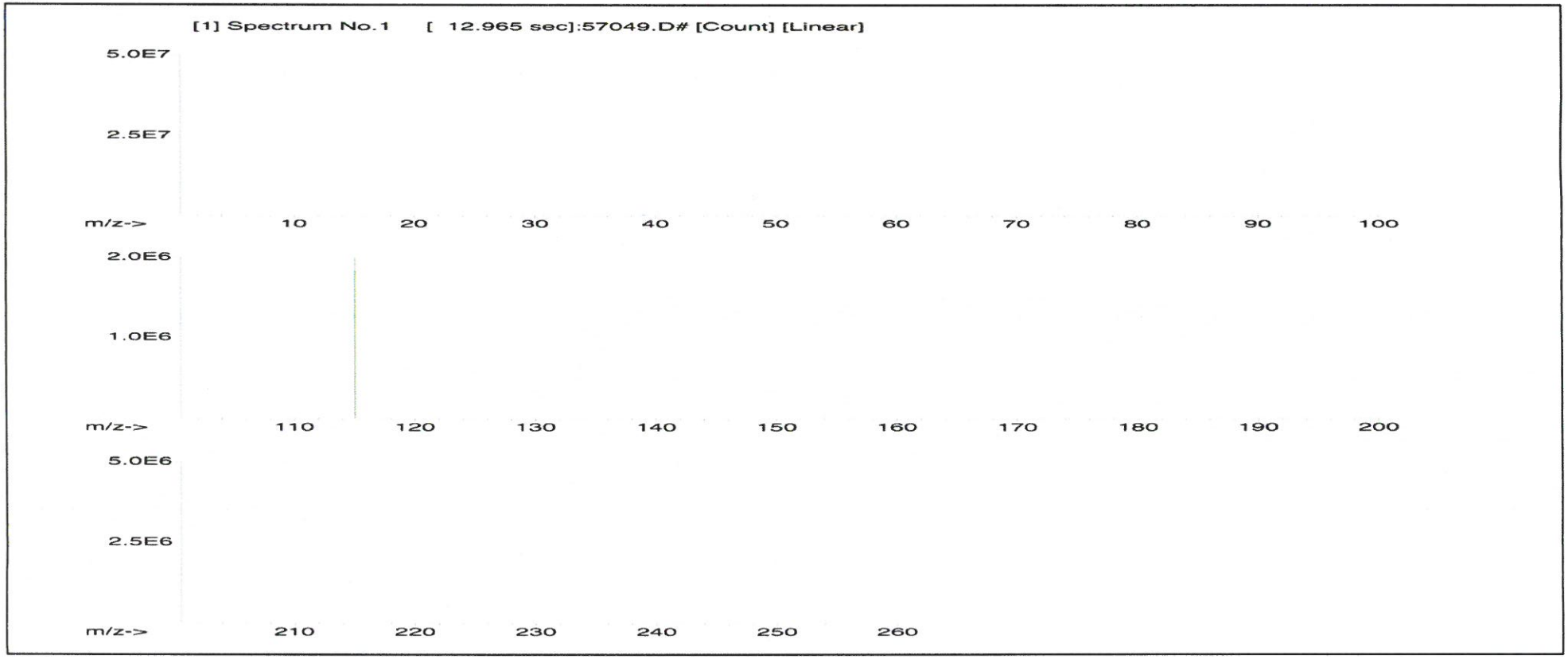
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Indium Oxide (In)	IN086	W1096A	10000	99.999	0.10	82.6	6.05408	6.05441	**10000.6**	**20.1**	1312-43-2	NA	NA	3124a



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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	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	T	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:

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 certifed (+/-) 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).

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.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of 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,

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 HNO_3. 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 HNO_3. 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

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

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.

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Certified Reference Material CRM

M5192 R: 06/17/22

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AR-1539 Certificate Number
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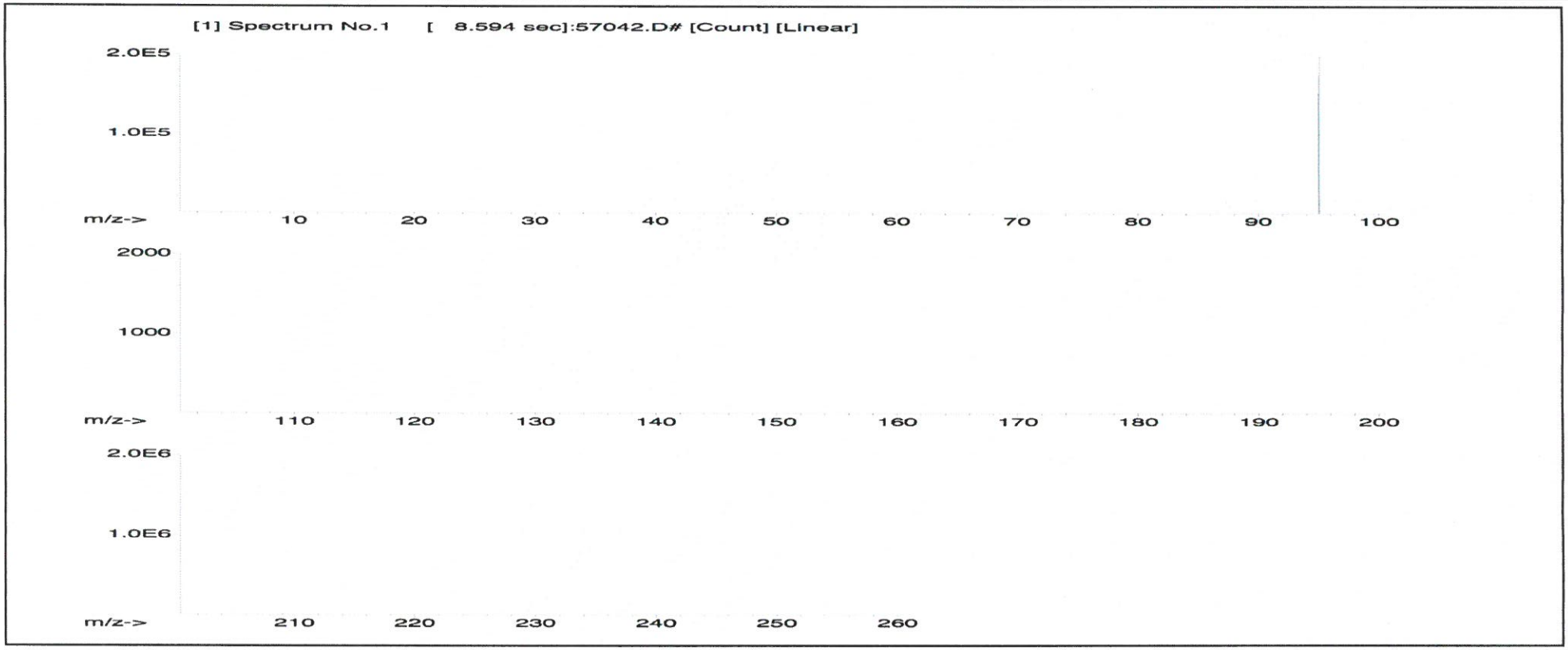
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	**57042**		
Lot Number:	**051722**	MKBQ8597V	Ammonium hydroxide
Description:	**Molybdenum (Mo)**		
		0.5%	15.0 (mL) Ammonium hydroxide
Expiration Date:	051725		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05	Balance Uncertainty
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty

Formulated By:	Lawrence Barry	051722
Reviewed By:	Pedro L. Rentas	051722

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	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	orl-rat 333 mg/kg	3134



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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	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	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:

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 certifed (+/-) 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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Certificate of Analysis

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Christiansburg, VA 24073 USA
inorganicventures.com

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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).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

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 ºC)

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- 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.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of 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,

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 HNO_3. 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 HNO_3. 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

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

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.

V15200 R: 04/24/22 (BP)

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CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

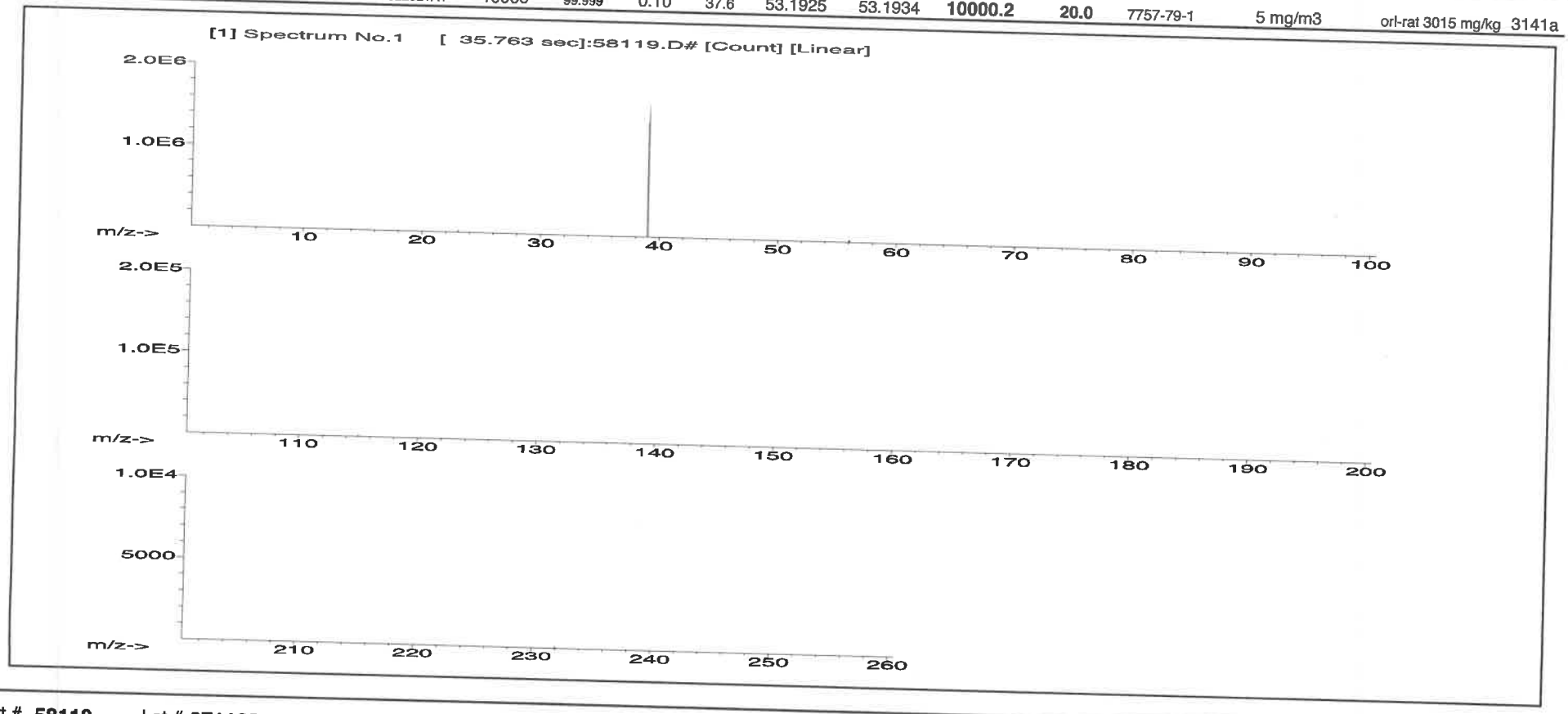
Expiration Date: 071125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Lawrence Barry 071122
Reviewed By: Pedro L. Rentas 071122

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	**10000.2**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



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

(T)= Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 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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M5289 R: 07/12/22 BH

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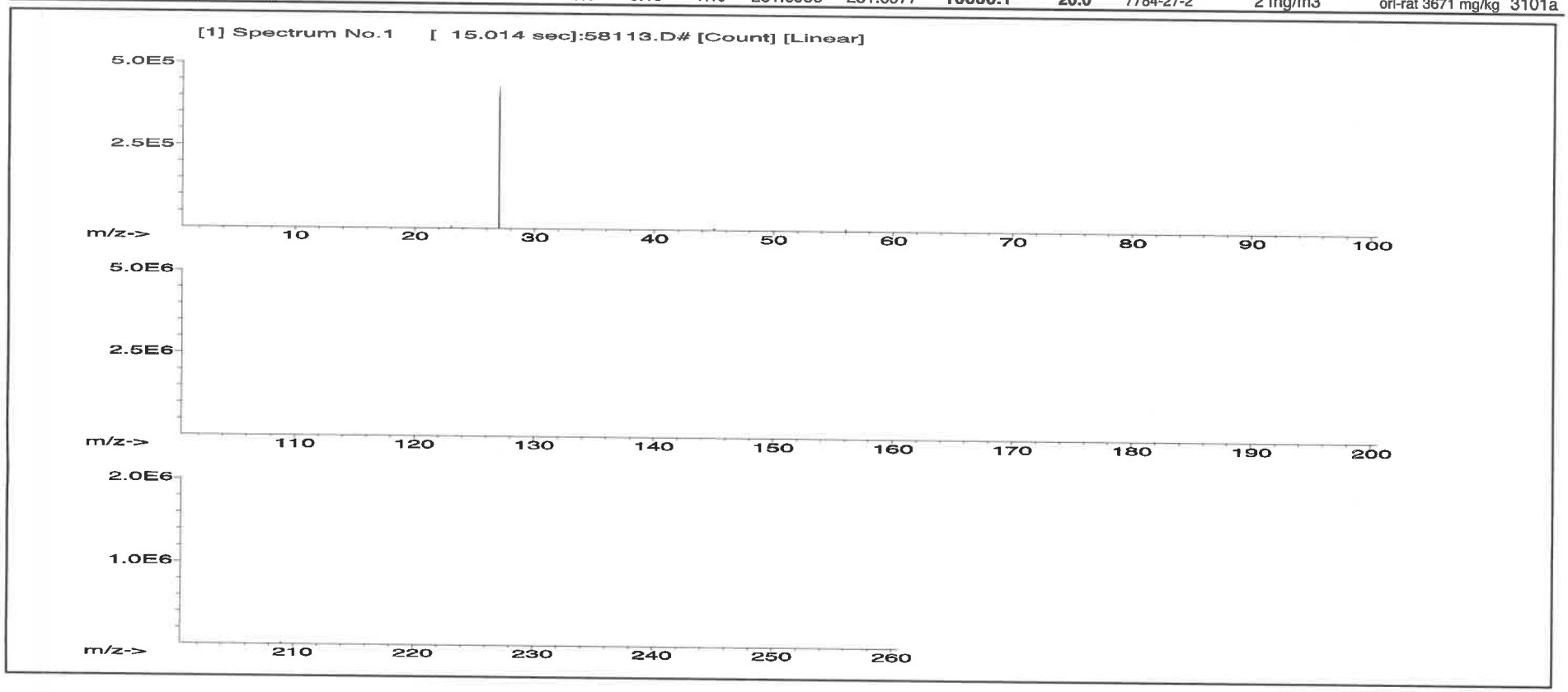
CERTIFIED WEIGHT REPORT:

Part Number:	**58113**		**Solvent:**	20370011	Nitric Acid
Lot Number:	**070622**				
Description:	**Aluminum (Al)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	070625				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Lot #

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALD012021A1	10000	99.999	0.10	7.10	281.6956	281.6977	**10000.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	T	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	<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:

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 certifed (+/-) 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).

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.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

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.

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

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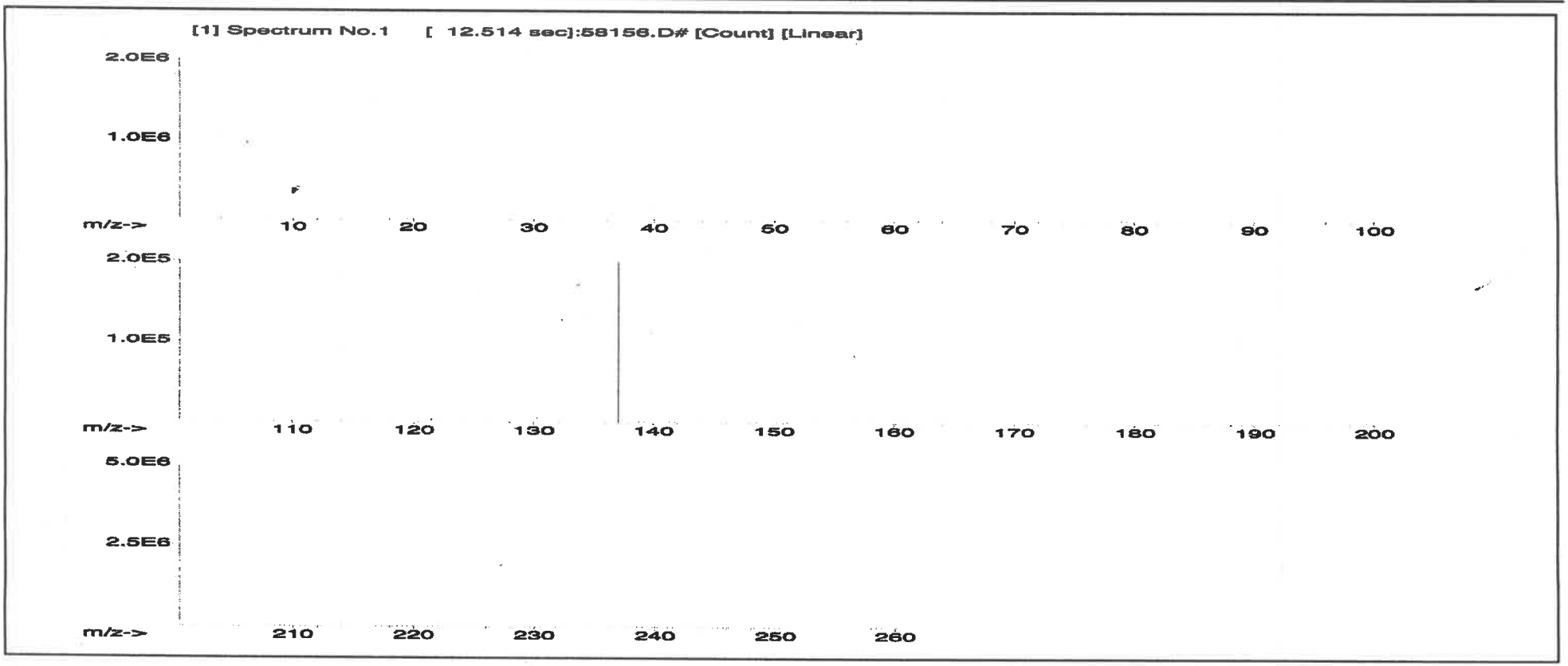
CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**072122**	**Solvent:**	20510011	Nitric Acid	
Description:	**Barium (Ba)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	072125				
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):	2000.02	0.058	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	072122
Reviewed By:	Pedro L. Rentas	072122

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82426	**1000.0**	2.0	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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

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

(T)= Target analyte

Physical Characterization:

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).

