SDG COVER PAGE

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

Lab Code: ACE Case No.: 51956 MA No.: SDG No.: MJNLA3

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MJNLA3	Q1129-01	X		X	
MJNLA3D	Q1129-02	X		X	
MJNLA3S	Q1129-03	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:

USEPA CLP COC (LAB COPY)
DateShipped: 1/16/2025
CarrierName: FedEx
AirbillNo: 7714 8350 4498

CHAIN OF CUSTODY RECORD

Case #: 51821
Cooler #: 22

No: 10-011525-154228-0025
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
MJNLA3	MJNLA3	Sediment/ SB	Grab	TCLP-Metals(21)	1615 (< 6 C), 1616 (< 6 C) (2)	OU6-IDW-SO-001	01/15/2025 14:10	TCL
MJNLB3	MJNLB3	Water/ SB	Grab	ICP-MS(21)	1635 (HNO3 pH<2) (1)	OU6-SW-EB-001	01/15/2025 02:15	
MJNLB4	MJNLB4	Water Filtered/ SB	Grab	ICP-MS(21)	1636 (HNO3 pH<2) (1)	OU6-SW-EB-001	01/15/2025 02:15	
MJNLB5	MJNLB5	Water/ SB	Grab	ICP-MS(21)	1637 (HNO3 pH<2) (1)	OU6-SW-SP01	01/15/2025 01:20	
MJNLB6	MJNLB6	Water/ SB	Grab	ICP-MS(21)	1638 (HNO3 pH<2) (1)	OU6-SW-SP03-FD	01/15/2025 00:50	
MJNLB8	MJNLB8	Water/ SB	Grab	ICP-MS(21)	1640 (HNO3 pH<2) (1)	OU6-SW-SP03	01/15/2025 00:50	
MJNLB9	MJNLB9	Water/ SB	Grab	ICP-MS(21)	1641 (HNO3 pH<2) (1)	OU6-SW-SP04	01/15/2025 00:20	
MJNLC0	MJNLC0	Water/ SB	Grab	ICP-MS(21)	1642 (HNO3 pH<2) (1)	OU6-SW-SP05	01/14/2025 23:30	
MJNLE5	MJNLE5	Water/ SB	Grab	ICP-AES(21)	1667 (HNO3 pH<2) (1)	OU6-IDW-W-001	01/15/2025 14:50	
MJNLG3	MJNLG3	Water Filtered/ SB	Grab	ICP-MS(21)	1681 (HNO3 pH<2) (1)	OU6-SW-SP01	01/15/2025 01:20	
MJNLG4	MJNLG4	Water Filtered/ SB	Grab	ICP-MS(21)	1682 (HNO3 pH<2) (1)	OU6-SW-SP03-FD	01/15/2025 00:50	
MJNLG6	MJNLG6	Water Filtered/ SB	Grab	ICP-MS(21)	1684 (HNO3 pH<2) (1)	OU6-SW-SP03	01/15/2025 00:50	

Sample(s) to be used for Lab QC: MJNLB5 Tag 1637, MJNLB9 Tag 1641, MJNLG3 Tag 1681

Shipment for Case Complete?. Y

Samples Transferred From Chain of Custody #

Analysis Key: TCLP-Metals=CLP TCLP Metals (As, Ba, Cd, Cr,Pb,Se,Ag, Hg)-Sed, ICP-MS=CLP Metals (As, Cu, Pb, Zn)-Water, ICP-AES=CLP Metals (As, Ba, Cd, Cr,Pb,Se,Ag, Hg)-Water

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
15 containers	STEVE BRAND / Jacobs	14:00/1/16/25		0930 1-17-25	IR Gun #1
					Temp 3.0°C
					Temp blank present
					Custody Seal intact

USEPA CLP COC (LAB COPY)
DateShipped: 1/16/2025
CarrierName: FedEx
AirbillNo: 7714 8350 4498

CHAIN OF CUSTODY RECORD

Case #: 51956
Cooler #: 22

No: 10-011525-154228-0025
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
MJNLA3	MJNLA3	Sediment/ SB	Grab	TCLP-Metals(21)	1615 (< 6 C), 1616 (< 6 C) (2)	OU6-IDW-SO-001	01/15/2025 14:10	
MJNLB3	MJNLB3	Water/ SB	Grab	ICP-MS(21)	1635 (HNO3 pH<2) (1)	OU6-SW-EB-001	01/15/2025 02:15	
MJNLB4	MJNLB4	Water Filtered/ SB	Grab	ICP-MS(21)	1636 (HNO3 pH<2) (1)	OU6-SW-EB-001	01/15/2025 02:15	
MJNLB5	MJNLB5	Water/ SB	Grab	ICP-MS(21)	1637 (HNO3 pH<2) (1)	OU6-SW-SP01	01/15/2025 01:20	
MJNLB6	MJNLB6	Water/ SB	Grab	ICP-MS(21)	1638 (HNO3 pH<2) (1)	OU6-SW-SP03-FD	01/15/2025 00:50	
MJNLB8	MJNLB8	Water/ SB	Grab	ICP-MS(21)	1640 (HNO3 pH<2) (1)	OU6-SW-SP03	01/15/2025 00:50	
MJNLB9	MJNLB9	Water/ SB	Grab	ICP-MS(21)	1641 (HNO3 pH<2) (1)	OU6-SW-SP04	01/15/2025 00:20	
MJNLC0	MJNLC0	Water/ SB	Grab	ICP-MS(21)	1642 (HNO3 pH<2) (1)	OU6-SW-SP05	01/14/2025 23:30	
MJNLE5	MJNLE5	Water/ SB	Grab	ICP-AES(21)	1667 (HNO3 pH<2) (1)	OU6-IDW-W-001	01/15/2025 14:50	
MJNLG3	MJNLG3	Water Filtered/ SB	Grab	ICP-MS(21)	1681 (HNO3 pH<2) (1)	OU6-SW-SP01	01/15/2025 01:20	
MJNLG4	MJNLG4	Water Filtered/ SB	Grab	ICP-MS(21)	1682 (HNO3 pH<2) (1)	OU6-SW-SP03-FD	01/15/2025 00:50	
MJNLG6	MJNLG6	Water Filtered/ SB	Grab	ICP-MS(21)	1684 (HNO3 pH<2) (1)	OU6-SW-SP03	01/15/2025 00:50	

Sample(s) to be used for Lab QC: MJNLB5 Tag 1637, MJNLB9 Tag 1641, MJNLG3 Tag 1681	**Shipment for Case Complete? Y**
	Samples Transferred From Chain of Custody #
Analysis Key: TCLP-Metals=CLP TCLP Metals (As, Ba, Cd, Cr,Pb,Se,Ag, Hg)-Sed, ICP-MS=CLP Metals (As, Cu, Pb, Zn)-Water, ICP-AES=CLP Metals (As, Ba, Cd, Cr,Pb,Se,Ag, Hg)-Water	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Kodey Eley	1/16/2025	Dcam	1/17/25	3.0°C
				9:30	

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 1 of 1
Received By (Print Name) Cassanova Pena		Log-in Date 1/17/2025
Received By (Signature)		
Case Number 51956	SDG No. MJNLA3	MA No. N/A

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.	771483504502 1
6. Shipping Container Temperature Indicator Bottle	Present
7. Shipping Container Temperature	3.0 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	01/17/2025
12.Time Received	09:30

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MJNLA3	N/A	1615,16	Q1129-01	Intact
2	MJNLA3D	N/A	1615,16	Q1129-02	Intact
3	MJNLA3S	N/A	1615,16	Q1129-03	Intact
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A

* Contact SMO and attach record of resolution

Reviewed By	Pena	Logbook No.	N/A
Date	1/17/25	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.	**51956**	SDG NO.	**MJNLA3**
MA NO.		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	10	✓	
6. Communication Logs	11	21	✓	
7. Percent Solids Log	NA	NA	✓	
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	22	22	✓	
9. Instrument raw data by instrument in analysis order	23	258	✓	
Other Data				
10. Standard and Reagent Preparation Logs	259	403	✓	
11. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	404	405	✓	
12. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	406	414	✓	
13. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
14. Extraction Logs for TCLP and SPLP	415	418	✓	
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	419	419	✓	
27. Instrument raw data by instrument in analysis order	420	421	✓	
Other Data				
28. Standard and Reagent Preparation Logs	422	448	✓	
29. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	449	450	✓	
30. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	451	453	✓	
31. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
32. Extraction Logs for TCLP and SPLP	454	457	✓	
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)	458	458	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	459	459	✓	
45. Misc. Shipping/Receiving Records (list all individual records)				
	NA	NA	✓	
46. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
	460	460	✓	
47. Other Records and related Communication Logs (describe or list)				
	NA	NA	✓	

48. Comments:

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

Audited by:
(EPA) _____ (Signature) _____ (Print Name & Title) _____ (Date)

284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # MJNLA3
CASE # 51956
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # Q1129

A. Number of Samples and Date of Receipt

01 Soil sample was delivered to the laboratory intact on 01/17/2024.

B. Parameters

Test requested for TCLP ICP Metals = Arsenic, Barium, Cadmium, Lead, Selenium, Silver, TCLP Mercury.

C. Cooler Temp

Indicator Bottle**: Presence/**Absence

Cooler: 3.0^{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.

Issue 2: The laboratory has received two SDGs without samples designated for laboratory QC for ICP-AES, Hg, and TCLP ICP-AES. The laboratory has selected samples MJNLE5 and MJNLA3 for laboratory QC and confirms that these are not blanks, rinsates, or PT samples.

Issue 3: The COC indicates that these samples are for Case 51821, but this Case completed on 12/20/2024.

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.

Resolution 2: Per SFAM01.1 Exhibit A, Section 5.5.4.1., the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

Resolution 3: Per Region 10, the COC references the incorrect Case number and samples in this shipment are for Case 51956. A corrected COC will be provided once it is available. Please note the issue in the SDG Narrative and proceed with 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 Water Sample:

$$\text{Concentration or Result } (\mu g/L) = C \times \frac{Vf}{Vi} \times DF \times 1000$$

Where,

C = Instrument value in ppm (The average of all replicate exposures)
Vf = Final digestion volume (mL)
Vi = Initial aliquot amount (mL) (Sample amount taken in prep)
DF = Dilution Factor

Example Calculation For Sample MJNLA3 For Arsenic:

If C = 0.1513800 ppm
Vf = 50 ml
Vi = 50 ml
DF = 1

$$\text{Concentration or Result } (\mu g/L) = 0.1513800 \times \frac{50}{50} \times 1 \times 1000$$

$$= 151.38\ \mu g/L$$

$$= 150\ \mu g/L \text{ (Reported Result with Signification)}$$

Calculation for Hg Water Sample:

$$\text{Concentration or Result } (\mu g/L) = C \times DF$$

Where,

C = Instrument response in µg/L from the calibration curve.
DF = Dilution Factor

284 Sheffield Street
Mountainside, NJ 07092

Example Calculation For Mercury:

If C = 0.1811 ppb
DF = 1

Concentration or Result (µg/L) = 0.1811 x 1
= 0.1811 µg/L
= 0.18 µg/L (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. Duplicate sample did meet requirements. Serial Dilution did meet requirements.

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

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, January 17, 2025 4:40 PM
To: Deepak Parmar; Sohil Jodhani; Mohammad Ahmed
Cc: Johnson, Matthew; Bauer, Heather E; Dunn, Meghan (she/her/hers); Reece, Caitlin
Subject: Region 10 | Case 51956 | Lab ACE | Issue Insufficient/inappropriate designation of laboratory QC | FINAL

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Secured by Check Point

Good afternoon,

Please see the below resolutions.

Issue 1: The laboratory requires one sample to be designated for QC per every twenty samples, but there are two samples (MJNLB5 and MJNLB9) listed on the COC for laboratory QC. The laboratory would like to proceed by performing laboratory QC on sample MJNLB5 and regular analysis for sample MJNLB9. Please advise on how the laboratory may proceed.
Resolution 2: Per Region 10, the laboratory may proceed with performing laboratory QC on sample MJNLB5 and regular analysis for sample MJNLB9. Please note the issue in the SDG Narrative and proceed with analysis of the samples.

Issue 2: The laboratory has received two SDGs without samples designated for laboratory QC for ICP-AES, Hg, and TCLP ICP-AES. The laboratory has selected samples MJNLE5 and MJNLA3 for laboratory QC and confirms that these are not blanks, rinsates, or PT samples.
Resolution 2: Per SFAM01.1 Exhibit A, Section 5.5.4.1., the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

Please note that the laboratory may contact the appropriate CLP PM should any defects need to be waived for this issue.

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

GENERAL DYNAMICS
information technology

Leave Alert: None

From: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Sent: Friday, January 17, 2025 4:05 PM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>; Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Region 10 | Case 51956 | Lab ACE | Issue Insufficient/inappropriate designation of laboratory QC

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Hi Casey,

For Issue 1: it's acceptable for the lab to proceed by performing laboratory QC on sample MJNLB5 and regular analysis for sample MJNLB9 as requested.

Thank you,
Meghan

Meghan Dunn
QA Chemist / RSCC
(Regional Sample Control Coordinator)
U.S. EPA, Region 10
Cell (206) 330-6743
Office (206) 553-8561

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, January 17, 2025 12:33 PM
To: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>; Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: Region 10 | Case 51956 | Lab ACE | Issue Insufficient/inappropriate designation of laboratory QC

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good afternoon,

Please see the below issue from ACE. Please note that issue 2 has been resolved using an SOW resolution.

Issue 1: The laboratory requires one sample to be designated for QC per every twenty samples, but there are two samples (MJNLB5 and MJNLB9) listed on the COC for laboratory QC. The laboratory would like to proceed by performing laboratory QC on sample MJNLB5 and regular analysis for sample MJNLB9. Please advise on how the laboratory may proceed.

Issue 2: The laboratory has received two SDGs without samples designated for laboratory QC for ICP-AES, Hg, and TCLP ICP-AES. The laboratory has selected samples MJNLE5 and MJNLA3 for laboratory QC and confirms that these are not blanks, rinsates, or PE samples.
Resolution 2: Per SFAM01.1 Exhibit A, Section 5.5.4.1., the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave Alert: None

From: Deepak Parmar <Deepak.Parmar@alliancetg.com>
Sent: Friday, January 17, 2025 3:16 PM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Cc: Sohil Jodhani <Sohil.Jodhani@AllianceTG.com>
Subject: RE: Region 10 | Case 51956 | Lab ACE | Issue Multiple | FINAL

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Good afternoon,

Issue 1 :Two SDGs open without lab QC for ICP-AES,HG and TCLP- Metals analysis However, a sample was not designated for Laboratory QC. Lab like to use samples MJNLE5 and MJNLA3 for Lab QC.. these samples are not blanks, rinsates or PE samples.
Issue 2: One QC sample need for each 20 samples SDG however, two QC samples mention on COC. So Lab like to use sample MJNLB5 for QC and other sample MJNLB9 as regular analysis. Case is complete.

Please see attachment for your reference.

Thanks & Regards,

Deepak Parmar
QA/QC
An Alliance Technical Group Company
Main: 908-789-8900
Direct: 908-728-3154
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, January 17, 2025 10:52 AM
To: Deepak Parmar; Sohil Jodhani; Mohammad Ahmed
Subject: RE: Region 10 | Case 51956 | Lab ACE | Issue Multiple

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Secured by Check Point

Good morning, Deepak,

Please see the below issue/resolution 3 from Region 10 regarding the Case number for this shipment. Please confirm if the laboratory is able to accept the below adjustments (mentioned in issues 1 and 2) for Case 51956.

Scheduling
Issue 1: Water samples JNLE5 & MJNLE5 were shipped for VOA, SVOA, ICP-AES 5-10 Metals (As, Ba, Cd, Cr, Pb, Se, Ag) and Hg analyses, but these analyses are not scheduled under Case 51956. Please confirm if the laboratory is able to accept the added analyses.

Issue 2: Case 51956 includes water samples scheduled for ICP-AES 1-4 Metals analysis, but the COC indicates that samples should be analyzed under ICP-MS 1-4 Metals analysis. The Region has confirmed that ICP-MS 1-4 Metals analysis should be performed for these samples. Please confirm if the laboratory is able to accept this adjustment.

Discrepancies with tags, jars, and/or COC
Issue 3: The COC indicates that these samples are for Case 51821, but this Case completed on 12/20/2024.
Resolution 3: Per Region 10, the COC references the incorrect Case number and samples in this shipment are for Case 51956. A corrected COC will be provided once it is available. Please note the issue in the SDG Narrative and proceed with analysis of the samples.

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave Alert: None

From: Deepak Parmar <Deepak.Parmar@alliancetg.com>
Sent: Friday, January 17, 2025 10:40 AM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>; Sohil Jodhani <Sohil.Jodhani@AllianceTG.com>; Mohammad Ahmed <mohammad.ahmed@alliancetg.com>
Subject: RE: Region 10 | Case 51956 | Lab ACE | Issue Scheduling

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Good morning,

Water samples JNLE5 & MJNLE5 received with case 51821 not for case 51956. So please conform the case number.

Thanks & Regards,

Deepak Parmar
QA/QC
An Alliance Technical Group Company
Main: 908-789-8900
Direct: 908-728-3154
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, January 17, 2025 10:01 AM
To: Deepak Parmar <Deepak.Parmar@alliancetg.com>; Sohil Jodhani <Sohil.Jodhani@AllianceTG.com>; Mohammad Ahmed <Mohammad.Ahmed@AllianceTG.com>
Subject: Region 10 | Case 51956 | Lab ACE | Issue Scheduling

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Secured by Check Point

Good morning,

Please note that Region 10 has shipped samples to the laboratory for delivery today, 01/17/2024. Please see the below issues 1 and 2 and confirm if the laboratory can accept the adjustments.

Issue 1: Water samples JNLE5 & MJNLE5 were shipped for VOA, SVOA, ICP-AES 5-10 Metals (As, Ba, Cd, Cr, Pb, Se, Ag) and Hg analyses, but these analyses are not scheduled under Case 51956. Please confirm if the laboratory is able to accept the added analyses.

Issue 2: Case 51956 includes water samples scheduled for ICP-AES 1-4 Metals analysis, but the COC indicates that samples should be analyzed under ICP-MS 1-4 Metals analysis. The Region has confirmed that ICP-MS 1-4 Metals analysis should be performed for these samples. Please confirm if the laboratory is able to accept this adjustment.

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave Alert: None

From: Dunn, Meghan (she/her/hers) dunn.meghan@epa.gov
Sent: Friday, January 17, 2025 9:53 AM
To: Shaeffer, Casey Casey.Shaeffer@gdit.com
Cc: Reece, Caitlin Reece.Caitlin@epa.gov
Subject: RE: Case 51821 - update and 1 unscheduled sample

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Please use caution with links, attachments, and any requests for credentials.

Hi Casey,

Sure, there are in fact only 6 samples for each matrix.

Thank you!
-Meghan

Meghan Dunn
QA Chemist / RSCC
(Regional Sample Control Coordinator)
U.S. EPA, Region 10
Cell (206) 330-6743
Office (206) 553-8561

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, January 17, 2025 6:52 AM
To: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>

Cc: Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Case 51821 - update and 1 unscheduled sample

> **Caution:** This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Thank you, Meghan! Would the Region please confirm if six or ten samples should be scheduled? The ASR reflects that ten ICP-MS samples are included in this Case, but the email below discloses six.

Kind Regards,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

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Chantilly, VA 20151
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information technology

Leave Alert: None

From: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Sent: Friday, January 17, 2025 9:49 AM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Cc: Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Case 51821 - update and 1 unscheduled sample

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Hi Casey, yes the ICP-AES for 4 metals can be cancelled once ICP-MS is assigned.

Thank you!

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, January 17, 2025 6:39 AM
To: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Cc: Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Case 51821 - update and 1 unscheduled sample

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Thank you, Meghan! Would the Region please confirm if the ICP-AES analyses under this Case should be cancelled once the ICP-MS analyses are finalized and assigned to the laboratory?

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave Alert: None

From: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Sent: Friday, January 17, 2025 9:36 AM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Cc: Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Case 51821 - update and 1 unscheduled sample

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Hi Casey,

I'm also noticing that the 6 total and 6 dissolved metals were scheduled for ICP-AES but should have been scheduled for ICP-MS analysis. The COC is correct for these. I updated the ASR to include ICP-MS just now.

6 water samples for Total Metals (As, Cu, Pb, Zn)
6 water samples for Dissolved Metals (As, Cu, Pb, Zn)

Apologies for all the errors on this one.

Thanks,
Meghan

Meghan Dunn
QA Chemist / RSCC
(Regional Sample Control Coordinator)
U.S. EPA, Region 10
Cell (206) 330-6743
Office (206) 553-8561

From: Dunn, Meghan (she/her/hers)
Sent: Friday, January 17, 2025 6:19 AM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Cc: Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Case 51821 - update and 1 unscheduled sample

Hi Casey,

Yes, sorry, this is in fact for case 51956. I see the COC shows Case 51821 – I will get a corrected COC pdf and xml from the sampling contractor.

Thanks,
Meghan

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, January 17, 2025 6:14 AM
To: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Cc: Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Case 51821 - update and 1 unscheduled sample

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good morning, Meghan,

Thank you for the update. Would the Region please confirm the Case number for these samples? It appears that Case 51956 was updated, but the COC submission and email below refer to Case 51821, which completed shipping on 12/20/2024.

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

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15036 Conference Center Drive
Chantilly, VA 20151

www.gdit.com

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information technology

Leave Alert: None

From: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Sent: Thursday, January 16, 2025 5:57 PM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Cc: Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: Case 51821 - update and 1 unscheduled sample

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Hi Casey,

Case 51821 shipped samples today, summarized below. Please note that one sample submitted for 4 analyses was not included in the ASR. The analyses highlighted yellow were not included on the ASR. Thank you and apologies for that sample getting shipped without scheduled analyses. If it's not possible for the lab to accept it, please let us know.

Date shipped: 1/16/2025
Date to arrive at lab: 1/17/2025
Number of samples per matrix and per analysis:
1 IDW Sediment sample for TCLP Metals (As, Ba, Cd, Cr, Pb, Se, Ag, and Hg), TCLP SVOC, TCLP VOC, PAHs
6 water samples for Total Metals (As, Cu, Pb, Zn)
6 water samples for Dissolved Metals (As, Cu, Pb, Zn).
Sample ID JNLE5 & MJNLE5 - 1 IDW water sample for SVOCs, VOCs, ICP-AES Metals (As, Ba, Cd, Cr, Pb, Se, Ag) and Hg. The COC states PAH analysis as well, though the sampler indicated no PAH SIM is necessary so the request can be for SVOA only. I added the four analyses to the ASR just now.

Thank you,
Meghan

Meghan Dunn
QA Chemist / RSCC
(Regional Sample Control Coordinator)
U.S. EPA, Region 10
Cell (206) 330-6743
Office (206) 553-8561

EPA SAMPLE NO.

MJNLA3

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51956 MA No. : SDG No.: MJNLA3

Matrix: WATER Lab Sample ID: Q1129-01

% Solids: Date Received: 01/17/2025

Analytical Method: ICP_AES

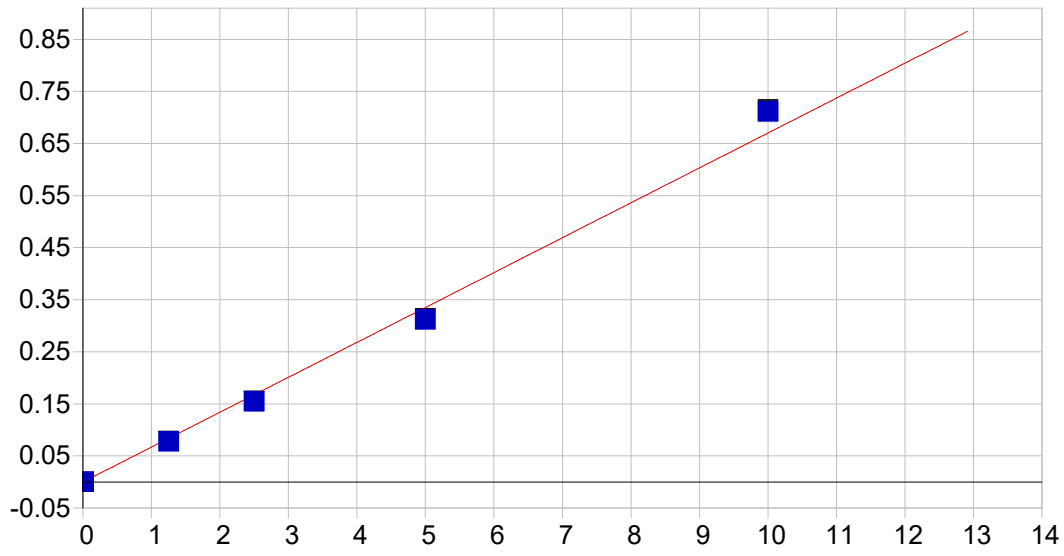
Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-38-2	Arsenic	150		01/24/2025	1848
7440-39-3	Barium	600		01/24/2025	1848
7440-43-9	Cadmium	0.64	J	01/24/2025	1848
7440-47-3	Chromium	10	U	01/24/2025	1848
7439-92-1	Lead	6.6	J	01/24/2025	1848
7782-49-2	Selenium	8.2	J	01/24/2025	1848
7440-22-4	Silver	2.1	J	01/24/2025	1848

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

Comments:

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



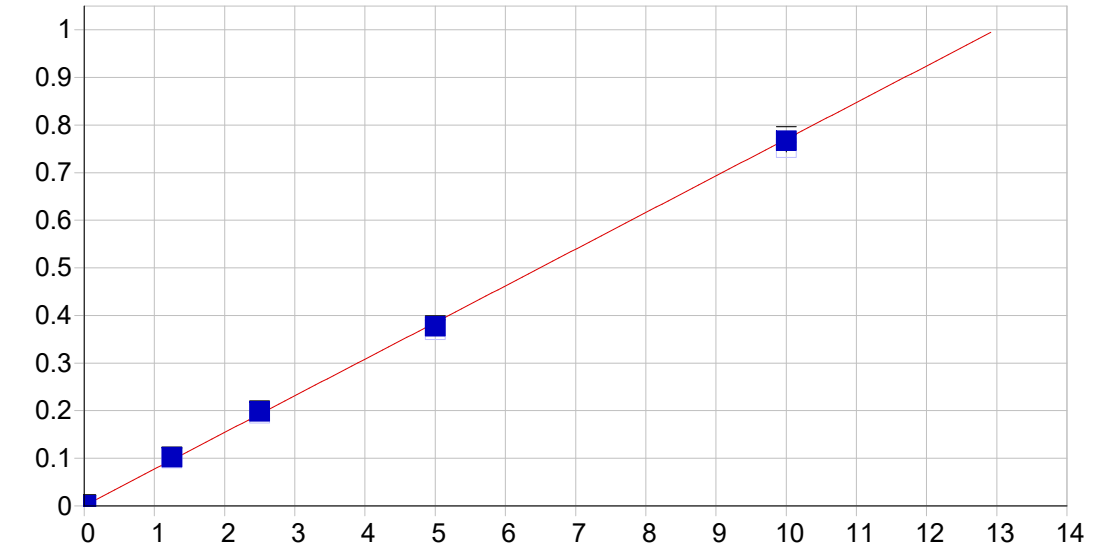
As 189.042 {479}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000121	Re-Slope:	1.000000
A1 (Gain):	0.067032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997810	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.002598		
Predicted MQL:	0.008660		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00012	.000	1
S1	.01000	.01208	.002	20.8	.00069	.000	1
S3	2.5000	2.3130	-.187	-7.48	.15463	.000	1
S4	5.0000	4.6579	-.342	-6.84	.31151	.002	1
S5	10.000	10.616	.616	6.16	.71031	.004	1
S2	1.2500	1.1609	-.089	-7.13	.07755	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



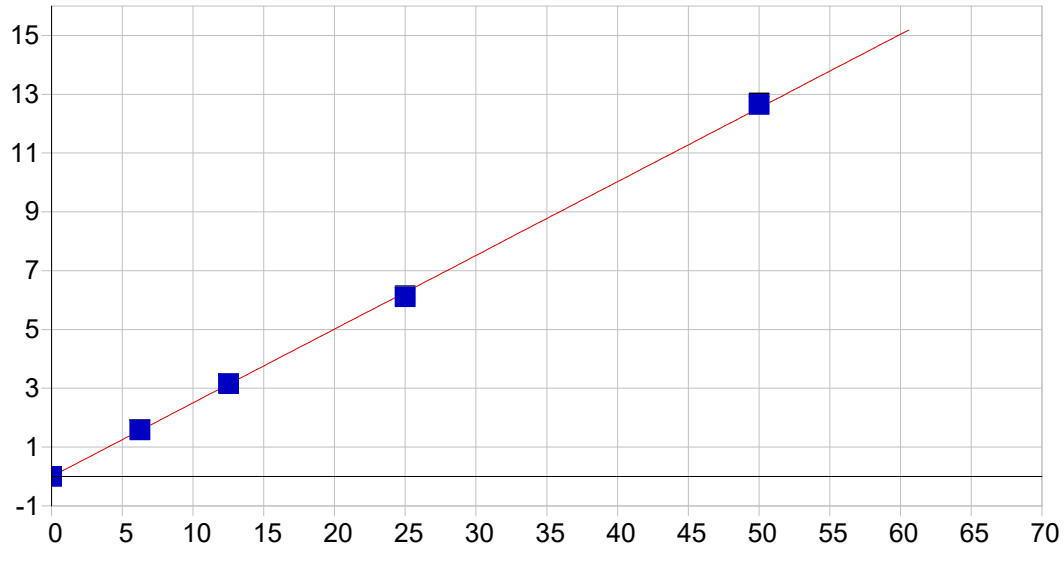
Tl 190.856 {477}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000251	Re-Slope:	1.000000
A1 (Gain):	0.077000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999759	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	0.002042		
Predicted MQL:	0.006807		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00025	.000	1
S1	.02500	.02632	.001	5.29	.00220	.000	1
S3	2.5000	2.5708	.071	2.83	.19448	.002	1
S4	5.0000	4.8958	-.104	-2.08	.36979	.002	1
S5	10.000	9.9589	-.041	-.411	.75220	.008	1
S2	1.2500	1.3232	.073	5.85	.10027	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

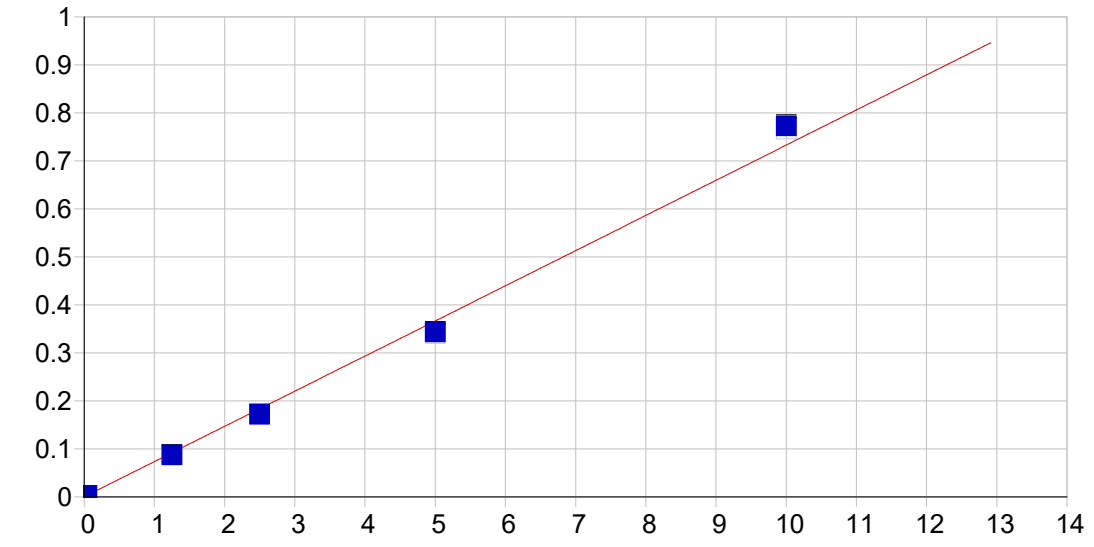


Pb 220.353 {453}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.250651	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999887	Status:	OK.
Std Error of Est:	0.000141		
Predicted MDL:	0.001573		
Predicted MQL:	0.005244		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00002	.000	1
S1	.01000	.00884	-.001	-11.6	.00222	.000	1
S3	12.500	12.591	.091	.730	3.1534	.002	1
S4	25.000	24.381	-.619	-2.48	6.1058	.032	1
S5	50.000	50.460	.460	.920	12.637	.055	1
S2	6.2500	6.3196	.070	1.11	1.5827	.003	1



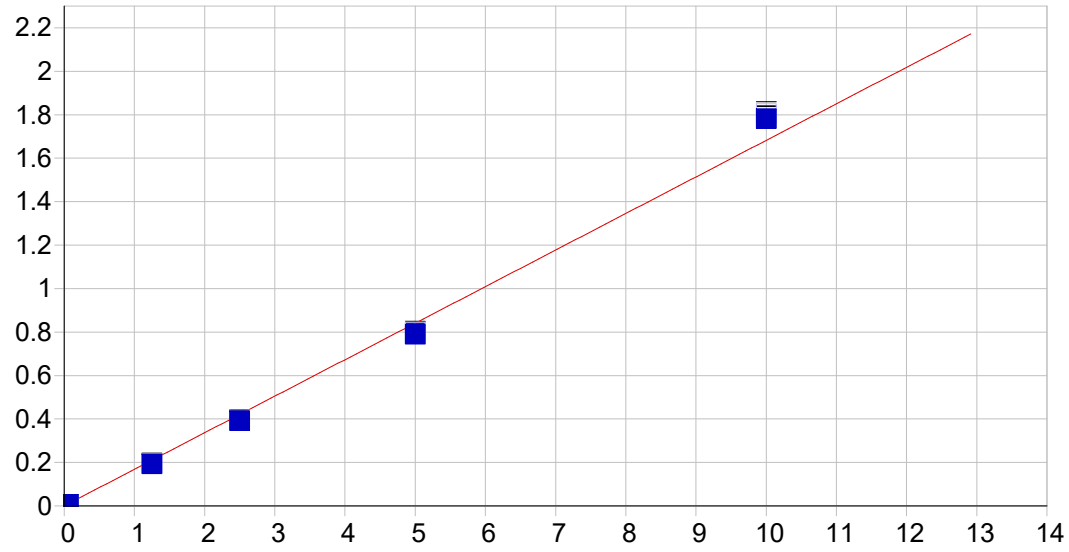
Se 196.090 {472}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000459	Re-Slope:	1.000000
A1 (Gain):	0.073234	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998297	Status:	OK.
Std Error of Est:	0.000133		
Predicted MDL:	0.002980		
Predicted MQL:	0.009933		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00046	.000	1
S1	.03500	.03081	-.004	-12.0	.00271	.000	1
S3	2.5000	2.3430	-.157	-6.28	.17036	.000	1
S4	5.0000	4.6814	-.319	-6.37	.33992	.002	1
S5	10.000	10.541	.541	5.41	.76569	.003	1
S2	1.2500	1.1885	-.061	-4.92	.08666	.000	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



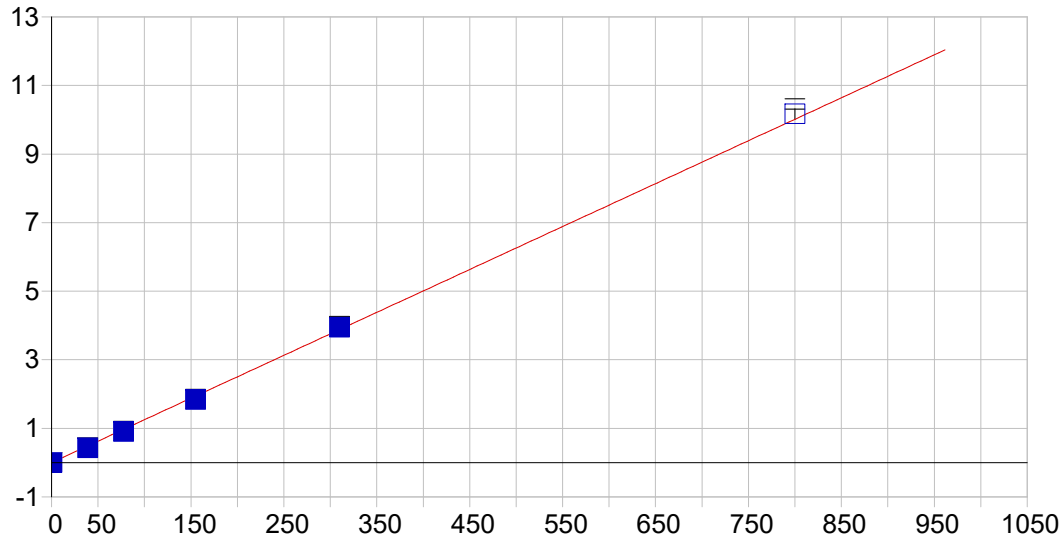
Sb 206.833 {463}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000242	Re-Slope:	1.000000
A1 (Gain):	0.168156	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998011	Status:	OK.
Std Error of Est:	0.000443		
Predicted MDL:	0.001646		
Predicted MQL:	0.005486		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00025	.000	1
S1	.06000	.05240	-.008	-12.7	.00903	.000	1
S3	2.5000	2.3242	-.176	-7.03	.39667	.001	1
S4	5.0000	4.6895	-.311	-6.21	.80003	.004	1
S5	10.000	10.598	.598	5.98	1.8048	.010	1
S2	1.2500	1.1458	-.104	-8.33	.19572	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



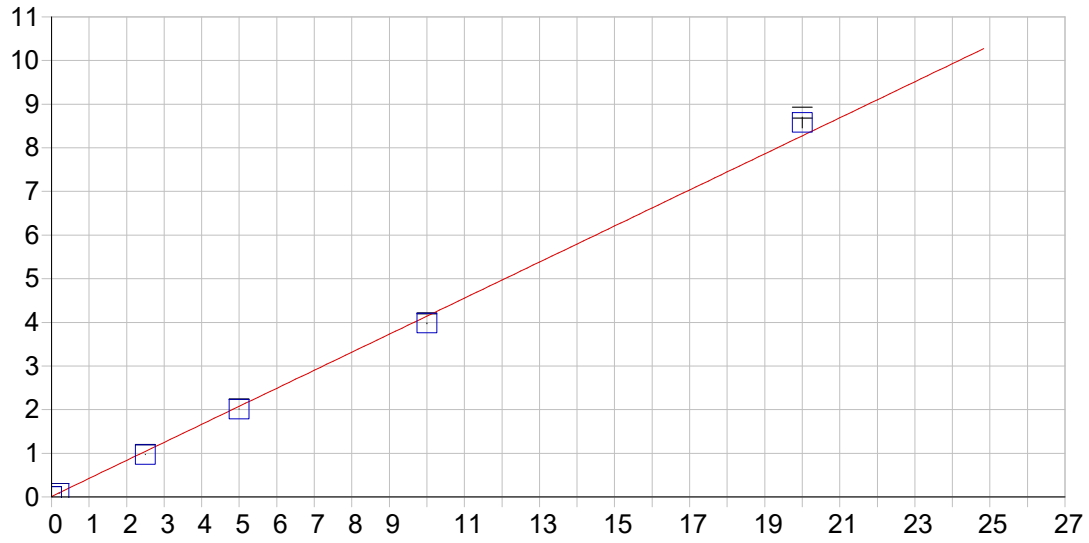
Al 396.152 { 85}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.012519	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999440	Status:	OK.
Std Error of Est:	0.000261		
Predicted MDL:	0.009836		
Predicted MQL:	0.032786		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00005	.000	.000	.00001	.000	1
S1	.20000	.18622	-.014	-6.89	.00234	.000	1
S3	77.500	72.460	-5.04	-6.50	.90825	.003	1
S4	155.00	146.71	-8.29	-5.35	1.8389	.007	1
S5	310.00	315.06	5.06	1.63	3.9487	.029	1
S2	38.750	34.377	-4.37	-11.3	.43093	.002	1
S6	800.00	812.67	12.7	1.58	10.174	.147	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



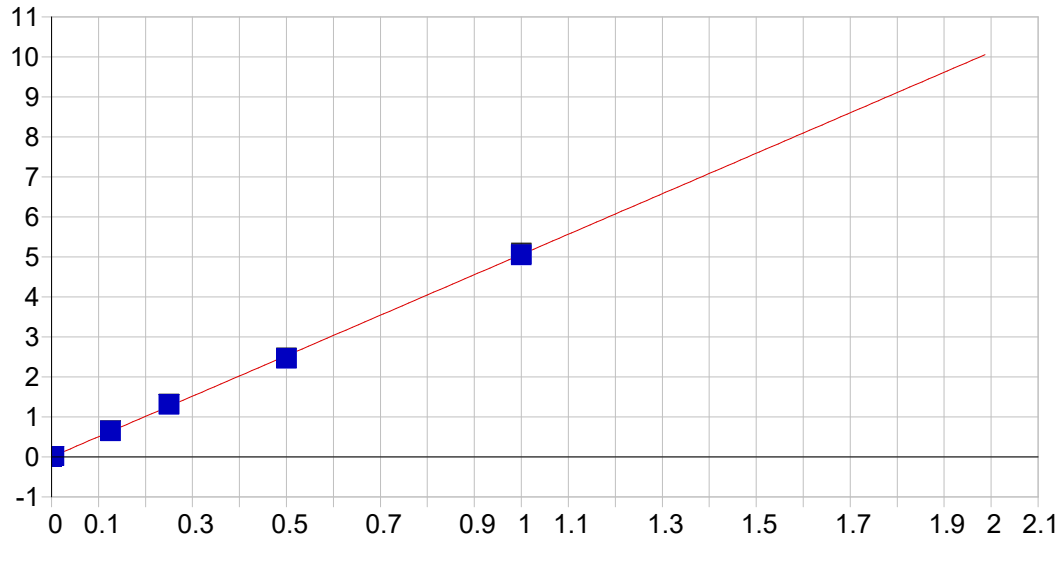
Ba 493.409 { 68}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010406	Re-Slope:	1.000000
A1 (Gain):	0.413204	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999177	Status:	OK.
Std Error of Est:	0.001782		
Predicted MDL:	0.000985		
Predicted MQL:	0.003282		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00004	.000	.000	.01042	.000	1
S1	.20000	.18075	-.019	-9.63	.08509	.000	1
S3	5.0000	4.8460	-.154	-3.08	2.0128	.007	1
S4	10.000	9.6068	-.393	-3.93	3.9800	.011	1
S5	20.000	20.743	.743	3.71	8.5814	.126	1
S2	2.5000	2.3236	-.176	-7.05	.97055	.004	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



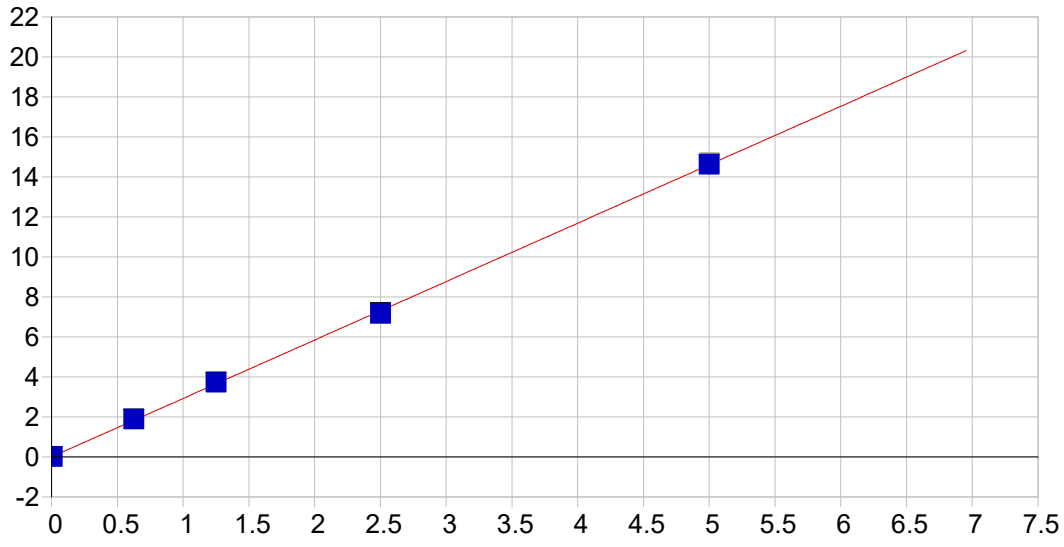
Be 234.861 {144}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	5.060700	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999779	Status:	OK.
Std Error of Est:	0.000397		
Predicted MDL:	0.000076		
Predicted MQL:	0.000254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00000	.000	1
S1	.00500	.00533	.000	6.69	.02697	.001	1
S3	.25000	.25950	.009	3.80	1.3075	.005	1
S4	.50000	.48723	-.013	-2.55	2.4543	.004	1
S5	1.0000	.99920	-.001	-.080	5.0339	.038	1
S2	.12500	.12874	.004	3.00	.64870	.005	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



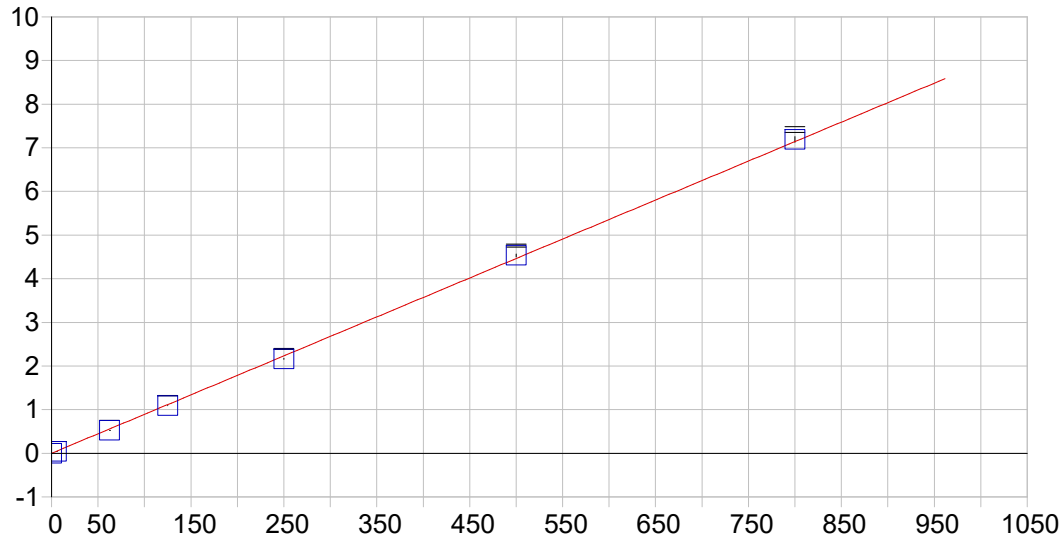
Cd 214.438 {457}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000018	Re-Slope:	1.000000
A1 (Gain):	2.922093	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999888	Status:	OK.
Std Error of Est:	0.000368		
Predicted MDL:	0.000085		
Predicted MQL:	0.000282		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00002	.000	1
S1	.00500	.00503	.000	.622	.01469	.000	1
S3	1.2500	1.2767	.027	2.13	3.7378	.008	1
S4	2.5000	2.4508	-.049	-1.97	7.1758	.040	1
S5	5.0000	5.0036	.004	.071	14.650	.044	1
S2	.62500	.64395	.019	3.03	1.8853	.005	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



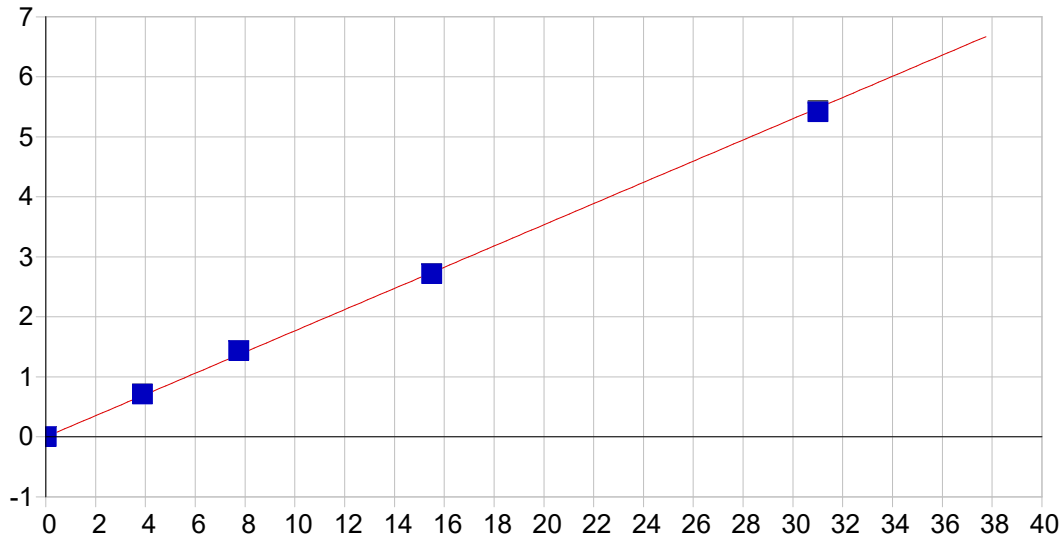
Ca 373.690 { 90}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000035	Re-Slope:	1.000000
A1 (Gain):	0.008927	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999808	Status:	OK.
Std Error of Est:	0.000610		
Predicted MDL:	0.010719		
Predicted MQL:	0.035731		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00068	.001	.000	.00004	.000	1
S2	62.500	58.971	-3.53	-5.65	.52649	.002	1
S3	125.00	122.49	-2.51	-2.01	1.0936	.002	1
S4	250.00	242.39	-7.61	-3.04	2.1640	.008	1
S5	500.00	508.07	8.07	1.61	4.5358	.032	1
S1	5.0000	4.7379	-.262	-5.24	.04233	.000	1
S6	800.00	805.84	5.84	.729	7.1941	.067	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



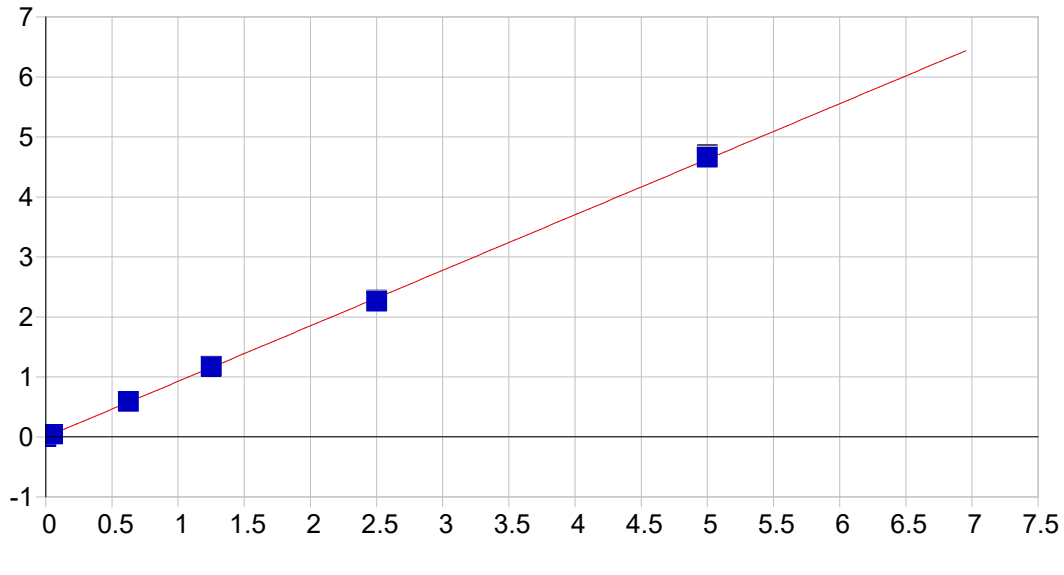
Cr 267.716 {126}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000041	Re-Slope:	1.000000
A1 (Gain):	0.176694	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999757	Status:	OK.
Std Error of Est:	0.000115		
Predicted MDL:	0.000451		
Predicted MQL:	0.001505		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00004	.000	1
S1	.01000	.01101	.001	10.1	.00191	.000	1
S3	7.7500	8.1193	.369	4.77	1.4349	.003	1
S4	15.500	15.361	-.139	-.898	2.7148	.006	1
S5	31.000	30.631	-.369	-1.19	5.4136	.017	1
S2	3.8750	4.0129	.138	3.56	.70919	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



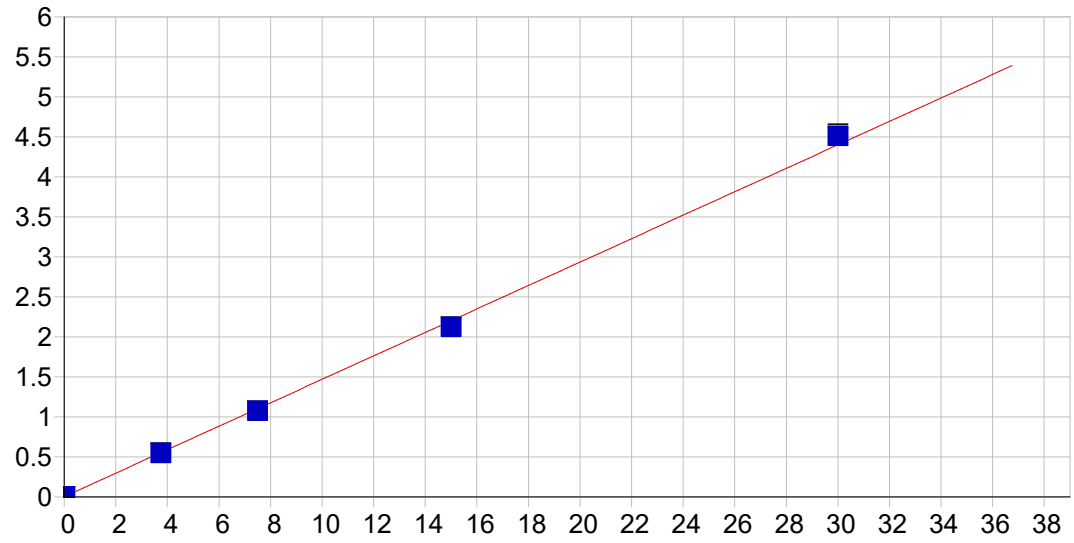
Co 228.616 {448}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000081	Re-Slope:	1.000000
A1 (Gain):	0.925586	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999893	Status:	OK.
Std Error of Est:	0.000361		
Predicted MDL:	0.000296		
Predicted MQL:	0.000985		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00008	.000	1
S1	.05000	.04888	-.001	-2.25	.04533	.000	1
S3	1.2500	1.2649	.015	1.19	1.1751	.002	1
S4	2.5000	2.4405	-.059	-2.38	2.2676	.011	1
S5	5.0000	5.0360	.036	.721	4.6788	.022	1
S2	.62500	.63473	.010	1.56	.58961	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



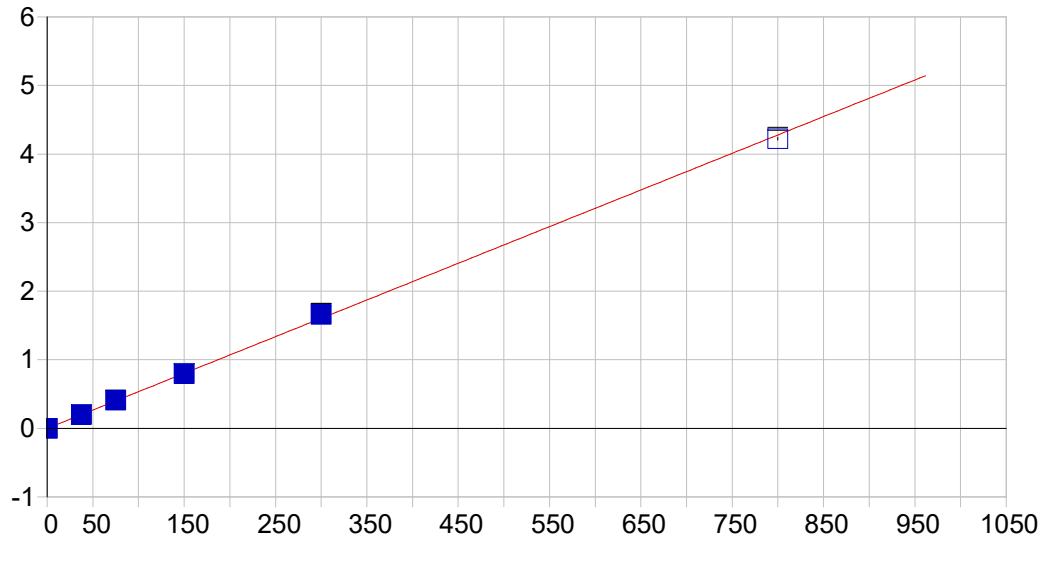
Cu 324.754 {104}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004396	Re-Slope:	1.000000
A1 (Gain):	0.146548	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999617	Status:	OK.
Std Error of Est:	0.000186		
Predicted MDL:	0.002889		
Predicted MQL:	0.009630		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00440	.000	1
S1	.02500	.02470	-.000	-1.21	.00802	.000	1
S3	7.5000	7.3249	-.175	-2.33	1.0777	.001	1
S4	15.000	14.458	-.542	-3.62	2.1229	.006	1
S5	30.000	30.756	.756	2.52	4.5112	.023	1
S2	3.7500	3.7116	-.038	-1.02	.54827	.002	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



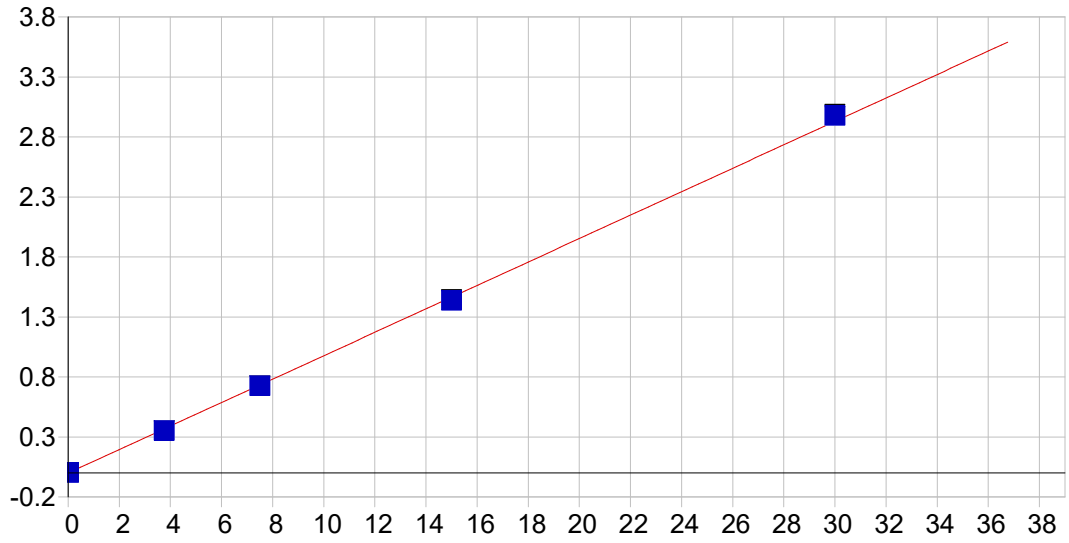
Fe 259.837 {130}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.005348	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999804	Status:	OK.
Std Error of Est:	0.000046		
Predicted MDL:	0.007495		
Predicted MQL:	0.024985		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00001	.000	1
S1	.10000	.09590	-.004	-4.10	.00050	.000	1
S3	75.000	76.204	1.20	1.60	.40714	.001	1
S4	150.00	149.14	-.863	-.575	.79679	.003	1
S5	300.00	310.53	10.5	3.51	1.6592	.016	1
S2	37.500	36.995	-.505	-1.35	.19765	.001	1
S6	800.00	789.65	-10.4	-1.29	4.2232	.022	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

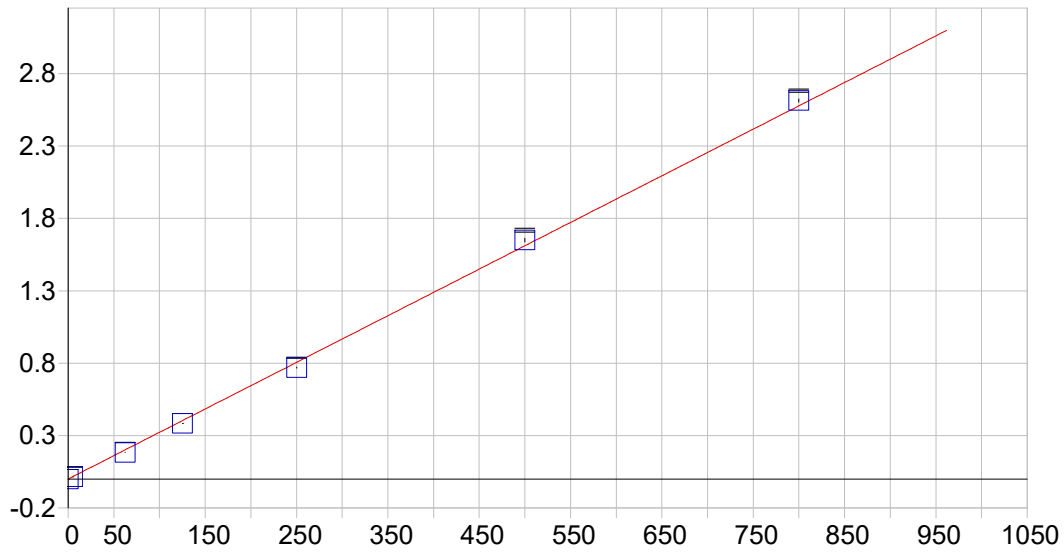


Mn 257.610 {131}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.097646	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000067		
Predicted MDL:	0.000390		
Predicted MQL:	0.001300		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00003	.000	1
S1	.01500	.01425	-.001	-4.98	.00142	.000	1
S3	7.5000	7.4260	-.074	-.987	.72464	.001	1
S4	15.000	14.717	-.283	-1.88	1.4361	.006	1
S5	30.000	30.510	.510	1.70	2.9772	.010	1
S2	3.7500	3.5977	-.152	-4.06	.35107	.001	1



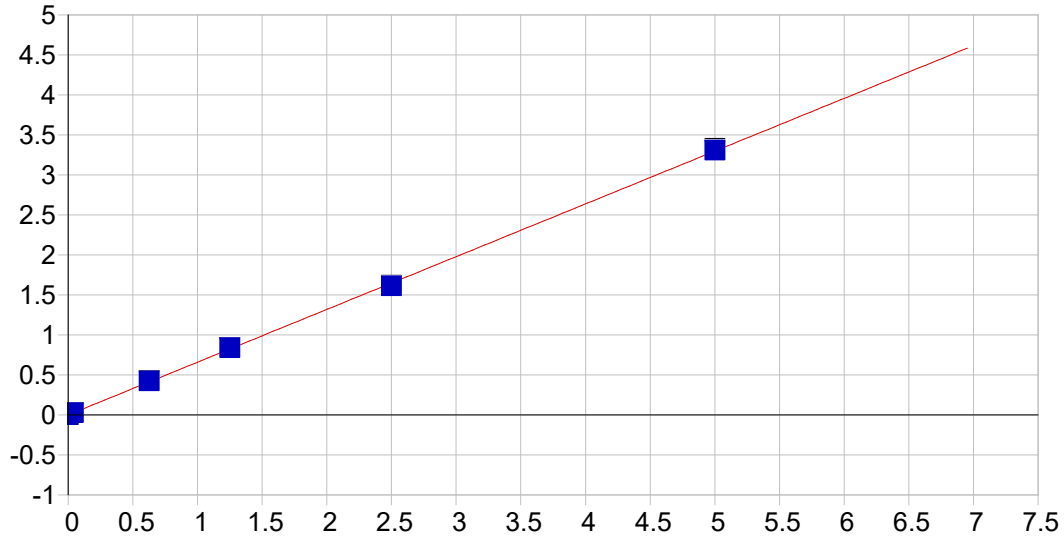
Mg 279.079 {121}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.003222	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999465	Status:	OK.
Std Error of Est:	0.000368		
Predicted MDL:	0.016099		
Predicted MQL:	0.053664		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00141	.001	.000	.00001	.000	1
S2	62.500	56.813	-5.69	-9.10	.18307	.001	1
S3	125.00	119.05	-5.95	-4.76	.38360	.000	1
S4	250.00	238.70	-11.3	-4.52	.76914	.004	1
S5	500.00	512.15	12.1	2.43	1.6503	.013	1
S1	5.0000	4.3146	-.685	-13.7	.01391	.000	1
S6	800.00	811.48	11.5	1.43	2.6147	.012	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



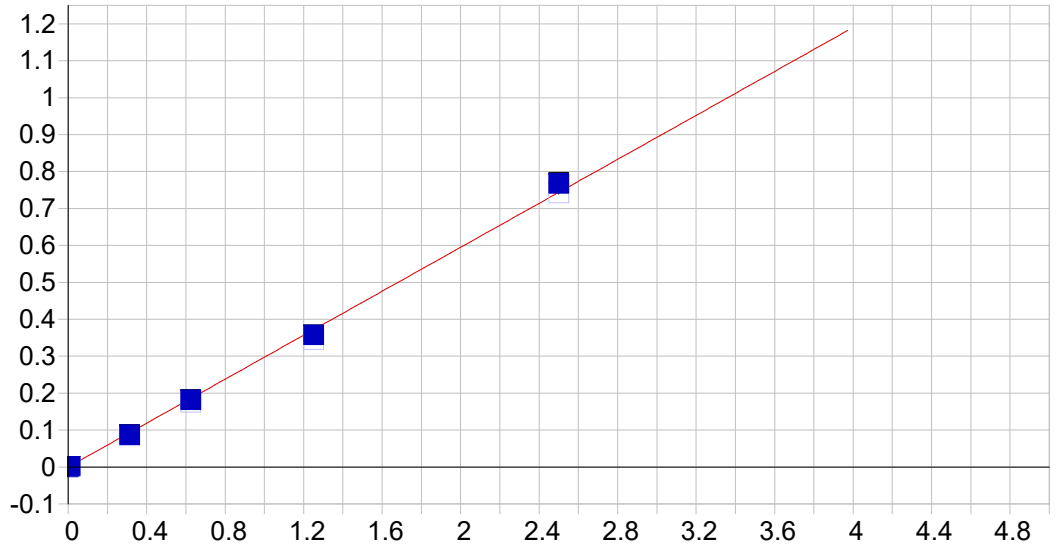
Ni 231.604 {446}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000319	Re-Slope:	1.000000
A1 (Gain):	0.659446	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999879	Status:	OK.
Std Error of Est:	0.000245		
Predicted MDL:	0.000463		
Predicted MQL:	0.001543		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00032	.000	1
S1	.04000	.03999	-.000	-.022	.02608	.000	1
S3	1.2500	1.2717	.022	1.73	.84021	.001	1
S4	2.5000	2.4425	-.058	-2.30	1.6142	.008	1
S5	5.0000	5.0175	.018	.351	3.3162	.015	1
S2	.62500	.64330	.018	2.93	.42487	.000	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

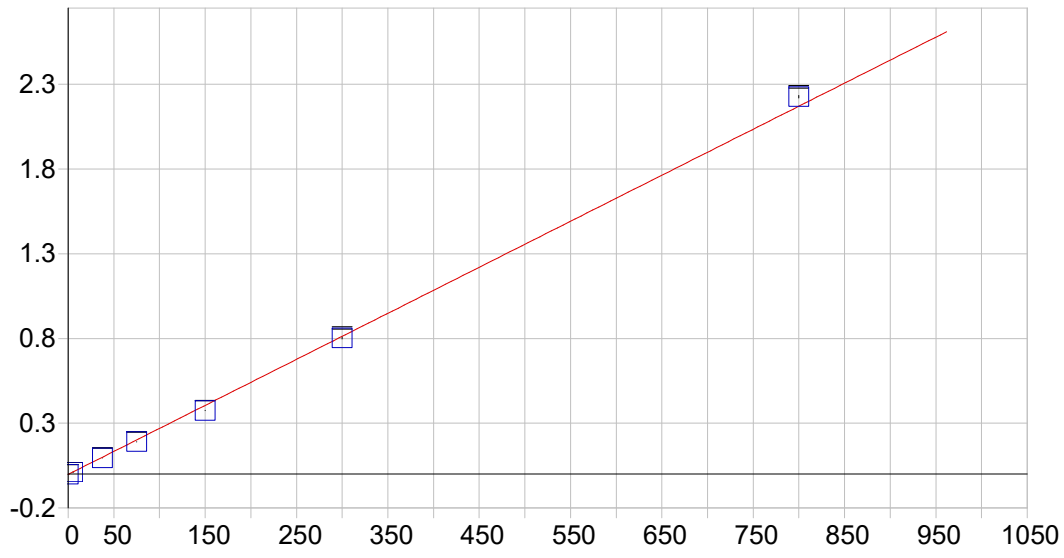


Ag 328.068 {103}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000285	Re-Slope:	1.000000
A1 (Gain):	0.297588	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999328	Status:	OK.
Std Error of Est:	0.000088		
Predicted MDL:	0.000431		
Predicted MQL:	0.001438		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00028	.000	1
S1	.01000	.00962	-.000	-3.75	.00256	.000	1
S3	.62500	.61116	-.014	-2.21	.17503	.001	1
S4	1.2500	1.2013	-.049	-3.89	.34411	.000	1
S5	2.5000	2.5810	.081	3.24	.74156	.003	1
S2	.31250	.29442	-.018	-5.79	.08405	.000	1



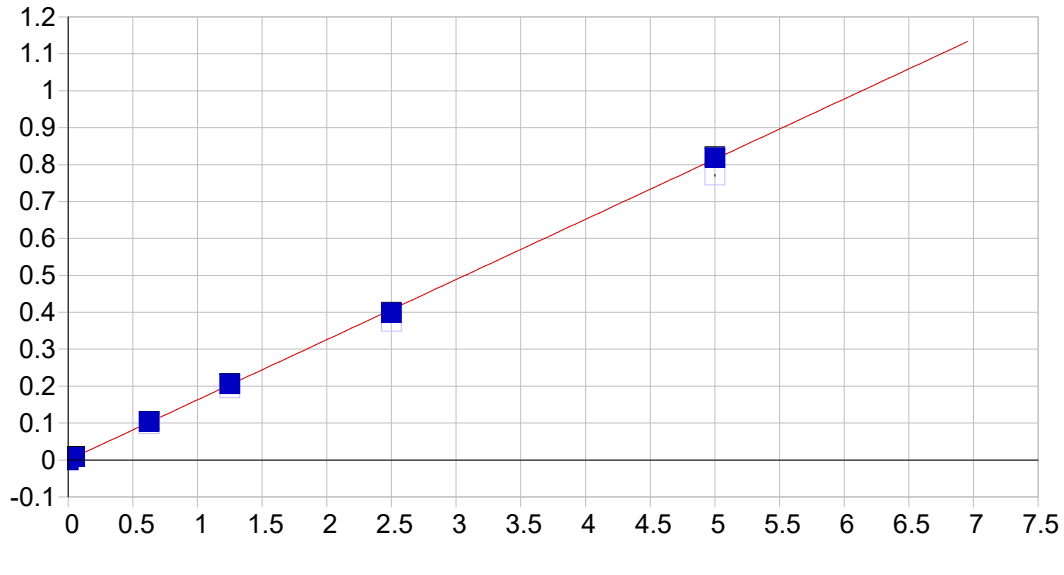
Na 818.326 { 41}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.002328	Re-Slope:	1.000000
A1 (Gain):	0.002717	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999371	Status:	OK.
Std Error of Est:	0.000298		
Predicted MDL:	0.460897		
Predicted MQL:	1.536325		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00080	.001	.000	-.00233	.001	1
S2	37.500	36.017	-1.48	-3.95	.09552	.000	1
S3	75.000	70.854	-4.15	-5.53	.19015	.002	1
S4	150.00	138.64	-11.4	-7.57	.37431	.001	1
S5	300.00	296.42	-3.58	-1.19	.80293	.007	1
S1	5.0000	4.9824	-.018	-.351	.01121	.000	1
S6	800.00	820.58	20.6	2.57	2.2269	.008	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



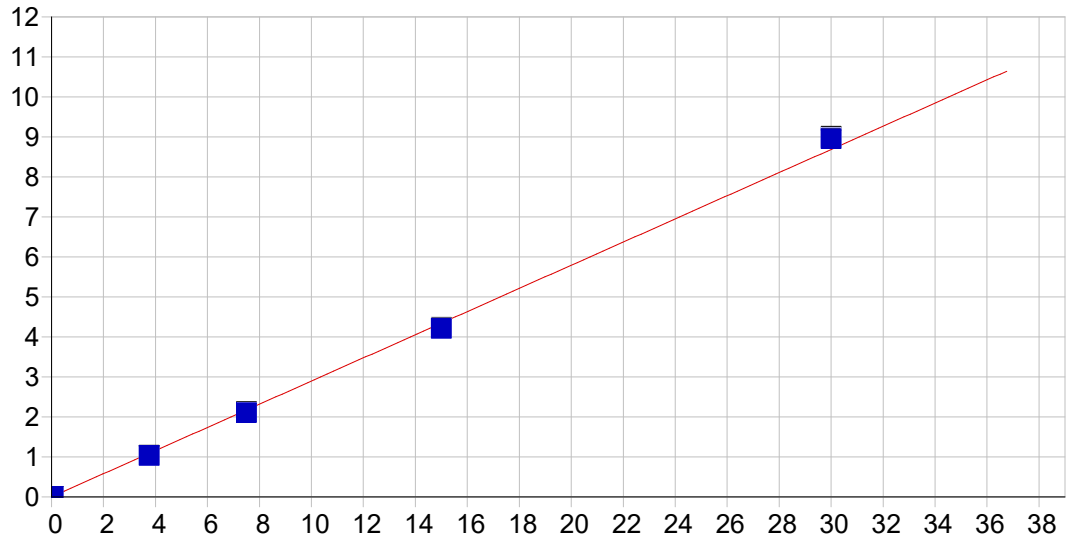
V 292.402 {115}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000082	Re-Slope:	1.000000
A1 (Gain):	0.162948	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999885	Status:	OK.
Std Error of Est:	0.000062		
Predicted MDL:	0.002254		
Predicted MQL:	0.007513		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00008	.000	1
S1	.05000	.05263	.003	5.26	.00848	.000	1
S3	1.2500	1.2666	.017	1.33	.19440	.001	1
S4	2.5000	2.4451	-.055	-2.19	.37453	.002	1
S5	5.0000	5.0230	.023	.460	.77076	.003	1
S2	.62500	.63747	.012	2.00	.09784	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



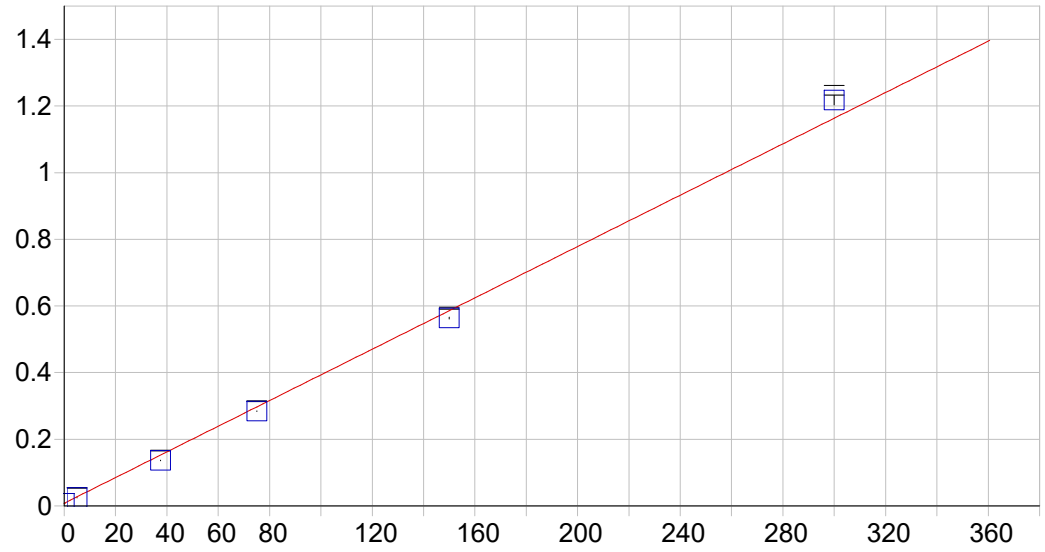
Zn 213.856 {158}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000605	Re-Slope:	1.000000
A1 (Gain):	0.289570	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999456	Status:	OK.
Std Error of Est:	0.000682		
Predicted MDL:	0.001857		
Predicted MQL:	0.006191		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00061	.000	1
S1	.06000	.05663	-.003	-5.61	.01711	.000	1
S3	7.5000	7.2651	-.235	-3.13	2.1125	.014	1
S4	15.000	14.522	-.478	-3.19	4.2220	.016	1
S5	30.000	30.918	.918	3.06	8.9863	.031	1
S2	3.7500	3.5485	-.201	-5.37	1.0322	.008	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



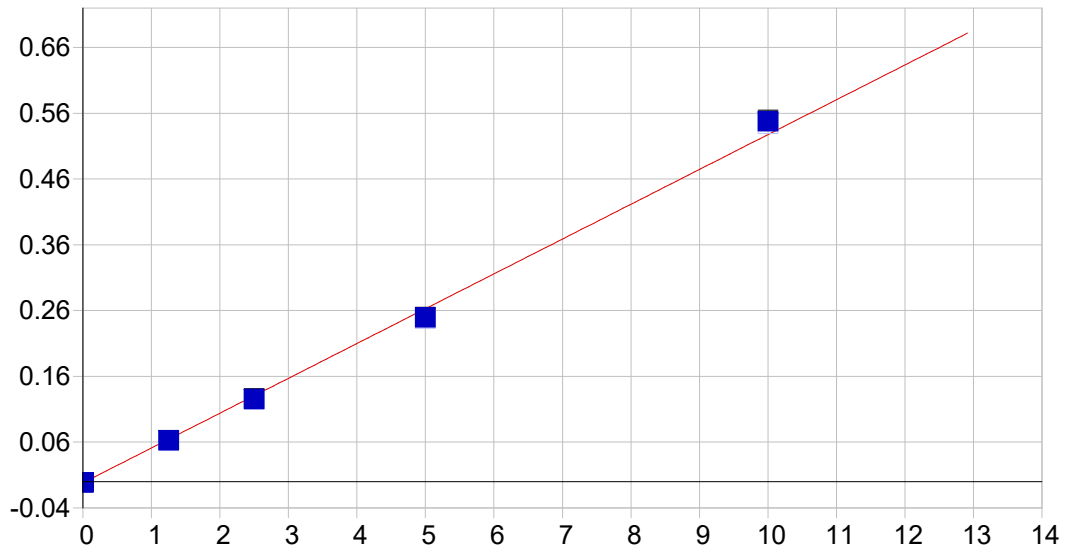
K 769.896 { 44}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.008091	Re-Slope:	1.000000
A1 (Gain):	0.003851	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998606	Status:	OK.
Std Error of Est:	0.000420		
Predicted MDL:	0.059530		
Predicted MQL:	0.198432		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00146	.001	.000	.00810	.000	1
S2	37.500	33.374	-4.13	-11.0	.13663	.001	1
S3	75.000	71.602	-3.40	-4.53	.28386	.001	1
S4	150.00	144.25	-5.75	-3.83	.56368	.003	1
S5	300.00	313.99	14.0	4.66	1.2174	.015	1
S1	5.0000	4.2772	-.723	-14.5	.02456	.000	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



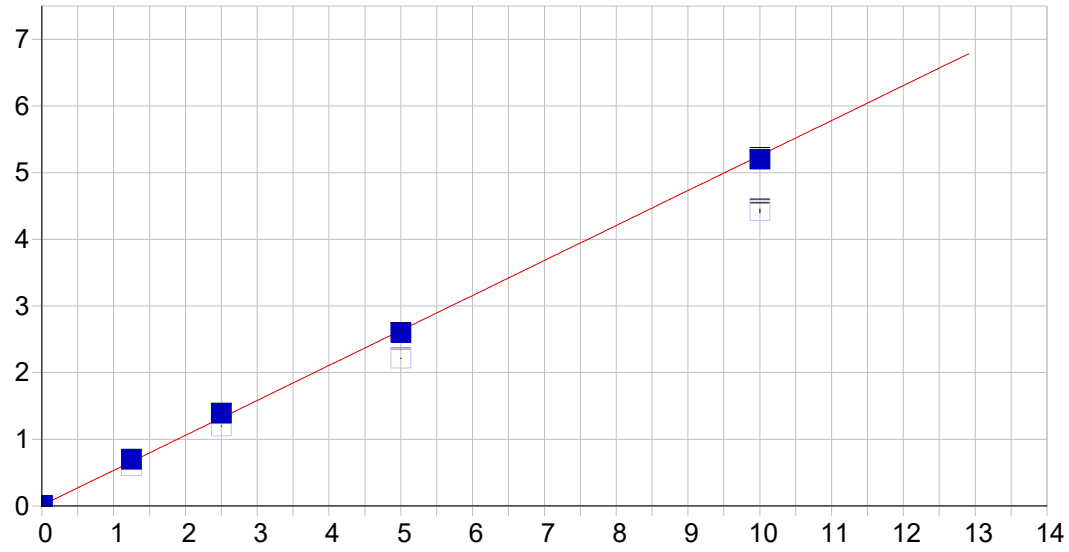
P 177.495 {490}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001840	Re-Slope:	1.000000
A1 (Gain):	0.052943	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999136	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	0.002412		
Predicted MQL:	0.008041		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00184	.000	1
S1	.01000	.01060	.001	5.96	-.00128	.000	1
S3	2.5000	2.4064	-.094	-3.74	.12462	.000	1
S4	5.0000	4.7445	-.256	-5.11	.24746	.001	1
S5	10.000	10.381	.381	3.81	.54399	.002	1
S2	1.2500	1.2173	-.033	-2.61	.06214	.000	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

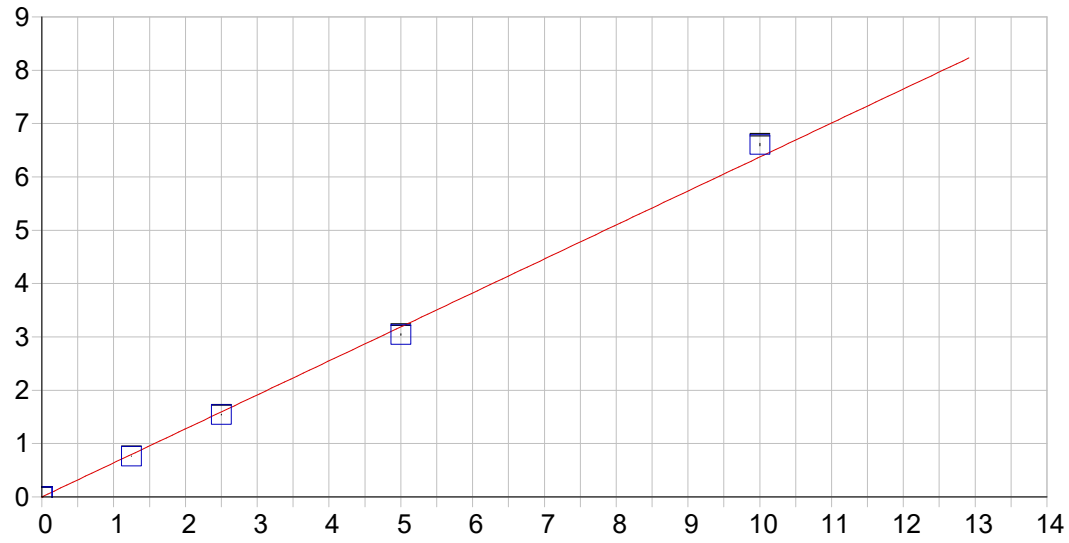


B 249.678 {135}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.008330	Re-Slope:	1.000000
A1 (Gain):	0.524895	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999031	Status:	OK.
Std Error of Est:	0.000331		
Predicted MDL:	0.000782		
Predicted MQL:	0.002607		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00834	.000	1
S1	.01000	-.00227	-.012	-123.	.00687	.000	1
S3	2.5000	2.6288	.129	5.15	1.1951	.005	1
S4	5.0000	4.9363	-.064	-1.27	2.2133	.004	1
S5	10.000	9.8899	-.110	-1.10	4.4274	.028	1
S2	1.2500	1.3087	.059	4.69	.59874	.005	1