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M5429 R1 01/26/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

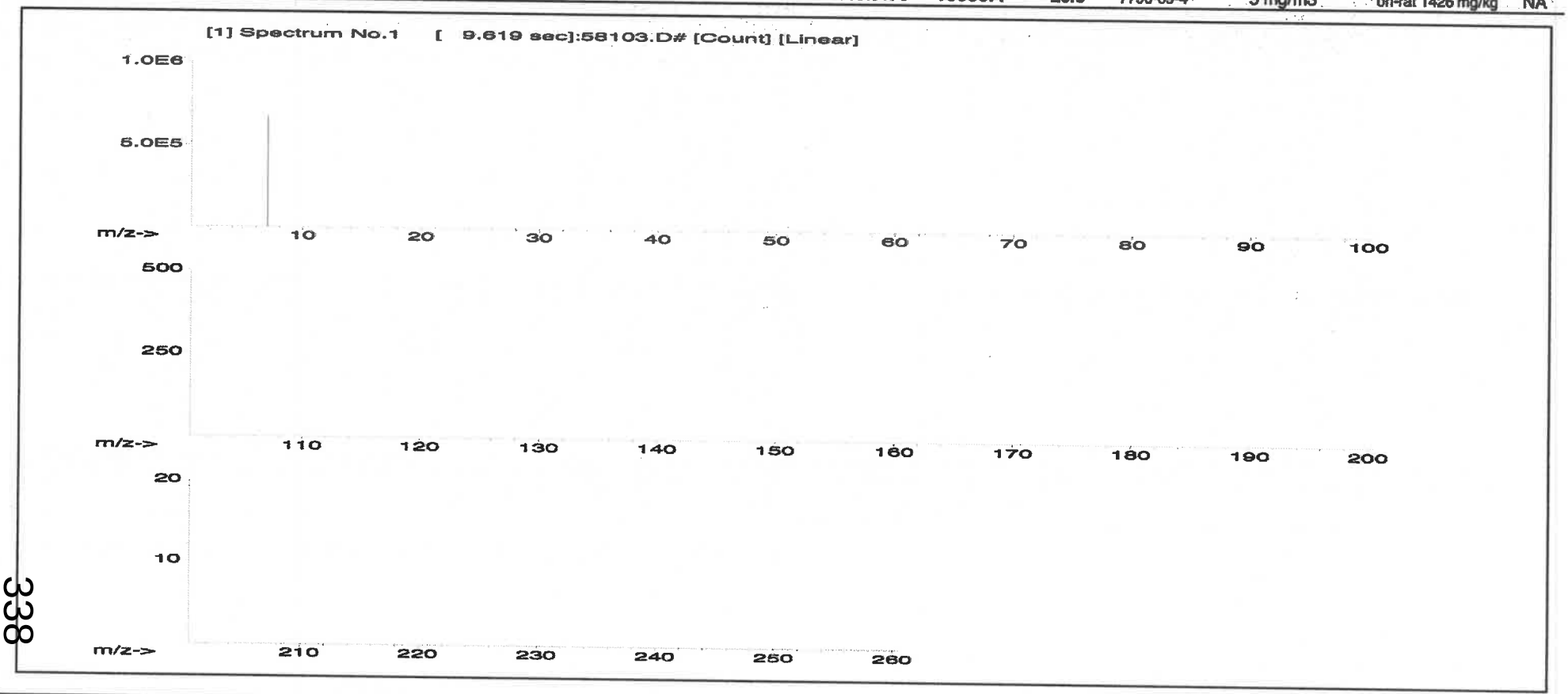
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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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	T	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	<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 certifed (+/-) 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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M5467 R: 03/01/23 (LA)

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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

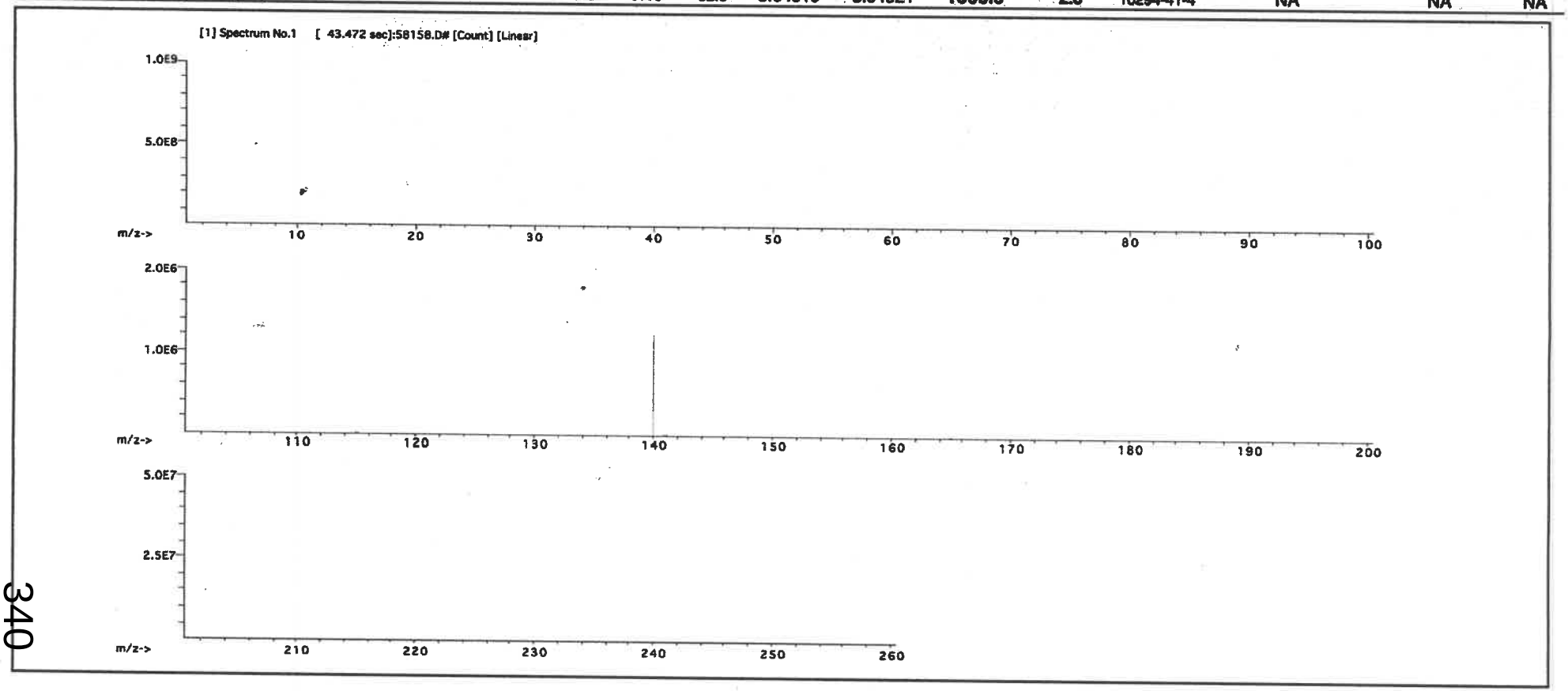
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST 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	NA



340

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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	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:

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 certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5497 - M5498 R: 03/17/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

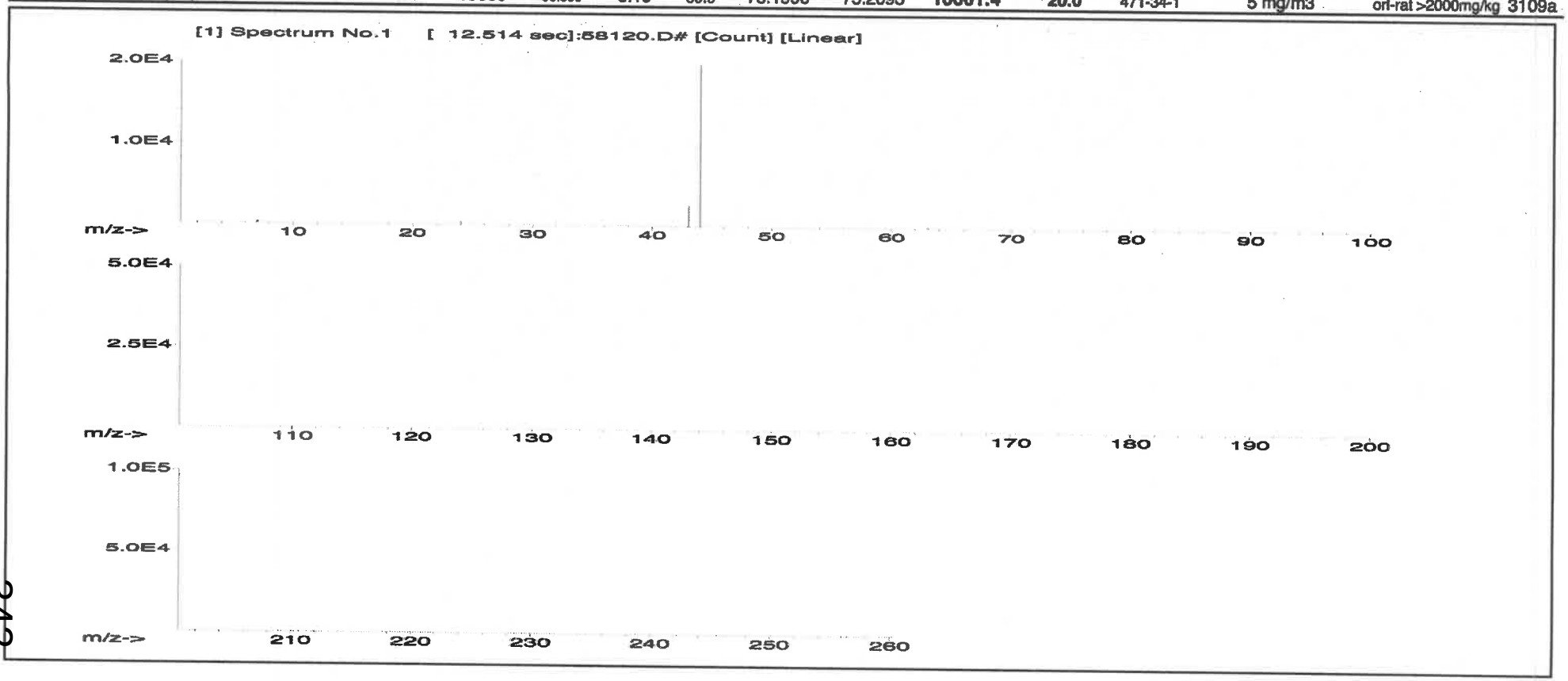
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
Reviewed By:	Pedro L. Rentas	031523

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



342

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	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<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:

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 certifed (+/-) 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).

3343

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MS513 R:03/17/23

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CERTIFIED WEIGHT REPORT:

Part Number: 57182
Lot Number: 061522
Description: Lead (Pb)

Expiration Date: 061525
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

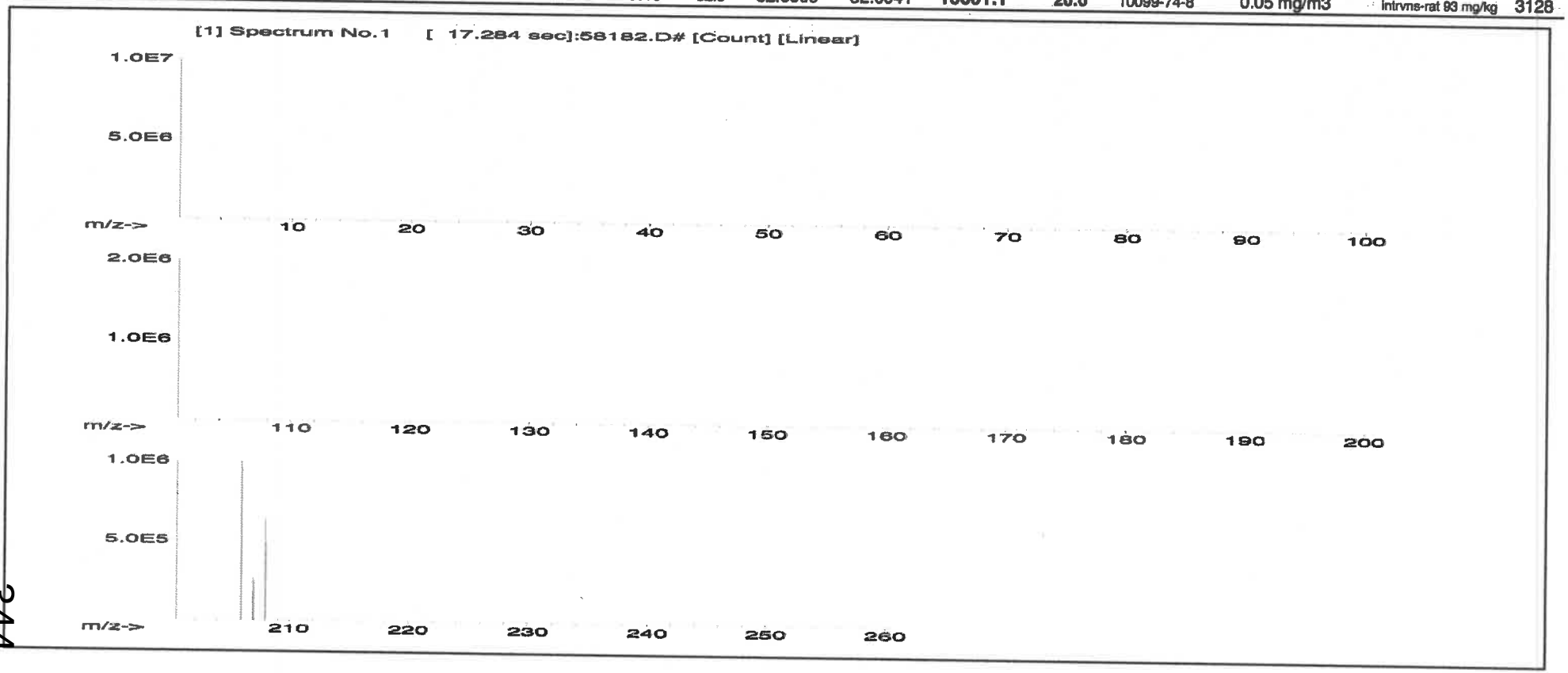
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	061522
Reviewed By:	Pedro L. Rentas	061522

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	10000	99.999	0.10	62.5	32.0006	32.0041	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	Intrvns-rat 93 mg/kg	3128



344

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	<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:

Certified by:

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

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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).

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M5514 - M5515 R: 03/17/22

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CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 092122
Description: Iron (Fe)

Expiration Date: 092125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 5000.1 ± 0.12 Flask Uncertainty

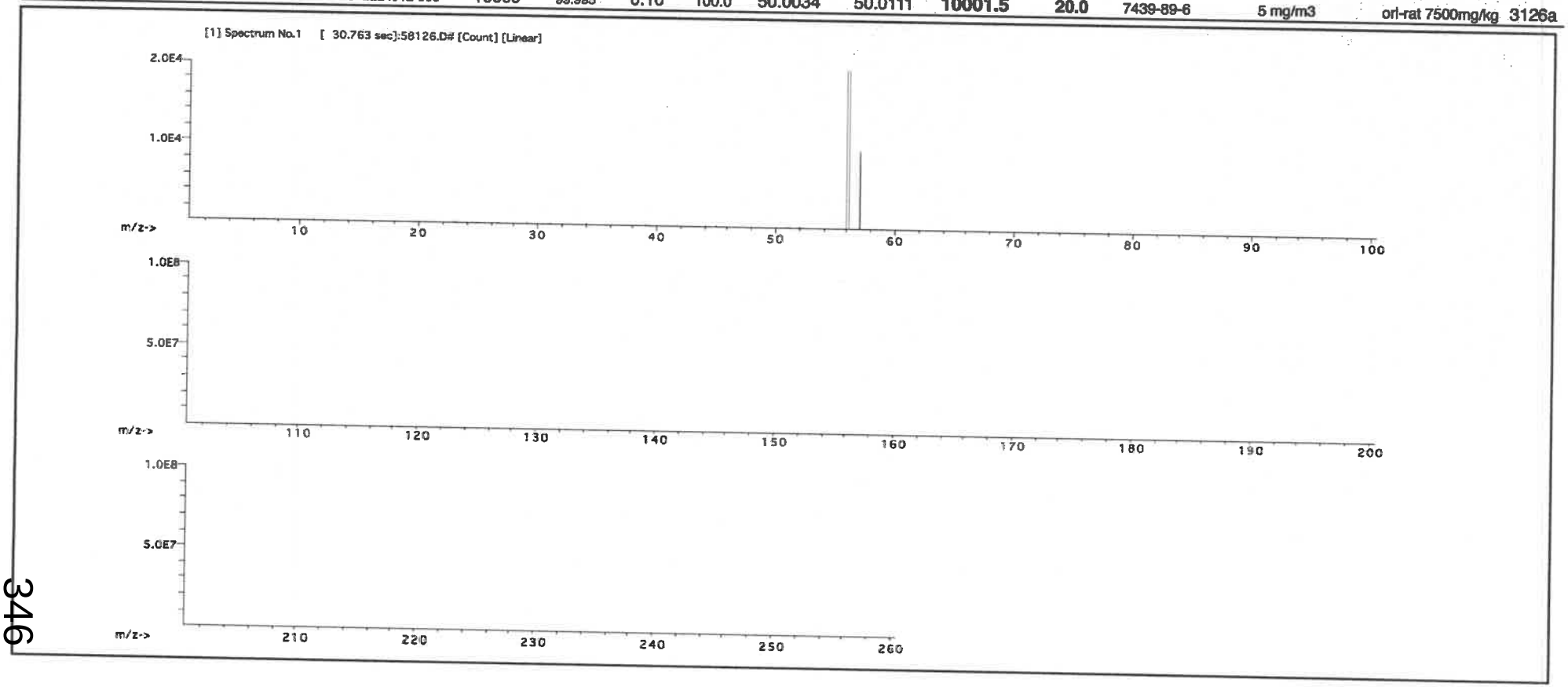
		Lot #	
Solvent:	20510011	Nitric Acid	
7.0%	350.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	092122
Reviewed By:	Pedro L. Rentas	092122

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2224912-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



346

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	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	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.05
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:

Certified by:

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

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M5519. M5520 (BH) R:03/17/23

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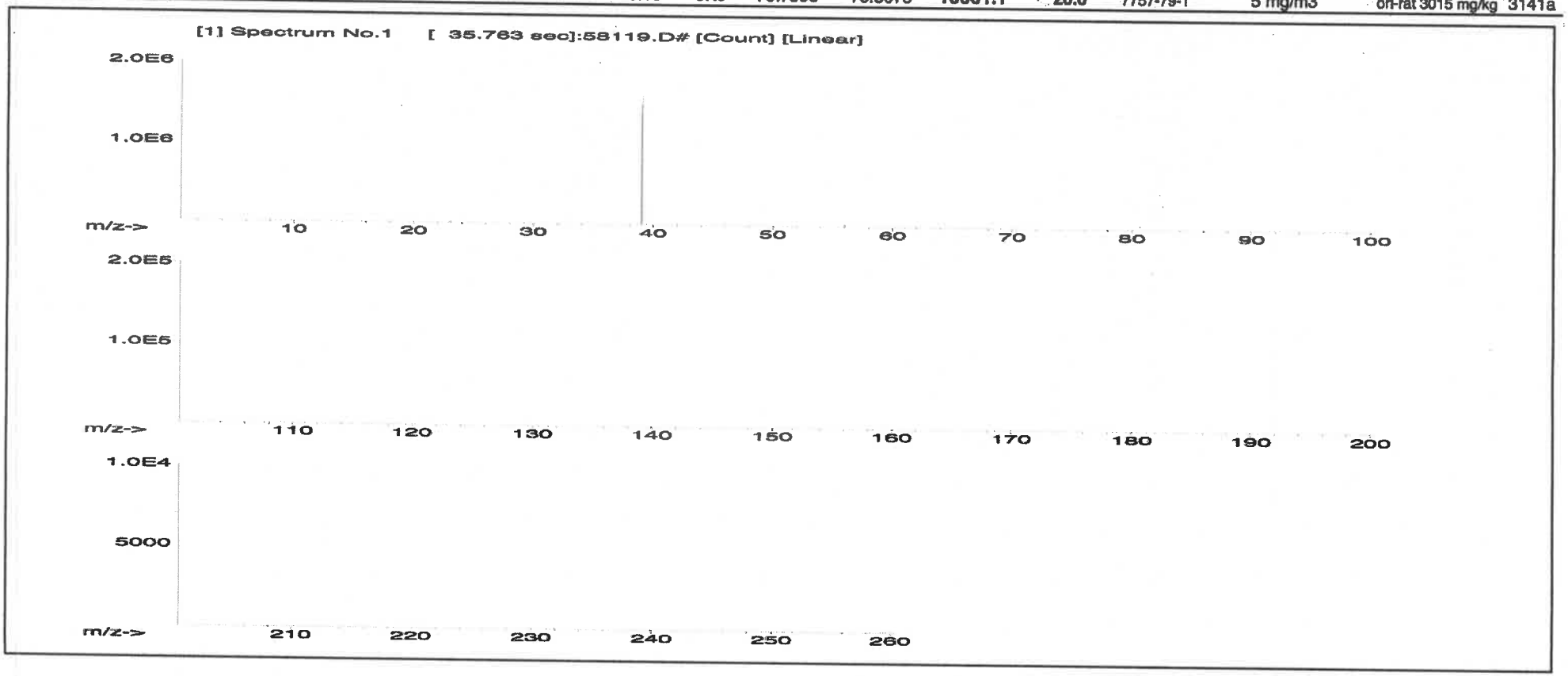
CERTIFIED WEIGHT REPORT:

Part Number:	**58119**		**Lot #**		
Lot Number:	**120822**	**Solvent:**	20510011	Nitric Acid	
Description:	**Potassium (K)**				
		2%	60.0 (mL)	Nitric Acid	
Expiration Date:	120825				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	3000.4	0.06	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	120822
Reviewed By:	Pedro L. Rentas	120822

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	79.7990	79.8075	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



349

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

CERTIFICATE OF ANALYSIS

Date: 8/3/2022 MS631 MS632 MS633 MS634 **Lot No 820803**

Hydrogen Peroxide, ACS
Reagent Grade

TEST	MAXIMUM LIMITS	RESULT
Appearance	Colorless and free from suspended matter or sediment	Pass
Assay	29-32%	31.4%
Color (APHA)	10	5
Residue after Evaporation	0.002%	.0001%
Titratable Acid	0.0006 meq/g	< .0006 meq/g
Chloride (Cl)	2 ppm	< 1 ppm
Nitrate (NO_3)	2 ppm	< 1 ppm
Phosphate	2 ppm	< 1 ppm
Sulfate (SO_4)	5 ppm	< .5 ppm
Ammonium (NH_4)	5 ppm	< 1 ppm
Heavy Metals (as Pb)	1 ppm	< .1 ppm
Iron (Fe)	0.5 ppm	< .1 ppm
Sodium Stannate	200 – 300 ppb	Pass

***Our Hydrogen Peroxide is considered un-stabilized because it is very slightly stabilized with Sodium Stannate, 500 ppb maximum, just for safety purposes.

Date of MFG: 8/2022
Retest date: 8/2024

Gina M. Rambo
Office Manager

CORCO CHEMICAL CORPORATION. 299 CEDAR LANE. FAIRLESS HILLS, PA 19030. 215-295-5006. FAX 215-295-0781

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M5658 R! 8/25/23

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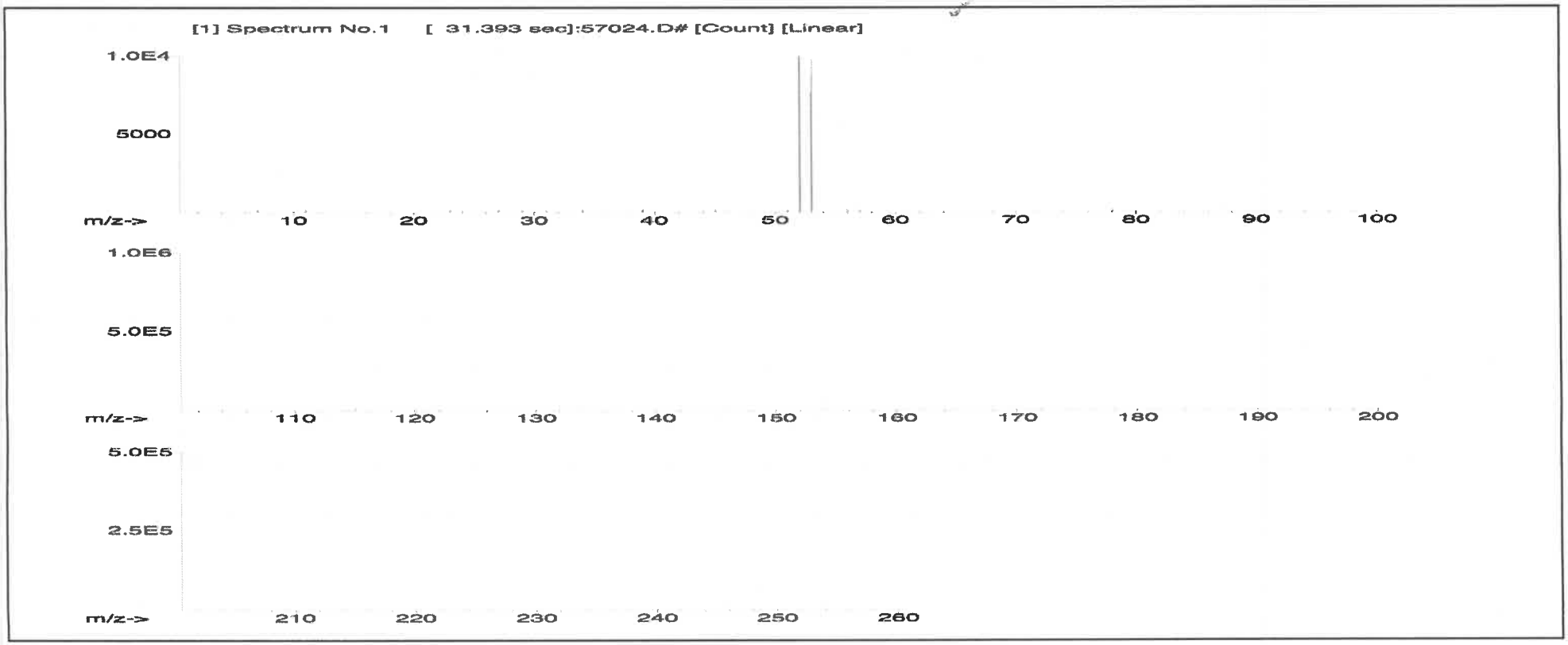
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



352

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:

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 certifed (+/-) 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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M5697 R: 10/27/23

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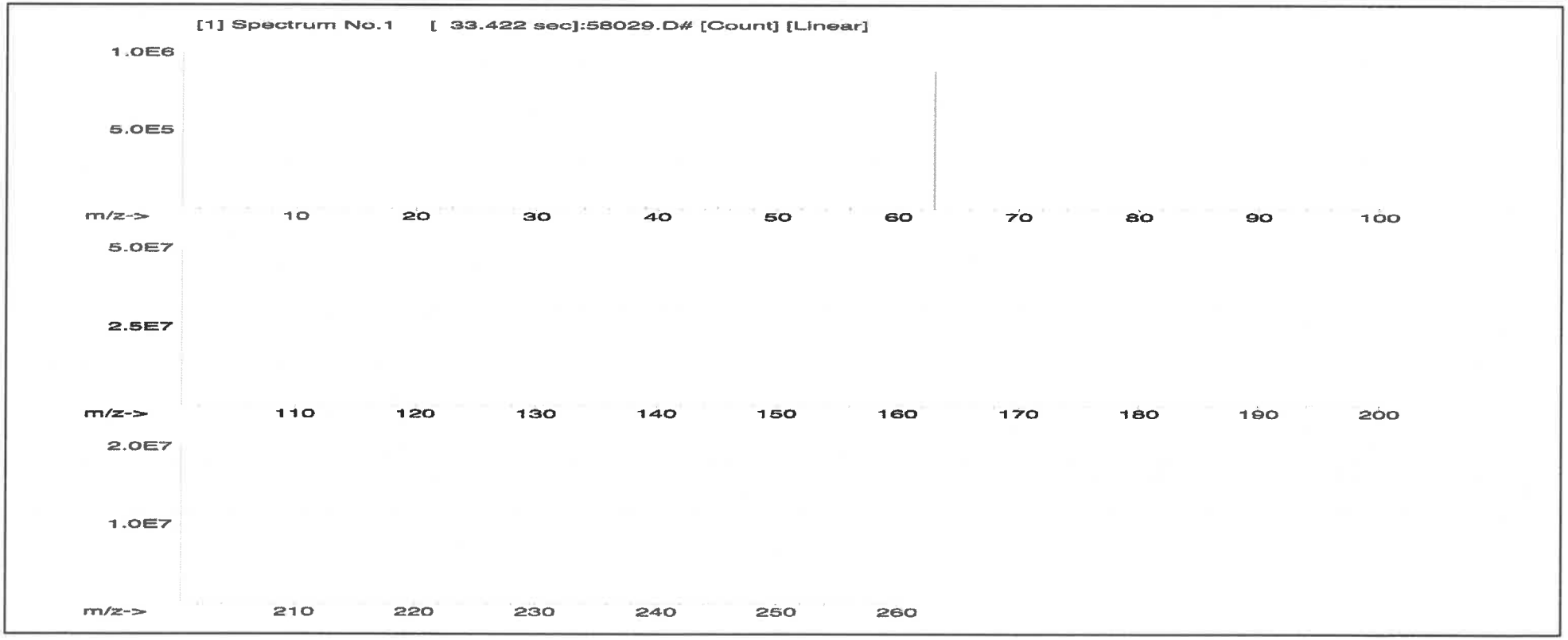
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**58029**	24002546	Nitric Acid		
Lot Number:	**102523**				
Description:	**Copper (Cu)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	102526				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



354

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 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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M5648 R: 10/27/23

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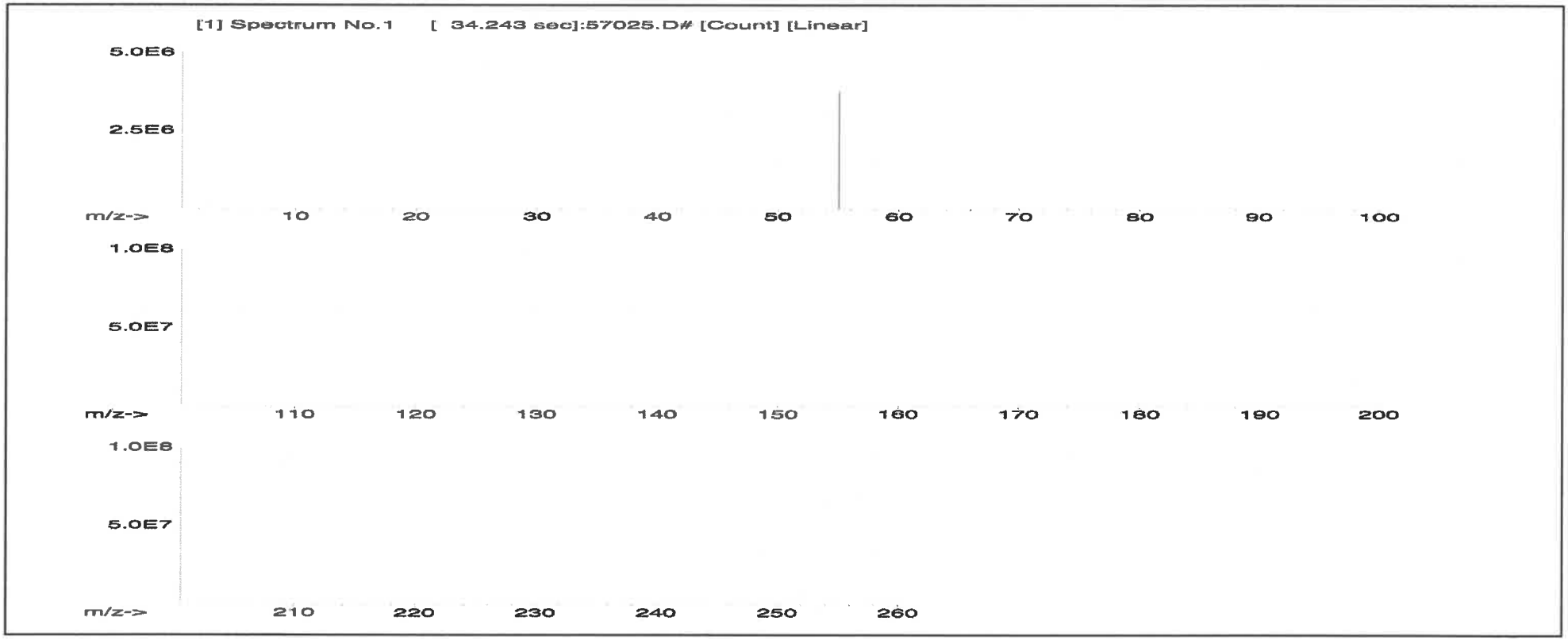
355

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58025**	24002546	Nitric Acid	
Lot Number:	**102623**			
Description:	**Manganese (Mn)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	102626			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102623
Reviewed By:	Pedro L. Rentas	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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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	orl-rat >300mg/kg	3132



356

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

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

(T) = Target analyte

Physical Characterization:

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 balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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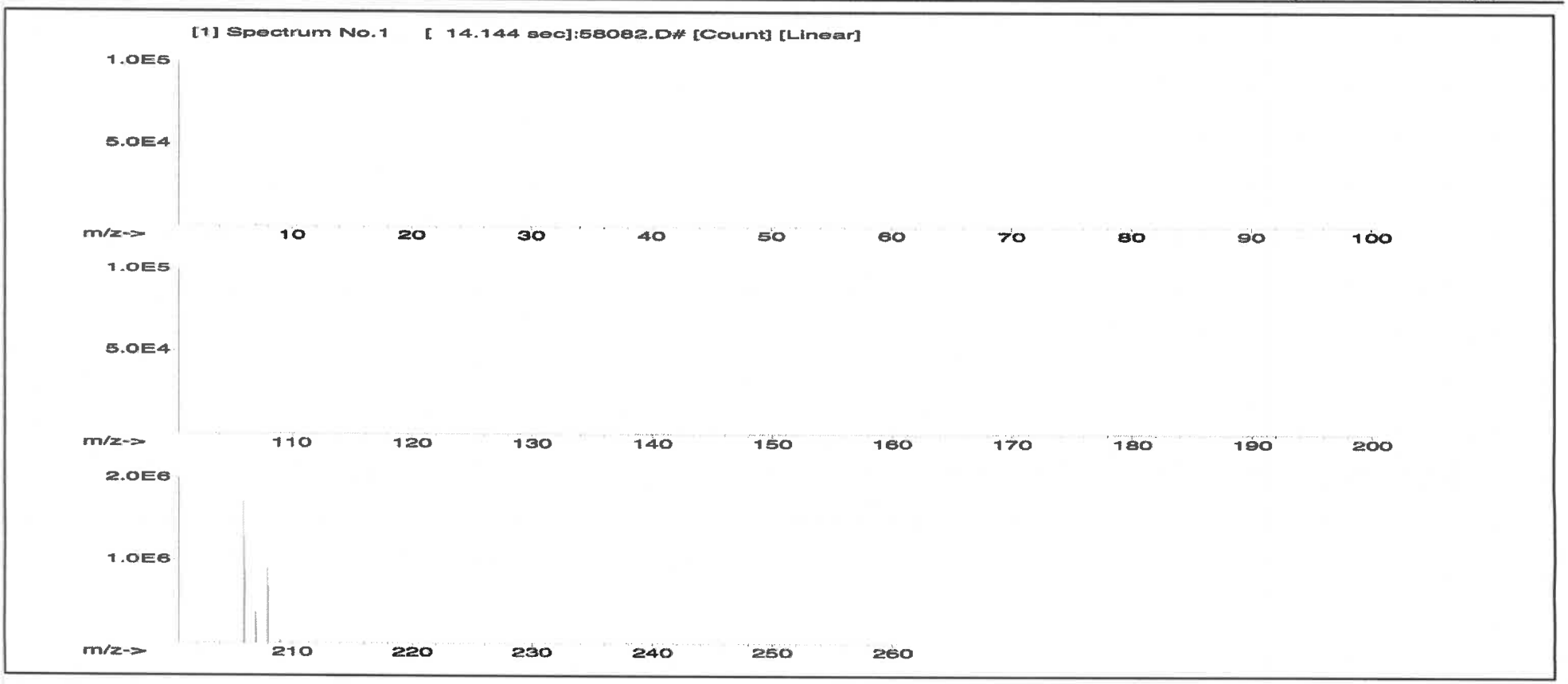
CERTIFIED WEIGHT REPORT:

Part Number:	**57082**			**Lot #**	
Lot Number:	**100923**		**Solvent:**	24002546	Nitric Acid
Description:	**Lead (Pb)**				
			2%	60.0 (mL)	Nitric Acid
Expiration Date:	100926				
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):	3000.41	0.06	Flask Uncertainty		

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



358

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	<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:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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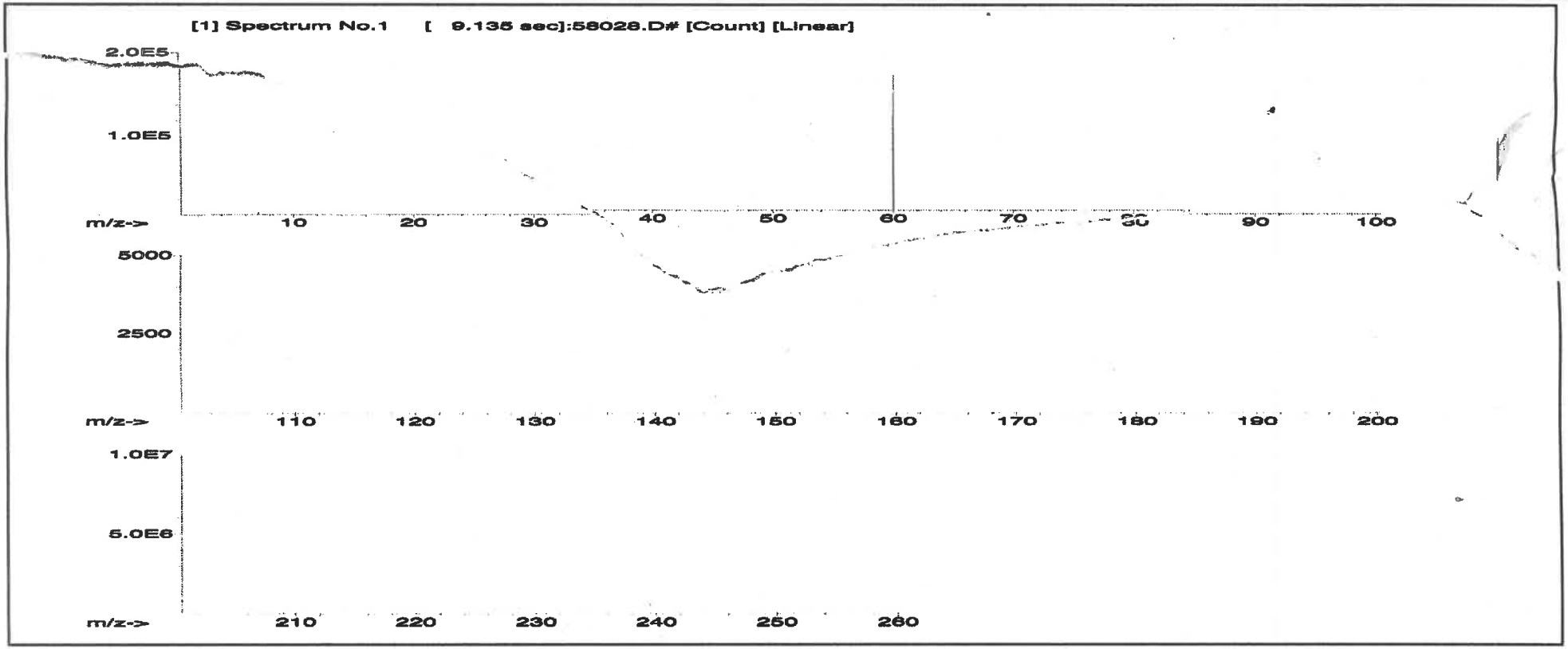
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.1000	200.0	0.084	1000	10000.4	**1000.0**	**2.2**	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



360

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	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:

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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M5768 M5769 (BP) R:1/3/24

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CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

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 ± 0.058 Flask Uncertainty

		Lot #		
Solvent:	24002546	Nitric Acid		
2%	40.0 (mL)	Nitric Acid		

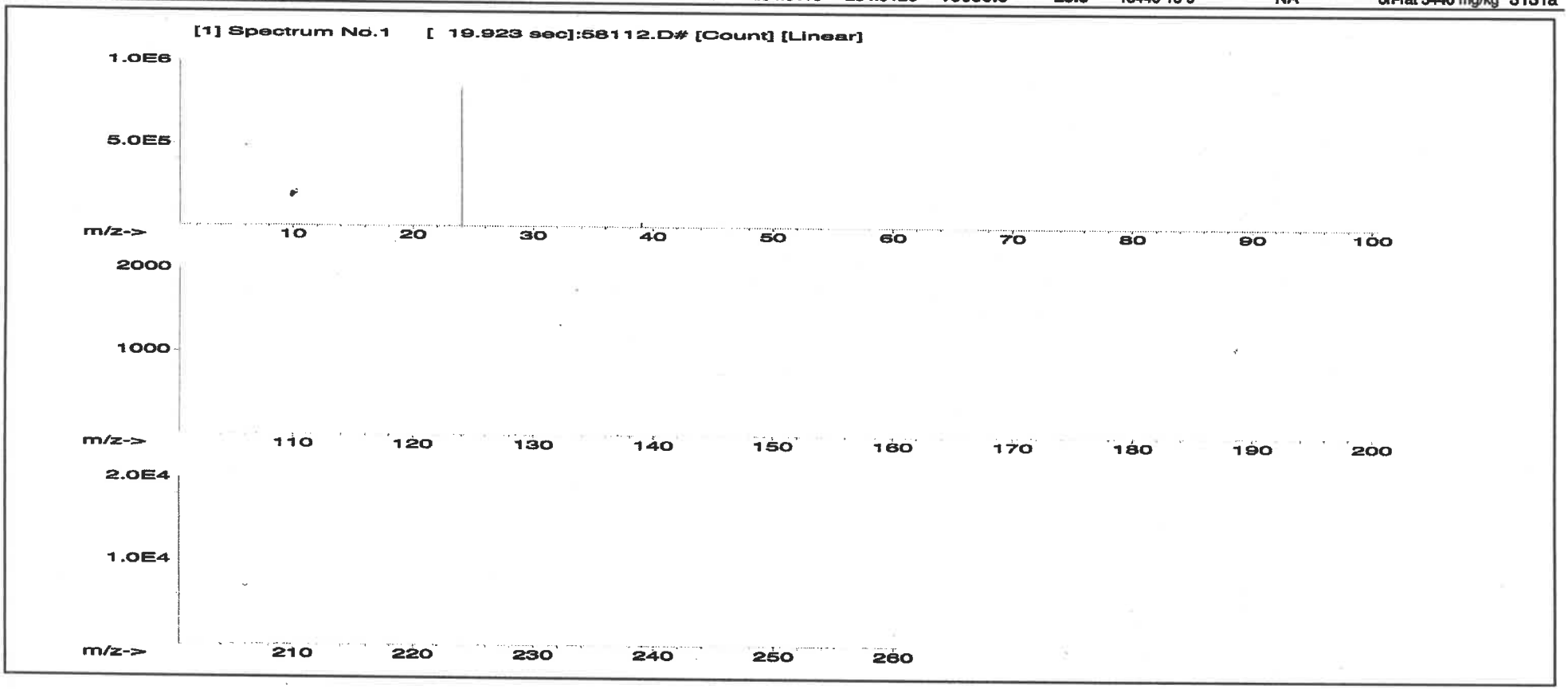
5E-05 Balance Uncertainty

M5768, M5769 (BP) R: 1/3/24

Formulated By: Lawrence Barry 091823

Reviewed By: Pedro L. Rentas 091823

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9118	234.9126	**10000.0**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



362

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:

Certified by:

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

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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).