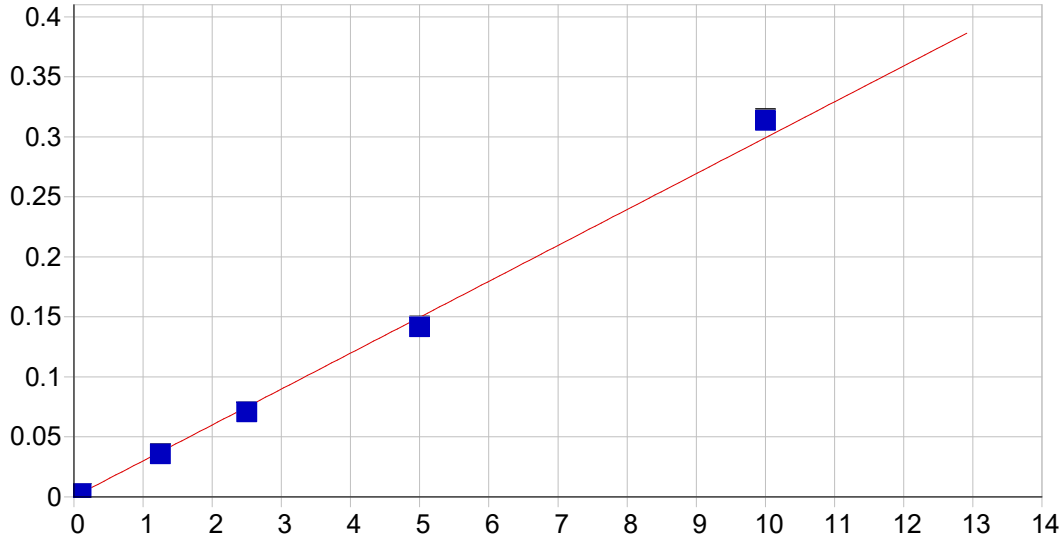


Mo 202.030 {467}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000464	Re-Slope:	1.000000
A1 (Gain):	0.637279	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999249	Status:	OK.
Std Error of Est:	0.000414		
Predicted MDL:	0.000367		
Predicted MQL:	0.001225		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00046	.000	1
S1	.01000	.00935	-.001	-6.51	.00642	.000	1
S3	2.5000	2.4176	-.082	-3.30	1.5412	.004	1
S4	5.0000	4.7750	-.225	-4.50	3.0435	.015	1
S5	10.000	10.361	.361	3.61	6.6034	.024	1
S2	1.2500	1.1968	-.053	-4.25	.76318	.002	1

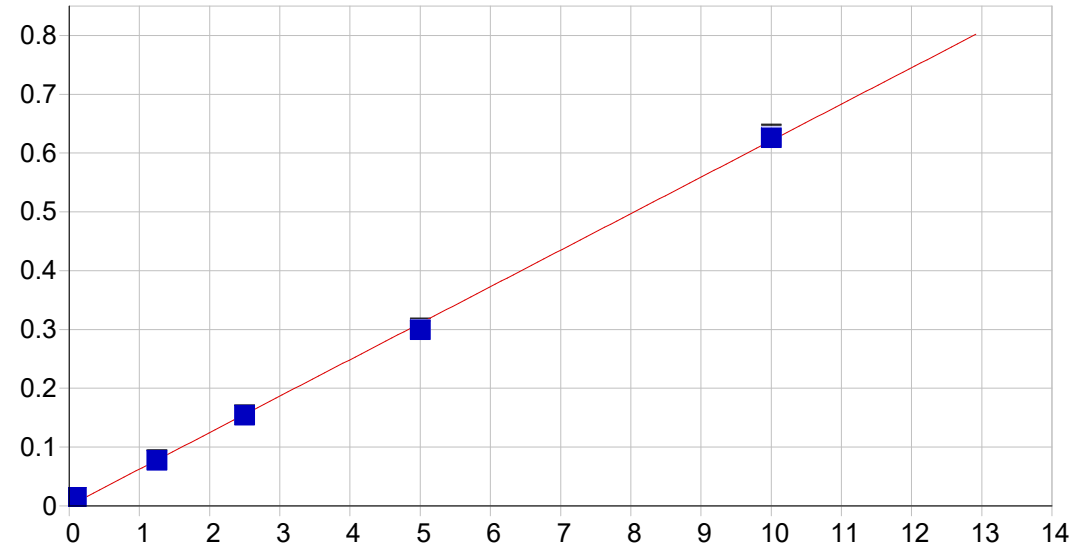


S 182.034 {485}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000125	Re-Slope:	1.000000
A1 (Gain):	0.029906	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998680	Status:	OK.
Std Error of Est:	0.000082		
Predicted MDL:	0.004263		
Predicted MQL:	0.014211		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00013	.000	1
S1	.10000	.08672	-.013	-13.3	.00272	.000	1
S3	2.5000	2.3603	-.140	-5.59	.07081	.000	1
S4	5.0000	4.7328	-.267	-5.34	.14185	.000	1
S5	10.000	10.481	.481	4.81	.31396	.001	1
S2	1.2500	1.1891	-.061	-4.88	.03573	.000	1



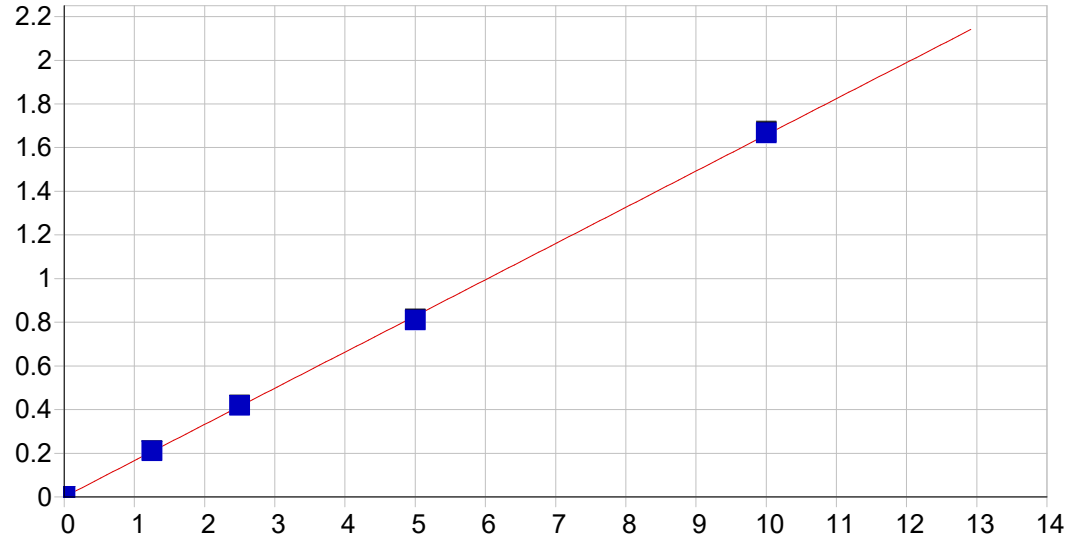
Si 251.611 {134}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000430	Re-Slope:	1.000000
A1 (Gain):	0.062062	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.994843	Status:	OK.
Std Error of Est:	0.000337		
Predicted MDL:	0.003676		
Predicted MQL:	0.012252		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00013	-.000	.000	.00042	.000	1
S1	.10000	.23752	.138	138.	.01517	.000	1
S3	2.5000	2.4749	-.025	-1.00	.15449	.001	1
S4	5.0000	4.8150	-.185	-3.70	.30019	.002	1
S5	10.000	10.081	.081	.806	.62791	.004	1
S2	1.2500	1.2424	-.008	-.609	.07777	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



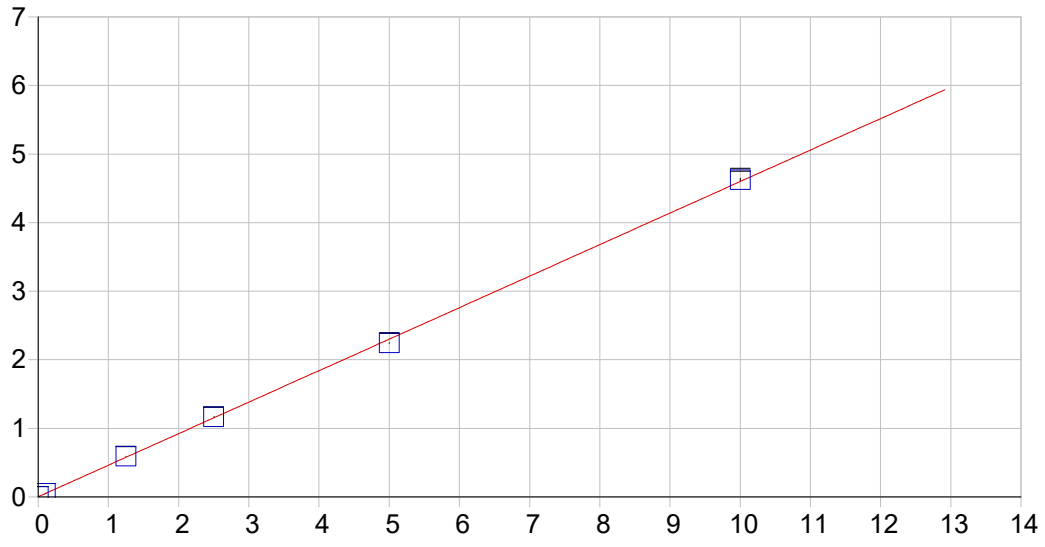
Sn 189.989 {478}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000121	Re-Slope:	1.000000
A1 (Gain):	0.165786	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	0.000892		
Predicted MQL:	0.002974		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00012	.000	1
S1	.00700	.00687	-.000	-1.91	.00121	.000	1
S3	2.5000	2.5302	.030	1.21	.41831	.001	1
S4	5.0000	4.8901	-.110	-2.20	.80826	.004	1
S5	10.000	10.062	.062	.617	1.6631	.007	1
S2	1.2500	1.2681	.018	1.45	.20971	.000	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

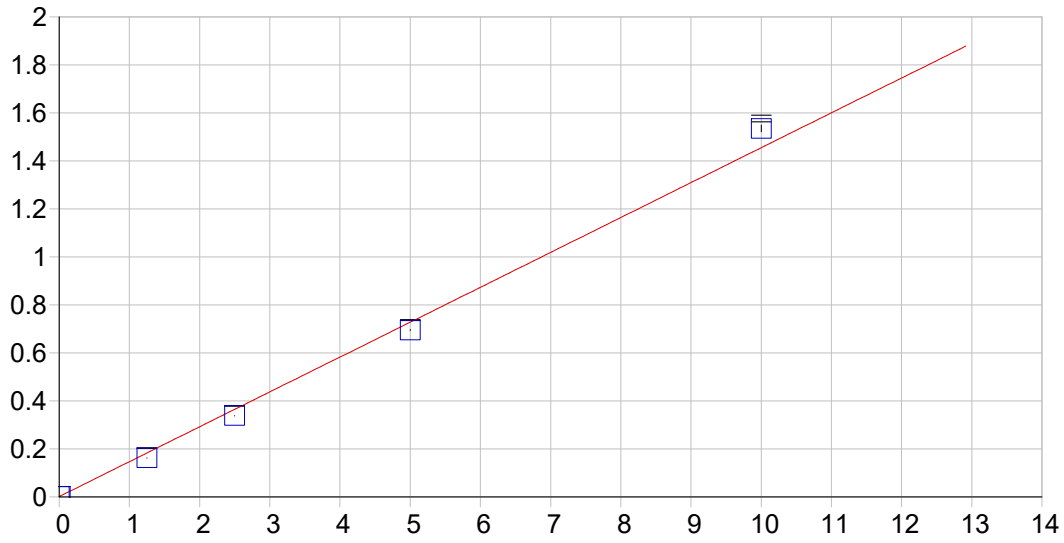


Ti 336.121 {100}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002861	Re-Slope:	1.000000
A1 (Gain):	0.459536	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999875	Status:	OK.
Std Error of Est:	0.000386		
Predicted MDL:	0.001064		
Predicted MQL:	0.003545		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00286	.000	1
S1	.10000	.10467	.005	4.67	.05096	.000	1
S3	2.5000	2.5295	.029	1.18	1.1652	.001	1
S4	5.0000	4.8759	-.124	-2.48	2.2435	.005	1
S5	10.000	10.060	.060	.603	4.6259	.021	1
S2	1.2500	1.2796	.030	2.37	.59088	.002	1



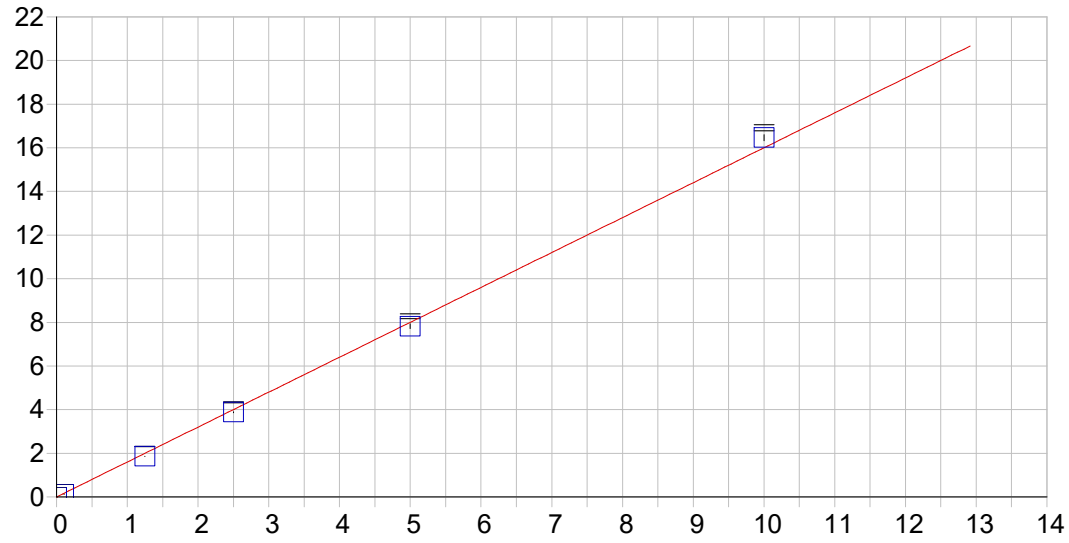
Li 670.784 { 50}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001420	Re-Slope:	1.000000
A1 (Gain):	0.145332	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998111	Status:	OK.
Std Error of Est:	0.000184		
Predicted MDL:	0.001581		
Predicted MQL:	0.005271		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00142	.000	1
S5	10.000	10.554	.554	5.54	1.5353	.014	1
S4	5.0000	4.7745	-.225	-4.51	.69531	.003	1
S3	2.5000	2.3168	-.183	-7.33	.33812	.001	1
S1	.01500	.01337	-.002	-10.9	.00336	.000	1
S2	1.2500	1.1060	-.144	-11.5	.16216	.001	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4



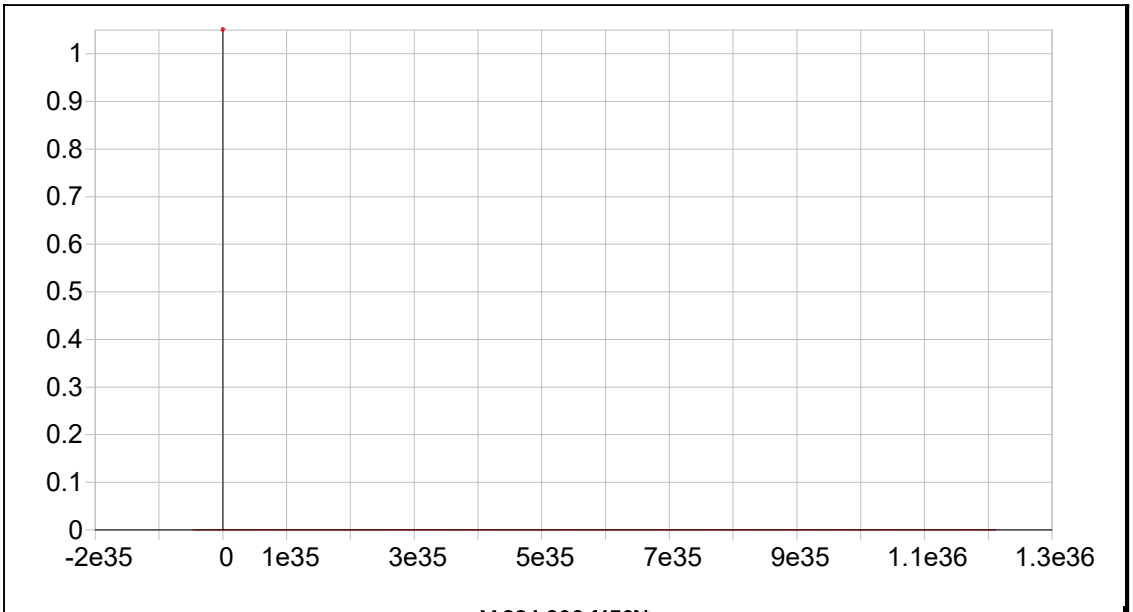
Sr 407.771 { 83}

Date of Fit:	1/24/2025 17:06:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000034	Re-Slope:	1.000000
A1 (Gain):	1.600215	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999425	Status:	OK.
Std Error of Est:	0.002885		
Predicted MDL:	0.000077		
Predicted MQL:	0.000256		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00003	.000	.000	.00007	.000	1
S1	.10000	.08369	-.016	-16.3	.13395	.001	1
S3	2.5000	2.4256	-.074	-2.98	3.8815	.026	1
S4	5.0000	4.8897	-.110	-2.21	7.8246	.108	1
S5	10.000	10.288	.288	2.88	16.463	.143	1
S2	1.2500	1.1629	-.087	-6.97	1.8609	.008	1

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

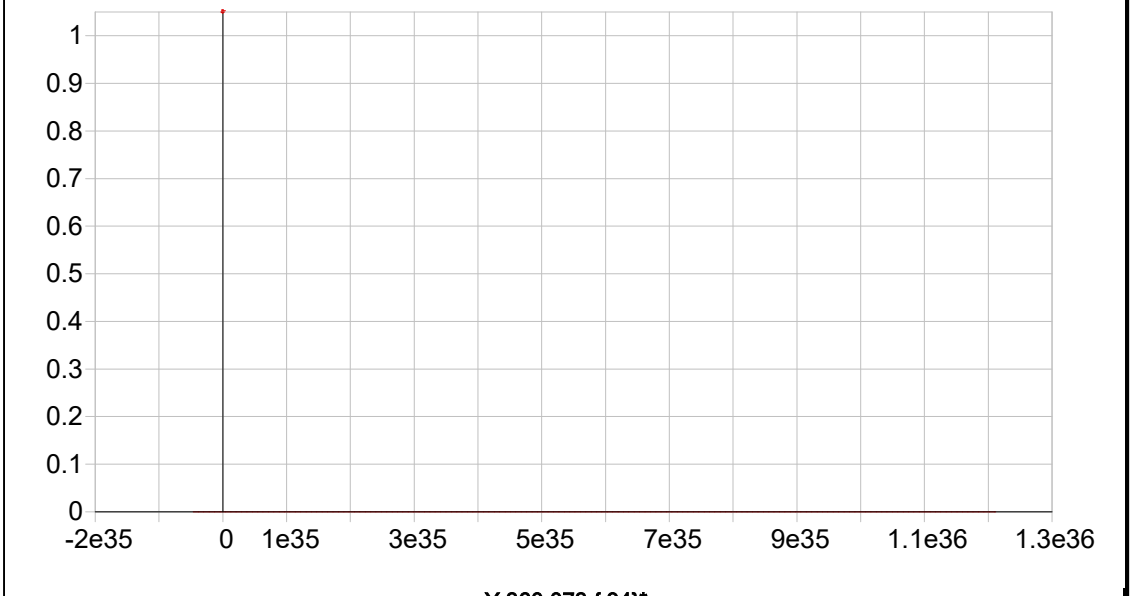


Y 224.306 {450}*

Date of Fit:	1/24/2025 17:06:08	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}*

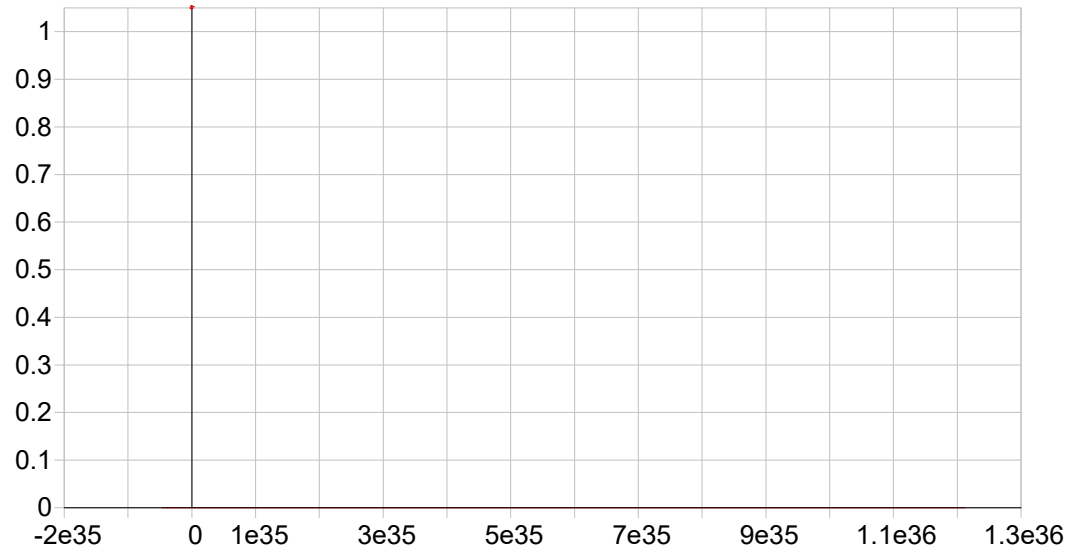
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

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

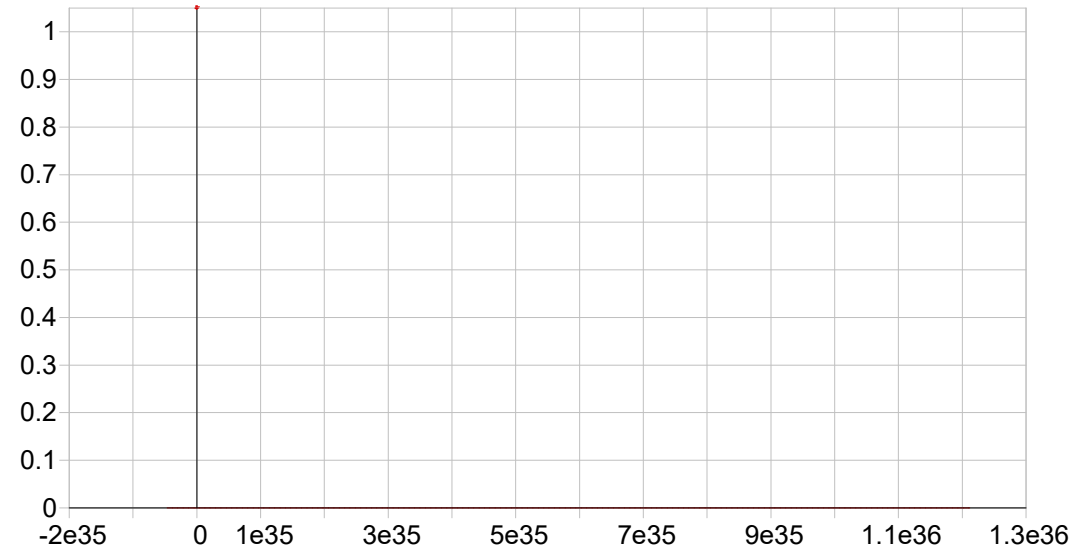


Y 371.030 { 91}*

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		

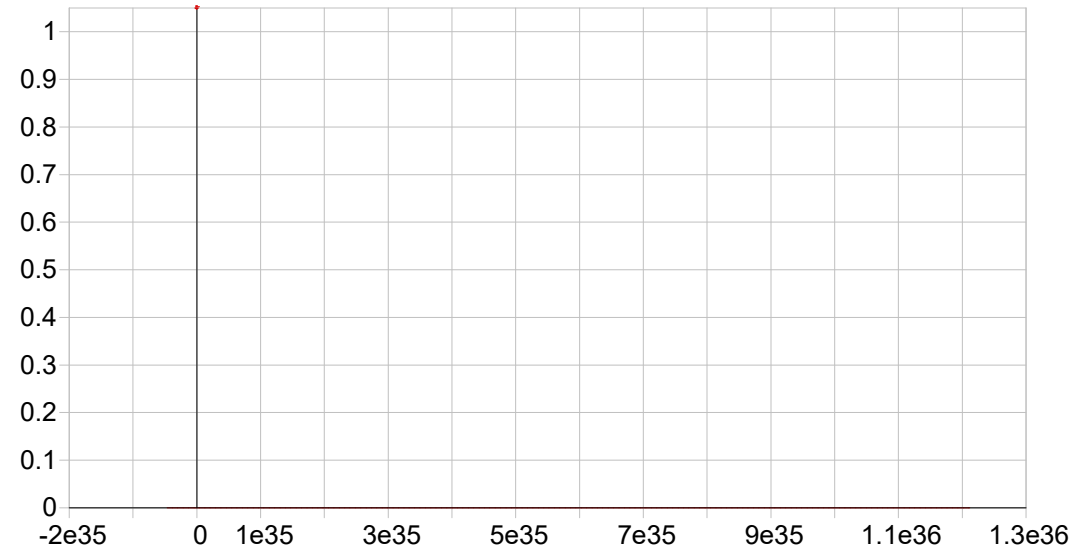
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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	

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

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:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S0 Acquired: 1/24/2025 11:36:24 Type: Cal
Method: EPA SFAM01.0(v55) 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	**-.00012**	**.00025**	**.00002**	**.00046**	**.00025**	**.00001**	**.01042**	**.00000**
Stddev	.00008	.00017	.00005	.00013	.00011	.00010	.00014	.00025
%RSD	68.509	68.809	239.56	28.469	44.698	1395.7	1.3380	7129.6
#1	-.00018	.00009	.00002	.00043	.00015	-.00008	.01043	.00030
#2	-.00016	.00023	.00007	.00060	.00037	.00011	.01028	-.00014
#3	-.00003	.00043	-.00003	.00035	.00021	-.00001	.01056	-.00015

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	**-.00002**	**.00004**	**-.00004**	**-.00008**	**.00440**	**-.00001**	**.00003**	**.00001**
Stddev	.00015	.00005	.00003	.00017	.00024	.00002	.00004	.00002
%RSD	799.33	110.79	83.935	216.38	5.4839	343.85	129.81	204.18
#1	.00012	.00001	-.00000	-.00002	.00467	-.00001	.00006	.00000
#2	-.00018	.00002	-.00006	-.00028	.00429	.00002	.00004	.00004
#3	-.00000	.00009	-.00006	.00005	.00422	-.00002	-.00001	-.00001

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	**-.00032**	**-.00028**	**-.00233**	**-.00008**	**.00061**	**.00810**	**-.00184**	**.00834**
Stddev	.00033	.00010	.00098	.00019	.00047	.00013	.00004	.00016
%RSD	102.81	35.879	42.164	226.08	77.504	1.6272	2.0434	1.9753
#1	-.00041	-.00021	-.00139	-.00024	.00028	.00798	-.00180	.00832
#2	-.00059	-.00040	-.00334	-.00013	.00115	.00824	-.00184	.00851
#3	.00005	-.00024	-.00225	.00012	.00039	.00807	-.00188	.00818

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	**.00046**	**.00013**	**.00042**	**.00012**	**.00286**	**.00142**	**.00007**
Stddev	.00015	.00006	.00013	.00009	.00032	.00011	.00006
%RSD	32.264	44.565	31.486	77.582	11.027	7.7941	76.093
#1	.00054	.00010	.00033	.00003	.00321	.00136	.00006
#2	.00029	.00019	.00036	.00022	.00275	.00136	.00003
#3	.00056	.00009	.00057	.00011	.00261	.00155	.00014

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S0 Acquired: 1/24/2025 11:36:24 Type: Cal
Method: EPA SFAM01.0(v55) 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	3257.9	66907.	9712.2	2362.3	3947.1
Stddev	1.5	59.	60.8	8.6	2.9
%RSD	.04703	.08886	.62602	.36263	.07375
#1	3258.4	66847.	9691.0	2360.7	3945.1
#2	3259.1	66966.	9780.7	2371.6	3950.4
#3	3256.2	66908.	9664.7	2354.7	3945.7

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S1 Acquired: 1/24/2025 11:40:39 Type: Cal
Method: EPA SFAM01.0(v55) 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	**.00069**	**.00220**	**.00222**	**.00271**	**.00903**	**.00234**	**.08509**	**.02697**
Stddev	.00004	.00008	.00012	.00006	.00007	.00011	.00047	.00073
%RSD	5.8270	3.7527	5.5418	2.0291	.82921	4.7598	.54753	2.6926
#1	.00066	.00226	.00208	.00275	.00912	.00236	.08537	.02626
#2	.00073	.00223	.00231	.00265	.00900	.00245	.08536	.02771
#3	.00068	.00210	.00228	.00274	.00898	.00222	.08455	.02694

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	**.01469**	**.04233**	**.00191**	**.04533**	**.00802**	**.00050**	**.00142**	**.01391**
Stddev	.00008	.00017	.00009	.00005	.00015	.00002	.00002	.00006
%RSD	.51172	.41155	4.5339	.12103	1.9025	3.2508	1.7446	.40996
#1	.01476	.04250	.00194	.04530	.00808	.00052	.00144	.01395
#2	.01471	.04235	.00197	.04540	.00784	.00049	.00143	.01393
#3	.01461	.04215	.00181	.04531	.00812	.00049	.00139	.01385

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	**.02608**	**.00256**	**.01121**	**.00848**	**.01711**	**.02456**	**-.00128**	**.00687**
Stddev	.00012	.00005	.00022	.00029	.00015	.00018	.00008	.00032
%RSD	.45369	2.0611	1.9616	3.4703	.87110	.72685	5.9867	4.6480
#1	.02621	.00261	.01107	.00814	.01725	.02442	-.00122	.00661
#2	.02599	.00251	.01146	.00866	.01695	.02476	-.00126	.00722
#3	.02605	.00256	.01109	.00863	.01712	.02451	-.00137	.00678

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	**.00642**	**.00272**	**.01517**	**.00121**	**.05096**	**.00336**	**.13395**
Stddev	.00015	.00009	.00000	.00000	.00038	.00008	.00080
%RSD	2.3023	3.1749	.02588	.39133	.74301	2.4816	.59637
#1	.00651	.00263	.01517	.00120	.05135	.00335	.13458
#2	.00625	.00273	.01518	.00121	.05060	.00345	.13422
#3	.00650	.00280	.01517	.00121	.05093	.00329	.13305

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S1 Acquired: 1/24/2025 11:40:39 Type: Cal
Method: EPA SFAM01.0(v55) 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	3369.5	67749.	9722.3	2386.0	4100.4
Stddev	2.0	226.	58.5	17.1	1.3
%RSD	.05921	.33314	.60174	.71665	.03125
#1	3367.3	67833.	9760.1	2390.0	4099.0
#2	3370.1	67494.	9654.9	2367.3	4100.8
#3	3371.1	67921.	9751.8	2400.8	4101.5

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S2 Acquired: 1/24/2025 11:44:51 Type: Cal
Method: EPA SFAM01.0(v55) 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	**.07755**	**.10027**	**1.5827**	**.08666**	**.19572**	**.43093**	**.97055**	**.64870**
Stddev	.00051	.00074	.0026	.00027	.00088	.00197	.00363	.00466
%RSD	.65941	.73459	.16503	.30959	.44856	.45732	.37418	.71839
#1	.07734	.10089	1.5809	.08697	.19552	.42915	.96762	.65202
#2	.07717	.09946	1.5816	.08649	.19496	.43305	.97461	.64337
#3	.07813	.10047	1.5857	.08651	.19668	.43060	.96941	.65070

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	**1.8853**	**.52649**	**.70919**	**.58961**	**.54827**	**.19765**	**.35107**	**.18307**
Stddev	.0051	.00223	.00092	.00134	.00245	.00082	.00130	.00065
%RSD	.26959	.42419	.12914	.22795	.44669	.41394	.36903	.35607
#1	1.8884	.52519	.70963	.58908	.55019	.19683	.35063	.18271
#2	1.8794	.52907	.70813	.58862	.54551	.19846	.35253	.18382
#3	1.8881	.52522	.70980	.59114	.54911	.19766	.35006	.18267

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	**.42487**	**.08405**	**.09552**	**.09784**	**1.0322**	**.13663**	**.06214**	**.59874**
Stddev	.00021	.00002	.00046	.00083	.0079	.00080	.00014	.00469
%RSD	.04866	.02090	.48084	.84631	.76635	.58306	.21910	.78393
#1	.42492	.08403	.09543	.09818	1.0342	.13573	.06226	.60164
#2	.42464	.08406	.09510	.09689	1.0390	.13725	.06199	.59332
#3	.42504	.08407	.09601	.09844	1.0235	.13691	.06216	.60125

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	**.76318**	**.03573**	**.07777**	**.20971**	**.59088**	**.16216**	**1.8609**
Stddev	.00197	.00013	.00058	.00009	.00202	.00074	.0076
%RSD	.25872	.37161	.74548	.04420	.34271	.45706	.40627
#1	.76215	.03585	.07762	.20963	.59055	.16155	1.8680
#2	.76193	.03559	.07728	.20968	.58905	.16298	1.8530
#3	.76546	.03575	.07841	.20981	.59305	.16194	1.8616

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S2 Acquired: 1/24/2025 11:44:51 Type: Cal
Method: EPA SFAM01.0(v55) 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	3061.2	64764.	9667.8	2264.3	3581.5
Stddev	7.3	32.	44.4	3.3	4.7
%RSD	.23979	.04952	.45906	.14480	.13204
#1	3062.8	64796.	9642.8	2260.9	3579.5
#2	3067.6	64732.	9719.0	2264.5	3587.0
#3	3053.2	64763.	9641.5	2267.4	3578.2

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S3 Acquired: 1/24/2025 11:48:56 Type: Cal
Method: EPA SFAM01.0(v55) 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	**.15463**	**.19448**	**3.1534**	**.17036**	**.39667**	**.90825**	**2.0128**	**1.3075**
Stddev	.00046	.00172	.0023	.00037	.00113	.00267	.0069	.0047
%RSD	.30048	.88646	.07353	.21905	.28577	.29374	.34267	.36292
#1	.15446	.19301	3.1529	.17018	.39547	.90891	2.0161	1.3028
#2	.15426	.19404	3.1514	.17012	.39772	.90532	2.0049	1.3123
#3	.15515	.19638	3.1559	.17079	.39683	.91053	2.0174	1.3075

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	**3.7378**	**1.0936**	**1.4349**	**1.1751**	**1.0777**	**.40714**	**.72464**	**.38360**
Stddev	.0085	.0015	.0027	.0015	.0008	.00055	.00092	.00022
%RSD	.22652	.14128	.18938	.13027	.07837	.13400	.12754	.05776
#1	3.7331	1.0946	1.4321	1.1740	1.0776	.40715	.72510	.38343
#2	3.7327	1.0918	1.4375	1.1744	1.0770	.40659	.72358	.38351
#3	3.7476	1.0944	1.4352	1.1768	1.0787	.40768	.72525	.38385

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	**.84021**	**.17503**	**.19015**	**.19440**	**2.1125**	**.28386**	**.12462**	**1.1951**
Stddev	.00057	.00060	.00157	.00068	.0143	.00089	.00014	.0051
%RSD	.06750	.34374	.82774	.35091	.67800	.31459	.11047	.42541
#1	.83956	.17443	.19129	.19400	2.1179	.28460	.12453	1.1899
#2	.84053	.17563	.18836	.19401	2.0963	.28287	.12455	1.2001
#3	.84055	.17504	.19081	.19518	2.1234	.28412	.12478	1.1954

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	**1.5412**	**.07081**	**.15449**	**.41831**	**1.1652**	**.33812**	**3.8815**
Stddev	.0039	.00019	.00051	.00088	.0009	.00111	.0263
%RSD	.25184	.26515	.32904	.20986	.07753	.32823	.67886
#1	1.5378	.07063	.15391	.41751	1.1642	.33929	3.8906
#2	1.5403	.07079	.15474	.41818	1.1659	.33708	3.9020
#3	1.5454	.07100	.15482	.41925	1.1656	.33801	3.8517

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S3 Acquired: 1/24/2025 11:48:56 Type: Cal
Method: EPA SFAM01.0(v55) 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	3035.2	61460.	9580.2	2172.7	3547.2
Stddev	3.0	122.	36.6	5.8	2.4
%RSD	.09780	.19843	.38237	.26690	.06793
#1	3038.5	61555.	9610.6	2170.8	3547.2
#2	3034.4	61322.	9539.6	2179.2	3549.6
#3	3032.8	61502.	9590.5	2168.1	3544.7

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S4 Acquired: 1/24/2025 11:52:54 Type: Cal
Method: EPA SFAM01.0(v55) 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	**.31151**	**.36979**	**6.1058**	**.33992**	**.80003**	**1.8389**	**3.9800**	**2.4543**
Stddev	.00201	.00150	.0323	.00163	.00351	.0074	.0107	.0038
%RSD	.64574	.40652	.52866	.47912	.43836	.40291	.26803	.15529
#1	.31032	.36940	6.0898	.33881	.79850	1.8306	3.9906	2.4505
#2	.31038	.36851	6.0846	.33917	.79754	1.8417	3.9693	2.4581
#3	.31383	.37144	6.1429	.34179	.80404	1.8446	3.9800	2.4544

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	**7.1758**	**2.1640**	**2.7148**	**2.2676**	**2.1229**	**.79679**	**1.4361**	**.76914**
Stddev	.0404	.0082	.0063	.0111	.0059	.00288	.0060	.00370
%RSD	.56309	.37814	.23287	.48711	.27744	.36177	.41840	.48043
#1	7.1683	2.1546	2.7092	2.2624	2.1190	.79353	1.4294	.76501
#2	7.1397	2.1674	2.7135	2.2601	2.1297	.79787	1.4378	.77027
#3	7.2194	2.1699	2.7217	2.2803	2.1201	.79898	1.4411	.77214

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	**1.6142**	**.34411**	**.37431**	**.37453**	**4.2220**	**.56368**	**.24746**	**2.2133**
Stddev	.0077	.00034	.00102	.00162	.0158	.00264	.00070	.0042
%RSD	.47959	.09938	.27340	.43136	.37493	.46790	.28311	.19032
#1	1.6095	.34384	.37348	.37268	4.2177	.56066	.24753	2.2111
#2	1.6100	.34400	.37545	.37569	4.2395	.56484	.24672	2.2182
#3	1.6232	.34449	.37399	.37521	4.2087	.56554	.24811	2.2106

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	**3.0435**	**.14185**	**.30019**	**.80826**	**2.2435**	**.69531**	**7.8246**
Stddev	.0145	.00038	.00212	.00352	.0054	.00257	.1082
%RSD	.47732	.26791	.70689	.43511	.23877	.36937	1.3826
#1	3.0377	.14170	.29782	.80677	2.2378	.69250	7.7379
#2	3.0327	.14158	.30193	.80574	2.2483	.69590	7.7900
#3	3.0600	.14229	.30081	.81228	2.2445	.69753	7.9458

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S4 Acquired: 1/24/2025 11:52:54 Type: Cal
Method: EPA SFAM01.0(v55) 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	2801.7	59191.	9538.7	2065.0	3310.2
Stddev	12.2	47.	14.6	9.1	13.3
%RSD	.43674	.08022	.15294	.44118	.40087
#1	2804.9	59236.	9531.1	2058.4	3317.0
#2	2812.0	59197.	9529.6	2061.1	3318.6
#3	2788.1	59141.	9555.6	2075.4	3294.9

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S5 Acquired: 1/24/2025 11:56:56 Type: Cal
Method: EPA SFAM01.0(v55) 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	**.71031**	**.75220**	**12.637**	**.76569**	**1.8048**	**3.9487**	**8.5814**	**5.0339**
Stddev	.00363	.00845	.055	.00267	.0098	.0293	.1257	.0376
%RSD	.51045	1.1233	.43672	.34922	.54194	.74299	1.4647	.74638
#1	.71344	.74247	12.676	.76852	1.8138	3.9788	8.5435	5.0260
#2	.71116	.75770	12.662	.76532	1.8062	3.9473	8.4790	5.0008
#3	.70634	.75644	12.574	.76321	1.7944	3.9202	8.7217	5.0747

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	**14.650**	**4.5358**	**5.4136**	**4.6788**	**4.5112**	**1.6592**	**2.9772**	**1.6503**
Stddev	.044	.0322	.0175	.0218	.0229	.0162	.0096	.0132
%RSD	.30223	.71036	.32248	.46669	.50806	.97674	.32233	.79702
#1	14.658	4.5725	5.4321	4.6967	4.5251	1.6740	2.9791	1.6622
#2	14.690	4.5226	5.3974	4.6852	4.4848	1.6615	2.9668	1.6524
#3	14.602	4.5123	5.4114	4.6545	4.5238	1.6419	2.9857	1.6362

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	**3.3162**	**.74156**	**.80293**	**.77076**	**8.9863**	**1.2174**	**.54399**	**4.4274**
Stddev	.0154	.00277	.00655	.00251	.0306	.0145	.00172	.0276
%RSD	.46397	.37301	.81575	.32605	.34026	1.1941	.31572	.62388
#1	3.3286	.74473	.80140	.77273	8.9830	1.2295	.54236	4.4226
#2	3.3210	.74031	.79728	.76793	9.0184	1.2214	.54579	4.4025
#3	3.2990	.73964	.81011	.77162	8.9576	1.2013	.54382	4.4571

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	**6.6034**	**.31396**	**.62791**	**1.6631**	**4.6259**	**1.5353**	**16.463**
Stddev	.0242	.00104	.00445	.0069	.0205	.0140	.143
%RSD	.36672	.33070	.70872	.41207	.44335	.91082	.86836
#1	6.6251	.31440	.62848	1.6663	4.6422	1.5494	16.595
#2	6.6080	.31470	.62321	1.6677	4.6029	1.5351	16.312
#3	6.5773	.31277	.63205	1.6552	4.6328	1.5214	16.483

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S5 Acquired: 1/24/2025 11:56:56 Type: Cal
Method: EPA SFAM01.0(v55) 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	2365.6	54783.	9109.2	1900.2	2925.1
Stddev	13.3	213.	65.4	6.8	13.7
%RSD	.56389	.38941	.71782	.35583	.46785
#1	2353.3	54542.	9119.1	1904.3	2914.2
#2	2363.7	54863.	9169.0	1892.4	2920.6
#3	2379.8	54945.	9039.4	1903.9	2940.5

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: S6 Acquired: 1/24/2025 12:01:34 Type: Cal
Method: EPA SFAM01.0(v55) 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	**10.174**	**7.1941**	**4.2232**	**2.6147**	**2.2269**
Stddev	.147	.0667	.0217	.0116	.0078
%RSD	1.4444	.92684	.51374	.44366	.34866
#1	10.336	7.2614	4.2401	2.6130	2.2358
#2	10.135	7.1928	4.1987	2.6041	2.2213
#3	10.050	7.1280	4.2307	2.6271	2.2235

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	**52672.**	**8914.9**
Stddev	97.	57.5
%RSD	.18373	.64482
#1	52584.	8866.3
#2	52776.	8900.0
#3	52657.	8978.3

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICV002 Acquired: 1/24/2025 12:18:05 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9966276**	**1.041310**	**.9806952**	**1.074974**	**.9533085**	**2.536008**
Stddev	.0030505	.008283	.0018632	.001886	.0018634	.002215
%RSD	.3060852	.7954310	.1899904	.1754027	.1954671	.0873455
#1	.9978758	1.033761	.9785459	1.072804	.9554095	2.538487
#2	.9931509	1.050170	.9818530	1.075900	.9518559	2.535318
#3	.9988561	1.040000	.9816867	1.076218	.9526600	2.534221

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5473226**	**.4879251**	**.4922237**	**10.40321**	**.5343735**	**.4780483**
Stddev	.0023518	.0023403	.0020869	.02219	.0013399	.0012368
%RSD	.4296902	.4796509	.4239721	.2133408	.2507443	.2587276
#1	.5499644	.4901384	.4901620	10.41887	.5358250	.4771735
#2	.5454569	.4881612	.4921740	10.37781	.5341116	.4775081
#3	.5465466	.4854756	.4943349	10.41296	.5331839	.4794634

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4659737**	**9.844701**	**.5540937**	**5.845494**	**.4937488**	**.2510338**
Stddev	.0011549	.010330	.0015653	.010044	.0014849	.0010678
%RSD	.2478364	.1049256	.2824874	.1718239	.3007385	.4253693
#1	.4668941	9.836984	.5556670	5.850130	.4924924	.2522455
#2	.4663490	9.856436	.5525367	5.833969	.4933667	.2506256
#3	.4646778	9.840684	.5540774	5.852382	.4953875	.2502303

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.04263**	**.4979457**	**.9352282**	**9.280138**	**4.980286**	F **.0423791**
Stddev	.15852	.0028277	.0019450	.056937	.007424	.0004494
%RSD	1.578464	.5678655	.2079648	.6135367	.1490594	1.060516
#1	9.88696	.4972589	.9351507	9.339302	4.971714	.0419448
#2	10.20385	.4955246	.9333231	9.225726	4.984536	.0428422
#3	10.03707	.5010534	.9372107	9.275386	4.984608	.0423502

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICV002 Acquired: 1/24/2025 12:18:05 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV002 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.206735**	**4.845099**	F **.0090548**	**5.451312**	F **5.549189**	F **3.643030**
Stddev	.003455	.017333	.0024338	.019351	.015104	.011660
%RSD	.0663600	.3577431	26.87814	.3549711	.2721768	.3200661
#1	5.202767	4.825146	.0070720	5.431909	5.566335	3.655425
#2	5.209075	4.853720	.0117709	5.451416	5.543377	3.632279
#3	5.208364	4.856432	.0083216	5.470610	5.537854	3.641387

Elem	Sr4077
Units	ppm
Avg	**5.101864**
Stddev	.031380
%RSD	.6150649
#1	5.138004
#2	5.086050
#3	5.081537

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3207.635**	**64644.29**	**9904.828**	**2260.576**	**3822.334**
Stddev	5.770	113.55	38.528	2.584	6.302
%RSD	.1798918	.1756591	.3889854	.1142961	.1648623
#1	3201.525	64513.68	9862.562	2257.957	3821.066
#2	3212.992	64699.57	9913.936	2263.123	3829.173
#3	3208.388	64719.62	9937.987	2260.648	3816.763

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICB002 Acquired: 1/24/2025 12:23:40 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007547**	**.0009411**	**-.000847**	**-.000564**	**-.000052**	**-.007351**	**-.004572**
Stddev	.0005386	.0014525	.001318	.001964	.001672	.012831	.000158
%RSD	71.36058	154.3382	155.7042	348.3569	3222.198	174.5412	3.455521
#1	.0013731	-.000674	.000533	.001587	.001389	-.004419	-.004390
#2	.0005024	.002141	-.002093	-.001017	.000341	.003759	-.004667
#3	.0003886	.001357	-.000980	-.002261	-.001886	-.021394	-.004659

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000040**	**.0000232**	**.0006320**	**.0001370**	**.0000643**	**.0006233**	**.0006540**
Stddev	.000052	.0000234	.0004608	.0001293	.0002953	.0005218	.0045196
%RSD	128.7651	101.0579	72.90490	94.36978	459.2197	83.72161	691.0382
#1	-.000092	.0000395	.0011415	.0002551	.0002524	.0006914	-.000251
#2	-.000040	-.000004	.0002444	-.000001	-.000276	.0011076	.005558
#3	.000012	.000034	.0005102	.000157	.000217	.0000707	-.003344

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000585**	**-.020872**	**-.000056**	**.0003540**	**-.001341**	**.0006618**	**-.001001**
Stddev	.000284	.016322	.000145	.0002776	.546538	.0009796	.001509
%RSD	48.53978	78.19962	258.6347	78.42743	40755.99	148.0244	150.7172
#1	-.000517	-.012265	-.000059	.0000818	.318564	.0011253	.000543
#2	-.000896	-.039697	.000090	.0003433	.309822	.0013236	-.002471
#3	-.000341	-.010656	-.000200	.0006368	-.632409	-.000464	-.001075

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.393331**	**.0038874**	**-.008046**	**-.000540**	**.0003852**	**.0000070**	**.0002572**
Stddev	.058310	.0012919	.000571	.000157	.0028319	.0022215	.0001268
%RSD	14.82461	33.23203	7.097147	28.99508	735.1462	31970.20	49.30425
#1	-.410675	.0048397	-.007857	-.000589	-.002732	.0025279	.0001239
#2	-.441002	.0024169	-.008687	-.000667	.002799	-.001664	.0003763
#3	-.328317	.0044056	-.007593	-.000365	.001089	-.000843	.0002713

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICB002 Acquired: 1/24/2025 12:23:40 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB002 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000317	-.002641	.0000141
Stddev	.001110	.000195	.0000425
%RSD	350.5903	7.385761	301.3899
#1	-.000461	-.002865	.0000629
#2	-.001347	-.002515	-.000016
#3	.000859	-.002542	-.000005

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3251.152	65705.12	9468.311	2321.034	3956.199
Stddev	12.748	150.09	15.857	11.946	9.352
%RSD	.3921201	.2284298	.1674700	.5146861	.2363984
#1	3236.580	65815.48	9456.350	2318.905	3945.493
#2	3260.246	65765.65	9486.297	2333.902	3962.782
#3	3256.629	65534.21	9462.286	2310.296	3960.321

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICSA002 Acquired: 1/24/2025 12:29:44 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000429**	**.0062674**	**.0040018**	**.0252494**	**.0091597**	**237.1890**
Stddev	.000252	.0038480	.0019703	.0039669	.0013016	1.2825
%RSD	58.62761	61.39724	49.23653	15.71102	14.21005	.5407135
#1	-.000682	.0104393	.0059524	.0207953	.0076818	235.8225
#2	-.000427	.0055057	.0020123	.0284023	.0096621	237.3779
#3	-.000178	.0028572	.0040406	.0265507	.0101353	238.3666

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044300**	**-.000678**	**.0009962**	**245.7077**	**.0605852**	**.0005121**
Stddev	.0008910	.000093	.0000451	1.1285	.0001605	.0001054
%RSD	20.11250	13.78225	4.530206	.4592921	.2649081	20.58326
#1	.0044805	-.000579	.0010384	244.4841	.0605218	.0006162
#2	.0035149	-.000688	.0010017	245.9314	.0607678	.0004055
#3	.0052948	-.000765	.0009486	246.7076	.0604662	.0005145

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.011455**	**102.9336**	**.0115855**	**239.6872**	**.0040969**	**.0023232**
Stddev	.001933	.4747	.0005099	1.0119	.0004813	.0002494
%RSD	16.87593	.4612005	4.401364	.4221625	11.74908	10.73422
#1	-.011000	102.4294	.0118602	238.5968	.0046324	.0024288
#2	-.013575	102.9995	.0109971	239.8691	.0039578	.0020384
#3	-.009790	103.3720	.0118991	240.5959	.0037004	.0025024

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.309396**	**-.006623**	**-.008607**	**-.271386**	F **.0109329**	F **.4105869**
Stddev	.194735	.001016	.000525	.051472	.0007355	.0029084
%RSD	62.94028	15.34656	6.098283	18.96623	6.727707	.7083485
#1	-.422561	-.005672	-.008308	-.307978	.0105093	.4074802
#2	-.084537	-.007694	-.008300	-.293650	.0117822	.4110357
#3	-.421091	-.006502	-.009213	-.212530	.0105072	.4132448

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICSA002 Acquired: 1/24/2025 12:29:44 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA002 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000618**	**.0258201**	**.0034923**	**-.003752**	**-.004487**	**.0025734**
Stddev	.000360	.0055944	.0029981	.001711	.001149	.0015562
%RSD	58.26566	21.66697	85.84822	45.60260	25.60391	60.47072
#1	-.000982	.0263933	.0001741	-.002242	-.003478	.0037456
#2	-.000609	.0199611	.0060062	-.005610	-.004246	.0008079
#3	-.000263	.0311058	.0042966	-.003403	-.005738	.0031668

Elem	Sr4077
Units	ppm
Avg	**.0913368**
Stddev	.0005890
%RSD	.6449118
#1	.0906606
#2	.0916117
#3	.0917382

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2938.485**	**60079.32**	**9757.011**	**2105.406**	**3371.718**
Stddev	4.450	45.66	62.350	8.244	3.331
%RSD	.1514387	.0760050	.6390266	.3915552	.0987883
#1	2934.692	60124.34	9686.426	2097.739	3368.642
#2	2937.379	60080.59	9780.020	2114.126	3375.255
#3	2943.384	60033.04	9804.586	2104.352	3371.255

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICSAB002 Acquired: 1/24/2025 12:36:03 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0896507**	**.1081835**	**.0517403**	**.0628739**	**.5276967**	**228.8166**
Stddev	.0005218	.0012122	.0007957	.0068561	.0025742	1.0292
%RSD	.5820678	1.120493	1.537818	10.90460	.4878188	.4497830
#1	.0897269	.1077513	.0526546	.0674179	.5247501	229.1681
#2	.0901302	.1072466	.0513616	.0662163	.5295088	229.6239
#3	.0890949	.1095525	.0512047	.0549876	.5288311	227.6577

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4842400**	**.4993522**	**.9752857**	**237.7066**	**.5916392**	**.4884768**
Stddev	.0018124	.0011896	.0024666	.9412	.0010912	.0012862
%RSD	.3742755	.2382231	.2529155	.3959674	.1844334	.2632998
#1	.4857621	.4989061	.9740644	238.0667	.5906912	.4870362
#2	.4847228	.4984501	.9736680	238.4146	.5928319	.4888843
#3	.4822351	.5007003	.9781247	236.6385	.5913944	.4895098

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4781363**	**99.48291**	**.4969822**	**232.5402**	**.9730475**	**.1991859**
Stddev	.0020682	.46640	.0043141	.8184	.0022059	.0004653
%RSD	.4325489	.4688260	.8680627	.3519324	.2266979	.2335982
#1	.4769018	99.63866	.4994463	232.9287	.9725117	.1995526
#2	.4769831	99.85151	.4994994	233.0921	.9711589	.1993427
#3	.4805240	98.95857	.4920007	231.6000	.9754720	.1986625

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.673263**	**.4770608**	**.9429909**	**-.561161**	**.0096169**	F **.3952662**
Stddev	.376044	.0021956	.0041172	.061693	.0020150	.0021913
%RSD	55.85398	.4602365	.4366124	10.99377	20.95219	.5543913
#1	-.725692	.4785835	.9434431	-.601512	.0075110	.3963480
#2	-.273756	.4745440	.9468634	-.591828	.0115265	.3967063
#3	-1.02034	.4780550	.9386663	-.490144	.0098132	.3927444

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: ICSAB002 Acquired: 1/24/2025 12:36:03 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB002 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000636	.0194518	-.000572	-.002565	-.004923	.0038155
Stddev	.000299	.0054258	.003835	.000560	.000148	.0008277
%RSD	47.05908	27.89363	670.8217	21.85320	3.000188	21.69242
#1	-.000758	.0171026	.000987	-.003064	-.005081	.0034878
#2	-.000295	.0155963	-.004941	-.002671	-.004900	.0032018
#3	-.000855	.0256563	.002238	-.001959	-.004789	.0047568

Elem	Sr4077
Units	ppm
Avg	.0880316
Stddev	.0004165
%RSD	.4731243
#1	.0882847
#2	.0882592
#3	.0875509

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3084.422	60513.73	9599.081	2144.908	3534.829
Stddev	8.618	150.71	31.297	10.466	7.721
%RSD	.2793927	.2490522	.3260380	.4879435	.2184263
#1	3084.932	60498.19	9608.446	2135.929	3537.815
#2	3092.774	60371.39	9624.626	2142.394	3540.612
#3	3075.561	60671.60	9564.171	2156.402	3526.061

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV013 Acquired: 1/24/2025 12:59:28 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV013 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.799458**	**4.889542**	**24.34375**	**4.827917**	**4.896973**	**413.8373**
Stddev	.012764	.013054	.04565	.025597	.010091	3.4974
%RSD	.2659422	.2669743	.1875409	.5301842	.2060597	.8451220
#1	4.811692	4.874636	24.29511	4.855718	4.908502	410.2965
#2	4.786223	4.898936	24.35049	4.805325	4.889750	413.9257
#3	4.800459	4.895053	24.38567	4.822709	4.892666	417.2897

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.26619**	**.4928787**	**2.451198**	**408.2126**	**15.66501**	**2.468511**
Stddev	.07321	.0033259	.002760	1.2242	.05621	.002682
%RSD	.7131268	.6747823	.1125854	.2999006	.3588135	.1086651
#1	10.21870	.4894877	2.448028	408.8913	15.61834	2.467051
#2	10.22937	.4961354	2.453066	408.9470	15.64928	2.466876
#3	10.35050	.4930129	2.452498	406.7993	15.72741	2.471607

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.56736**	**416.5925**	**15.17785**	**406.5020**	**2.462587**	**1.292287**
Stddev	.04449	1.5895	.03368	1.2777	.004270	.005387
%RSD	.3053827	.3815418	.2218755	.3143219	.1733847	.4168543
#1	14.55943	417.7573	15.21010	407.4844	2.458989	1.288468
#2	14.61529	414.7818	15.14291	405.0575	2.461466	1.289944
#3	14.52738	417.2386	15.18054	406.9641	2.467305	1.298449

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**378.3988**	**2.437730**	**15.36183**	**158.0573**	**4.847789**	F **5.945155**
Stddev	1.8796	.008266	.01045	.8607	.015981	.017163
%RSD	.4967313	.3390896	.0680128	.5445367	.3296515	.2886942
#1	377.3879	2.432443	15.35042	158.5516	4.842277	5.926081
#2	380.5676	2.447255	15.37092	157.0635	4.835293	5.959353
#3	377.2411	2.433490	15.36415	158.5569	4.865795	5.950031

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV013 Acquired: 1/24/2025 12:59:28 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV013 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.847361**	**4.893366**	**4.881066**	**4.909556**	**4.888829**	**5.100450**
Stddev	.010036	.009948	.028502	.007623	.016650	.022349
%RSD	.2070349	.2033003	.5839218	.1552675	.3405814	.4381830
#1	4.858826	4.895544	4.863965	4.902686	4.883026	5.116030
#2	4.843088	4.882510	4.913968	4.908226	4.907605	5.074843
#3	4.840168	4.902045	4.865264	4.917757	4.875857	5.110477

Elem	Sr4077
Units	ppm
Avg	**5.113641**
Stddev	.026043
%RSD	.5092920
#1	5.125011
#2	5.083846
#3	5.132067

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2644.481**	**55453.41**	**9302.795**	**1898.907**	**3094.580**
Stddev	5.920	121.23	48.096	3.226	5.826
%RSD	.2238801	.2186142	.5170048	.1698691	.1882554
#1	2638.018	55424.56	9335.553	1902.529	3098.837
#2	2649.642	55586.46	9247.578	1897.847	3096.963
#3	2645.785	55349.21	9325.255	1896.345	3087.941

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB013 Acquired: 1/24/2025 13:03:47 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB013 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008690**	**.0001167**	**-.000688**	**.0021413**	**.0001988**	**.0039748**	**-.001063**
Stddev	.0012820	.0005825	.001616	.0012983	.0015530	.0080644	.000337
%RSD	147.5347	499.2337	234.8041	60.63099	781.0892	202.8892	31.66779
#1	.0002066	-.000312	.000477	.0032236	.0019276	.0006391	-.000805
#2	.0000536	-.000118	-.002533	.0024987	-.000253	.0131719	-.001444
#3	.0023467	.000780	-.000009	.0007018	-.001078	-.001887	-.000939

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000046**	**.0000238**	**.0098034**	**.0001818**	**-.000097**	**-.000664**	**.0064566**
Stddev	.000053	.0000429	.0031082	.0002425	.000106	.001802	.0010930
%RSD	114.9420	180.5863	31.70549	133.3758	109.9946	271.3959	16.92770
#1	-.000009	.0000728	.0103203	.0000461	-.000215	.001390	.0076578
#2	-.000023	.0000052	.0064691	.0000375	-.000067	-.001402	.0061912
#3	-.000107	-.000007	.0126208	.0004618	-.000008	-.001979	.0055208

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000374**	**-.018990**	**.0000293**	**.0003575**	**.0954402**	**-.000347**	**-.001021**
Stddev	.000159	.011269	.0003072	.0004815	.5782305	.002968	.001124
%RSD	42.58747	59.34433	1046.771	134.6998	605.8566	854.3332	110.0435
#1	-.000214	-.016154	-.000036	.0002056	-.401849	.000693	-.001770
#2	-.000376	-.031406	-.000240	-.000030	.729932	-.003695	.000271
#3	-.000532	-.009409	.000364	.000897	-.041763	.001960	-.001565

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.096187**	**.0023009**	**-.007074**	**-.000038**	**.0014979**	**.0020355**	**.0002003**
Stddev	.025617	.0004050	.000150	.000202	.0026773	.0015618	.0009009
%RSD	26.63279	17.60019	2.116286	536.9078	178.7356	76.72544	449.7411
#1	-.094815	.0018333	-.006902	.000177	.0039773	.0024399	-.000583
#2	-.122464	.0025300	-.007179	-.000223	.0018574	.0033553	-.000001
#3	-.071284	.0025393	-.007140	-.000067	-.001341	.0003113	.001185

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB013 Acquired: 1/24/2025 13:03:47 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB013 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.000289**	**-.001644**	**.0000148**
Stddev	.000825	.001664	.0000642
%RSD	285.5973	101.2641	434.9331
#1	-.000200	-.002928	.0000537
#2	-.001155	-.002239	-.000059
#3	.000488	.000237	.000050

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3348.360**	**65821.41**	**9941.540**	**2303.330**	**4136.717**
Stddev	4.099	218.33	32.723	1.812	3.950
%RSD	.1224040	.3316960	.3291525	.0786566	.0954817
#1	3344.575	65607.14	9910.558	2301.246	4132.270
#2	3352.713	66043.58	9938.299	2304.209	4139.816
#3	3347.792	65813.51	9975.762	2304.533	4138.065

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-02 Acquired: 1/24/2025 13:07:57 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0573330**	**-.005106**	**.4750989**	**.0243353**	**.0131743**	**54.56193**
Stddev	.0026194	.003187	.0080168	.0004876	.0003523	.16386
%RSD	4.568729	62.41483	1.687390	2.003634	2.674427	.3003238
#1	.0571945	-.003404	.4813255	.0240957	.0127879	54.46454
#2	.0547855	-.008782	.4779177	.0248963	.0134778	54.47013
#3	.0600188	-.003131	.4660534	.0240138	.0132571	54.75111

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.691399**	**.0054136**	**.0037801**	**23.75668**	**.1296995**	**.1582291**
Stddev	.061576	.0001054	.0001633	.01002	.0001022	.0020237
%RSD	.9202281	1.946825	4.320509	.0421767	.0788032	1.278976
#1	6.670202	.0053580	.0038844	23.75299	.1296329	.1596772
#2	6.760774	.0053477	.0038640	23.74903	.1296484	.1590933
#3	6.643221	.0055352	.0035918	23.76802	.1298171	.1559167

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0535494**	**116.0647**	**11.42611**	**13.00305**	**.0763035**	**.0052673**
Stddev	.0014319	.3470	.01640	.04657	.0007552	.0001380
%RSD	2.673905	.2989411	.1435506	.3581848	.9897977	2.620746
#1	.0519880	115.8678	11.42220	12.96046	.0766072	.0054086
#2	.0538594	115.8610	11.41202	12.99591	.0768596	.0052605
#3	.0548010	116.4653	11.44412	13.05278	.0754437	.0051328

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.439030**	**.2012400**	**.6036005**	**5.475468**	**3.138436**	**.4742831**
Stddev	.267386	.0024996	.0040500	.055961	.034431	.0015789
%RSD	60.90377	1.242118	.6709725	1.022036	1.097081	.3329063
#1	-.661935	.1998290	.6027253	5.536198	3.157365	.4734933
#2	-.142563	.2041261	.6080166	5.425984	3.159250	.4732548
#3	-.512592	.1997649	.6000597	5.464223	3.098694	.4761010

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-02 Acquired: 1/24/2025 13:07:57 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0057737**	**2.766542**	F **13.03254**	**.0080480**	**1.181889**	**.0339307**
Stddev	.0005242	.043570	.07449	.0008908	.003243	.0006639
%RSD	9.078744	1.574887	.5715700	11.06898	.2744059	1.956651
#1	.0063325	2.783446	13.03099	.0078895	1.181101	.0332737
#2	.0056956	2.799126	13.10780	.0072471	1.185454	.0339170
#3	.0052929	2.717053	12.95884	.0090075	1.179113	.0346013

Elem	Sr4077
Units	ppm
Avg	**.1049843**
Stddev	.0001193
%RSD	.1136382
#1	.1049321
#2	.1048999
#3	.1051208

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3492.347**	**69331.51**	**10733.19**	**2440.553**	**3929.430**
Stddev	35.038	32.49	66.30	6.891	45.460
%RSD	1.003266	.0468661	.6177345	.2823419	1.156923
#1	3470.452	69351.91	10749.55	2446.405	3898.662
#2	3473.832	69294.04	10660.23	2432.958	3907.981
#3	3532.758	69348.59	10789.77	2442.296	3981.647

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-03 Acquired: 1/24/2025 13:12:02 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0571768**	**-.002318**	**.4739614**	**.0257886**	**.0125279**	**54.05123**
Stddev	.0004549	.002978	.0013432	.0028206	.0006571	.38244
%RSD	.7956775	128.4900	.2834034	10.93730	5.245306	.7075513
#1	.0575623	.001070	.4753879	.0235266	.0130414	54.41396
#2	.0566750	-.004521	.4727209	.0289490	.0117873	54.08801
#3	.0572930	-.003503	.4737755	.0248903	.0127549	53.65174

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.726653**	**.0053378**	**.0038234**	**23.62202**	**.1289183**	**.1580247**
Stddev	.005211	.0000277	.0000638	.12317	.0001886	.0000284
%RSD	.0774663	.5188514	1.668015	.5214235	.1462688	.0179789
#1	6.721473	.0053131	.0037499	23.73462	.1291140	.1580347
#2	6.731894	.0053677	.0038560	23.64096	.1289031	.1580469
#3	6.726590	.0053327	.0038643	23.49047	.1287377	.1579927

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0465937**	**115.0868**	**11.49801**	**12.90118**	**.0762422**	**.0052506**
Stddev	.0009780	.7778	.07832	.04974	.0005575	.0001446
%RSD	2.098949	.6758046	.6811492	.3855815	.7312178	2.754387
#1	.0455282	115.7470	11.58049	12.95416	.0763647	.0053202
#2	.0468024	115.2840	11.48890	12.89391	.0756336	.0050843
#3	.0474504	114.2295	11.42465	12.85547	.0767282	.0053473

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3145432**	**.2043929**	**.6056765**	**5.395994**	**3.116140**	**.4680369**
Stddev	.0452542	.0031330	.0047234	.044937	.010236	.0047301
%RSD	14.38728	1.532827	.7798540	.8327894	.3284887	1.010622
#1	.2653051	.2079606	.6087414	5.437726	3.104563	.4713269
#2	.3240079	.2031280	.6080511	5.348422	3.119863	.4701676
#3	.3543166	.2020902	.6002370	5.401834	3.123993	.4626163

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-03 Acquired: 1/24/2025 13:12:02 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19D Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055349	2.727362	F 13.36545	.0082151	1.203856	.0345642
Stddev	.0002137	.009227	.11350	.0011366	.009240	.0013543
%RSD	3.861055	.3383120	.8491910	13.83507	.7675180	3.918281
#1	.0057592	2.723436	13.48810	.0071728	1.214390	.0348201
#2	.0055118	2.737902	13.26412	.0080455	1.200052	.0357724
#3	.0053337	2.720747	13.34414	.0094269	1.197125	.0331002

Elem	Sr4077
Units	ppm
Avg	.1057138
Stddev	.0010033
%RSD	.9490653
#1	.1067235
#2	.1057010
#3	.1047170

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3517.233	70064.76	10662.71	2470.582	3957.282
Stddev	8.276	203.97	45.54	7.435	11.340
%RSD	.2353008	.2911169	.4270669	.3009356	.2865654
#1	3521.454	69831.70	10627.17	2462.035	3961.698
#2	3522.548	70151.88	10714.04	2474.160	3965.750
#3	3507.697	70210.70	10646.92	2475.552	3944.398

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-02LX5 Acquired: 1/24/2025 13:16:07 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0125668	-.001003	.0992332	.0042980	.0036773	11.23297	1.359957
Stddev	.0013091	.002848	.0007644	.0014506	.0004811	.05872	.008536
%RSD	10.41675	284.0437	.7703609	33.75028	13.08246	.5227330	.6276643
#1	.0116862	.000993	.0984203	.0056150	.0041477	11.17896	1.351317
#2	.0140710	-.004265	.0993418	.0027432	.0031862	11.22446	1.360168
#3	.0119430	.000264	.0999376	.0045358	.0036980	11.29547	1.368386

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012316	.0007199	4.929966	.0276086	.0323964	.0090009	24.32331
Stddev	.0000679	.0000303	.029179	.0003396	.0001324	.0005715	.06296
%RSD	5.514894	4.210421	.5918639	1.230116	.4085852	6.349323	.2588516
#1	.0012675	.0007486	4.900062	.0279353	.0322892	.0083523	24.26412
#2	.0011532	.0007230	4.931475	.0272574	.0323557	.0094303	24.31635
#3	.0012740	.0006882	4.958361	.0276330	.0325443	.0092202	24.38946

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.342099	2.715204	.0159733	.0011846	.1321576	.0427441	.1251158
Stddev	.012138	.019063	.0002466	.0002729	.2440815	.0011682	.0008618
%RSD	.5182622	.7020981	1.543735	23.03396	184.6897	2.733073	.6888186
#1	2.329726	2.734797	.0157233	.0008790	.2945335	.0440375	.1249463
#2	2.342583	2.714096	.0162164	.0014036	.2504724	.0417657	.1243514
#3	2.353988	2.696718	.0159801	.0012713	-.148533	.0424291	.1260498

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9588837	.6472112	.0890593	.0006151	.5685790	2.764113	.0017982
Stddev	.0296141	.0013204	.0003910	.0003666	.0031505	.021002	.0005348
%RSD	3.088391	.2040170	.4390310	59.61228	.5540971	.7598065	29.74074
#1	.9417577	.6480777	.0891068	.0008362	.5655230	2.774490	.0022428
#2	.9418144	.6456915	.0886467	.0008171	.5683979	2.739943	.0012048
#3	.9930791	.6478644	.0894244	.0001918	.5718161	2.777908	.0019471

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-02LX5 Acquired: 1/24/2025 13:16:07 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2479836	.0053287	.0215412
Stddev	.0015881	.0009426	.0000966
%RSD	.6404212	17.68974	.4484776
#1	.2470727	.0042403	.0214477
#2	.2470606	.0058630	.0215353
#3	.2498174	.0058828	.0216406

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3342.896	67317.20	10115.44	2354.317	4007.813
Stddev	4.362	263.84	90.37	8.857	8.359
%RSD	.1304855	.3919326	.8934227	.3761980	.2085609
#1	3345.541	67405.32	10099.40	2353.172	4016.055
#2	3345.285	67525.70	10212.76	2363.691	4008.042
#3	3337.861	67020.58	10034.16	2346.088	3999.342

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-04 Acquired: 1/24/2025 13:20:11 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1257284**	**.0980075**	**.5131529**	**.1863441**	**.1717234**	**57.90667**
Stddev	.0018827	.0027510	.0029819	.0042842	.0031876	.33168
%RSD	1.497467	2.806888	.5810884	2.299078	1.856235	.5727755
#1	.1237508	.0948360	.5110209	.1814039	.1710076	58.10331
#2	.1259353	.0994387	.5118774	.1885913	.1752081	58.09296
#3	.1274992	.0997477	.5165604	.1890373	.1689546	57.52373

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.16699**	**.0947493**	**.0994492**	**23.63004**	**.5353712**	**1.114422**
Stddev	.18409	.0004171	.0005926	.11396	.0024254	.005171
%RSD	1.810683	.4401697	.5958721	.4822521	.4530369	.4640171
#1	10.18124	.0944929	.0993188	23.74582	.5357233	1.111018
#2	10.34354	.0945245	.0989326	23.62631	.5376013	1.111875
#3	9.97619	.0952305	.1000961	23.51800	.5327889	1.120372

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5017242**	**118.1491**	**12.17455**	**12.97815**	**1.042605**	**.0737325**
Stddev	.0035154	.7004	.04942	.06384	.005092	.0004820
%RSD	.7006552	.5927784	.4059546	.4918836	.4883460	.6537887
#1	.5041418	118.4622	12.21671	13.03208	1.039087	.0734678
#2	.4976915	118.6383	12.18678	12.99470	1.040285	.0742889
#3	.5033392	117.3468	12.12016	12.90767	1.048444	.0734408

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.108023**	**1.113209**	**1.457819**	**5.491271**	**3.130206**	**.4843569**
Stddev	.150258	.004186	.012913	.046781	.014326	.0034118
%RSD	139.0981	.3760569	.8857617	.8519155	.4576667	.7043996
#1	-.179255	1.110782	1.466190	5.545113	3.117439	.4859925
#2	.064604	1.110803	1.464320	5.460584	3.127479	.4866429
#3	-.209417	1.118043	1.442948	5.468114	3.145699	.4804352

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-04 Acquired: 1/24/2025 13:20:11 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ19S Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051848	2.785394	F 12.71519	.0080063	1.154695	.0336717
Stddev	.0002635	.021039	.06176	.0008320	.002265	.0008037
%RSD	5.082496	.7553398	.4857289	10.39204	.1961769	2.386793
#1	.0051270	2.764181	12.72207	.0076345	1.154433	.0341018
#2	.0049550	2.785746	12.65028	.0074250	1.152572	.0327445
#3	.0054724	2.806255	12.77323	.0089594	1.157079	.0341688

Elem	Sr4077
Units	ppm
Avg	.1039886
Stddev	.0005061
%RSD	.4867109
#1	.1045475
#2	.1038573
#3	.1035611

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3439.788	68920.82	10829.57	2405.367	3886.493
Stddev	7.226	226.39	43.06	12.829	15.681
%RSD	.2100676	.3284817	.3975768	.5333377	.4034776
#1	3443.663	68859.01	10855.57	2399.023	3895.384
#2	3444.250	68731.75	10853.27	2396.946	3895.709
#3	3431.451	69171.70	10779.87	2420.131	3868.387

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-07DLX2 Acquired: 1/24/2025 13:24:11 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0460770**	**-.005114**	**6.939383**	**.0156349**	**.0139244**	**11.52744**
Stddev	.0012992	.002239	.011613	.0016580	.0019160	.00842
%RSD	2.819659	43.77414	.1673534	10.60464	13.75993	.0730136
#1	.0446795	-.003001	6.932895	.0165331	.0161233	11.51940
#2	.0472482	-.007460	6.932463	.0166501	.0126138	11.52675
#3	.0463032	-.004882	6.952790	.0137216	.0130360	11.53619

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.91051**	**.0022775**	**.0765698**	**347.0709**	**.0866723**	**.0726679**
Stddev	.05650	.0000676	.0001342	.9236	.0000519	.0004316
%RSD	.3340851	2.967990	.1751977	.2661149	.0598466	.5938704
#1	16.91459	.0022011	.0765733	346.1462	.0866155	.0721938
#2	16.96486	.0023020	.0764340	347.0732	.0866844	.0727721
#3	16.85209	.0023295	.0767022	347.9934	.0867171	.0730379

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2157282**	**107.8727**	**6.602221**	**170.6348**	**.0801557**	**.0091560**
Stddev	.0020604	.1038	.009004	.2894	.0001314	.0002430
%RSD	.9550988	.0961966	.1363789	.1695906	.1639514	2.654202
#1	.2174666	107.7923	6.607425	170.3120	.0800193	.0089087
#2	.2162658	107.8360	6.607413	170.8712	.0801664	.0093945
#3	.2134523	107.9898	6.591824	170.7211	.0802814	.0091649

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.096421**	**.1020463**	**5.999016**	**.8457412**	**1.742387**	**.4541007**
Stddev	.258479	.0010175	.010127	.0501342	.005211	.0014622
%RSD	268.0747	.9970490	.1688163	5.927839	.2990860	.3219957
#1	-.302306	.1028176	5.997519	.8179703	1.746723	.4540567
#2	-.180614	.1024281	5.989721	.8156379	1.736606	.4526610
#3	.193658	.1008932	6.009809	.9036156	1.743834	.4555844

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-07DLX2 Acquired: 1/24/2025 13:24:11 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019654	F 10.13803	5.755046	.0048788	.2961572	.0144606
Stddev	.0005301	.01355	.018356	.0006988	.0049268	.0003228
%RSD	26.97270	.1336853	.3189539	14.32358	1.663582	2.232188
#1	.0020404	10.14973	5.740746	.0046153	.2930348	.0146224
#2	.0024540	10.12318	5.748648	.0043500	.2935999	.0140889
#3	.0014017	10.14117	5.775745	.0056710	.3018368	.0146704

Elem	Sr4077
Units	ppm
Avg	.2142044
Stddev	.0002453
%RSD	.1145121
#1	.2143935
#2	.2139273
#3	.2142926

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3194.827	63903.82	10306.70	2188.555	3511.245
Stddev	7.693	113.70	42.59	6.614	4.470
%RSD	.2408039	.1779256	.4132538	.3022086	.1273039
#1	3202.311	64016.99	10346.45	2193.642	3515.668
#2	3186.940	63904.89	10311.90	2190.945	3506.729
#3	3195.231	63789.59	10261.74	2181.078	3511.338

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-08DLX2 Acquired: 1/24/2025 13:28:25 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0480064**	**-.004004**	**6.968257**	**.0155757**	**.0148210**	**11.19199**
Stddev	.0012735	.001467	.069848	.0000383	.0003968	.01804
%RSD	2.652738	36.64131	1.002372	.2457555	2.677132	.1612286
#1	.0471274	-.005640	6.888060	.0155763	.0152452	11.17119
#2	.0494669	-.003570	7.000936	.0155372	.0144591	11.20134
#3	.0474251	-.002803	7.015775	.0156137	.0147586	11.20345

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.17925**	**.0024125**	**.0771857**	**335.4094**	**.0852964**	**.0725108**
Stddev	.32278	.0000508	.0009524	3.7742	.0002444	.0009449
%RSD	1.995055	2.105374	1.233948	1.125253	.2865318	1.303131
#1	16.18111	.0024563	.0760870	333.5014	.0850863	.0714597
#2	16.50109	.0023568	.0777762	339.7567	.0855646	.0727828
#3	15.85553	.0024244	.0776941	332.9702	.0852383	.0732899

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2131473**	**104.7113**	**6.411931**	**165.2809**	**.0810938**	**.0089491**
Stddev	.0016614	.2562	.010303	.2966	.0010212	.0001627
%RSD	.7794478	.2446924	.1606808	.1794728	1.259299	1.818305
#1	.2121366	104.7717	6.411438	165.4343	.0799146	.0087690
#2	.2150647	104.9320	6.422471	165.4694	.0816842	.0089928
#3	.2122406	104.4303	6.401883	164.9390	.0816825	.0090855

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0357246**	**.0982129**	**5.846487**	**.8219926**	**1.769807**	**.4395188**
Stddev	.2313996	.0011381	.018829	.0173796	.021346	.0018561
%RSD	647.7317	1.158842	.3220529	2.114327	1.206137	.4223060
#1	-.185573	.0982778	5.838795	.8333455	1.745202	.4403529
#2	.276051	.0970437	5.867944	.8306475	1.783378	.4408115
#3	.016695	.0993172	5.832722	.8019849	1.780842	.4373919

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-08DLX2 Acquired: 1/24/2025 13:28:25 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04D Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019101	F 10.33623	5.635043	.0049009	.2888815	.0132924
Stddev	.0000104	.11333	.024496	.0005227	.0022807	.0010122
%RSD	.5439605	1.096464	.4347114	10.66595	.7895071	7.614709
#1	.0019103	10.20538	5.648212	.0048345	.2895014	.0121995
#2	.0018996	10.40360	5.606779	.0044145	.2863549	.0134802
#3	.0019204	10.39970	5.650137	.0054536	.2907882	.0141975

Elem	Sr4077
Units	ppm
Avg	.2081197
Stddev	.0006006
%RSD	.2886089
#1	.2078544
#2	.2088073
#3	.2076973

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3132.356	64413.78	10313.06	2202.038	3439.257
Stddev	31.595	113.98	52.95	7.884	33.926
%RSD	1.008679	.1769477	.5134278	.3580365	.9864398
#1	3168.101	64362.36	10252.50	2204.735	3478.427
#2	3120.807	64334.57	10350.62	2193.160	3420.185
#3	3108.160	64544.41	10336.06	2208.221	3419.158

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-07LDLX10 Acquired: 1/24/2025 13:32:38 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0063101**	**-.001434**	**1.381605**	**.0035660**	**.0024204**	**2.913730**	**3.329283**
Stddev	.0007032	.001213	.004414	.0028508	.0003942	.018474	.036947
%RSD	11.14389	84.59765	.3194590	79.94243	16.28801	.6340460	1.109751
#1	.0059626	-.002833	1.378020	.0068540	.0025867	2.892427	3.290497
#2	.0071194	-.000764	1.380261	.0020598	.0019702	2.923404	3.333286
#3	.0058484	-.000703	1.386535	.0017843	.0027042	2.925358	3.364064

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005460**	**.0151357**	**69.08276**	**.0186758**	**.0141316**	**.0435380**	**22.05202**
Stddev	.0000381	.0000207	.33009	.0002650	.0001129	.0011836	.12400
%RSD	6.982412	.1365236	.4778147	1.419072	.7988745	2.718456	.5623108
#1	.0005898	.0151456	68.73631	.0184411	.0141169	.0425039	21.92760
#2	.0005201	.0151120	69.11836	.0186229	.0142510	.0448289	22.05286
#3	.0005282	.0151496	69.39360	.0189632	.0140267	.0432812	22.17560

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.334921**	**33.47097**	**.0163621**	**.0023108**	**-.335557**	**.0219267**	**1.195602**
Stddev	.007990	.10432	.0001987	.0001189	.335734	.0004232	.009313
%RSD	.5985257	.3116758	1.214385	5.145548	100.0528	1.929827	.7789172
#1	1.325907	33.37401	.0161338	.0024212	-.145564	.0217946	1.191069
#2	1.337727	33.45754	.0164962	.0023262	-.723203	.0215854	1.189423
#3	1.341129	33.58135	.0164563	.0021849	-.137902	.0224002	1.206313

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3780445**	**.3386425**	**.0833561**	**.0002167**	**1.956360**	**2.374675**	**-.000053**
Stddev	.0114994	.0029468	.0009220	.0005051	.002388	.019923	.000334
%RSD	3.041803	.8701747	1.106150	233.0502	.1220403	.8389663	631.6114
#1	.3899709	.3370458	.0822936	-.000341	1.953606	2.358367	-.000264
#2	.3670260	.3420431	.0838289	.000348	1.957847	2.368777	.000332
#3	.3771364	.3368388	.0839459	.000643	1.957628	2.396881	-.000226

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-07LDLX10 Acquired: 1/24/2025 13:32:38 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1225964	.0015576	.0432379
Stddev	.0165359	.0012197	.0005376
%RSD	13.48804	78.30684	1.243373
#1	.1115474	.0008951	.0430948
#2	.1146348	.0029652	.0427862
#3	.1416070	.0008125	.0438325

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3281.001	65644.90	10101.59	2284.678	3876.832
Stddev	7.312	163.92	84.95	8.140	7.827
%RSD	.2228481	.2497056	.8409247	.3562938	.2018948
#1	3272.558	65570.87	10003.87	2288.533	3869.226
#2	3285.211	65832.78	10143.05	2290.174	3884.863
#3	3285.233	65531.06	10157.84	2275.327	3876.406

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-09DLX2 Acquired: 1/24/2025 13:36:40 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0853303**	**.0458003**	**7.022687**	**.1038563**	**.1010042**	**13.31074**
Stddev	.0015836	.0023289	.010240	.0014859	.0022640	.11319
%RSD	1.855823	5.084881	.1458118	1.430738	2.241534	.8503696
#1	.0835350	.0483647	7.024234	.1049893	.1020045	13.36161
#2	.0865283	.0452191	7.011761	.1021739	.0984123	13.38958
#3	.0859277	.0438170	7.032065	.1044057	.1025958	13.18104

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.75551**	**.0486801**	**.1268602**	**346.3221**	**.2884737**	**.5697790**
Stddev	.19769	.0002894	.0003655	3.9476	.0002324	.0009786
%RSD	1.054027	.5944843	.2881258	1.139852	.0805704	.1717500
#1	18.75118	.0483894	.1264503	347.3012	.2882079	.5707199
#2	18.95533	.0486828	.1269780	349.6879	.2886385	.5687666
#3	18.56002	.0489682	.1271523	341.9771	.2885748	.5698507