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R: 02/09/24 M5798

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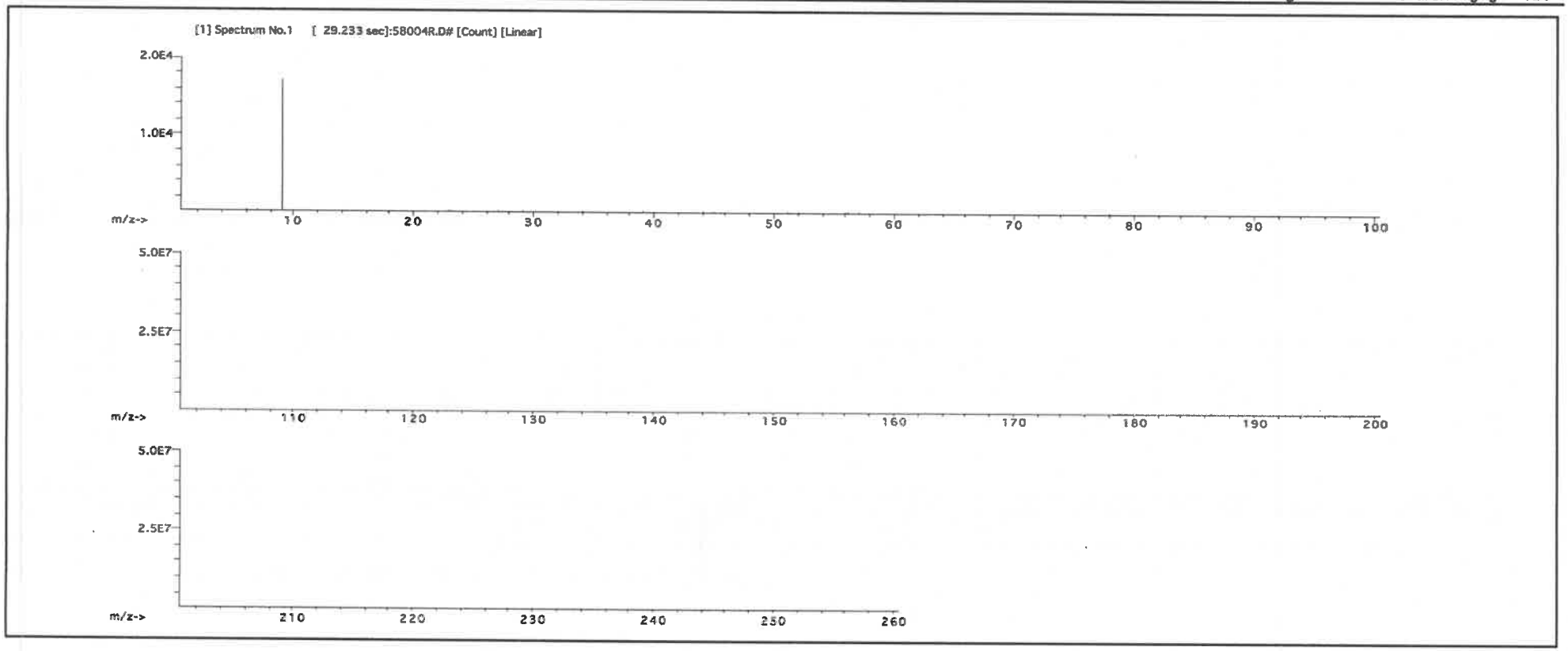
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57004**	24002546	Nitric Acid		
Lot Number:	**102523**				
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	102526				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



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	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	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 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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365

CERTIFIED WEIGHT REPORT:

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

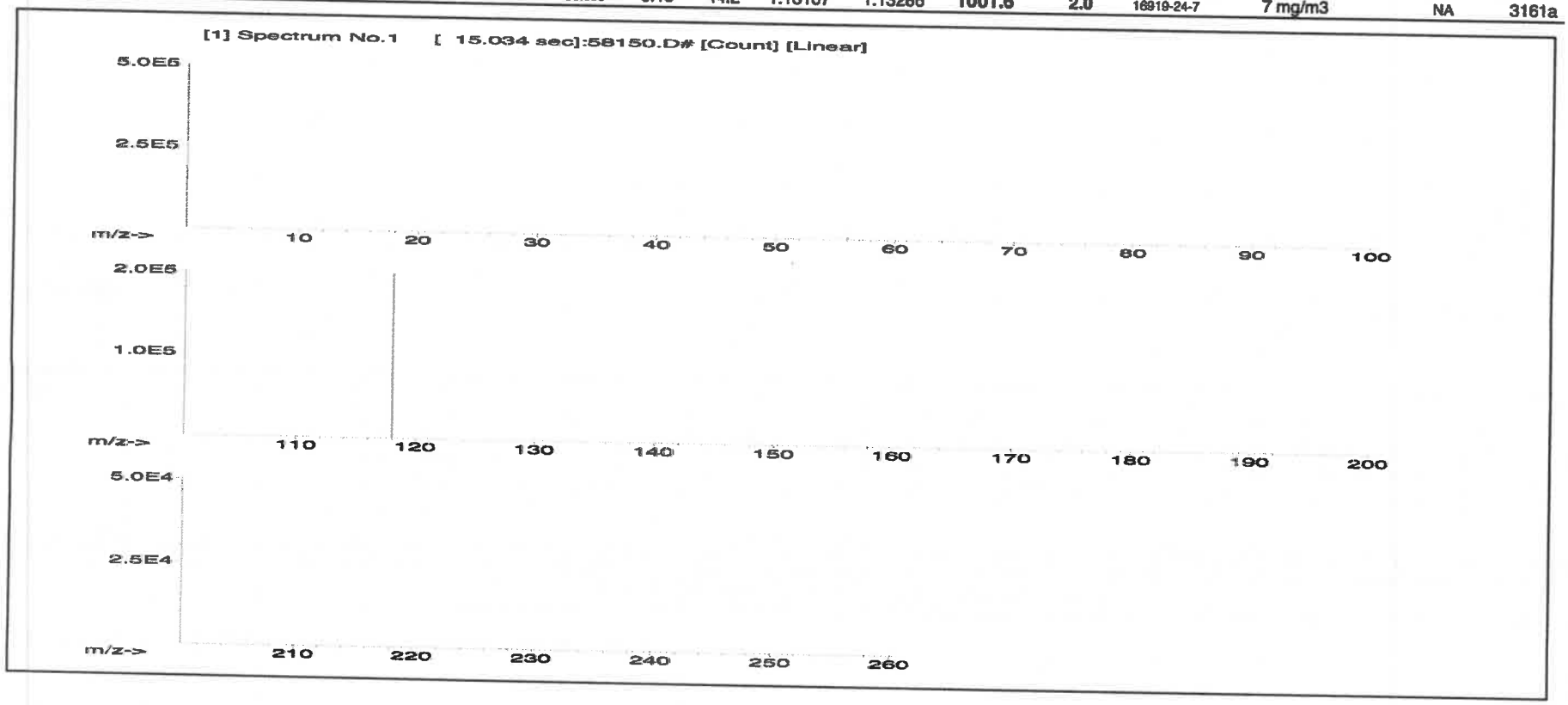
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



366

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	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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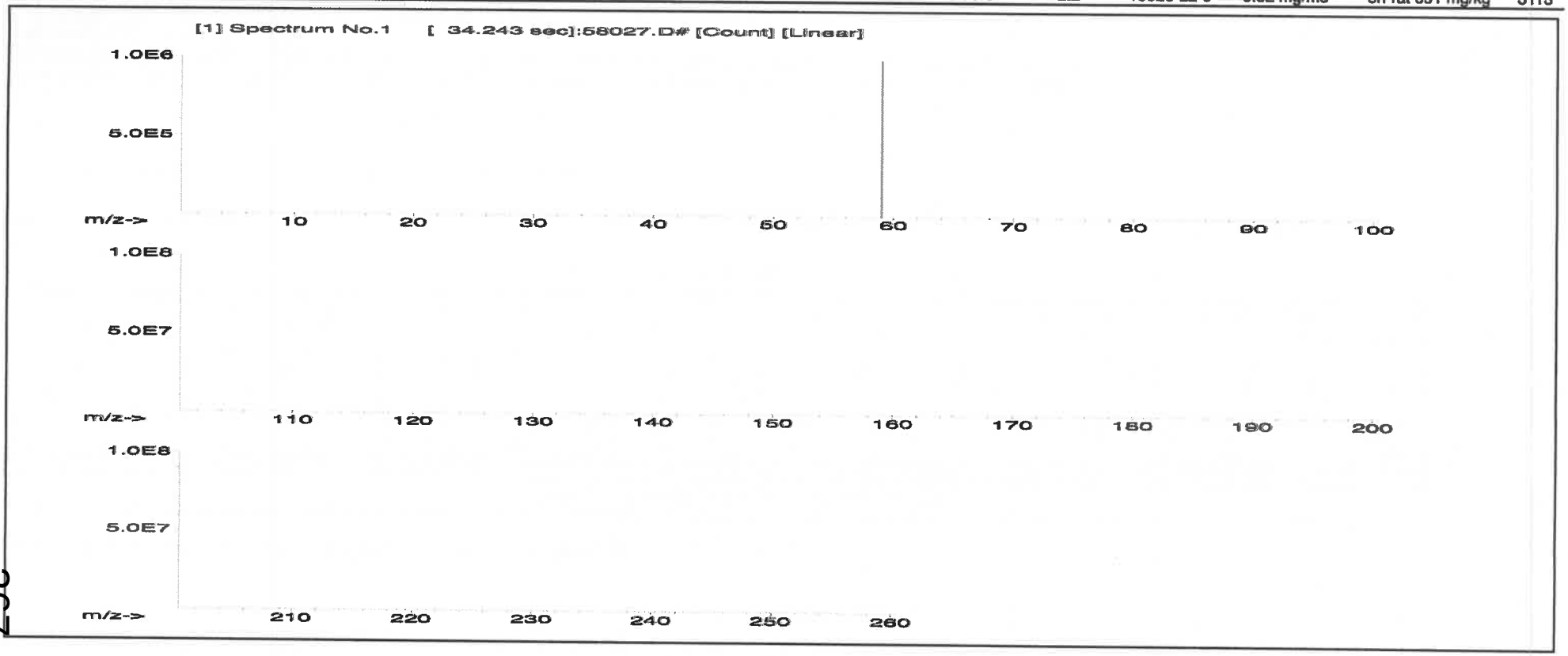
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**				
		2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	2.2	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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* 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).

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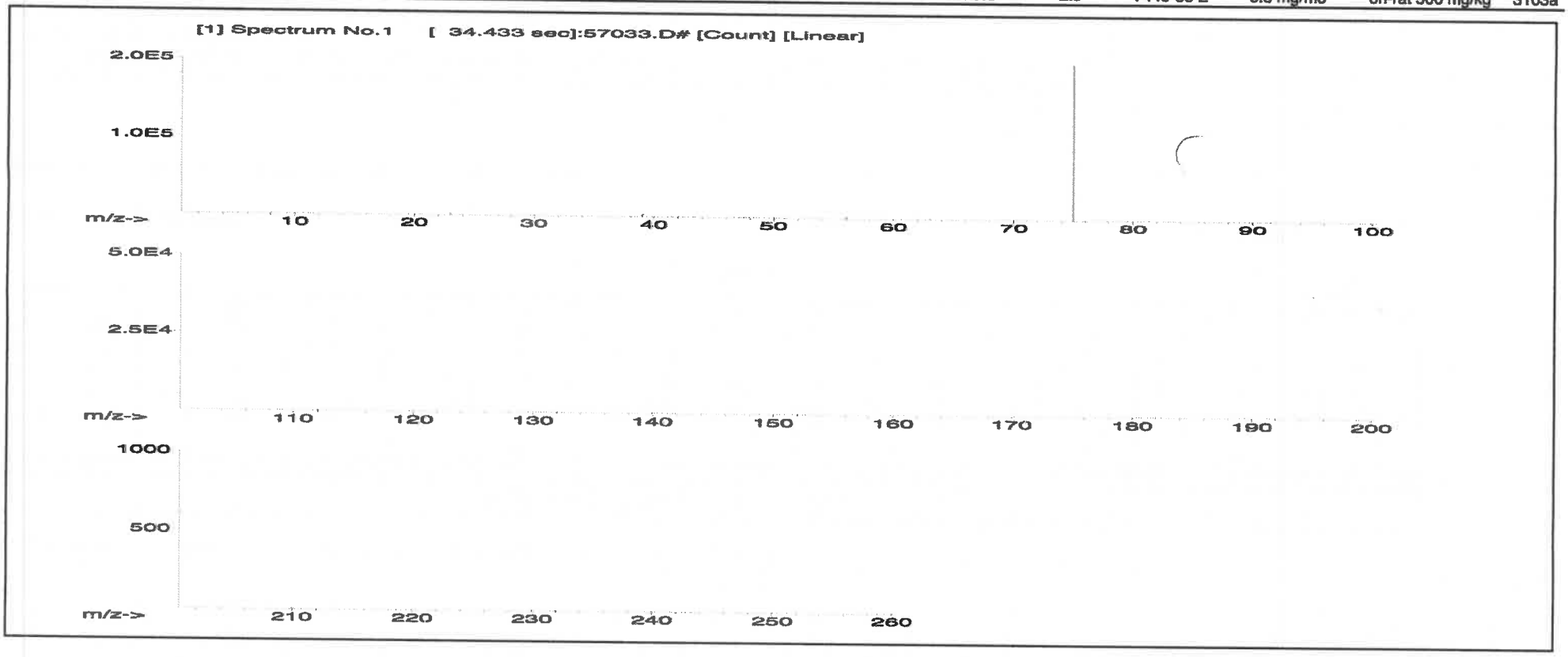
CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**	24002546	Nitric Acid		
Lot Number:	**111323**				
Description:	**Arsenic (As)**	2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

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

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



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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	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:

Certified by:

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

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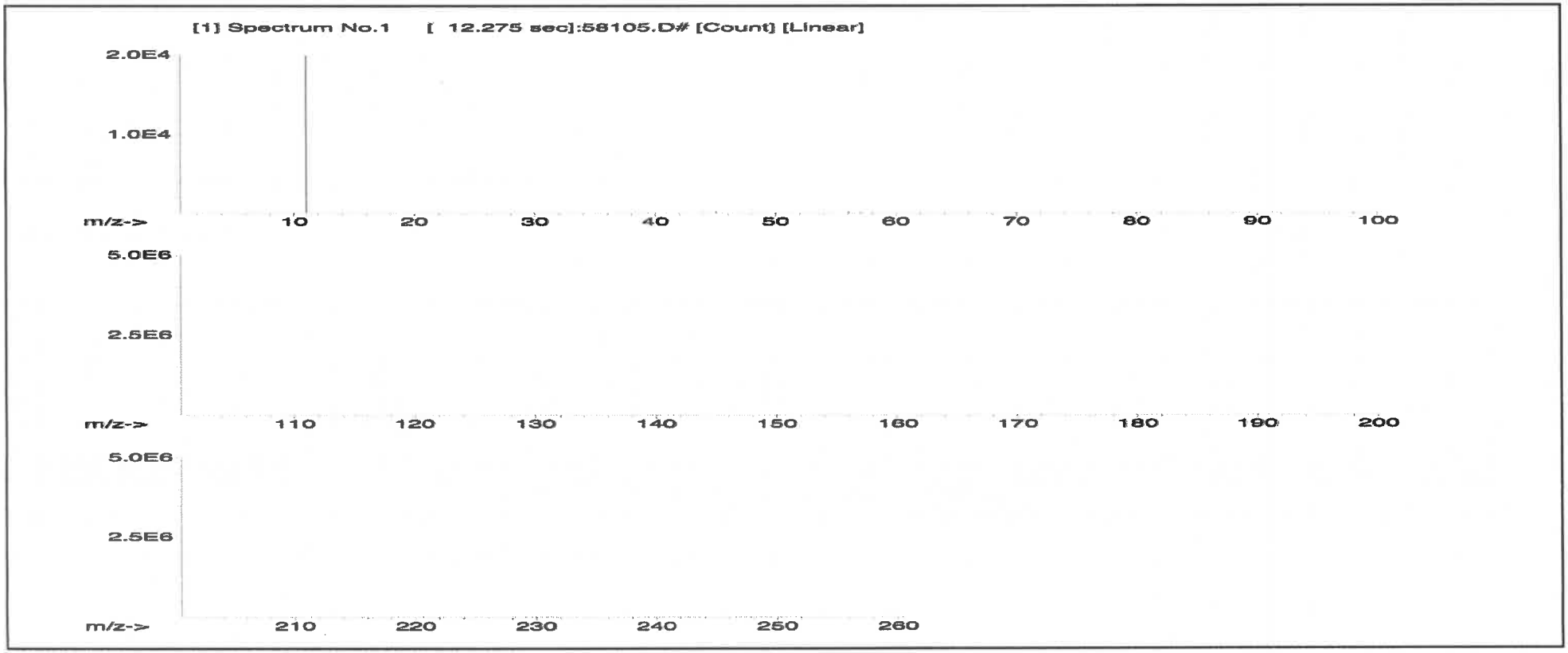
CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**Solvent:**	MKBQ8597V	Ammonium hydroxide
Lot Number:	**071123**				
Description:	**Boron (B)**		2.0%	40.0 (mL)	Ammonium hydroxide
Expiration Date:	071126				
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		