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4490477**	**108.1034**	**7.087470**	**169.0274**	**.5789129**	**.0456783**
Stddev	.0009415	.8515	.068125	1.1749	.0010568	.0005050
%RSD	.2096577	.7876259	.9612015	.6950687	.1825480	1.105528
#1	.4494873	108.5478	7.124724	169.5049	.5797347	.0459102
#2	.4496890	108.6408	7.128844	169.8884	.5792832	.0460257
#3	.4479669	107.1217	7.008842	167.6890	.5777208	.0450990

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000201**	**.5706245**	**6.448473**	**.9307377**	**1.792923**	**.4548878**
Stddev	.140311	.0016758	.029393	.0292484	.004323	.0042675
%RSD	69807.90	.2936819	.4558157	3.142498	.2411141	.9381414
#1	.157082	.5689390	6.465159	.9208990	1.788383	.4564765
#2	-.045171	.5706442	6.465726	.9076772	1.793397	.4581330
#3	-.112513	.5722904	6.414535	.9636368	1.796990	.4500538

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-09DLX2 Acquired: 1/24/2025 13:36:40 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ04S Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013867	F 10.52568	5.818582	.0060283	.2964495	.0140869
Stddev	.0002950	.01688	.027945	.0007005	.0008936	.0006573
%RSD	21.27450	.1603399	.4802685	11.62013	.3014524	4.665835
#1	.0012597	10.54202	5.795701	.0065586	.2973799	.0139278
#2	.0017240	10.50831	5.810320	.0062922	.2963707	.0148091
#3	.0011765	10.52671	5.849727	.0052342	.2955979	.0135238

Elem	Sr4077
Units	ppm
Avg	.2148856
Stddev	.0022119
%RSD	1.029334
#1	.2161442
#2	.2161810
#3	.2123316

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3113.318	64176.38	10380.74	2211.610	3411.584
Stddev	8.748	256.40	69.13	8.017	9.366
%RSD	.2809810	.3995309	.6659241	.3624920	.2745426
#1	3116.336	64169.38	10444.68	2219.541	3410.498
#2	3120.156	63923.54	10390.16	2203.510	3421.446
#3	3103.460	64436.21	10307.39	2211.779	3402.808

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1039-10DLX2 Acquired: 1/24/2025 13:40:50 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPE5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0211999**	**-.003072**	**.7708813**	**-.006575**	**.0056053**	**7.067962**
Stddev	.0018565	.002552	.0022617	.001249	.0010708	.031824
%RSD	8.757162	83.07232	.2933871	18.99894	19.10414	.4502616
#1	.0228636	-.000156	.7702318	-.006786	.0044541	7.049324
#2	.0191973	-.004900	.7690155	-.007706	.0065718	7.104708
#3	.0215388	-.004159	.7733967	-.005234	.0057899	7.049854

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.58198**	**.0011315**	**.0079132**	F **929.0462**	**.0332981**	**.0197801**
Stddev	.02847	.0000387	.0000207	2.6352	.0001194	.0002290
%RSD	.1952194	3.421881	.2615434	.2836489	.3586245	1.157636
#1	14.55280	.0011632	.0079263	927.2731	.0333385	.0200335
#2	14.58348	.0010883	.0079240	927.7912	.0333920	.0197190
#3	14.60967	.0011429	.0078894	932.0744	.0331637	.0195879

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0577803**	**34.86386**	**2.130950**	**513.6329**	**.0303951**	**.0000325**
Stddev	.0025809	.15551	.005543	2.0516	.0008821	.0003944
%RSD	4.466676	.4460594	.2600992	.3994296	2.902209	1212.638
#1	.0578137	34.73988	2.126368	512.0939	.0300101	-.000423
#2	.0603443	35.03835	2.137111	515.9621	.0297710	.000270
#3	.0551829	34.81335	2.129372	512.8428	.0314043	.000250

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.142493**	**.0745891**	**1.570444**	**.4579162**	**1.167993**	**.1554446**
Stddev	.118363	.0010783	.019969	.0323789	.002894	.0005863
%RSD	83.06568	1.445713	1.271577	7.070924	.2477534	.3771713
#1	-.269375	.0737667	1.564579	.4323367	1.170761	.1556230
#2	-.035058	.0741905	1.592689	.4470910	1.164988	.1559210
#3	-.123046	.0758099	1.554064	.4943208	1.168229	.1547899

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1039-10DLX2 Acquired: 1/24/2025 13:40:50 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPE5 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069365	8.530658	3.114760	-.001940	.1523673	.0254844
Stddev	.0003571	.005269	.004045	.000577	.0006461	.0014194
%RSD	5.147745	.0617694	.1298620	29.75159	.4240547	5.569825
#1	.0068178	8.536374	3.111772	-.001399	.1530960	.0270466
#2	.0066539	8.529606	3.113146	-.002547	.1518642	.0242740
#3	.0073379	8.525994	3.119363	-.001873	.1521417	.0251326

Elem	Sr4077
Units	ppm
Avg	.4304905
Stddev	.0004676
%RSD	.1086304
#1	.4303150
#2	.4310205
#3	.4301360

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2901.224	59320.40	9097.057	2021.251	3187.947
Stddev	8.323	238.23	7.781	19.526	6.581
%RSD	.2868845	.4016034	.0855360	.9660500	.2064293
#1	2894.190	59588.05	9090.664	2029.190	3182.049
#2	2899.070	59131.56	9105.721	1999.005	3186.748
#3	2910.413	59241.58	9094.787	2035.557	3195.045

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1042-09DLX2 Acquired: 1/24/2025 13:45:08 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPJ2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0147171	-.002362	.1765125	.0093916	.0056044	19.03164	12.28765
Stddev	.0042365	.000756	.0010954	.0033066	.0019238	.03906	.07924
%RSD	28.78650	32.01616	.6205988	35.20791	34.32692	.2052448	.6448844
#1	.0165395	-.002341	.1777745	.0055764	.0046485	19.05749	12.36110
#2	.0177374	-.001616	.1758064	.0114281	.0078189	19.05073	12.29818
#3	.0098743	-.003128	.1759568	.0111703	.0043458	18.98671	12.20367

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017918	.0028449	96.19571	.0422226	.0237143	.0419859	44.49756
Stddev	.0000633	.0000685	.32802	.0001841	.0002654	.0023897	.08928
%RSD	3.530026	2.409728	.3409958	.4361071	1.118938	5.691544	.2006306
#1	.0017424	.0027930	96.24850	.0424047	.0240031	.0397099	44.52763
#2	.0017700	.0028191	96.49414	.0420365	.0234812	.0444749	44.56792
#3	.0018631	.0029226	95.84449	.0422265	.0236587	.0417730	44.39713

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.073140	45.46986	.0267878	.0010498	.0853840	.0775011	.5753447
Stddev	.018523	.02817	.0003784	.0002483	.4704826	.0008740	.0036624
%RSD	.6027491	.0619423	1.412494	23.65408	551.0196	1.127744	.6365634
#1	3.069187	45.49897	.0271154	.0013271	.2353252	.0779570	.5773280
#2	3.093321	45.46788	.0263736	.0009746	-.441795	.0764934	.5775879
#3	3.056912	45.44274	.0268743	.0008478	.462621	.0780530	.5711184

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.262812	1.497086	.1783448	.0022437	4.120981	5.387460	.0011891
Stddev	.063676	.003565	.0002007	.0002081	.004484	.008162	.0001946
%RSD	5.042404	.2381395	.1125495	9.274338	.1088186	.1514931	16.36522
#1	1.213484	1.494204	.1781732	.0021324	4.123952	5.379937	.0012122
#2	1.334695	1.495982	.1782956	.0024837	4.123168	5.396137	.0009840
#3	1.240256	1.501073	.1785655	.0021148	4.115822	5.386305	.0013711

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1042-09DLX2 Acquired: 1/24/2025 13:45:08 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPJ2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4430108	.0082116	.1665771
Stddev	.0015692	.0005235	.0009828
%RSD	.3542179	6.375450	.5899980
#1	.4429413	.0086824	.1669282
#2	.4446136	.0076478	.1673362
#3	.4414775	.0083047	.1654670

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3239.155	66238.70	10059.56	2342.570	3752.875
Stddev	8.729	154.04	17.03	6.282	9.533
%RSD	.2694757	.2325454	.1692496	.2681693	.2540097
#1	3239.425	66142.25	10071.53	2336.080	3750.696
#2	3247.745	66157.51	10067.09	2343.010	3763.309
#3	3230.294	66416.35	10040.07	2348.621	3744.621

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-13DLX2 Acquired: 1/24/2025 13:49:17 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPY8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0240433	-.002788	.2046766	.0016202	.0094266	15.80429
Stddev	.0032706	.001372	.0017365	.0006211	.0021260	.06857
%RSD	13.60288	49.21988	.8484097	38.33420	22.55360	.4338381
#1	.0207573	-.001216	.2066690	.0014916	.0074319	15.73566
#2	.0272982	-.003404	.2038758	.0022954	.0116633	15.80441
#3	.0240746	-.003744	.2034850	.0010734	.0091846	15.87279

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.99195	.0010076	.0100760	666.6509	.0511646	.0220838
Stddev	.06629	.0000677	.0000536	2.3609	.0003289	.0003161
%RSD	.5527671	6.719928	.5317986	.3541490	.6428864	1.431370
#1	11.91832	.0009612	.0100769	663.9659	.0507930	.0218539
#2	12.01065	.0010853	.0101292	668.4021	.0514185	.0219533
#3	12.04688	.0009762	.0100220	667.5848	.0512823	.0224443

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0574598	49.16158	1.750014	370.5853	.0329621	.0011817
Stddev	.0012873	.18611	.003320	1.1537	.0006245	.0004149
%RSD	2.240404	.3785663	.1897275	.3113219	1.894748	35.10991
#1	.0587616	48.97913	1.746905	369.3976	.0334008	.0008765
#2	.0561875	49.15448	1.749623	370.6568	.0322470	.0016541
#3	.0574303	49.35114	1.753512	371.7017	.0332385	.0010145

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.159234	.0855088	4.509894	.6061289	.5240334	.1993531
Stddev	.190056	.0014063	.001601	.0243111	.0047149	.0008547
%RSD	119.3566	1.644617	.0354937	4.010886	.8997355	.4287504
#1	-.314026	.0841760	4.509975	.5828140	.5231977	.1998210
#2	.052887	.0853719	4.508254	.6042459	.5197921	.1983666
#3	-.216563	.0869786	4.511453	.6313268	.5291102	.1998717

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-13DLX2 Acquired: 1/24/2025 13:49:17 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPY8 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008013	F 14.78523	5.974605	-.002331	.3723217	.0237521
Stddev	.0009057	.08457	.016998	.000462	.0009508	.0026353
%RSD	113.0255	.5719686	.2845007	19.82318	.2553741	11.09488
#1	.0011800	14.70741	5.986035	-.001809	.3719872	.0256343
#2	-.000232	14.77306	5.982708	-.002495	.3715834	.0248816
#3	.001456	14.87522	5.955072	-.002688	.3733946	.0207403

Elem	Sr4077
Units	ppm
Avg	.3073997
Stddev	.0009829
%RSD	.3197336
#1	.3071509
#2	.3065652
#3	.3084831

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2883.390	59587.45	9598.217	2037.111	3212.705
Stddev	5.763	130.00	21.124	5.972	6.931
%RSD	.1998761	.2181642	.2200846	.2931695	.2157242
#1	2883.715	59696.46	9581.198	2040.598	3212.867
#2	2888.984	59622.31	9591.593	2040.520	3219.553
#3	2877.471	59443.57	9621.859	2030.215	3205.695

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-16DLX2 Acquired: 1/24/2025 13:53:36 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0409298	-.003356	1.216186	.0200043	.0114461	35.71789	13.68781
Stddev	.0024659	.001892	.018254	.0014528	.0002656	.64368	.31360
%RSD	6.024686	56.38172	1.500920	7.262427	2.320597	1.802122	2.291069
#1	.0399709	-.001409	1.236926	.0189040	.0115352	35.45488	13.51273
#2	.0390874	-.003472	1.202559	.0216511	.0111475	35.24736	13.50085
#3	.0437311	-.005188	1.209074	.0194577	.0116558	36.45143	14.04986

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036095	.0051301	65.41358	.0873021	.0855251	.0682668	97.38777
Stddev	.0000649	.0001357	1.09343	.0020772	.0010605	.0013134	1.70730
%RSD	1.798193	2.645732	1.671566	2.379297	1.240048	1.923877	1.753095
#1	.0035695	.0052766	64.87732	.0862011	.0867497	.0668028	96.62282
#2	.0036844	.0050086	64.69180	.0860072	.0849005	.0693416	96.19671
#3	.0035746	.0051051	66.67161	.0896980	.0849252	.0686559	99.34378

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.370371	32.81889	.0699966	.0031481	-.029454	.1519132	.9725670
Stddev	.107833	.53502	.0007226	.0006492	.337709	.0023906	.0148644
%RSD	1.692734	1.630233	1.032322	20.62242	1146.557	1.573688	1.528364
#1	6.322287	32.53654	.0708264	.0032870	.330015	.1539885	.9669160
#2	6.294944	32.48419	.0695062	.0024407	-.078294	.1524520	.9613569
#3	6.493882	33.43594	.0696572	.0037166	-.340083	.1492992	.9894281

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.973838	1.922533	.3948551	.0036113	4.749151	6.570675	.0044184
Stddev	.130156	.034385	.0075366	.0004780	.085919	.010871	.0004914
%RSD	4.376691	1.788550	1.908687	13.23515	1.809148	.1654476	11.12171
#1	2.913798	1.960878	.3917838	.0035058	4.843615	6.570033	.0040821
#2	2.884541	1.894439	.3893391	.0031948	4.675660	6.581853	.0049824
#3	3.123177	1.912281	.4034423	.0041332	4.728177	6.560139	.0041908

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-16DLX2 Acquired: 1/24/2025 13:53:36 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7661364	.0193288	.1486659
Stddev	.0010914	.0009634	.0026913
%RSD	.1424492	4.984473	1.810315
#1	.7655130	.0183685	.1477262
#2	.7654996	.0193225	.1465704
#3	.7673966	.0202953	.1517011

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3345.244	66879.65	10566.53	2343.321	3792.459
Stddev	44.156	1045.45	17.42	30.087	54.311
%RSD	1.319954	1.563187	.1649019	1.283957	1.432078
#1	3295.134	67405.59	10575.90	2356.655	3731.422
#2	3378.452	67557.69	10546.43	2364.437	3835.449
#3	3362.145	65675.66	10577.27	2308.871	3810.506

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-18DLX2 Acquired: 1/24/2025 13:57:41 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0509839	-.005290	4.725718	.0148490	.0104272	16.59179	15.77550
Stddev	.0030612	.003481	.009781	.0034423	.0023896	.08491	.14354
%RSD	6.004187	65.80363	.2069691	23.18217	22.91746	.5117483	.9098923
#1	.0539577	-.003380	4.722542	.0167983	.0077111	16.56520	15.61266
#2	.0478423	-.009309	4.717920	.0168742	.0122068	16.68681	15.88366
#3	.0511517	-.003182	4.736692	.0108744	.0113637	16.52336	15.83019

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027201	.0354102	181.8783	.0861177	.1170252	.1408648	90.43477
Stddev	.0000600	.0000837	.7094	.0002704	.0002045	.0028481	.35524
%RSD	2.204307	.2363488	.3900564	.3140105	.1747436	2.021863	.3928094
#1	.0027687	.0354317	181.6498	.0863742	.1171295	.1429094	90.41235
#2	.0026531	.0353178	182.6738	.0858352	.1167896	.1420732	90.80069
#3	.0027384	.0354809	181.3113	.0861438	.1171566	.1376117	90.09128

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.028144	88.27713	.0798022	.0078971	-.052393	.1026921	3.381665
Stddev	.026076	.24258	.0002439	.0001212	.198116	.0006367	.026395
%RSD	.4325780	.2747989	.3056915	1.534461	378.1365	.6199564	.7805404
#1	6.015156	88.09762	.0796013	.0079690	-.279748	.1033081	3.374397
#2	6.058163	88.55311	.0800737	.0079651	.039325	.1020367	3.410933
#3	6.011112	88.18066	.0797317	.0077572	.083245	.1027315	3.359665

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.429399	1.522660	.3681648	.0018994	8.144389	5.559432	.0026779
Stddev	.076979	.007194	.0023033	.0004515	.008858	.006950	.0011877
%RSD	5.385399	.4724613	.6256185	23.76784	.1087673	.1250197	44.35068
#1	1.390526	1.515662	.3666767	.0020840	8.137139	5.555641	.0032245
#2	1.518062	1.522285	.3708179	.0013849	8.154263	5.555201	.0013154
#3	1.379608	1.530035	.3669997	.0022294	8.141766	5.567453	.0034939

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-18DLX2 Acquired: 1/24/2025 13:57:41 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4884440	.0119231	.1655097
Stddev	.0013377	.0002836	.0011076
%RSD	.2738788	2.378591	.6691841
#1	.4877128	.0122273	.1653368
#2	.4876313	.0116660	.1666936
#3	.4899880	.0118760	.1644989

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3393.849	67317.49	10481.30	2307.752	3780.878
Stddev	6.236	188.72	38.98	13.423	8.058
%RSD	.1837517	.2803448	.3718625	.5816455	.2131329
#1	3392.087	67240.83	10452.94	2307.637	3779.357
#2	3400.776	67179.16	10525.75	2294.387	3789.588
#3	3388.683	67532.48	10465.22	2321.232	3773.688

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-19DLX2 Acquired: 1/24/2025 14:01:45 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0416632	-.000900	.9077298	.0187695	.0108595	35.43597	16.42896
Stddev	.0029609	.000933	.0011876	.0023987	.0008000	.04684	.12526
%RSD	7.106728	103.7741	.1308379	12.78000	7.366571	.1321771	.7624481
#1	.0397721	-.001291	.9065703	.0208405	.0100149	35.43338	16.31885
#2	.0401421	-.001573	.9089438	.0161411	.0116057	35.39049	16.40281
#3	.0450755	.000166	.9076755	.0193270	.0109579	35.48405	16.56524

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032631	.0040580	16.79695	.0779869	.0805780	.0732453	95.12184
Stddev	.0000434	.0000335	.02382	.0001789	.0005615	.0033712	.06855
%RSD	1.330570	.8263497	.1418104	.2293913	.6967800	4.602594	.0720659
#1	.0033056	.0040574	16.79091	.0780837	.0802356	.0719598	95.04950
#2	.0032648	.0040919	16.77673	.0777804	.0802725	.0707060	95.13020
#3	.0032189	.0040249	16.82320	.0780965	.0812260	.0770701	95.18583

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.093038	8.503829	.0715275	.0030724	-.073620	.1451083	.8361181
Stddev	.007089	.019793	.0001868	.0000282	.073705	.0006278	.0050440
%RSD	.1391818	.2327515	.2611594	.9163509	100.1155	.4326654	.6032632
#1	5.099704	8.481103	.0716321	.0030400	-.124241	.1446351	.8303282
#2	5.085591	8.517293	.0713118	.0030855	.010941	.1458205	.8384655
#3	5.093817	8.513090	.0716385	.0030916	-.107561	.1448692	.8395606

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.976094	1.866568	.3799016	.0027327	4.148713	6.912493	.0055253
Stddev	.037845	.004981	.0005656	.0001840	.001184	.040102	.0012086
%RSD	1.271627	.2668661	.1488697	6.732122	.0285411	.5801419	21.87331
#1	2.947913	1.861061	.3792490	.0029429	4.150080	6.950593	.0065996
#2	3.019109	1.867882	.3802495	.0026010	4.148012	6.916235	.0057597
#3	2.961260	1.870760	.3802063	.0026541	4.148046	6.870650	.0042167

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-19DLX2 Acquired: 1/24/2025 14:01:45 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8638461	.0156860	.1282610
Stddev	.0027843	.0006015	.0002548
%RSD	.3223095	3.834510	.1986390
#1	.8668582	.0163748	.1284728
#2	.8633135	.0154187	.1279783
#3	.8613666	.0152645	.1283318

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3509.700	68300.88	10494.32	2383.110	4039.987
Stddev	2.720	161.95	57.82	15.949	2.693
%RSD	.0775088	.2371155	.5509264	.6692332	.0666498
#1	3512.788	68323.66	10459.65	2401.523	4037.390
#2	3508.654	68128.75	10462.25	2374.173	4039.805
#3	3507.658	68450.24	10561.06	2373.633	4042.766

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-20DLX2 Acquired: 1/24/2025 14:05:49 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0399553	-.003285	.6871140	.0158793	.0097044	28.67224	17.10507
Stddev	.0012734	.001345	.0040085	.0010967	.0008663	.08279	.01469
%RSD	3.187118	40.94326	.5833826	6.906608	8.926628	.2887341	.0858666
#1	.0391210	-.001794	.6825677	.0168685	.0090555	28.58320	17.10595
#2	.0393238	-.003654	.6901396	.0146999	.0093697	28.74689	17.11929
#3	.0414211	-.004407	.6886349	.0160693	.0106882	28.68662	17.08996

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038946	.0043978	34.83606	.0766156	.0928000	.1070950	77.65363
Stddev	.0000466	.0000808	.10516	.0003439	.0005033	.0017371	.14716
%RSD	1.196227	1.836744	.3018684	.4488396	.5423582	1.621975	.1895114
#1	.0039480	.0043075	34.72998	.0764686	.0923921	.1074325	77.51051
#2	.0038737	.0044633	34.94027	.0770085	.0933625	.1052140	77.80453
#3	.0038622	.0044225	34.83793	.0763696	.0926455	.1086386	77.64584

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.850359	7.486500	.0742187	.0031629	-.025592	.1117627	1.013849
Stddev	.026626	.040263	.0008264	.0001395	.176613	.0009632	.004185
%RSD	.3391709	.5378028	1.113513	4.411428	690.0972	.8617926	.4127379
#1	7.829419	7.440404	.0737634	.0030546	-.091613	.1124217	1.010473
#2	7.880325	7.514792	.0751727	.0031137	.174519	.1122090	1.018531
#3	7.841335	7.504303	.0737200	.0033203	-.159684	.1106573	1.012543

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.170516	3.654397	.3235693	.0029069	5.185200	6.209520	.0068443
Stddev	.031592	.020484	.0010370	.0004294	.025734	.007719	.0002113
%RSD	.7574974	.5605422	.3204796	14.76974	.4963030	.1243089	3.087498
#1	4.134132	3.631367	.3246632	.0024149	5.156689	6.218429	.0070856
#2	4.190983	3.661238	.3234442	.0032057	5.206707	6.204825	.0067552
#3	4.186434	3.670585	.3226006	.0031001	5.192205	6.205306	.0066922

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-20DLX2 Acquired: 1/24/2025 14:05:49 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7766013	.0140900	.2153920
Stddev	.0014149	.0013083	.0006823
%RSD	.1821927	9.285442	.3167574
#1	.7770195	.0139430	.2146812
#2	.7750244	.0154656	.2160416
#3	.7777599	.0128614	.2154531

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3477.352	68859.46	10665.81	2406.394	3956.906
Stddev	7.819	200.28	67.92	7.867	10.836
%RSD	.2248664	.2908494	.6367566	.3269354	.2738441
#1	3486.354	68658.29	10601.29	2406.094	3966.988
#2	3472.247	69058.83	10736.68	2398.682	3945.448
#3	3473.455	68861.27	10659.47	2414.408	3958.283

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-21DLX2 Acquired: 1/24/2025 14:09:55 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0470992	-.003267	2.162137	.0178036	.0118128	22.26627	19.53919
Stddev	.0024798	.001689	.001687	.0014364	.0012798	.04125	.11818
%RSD	5.265114	51.70841	.0780258	8.067920	10.83423	.1852794	.6048235
#1	.0442958	-.001318	2.160242	.0192280	.0106921	22.27117	19.50275
#2	.0490063	-.004180	2.162696	.0178273	.0132074	22.30485	19.67130
#3	.0479953	-.004304	2.163474	.0163555	.0115390	22.22278	19.44352

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034690	.0200109	66.11299	.0936969	.0879095	.2466442	94.28186
Stddev	.0000411	.0000205	.03596	.0004186	.0004745	.0035654	.14095
%RSD	1.186096	.1023821	.0543915	.4467819	.5397861	1.445568	.1495028
#1	.0034723	.0200243	66.07507	.0936063	.0873896	.2479888	94.33877
#2	.0034263	.0199873	66.11730	.0933310	.0883193	.2493418	94.38546
#3	.0035084	.0200211	66.14660	.0941534	.0880197	.2426020	94.12135

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.851874	28.29950	.0771640	.0030780	-.239320	.1189701	4.765091
Stddev	.019256	.09228	.0003802	.0003566	.137841	.0029749	.023390
%RSD	.2810396	.3260900	.4927189	11.58459	57.59715	2.500555	.4908633
#1	6.830763	28.30117	.0768095	.0027005	-.266903	.1170640	4.741288
#2	6.868475	28.20640	.0775655	.0031244	-.089772	.1223981	4.765940
#3	6.856383	28.39094	.0771168	.0034090	-.361283	.1174483	4.788046

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.358116	2.903048	.3881560	.0037391	6.546789	5.725057	.0324774
Stddev	.013208	.003696	.0002287	.0002239	.010907	.060503	.0002154
%RSD	.5601007	.1273225	.0589281	5.986890	.1665963	1.056807	.6630937
#1	2.344397	2.903658	.3879319	.0035386	6.536433	5.733189	.0325206
#2	2.359207	2.906401	.3883891	.0039806	6.558173	5.781082	.0326679
#3	2.370745	2.899084	.3881471	.0036981	6.545762	5.660899	.0322437

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1044-21DLX2 Acquired: 1/24/2025 14:09:55 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6480756	.0098247	.1864579
Stddev	.0095499	.0008639	.0006652
%RSD	1.473583	8.793315	.3567504
#1	.6498330	.0106542	.1858242
#2	.6566247	.0089301	.1871506
#3	.6377690	.0098896	.1863989

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3495.484	68069.89	10422.94	2399.333	3997.167
Stddev	4.385	94.93	111.01	5.581	4.906
%RSD	.1254588	.1394604	1.065057	.2326103	.1227375
#1	3494.403	67968.34	10366.00	2396.923	4000.876
#2	3491.740	68156.40	10351.96	2405.714	3991.604
#3	3500.309	68084.94	10550.87	2395.362	3999.022

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-01DLX2 Acquired: 1/24/2025 14:14:00 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0300085	-.002200	.5039149	.0042354	.0081499	19.38592
Stddev	.0062323	.003023	.0010984	.0013986	.0006772	.09766
%RSD	20.76861	137.3839	.2179808	33.02126	8.309807	.5037877
#1	.0265201	-.005184	.5026793	.0032667	.0076423	19.32670
#2	.0372038	-.002279	.5042844	.0036006	.0089188	19.49864
#3	.0263015	.000861	.5047809	.0058387	.0078884	19.33241

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.68860	.0024048	.0088251	427.8904	.0594164	.0563052
Stddev	.10941	.0000252	.0000346	2.2254	.0003785	.0001303
%RSD	.7992503	1.047528	.3918603	.5200803	.6370986	.2313525
#1	13.71484	.0023766	.0088129	425.3289	.0590584	.0561893
#2	13.78249	.0024251	.0087982	429.3476	.0598126	.0562800
#3	13.56845	.0024126	.0088641	428.9948	.0593782	.0564462

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0625348	57.30229	4.828089	232.6469	.0588015	.0014326
Stddev	.0039082	.24388	.007715	.9846	.0007920	.0001759
%RSD	6.249587	.4256097	.1597910	.4232078	1.346935	12.27599
#1	.0666390	57.14959	4.824535	232.0856	.0579584	.0015712
#2	.0588577	57.58356	4.836941	233.7838	.0589164	.0014919
#3	.0621078	57.17373	4.822792	232.0714	.0595299	.0012347

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.558214	.0985107	3.785759	1.482605	1.466728	.2323135
Stddev	.260323	.0033333	.013159	.039323	.004948	.0015126
%RSD	46.63504	3.383722	.3475826	2.652280	.3373354	.6510856
#1	-.322858	.0979692	3.782225	1.525557	1.467635	.2328949
#2	-.513954	.1020815	3.800324	1.448377	1.461389	.2334491
#3	-.837830	.0954812	3.774728	1.473881	1.471159	.2305965

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-01DLX2 Acquired: 1/24/2025 14:14:00 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPZ8 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015848	F 10.77037	5.754596	.0019025	.5251496	.0201143
Stddev	.0005631	.04243	.029931	.0006821	.0030402	.0014595
%RSD	35.52909	.3939415	.5201224	35.85273	.5789132	7.256013
#1	.0021921	10.73665	5.786231	.0026577	.5279621	.0199994
#2	.0010801	10.75645	5.750831	.0017187	.5219240	.0216278
#3	.0014820	10.81801	5.726726	.0013311	.5255626	.0187156

Elem	Sr4077
Units	ppm
Avg	.3318939
Stddev	.0010756
%RSD	.3240876
#1	.3317373
#2	.3330393
#3	.3309052

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3061.149	61865.02	9681.532	2168.290	3387.045
Stddev	17.810	115.21	53.624	3.172	14.558
%RSD	.5818066	.1862204	.5538792	.1463029	.4298158
#1	3058.396	61820.29	9628.449	2167.526	3385.844
#2	3080.176	61778.89	9735.681	2165.570	3402.166
#3	3044.876	61995.88	9680.467	2171.775	3373.124

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-03DLX2 Acquired: 1/24/2025 14:18:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ00 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0619661	-.002954	7.361340	.0265968	.0134240	34.35029	14.50233
Stddev	.0010947	.002040	.033842	.0013351	.0002138	.16732	.05202
%RSD	1.766530	69.04953	.4597258	5.019708	1.592972	.4870916	.3586840
#1	.0609358	-.001509	7.350851	.0250867	.0136340	34.21615	14.54152
#2	.0618471	-.002066	7.333983	.0270834	.0132065	34.53777	14.44331
#3	.0631154	-.005287	7.399184	.0276203	.0134315	34.29694	14.52215

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046460	.0140970	34.29943	.1019812	.1015626	.1593115	131.2447
Stddev	.0000340	.0001568	.19982	.0007000	.0004071	.0021162	.5654
%RSD	.7308997	1.111997	.5825740	.6864008	.4008788	1.328356	.4308180
#1	.0046672	.0142183	34.11958	.1015885	.1017007	.1580621	130.7286
#2	.0046640	.0139200	34.51453	.1027893	.1011043	.1581175	131.8491
#3	.0046069	.0141528	34.26418	.1015656	.1018827	.1617549	131.1563

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.225860	14.92420	.1073539	.0038013	.3709870	.1851258	3.227239
Stddev	.030814	.05863	.0009064	.0004213	.2940522	.0010987	.030007
%RSD	.4264374	.3928290	.8443283	11.08227	79.26213	.5934911	.9297995
#1	7.209449	14.86920	.1073236	.0036999	.2212954	.1847584	3.193115
#2	7.261406	14.98589	.1064630	.0034399	.7097665	.1863611	3.249506
#3	7.206725	14.91753	.1082751	.0042640	.1818990	.1842579	3.239096

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.244717	1.672682	.5259588	.0019931	4.368094	6.322605	.0073526
Stddev	.059488	.007462	.0032498	.0001479	.014988	.018109	.0006613
%RSD	1.833375	.4461373	.6178827	7.421248	.3431266	.2864183	8.994271
#1	3.184898	1.676058	.5229449	.0018433	4.371147	6.314355	.0080803
#2	3.245386	1.664128	.5294019	.0019969	4.351815	6.310089	.0067882
#3	3.303868	1.677859	.5255295	.0021391	4.381321	6.343370	.0071892

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-03DLX2 Acquired: 1/24/2025 14:18:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ00 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8211207	.0141833	.1138846
Stddev	.0018196	.0008412	.0005797
%RSD	.2216036	5.931180	.5089822
#1	.8206138	.0141557	.1136808
#2	.8196084	.0133562	.1145386
#3	.8231401	.0150380	.1134343

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3456.024	70904.57	10529.26	2449.334	3873.226
Stddev	8.628	186.19	40.13	18.791	12.540
%RSD	.2496580	.2625955	.3811087	.7671798	.3237715
#1	3453.188	71019.77	10528.22	2470.428	3870.467
#2	3465.713	70689.76	10569.90	2443.189	3886.917
#3	3449.171	71004.17	10489.66	2434.386	3862.296

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-04DLX2 Acquired: 1/24/2025 14:22:21 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0447038	-.002299	.8987979	.0189022	.0111200	31.58163	17.78352
Stddev	.0021076	.001471	.0012745	.0008820	.0013470	.20829	.16263
%RSD	4.714645	64.01064	.1417985	4.666033	12.11365	.6595433	.9144923
#1	.0470054	-.001069	.8974543	.0182039	.0118730	31.35229	17.59649
#2	.0442378	-.003928	.8989496	.0198934	.0095648	31.75906	17.89168
#3	.0428682	-.001898	.8999897	.0186094	.0119221	31.63354	17.86238

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029684	.0034133	25.71998	.0783118	.0681268	.0863642	94.73456
Stddev	.0001004	.0000288	.15377	.0005546	.0003405	.0020026	.58463
%RSD	3.382187	.8440288	.5978453	.7081359	.4997372	2.318829	.6171260
#1	.0029992	.0033981	25.54664	.0779095	.0681253	.0863948	94.08463
#2	.0028562	.0033954	25.83996	.0780815	.0677871	.0883513	95.21760
#3	.0030498	.0034466	25.77332	.0789444	.0684680	.0843464	94.90144

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.445895	10.19748	.0654378	.0032146	.3954670	.1364268	.8777889
Stddev	.026694	.04604	.0006010	.0003202	.4229258	.0023403	.0083026
%RSD	.6004165	.4514667	.9184886	9.961788	106.9434	1.715416	.9458564
#1	4.415678	10.14732	.0652415	.0034149	.8459640	.1380686	.8690313
#2	4.466274	10.23781	.0649594	.0028453	.0069531	.1337471	.8855458
#3	4.455733	10.20730	.0661124	.0033837	.3334839	.1374647	.8787896

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.970557	1.937115	.3811823	.0032900	4.786647	6.425309	.0059362
Stddev	.083260	.005085	.0035548	.0002876	.005527	.017948	.0008977
%RSD	2.802828	.2624992	.9325714	8.741208	.1154724	.2793358	15.12216
#1	2.874623	1.932432	.3770815	.0029624	4.791639	6.407201	.0049689
#2	3.013070	1.936389	.3830753	.0034063	4.780707	6.443093	.0060971
#3	3.023977	1.942523	.3833899	.0035012	4.787595	6.425632	.0067425

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-04DLX2 Acquired: 1/24/2025 14:22:21 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ01 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8471996	.0159923	.1421892
Stddev	.0030243	.0005085	.0008765
%RSD	.3569817	3.179476	.6164382
#1	.8437699	.0154083	.1411847
#2	.8483444	.0163372	.1427987
#3	.8494844	.0162313	.1425841

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3368.994	67468.41	10541.18	2352.883	3867.516
Stddev	4.786	118.22	29.51	12.759	1.464
%RSD	.1420743	.1752296	.2799723	.5422708	.0378573
#1	3366.876	67598.59	10508.05	2367.601	3869.038
#2	3365.631	67367.72	10564.64	2344.949	3866.117
#3	3374.473	67438.93	10550.87	2346.100	3867.393

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-05DLX2 Acquired: 1/24/2025 14:26:27 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0190890**	**-.002517**	**.3615007**	**-.008920**	**.0053190**	**1.706860**
Stddev	.0015508	.001478	.0047196	.005135	.0026575	.019540
%RSD	8.124173	58.74820	1.305551	57.56120	49.96285	1.144814
#1	.0181236	-.003398	.3615523	-.013615	.0023342	1.727110
#2	.0208779	-.000810	.3661943	-.003437	.0074285	1.688116
#3	.0182656	-.003342	.3567556	-.009710	.0061942	1.705353

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.97059**	**.0003858**	**.0114738**	F **1029.106**	**.0305123**	**.0125689**
Stddev	.13407	.0000356	.0000867	6.026	.0000764	.0001149
%RSD	1.119997	9.238942	.7560469	.5855599	.2502736	.9139927
#1	11.82512	.0003479	.0113869	1027.343	.0305095	.0124503
#2	11.99744	.0003909	.0115604	1024.159	.0305901	.0126797
#3	12.08920	.0004186	.0114742	1035.817	.0304374	.0125767

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0742833**	**23.81369**	**.8585918**	**582.7631**	**.0362985**	**.0001660**
Stddev	.0011496	.06477	.0041993	2.2958	.0002864	.0007560
%RSD	1.547523	.2719733	.4890890	.3939570	.7890757	455.3835
#1	.0748649	23.79351	.8582584	581.8275	.0361154	.0005473
#2	.0750259	23.76142	.8545692	581.0829	.0361515	.0006555
#3	.0729592	23.88615	.8629479	585.3790	.0366286	-.000705

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.914979**	**.0546666**	**4.713886**	**-.254451**	**.4541823**	**.1077276**
Stddev	.353178	.0011086	.008035	.006446	.0003906	.0014400
%RSD	38.59958	2.027968	.1704538	2.533170	.0859998	1.336692
#1	-1.29706	.0544568	4.711152	-.250653	.4546331	.1067883
#2	-.60046	.0558651	4.722931	-.250806	.4539452	.1070090
#3	-.84743	.0536779	4.707574	-.261893	.4539685	.1093854

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-05DLX2 Acquired: 1/24/2025 14:26:27 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ02 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029514	F 19.38843	.9761523	-.004196	.0198859	.0269563
Stddev	.0005543	.02605	.0045979	.000407	.0014485	.0007045
%RSD	18.78091	.1343813	.4710249	9.691113	7.283882	2.613459
#1	.0025182	19.41851	.9720863	-.004396	.0183656	.0261757
#2	.0035760	19.37258	.9752287	-.003728	.0212499	.0271482
#3	.0027598	19.37422	.9811420	-.004464	.0200422	.0275449

Elem	Sr4077
Units	ppm
Avg	.4250500
Stddev	.0006462
%RSD	.1520211
#1	.4253339
#2	.4243105
#3	.4255056

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2759.009	56657.06	9199.988	1905.582	3080.319
Stddev	11.188	171.83	18.668	1.611	9.075
%RSD	.4054927	.3032830	.2029159	.0845165	.2946201
#1	2746.987	56672.18	9210.000	1904.325	3074.404
#2	2760.925	56820.84	9211.515	1907.398	3075.785
#3	2769.114	56478.17	9178.450	1905.024	3090.768

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV014 Acquired: 1/24/2025 14:30:45 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV014 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.795527**	**4.903983**	**24.30697**	**4.828828**	**4.883459**	**396.3679**
Stddev	.013337	.020518	.02938	.006178	.014419	2.4117
%RSD	.2781044	.4183909	.1208755	.1279475	.2952580	.6084431
#1	4.793347	4.924730	24.29914	4.835100	4.893747	394.2697
#2	4.783415	4.883703	24.28230	4.822747	4.866978	399.0026
#3	4.809819	4.903516	24.33948	4.828637	4.889651	395.8314

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.754595**	**.4909105**	**2.453180**	**391.1941**	**15.45378**	**2.454630**
Stddev	.125614	.0026574	.002112	2.5189	.02250	.003899
%RSD	1.287738	.5413258	.0860729	.6438965	.1456040	.1588280
#1	9.609940	.4920691	2.453983	394.0739	15.43112	2.451976
#2	9.817706	.4927920	2.450785	390.1076	15.47612	2.452808
#3	9.836140	.4878705	2.454773	389.4008	15.45411	2.459106

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.23948**	**401.9973**	**14.48294**	**391.9465**	**2.452165**	**1.264049**
Stddev	.03978	1.7277	.04501	1.4210	.002803	.003185
%RSD	.2793300	.4297813	.3107715	.3625525	.1143209	.2519751
#1	14.27227	400.0088	14.44304	390.3057	2.453691	1.262094
#2	14.25094	403.1305	14.47406	392.7552	2.448930	1.267724
#3	14.19523	402.8526	14.53173	392.7786	2.453875	1.262328

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**368.6671**	**2.413424**	**14.87305**	**152.0711**	**4.921743**	F **5.859397**
Stddev	1.6085	.009068	.04663	.7476	.010727	.022051
%RSD	.4363028	.3757139	.3135183	.4916072	.2179452	.3763276
#1	370.3514	2.402971	14.85440	151.2080	4.917779	5.867237
#2	368.5029	2.419174	14.83864	152.4904	4.913563	5.876456
#3	367.1469	2.418127	14.92612	152.5150	4.933888	5.834498

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV014 Acquired: 1/24/2025 14:30:45 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV014 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.820248**	**4.931645**	**4.779837**	**4.941196**	**4.803072**	**4.852992**
Stddev	.007774	.021784	.023357	.005132	.014680	.014586
%RSD	.1612873	.4417094	.4886513	.1038546	.3056431	.3005666
#1	4.823054	4.936738	4.778318	4.940929	4.812674	4.838055
#2	4.811460	4.907766	4.803916	4.936203	4.810370	4.853719
#3	4.826229	4.950430	4.757277	4.946456	4.786173	4.867201

Elem	Sr4077
Units	ppm
Avg	**4.903969**
Stddev	.013892
%RSD	.2832796
#1	4.907038
#2	4.916070
#3	4.888800

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2661.272**	**56981.34**	**9311.265**	**1937.989**	**3105.353**
Stddev	6.323	128.00	57.570	2.744	4.775
%RSD	.2375946	.2246343	.6182785	.1415830	.1537722
#1	2659.348	57096.97	9284.016	1941.158	3104.425
#2	2668.334	56843.80	9272.378	1936.371	3110.524
#3	2656.135	57003.26	9377.400	1936.440	3101.109

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB014 Acquired: 1/24/2025 14:35:04 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB014 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008825**	**.0007542**	**-.000785**	**-.001957**	**.0008117**	**.0061884**	**-.000214**
Stddev	.0013514	.0010129	.000952	.001886	.0010700	.0060767	.000861
%RSD	153.1248	134.2932	121.2627	96.36510	131.8229	98.19454	403.0722
#1	.0012899	.0019044	-.000829	-.000015	.0019214	.0040724	.000414
#2	.0019834	.0003628	-.001715	-.002075	-.000214	.0014526	.000140
#3	-.000626	-.000005	.000188	-.003780	.000727	.0130402	-.001195