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

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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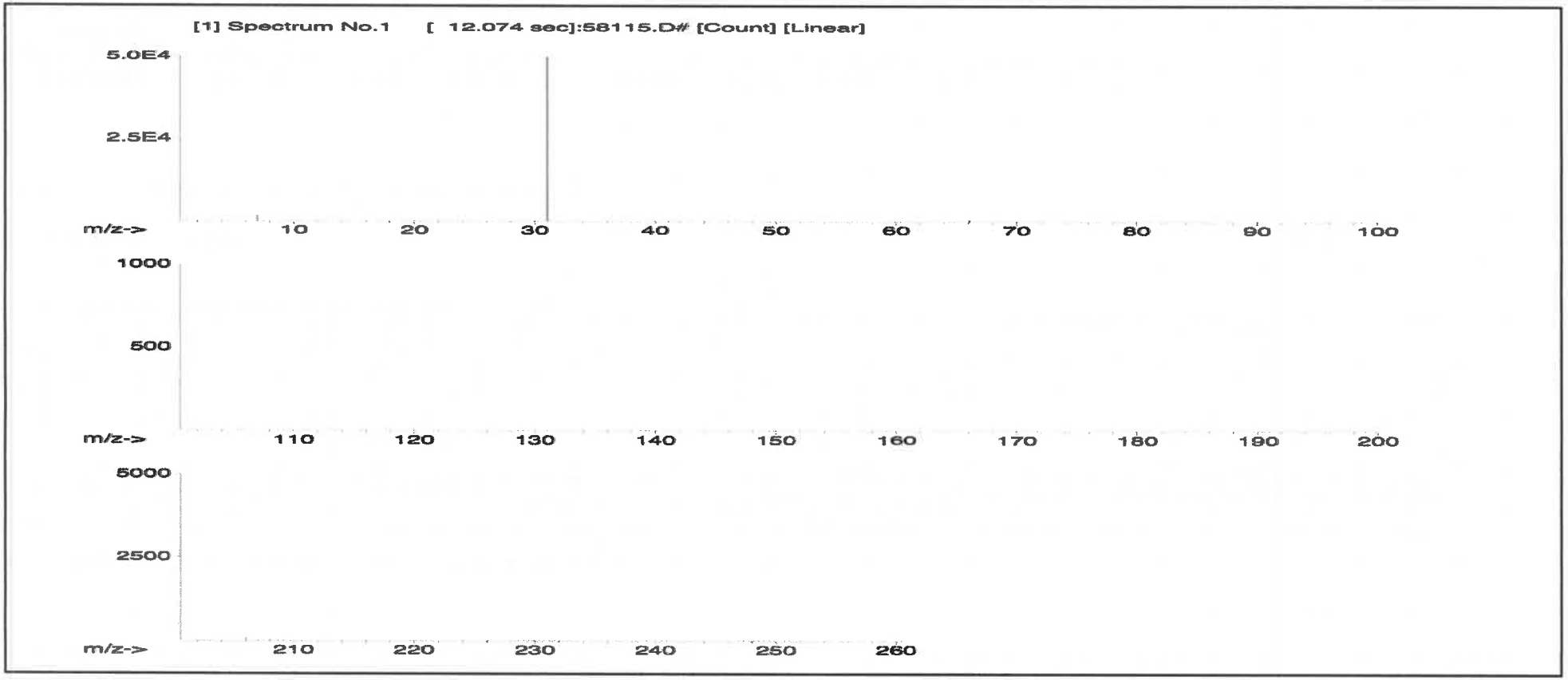
CERTIFIED WEIGHT REPORT:

			Lot #	
Part Number:	**57115**	**Solvent:**	21110221	Nitric Acid
Lot Number:	**041723**			
Description:	**Phosphorous (P)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	041726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	10000	99.999	0.10	27.5	72.7287	72.7289	**10000.0**	**20.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/kg	3186



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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	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:

Certified by:

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

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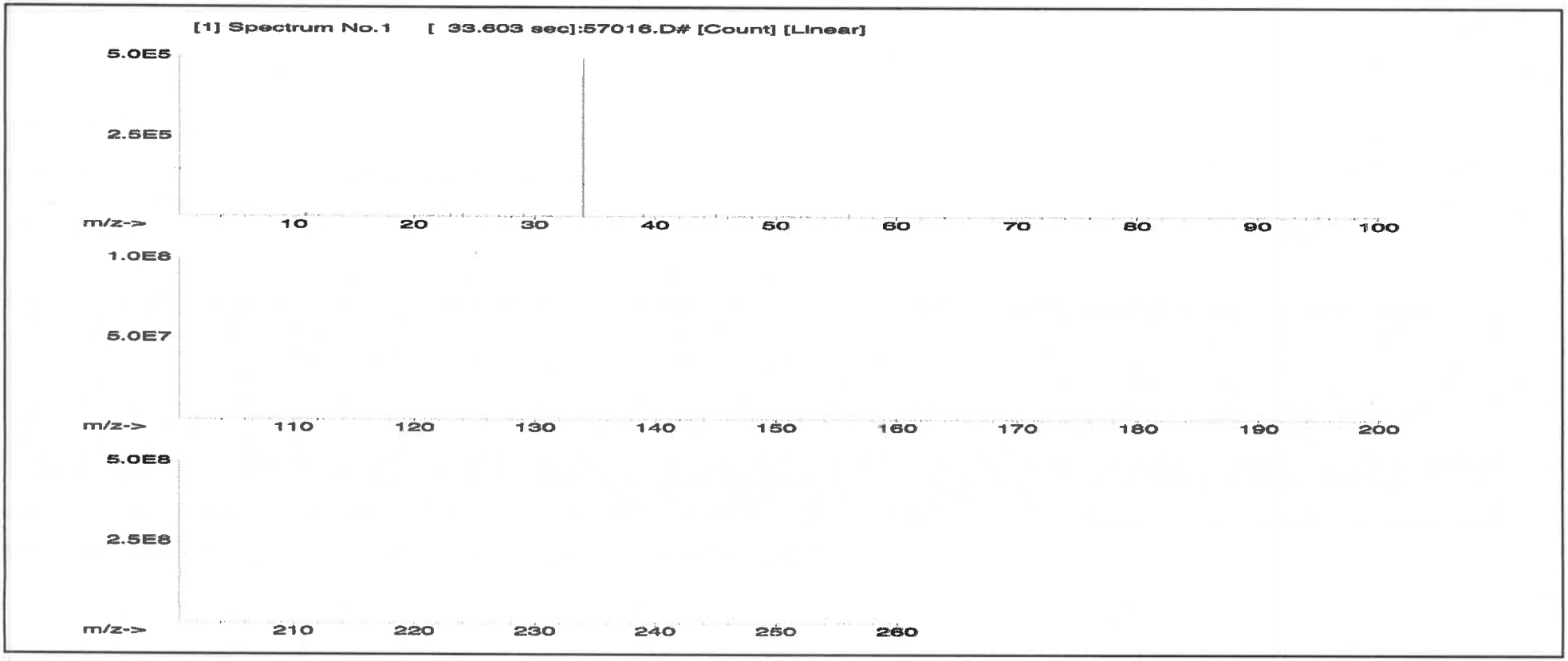
CERTIFIED WEIGHT REPORT:

Part Number:	**57016**	**Solvent:**	**Lot #** 122923	ASTM Type 1 Water
Lot Number:	**122923**			
Description:	**Sulfur (S)**			
Expiration Date:	122926			
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):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



376

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	<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

(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 certifed (+/-) 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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377

CERTIFIED WEIGHT REPORT:

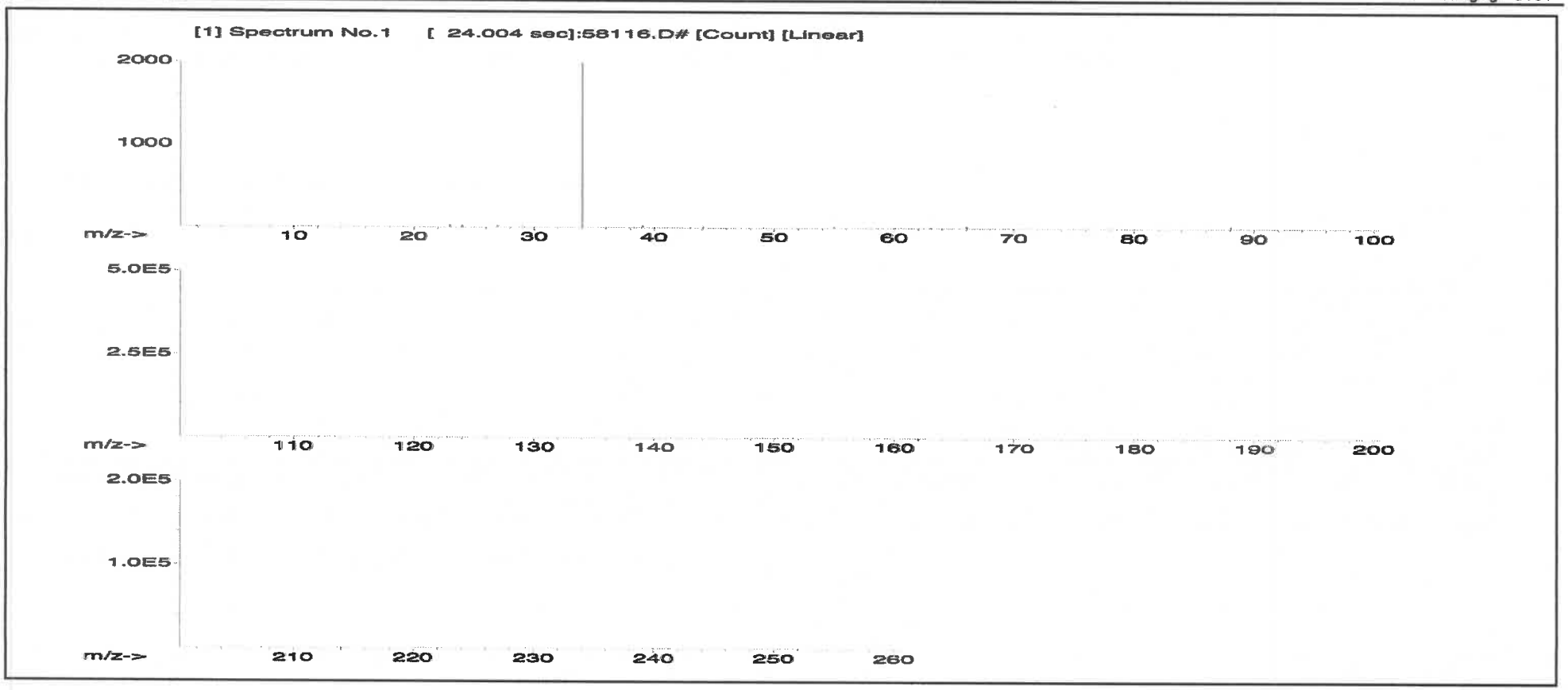
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

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

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

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



378

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	<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

(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).
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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).

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Lot #

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379

CERTIFIED WEIGHT REPORT:

Part Number: 57014
Lot Number: 122023
Description: Silicon (Si)

Expiration Date: 122026
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48

Solvent: 24002546 Nitric Acid

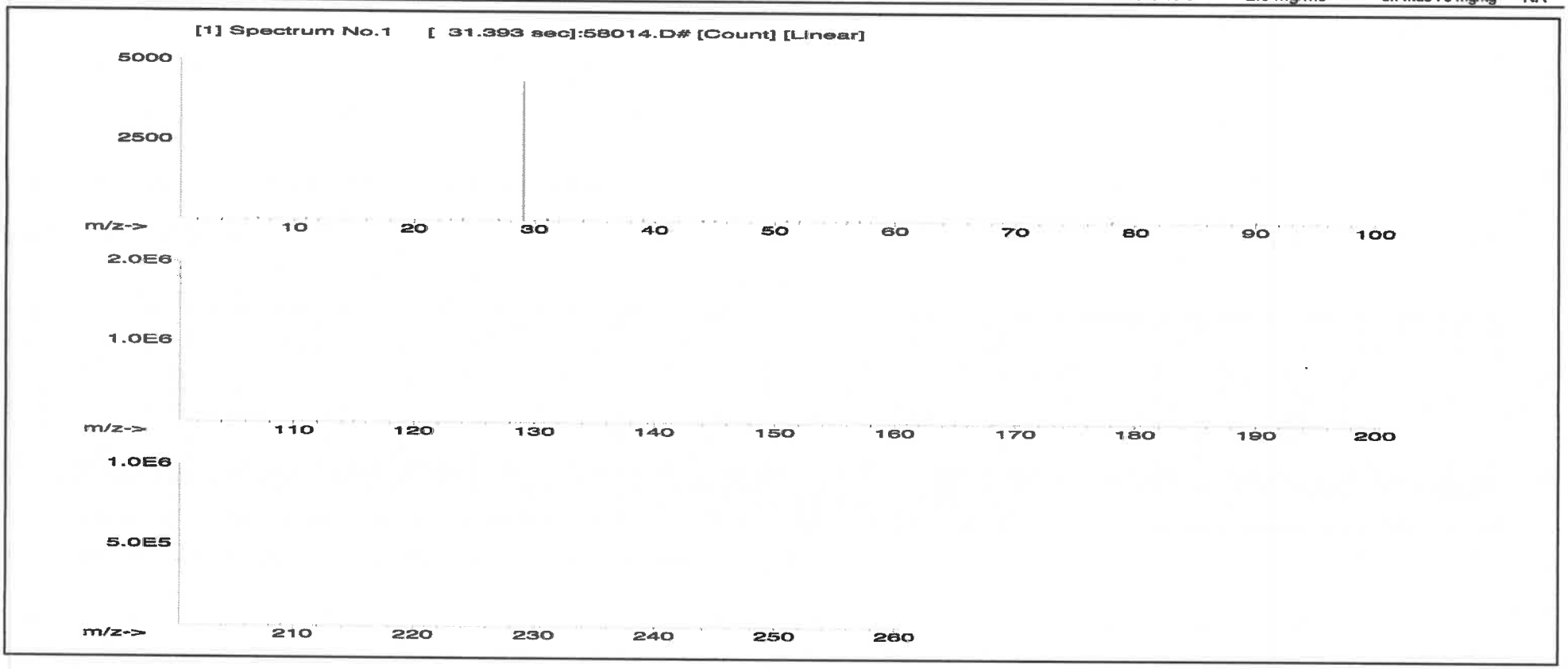
2% 40.0 (mL) Nitric Acid

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Aleah O'Brady
Formulated By: Aleah O'Brady 122023

Pedro Rentas
Reviewed By: Pedro L. Rentas 122023

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorosilicate (Si)	IN009	SID082022A1	1000	99.999	0.10	14.4	13.8854	13.8855	**1000.0**	**2.0**	16919-19-0	2.5 mg/m3	orl-mus 70 mg/kg	NA



380

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	T	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.
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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).

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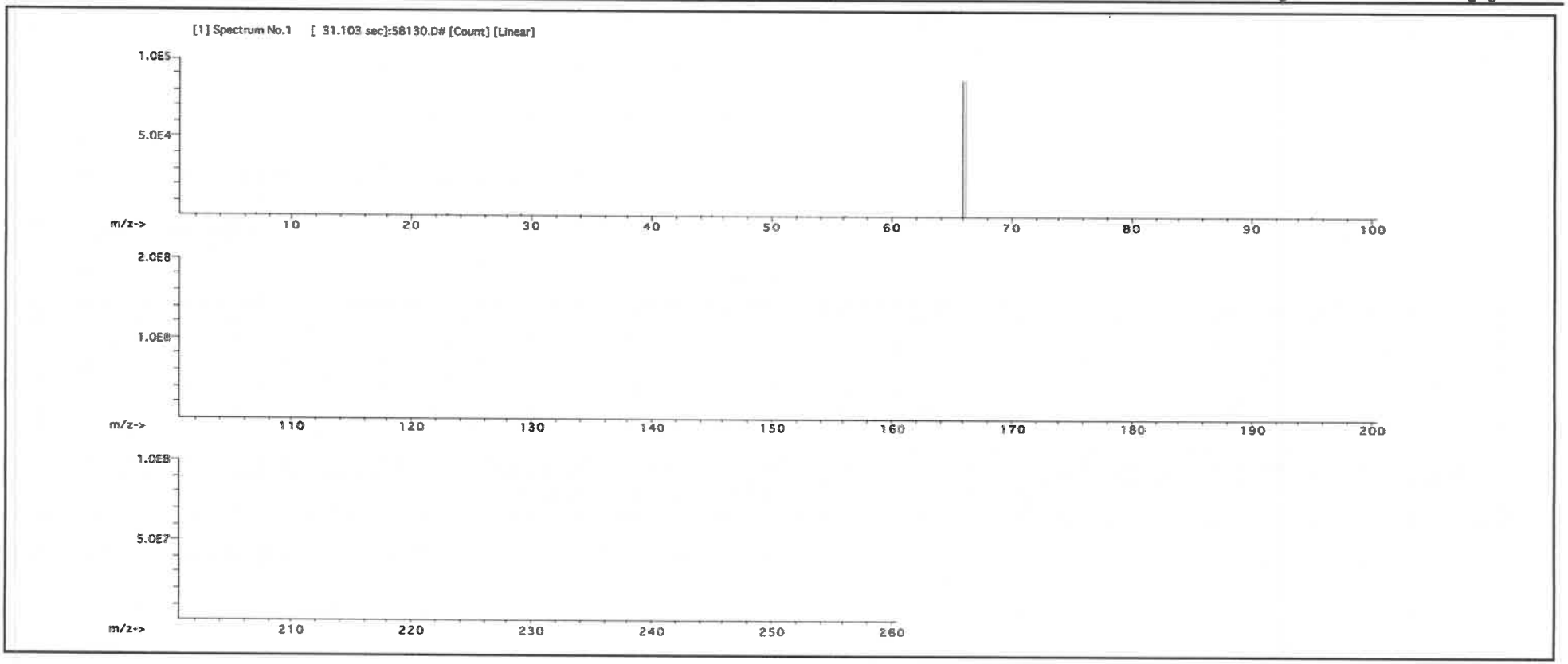
381

CERTIFIED WEIGHT REPORT:

Part Number:	**58030**			
Lot Number:	**111623**			
Description:	**Zinc (Zn)**			
			Lot #	
		Solvent:	24002546	Nitric Acid
		2%	60.0 (mL)	Nitric Acid
Expiration Date:	111626			
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):	3000.4	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	111623
Reviewed By:	Pedro L. Rentas	111623

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	12.3475	12.3502	**1000.2**	**2.0**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168



382

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	<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	T
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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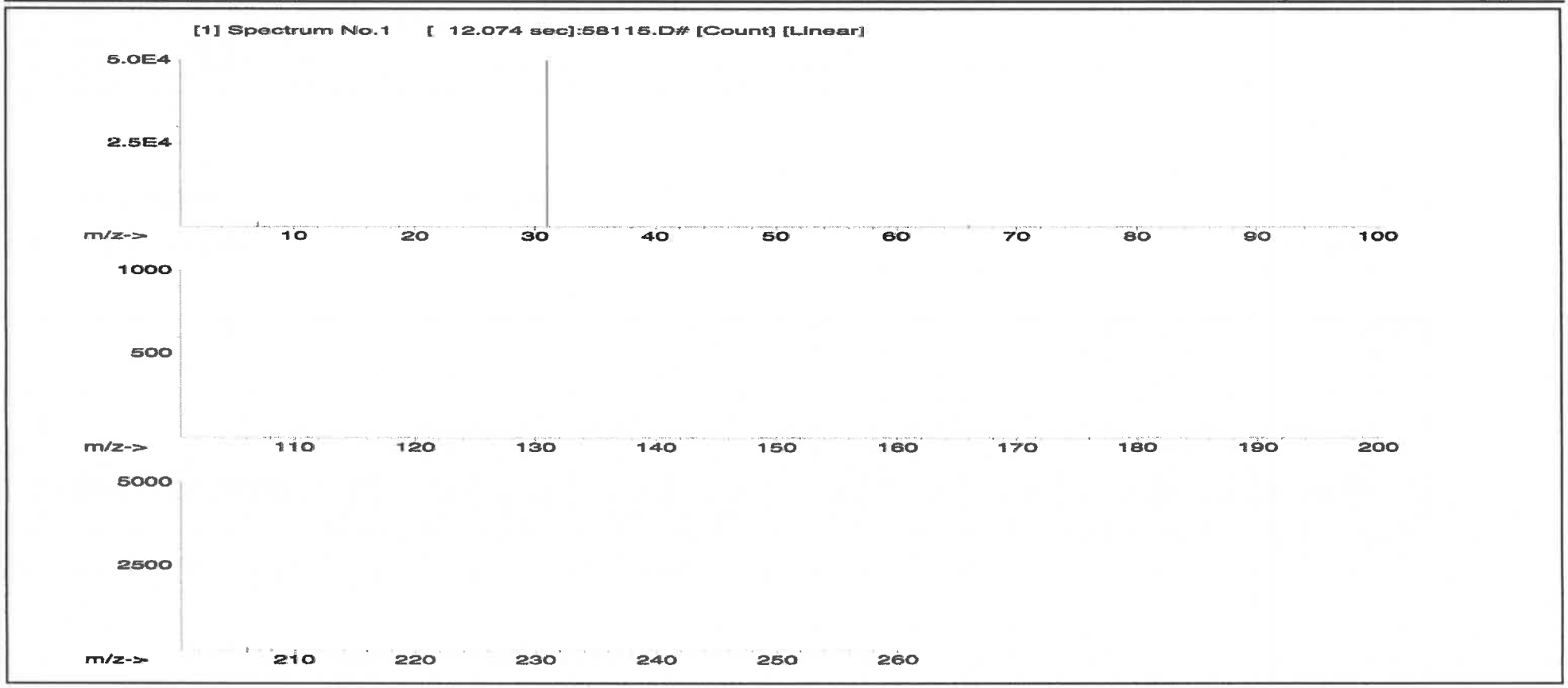
383

CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Lot #**		
Lot Number:	**091123**	**Solvent:**	24002546	Nitric Acid	
Description:	**Phosphorous (P)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	091126				
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):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091123
Reviewed By:	Pedro L. Rentas	091123

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/k	3186



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	<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:

Certified by:

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

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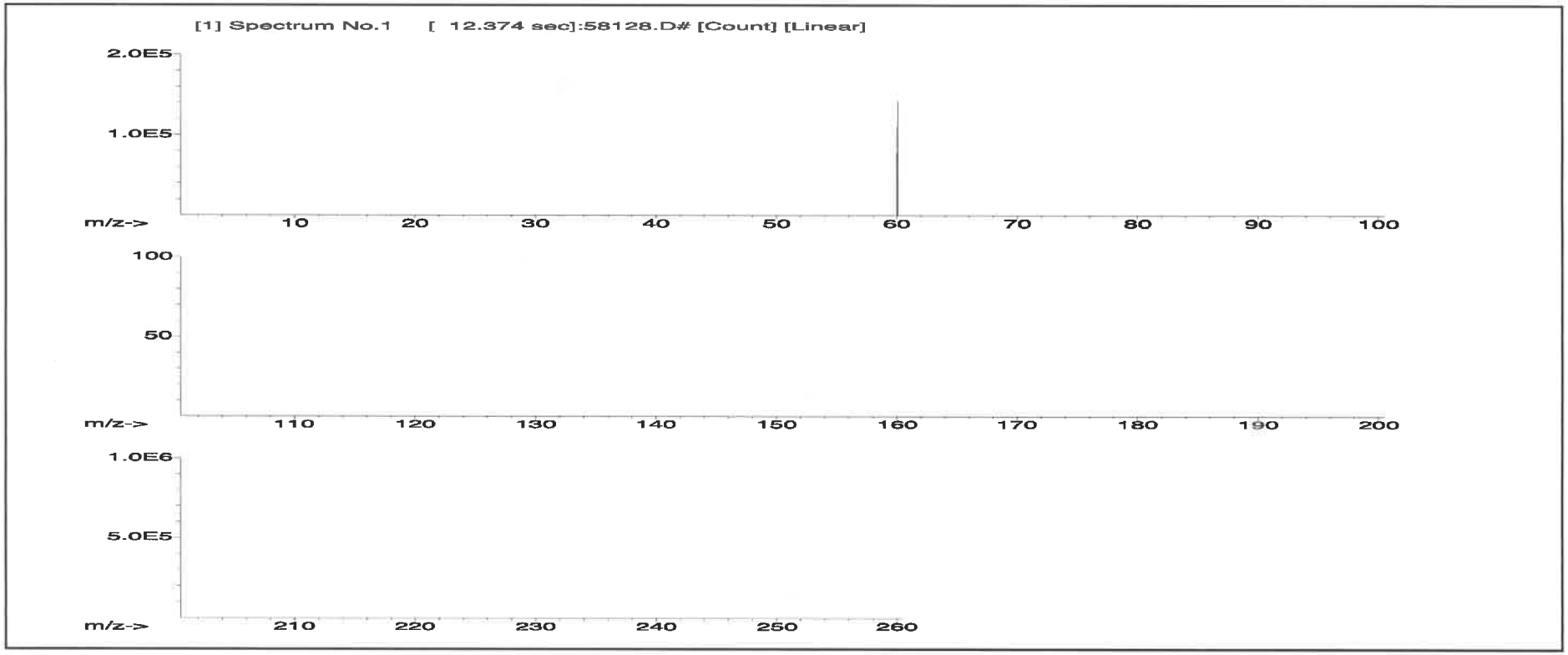
385

CERTIFIED WEIGHT REPORT:

Part Number:	**57028**		**Lot #**		
Lot Number:	**041124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Nickel (Ni)**				
		2%	5.0 (mL)	Nitric Acid	
Expiration Date:	041127				
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):	249.85	0.002	Flask Uncertainty		

Formulated By:	Brian Geddes	041124
Reviewed By:	Pedro L. Rentas	041124

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	IN033	NIM052023A1	1000	99.999	0.10	20.2	1.2369	1.2369	**1000.0**	**2.0**	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



386

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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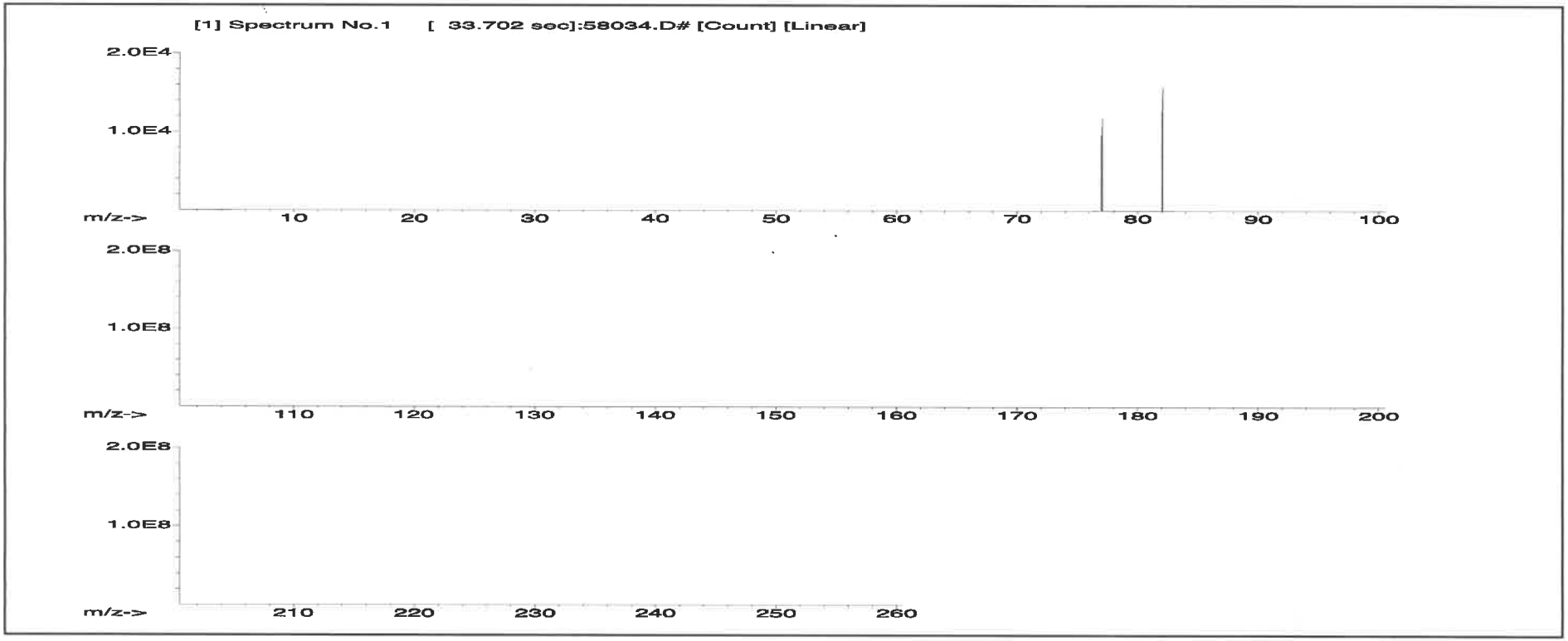
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rentas	060624

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 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	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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

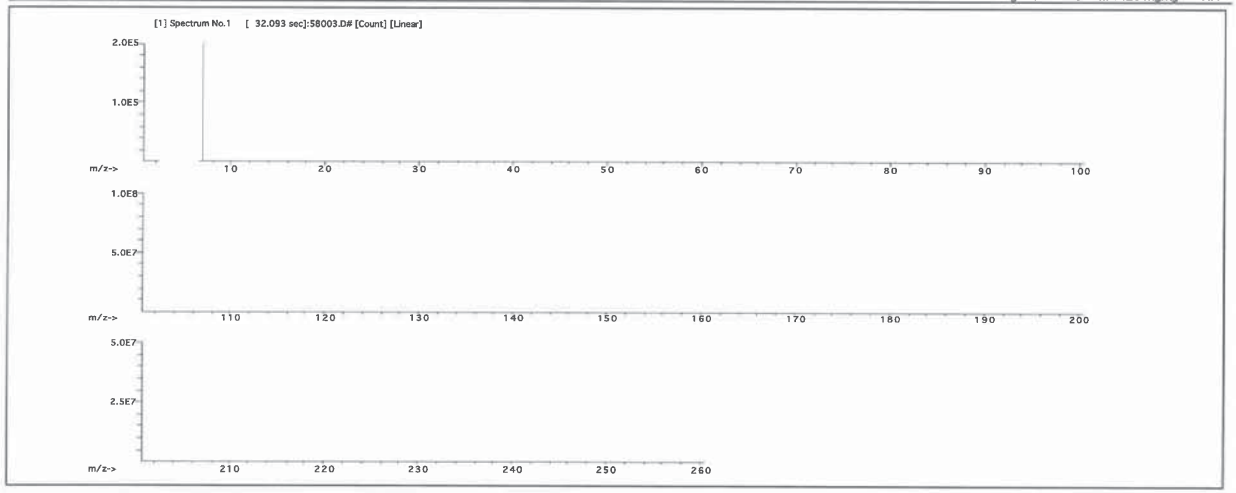
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57003**	24002546	Nitric Acid		
Lot Number:	**062124**				
Description:	**Lithium (Li)**				
		2.0%	5.0 (mL)	Nitric Acid	
Expiration Date:	062127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	250.11	0.016	Flask Uncertainty		

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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Certified Reference Material CRM

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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	T	Ni	<0.02	Pr	<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	<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 certifed (+/-) 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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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).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO1
Lot Number:	T2-MO720876
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	1 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 7 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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.

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.000879	M	Se	<	0.008000	M	Zn		0.000598
M	Al		0.000563	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.000175				
M	Ba		0.001689	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.006334	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Tl	<	0.032000				
M	Ce	<	0.008300	M	K		0.130213	M	Rb		0.004575	M	Tl		0.001266				
M	Co		0.000598	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.000527	O	Li		0.000059	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.000527	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.002252	M	Mg		0.000563	i	S	<		M	W		0.087982				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.001513	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

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

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br1 6O,190Os2+,190Pt 2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 17, 2022

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

11.2 Lot Expiration Date

- July 17, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

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

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = (\Sigma(w_i)^2\,(u_{char\ i})^2)^{1/2}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization
u_{bb} = bottle to bottle homogeneity standard uncertainty
u_{lts} = long term stability standard uncertainty (storage)
u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

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

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- June 17, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

45982 R: 6/11/24

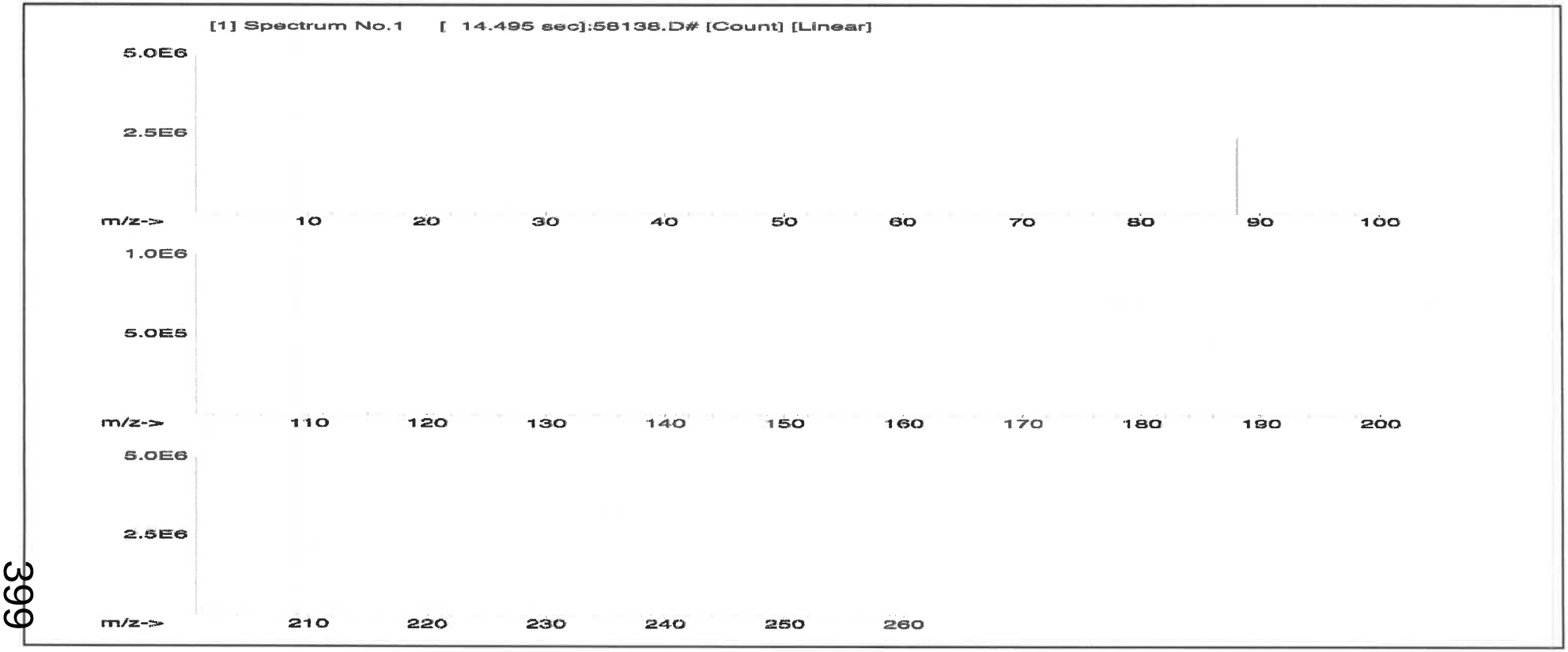
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

			Lot #	
Part Number:	**57038**	**Solvent:**	24002546	Nitric Acid
Lot Number:	**031524**			
Description:	**Strontium (Sr)**			
		2%	40.0 (mL)	Nitric Acid
Expiration Date:	031527			
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):	2000.07	0.100	Flask Uncertainty	

Formulated By:	Benson Chan 031524
Reviewed By:	Pedro L. Rentas 031524

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Strontium nitrate (Sr)	IN017	SRZ022018A1	1000	99.997	0.10	41.2	4.85470	4.85502	**1000.1**	**2.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



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

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

(T) = Target analyte

Physical Characterization:

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 certifed (+/-) 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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Certificate of Analysis

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R:6/14/24

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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

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

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. 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 Pt0 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

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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

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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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-SPK-1
Lot Number:	T2-MEB721963
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Manganese, Nickel, Vanadium, Zinc, Cobalt, 250 µg/mL ea: Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium, Silver

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	Chromium, Cr	200.0 ± 1.1 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	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Silver, Ag	50.00 ± 0.22 µg/mL
Vanadium, V	500.0 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.070 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
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
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
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- 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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 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

- July 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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M6033

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

CERTIFIED WEIGHT REPORT:

Part Number:	**58113**		**Lot #**		
Lot Number:	**011623**	**Solvent:**	20510011	Nitric Acid	
Description:	**Aluminum (Al)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	011626				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

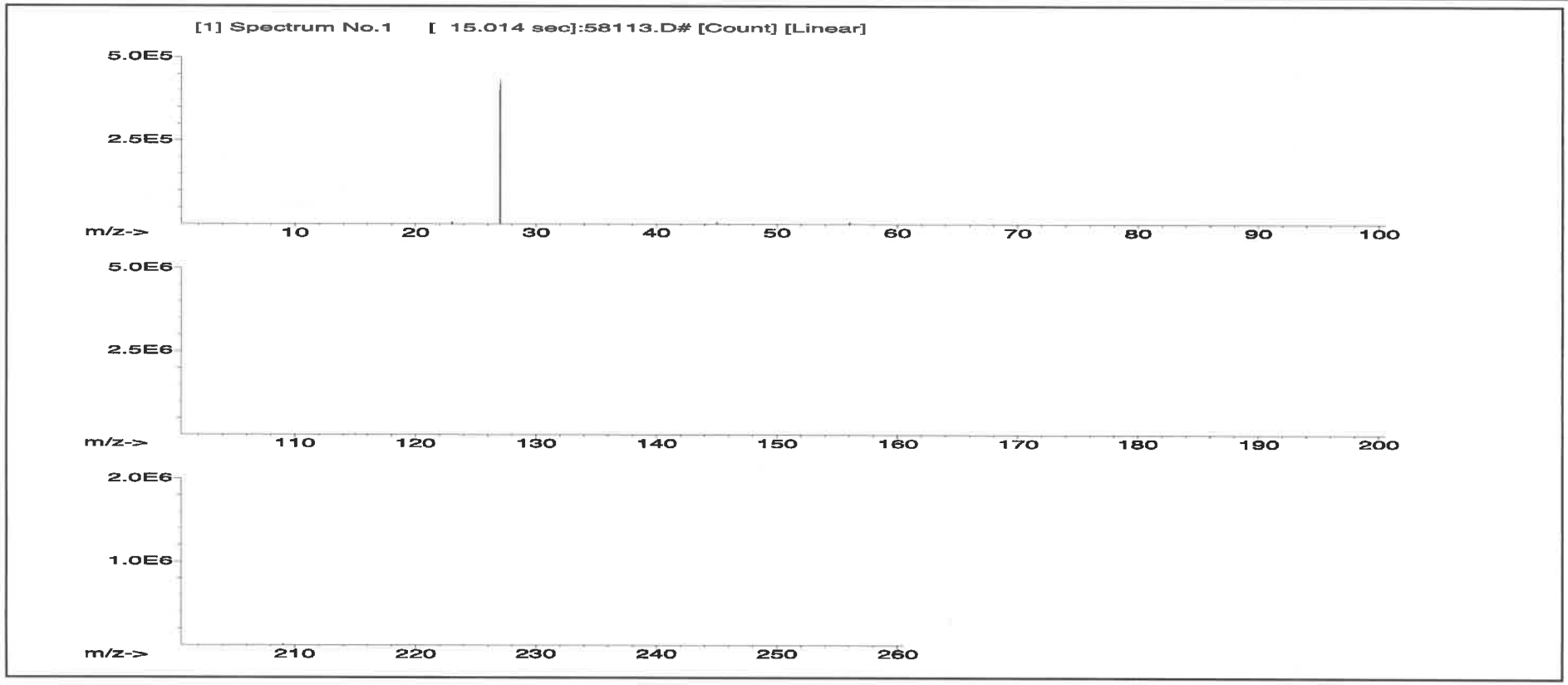
Giovanni Esposito

Formulated By:	Giovanni Esposito	011623

Pedro Rentas

Reviewed By:	Pedro L. Rentas	011623

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	**10001.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