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000010**	**-.000003**	**.1062897**	**.0001975**	**.0000678**	**-.002222**	**.0079960**
Stddev	.000086	.000044	.0055930	.0002912	.0001745	.001900	.0095238
%RSD	852.9495	1405.682	5.262086	147.4911	257.4039	85.49281	119.1072
#1	.000063	.000019	.1127200	.0005083	-.000133	-.001145	.0011617
#2	-.000105	-.000054	.1025547	-.000069	.000185	-.004415	.0039518
#3	.000012	.000025	.1035943	.000153	.000151	-.001106	.0188745

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000195**	**-.010912**	**.0000861**	**.0000410**	**.0516453**	**.0010076**	**.0055202**
Stddev	.000302	.007783	.0001899	.0001123	.3696146	.0007688	.0010552
%RSD	154.8494	71.32395	220.5088	273.9530	715.6788	76.29680	19.11529
#1	-.000181	-.016223	.0001500	-.000061	.2666070	.0001237	.0043218
#2	.000099	-.014536	-.000127	.000022	.2634740	.0013789	.0063099
#3	-.000503	-.001978	.000236	.000161	-.375145	.0015202	.0059289

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.187276**	**.0026401**	**-.007415**	**-.000067**	**.0018115**	**.0016302**	**.0002782**
Stddev	.084683	.0014092	.000361	.000242	.0028259	.0024088	.0010882
%RSD	45.21856	53.37849	4.866760	361.7477	156.0010	147.7662	391.1625
#1	-.090806	.0040027	-.007229	-.000326	.0046385	-.000703	-.000245
#2	-.221674	.0011885	-.007186	.000152	.0018091	.001485	.001529
#3	-.249347	.0027290	-.007831	-.000027	-.001013	.004108	-.000450

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB014 Acquired: 1/24/2025 14:35:04 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB014 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.000405**	**-.003740**	**.0001022**
Stddev	.000972	.000056	.0000246
%RSD	239.9917	1.500436	24.03355
#1	-.000285	-.003798	.0000784
#2	-.001431	-.003736	.0001007
#3	.000501	-.003686	.0001274

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3286.702**	**66906.16**	**9868.178**	**2369.848**	**3989.360**
Stddev	6.180	150.54	67.073	7.829	4.629
%RSD	.1880331	.2250049	.6796881	.3303663	.1160446
#1	3293.380	66742.65	9897.075	2363.878	3994.447
#2	3281.185	66936.82	9791.501	2366.953	3985.394
#3	3285.540	67039.01	9915.960	2378.712	3988.240

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-10DLX2 Acquired: 1/24/2025 14:39:14 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0515802	-.001597	1.030612	.0215023	.0133385	31.57449
Stddev	.0040001	.000997	.002197	.0018863	.0010164	.15252
%RSD	7.755171	62.41290	.2131828	8.772557	7.619909	.4830622
#1	.0554684	-.002132	1.028240	.0196338	.0127342	31.47169
#2	.0474768	-.002212	1.031019	.0214671	.0145119	31.74974
#3	.0517953	-.000447	1.032577	.0234059	.0127693	31.50206

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 21.11644	.0040832	.0031814	16.90257	.1152768	.0980127
Stddev	.29200	.0001499	.0001098	.10855	.0002421	.0002003
%RSD	1.382824	3.671536	3.452099	.6422366	.2100520	.2043257
#1	21.09058	.0042340	.0030557	16.87246	.1152288	.0981877
#2	21.42051	.0040815	.0032589	17.02301	.1155394	.0980561
#3	20.83822	.0039341	.0032295	16.81226	.1150623	.0977943

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0491257	102.2583	7.752820	7.119448	.0589090	.0033622
Stddev	.0018486	.5782	.048041	.036961	.0003120	.0001565
%RSD	3.762995	.5654462	.6196525	.5191595	.5296329	4.654819
#1	.0493486	102.0887	7.752201	7.095948	.0588926	.0032390
#2	.0508528	102.9023	7.801166	7.162052	.0586055	.0035383
#3	.0471758	101.7838	7.705091	7.100345	.0592289	.0033094

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2545934	.1933676	.8644028	2.338076	1.898560	.4128843
Stddev	.5380535	.0039718	.0036996	.053267	.004976	.0025512
%RSD	211.3384	2.054005	.4279913	2.278229	.2620923	.6179000
#1	-.142119	.1979448	.8676520	2.291427	1.897723	.4122252
#2	.867034	.1913273	.8651799	2.396117	1.903902	.4157004
#3	.038865	.1908306	.8603764	2.326684	1.894056	.4107273

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-10DLX2 Acquired: 1/24/2025 14:39:14 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ05 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032434	5.242000	6.334293	.0058777	.7454509	.0127184
Stddev	.0002472	.012300	.036577	.0005303	.0017941	.0009845
%RSD	7.621433	.2346352	.5774383	9.022381	.2406720	7.740770
#1	.0029619	5.254782	6.376524	.0064887	.7474417	.0122989
#2	.0034251	5.240970	6.313715	.0055373	.7449518	.0138432
#3	.0033433	5.230248	6.312641	.0056071	.7439592	.0120132

Elem	Sr4077
Units	ppm
Avg	.2012369
Stddev	.0010969
%RSD	.5450676
#1	.2010333
#2	.2024213
#3	.2002561

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3447.374	68514.03	10381.57	2440.302	3974.217
Stddev	6.903	283.58	59.33	3.884	6.258
%RSD	.2002254	.4139036	.5715413	.1591794	.1574557
#1	3454.326	68500.68	10314.68	2438.251	3981.422
#2	3447.273	68237.36	10427.86	2437.872	3970.143
#3	3440.522	68804.05	10402.18	2444.782	3971.085

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-11DLX2 Acquired: 1/24/2025 14:43:20 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0442266	-.002856	.6429420	.0182872	.0463088	35.71839	17.93404
Stddev	.0003559	.001530	.0018966	.0019904	.0013661	.31118	.12791
%RSD	.8048171	53.59013	.2949949	10.88409	2.949884	.8712113	.7132108
#1	.0445061	-.002451	.6418638	.0202537	.0473302	36.04491	18.08173
#2	.0438259	-.001569	.6418302	.0183342	.0447572	35.68503	17.86049
#3	.0443478	-.004548	.6451320	.0162737	.0468391	35.42524	17.85990

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027873	.0022368	7.676545	.1179363	.0556305	.0397085	91.90259
Stddev	.0000747	.0000120	.078016	.0002936	.0002920	.0024397	.71691
%RSD	2.680535	.5383260	1.016292	.2489780	.5249283	6.143971	.7800775
#1	.0028452	.0022507	7.739700	.1179692	.0553970	.0419736	92.62571
#2	.0027030	.0022304	7.700601	.1182121	.0555365	.0371254	91.89001
#3	.0028139	.0022293	7.589334	.1176276	.0559579	.0400264	91.19205

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.083105	6.379619	.0469040	.0025048	.2214676	.1615912	.5085854
Stddev	.040720	.068564	.0004081	.0003083	.3703436	.0035695	.0069777
%RSD	.9972826	1.074735	.8700520	12.30802	167.2225	2.208972	1.371978
#1	4.122363	6.422623	.0464711	.0021513	-.115318	.1645980	.5129895
#2	4.085885	6.415686	.0469595	.0027178	.618084	.1576463	.5122264
#3	4.041066	6.300550	.0472816	.0026454	.161637	.1625292	.5005403

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.866522	1.232398	.3651372	.0035102	4.154307	5.954377	.0046141
Stddev	.038379	.004601	.0028945	.0000402	.013806	.171520	.0004923
%RSD	2.056196	.3733641	.7927170	1.143696	.3323231	2.880574	10.67024
#1	1.905537	1.230719	.3671876	.0034651	4.151246	6.113607	.0044409
#2	1.865218	1.228871	.3663978	.0035233	4.142288	5.772765	.0051697
#3	1.828811	1.237603	.3618261	.0035421	4.169386	5.976760	.0042318

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-11DLX2 Acquired: 1/24/2025 14:43:20 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ06 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6995391	.0162817	.1528711
Stddev	.0213936	.0008345	.0017686
%RSD	3.058237	5.125373	1.156909
#1	.7161418	.0172075	.1546467
#2	.6753964	.0160499	.1528569
#3	.7070791	.0155875	.1511096

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3419.231	68146.17	10420.35	2417.821	3967.037
Stddev	5.304	365.04	281.65	17.110	5.109
%RSD	.1551115	.5356729	2.702931	.7076776	.1287900
#1	3421.055	67921.79	10200.21	2408.438	3964.025
#2	3423.383	67949.35	10737.74	2407.454	3972.936
#3	3413.257	68567.39	10323.11	2437.570	3964.149

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-13DLX2 Acquired: 1/24/2025 14:47:28 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0470816**	**-.003844**	**.6524399**	**.0191385**	**.0109256**	**36.89588**	**14.61938**
Stddev	.0012664	.000561	.0025238	.0022186	.0003550	.21965	.07874
%RSD	2.689784	14.58652	.3868232	11.59235	3.249271	.5953135	.5386107
#1	.0456411	-.003198	.6539261	.0175782	.0111552	36.97391	14.63596
#2	.0480200	-.004123	.6538678	.0181589	.0111049	36.64787	14.53367
#3	.0475837	-.004210	.6495259	.0216783	.0105167	37.06586	14.68851

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0042177**	**.0029300**	**15.55881**	**.0992494**	**.1301949**	**.0724561**	**97.94050**
Stddev	.0001163	.0000442	.04791	.0001125	.0004211	.0017353	.42977
%RSD	2.756980	1.510173	.3079393	.1133919	.3234566	2.394944	.4388106
#1	.0042672	.0029718	15.56557	.0991284	.1306457	.0722461	97.92254
#2	.0043010	.0029345	15.50788	.0993509	.1301275	.0742869	97.51999
#3	.0040848	.0028836	15.60299	.0992689	.1298116	.0708354	98.37897

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.620560**	**7.479181**	**.0689722**	**.0035438**	**.0832933**	**.1799854**	**.5331315**
Stddev	.024250	.028524	.0007023	.0000361	.3949197	.0012848	.0023667
%RSD	.2520633	.3813735	1.018185	1.018295	474.1312	.7138619	.4439233
#1	9.638185	7.496553	.0681670	.0035792	.5360672	.1814368	.5348622
#2	9.592904	7.446262	.0694576	.0035070	-.096099	.1795264	.5304345
#3	9.630589	7.494729	.0692922	.0035451	-.190088	.1789931	.5340977

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.528820**	**1.878053**	**.3934310**	**.0039714**	**4.190560**	**6.491252**	**.0050298**
Stddev	.014892	.004529	.0021425	.0003020	.006409	.029927	.0007583
%RSD	.5888779	.2411371	.5445591	7.604822	.1529309	.4610306	15.07515
#1	2.537528	1.881785	.3937492	.0037138	4.186092	6.501141	.0041586
#2	2.511625	1.873015	.3911472	.0038966	4.187685	6.514983	.0055404
#3	2.537307	1.879358	.3953965	.0043038	4.197902	6.457633	.0053906

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-13DLX2 Acquired: 1/24/2025 14:47:28 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ08 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7836106	.0175455	.1632429
Stddev	.0040064	.0003010	.0009159
%RSD	.5112771	1.715759	.5610810
#1	.7846051	.0177115	.1638713
#2	.7870262	.0171980	.1621920
#3	.7792007	.0177270	.1636654

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3541.167	69866.33	10487.70	2437.729	4065.869
Stddev	2.617	35.97	77.38	2.740	5.887
%RSD	.0739068	.0514802	.7378603	.1124151	.1447867
#1	3544.181	69883.05	10503.02	2437.224	4059.165
#2	3539.464	69825.04	10403.80	2440.686	4070.193
#3	3539.858	69890.89	10556.28	2435.276	4068.249

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-16DLX2 Acquired: 1/24/2025 14:51:34 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ11 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0380643	-.002679	.6781167	.0136309	.0087652	26.72425	17.11210
Stddev	.0012813	.000050	.0036542	.0001899	.0017874	.25022	.21532
%RSD	3.366000	1.868233	.5388705	1.393238	20.39142	.9362894	1.258287
#1	.0366568	-.002649	.6797661	.0138373	.0095609	26.98125	17.17067
#2	.0383735	-.002737	.6739286	.0134635	.0100166	26.71008	17.29209
#3	.0391627	-.002651	.6806554	.0135918	.0067182	26.48142	16.87356

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039989	.0027830	12.25593	.0672712	.1135392	.0752583	70.80068
Stddev	.0000668	.0000657	.09646	.0001117	.0007831	.0023216	.56089
%RSD	1.670649	2.359551	.7870368	.1660496	.6897480	3.084788	.7922122
#1	.0040760	.0028177	12.34243	.0673797	.1135792	.0777944	71.40036
#2	.0039598	.0027073	12.27346	.0672772	.1127369	.0732381	70.71272
#3	.0039609	.0028240	12.15192	.0671566	.1143017	.0747423	70.28897

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.380630	5.098006	.0492546	.0031818	-.214197	.1312407	.4630960
Stddev	.086064	.037756	.0005923	.0001781	.056062	.0036366	.0020262
%RSD	1.026935	.7406107	1.202545	5.598804	26.17318	2.770955	.4375309
#1	8.459114	5.141596	.0495678	.0032655	-.278464	.1353977	.4629779
#2	8.394182	5.076931	.0485714	.0029772	-.188791	.1286478	.4651786
#3	8.288595	5.075492	.0496244	.0033026	-.175335	.1296766	.4611314

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.993229	1.707534	.2802242	.0029523	4.385952	5.890481	.0049916
Stddev	.030176	.006659	.0012211	.0000427	.021290	.246179	.0020577
%RSD	1.513912	.3899621	.4357571	1.444716	.4854113	4.179276	41.22446
#1	2.003505	1.706372	.2813603	.0029865	4.390927	6.173652	.0067530
#2	1.959257	1.701533	.2803795	.0029660	4.362615	5.770463	.0054919
#3	2.016925	1.714698	.2789329	.0029045	4.404314	5.727328	.0027298

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-16DLX2 Acquired: 1/24/2025 14:51:34 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ11 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6687407	.0106989	.1599296
Stddev	.0277040	.0007649	.0020061
%RSD	4.142711	7.148909	1.254392
#1	.7007241	.0099826	.1618254
#2	.6533046	.0106096	.1601347
#3	.6521934	.0115045	.1578288

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3359.669	68626.54	10152.81	2401.531	3878.137
Stddev	13.528	107.43	322.34	8.914	16.528
%RSD	.4026577	.1565388	3.174911	.3711765	.4261933
#1	3365.102	68750.16	9783.73	2411.398	3878.193
#2	3369.636	68573.67	10379.09	2394.060	3894.637
#3	3344.269	68555.80	10295.60	2399.135	3861.580

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-18DLX2 Acquired: 1/24/2025 14:55:41 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ13 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0376893**	**-.000751**	**.6752176**	**.0150732**	**.0104125**	**29.07389**	**18.71342**
Stddev	.0024206	.001497	.0026724	.0034541	.0007119	.18380	.05418
%RSD	6.422624	199.2588	.3957808	22.91512	6.837188	.6321863	.2895162
#1	.0388818	.000299	.6748959	.0179770	.0109607	29.27462	18.67491
#2	.0392824	-.000087	.6727206	.0112535	.0096079	28.91383	18.77537
#3	.0349038	-.002465	.6780363	.0159891	.0106689	29.03322	18.68997

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0030983**	**.0022763**	**11.73129**	**.0684832**	**.0912920**	**.0572679**	**74.11077**
Stddev	.0000296	.0000545	.07292	.0003705	.0003649	.0025787	.48564
%RSD	.9567092	2.393313	.6215554	.5410174	.3996656	4.502931	.6552891
#1	.0030989	.0022390	11.81346	.0687510	.0909273	.0569082	74.64546
#2	.0030683	.0022510	11.70614	.0680604	.0912916	.0548879	73.69706
#3	.0031276	.0023388	11.67428	.0686382	.0916570	.0600076	73.98979

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.348714**	**5.647236**	**.0466639**	**.0031191**	**.0143942**	**.1311545**	**.5712938**
Stddev	.033853	.020266	.0001849	.0002757	.0690656	.0002121	.0055295
%RSD	.4606712	.3588625	.3962895	8.839451	479.8145	.1617092	.9678854
#1	7.387722	5.662629	.0466471	.0032974	.0900275	.1310071	.5775712
#2	7.331416	5.624275	.0464880	.0028016	-.045326	.1310589	.5671451
#3	7.327005	5.654805	.0468567	.0032584	-.001519	.1313976	.5691650

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.017654**	**1.581615**	**.2956351**	**.0029173**	**4.599330**	**5.597399**	**.0050491**
Stddev	.045043	.008191	.0028145	.0000456	.016869	.016660	.0003529
%RSD	2.232457	.5179066	.9520252	1.561214	.3667741	.2976360	6.988738
#1	2.039164	1.582115	.2986390	.0029673	4.596620	5.590986	.0048378
#2	1.965889	1.573185	.2930589	.0029065	4.583979	5.616312	.0054565
#3	2.047911	1.589545	.2952073	.0028781	4.617389	5.584898	.0048531

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-18DLX2 Acquired: 1/24/2025 14:55:41 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ13 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6812542	.0135371	.1713069
Stddev	.0012319	.0011047	.0010855
%RSD	.1808347	8.160686	.6336823
#1	.6826536	.0129303	.1725385
#2	.6803335	.0128688	.1708931
#3	.6807755	.0148122	.1704892

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3373.847	67959.60	10389.86	2380.810	3920.181
Stddev	4.538	312.80	12.11	14.584	10.828
%RSD	.1344973	.4602669	.1165207	.6125582	.2762115
#1	3377.502	67623.65	10403.40	2364.153	3918.824
#2	3375.269	68242.44	10380.07	2391.285	3931.624
#3	3368.768	68012.70	10386.11	2386.992	3910.095

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-20DLX2 Acquired: 1/24/2025 14:59:48 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ15 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0362134	-.002784	1.052426	.0155865	.0087905	26.00579	19.97553
Stddev	.0032960	.001054	.003172	.0015026	.0009640	.17702	.07645
%RSD	9.101615	37.87423	.3014207	9.640464	10.96625	.6806819	.3827010
#1	.0324086	-.001824	1.055085	.0161889	.0093541	25.81206	19.91763
#2	.0380379	-.003912	1.048915	.0138762	.0076775	26.15911	19.94677
#3	.0381938	-.002616	1.053278	.0166945	.0093401	26.04621	20.06218

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034782	.0061160	39.45274	.0699122	.0768520	.1856163	66.59161
Stddev	.0000570	.0000898	.23011	.0001966	.0003293	.0010343	.37848
%RSD	1.638022	1.468603	.5832528	.2812724	.4284773	.5572159	.5683621
#1	.0034744	.0061115	39.22277	.0698506	.0764723	.1863500	66.19932
#2	.0035370	.0062080	39.68299	.0697537	.0770245	.1860656	66.95458
#3	.0034233	.0060285	39.45245	.0701322	.0770591	.1844334	66.62093

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.973120	7.954463	.0587736	.0026691	.0576491	.1145727	.8517213
Stddev	.065802	.035891	.0005141	.0003079	.1244684	.0013514	.0097609
%RSD	.7333249	.4512073	.8746468	11.53520	215.9068	1.179505	1.146018
#1	8.908496	7.923674	.0589144	.0029739	.0918030	.1131724	.8410299
#2	9.040040	7.993883	.0582038	.0026753	.1614751	.1146766	.8601565
#3	8.970823	7.945833	.0592026	.0023582	-.080331	.1158692	.8539776

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.083384	3.113937	.2694131	.0029941	6.668561	5.925905	.0045061
Stddev	.070465	.007662	.0019546	.0002115	.008049	.011495	.0009778
%RSD	2.285302	.2460419	.7255187	7.065696	.1207015	.1939838	21.69851
#1	3.016932	3.121938	.2673147	.0028089	6.664934	5.936553	.0033793
#2	3.075948	3.106668	.2711821	.0032246	6.662964	5.913718	.0051301
#3	3.157272	3.113205	.2697427	.0029487	6.677785	5.927444	.0050089

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-20DLX2 Acquired: 1/24/2025 14:59:48 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ15 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6124619	.0107835	.2798191
Stddev	.0020386	.0008037	.0025405
%RSD	.3328482	7.452700	.9079189
#1	.6145409	.0102916	.2775764
#2	.6123784	.0117110	.2825781
#3	.6104664	.0103480	.2793026

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3344.289	67102.74	10078.59	2339.472	3926.879
Stddev	4.132	320.02	51.52	17.935	3.029
%RSD	.1235480	.4769127	.5111912	.7666173	.0771277
#1	3343.964	67467.45	10043.41	2360.159	3924.072
#2	3348.574	66971.88	10137.73	2329.956	3926.477
#3	3340.329	66868.88	10054.63	2328.301	3930.089

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-22DLX2 Acquired: 1/24/2025 15:03:55 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ17 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0392791	-.003805	2.246292	.0099932	.0119972	10.61287
Stddev	.0020338	.001861	.013461	.0016896	.0007400	.01766
%RSD	5.177697	48.89916	.5992591	16.90764	6.167951	.1663609
#1	.0391603	-.005516	2.252268	.0089624	.0112130	10.59262
#2	.0373074	-.004075	2.230877	.0090741	.0126831	10.62101
#3	.0413697	-.001824	2.255730	.0119431	.0120955	10.62500

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 24.98295	.0016822	.0062024	391.3497	.0989562	.0238858
Stddev	.07463	.0001012	.0000245	1.2104	.0007395	.0001120
%RSD	.2987251	6.014248	.3956049	.3092793	.7473393	.4686714
#1	24.89939	.0015997	.0062170	390.8281	.0988984	.0238492
#2	25.00648	.0016517	.0061741	390.4875	.0982473	.0237967
#3	25.04298	.0017951	.0062162	392.7334	.0997230	.0240114

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0593663	77.91611	3.471597	156.9085	.0387304	.0014805
Stddev	.0019974	.29918	.019409	.7264	.0002067	.0002017
%RSD	3.364535	.3839827	.5590888	.4629667	.5336012	13.62245
#1	.0605918	77.59779	3.450112	156.1809	.0387527	.0012527
#2	.0604457	77.95902	3.476816	156.9108	.0389250	.0016363
#3	.0570615	78.19153	3.487864	157.6337	.0385135	.0015525

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3677357	.1054645	2.161306	.9692898	2.539542	.3587923
Stddev	.4703702	.0021263	.011210	.0700016	.017005	.0018186
%RSD	127.9098	2.016175	.5186800	7.221949	.6695998	.5068575
#1	.7851276	.1037456	2.149182	.9484659	2.534349	.3566926
#2	-.141935	.1048056	2.163441	.9120629	2.525739	.3598643
#3	.460015	.1078423	2.171295	1.047340	2.558537	.3598202

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-22DLX2 Acquired: 1/24/2025 15:03:55 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ17 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030661	7.373911	4.082034	-.001046	.2710590	.0111420
Stddev	.0002143	.055852	.027901	.000592	.0028443	.0015596
%RSD	6.988242	.7574289	.6835113	56.58858	1.049346	13.99710
#1	.0028327	7.389107	4.056673	-.000865	.2712934	.0114587
#2	.0031116	7.312033	4.111922	-.001708	.2737789	.0125190
#3	.0032539	7.420592	4.077507	-.000566	.2681047	.0094485

Elem	Sr4077
Units	ppm
Avg	.3925054
Stddev	.0020705
%RSD	.5274974
#1	.3901542
#2	.3933059
#3	.3940561

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3128.146	61592.76	9681.663	2158.260	3524.975
Stddev	13.632	323.52	20.612	12.276	21.453
%RSD	.4357878	.5252625	.2128992	.5688108	.6086107
#1	3125.981	61692.65	9685.558	2160.141	3519.144
#2	3142.731	61854.56	9659.381	2169.487	3548.741
#3	3115.726	61231.07	9700.050	2145.151	3507.039

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-01DLX2 Acquired: 1/24/2025 15:08:10 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ18 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0621817	-.002841	4.396223	.0266805	.0207867	17.20780
Stddev	.0038838	.004276	.013189	.0025962	.0009627	.09604
%RSD	6.245909	150.5150	.3000087	9.730823	4.631252	.5580983
#1	.0584715	-.006307	4.381807	.0294182	.0197009	17.21529
#2	.0662186	-.004153	4.399177	.0263696	.0211235	17.29988
#3	.0618551	.001937	4.407684	.0242538	.0215358	17.10824

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 20.49277	.0024554	.0096251	34.34786	.2063702	.0429910
Stddev	.27592	.0001008	.0000232	.13390	.0007445	.0002801
%RSD	1.346433	4.103731	.2415197	.3898310	.3607712	.6515572
#1	20.79790	.0023606	.0096215	34.37662	.2070674	.0432224
#2	20.26081	.0024443	.0096039	34.46504	.2064571	.0430710
#3	20.41960	.0025612	.0096500	34.20192	.2055860	.0426796

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2061868	133.4026	2.454582	15.04185	.0633542	.0012074
Stddev	.0062041	.5624	.006076	.08334	.0009243	.0002314
%RSD	3.008979	.4216174	.2475368	.5540295	1.458964	19.16421
#1	.1996729	133.6508	2.448995	15.03909	.0628521	.0011884
#2	.2120259	133.7983	2.461051	15.12654	.0627897	.0014477
#3	.2068615	132.7588	2.453702	14.95994	.0644209	.0009861

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.034494	.1704877	3.052986	1.159203	1.982428	.5337932
Stddev	.140237	.0029735	.011020	.032373	.010092	.0038055
%RSD	406.5599	1.744139	.3609681	2.792689	.5090529	.7129186
#1	-.092557	.1674299	3.062348	1.121951	1.973679	.5366191
#2	.125450	.1706642	3.055770	1.180517	1.980138	.5352944
#3	-.136374	.1733691	3.040841	1.175141	1.993468	.5294660

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-01DLX2 Acquired: 1/24/2025 15:08:10 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ18 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046200	6.857678	5.644853	.0053613	.4625737	.0050809
Stddev	.0004545	.015922	.107366	.0010571	.0076138	.0002882
%RSD	9.837296	.2321817	1.902020	19.71650	1.645965	5.673099
#1	.0045879	6.851065	5.523176	.0045271	.4537827	.0050022
#2	.0041824	6.846129	5.685109	.0050069	.4670659	.0048401
#3	.0050897	6.875842	5.726273	.0065501	.4668724	.0054003

Elem	Sr4077
Units	ppm
Avg	.1707663
Stddev	.0003000
%RSD	.1756836
#1	.1709308
#2	.1709481
#3	.1704200

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3304.462	66739.53	9877.580	2383.639	3844.877
Stddev	3.989	345.92	155.295	19.760	2.985
%RSD	.1207199	.5183098	1.572194	.8289723	.0776331
#1	3305.002	66379.48	10054.85	2362.558	3844.859
#2	3308.153	66769.79	9812.36	2386.618	3847.870
#3	3300.230	67069.32	9765.53	2401.739	3841.900

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-10DLX2 Acquired: 1/24/2025 15:12:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ25 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0236471**	**-.004307**	**.9186670**	**-.005434**	**.0100177**	**6.097425**
Stddev	.0014699	.002351	.0357718	.000929	.0012289	.044680
%RSD	6.215957	54.58152	3.893884	17.09218	12.26744	.7327666
#1	.0248896	-.006431	.8786437	-.005126	.0087518	6.072068
#2	.0220245	-.004707	.9298340	-.006478	.0100953	6.149015
#3	.0240273	-.001782	.9475232	-.004699	.0112059	6.071193

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.94823**	**.0012286**	**.0162233**	F **1095.770**	**.0314465**	**.0277398**
Stddev	.14615	.0000684	.0006956	3.843	.0001319	.0011255
%RSD	.8623245	5.564896	4.287564	.3506880	.4193226	4.057345
#1	16.88477	.0011497	.0154885	1093.404	.0315681	.0264404
#2	17.11538	.0012645	.0163098	1100.204	.0314652	.0284121
#3	16.84454	.0012715	.0168716	1093.701	.0313063	.0283668

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0552829**	**43.33324**	**3.028317**	**604.6813**	**.0288321**	**.0002179**
Stddev	.0008988	.28892	.018632	4.1551	.0009633	.0003185
%RSD	1.625783	.6667410	.6152515	.6871605	3.341197	146.1851
#1	.0542566	43.04479	3.013449	600.3593	.0277803	.0005081
#2	.0556623	43.62262	3.049218	608.6466	.0290444	-.000123
#3	.0559298	43.33232	3.022284	605.0381	.0296716	.000268

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.382373**	**.0706776**	**5.151817**	**.4510689**	**.9889880**	**.1925807**
Stddev	.263538	.0025590	.010041	.0223579	.0398669	.0017231
%RSD	68.92165	3.620663	.1948956	4.956657	4.031085	.8947658
#1	-.239788	.0681040	5.144209	.4329783	.9468808	.1909041
#2	-.220847	.0732218	5.148044	.4760649	.9939292	.1943469
#3	-.686483	.0707069	5.163198	.4441636	1.026154	.1924911

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-10DLX2 Acquired: 1/24/2025 15:12:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ25 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046280	F 11.33499	3.051480	-.001779	.1492568	.0284556
Stddev	.0001267	.43439	.006942	.000290	.0018140	.0008065
%RSD	2.737912	3.832333	.2275071	16.31936	1.215351	2.834149
#1	.0046329	10.85616	3.052885	-.002110	.1512003	.0275552
#2	.0047522	11.44504	3.043943	-.001661	.1476085	.0291116
#3	.0044989	11.70378	3.057612	-.001567	.1489615	.0287001

Elem	Sr4077
Units	ppm
Avg	.5139716
Stddev	.0043184
%RSD	.8402119
#1	.5110018
#2	.5189256
#3	.5119875

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2829.996	56601.59	8885.337	1937.479	3117.107
Stddev	94.718	250.95	52.753	9.742	109.157
%RSD	3.346925	.4433649	.5937100	.5028350	3.501882
#1	2936.725	56887.97	8856.438	1939.983	3240.129
#2	2797.320	56496.69	8946.225	1945.726	3079.360
#3	2755.942	56420.10	8853.349	1926.730	3031.834

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-11DLX2 Acquired: 1/24/2025 15:16:31 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ26 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0265792	-.003662	.9535520	-.005287	.0072157	6.472617
Stddev	.0025413	.001208	.0041689	.004552	.0002893	.053337
%RSD	9.561122	32.98848	.4371985	86.09852	4.008632	.8240358
#1	.0239372	-.005009	.9490355	-.003594	.0073976	6.506294
#2	.0267942	-.002674	.9572527	-.010443	.0073672	6.411123
#3	.0290061	-.003303	.9543678	-.001824	.0068821	6.500436

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 21.47809	.0008907	.0112414	F 1088.985	.0376022	.0147250
Stddev	.17384	.0000572	.0001624	3.271	.0000539	.0003414
%RSD	.8093746	6.418329	1.444713	.3003287	.1434754	2.318836
#1	21.63504	.0008448	.0111392	1085.218	.0375690	.0150820
#2	21.29124	.0009547	.0111563	1090.624	.0375732	.0146916
#3	21.50797	.0008725	.0114286	1091.111	.0376645	.0144015

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0483664	39.11390	1.517682	520.7445	.0349099	.0004297
Stddev	.0021220	.32889	.013779	4.1661	.0006490	.0002065
%RSD	4.387261	.8408601	.9078793	.8000262	1.858916	48.06050
#1	.0467130	39.38892	1.531714	523.8435	.0341625	.0002210
#2	.0476271	38.74958	1.504172	516.0085	.0353303	.0006339
#3	.0507591	39.20322	1.517159	522.3814	.0352369	.0004343

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.345516	.0635254	2.222856	.1339093	1.136692	.1737082
Stddev	.202024	.0004845	.016029	.0289647	.001901	.0023623
%RSD	58.47026	.7626735	.7211117	21.63007	.1672091	1.359902
#1	-.321593	.0639739	2.231830	.1508501	1.136341	.1732603
#2	-.558437	.0630115	2.204350	.1004647	1.134992	.1716020
#3	-.156519	.0635908	2.232389	.1504131	1.138744	.1762624

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-11DLX2 Acquired: 1/24/2025 15:16:31 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ26 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0117469	7.817725	3.250662	.0040056	.1301125	.0293352
Stddev	.0004308	.043595	.005859	.0010434	.0011548	.0004120
%RSD	3.667767	.5576450	.1802367	26.04798	.8875001	1.404272
#1	.0120114	7.793034	3.246006	.0028642	.1299856	.0292226
#2	.0112497	7.792079	3.248740	.0049103	.1290264	.0297917
#3	.0119795	7.868061	3.257241	.0042422	.1313254	.0289912

Elem	Sr4077
Units	ppm
Avg	.6231101
Stddev	.0064435
%RSD	1.034083
#1	.6295306
#2	.6166439
#3	.6231557

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2790.458	58082.99	9155.526	1954.011	3077.702
Stddev	10.087	309.01	39.012	12.965	10.004
%RSD	.3614676	.5320088	.4261012	.6635200	.3250513
#1	2797.940	57804.51	9200.420	1952.895	3084.838
#2	2794.446	58415.42	9129.863	1967.499	3082.001
#3	2778.987	58029.02	9136.296	1941.641	3066.267

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-07DLX2 Acquired: 1/24/2025 15:20:48 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ42 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0324572**	**-.002815**	**4.357772**	**.0031771**	**.0115546**	**9.367333**
Stddev	.0022929	.002007	.002018	.0043621	.0005044	.032127
%RSD	7.064389	71.30141	.0463080	137.2974	4.365587	.3429661
#1	.0298400	-.002483	4.356858	.0070572	.0116002	9.353885
#2	.0341124	-.000995	4.356371	-.001544	.0110289	9.403999
#3	.0334191	-.004968	4.360085	.004019	.0120346	9.344116

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.78208**	**.0026652**	**.0509250**	**557.3576**	**.0519588**	**.0541005**
Stddev	.20890	.0000759	.0001636	1.6006	.0004789	.0002386
%RSD	1.323653	2.849273	.3212619	.2871712	.9217547	.4409322
#1	15.89942	.0027483	.0507368	556.8992	.0514528	.0539501
#2	15.54089	.0025993	.0510057	559.1373	.0524050	.0539759
#3	15.90593	.0026481	.0510327	556.0362	.0520187	.0543756

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1097486**	**84.06782**	**6.720455**	**251.9758**	**.0657736**	**.0044951**
Stddev	.0005428	.17967	.029192	1.0027	.0007697	.0003122
%RSD	.4946274	.2137167	.4343762	.3979271	1.170185	6.944402
#1	.1092319	83.86078	6.686957	250.8241	.0649377	.0046252
#2	.1103142	84.18275	6.733948	252.6545	.0659301	.0041389
#3	.1096997	84.15994	6.740459	252.4486	.0664530	.0047212

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.073605**	**.0756562**	**6.262796**	**.4866884**	**1.843092**	**.3464581**
Stddev	.245508	.0009781	.072299	.0396414	.005293	.0006940
%RSD	333.5463	1.292842	1.154415	8.145123	.2871590	.2003061
#1	-.286020	.0760771	6.187558	.4711276	1.841349	.3457667
#2	-.129984	.0763534	6.269084	.5317493	1.838891	.3471547
#3	.195188	.0745381	6.331745	.4571884	1.849036	.3464529

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-07DLX2 Acquired: 1/24/2025 15:20:48 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ42 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030841	F 10.24356	3.789614	-.000197	.3316682	.0189452
Stddev	.0003141	.02849	.005827	.001418	.0020048	.0012800
%RSD	10.18570	.2781309	.1537504	720.1589	.6044645	6.756182
#1	.0033934	10.23273	3.783723	.001425	.3315267	.0181563
#2	.0030936	10.22208	3.789745	-.000813	.3297379	.0204221
#3	.0027654	10.27588	3.795374	-.001203	.3337400	.0182573

Elem	Sr4077
Units	ppm
Avg	.2820223
Stddev	.0012263
%RSD	.4348185
#1	.2806065
#2	.2827113
#3	.2827491

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3085.159	63258.40	9871.330	2156.356	3323.265
Stddev	3.814	171.66	2.612	12.830	1.773
%RSD	.1236262	.2713682	.0264644	.5949780	.0533587
#1	3085.950	63382.88	9869.389	2171.167	3321.349
#2	3088.516	63062.57	9874.300	2149.234	3324.849
#3	3081.012	63329.76	9870.302	2148.667	3323.597

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-08DLX2 Acquired: 1/24/2025 15:25:03 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ43 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0560498	-.003992	3.979338	.0257708	.0199161	37.40072	16.52888
Stddev	.0011464	.001051	.011835	.0028543	.0015005	.25471	.40413
%RSD	2.045356	26.33161	.2974062	11.07588	7.534104	.6810326	2.445001
#1	.0567060	-.003758	3.973286	.0228197	.0192002	37.52752	16.95297
#2	.0547261	-.003078	3.971753	.0259753	.0189076	37.10750	16.14822
#3	.0567174	-.005141	3.992975	.0285174	.0216404	37.56715	16.48544

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052959	.0400039	148.8349	.1191433	.0806449	.2875025	142.2900
Stddev	.0001028	.0000616	1.0600	.0008924	.0001558	.0010961	1.0717
%RSD	1.941227	.1540475	.7121960	.7490135	.1931815	.3812517	.7531545
#1	.0051821	.0399614	149.1810	.1198705	.0807275	.2876909	142.7268
#2	.0053237	.0399757	147.6451	.1181474	.0804652	.2884923	141.0689
#3	.0053820	.0400746	149.6786	.1194119	.0807419	.2863244	143.0743

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.28389	13.99568	.1485196	.0058648	-.117991	.1823760	10.49437
Stddev	.07024	.12596	.0001041	.0002745	.203899	.0018256	.07569
%RSD	.6830257	.9000064	.0700999	4.680453	172.8094	1.001030	.7212674
#1	10.31814	14.02646	.1484153	.0061389	-.066120	.1820245	10.52593
#2	10.20309	13.85718	.1485199	.0058655	-.342816	.1807516	10.40801
#3	10.33042	14.10340	.1486235	.0055900	.054963	.1843518	10.54919

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.107991	7.404599	.6174365	.0030186	7.944232	6.807345	.0226873
Stddev	.067617	.015554	.0050146	.0002873	.011171	.021450	.0002392
%RSD	2.175577	.2100623	.8121683	9.517376	.1406234	.3150994	1.054441
#1	3.080270	7.394251	.6195069	.0030769	7.931345	6.785499	.0224336
#2	3.058641	7.397060	.6117182	.0032723	7.950184	6.808160	.0227193
#3	3.185063	7.422486	.6210845	.0027066	7.951168	6.828375	.0229088

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-08DLX2 Acquired: 1/24/2025 15:25:03 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ43 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6183802	.0163210	.5733425
Stddev	.0034039	.0007098	.0031890
%RSD	.5504520	4.348773	.5562159
#1	.6144999	.0155684	.5756421
#2	.6197785	.0169782	.5697020
#3	.6208623	.0164163	.5746834

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3441.216	68492.47	10673.39	2389.872	3799.242
Stddev	6.372	521.53	58.74	17.099	7.375
%RSD	.1851692	.7614405	.5503342	.7154907	.1941149
#1	3445.390	68354.87	10733.43	2385.432	3803.971
#2	3444.375	69069.01	10670.68	2408.753	3803.012
#3	3433.881	68053.54	10616.05	2375.430	3790.745

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-09DLX2 Acquired: 1/24/2025 15:29:06 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ44 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0587550	-.002258	3.577485	.0187378	.0132646	29.12399	15.03904
Stddev	.0029315	.001197	.006453	.0023930	.0013743	.07074	.21485
%RSD	4.989300	52.99456	.1803767	12.77115	10.36089	.2429061	1.428629
#1	.0570392	-.001136	3.580596	.0176328	.0147373	29.08451	15.15966
#2	.0570859	-.003518	3.570066	.0170968	.0130400	29.20566	15.16648
#3	.0621398	-.002121	3.581793	.0214836	.0120163	29.08180	14.79098

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043494	.0251753	42.73905	.1030008	.0850943	.1936812	102.2590
Stddev	.0001010	.0001240	.06079	.0002358	.0002458	.0012363	.1693
%RSD	2.321488	.4925758	.1422365	.2288881	.2888819	.6383067	.1655397
#1	.0042387	.0253041	42.71745	.1032730	.0849092	.1950945	102.1344
#2	.0043729	.0250567	42.80770	.1028611	.0850005	.1931487	102.4518
#3	.0044365	.0251652	42.69201	.1028684	.0853732	.1928004	102.1909

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.689001	12.12204	.0810708	.0022543	.3519997	.1878858	9.792036
Stddev	.005365	.02480	.0006087	.0004055	.1649950	.0016336	.050180
%RSD	.0942962	.2045693	.7508272	17.98795	46.87363	.8694616	.5124536
#1	5.686197	12.11230	.0809237	.0023940	.4792470	.1876255	9.818458
#2	5.695187	12.10359	.0805492	.0025715	.1655776	.1896339	9.823484
#3	5.685621	12.15023	.0817396	.0017974	.4111743	.1863979	9.734166

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.555349	9.555958	.4124045	.0025247	6.093728	5.363562	.0110571
Stddev	.026319	.022234	.0019986	.0002763	.006580	.011009	.0004399
%RSD	.5777674	.2326765	.4846120	10.94307	.1079773	.2052626	3.978429
#1	4.527808	9.549330	.4102475	.0025624	6.095489	5.374247	.0109904
#2	4.580247	9.537792	.4141935	.0027803	6.086447	5.352255	.0106544
#3	4.557992	9.580753	.4127726	.0022316	6.099249	5.364186	.0115266

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-09DLX2 Acquired: 1/24/2025 15:29:06 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ44 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5643910	.0088265	.1140064
Stddev	.0022263	.0009632	.0001888
%RSD	.3944624	10.91255	.1655890
#1	.5668106	.0098542	.1138666
#2	.5639331	.0086809	.1142211
#3	.5624292	.0079444	.1139313

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3527.974	69180.38	10292.01	2416.649	3977.057
Stddev	9.170	63.69	21.08	11.940	10.438
%RSD	.2599133	.0920606	.2048579	.4940536	.2624620
#1	3522.425	69212.43	10270.81	2411.838	3970.114
#2	3538.558	69107.04	10312.97	2407.865	3989.061
#3	3522.939	69221.69	10292.24	2430.243	3971.996

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-10DLX2 Acquired: 1/24/2025 15:33:09 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ45 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1105888**	**-.003996**	**4.232780**	**.0311465**	**.0251801**	**45.58239**
Stddev	.0017058	.001224	.003215	.0040143	.0009041	.29595
%RSD	1.542438	30.62183	.0759596	12.88839	3.590577	.6492647
#1	.1094338	-.003696	4.229566	.0283035	.0261523	45.25067
#2	.1125480	-.002951	4.232777	.0357386	.0250234	45.67713
#3	.1097845	-.005342	4.235996	.0293974	.0243645	45.81936