Nitric Acid 69%
CMOS

Recv date: 1. 1. – 08/01/2023

M6034, M6037
M6035, M6038,
M6036,

avantor™ | J.T.Baker®

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

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

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

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

Test	Specification	Result

For Microelectronic Use

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

avantor™ | J.T.Baker®

Received — 08/01/2024
paper
M6039
M6040

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

avantor™ | J.T.Baker®

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™ | J.T.Baker®

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

Test	Specification	Result

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

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R: 9/10/24

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

Certificate of Analysis

M6088, M6089, M6090, M6091, M6092, M6093

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™ | J.T.Baker®

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

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

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

Test	Specification	Result

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M5806, M5807

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

419

CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

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

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

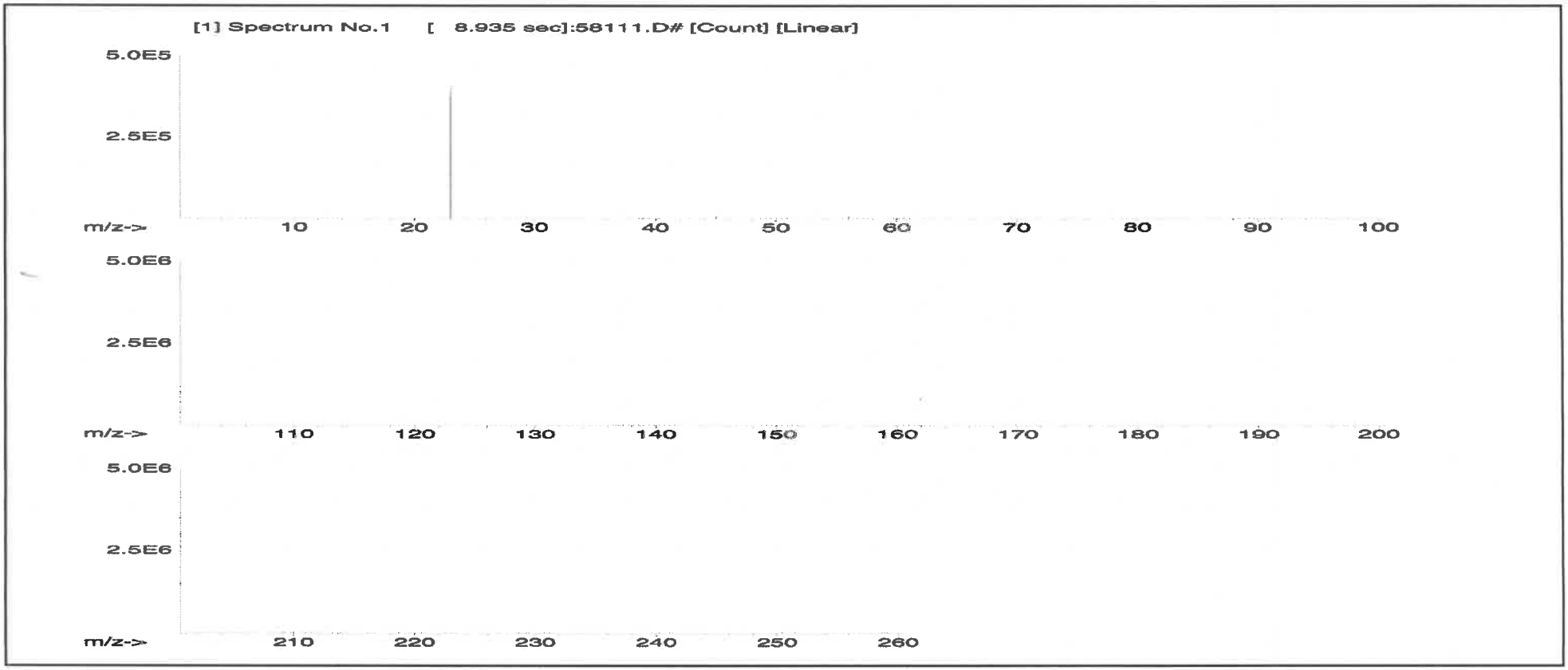
5E-05 Balance Uncertainty

Aleah O'Brady

Formulated By: Aleah O'Brady 122223

Reviewed By: Pedro L. Rentas 122223

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	111.5406	111.5479	**10000.7**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



420

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	T	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 certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

R: 01/03/24 M5802, M5803

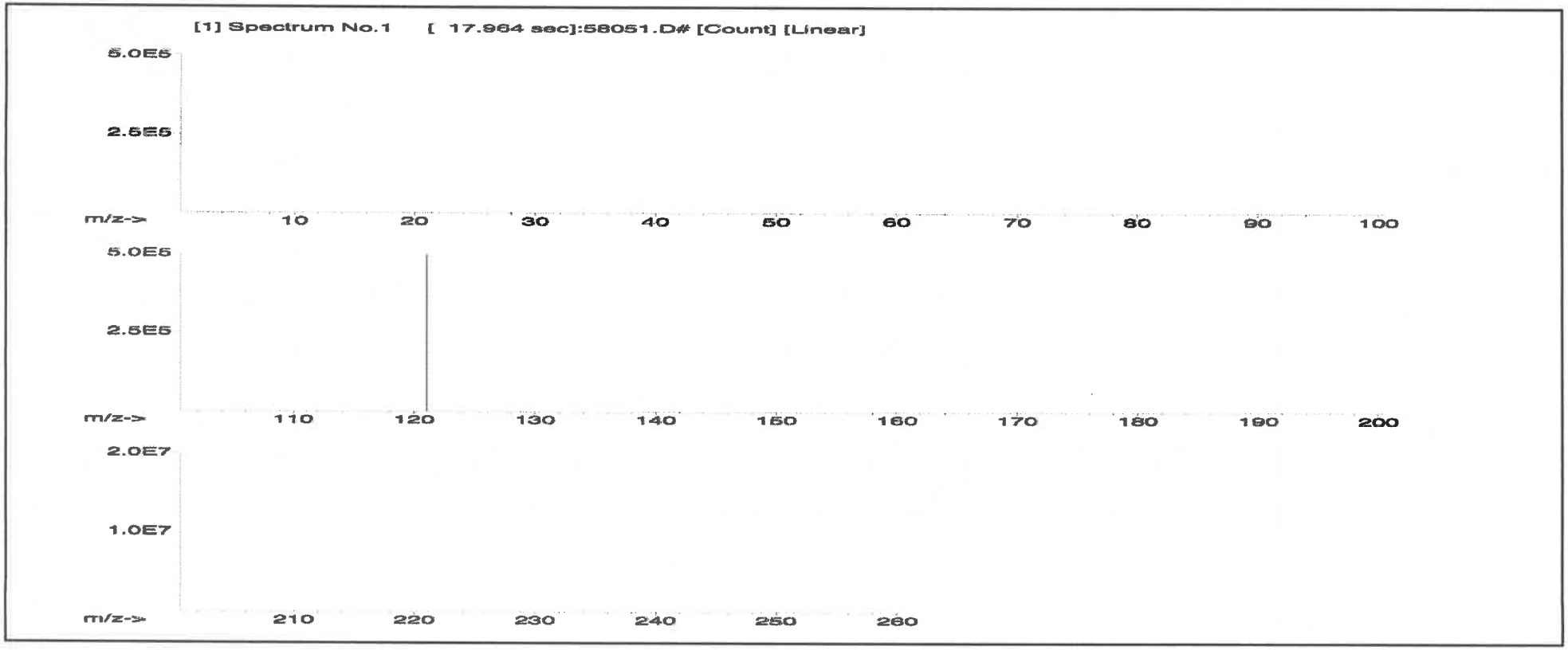
421

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57051**	24002546	Nitric Acid	
Lot Number:	**120523**			
Description:	**Antimony (Sb)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	120526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rentas	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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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	orl-rat 7000 mg/kg	3102a



422

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	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	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.
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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).

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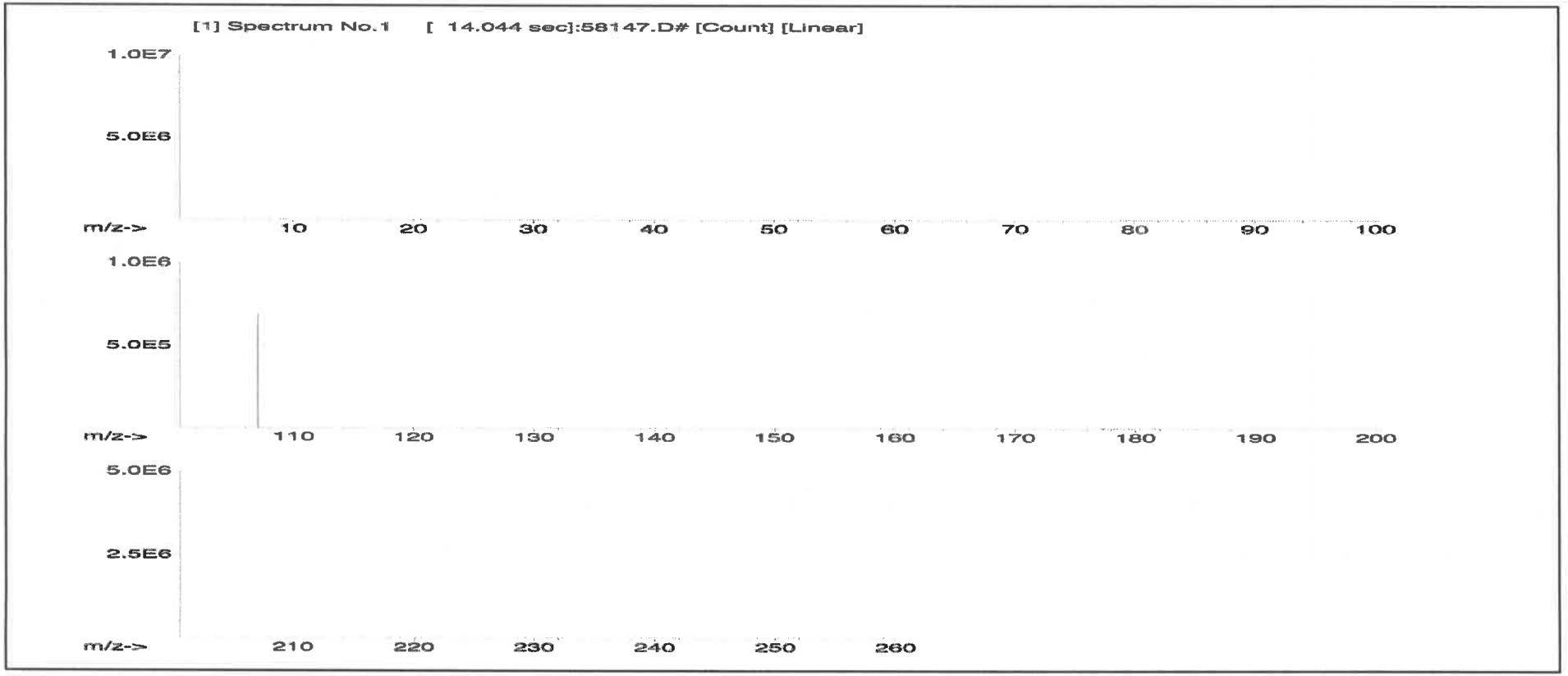
423

CERTIFIED WEIGHT REPORT:

Part Number:	**57047**			**Lot #**	
Lot Number:	**122823**	**Solvent:**	24002546	Nitric Acid	
Description:	**Silver (Ag)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	122826				
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):	4000.30	0.058	Flask Uncertainty		

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

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



424

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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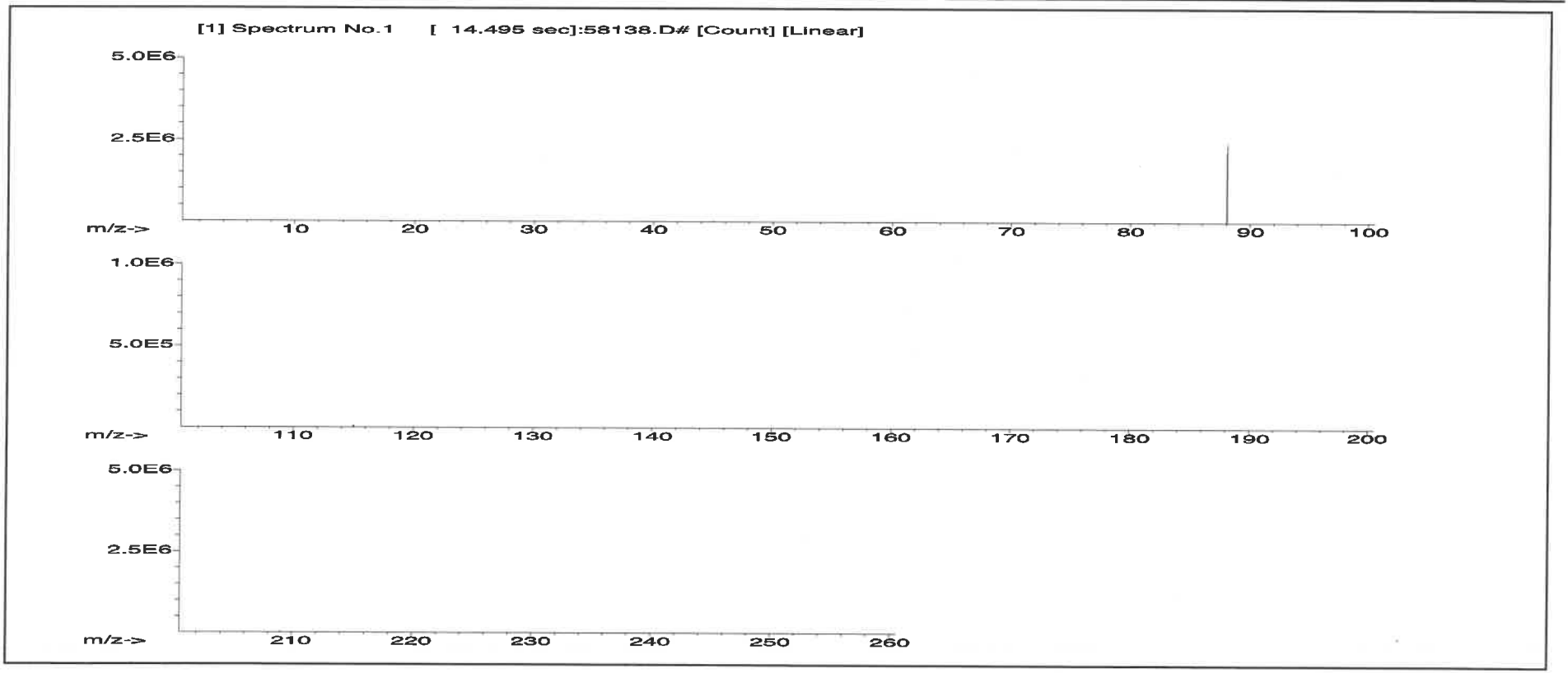
425

CERTIFIED WEIGHT REPORT:

Part Number:	**56138**		**Lot #**		
Lot Number:	**082922**	**Solvent:**	20510011	Nitric Acid	
Description:	**Strontium (Sr)**				
		2%	20.0 (mL)	Nitric Acid	
Expiration Date:	082925				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	1000.12	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	082922
Reviewed By:	Pedro L. Rentas	082922

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Strontium nitrate (Sr)	IN017	SRZ022018A1	10000	99.997	0.10	41.2	24.2756	24.2758	**10000.1**	**20.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



426

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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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427

CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
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		

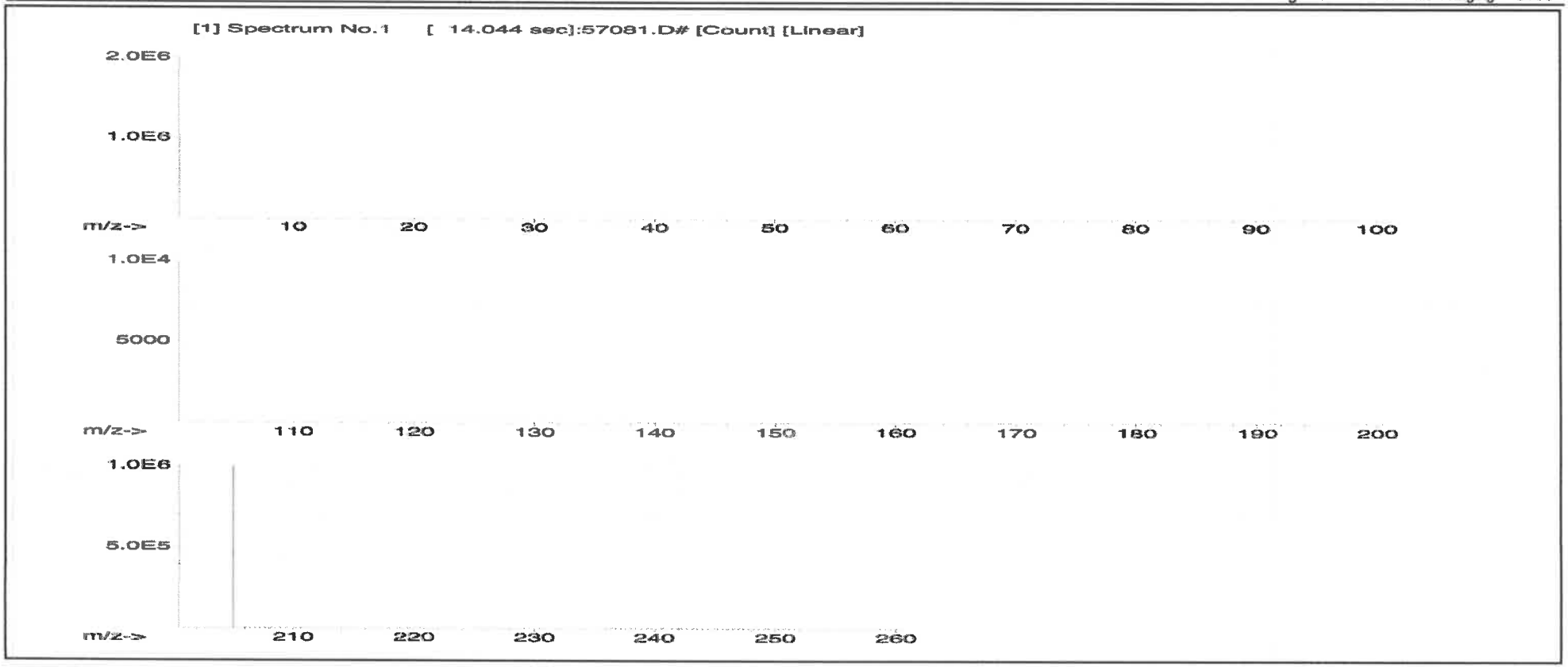
Aleah O'Brady

Formulated By:	Aleah O'Brady	062724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062724

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



428

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	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	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:

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429

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**			
Description:	**Vanadium (V)**	24002546	Nitric Acid	
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

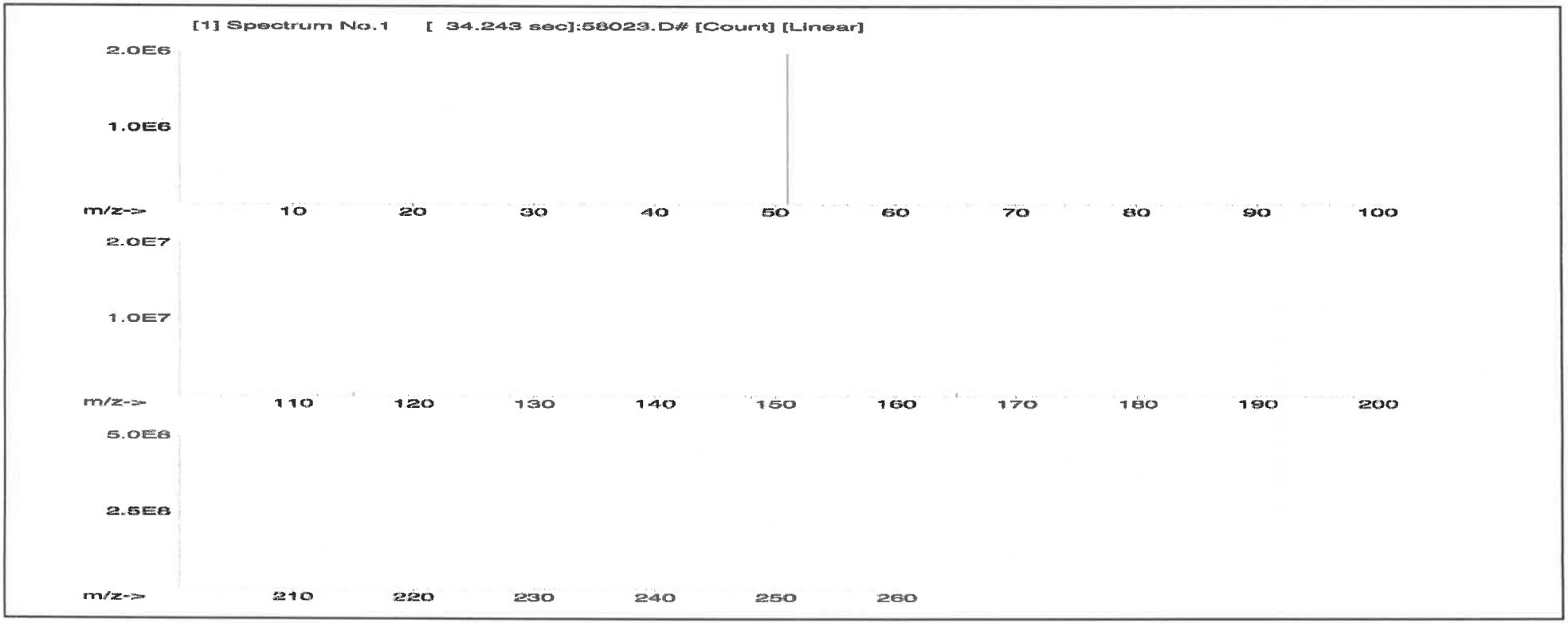
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



430

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	T
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:

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Soil/Sludge Metals Preparation Sheet

PB164276

SOP ID : M3050B-Digestion-20, MSFAM01.1-Trace Metals-2

SDG No : MYDBB4

Matrix : SOIL

Pippete ID: ICP A

Balance ID : M SC-2

Filter paper ID : N/A

pH Strip ID : N/A

Hood ID : #3

Block ID: 1. HOT BLOCK #5 2. N/A

Start Digest Date: 10/19/2024 **Time :** 14:00 **Temp :** 94 °C

End Digest Date: 10/19/2024 **Time :** 17:00 **Temp :** 94 °C

Digestion tube ID: M6054

Block thermometer ID: MET-DIG. #5

Dig Technician Signature: JGP

Supervisor Signature:

Temp : 1. 94°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1.00	MP82711
LCSSD	0.50	MP82711
Spike Sol 6	2.00	MP82731
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	10.00	MP81119
1:1 HCL	5.00	MP82127
CONC: HNO3	5.00	M6090
30% H2O2	3.00	M5634
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 #5 Cell #34 Temp.: 94 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/19/24 17:10	JGP / Met dig	
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB164276

Lab Sample ID	Client Sample ID	pH	Initial Weight (g)	Final Vol (ml)	Color Before	Color After	Texture	Artifact	Comment	Prep Pos
P4331-01	MYDBB4	N/A	1.23	100	Brown	Yellow	Medium	N/A	N/A	1
P4331-02	MYDBB5	N/A	1.36	100	Brown	Yellow	Medium	N/A	N/A	2
P4331-03	MYDBB6	N/A	1.25	100	Brown	Yellow	Medium	N/A	N/A	3
P4331-04	MYDBB7	N/A	1.23	100	Brown	Yellow	Medium	N/A	N/A	4
P4331-05	MYDBB7D	N/A	1.32	100	Brown	Yellow	Medium	N/A	N/A	7
P4331-06	MYDBB7S	N/A	1.25	100	Brown	Yellow	Medium	N/A	MP82731	30
P4331-07	MYDBB8	N/A	1.13	100	Brown	Yellow	Medium	N/A	N/A	9
P4331-08	MYDBB9	N/A	1.18	100	Brown	Yellow	Medium	N/A	N/A	10
P4331-09	MYDBC0	N/A	1.28	100	Brown	Yellow	Medium	N/A	N/A	11
P4331-10	MYDBC1	N/A	1.22	100	Brown	Yellow	Medium	N/A	N/A	12
P4331-11	MYDBC2	N/A	1.35	100	Brown	Yellow	Medium	N/A	N/A	13
P4331-12	MYDBC3	N/A	1.29	100	Brown	Yellow	Medium	N/A	N/A	14
P4331-13	MYDBC4	N/A	1.35	100	Brown	Yellow	Medium	N/A	N/A	15
P4331-14	MYDBC5	N/A	1.48	100	Brown	Yellow	Medium	N/A	N/A	16
P4331-15	MYDBC6	N/A	1.35	100	Brown	Yellow	Medium	N/A	N/A	17
P4331-16	MYDBC7	N/A	1.36	100	Brown	Yellow	Medium	N/A	N/A	18
P4331-17	MYDBC8	N/A	1.42	100	Brown	Yellow	Medium	N/A	N/A	19
P4331-18	MYDBC9	N/A	1.34	100	Brown	Yellow	Medium	N/A	N/A	20
P4331-19	MYDBD0	N/A	1.25	100	Brown	Yellow	Medium	N/A	N/A	21
P4331-20	MYDBD1	N/A	1.49	100	Brown	Yellow	Medium	N/A	N/A	22
P4331-21	MYDBD2	N/A	1.32	100	Brown	Yellow	Medium	N/A	N/A	23
P4331-22	MYDBD3	N/A	1.40	100	Brown	Yellow	Medium	N/A	N/A	24
PB164276BL	PBS276	N/A	1.00	100	Colorless	Colorless	Fine	N/A	N/A	25
PB164276BS	LCS276	N/A	1.00	100	Colorless	Colorless	Fine	N/A	MP82711	29
PB164276BSD	LCSD276	N/A	1.00	100	Colorless	Colorless	Fine	N/A	MP82711	28

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133139

Review By	Mohan Bera	Review On	10/29/2024 7:18:23 AM
Supervise By	Sarabjit Jaswal	Supervise On	10/30/2024 6:08:53 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/25/24 19:21		Kareem	OK
2	S1	S01	CAL2	10/25/24 19:26		Kareem	OK
3	S2	S02	CAL3	10/25/24 19:31		Kareem	OK
4	S3	S03	CAL4	10/25/24 19:35		Kareem	OK
5	S4	S04	CAL5	10/25/24 19:39		Kareem	OK
6	S5	S05	CAL6	10/25/24 19:43		Kareem	OK
7	S6	S06	CAL7	10/25/24 19:48		Kareem	OK
8	ICV001	ICV001	ICV	10/25/24 19:53		Kareem	OK
9	ICB001	ICB001	ICB	10/25/24 19:57		Kareem	OK
10	ICSA001	ICSA001	ICSA	10/25/24 20:02		Kareem	OK
11	ICSAB001	ICSAB001	ICSAB	10/25/24 20:17	Inst. paused for review	Kareem	OK
12	CCV001	CCV001	CCV	10/25/24 20:43	Inst. paused for review	Kareem	OK
13	CCB001	CCB001	CCB	10/25/24 20:47		Kareem	OK
14	P4333-01DL	MYDBF4	SAM	10/25/24 20:52	NOT USE	Kareem	Not Ok
15	P4333-02DL	MYDBF5	SAM	10/25/24 20:56		Kareem	OK
16	P4333-03DL	MYDBF5D	DUP	10/25/24 21:01		Kareem	OK
17	P4333-04DL	MYDBF5S	MS	10/25/24 21:05		Kareem	OK
18	P4333-02LDL	MYDBF5L	SD	10/25/24 21:09		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133139

Review By	Mohan Bera	Review On	10/29/2024 7:18:23 AM
Supervise By	Sarabjit Jaswal	Supervise On	10/30/2024 6:08:53 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

19	PB164280BL	PBS280	MB	10/25/24 21:14	NOT USE	Kareem	Not Ok
20	PB164280BS	LCS280	LCS	10/25/24 21:18	NOT USE	Kareem	Not Ok
21	PB164280BSD	LCSD280	LCSD	10/25/24 21:23	NOT USE	Kareem	Not Ok
22	P4331-01DL	MYDBB4	SAM	10/25/24 21:27		Kareem	OK
23	P4331-02DL	MYDBB5	SAM	10/25/24 21:32		Kareem	OK
24	P4331-03DL	MYDBB6	SAM	10/25/24 21:36		Kareem	OK
25	P4331-04DL	MYDBB7	SAM	10/25/24 21:40	Mn high	Kareem	Dilution
26	P4331-05DL	MYDBB7D	DUP	10/25/24 21:45	Mn high	Kareem	Dilution
27	P4331-06DL	MYDBB7S	MS	10/25/24 21:49	Mn high, MS fail for Zn (2124.91 ppb), Sb,Se (Below RL)	Kareem	Dilution
28	P4331-04LDL	MYDBB7L	SD	10/25/24 21:53	Mn high	Kareem	Dilution
29	P4331-07DL	MYDBB8	SAM	10/25/24 21:58		Kareem	OK
30	P4331-08DL	MYDBB9	SAM	10/25/24 22:02		Kareem	OK
31	P4331-09DL	MYDBC0	SAM	10/25/24 22:07		Kareem	OK
32	P4331-10DL	MYDBC1	SAM	10/25/24 22:11		Kareem	OK
33	P4331-11DL	MYDBC2	SAM	10/25/24 22:15		Kareem	OK
34	CCV002	CCV002	CCV	10/25/24 22:20		Kareem	OK
35	CCB002	CCB002	CCB	10/25/24 22:24		Kareem	OK
36	P4331-12DL	MYDBC3	SAM	10/25/24 22:29		Kareem	OK
37	P4331-13DL	MYDBC4	SAM	10/25/24 22:33		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133139

Review By	Mohan Bera	Review On	10/29/2024 7:18:23 AM
Supervise By	Sarabjit Jaswal	Supervise On	10/30/2024 6:08:53 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

38	P4331-14DL	MYDBC5	SAM	10/25/24 22:37		Kareem	OK
39	P4331-15DL	MYDBC6	SAM	10/25/24 22:42		Kareem	OK
40	P4331-16DL	MYDBC7	SAM	10/25/24 22:46		Kareem	OK
41	P4331-17DL	MYDBC8	SAM	10/25/24 22:50		Kareem	OK
42	P4331-18DL	MYDBC9	SAM	10/25/24 22:55		Kareem	OK
43	P4331-19DL	MYDBD0	SAM	10/25/24 22:59		Kareem	OK
44	P4331-20DL	MYDBD1	SAM	10/25/24 23:03		Kareem	OK
45	P4331-21DL	MYDBD2	SAM	10/25/24 23:08		Kareem	OK
46	P4331-22DL	MYDBD3	SAM	10/25/24 23:12		Kareem	OK
47	PB164276BL	PBS276	MB	10/25/24 23:17		Kareem	OK
48	PB164276BS	LCS276	LCS	10/25/24 23:21		Kareem	OK
49	PB164276BSD	LCSD276	LCSD	10/25/24 23:26		Kareem	OK
50	P4332-01DL	MYDBD4	SAM	10/25/24 23:30		Kareem	OK
51	P4332-02DL	MYDBD5	SAM	10/25/24 23:34		Kareem	OK
52	P4332-03DL	MYDBD6	SAM	10/25/24 23:39		Kareem	OK
53	P4332-04DL	MYDBD7	SAM	10/25/24 23:43		Kareem	OK
54	P4332-05DL	MYDBD8	SAM	10/25/24 23:47		Kareem	OK
55	P4332-06DL	MYDBD9	SAM	10/25/24 23:52		Kareem	OK
56	CCV003	CCV003	CCV	10/25/24 23:56		Kareem	OK
57	CCB003	CCB003	CCB	10/26/24		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133139

Review By	Mohan Bera	Review On	10/29/2024 7:18:23 AM
Supervise By	Sarabjit Jaswal	Supervise On	10/30/2024 6:08:53 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

58	P4332-07DL	MYDBE0	SAM	10/26/24 00:05		Kareem	OK
59	P4332-08DL	MYDBE1	SAM	10/26/24 00:09		Kareem	OK
60	P4332-09DL	MYDBE2	SAM	10/26/24 00:14		Kareem	OK
61	P4332-10DL	MYDBE3	SAM	10/26/24 00:18		Kareem	OK
62	P4332-11DL	MYDBE4	SAM	10/26/24 00:22		Kareem	OK
63	P4332-12DL	MYDBE5	SAM	10/26/24 00:27		Kareem	OK
64	P4332-13DL	MYDBE6	SAM	10/26/24 00:31		Kareem	OK
65	P4332-14DL	MYDBE6D	DUP	10/26/24 00:35		Kareem	OK
66	P4332-15DL	MYDBE6S	MS	10/26/24 00:40	MS fail for Cr (495.04 ppb), Sb,Se (Below RL)	Kareem	OK
67	P4332-13LDL	MYDBE6L	SD	10/26/24 00:44		Kareem	OK
68	P4332-16DL	MYDBE7	SAM	10/26/24 00:48		Kareem	OK
69	P4332-17DL	MYDBE8	SAM	10/26/24 00:53		Kareem	OK
70	P4332-18DL	MYDBE9	SAM	10/26/24 00:57		Kareem	OK
71	P4332-19DL	MYDBF0	SAM	10/26/24 01:01		Kareem	OK
72	P4332-20DL	MYDBF1	SAM	10/26/24 01:06		Kareem	OK
73	P4332-21DL	MYDBF2	SAM	10/26/24 01:10		Kareem	OK
74	P4332-22DL	MYDBF3	SAM	10/26/24 01:14		Kareem	OK
75	PB164278BL	PBS278	MB	10/26/24 01:19		Kareem	OK
76	PB164278BS	LCS278	LCS	10/26/24 01:23		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133139

Review By	Mohan Bera	Review On	10/29/2024 7:18:23 AM
Supervise By	Sarabjit Jaswal	Supervise On	10/30/2024 6:08:53 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

77	PB164278BSD	LCSD278	LCSD	10/26/24 01:28		Kareem	OK
78	CCV004	CCV004	CCV	10/26/24 01:32		Kareem	OK
79	CCB004	CCB004	CCB	10/26/24 01:36		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133180

Review By	Mohan Bera	Review On	10/29/2024 7:20:56 AM
Supervise By	Sarabjit Jaswal	Supervise On	10/30/2024 8:19:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	
Chk Standard	MP82455,MP82456

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/28/24 16:50		Kareem	OK
2	S1	S01	CAL2	10/28/24 16:54		Kareem	OK
3	S2	S02	CAL3	10/28/24 16:59		Kareem	OK
4	S3	S03	CAL4	10/28/24 17:03		Kareem	OK
5	S4	S04	CAL5	10/28/24 17:07		Kareem	OK
6	S5	S05	CAL6	10/28/24 17:12		Kareem	OK
7	S6	S06	CAL7	10/28/24 17:16		Kareem	OK
8	ICV003	ICV003	ICV	10/28/24 19:08	Inst. paused for calibration review	Kareem	OK
9	ICB003	ICB003	ICB	10/28/24 19:13		Kareem	OK
10	ICSA003	ICSA003	ICSA	10/28/24 19:17		Kareem	OK
11	ICSAB003	ICSAB003	ICSAB	10/28/24 19:22		Kareem	OK
12	CCV010	CCV010	CCV	10/28/24 19:26		Kareem	OK
13	CCB010	CCB010	CCB	10/28/24 19:30		Kareem	OK
14	P4331-04DL	MYDBB7	SAM	10/28/24 19:35	5x for Mn	Kareem	Confirms
15	P4331-05DL	MYDBB7D	DUP	10/28/24 19:39	5x for Mn	Kareem	Confirms
16	P4331-06DL	MYDBB7S	MS	10/28/24 19:44	5x for Mn	Kareem	Confirms
17	P4331-04LDL	MYDBB7L	SD	10/28/24 19:48	25x for Mn	Kareem	Confirms
18	P4331-04ADLRE	MYDBB7A	PS	10/28/24 19:53	NOT USE	Kareem	Not Ok

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133180

Review By	Mohan Bera	Review On	10/29/2024 7:20:56 AM
Supervise By	Sarabjit Jaswal	Supervise On	10/30/2024 8:19:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	
Chk Standard	MP82455,MP82456

19	P4332-13ADLRE	MYDBE6A	PS	10/28/24 19:57	NOT USE	Kareem	Not Ok
20	P4333-01DL	MYDBF4	SAM	10/28/24 20:01		Kareem	OK
21	PB164280BL	PBS280	MB	10/28/24 20:06		Kareem	OK
22	PB164280BS	LCS280	LCS	10/28/24 20:10		Kareem	OK
23	PB164280BSD	LCSD280	LCSD	10/28/24 20:15		Kareem	OK
24	CCV011	CCV011	CCV	10/28/24 20:20		Kareem	OK
25	CCB011	CCB011	CCB	10/28/24 20:24		Kareem	OK
26	P4331-04ADL	MYDBB7A	PS	10/28/24 21:02	PS For Zn,Sb,Se - 0.043 -M5819 , 0.12 - MP82589 , 0.07-MP82590	Kareem	OK
27	P4332-13ADL	MYDBE6A	PS	10/28/24 21:06	PS for Cr - 0.01-M5658,Sb-0.12-MP82589,Se-0.07-MP82590	Kareem	OK
28	CCV012	CCV012	CCV	10/28/24 21:11		Kareem	OK
29	CCB012	CCB012	CCB	10/28/24 21:15		Kareem	OK

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TO **SOHIL JODHANI**
ALLIANCE TECHNICAL GROUP LLC
284 SHEFFIELD ST

MOUNTAINSIDE NJ 07092
(908) 789-8900
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REF: W3150.1.043.09MX.A.K0P551.0700
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Alliance TECHNICAL GROUP 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Login Summary Report

Order ID :	P4331	Order Date :	10/7/2024 10:59:00 AM	Project Mgr :	Deepak
Client :	USEPA CLP SMO	Project :	51772	Report Type :	USEPA CLP
Contact :	Anita Kapadia	Receive Date :	10/7/2024 10:59:00 AM	EDD Type :	EPA CLP
Date Sign Off :	10/7/2024 2:21:32 PM				

Sample ID	Client ID	Matrix	Sampling Date	Test	Test Group	Method	TAT Days	Fax Due Date	HC Due Date
P4331-01	MYDBB4	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL		SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids		Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-02	MYDBB5	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL		SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids		Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-03	MYDBB6	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL		SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids		Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-04	MYDBB7	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL		SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids		Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-05	MYDBB7D	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL		SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids		Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-06	MYDBB7S	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL		SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids		Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-07	MYDBB8	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL		SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids		Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-08	MYDBB9	Solid	06/21/2024						
				Metals CLP Full		SFAM_AES	15	10/28/2024	10/28/2024

				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-09	MYDBC0	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-10	MYDBC1	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-11	MYDBC2	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-12	MYDBC3	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-13	MYDBC4	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-14	MYDBC5	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-15	MYDBC6	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-16	MYDBC7	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-17	MYDBC8	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-18	MYDBC9	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024

				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-19	MYDBD0	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-20	MYDBD1	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-21	MYDBD2	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024
P4331-22	MYDBD3	Solid	06/21/2024					
				Metals CLP Full	SFAM_AES	15	10/28/2024	10/28/2024
				Metals CLP MS FULL	SFAM_MS	15	10/28/2024	10/28/2024
				Percent Solids	Chemtech -SOP	15	10/28/2024	10/28/2024

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB164276 **WorkList ID :** 184608 **Department :** Digestion **Date :** 10-19-2024 08:51:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4331-01	MYDBB4	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-02	MYDBB5	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-03	MYDBB6	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-04	MYDBB7	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-05	MYDBB7D	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-06	MYDBB7S	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-07	MYDBB8	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-08	MYDBB9	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-09	MYDBC0	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-10	MYDBC1	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-11	MYDBC2	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-12	MYDBC3	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-13	MYDBC4	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-14	MYDBC5	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-15	MYDBC6	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-16	MYDBC7	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-17	MYDBC8	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-18	MYDBC9	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-19	MYDBD0	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-20	MYDBD1	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES
P4331-21	MYDBD2	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES

Date/Time 10/19/24 11:30

Raw Sample Received by: JSP (Met Dig)

Raw Sample Relinquished by: MWC

Date/Time 10/19/24 13:30

Raw Sample Received by: MWC

Raw Sample Relinquished by: JSP (Met Dig)

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB164276 **WorkList ID :** 184608 **Department :** Digestion **Date :** 10-19-2024 08:51:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4331-22	MYDBD3	Solid	Metals CLP Full	Cool 4 deg C	USEP01	Q11	06/21/2024	SFAM_AES

445

Date/Time 10/19/24 11:30

Raw Sample Received by: JSP (Met Dig)

Raw Sample Relinquished by: JA UPC/

Date/Time 10/19/24 13:30

Raw Sample Received by: JA UPC/

Raw Sample Relinquished by: JSP (Met Dig)