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.99603**	**.0055166**	**.0682762**	**105.6726**	**.1863726**	**.1056703**
Stddev	.37097	.0000071	.0001512	.9840	.0025219	.0003476
%RSD	1.952887	.1285727	.2214380	.9311606	1.353144	.3289178
#1	18.65788	.0055125	.0681089	104.6062	.1837964	.1053405
#2	18.93738	.0055124	.0683168	105.8661	.1864849	.1060332
#3	19.39284	.0055248	.0684030	106.5454	.1888364	.1056373

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4308797**	**159.6734**	**5.349536**	**45.82005**	**.1059656**	**.0030777**
Stddev	.0036928	1.2175	.045497	.42412	.0008775	.0003516
%RSD	.8570416	.7624856	.8504865	.9256146	.8280659	11.42410
#1	.4347210	158.3123	5.302252	45.38047	.1055628	.0029063
#2	.4273559	160.0492	5.353350	45.85287	.1069721	.0034821
#3	.4305621	160.6586	5.393006	46.22680	.1053618	.0028447

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.050552**	**.3319686**	F **36.03767**	**4.073501**	**4.205235**	**.6546947**
Stddev	.299957	.0011377	.45434	.078074	.007541	.0063498
%RSD	593.3653	.3427074	1.260729	1.916642	.1793203	.9698933
#1	-.301464	.3309071	35.60971	3.988815	4.196977	.6475255
#2	.281681	.3318292	35.98885	4.142616	4.206973	.6569476
#3	-.131873	.3331696	36.51444	4.089074	4.211755	.6596108

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-10DLX2 Acquired: 1/24/2025 15:33:09 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ45 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002187**	**7.628501**	**7.015109**	**.0238288**	**.7026720**	**.0165502**
Stddev	.000312	.015392	.016978	.0009689	.0023157	.0010637
%RSD	14.24375	.2017673	.2420219	4.066121	.3295576	6.426992
#1	-.002391	7.611025	7.007827	.0231730	.7008121	.0154089
#2	-.001829	7.640044	7.002986	.0233718	.7019382	.0175139
#3	-.002342	7.634433	7.034513	.0249417	.7052657	.0167277

Elem	Sr4077
Units	ppm
Avg	**.1641962**
Stddev	.0013823
%RSD	.8418308
#1	.1627034
#2	.1644535
#3	.1654317

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3352.545**	**68860.63**	**10655.41**	**2422.728**	**3649.860**
Stddev	10.330	738.63	32.43	33.132	3.653
%RSD	.3081256	1.072645	.3043960	1.367567	.1000936
#1	3342.371	69497.89	10672.05	2451.553	3646.046
#2	3352.241	69032.92	10676.15	2430.102	3650.206
#3	3363.024	68051.09	10618.03	2386.530	3653.328

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-11DLX2 Acquired: 1/24/2025 15:37:12 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ46 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0777350	-.002692	1.993246	.0262536	.0184452	36.16230	15.94239
Stddev	.0020891	.000567	.004259	.0011958	.0010808	.19834	.13201
%RSD	2.687439	21.06485	.2136875	4.554955	5.859339	.5484755	.8280222
#1	.0764468	-.003218	1.990196	.0261118	.0180014	36.11171	15.99321
#2	.0766127	-.002767	1.991428	.0275140	.0176570	35.99416	15.79253
#3	.0801453	-.002091	1.998112	.0251349	.0196772	36.38104	16.04143

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046661	.0240408	60.09733	.1155111	.0699623	.3186326	122.6227
Stddev	.0000789	.0000929	.36738	.0008217	.0002429	.0028849	.6501
%RSD	1.692094	.3863608	.6113165	.7113841	.3471603	.9053953	.5301758
#1	.0047056	.0240804	60.05935	.1148812	.0698886	.3208773	122.5717
#2	.0045752	.0239347	59.75041	.1152115	.0702335	.3153787	121.9996
#3	.0047175	.0241074	60.48223	.1164406	.0697648	.3196419	123.2968

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.262454	10.59404	.0852943	.0015879	.0836229	.2425174	12.11553
Stddev	.030369	.05880	.0001721	.0004557	.2620252	.0040194	.05498
%RSD	.7124822	.5550195	.2017090	28.70170	313.3416	1.657356	.4537590
#1	4.256590	10.57416	.0852351	.0020950	-.050064	.2456548	12.09639
#2	4.235445	10.54776	.0854882	.0014562	-.084594	.2379868	12.07269
#3	4.295328	10.66020	.0851597	.0012125	.385526	.2439106	12.17752

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.609020	5.976611	.5190690	.0014328	7.206069	6.768420	.0105627
Stddev	.045782	.009803	.0034707	.0003764	.031829	.088799	.0003978
%RSD	1.268531	.1640154	.6686301	26.27224	.4416936	1.311965	3.766531
#1	3.576228	5.975912	.5179810	.0018185	7.221989	6.796517	.0102812
#2	3.589508	5.967176	.5162727	.0014135	7.169421	6.668971	.0103889
#3	3.661326	5.986744	.5229533	.0010663	7.226797	6.839772	.0110178

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-11DLX2 Acquired: 1/24/2025 15:37:12 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ46 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6597888	.0111360	.1757442
Stddev	.0063428	.0012771	.0010017
%RSD	.9613452	11.46866	.5699999
#1	.6630795	.0123780	.1758230
#2	.6524769	.0112035	.1747055
#3	.6638101	.0098264	.1767043

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3454.149	70250.43	10254.20	2475.004	3866.525
Stddev	14.460	508.38	115.59	13.501	9.382
%RSD	.4186361	.7236615	1.127256	.5455000	.2426450
#1	3458.422	70561.23	10238.73	2486.408	3866.253
#2	3465.991	70526.29	10376.75	2478.506	3876.039
#3	3438.034	69663.75	10147.12	2460.096	3857.282

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-22DL2X5 Acquired: 1/24/2025 15:41:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ17 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0132228	-.000088	.9169695	.0029358	.0035319	3.997076	9.358812
Stddev	.0012503	.002356	.0018482	.0022511	.0016996	.036046	.072752
%RSD	9.455644	2682.177	.2015522	76.67989	48.12163	.9018203	.7773667
#1	.0136679	-.002231	.9148375	.0004331	.0048766	4.027120	9.330311
#2	.0118109	-.000468	.9181164	.0035786	.0016216	3.957107	9.304626
#3	.0141897	.002435	.9179547	.0047955	.0040975	4.007002	9.441500

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007855	.0025031	148.0144	.0406556	.0095880	.0218470	30.12451
Stddev	.0000693	.0001159	1.2611	.0007100	.0003139	.0035493	.26112
%RSD	8.823270	4.628309	.8520113	1.746316	3.273706	16.24604	.8667963
#1	.0008643	.0023705	148.9962	.0410917	.0094309	.0247570	30.32909
#2	.0007340	.0025546	146.5921	.0398364	.0093837	.0178927	29.83040
#3	.0007582	.0025843	148.4548	.0410388	.0099494	.0228911	30.21403

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.319307	59.04160	.0153196	.0006718	.0971369	.0425816	.8218208
Stddev	.015660	.49356	.0002860	.0004103	.3917374	.0003010	.0185813
%RSD	1.186993	.8359557	1.867138	61.07190	403.2840	.7068606	2.260990
#1	1.329304	59.35806	.0154230	.0004048	-.187118	.0428829	.8336880
#2	1.301259	58.47289	.0149962	.0011443	.543990	.0425808	.8004068
#3	1.327358	59.29384	.0155396	.0004664	-.065461	.0422809	.8313675

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1102419	.9992060	.1298918	.0009074	2.886106	1.590912	-.001949
Stddev	.0096746	.0050505	.0002285	.0001234	.002659	.013936	.000788
%RSD	8.775813	.5054541	.1759014	13.60296	.0921164	.8759911	40.41268
#1	.1096990	1.005026	.1299996	.0010140	2.888455	1.604468	-.001157
#2	.1008502	.996616	.1296294	.0007722	2.883220	1.591645	-.001958
#3	.1201766	.995976	.1300465	.0009360	2.886643	1.576624	-.002732

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-22DL2X5 Acquired: 1/24/2025 15:41:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ17 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1046467	.0009569	.1447503
Stddev	.0001001	.0008411	.0015218
%RSD	.0956813	87.89823	1.051314
#1	.1046663	.0000655	.1460596
#2	.1047356	.0010686	.1430807
#3	.1045383	.0017366	.1451105

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3166.480	63623.78	9616.952	2212.991	3700.892
Stddev	7.159	386.57	52.637	20.967	4.322
%RSD	.2261011	.6075861	.5473407	.9474301	.1167841
#1	3170.689	63308.51	9642.069	2202.498	3703.339
#2	3170.537	64055.07	9556.461	2237.133	3703.435
#3	3158.213	63507.75	9652.326	2199.343	3695.901

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-10DL2X5 Acquired: 1/24/2025 15:45:26 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0224472	-.001135	.4176185	.0091771	.0056948	13.86575	9.029191
Stddev	.0001061	.001239	.0023946	.0022698	.0011971	1.54530	.950008
%RSD	.4724666	109.2299	.5733918	24.73370	21.02061	11.14471	10.52152
#1	.0224232	.000285	.4160784	.0066000	.0043980	12.84257	8.469775
#2	.0225631	-.001685	.4163998	.0100518	.0067576	13.11134	8.491706
#3	.0223551	-.002004	.4203773	.0108794	.0059287	15.64335	10.12609

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016636	.0011383	7.404618	.0526331	.0392595	.0200729	45.18609
Stddev	.0000123	.0001428	.813824	.0066262	.0003402	.0007656	5.01844
%RSD	.7380446	12.54632	10.99076	12.58950	.8664466	3.814052	11.10616
#1	.0016625	.0012286	6.885162	.0482223	.0388981	.0203771	41.91720
#2	.0016519	.0012125	6.986162	.0494242	.0393069	.0192020	42.67681
#3	.0016764	.0009736	8.342530	.0602529	.0395735	.0206396	50.96427

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.291488	3.103998	.0235607	.0014113	.2233694	.0758519	.3730638
Stddev	.372282	.350640	.0006867	.0004779	.3931777	.0007859	.0435360
%RSD	11.31046	11.29641	2.914364	33.86470	176.0213	1.036112	11.66984
#1	3.057246	2.903640	.0232027	.0018866	.5714128	.0758361	.3472023
#2	3.096452	2.899477	.0243524	.0014164	.3018116	.0750740	.3486614
#3	3.720767	3.508875	.0231271	.0009308	-.203116	.0766455	.4233278

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9368658	.7474020	.1746898	.0012189	2.091089	2.493378	.0017672
Stddev	.2905768	.0016031	.0236474	.0001325	.007179	.008257	.0004297
%RSD	31.01584	.2144939	13.53678	10.86841	.3432946	.3311383	24.31604
#1	.7984809	.7461000	.1601584	.0012434	2.083039	2.495442	.0016186
#2	.7413469	.7491926	.1619349	.0010759	2.093402	2.484285	.0022515
#3	1.270770	.7469135	.2019761	.0013374	2.096826	2.500407	.0014316

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1045-10DL2X5 Acquired: 1/24/2025 15:45:26 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ05 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2927951	.0027823	.0853020
Stddev	.0022352	.0023971	.0095126
%RSD	.7633849	86.15661	11.15168
#1	.2938732	.0015272	.0791234
#2	.2902252	.0012732	.0805262
#3	.2942867	.0055463	.0962563

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3416.457	62087.75	10130.73	2189.447	4079.041
Stddev	11.998	6457.10	32.63	220.427	12.996
%RSD	.3511729	10.39996	.3220974	10.06771	.3185982
#1	3426.944	66309.55	10109.00	2320.074	4092.725
#2	3419.053	65299.10	10168.25	2313.317	4077.533
#3	3403.373	54654.59	10114.93	1934.949	4066.865

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-01DL2X5 Acquired: 1/24/2025 15:49:37 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ18 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0238473	-.001536	1.811434	.0103812	.0080294	7.232178	8.363448
Stddev	.0013908	.000644	.002036	.0008739	.0006300	.025699	.100676
%RSD	5.832202	41.91782	.1123746	8.418194	7.845597	.3553492	1.203760
#1	.0231826	-.001110	1.812499	.0112664	.0083086	7.251351	8.479422
#2	.0229136	-.002277	1.809087	.0095190	.0073081	7.242206	8.312407
#3	.0254458	-.001221	1.812717	.0103584	.0084715	7.202976	8.298515

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009723	.0037803	14.33455	.0867598	.0171791	.0850341	56.42766
Stddev	.0000372	.0000717	.06412	.0003058	.0002554	.0005445	.24871
%RSD	3.830843	1.896213	.4473065	.3525147	1.486680	.6402754	.4407618
#1	.0009363	.0037881	14.40851	.0870742	.0173161	.0844064	56.69042
#2	.0010107	.0037050	14.30054	.0867418	.0168845	.0853780	56.39666
#3	.0009698	.0038478	14.29461	.0864633	.0173368	.0853180	56.19591

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.010793	6.281908	.0253665	.0010491	.4881198	.0694941	1.264963
Stddev	.000858	.028161	.0000863	.0003711	.2768539	.0016923	.006152
%RSD	.0848598	.4482800	.3403139	35.37217	56.71843	2.435196	.4863624
#1	1.011573	6.313820	.0253584	.0012635	.7933814	.0675697	1.271663
#2	1.009874	6.271361	.0254567	.0012631	.4177056	.0707501	1.263659
#3	1.010931	6.260544	.0252846	.0006206	.2532724	.0701626	1.259568

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2461913	.7749732	.2175878	.0015111	2.728815	2.314662	.0015998
Stddev	.0085824	.0014292	.0012829	.0001464	.011109	.002376	.0004042
%RSD	3.486078	.1844240	.5896186	9.685962	.4070870	.1026531	25.26629
#1	.2559621	.7764195	.2190354	.0013602	2.735111	2.311919	.0014647
#2	.2398716	.7735616	.2171367	.0016525	2.715988	2.315988	.0012804
#3	.2427403	.7749384	.2165914	.0015206	2.735344	2.316080	.0020542

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-01DL2X5 Acquired: 1/24/2025 15:49:37 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ18 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1912582	-.001552	.0693300
Stddev	.0024403	.001743	.0002885
%RSD	1.275917	112.2910	.4161146
#1	.1890904	-.003306	.0695825
#2	.1939011	-.001532	.0693919
#3	.1907832	.000181	.0690156

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3334.245	65612.84	9703.711	2301.869	3992.927
Stddev	6.103	490.75	30.541	17.836	12.815
%RSD	.1830351	.7479431	.3147380	.7748630	.3209392
#1	3328.426	65132.36	9684.931	2281.755	3981.051
#2	3340.597	65592.93	9687.250	2308.089	4006.510
#3	3333.711	66113.24	9738.952	2315.762	3991.221

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-11DL2X5 Acquired: 1/24/2025 15:53:46 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ26 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0126586	-.000666	.3888923	-.001505	.0025327	2.387693	7.731807
Stddev	.0014814	.001441	.0018169	.001847	.0006155	.013854	.046270
%RSD	11.70270	216.4981	.4672077	122.7552	24.29997	.5802399	.5984387
#1	.0126361	.000638	.3883382	-.003598	.0028709	2.372114	7.680979
#2	.0141511	-.002213	.3874169	-.000812	.0018223	2.392335	7.742961
#3	.0111886	-.000422	.3909218	-.000104	.0029049	2.398631	7.771480

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004149	.0045363	413.7272	.0155934	.0060282	.0207271	15.30383
Stddev	.0000673	.0000255	2.3717	.0006285	.0003650	.0037680	.01547
%RSD	16.22414	.5630675	.5732470	4.030358	6.055293	18.17902	.1010982
#1	.0003386	.0045150	415.9973	.0160266	.0058121	.0207921	15.31693
#2	.0004400	.0045646	413.9186	.0158811	.0064496	.0169271	15.28676
#3	.0004660	.0045293	411.2656	.0148726	.0058227	.0244622	15.30779

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5797926	193.9977	.0136799	-.000119	-.037482	.0264772	.8233599
Stddev	.0031102	.2998	.0001398	.000253	.244587	.0013769	.0030311
%RSD	.5364284	.1545533	1.021714	213.3838	652.5381	5.200470	.3681336
#1	.5766031	194.1104	.0135583	.000146	-.319066	.0267041	.8252501
#2	.5828168	193.6579	.0138326	-.000143	.084455	.0250009	.8198638
#3	.5799578	194.2249	.0136487	-.000359	.122164	.0277266	.8249657

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.266389	.4432528	.0605059	.0049877	3.053063	1.258464	-.000395
Stddev	.018608	.0035918	.0001310	.0001387	.009637	.004709	.001466
%RSD	6.985108	.8103239	.2165924	2.781279	.3156543	.3741567	371.2897
#1	-.280901	.4400587	.0603611	.0050878	3.044469	1.253634	-.000791
#2	-.245411	.4471410	.0606165	.0048294	3.051237	1.263041	.001229
#3	-.272854	.4425588	.0605400	.0050460	3.063482	1.258716	-.001622

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1046-11DL2X5 Acquired: 1/24/2025 15:53:46 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ26 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0510285	.0070694	.2266109
Stddev	.0007294	.0009475	.0002312
%RSD	1.429373	13.40329	.1020232
#1	.0515124	.0068638	.2263448
#2	.0501896	.0062416	.2267251
#3	.0513836	.0081029	.2267628

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2940.534	60180.77	9051.807	2065.242	3338.682
Stddev	7.149	255.68	50.701	5.657	8.996
%RSD	.2431283	.4248603	.5601224	.2739309	.2694572
#1	2945.811	59933.37	9056.950	2062.729	3341.687
#2	2943.393	60164.93	8998.730	2061.277	3345.792
#3	2932.397	60444.00	9099.740	2071.721	3328.568

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-12DLX2 Acquired: 1/24/2025 15:58:07 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ47 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0522118**	**-.002046**	**2.245832**	**.0204384**	**.0126493**	**32.23088**
Stddev	.0018456	.000561	.001085	.0025734	.0009899	.10704
%RSD	3.534863	27.41866	.0483114	12.59092	7.825583	.3320888
#1	.0510266	-.002694	2.246547	.0220562	.0130878	32.34564
#2	.0512706	-.001718	2.246366	.0217880	.0133441	32.13377
#3	.0543383	-.001727	2.244584	.0174709	.0115159	32.21321

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.07441**	**.0046526**	**.0047721**	**59.01462**	**.1291302**	**.1012453**
Stddev	.06954	.0000783	.0000528	.08108	.0006563	.0001249
%RSD	.4941197	1.682631	1.106636	.1373833	.5082315	.1233388
#1	14.14364	.0045705	.0047588	59.10147	.1287412	.1011899
#2	14.00456	.0047264	.0048303	58.94093	.1298879	.1013883
#3	14.07502	.0046609	.0047272	59.00145	.1287615	.1011577

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1369860**	**109.6025**	**6.710786**	**9.968756**	**.0706393**	**.0020697**
Stddev	.0014836	.2976	.008442	.016495	.0004191	.0001187
%RSD	1.083048	.2714966	.1258040	.1654622	.5932281	5.732852
#1	.1367247	109.9062	6.719658	9.957356	.0702174	.0019416
#2	.1385830	109.3115	6.709851	9.961244	.0710555	.0020915
#3	.1356504	109.5897	6.702851	9.987670	.0706448	.0021759

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6444118**	**.1899753**	**1.639539**	**3.250908**	F **19.29164**	**.4366346**
Stddev	.1767125	.0016082	.009124	.046166	.04285	.0013918
%RSD	27.42229	.8465249	.5564978	1.420108	.2221272	.3187650
#1	.6229292	.1916326	1.649982	3.199769	19.33722	.4377479
#2	.4794228	.1898723	1.635524	3.263441	19.25217	.4350741
#3	.8308835	.1884212	1.633111	3.289514	19.28554	.4370818

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-12DLX2 Acquired: 1/24/2025 15:58:07 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ47 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042433	8.361390	6.649211	.0044079	.6237945	.0076631
Stddev	.0001697	.024365	.017395	.0006137	.0010322	.0014412
%RSD	3.999526	.2914035	.2616153	13.92175	.1654780	18.80705
#1	.0041939	8.381530	6.660193	.0040927	.6247657	.0067437
#2	.0041038	8.334306	6.658286	.0051151	.6239072	.0069214
#3	.0044322	8.368332	6.629155	.0040159	.6227105	.0093240

Elem	Sr4077
Units	ppm
Avg	.1422124
Stddev	.0002547
%RSD	.1790977
#1	.1425065
#2	.1420624
#3	.1420683

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3460.007	69293.16	10262.88	2420.121	3870.193
Stddev	1.513	48.66	24.27	12.097	5.988
%RSD	.0437247	.0702290	.2365319	.4998375	.1547188
#1	3460.848	69237.61	10266.09	2407.253	3869.092
#2	3458.261	69313.63	10237.16	2421.847	3876.655
#3	3460.914	69328.25	10285.39	2431.261	3864.832

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV015 Acquired: 1/24/2025 16:02:11 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV015 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.676805**	**4.818937**	**24.05417**	**4.677554**	**4.752173**	**378.9722**
Stddev	.014370	.027492	.05002	.021454	.014636	4.8637
%RSD	.3072566	.5705054	.2079566	.4586558	.3079930	1.283404
#1	4.665789	4.809072	23.99750	4.653671	4.735272	382.0426
#2	4.671568	4.797739	24.07286	4.683796	4.760661	381.5096
#3	4.693059	4.850001	24.09216	4.695194	4.760586	373.3645

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.375435**	**.5101516**	**2.437254**	**375.4028**	**15.33464**	**2.432188**
Stddev	.131527	.0038493	.006641	1.5963	.03893	.005336
%RSD	1.402895	.7545374	.2724810	.4252317	.2538734	.2193742
#1	9.315182	.5109483	2.429760	377.2461	15.33491	2.426035
#2	9.284827	.5059664	2.439597	374.4920	15.29558	2.434988
#3	9.526295	.5135403	2.442407	374.4705	15.37344	2.435540

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.01313**	**383.4309**	**13.97666**	**375.1466**	**2.426431**	**1.256694**
Stddev	.02181	.5072	.02008	.3210	.005790	.003770
%RSD	.1556609	.1322667	.1436447	.0855687	.2386158	.2999814
#1	14.02031	383.8666	13.99174	375.3766	2.419767	1.256554
#2	13.98863	383.5519	13.98437	375.2834	2.429301	1.252996
#3	14.03044	382.8742	13.95387	374.7799	2.430225	1.260532

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**363.8501**	**2.378882**	**14.18812**	**146.1536**	**4.955663**	F **5.932318**
Stddev	1.6098	.006371	.04262	.2781	.016094	.032252
%RSD	.4424388	.2678290	.3004252	.1903086	.3247514	.5436631
#1	363.4984	2.379659	14.23361	146.2496	4.937181	5.931127
#2	362.4453	2.372158	14.14910	146.3710	4.966587	5.900678
#3	365.6067	2.384829	14.18166	145.8401	4.963219	5.965148

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV015 Acquired: 1/24/2025 16:02:11 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV015 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.743954**	**4.843807**	**4.767802**	**4.891813**	**4.738033**	**4.611217**
Stddev	.014371	.018724	.022355	.008580	.016876	.015441
%RSD	.3029385	.3865493	.4688713	.1754005	.3561845	.3348674
#1	4.727383	4.823925	4.775728	4.881906	4.753463	4.619811
#2	4.753002	4.846392	4.742564	4.896879	4.720011	4.620450
#3	4.751477	4.861104	4.785113	4.896653	4.740626	4.593391

Elem	Sr4077
Units	ppm
Avg	**4.659530**
Stddev	.052946
%RSD	1.136294
#1	4.676614
#2	4.600151
#3	4.701825

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2705.887**	**56691.88**	**8974.290**	**1977.584**	**3138.016**
Stddev	7.290	173.70	66.505	9.372	6.277
%RSD	.2694157	.3064017	.7410624	.4739268	.2000248
#1	2712.871	56718.02	8978.113	1973.601	3143.771
#2	2698.325	56851.03	9038.802	1988.290	3131.323
#3	2706.465	56506.58	8905.956	1970.860	3138.956

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB015 Acquired: 1/24/2025 16:06:29 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB015 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027193	.0009813	.0001432	-.000859	.0002457	.0077208	-.004576
Stddev	.0022030	.0008443	.0010212	.002336	.0005611	.0066805	.000743
%RSD	81.01181	86.04268	713.1860	272.0152	228.3153	86.52617	16.23107
#1	.0028686	.0011184	.0008615	.001304	.0000265	.0001239	-.005431
#2	.0004455	.0017486	-.001026	-.000544	-.000173	.0126789	-.004089
#3	.0048438	.0000768	.000594	-.003336	.000883	.0103596	-.004209

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000011	.0000128	.0137953	.0003166	.0001881	.0000800	.0126694
Stddev	.000065	.0000083	.0074684	.0002348	.0001250	.0023217	.0050401
%RSD	593.8172	64.36429	54.13726	74.14756	66.46124	2903.711	39.78141
#1	.000043	.0000223	.0056751	.0005277	.0002882	.0022614	.0086242
#2	.000008	.0000069	.0203701	.0000638	.0002282	.0003388	.0110686
#3	-.000084	.0000093	.0153408	.0003584	.0000480	-.002360	.0183155

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000155	-.013255	.0001448	.0001342	-.104795	.0017186	-.001345
Stddev	.000230	.020536	.0001034	.0005113	.218928	.0035317	.002246
%RSD	148.7028	154.9379	71.37126	381.0540	208.9107	205.5036	166.9240
#1	-.000419	-.027072	.0002575	.0004926	.147646	-.001041	-.000016
#2	-.000049	.010344	.0000543	-.000451	-.242615	.005699	-.003938
#3	.000003	-.023036	.0001227	.000361	-.219416	.000498	-.000082

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.415351	.0021145	-.006999	-.000484	.0018431	.0020462	.0000708
Stddev	.023355	.0006315	.000775	.000118	.0027578	.0013390	.0002517
%RSD	5.622926	29.86467	11.06873	24.31187	149.6278	65.43864	355.6367
#1	-.394322	.0027632	-.006222	-.000619	.0008178	.0035767	-.000182
#2	-.440487	.0020784	-.007771	-.000404	.0049667	.0014702	.000074
#3	-.411244	.0015018	-.007005	-.000430	-.000255	.0010916	.000321

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB015 Acquired: 1/24/2025 16:06:29 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB015 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.000404**	**-.003671**	**.0000942**
Stddev	.000413	.000668	.0000486
%RSD	102.1954	18.20805	51.60652
#1	-.000102	-.003099	.0000437
#2	-.000236	-.003508	.0001407
#3	-.000875	-.004406	.0000981

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3418.432**	**67550.64**	**9415.703**	**2399.743**	**4201.912**
Stddev	3.821	114.96	12.968	10.331	3.820
%RSD	.1117869	.1701836	.1377294	.4304994	.0909051
#1	3422.258	67663.97	9420.684	2411.116	4198.084
#2	3414.615	67434.12	9400.983	2397.172	4201.928
#3	3418.423	67553.84	9425.443	2390.940	4205.723

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-21 Acquired: 1/24/2025 16:10:38 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ56 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.637110**	**1.900970**	**1.545395**	**.8538515**	**1.064951**	**47.57231**
Stddev	.004027	.028907	.007693	.0063646	.006256	.36410
%RSD	.2459960	1.520642	.4978321	.7453972	.5874798	.7653586
#1	1.632669	1.868135	1.536954	.8468732	1.058600	47.98573
#2	1.638136	1.912192	1.547215	.8593371	1.065146	47.29941
#3	1.640525	1.922584	1.552015	.8553441	1.071108	47.43179

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.348571**	F **1.513988**	**1.105004**	**52.22986**	**2.556951**	**1.773693**
Stddev	.023792	.010477	.006875	.34864	.005551	.006868
%RSD	.7105084	.6920325	.6221937	.6675108	.2170781	.3872199
#1	3.375864	1.501891	1.097085	52.60336	2.559366	1.765804
#2	3.332211	1.519964	1.108475	51.91302	2.550602	1.776943
#3	3.337639	1.520111	1.109452	52.17319	2.560886	1.778333

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.208012**	**67.30403**	**3.984116**	**15.17705**	**1.160294**	**.4581630**
Stddev	.003945	.49040	.022652	.07824	.005124	.0003637
%RSD	.3265386	.7286405	.5685557	.5155299	.4415851	.0793941
#1	1.204418	67.85481	4.009807	15.26610	1.154417	.4584916
#2	1.207386	66.91472	3.967014	15.14570	1.162639	.4577722
#3	1.212233	67.14256	3.975529	15.11933	1.163825	.4582253

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.330445**	**1.169800**	**3.561073**	**10.96092**	**2.217731**	**2.300769**
Stddev	.297397	.005761	.026663	.09041	.010629	.012527
%RSD	6.867589	.4924615	.7487480	.8248797	.4792661	.5444862
#1	4.020589	1.163189	3.588221	11.06522	2.206352	2.286655
#2	4.613580	1.173749	3.534922	10.90483	2.219439	2.310571
#3	4.357166	1.172461	3.560076	10.91271	2.227403	2.305081

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-21 Acquired: 1/24/2025 16:10:38 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ56 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4908485	.5181324	5.401004	1.042590	2.537792	1.077317
Stddev	.0014008	.0030285	.012879	.003029	.003847	.004050
%RSD	.2853807	.5845090	.2384641	.2905205	.1515698	.3759016
#1	.4895824	.5178838	5.414046	1.039329	2.536830	1.081769
#2	.4906098	.5152358	5.388294	1.043124	2.542028	1.073853
#3	.4923533	.5212776	5.400673	1.045316	2.534518	1.076328

Elem	Sr4077
Units	ppm
Avg	1.918414
Stddev	.017090
%RSD	.8908162
#1	1.919970
#2	1.900599
#3	1.934672

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3501.500	69470.77	10747.46	2418.271	3921.678
Stddev	8.404	136.27	74.31	5.640	14.656
%RSD	.2400191	.1961543	.6914302	.2332377	.3737120
#1	3510.440	69347.81	10833.25	2415.547	3938.165
#2	3500.298	69617.28	10706.10	2424.756	3916.738
#3	3493.761	69447.23	10703.03	2414.510	3910.130

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1043-15 Acquired: 1/24/2025 16:14:33 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPL7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.490352**	**1.383322**	**2.361093**	**2.732982**	**.9515214**	**35.19442**
Stddev	.007765	.007974	.005001	.010452	.0036190	.31922
%RSD	.3117839	.5764610	.2117987	.3824346	.3803336	.9070308
#1	2.484621	1.385732	2.356312	2.728434	.9495297	35.52096
#2	2.487245	1.389814	2.360678	2.725574	.9493357	34.88306
#3	2.499188	1.374421	2.366288	2.744937	.9556987	35.17923

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.113044**	F **1.799288**	**1.021020**	**56.91297**	**2.639977**	**1.666612**
Stddev	.028316	.019809	.001419	.44881	.000812	.005647
%RSD	.9095894	1.100930	.1389699	.7885847	.0307593	.3388457
#1	3.141250	1.778639	1.019985	57.41577	2.639608	1.661615
#2	3.084620	1.818134	1.020439	56.55285	2.640909	1.665482
#3	3.113262	1.801091	1.022638	56.77027	2.639416	1.672738

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.141244**	**59.94129**	**3.040649**	**14.63747**	**3.635338**	**.8281432**
Stddev	.009114	.54231	.023802	.10019	.010432	.0013526
%RSD	.4256436	.9047348	.7827914	.6844546	.2869511	.1633339
#1	2.130796	60.52474	3.065515	14.74630	3.626589	.8266472
#2	2.147560	59.45262	3.018077	14.54907	3.632543	.8292800
#3	2.145376	59.84651	3.038355	14.61703	3.646883	.8285024

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.088435**	**1.873442**	**2.547677**	**16.34733**	**2.269229**	**1.702103**
Stddev	.378336	.006692	.021848	.14887	.002334	.008602
%RSD	9.253801	.3571769	.8575746	.9106658	.1028697	.5053837
#1	4.198491	1.871549	2.563109	16.51301	2.266670	1.692405
#2	4.399539	1.880876	2.522677	16.22481	2.271243	1.708813
#3	3.667273	1.867900	2.557245	16.30418	2.269774	1.705090

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1043-15 Acquired: 1/24/2025 16:14:33 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCPL7 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.001709	.4570423	2.123928	1.056086	1.173323	.9641793
Stddev	.003217	.0011227	.005437	.004323	.003829	.0075984
%RSD	.3211079	.2456372	.2559979	.4093060	.3263424	.7880647
#1	.998728	.4558663	2.126587	1.052948	1.171507	.9727969
#2	1.001279	.4571579	2.127524	1.061017	1.170740	.9584432
#3	1.005118	.4581027	2.117673	1.054295	1.177723	.9612977

Elem	Sr4077
Units	ppm
Avg	.8793968
Stddev	.0085207
%RSD	.9689232
#1	.8878856
#2	.8708446
#3	.8794602

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3463.019	69149.46	10760.85	2405.670	3868.403
Stddev	9.950	192.38	85.73	5.561	12.540
%RSD	.2873268	.2782120	.7967116	.2311482	.3241546
#1	3473.213	68927.69	10846.02	2405.361	3881.539
#2	3462.512	69249.27	10674.56	2411.379	3867.108
#3	3453.332	69271.43	10761.98	2400.270	3856.561

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-13DLX2 Acquired: 1/24/2025 16:18:19 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ48 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0703712	-.002508	3.636223	.0266725	.0151649	43.10130	17.12742
Stddev	.0019611	.000715	.006732	.0017277	.0009826	.17066	.25841
%RSD	2.786794	28.51944	.1851415	6.477556	6.479419	.3959544	1.508749
#1	.0706330	-.001895	3.630119	.0280301	.0156211	43.24358	17.09440
#2	.0682923	-.002336	3.635108	.0272597	.0158365	43.14825	16.88710
#3	.0721882	-.003294	3.643444	.0247277	.0140372	42.91208	17.40075

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0062042	.0249063	139.0216	.1283178	.0925346	.2532544	129.1864
Stddev	.0000867	.0000387	.4134	.0002499	.0003334	.0019527	.5209
%RSD	1.397699	.1553787	.2973979	.1947866	.3602567	.7710381	.4031926
#1	.0063014	.0248966	139.3239	.1284690	.0923161	.2543483	129.7088
#2	.0061346	.0248734	139.1904	.1280293	.0923695	.2544149	129.1833
#3	.0061768	.0249489	138.5504	.1284552	.0929183	.2509999	128.6671

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.497766	55.34729	.1194088	.0043218	.2635832	.2152148	3.736405
Stddev	.021046	.25356	.0003200	.0002341	.2383955	.0024278	.014856
%RSD	.2806908	.4581192	.2679488	5.415600	90.44410	1.128074	.3975942
#1	7.514464	55.51153	.1190653	.0041530	.5304774	.2138130	3.752891
#2	7.504708	55.47508	.1194629	.0042234	.1885142	.2180181	3.732268
#3	7.474127	55.05527	.1196983	.0045890	.0717579	.2138132	3.724056

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.269549	4.886556	.5511539	.0043622	7.243805	7.148416	.0177385
Stddev	.057355	.006598	.0022419	.0004041	.021193	.007859	.0004753
%RSD	1.343340	.1350268	.4067686	9.263049	.2925735	.1099437	2.679676
#1	4.335478	4.879027	.5533156	.0048187	7.219416	7.141019	.0182376
#2	4.231153	4.891331	.5513066	.0040503	7.257744	7.156667	.0172912
#3	4.242015	4.889310	.5488395	.0042176	7.254255	7.147560	.0176869

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-13DLX2 Acquired: 1/24/2025 16:18:19 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ48 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6386445	.0216713	.1644456
Stddev	.0033256	.0010632	.0009169
%RSD	.5207252	4.905837	.5575686
#1	.6358618	.0214943	.1651838
#2	.6423276	.0207077	.1647337
#3	.6377442	.0228118	.1634192

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3384.955	67310.37	10635.52	2361.015	3697.719
Stddev	8.631	87.30	43.77	11.467	3.070
%RSD	.2549850	.1297036	.4115824	.4856977	.0830147
#1	3388.190	67236.51	10676.13	2348.470	3698.534
#2	3391.502	67406.72	10641.26	2363.618	3700.299
#3	3375.174	67287.88	10589.15	2370.957	3694.324

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-14DLX2 Acquired: 1/24/2025 16:22:22 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ49 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0738079	-.002970	1.974073	.0298902	.0208887	43.89409	17.07615
Stddev	.0015231	.002272	.011192	.0036770	.0014225	.23930	.14244
%RSD	2.063542	76.48959	.5669588	12.30153	6.809918	.5451764	.8341640
#1	.0749251	-.004429	1.969543	.0317025	.0196167	43.96164	17.20484
#2	.0744256	-.004129	1.965856	.0256589	.0224247	44.09235	17.10050
#3	.0720730	-.000353	1.986820	.0323092	.0206246	43.62827	16.92310

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043335	.0148801	186.8788	.1438407	.0804661	.2311172	161.7787
Stddev	.0000939	.0000710	.6054	.0008041	.0003220	.0006156	.7789
%RSD	2.166180	.4774240	.3239396	.5590459	.4001481	.2663595	.4814835
#1	.0043462	.0148460	187.0212	.1434359	.0801161	.2304979	161.8315
#2	.0042339	.0148325	187.4003	.1447668	.0805325	.2317290	162.5299
#3	.0044204	.0149617	186.2149	.1433194	.0807497	.2311247	160.9747

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.196838	91.00819	.1102107	.0047933	.0575652	.2402495	5.243570
Stddev	.015325	.27758	.0004741	.0001957	.3374285	.0004302	.016508
%RSD	.2948893	.3050043	.4301479	4.083082	586.1679	.1790468	.3148152
#1	5.206198	90.98754	.1097481	.0050088	-.191692	.2400623	5.225437
#2	5.205164	91.29552	.1101884	.0047445	.441541	.2399446	5.247548
#3	5.179153	90.74152	.1106955	.0046266	-.077153	.2407415	5.257725

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.367730	4.431640	.6760212	.0045957	6.050927	7.289373	.0794313
Stddev	.109661	.007080	.0029921	.0002649	.029143	.014873	.0001204
%RSD	2.042959	.1597686	.4426090	5.764230	.4816214	.2040400	.1515206
#1	5.380349	4.423559	.6771244	.0044439	6.028030	7.295463	.0795698
#2	5.470535	4.434607	.6783051	.0044417	6.041018	7.272421	.0793728
#3	5.252306	4.436754	.6726341	.0049016	6.083732	7.300235	.0793515

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-14DLX2 Acquired: 1/24/2025 16:22:22 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ49 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7343938	.0205674	.1793322
Stddev	.0010605	.0004719	.0006478
%RSD	.1443988	2.294263	.3612077
#1	.7331886	.0210679	.1796573
#2	.7348089	.0205036	.1797530
#3	.7351840	.0201306	.1785863

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3237.561	65530.56	10491.56	2287.398	3552.737
Stddev	8.030	44.91	43.77	1.742	11.170
%RSD	.2480178	.0685270	.4171661	.0761628	.3144140
#1	3232.223	65488.12	10496.11	2288.441	3559.600
#2	3246.795	65525.98	10532.87	2288.368	3558.763
#3	3233.665	65577.58	10445.69	2285.387	3539.848

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-15DLX2 Acquired: 1/24/2025 16:26:25 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ50 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0456302**	**-.004475**	**7.967059**	**.0186452**	**.0165171**	**12.82733**
Stddev	.0008266	.000355	.012736	.0045081	.0010753	.03642
%RSD	1.811555	7.931080	.1598579	24.17852	6.510027	.2839185
#1	.0451133	-.004841	7.970707	.0230594	.0173047	12.80450
#2	.0451937	-.004132	7.952897	.0188277	.0169545	12.86933
#3	.0465835	-.004453	7.977573	.0140486	.0152920	12.80817

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.800097**	**.0041021**	**.1078435**	**506.7363**	**.0861390**	**.1189795**
Stddev	.131758	.0001018	.0004182	1.2511	.0001094	.0002709
%RSD	1.344452	2.481915	.3877581	.2468878	.1269627	.2276472
#1	9.951148	.0039853	.1076914	505.9415	.0862029	.1188996
#2	9.708828	.0041482	.1075227	508.1784	.0860128	.1187577
#3	9.740317	.0041726	.1083164	506.0890	.0862014	.1192814

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5652450**	**130.7668**	**10.61120**	**226.2424**	**.1262113**	**.0115843**
Stddev	.0048040	.3807	.04386	.7154	.0003598	.0001333
%RSD	.8499047	.2911086	.4133631	.3162186	.2851046	1.150482
#1	.5655991	130.8147	10.61132	226.2132	.1265160	.0117058
#2	.5602737	131.1213	10.65500	226.9720	.1258143	.0114417
#3	.5698622	130.3644	10.56728	225.5421	.1263036	.0116054

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.241920**	**.0865058**	**7.637454**	**1.072081**	**2.432768**	**.5462096**
Stddev	.176684	.0028626	.035389	.015614	.012122	.0014215
%RSD	73.03428	3.309160	.4633640	1.456432	.4982664	.2602387
#1	-.093959	.0851627	7.606567	1.089805	2.419723	.5476186
#2	-.437547	.0845617	7.676068	1.066081	2.434896	.5462343
#3	-.194253	.0897930	7.629727	1.060356	2.443684	.5447760

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-15DLX2 Acquired: 1/24/2025 16:26:25 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ50 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018854	F 13.50762	4.877162	.0042926	.2887671	.0161490
Stddev	.0007243	.05700	.013623	.0006955	.0003193	.0024107
%RSD	38.41603	.4220144	.2793132	16.20329	.1105852	14.92771
#1	.0011251	13.48342	4.880437	.0050426	.2887848	.0178699
#2	.0025673	13.46671	4.862201	.0036689	.2884392	.0171834
#3	.0019637	13.57273	4.888849	.0041662	.2890771	.0133938

Elem	Sr4077
Units	ppm
Avg	.2192972
Stddev	.0011494
%RSD	.5241133
#1	.2194053
#2	.2203887
#3	.2180976

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3139.190	63170.46	10121.48	2184.134	3395.781
Stddev	3.438	176.02	31.23	6.929	6.774
%RSD	.1095075	.2786480	.3085407	.3172538	.1994693
#1	3137.013	63239.44	10151.45	2191.967	3394.588
#2	3143.153	62970.40	10123.85	2178.802	3403.072
#3	3137.404	63301.55	10089.13	2181.634	3389.683

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-17DLX2 Acquired: 1/24/2025 16:30:35 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ52 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0541440	-.004276	2.640388	.0186053	.0130887	31.87984	16.59315
Stddev	.0028275	.001363	.007386	.0040492	.0015689	.18329	.19509
%RSD	5.222278	31.87068	.2797440	21.76387	11.98663	.5749502	1.175738
#1	.0568310	-.005847	2.632671	.0210455	.0138391	32.08449	16.41596
#2	.0511942	-.003410	2.641102	.0139312	.0141414	31.82425	16.80222
#3	.0544068	-.003572	2.647392	.0208393	.0112855	31.73078	16.56128

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046819	.0212111	82.82945	.2645420	.0729339	.1686854	99.43321
Stddev	.0000267	.0000858	.30141	.0010356	.0001601	.0011087	.52008
%RSD	.5707100	.4046539	.3638923	.3914841	.2194640	.6572750	.5230432
#1	.0046693	.0211617	83.16188	.2657378	.0730461	.1676940	100.0215
#2	.0047126	.0211615	82.57399	.2639446	.0727506	.1698826	99.2434
#3	.0046637	.0213102	82.75247	.2639434	.0730050	.1684796	99.0347

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.809070	33.25965	.0943513	.0018824	.5594387	.1762220	2.138443
Stddev	.016232	.24170	.0003777	.0003157	.2247657	.0022855	.008317
%RSD	.3375276	.7266992	.4003416	16.77341	40.17700	1.296970	.3889135
#1	4.821023	33.53416	.0939950	.0015192	.3098170	.1761462	2.146269
#2	4.790591	33.16598	.0943115	.0020919	.7457829	.1739753	2.129710
#3	4.815596	33.07880	.0947473	.0020360	.6227160	.1785445	2.139349

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.182148	3.811515	.4121872	.0041474	6.820533	7.121133	.0394557
Stddev	.056741	.021125	.0023222	.0002405	.022629	.021374	.0011760
%RSD	1.783104	.5542412	.5633811	5.800009	.3317757	.3001419	2.980422
#1	3.244820	3.800505	.4148685	.0038774	6.844528	7.133271	.0395524
#2	3.167357	3.798169	.4108749	.0043391	6.799577	7.096454	.0382345
#3	3.134267	3.835871	.4108183	.0042256	6.817493	7.133674	.0405804

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-17DLX2 Acquired: 1/24/2025 16:30:35 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ52 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6254493	.0119251	.1271723
Stddev	.0014804	.0008158	.0003337
%RSD	.2366929	6.841261	.2623598
#1	.6268201	.0116057	.1275015
#2	.6238795	.0128523	.1268343
#3	.6256482	.0113173	.1271810

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3427.958	68819.18	10084.89	2449.433	3809.941
Stddev	5.621	244.90	16.54	8.508	4.064
%RSD	.1639640	.3558529	.1640075	.3473490	.1066699
#1	3422.354	68536.48	10065.82	2440.140	3810.994
#2	3433.595	68966.51	10093.63	2456.839	3805.454
#3	3427.924	68954.53	10095.24	2451.321	3813.374

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-18DLX2 Acquired: 1/24/2025 16:34:39 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ53 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0621058	-.001068	2.673122	.0251433	.0155752	36.06993	16.73101
Stddev	.0018442	.000718	.016280	.0053513	.0014520	.06318	.11742
%RSD	2.969497	67.21117	.6090100	21.28308	9.322496	.1751710	.7018091
#1	.0600192	-.001510	2.666527	.0268500	.0147327	36.11108	16.81297
#2	.0635178	-.001453	2.661174	.0294332	.0147411	35.99718	16.59649
#3	.0627803	-.000240	2.691664	.0191469	.0172518	36.10151	16.78357

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044664	.0164608	108.2246	.1299100	.0679644	.2503457	122.1549
Stddev	.0000329	.0000660	.2898	.0002452	.0005574	.0029520	.3620
%RSD	.7358135	.4011123	.2677783	.1887552	.8201550	1.179154	.2963275
#1	.0045042	.0165209	108.2929	.1301929	.0676158	.2536857	122.3331
#2	.0044503	.0164713	107.9067	.1297794	.0676701	.2480863	121.7384
#3	.0044448	.0163901	108.4741	.1297577	.0686072	.2492651	122.3932

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.827861	45.61613	.1194151	.0033129	.3901493	.1816072	4.184757
Stddev	.012029	.05604	.0003604	.0006483	.3624030	.0007631	.005266
%RSD	.2491582	.1228465	.3018306	19.57012	92.88827	.4202200	.1258371
#1	4.828330	45.61600	.1193202	.0034559	.7912412	.1808535	4.179634
#2	4.815604	45.56016	.1191117	.0026050	.2929468	.1823795	4.190155
#3	4.839649	45.67223	.1198135	.0038778	.0862600	.1815886	4.184480

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.756483	6.066346	.5190958	.0037313	6.401556	6.856431	.0195321
Stddev	.082374	.025820	.0011347	.0002781	.032225	.014059	.0008458
%RSD	2.192851	.4256296	.2185813	7.452770	.5033941	.2050426	4.330079
#1	3.822310	6.047072	.5197754	.0034920	6.380411	6.846404	.0199497
#2	3.783030	6.056283	.5177859	.0040363	6.385612	6.872501	.0185588
#3	3.664109	6.095682	.5197261	.0036655	6.438645	6.850388	.0200879

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-18DLX2 Acquired: 1/24/2025 16:34:39 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ53 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6742760	.0172117	.1725024
Stddev	.0014596	.0008482	.0006654
%RSD	.2164748	4.928253	.3857324
#1	.6727024	.0177533	.1724256
#2	.6755857	.0162341	.1718787
#3	.6745399	.0176476	.1732028

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3364.395	67209.53	10392.81	2376.444	3745.746
Stddev	15.361	240.82	5.74	3.728	15.367
%RSD	.4565878	.3583130	.0552047	.1568628	.4102431
#1	3372.924	66990.28	10392.55	2373.405	3748.479
#2	3373.599	67467.29	10387.22	2380.604	3759.563
#3	3346.661	67171.03	10398.68	2375.324	3729.196

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-19DLX2 Acquired: 1/24/2025 16:38:42 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ54 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1056084**	**-.002802**	**3.720379**	**.0268507**	**.0179727**	**42.30559**	**17.38557**
Stddev	.0015362	.002170	.014627	.0038486	.0009371	.26002	.04210
%RSD	1.454581	77.45259	.3931494	14.33312	5.213871	.6146290	.2421284
#1	.1038363	-.000296	3.711383	.0268482	.0190034	42.58145	17.33896
#2	.1065629	-.004065	3.712498	.0307005	.0177426	42.06500	17.42082
#3	.1064259	-.004046	3.737256	.0230034	.0171722	42.27033	17.39694

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0045448**	**.0235641**	**105.3698**	**.1938491**	**.0779476**	**.7241574**	**132.9054**
Stddev	.0001152	.0001606	.3936	.0003645	.0006086	.0094865	.7403
%RSD	2.534827	.6815822	.3735000	.1880081	.7808247	1.310009	.5570170
#1	.0044453	.0233787	105.8180	.1942534	.0774449	.7232020	133.7046
#2	.0046710	.0236600	105.0808	.1937479	.0777736	.7340855	132.2430
#3	.0045182	.0236536	105.2106	.1935459	.0786243	.7151848	132.7687

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.381449**	**41.82916**	**.1265439**	**.0111976**	**1.303030**	**.1881059**	**5.973053**
Stddev	.020444	.18803	.0011404	.0000891	.215666	.0005828	.020747
%RSD	.3799011	.4495122	.9012000	.7956403	16.55115	.3098529	.3473450
#1	5.404498	42.00370	.1261457	.0112684	1.501549	.1887325	5.994974
#2	5.374343	41.63005	.1256561	.0110976	1.333980	.1875798	5.970462
#3	5.365507	41.85372	.1278301	.0112269	1.073560	.1880055	5.953723

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.678361**	**7.346560**	**.5608103**	**.0039359**	**7.117124**	**7.176235**	**.0345724**
Stddev	.026846	.032425	.0036199	.0000457	.044323	.025780	.0006326
%RSD	.5738321	.4413583	.6454857	1.161598	.6227611	.3592400	1.829770
#1	4.674782	7.327591	.5649741	.0038843	7.077452	7.163062	.0349567
#2	4.706818	7.328089	.5584099	.0039712	7.108959	7.205940	.0349183
#3	4.653485	7.384000	.5590471	.0039523	7.164962	7.159703	.0338423

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-19DLX2 Acquired: 1/24/2025 16:38:42 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ54 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7912889	.0224795	.1771400
Stddev	.0040839	.0012012	.0008325
%RSD	.5161012	5.343653	.4699647
#1	.7897576	.0238433	.1781007
#2	.7959172	.0220163	.1766871
#3	.7881921	.0215788	.1766321

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3416.825	67600.42	10670.04	2360.082	3796.778
Stddev	14.008	133.20	55.79	7.934	9.649
%RSD	.4099839	.1970443	.5228626	.3361820	.2541453
#1	3415.026	67451.04	10722.80	2352.588	3800.298
#2	3431.647	67706.86	10611.65	2368.393	3804.172
#3	3403.804	67643.35	10675.67	2359.264	3785.862

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-20DLX2 Acquired: 1/24/2025 16:42:44 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ55 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0744568**	**-.003786**	**2.346682**	**.0338391**	**.0169724**	**57.80353**	**15.28266**
Stddev	.0019825	.001768	.007603	.0032865	.0012569	.38598	.12934
%RSD	2.662663	46.71215	.3239884	9.712032	7.405680	.6677460	.8463127
#1	.0722740	-.005068	2.339164	.0300776	.0161920	57.36125	15.22495
#2	.0749508	-.001768	2.346515	.0352853	.0163028	58.07234	15.43080
#3	.0761456	-.004521	2.354367	.0361545	.0184224	57.97699	15.19222

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0058068**	**.0151938**	**138.1967**	**.1439016**	**.1013957**	**1.859653**	**150.1366**
Stddev	.0000158	.0001530	.7224	.0006980	.0006397	.013320	.9381
%RSD	.2727919	1.006931	.5227263	.4850181	.6309153	.7162612	.6248040
#1	.0058251	.0152865	137.3632	.1431018	.1015203	1.845543	149.0575
#2	.0057979	.0150172	138.6419	.1443874	.1007028	1.872010	150.7575
#3	.0057975	.0152776	138.5850	.1442156	.1019639	1.861405	150.5946

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.755083**	**61.74267**	**.1363682**	**.0055790**	**.0375943**	**.2405016**	**2.776078**
Stddev	.027955	.24649	.0001853	.0001316	.3037364	.0003189	.014448
%RSD	.4138351	.3992160	.1358761	2.358244	807.9332	.1326139	.5204594
#1	6.723576	61.46562	.1363548	.0055250	.3073924	.2401373	2.761361
#2	6.776915	61.82474	.1365598	.0054831	-.291373	.2407307	2.790242
#3	6.764759	61.93765	.1361899	.0057290	.096763	.2406366	2.776631

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.522795**	**7.497062**	**.6306334**	**.0054896**	**6.546747**	**7.067312**	**.0354412**
Stddev	.070145	.008841	.0043427	.0005520	.010581	.040700	.0009332
%RSD	.8230296	.1179324	.6886190	10.05595	.1616199	.5758925	2.633189
#1	8.443064	7.487012	.6257850	.0061005	6.536400	7.020933	.0344092
#2	8.550310	7.500533	.6341659	.0050267	6.546295	7.097079	.0356886
#3	8.575012	7.503642	.6319492	.0053415	6.557547	7.083924	.0362258

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1047-20DLX2 Acquired: 1/24/2025 16:42:44 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: GCQ55 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8073480	.0286632	.1737993
Stddev	.0050239	.0002000	.0008765
%RSD	.6222732	.6975701	.5043352
#1	.8015496	.0288926	.1727873
#2	.8104011	.0285708	.1742899
#3	.8100933	.0285262	.1743208

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3327.954	67782.74	10836.68	2364.364	3601.154
Stddev	.820	266.49	49.52	15.877	4.360
%RSD	.0246270	.3931560	.4569518	.6715239	.1210713
#1	3328.167	68089.65	10892.11	2382.291	3606.164
#2	3327.050	67610.00	10796.82	2352.076	3599.080
#3	3328.647	67648.57	10821.10	2358.725	3598.218

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166163TB Acquired: 1/24/2025 16:46:47 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB163 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000803**	**.0004508**	**-.000778**	**-.001186**	**-.000277**	**.0269071**
Stddev	.001493	.0017617	.000506	.003562	.000585	.0040137
%RSD	185.8946	390.7508	65.07387	300.3131	211.0991	14.91678
#1	-.001576	.0002748	-.000240	-.002097	-.000104	.0226204
#2	.000918	.0022939	-.001245	-.004205	-.000930	.0305761
#3	-.001751	-.001216	-.000848	.002743	.000202	.0275248

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001600**	**-.000022**	**-.000001**	**.0336239**	**.0004756**	**.0004464**
Stddev	.000346	.000044	.000059	.0087216	.0003917	.0002188
%RSD	21.60522	195.9583	7277.382	25.93865	82.34565	49.01167
#1	-.001423	-.000066	-.000005	.0288866	.0001634	.0006152
#2	-.001999	.000021	-.000058	.0436889	.0003484	.0005248
#3	-.001380	-.000022	.000060	.0282961	.0009151	.0001992

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007175**	**.0251412**	**.0116566**	**-.003343**	**.0001329**	**.0001861**
Stddev	.0024941	.0036913	.0003496	.016878	.0004638	.0004103
%RSD	347.6051	14.68250	2.999064	504.9451	348.9471	220.4088
#1	-.001710	.0255031	.0120568	.015896	-.000379	-.000282
#2	.003273	.0212822	.0114107	-.010265	.000251	.000355
#3	.000590	.0286382	.0115022	-.015659	.000526	.000485

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1948037**	**.0005279**	**.0007587**	**-1.89117**	**.0036286**	F **-.013128**
Stddev	.1426035	.0010222	.0016974	.02499	.0012317	.000305
%RSD	73.20369	193.6359	223.7426	1.321551	33.94300	2.322163
#1	.3520224	-.000412	-.001180	-1.87223	.0022678	-.012813
#2	.0737980	.000380	.001979	-1.88178	.0039510	-.013422
#3	.1585906	.001616	.001477	-1.91950	.0046670	-.013147

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166163TB Acquired: 1/24/2025 16:46:47 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB163 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000369	F 7.875364	.0129231	.0006484	-.000716	-.005726
Stddev	.000057	.012715	.0019751	.0006433	.001126	.000449
%RSD	15.32091	.1614567	15.28331	99.21361	157.4273	7.849177
#1	-.000317	7.870715	.0126397	.0009400	.000566	-.005920
#2	-.000361	7.889750	.0150245	-.000089	-.001549	-.006047
#3	-.000429	7.865628	.0111050	.001094	-.001164	-.005212

Elem	Sr4077
Units	ppm
Avg	.0001186
Stddev	.0000559
%RSD	47.11163
#1	.0000558
#2	.0001629
#3	.0001371

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3367.629	71700.68	10296.29	2468.663	4141.872
Stddev	4.411	203.33	68.28	9.922	7.562
%RSD	.1309689	.2835809	.6631101	.4019316	.1825753
#1	3372.299	71861.20	10374.90	2475.302	4149.946
#2	3367.056	71768.80	10262.21	2473.431	4140.716
#3	3363.534	71472.04	10251.77	2457.257	4134.955

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-01 Acquired: 1/24/2025 16:50:56 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011510**	**-.003466**	**.0045710**	**-.013901**	**.0043137**	**-.130133**
Stddev	.0024189	.001759	.0024653	.001770	.0016313	.013358
%RSD	210.1455	50.75014	53.93308	12.72930	37.81681	10.26457
#1	.0023921	-.001798	.0019807	-.015782	.0025693	-.143336
#2	.0026975	-.005303	.0048437	-.012270	.0058014	-.130436
#3	-.001636	-.003297	.0068887	-.013651	.0045703	-.116626

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2271972**	**.0000739**	**-.000085**	F **1054.702**	**.2467631**	**-.001476**
Stddev	.0008416	.0000128	.000046	5.587	.0013058	.000141
%RSD	.3704222	17.25111	54.16440	.5297174	.5291889	9.574118
#1	.2271202	.0000886	-.000036	1048.957	.2468015	-.001497
#2	.2280746	.0000651	-.000128	1060.117	.2480494	-.001606
#3	.2263967	.0000681	-.000091	1055.031	.2454386	-.001326

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0050470**	**.0122005**	**.0007105**	**-.011276**	**-.000301**	**-.000690**
Stddev	.0009992	.0050565	.0003414	.018594	.000456	.000197
%RSD	19.79798	41.44541	48.05800	164.8978	151.3317	28.53863
#1	.0057351	.0179563	.0004603	.008228	-.000537	-.000488
#2	.0039009	.0084728	.0010995	-.013255	-.000591	-.000882
#3	.0055049	.0101725	.0005717	-.028802	.000224	-.000699

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.58528**	**.0030283**	**.0384489**	**120.4608**	**.0026577**	**.0329184**
Stddev	.25620	.0004470	.0015455	.5817	.0003128	.0006778
%RSD	1.042088	14.76233	4.019721	.4828569	11.76773	2.059003
#1	24.34192	.0026665	.0398317	119.8371	.0023081	.0322597
#2	24.85263	.0035280	.0387344	120.9884	.0029109	.0328818
#3	24.56128	.0028902	.0367805	120.5569	.0027542	.0336138

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-01 Acquired: 1/24/2025 16:50:56 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G3 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1806359	F 241.7760	.1653585	-.003793	-.035003	.2830010
Stddev	.0010659	.4119	.0015097	.000729	.000250	.0024763
%RSD	.5900990	.1703758	.9129839	19.23127	.7137279	.8750048
#1	.1795843	241.7048	.1655913	-.002957	-.035156	.2805874
#2	.1817156	242.2188	.1667383	-.004119	-.035138	.2855355
#3	.1806078	241.4042	.1637460	-.004303	-.034715	.2828803

Elem	Sr4077
Units	ppm
Avg	5.266404
Stddev	.017211
%RSD	.3268038
#1	5.251045
#2	5.263162
#3	5.285005

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2957.172	59879.38	9493.715	2055.366	3380.130
Stddev	9.344	289.91	5.164	5.640	12.515
%RSD	.3159770	.4841527	.0543898	.2743831	.3702373
#1	2964.740	60148.65	9487.759	2056.963	3391.657
#2	2946.728	59572.51	9496.934	2049.100	3366.820
#3	2960.049	59917.00	9496.453	2060.035	3381.913

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-02 Acquired: 1/24/2025 16:55:17 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072201	-.002311	.0242184	.0224517	.0125614	58.72656
Stddev	.0009155	.001632	.0021620	.0023547	.0007884	.28529
%RSD	12.68001	70.62393	8.927175	10.48787	6.276309	.4857973
#1	.0081832	-.000434	.0249006	.0222179	.0133703	59.02213
#2	.0071159	-.003100	.0259570	.0202226	.0117953	58.45280
#3	.0063611	-.003398	.0217975	.0249145	.0125186	58.70475

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0735924	.0118842	.0094595	145.2845	.3512743	.5676092
Stddev	.0000990	.0002166	.0000330	.7883	.0020260	.0010318
%RSD	.1344901	1.822197	.3489499	.5426028	.5767600	.1817804
#1	.0737054	.0116651	.0094605	146.1945	.3534283	.5677640
#2	.0735210	.0118895	.0094260	144.8076	.3494067	.5665088
#3	.0735508	.0120981	.0094920	144.8515	.3509880	.5685549

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.079777	143.6247	F 30.79670	47.31184	.2158386	.0063419
Stddev	.002732	.5529	.42832	.22795	.0003322	.0001161
%RSD	.2530322	.3849907	1.390783	.4818126	.1539204	1.830300
#1	1.080304	144.2403	30.72531	47.56166	.2157594	.0064261
#2	1.082207	143.1702	30.40857	47.11512	.2155531	.0062095
#3	1.076819	143.4636	31.25623	47.25874	.2162032	.0063900

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.91991	.3727523	1.177866	8.227340	2.874931	1.108791
Stddev	.53444	.0015603	.004798	.052050	.003176	.000487
%RSD	3.839395	.4185889	.4073718	.6326488	.1104643	.0438990
#1	14.51363	.3711959	1.177727	8.286158	2.874111	1.108424
#2	13.76885	.3743165	1.182733	8.187228	2.878436	1.108605
#3	13.47726	.3727443	1.173139	8.208635	2.872245	1.109343

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-02 Acquired: 1/24/2025 16:55:17 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G5 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032236	F 376.4623	F 23.13947	-.001489	.0001586	.0558184
Stddev	.0001500	.1312	.02574	.001636	.0006046	.0006045
%RSD	4.652159	.0348595	.1112365	109.8974	381.3371	1.083009
#1	.0031808	376.3130	23.15122	.000350	.0006009	.0554971
#2	.0030997	376.5144	23.15724	-.002785	.0004052	.0554425
#3	.0033903	376.5594	23.10996	-.002031	-.000530	.0565158

Elem	Sr4077
Units	ppm
Avg	.9747889
Stddev	.0171508
%RSD	1.759439
#1	.9843203
#2	.9549895
#3	.9850571

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3984.562	80410.96	12537.09	2816.277	3759.631
Stddev	8.010	137.44	51.57	12.341	2.674
%RSD	.2010270	.1709168	.4113100	.4382174	.0711166
#1	3991.448	80379.29	12596.03	2815.432	3761.657
#2	3975.771	80561.47	12514.97	2804.380	3756.600
#3	3986.466	80292.13	12500.27	2829.019	3760.635

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-03 Acquired: 1/24/2025 16:59:30 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0057132**	**-.001187**	**.0021779**	**-.008730**	**.0032686**	**-.113820**
Stddev	.0008365	.001407	.0004765	.000999	.0018924	.006667
%RSD	14.64086	118.6127	21.87808	11.44149	57.89628	5.857837
#1	.0062661	-.000162	.0017628	-.009227	.0035646	-.121454
#2	.0061226	-.002791	.0026981	-.007580	.0012457	-.110867
#3	.0047509	-.000607	.0020727	-.009383	.0049956	-.109139

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0945270**	**.0000167**	**-.000064**	**737.0155**	**.0633646**	**-.001078**
Stddev	.0010152	.0001022	.000097	5.7411	.0000884	.000140
%RSD	1.073987	611.5437	152.5855	.7789702	.1395043	13.00907
#1	.0950484	.0000226	-.000130	735.9743	.0633110	-.001062
#2	.0933570	.0001158	.000048	731.8663	.0634666	-.000947
#3	.0951755	-.000088	-.000110	743.2060	.0633162	-.001226

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010830**	**.0096184**	**.0029170**	**2.596422**	**-.000317**	**-.000644**
Stddev	.0011311	.0034100	.0002549	.004284	.000048	.000367
%RSD	104.4413	35.45262	8.737779	.1650118	15.21794	57.02784
#1	.0008958	.0065221	.0028100	2.598912	-.000364	-.000220
#2	.0000572	.0090600	.0032079	2.598879	-.000268	-.000870
#3	.0022960	.0132731	.0027330	2.591475	-.000319	-.000840

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.522633**	**.0511454**	**.0059326**	**3.270465**	**.0087614**	**.0788106**
Stddev	.360852	.0022816	.0014335	.045450	.0031442	.0006411
%RSD	6.534052	4.460920	24.16337	1.389710	35.88753	.8134747
#1	5.867617	.0498427	.0066912	3.299104	.0051501	.0795473
#2	5.552508	.0498136	.0042792	3.218059	.0102426	.0783791
#3	5.147772	.0537798	.0068274	3.294231	.0108915	.0785054

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-03 Acquired: 1/24/2025 16:59:30 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0783950	F 418.6172	8.446514	-.003317	-.025541	.0222142
Stddev	.0001660	.8696	.027138	.001284	.000498	.0009346
%RSD	.2117606	.2077290	.3212919	38.71361	1.949971	4.207098
#1	.0785358	417.6318	8.437209	-.004527	-.025276	.0215106
#2	.0782119	418.9432	8.425253	-.003454	-.025231	.0232746
#3	.0784372	419.2768	8.477081	-.001970	-.026115	.0218573

Elem	Sr4077
Units	ppm
Avg	1.161817
Stddev	.007844
%RSD	.6751850
#1	1.163909
#2	1.168404
#3	1.153139

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3076.315	63792.33	9834.275	2209.605	3579.858
Stddev	4.424	109.79	9.600	8.713	6.246
%RSD	.1438161	.1721017	.0976166	.3943032	.1744799
#1	3079.458	63733.48	9830.368	2201.744	3573.989
#2	3078.232	63918.99	9827.244	2208.097	3586.423
#3	3071.256	63724.50	9845.212	2218.973	3579.164

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-04 Acquired: 1/24/2025 17:03:53 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011637**	**.0008036**	**.0010836**	**-.011083**	**.0016709**	**-.169763**
Stddev	.0031453	.0027810	.0004332	.002080	.0016883	.010065
%RSD	270.2751	346.0826	39.98261	18.76624	101.0391	5.928815
#1	-.002159	.0007385	.0009792	-.013396	.0002108	-.158994
#2	.004095	.0036166	.0007121	-.009366	.0012824	-.171362
#3	.001554	-.001944	.0015595	-.010488	.0035196	-.178932

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1000140**	**-.000006**	**-.000046**	**761.2774**	**.0622685**	**-.001038**
Stddev	.0005992	.000038	.000071	2.4166	.0002489	.000248
%RSD	.5990778	612.8133	156.2611	.3174461	.3996965	23.87976
#1	.1006315	.000036	-.000112	758.5445	.0621900	-.001212
#2	.0999755	-.000040	-.000055	763.1325	.0620683	-.000754
#3	.0994350	-.000015	.000030	762.1551	.0625471	-.001146

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023047**	**.0119117**	**.0023503**	**2.679664**	**-.000472**	**-.000564**
Stddev	.0013481	.0048333	.0004763	.020139	.000509	.000304
%RSD	58.49344	40.57600	20.26363	.7515342	107.8499	53.83788
#1	.0016715	.0173182	.0021876	2.671519	-.001043	-.000536
#2	.0013898	.0104074	.0028866	2.702599	-.000302	-.000880
#3	.0038528	.0080094	.0019767	2.664873	-.000069	-.000275

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.101400**	**.0496648**	**.0046025**	**3.464069**	**.0072691**	**.0733252**
Stddev	.387215	.0020398	.0019458	.051062	.0004742	.0011242
%RSD	7.590367	4.107172	42.27640	1.474057	6.524044	1.533222
#1	4.660814	.0520117	.0045871	3.460023	.0074386	.0745565
#2	5.255744	.0486648	.0065560	3.517034	.0076353	.0723533
#3	5.387639	.0483181	.0026645	3.415150	.0067334	.0730659

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-04 Acquired: 1/24/2025 17:03:53 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6D Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0788035	F 414.6406	8.367439	-.002586	-.025159	.0249074
Stddev	.0005474	.2827	.049816	.000737	.001195	.0009434
%RSD	.6946133	.0681682	.5953586	28.47651	4.749255	3.787531
#1	.0782054	414.4345	8.419696	-.003106	-.026348	.0241698
#2	.0789253	414.5244	8.362134	-.001744	-.025169	.0259704
#3	.0792797	414.9628	8.320488	-.002910	-.023959	.0245821

Elem	Sr4077
Units	ppm
Avg	1.249991
Stddev	.009342
%RSD	.7473758
#1	1.239276
#2	1.254267
#3	1.256431

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3075.167	65190.38	10599.73	2194.607	3620.273
Stddev	9.061	25.34	82.65	5.405	5.804
%RSD	.2946381	.0388780	.7797317	.2462784	.1603227
#1	3082.881	65209.35	10511.39	2199.565	3626.933
#2	3077.431	65200.20	10612.61	2195.412	3617.592
#3	3065.189	65161.60	10675.18	2188.845	3616.294

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-03LX5 Acquired: 1/24/2025 17:08:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010777**	**-.000485**	**.0000878**	**-.001581**	**-.000345**	**-.077918**
Stddev	.0027257	.001277	.0012455	.001859	.002089	.009920
%RSD	252.9066	263.4310	1419.423	117.5781	604.7464	12.73135
#1	.0015973	.000983	-.000423	-.000820	-.000669	-.067344
#2	-.001870	-.001340	.001507	-.000223	-.002254	-.079391
#3	.003506	-.001096	-.000821	-.003699	.001887	-.087019

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0135169**	**-.000042**	**-.000077**	**151.6705**	**.0125157**	**-.000177**
Stddev	.0012240	.000047	.000133	1.4554	.0004016	.000144
%RSD	9.055229	111.8370	172.2511	.9595611	3.208796	81.55761
#1	.0121444	-.000077	.000055	152.0689	.0123625	-.000318
#2	.0139113	-.000060	-.000212	150.0575	.0122133	-.000030
#3	.0144951	.000011	-.000075	152.8852	.0129714	-.000183

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003698**	**.0027763**	**.0001761**	**.5419344**	**.0000194**	**.0000378**
Stddev	.0021614	.0038967	.0001710	.0091303	.0001167	.0005090
%RSD	584.4775	140.3578	97.13884	1.684756	602.5275	1344.928
#1	.0027087	.0071601	-.000020	.5416344	-.000014	.0004227
#2	-.000045	-.000294	.000294	.5329578	.000149	-.000539
#3	-.001554	.001462	.000254	.5512109	-.000077	.000230

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.468581**	**.0112992**	**.0006894**	**.4826855**	**.0031262**	**.0044515**
Stddev	.311790	.0014920	.0022333	.0345723	.0014114	.0005323
%RSD	21.23066	13.20478	323.9510	7.162496	45.14822	11.95876
#1	1.363458	.0122977	.0027035	.5172631	.0043934	.0050650
#2	1.819345	.0095840	.0010770	.4826750	.0016050	.0041769
#3	1.222940	.0120159	-.001712	.4481185	.0033802	.0041124

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-03LX5 Acquired: 1/24/2025 17:08:15 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6L Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0157794	F 81.95716	1.619105	-.002418	-.005664	.0023511
Stddev	.0001200	.20422	.010676	.000569	.000219	.0015269
%RSD	.7603429	.2491748	.6593640	23.53134	3.873120	64.94281
#1	.0159179	82.04046	1.631152	-.001764	-.005494	.0009298
#2	.0157148	81.72446	1.610818	-.002796	-.005587	.0039652
#3	.0157056	82.10656	1.615345	-.002694	-.005912	.0021582

Elem	Sr4077
Units	ppm
Avg	.2436062
Stddev	.0033647
%RSD	1.381188
#1	.2453418
#2	.2397281
#3	.2457486

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3249.162	68190.70	10983.73	2282.743	3967.134
Stddev	6.625	316.84	63.81	9.585	4.953
%RSD	.2038962	.4646408	.5809191	.4198819	.1248460
#1	3243.249	68367.50	11039.64	2283.403	3961.534
#2	3256.322	68379.70	10914.22	2291.981	3970.937
#3	3247.916	67824.91	10997.33	2272.845	3968.933

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-05 Acquired: 1/24/2025 17:12:20 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0401873**	**.0484122**	**.0199628**	**.0859559**	**.0942744**	**1.700483**
Stddev	.0010687	.0011842	.0004511	.0015823	.0014578	.000881
%RSD	2.659348	2.446065	2.259878	1.840823	1.546357	.0517850
#1	.0393813	.0485027	.0199572	.0867789	.0925911	1.700201
#2	.0413996	.0471853	.0204167	.0869571	.0951283	1.701470
#3	.0397810	.0495485	.0195144	.0841317	.0951037	1.699778

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.074842**	**.0444321**	**.0460784**	**787.4305**	**.2635735**	**.4698827**
Stddev	.009114	.0001025	.0000874	2.4311	.0015546	.0004990
%RSD	.4392801	.2306129	.1896148	.3087434	.5898295	.1062024
#1	2.064459	.0443170	.0460455	785.3669	.2629792	.4703777
#2	2.078540	.0444659	.0461774	786.8142	.2624036	.4698908
#3	2.081525	.0445134	.0460122	790.1105	.2653376	.4693797

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2400453**	**1.050491**	**.4842637**	**2.745804**	**.4719421**	**.0364116**
Stddev	.0013763	.004860	.0019744	.019228	.0007754	.0005100
%RSD	.5733457	.4626353	.4077142	.7002766	.1643025	1.400801
#1	.2400748	1.045121	.4820070	2.739256	.4724125	.0369996
#2	.2414066	1.051767	.4851111	2.730705	.4710471	.0360886
#3	.2386544	1.054586	.4856729	2.767451	.4723667	.0361467

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.047995**	**.5209531**	**.5070098**	**3.690230**	**.0098522**	**.0750229**
Stddev	.052323	.0025090	.0019166	.027636	.0010515	.0003685
%RSD	1.036510	.4816214	.3780260	.7489081	10.67225	.4911310
#1	5.032612	.5182051	.5062120	3.658945	.0095003	.0753510
#2	5.106285	.5231218	.5091964	3.700418	.0110344	.0750934
#3	5.005088	.5215325	.5056209	3.711326	.0090218	.0746242

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-05 Acquired: 1/24/2025 17:12:20 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6S Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0784217	F 413.2365	8.227588	-.003614	-.024860	.0281472
Stddev	.0003143	1.0749	.036913	.000684	.001215	.0007447
%RSD	.4008328	.2601164	.4486449	18.92765	4.888415	2.645544
#1	.0780587	413.9734	8.226617	-.004099	-.024124	.0289519
#2	.0785987	412.0031	8.191169	-.002831	-.024194	.0274825
#3	.0786076	413.7330	8.264976	-.003911	-.026263	.0280072

Elem	Sr4077
Units	ppm
Avg	1.281866
Stddev	.008527
%RSD	.6651755
#1	1.276199
#2	1.277727
#3	1.291672

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3079.339	64573.29	10836.57	2155.882	3628.109
Stddev	5.888	382.01	62.11	7.618	6.175
%RSD	.1912225	.5915970	.5731262	.3533552	.1701944
#1	3083.188	64782.82	10862.11	2159.565	3623.721
#2	3082.268	64804.69	10881.83	2160.958	3635.170
#3	3072.561	64132.36	10765.76	2147.122	3625.437

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-06 Acquired: 1/24/2025 17:16:33 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0048609**	**-.000614**	**.0042283**	**.0061880**	**.0034904**	**46.24390**
Stddev	.0008736	.003270	.0009762	.0022963	.0005837	.18850
%RSD	17.97232	532.2438	23.08716	37.10866	16.72182	.4076125
#1	.0047767	-.001318	.0031046	.0085838	.0039349	46.16912
#2	.0040324	.002950	.0047128	.0059741	.0037069	46.10426
#3	.0057736	-.003476	.0048674	.0040062	.0028294	46.45831

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0817241**	**.0023475**	**.0015443**	**109.4723**	**.0471497**	**.1073712**
Stddev	.0003677	.0000606	.0000638	.3565	.0003229	.0001358
%RSD	.4499205	2.581894	4.132214	.3256415	.6848312	.1265145
#1	.0814034	.0022798	.0016177	109.1034	.0468803	.1072268
#2	.0816436	.0023969	.0015136	109.4985	.0475076	.1073903
#3	.0821254	.0023657	.0015017	109.8150	.0470610	.1074964

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1396670**	**52.93091**	**5.207138**	**59.55441**	**.0712587**	**.0019109**
Stddev	.0015123	.16842	.023761	.05747	.0002276	.0003634
%RSD	1.082790	.3181908	.4563137	.0964931	.3193633	19.01662
#1	.1396623	52.76097	5.180510	59.48880	.0711183	.0014913
#2	.1411817	52.93400	5.214726	59.57857	.0715212	.0021231
#3	.1381571	53.09777	5.226178	59.59585	.0711365	.0021184

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.948238**	**.0885514**	**1.073909**	**1.197513**	**3.031275**	**.6936952**
Stddev	.095083	.0004854	.011035	.043012	.006270	.0009972
%RSD	1.196279	.5481870	1.027583	3.591756	.2068476	.1437545
#1	7.989823	.0890743	1.061524	1.159026	3.027032	.6935191
#2	7.839446	.0881151	1.077508	1.189571	3.028316	.6947687
#3	8.015444	.0884649	1.082696	1.243942	3.038477	.6927977

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-06 Acquired: 1/24/2025 17:16:33 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H0 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000861	F 399.6421	F 20.49571	-.003124	.0154441	.0256593
Stddev	.000245	1.0746	.04726	.000996	.0007665	.0019888
%RSD	28.42003	.2689017	.2305799	31.87394	4.962863	7.750944
#1	-.000608	399.2487	20.45874	-.003851	.0153901	.0244127
#2	-.000880	398.8195	20.54895	-.001989	.0162362	.0246123
#3	-.001097	400.8580	20.47943	-.003531	.0147061	.0279529

Elem	Sr4077
Units	ppm
Avg	.3782035
Stddev	.0019714
%RSD	.5212437
#1	.3764426
#2	.3778347
#3	.3803332

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3739.155	79051.10	12932.28	2638.420	3906.958
Stddev	13.313	21.60	54.96	7.438	19.406
%RSD	.3560455	.0273266	.4249955	.2819217	.4967059
#1	3751.027	79074.81	12904.24	2645.308	3921.119
#2	3741.676	79032.54	12896.99	2639.419	3914.918
#3	3724.762	79045.95	12995.61	2630.533	3884.838

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-07 Acquired: 1/24/2025 17:20:31 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1321525	-.027686	.0129569	.1154277	.0543676	14.72764
Stddev	.0038426	.002762	.0004762	.0031979	.0011743	.05913
%RSD	2.907683	9.974214	3.675054	2.770457	2.159909	.4014829
#1	.1358361	-.030870	.0124353	.1118760	.0545604	14.77099
#2	.1281686	-.026257	.0130671	.1180785	.0554335	14.66028
#3	.1324527	-.025933	.0133683	.1163285	.0531088	14.75163

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0911922	.0059134	.0134874	118.2468	.0847274	.6667246
Stddev	.0008299	.0000495	.0001280	.4772	.0009155	.0003329
%RSD	.9100964	.8373551	.9487381	.4035630	1.080578	.0499318
#1	.0912097	.0058641	.0134371	118.5963	.0857333	.6663414
#2	.0903537	.0059631	.0133923	117.7031	.0839428	.6668897
#3	.0920133	.0059129	.0136329	118.4410	.0845060	.6669427

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.040820	581.1636	F 35.26567	32.99236	.1805042	.0215851
Stddev	.000342	2.8234	.15135	.10189	.0001933	.0003648
%RSD	.8386403	.4858184	.4291679	.3088201	.1071004	1.690185
#1	-.041020	583.5470	35.31411	33.09125	.1806056	.0219620
#2	-.041015	581.8983	35.38687	32.88772	.1806258	.0212337
#3	-.040424	578.0454	35.09603	32.99812	.1802813	.0215594

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.123240	.7078363	.9394010	5.297789	.6115477	2.830616
Stddev	.310552	.0027623	.0075232	.038031	.0012619	.014399
%RSD	4.359694	.3902483	.8008450	.7178677	.2063430	.5086746
#1	7.101234	.7088301	.9447338	5.265905	.6108783	2.843597
#2	7.444209	.7099642	.9307959	5.287580	.6107617	2.833121
#3	6.824277	.7047146	.9426734	5.339883	.6130033	2.815129

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-07 Acquired: 1/24/2025 17:20:31 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H1 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007737	F 361.0648	7.992040	.0017731	-.001972	.0036226
Stddev	.000142	.6892	.029780	.0008691	.000011	.0003490
%RSD	1.832726	.1908855	.3726146	49.01625	.5478616	9.634491
#1	-.007753	361.4772	8.017070	.0025396	-.001965	.0032277
#2	-.007870	360.2691	7.959106	.0008288	-.001967	.0038898
#3	-.007588	361.4480	7.999944	.0019509	-.001985	.0037502

Elem	Sr4077
Units	ppm
Avg	1.006574
Stddev	.009848
%RSD	.9783417
#1	.995335
#2	1.010699
#3	1.013689

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3636.117	76418.59	12777.01	2566.543	3879.396
Stddev	7.497	150.38	37.10	5.851	9.589
%RSD	.2061866	.1967893	.2903798	.2279617	.2471883
#1	3635.219	76270.03	12770.21	2559.885	3886.403
#2	3644.022	76570.73	12743.78	2570.864	3883.318
#3	3629.108	76415.02	12817.04	2568.879	3868.468

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-08 Acquired: 1/24/2025 17:24:52 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4342927**	**-.021909**	**.0081270**	**.1562036**	**.0739017**	**-.027119**
Stddev	.0017403	.001298	.0011825	.0026508	.0014550	.005534
%RSD	.4007107	5.923115	14.54991	1.697039	1.968843	20.40758
#1	.4360065	-.021338	.0077289	.1544026	.0744122	-.030249
#2	.4343446	-.020994	.0094572	.1592475	.0722602	-.020729
#3	.4325271	-.023394	.0071950	.1549606	.0750327	-.030380

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1168679**	**-.003074**	**.0113700**	**189.5895**	**-.005932**	**.1498445**
Stddev	.0002877	.000163	.0002402	.9458	.000743	.0000940
%RSD	.2461802	5.290934	2.112195	.4988755	12.51830	.0627075
#1	.1165581	-.003070	.0113381	190.5824	-.006649	.1499334
#2	.1169189	-.003238	.0111475	189.4870	-.005167	.1497462
#3	.1171267	-.002913	.0116246	188.6992	-.005980	.1498539

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.094086**	**788.4934**	**24.65136**	**62.44591**	**.0621881**	**.0188341**
Stddev	.003585	5.8078	.32720	.40050	.0004150	.0023500
%RSD	3.810331	.7365733	1.327293	.6413473	.6673826	12.47719
#1	-.093975	789.2725	24.62479	62.89368	.0618920	.0178563
#2	-.090558	793.8723	24.33825	62.32213	.0620098	.0215151
#3	-.097725	782.3353	24.99103	62.12191	.0626625	.0171309

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.36286**	**-.069634**	**1.144130**	**2.284950**	**.0273152**	**4.047847**
Stddev	.11471	.002325	.006675	.046487	.0023097	.028107
%RSD	.7010533	3.339307	.5834337	2.034501	8.455675	.6943733
#1	16.31903	-.069688	1.146791	2.333639	.0261034	4.056650
#2	16.49302	-.071932	1.149064	2.241033	.0258636	4.070500
#3	16.27652	-.067282	1.136535	2.280177	.0299786	4.016392

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-08 Acquired: 1/24/2025 17:24:52 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H2 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009493	F 427.8185	4.122575	.0027951	-.006744	.0003577
Stddev	.000349	.7413	.011898	.0004103	.001073	.0001589
%RSD	3.674541	.1732770	.2886171	14.67894	15.90247	44.41642
#1	-.009094	427.7211	4.116220	.0032685	-.005517	.0004881
#2	-.009738	427.1306	4.115203	.0025735	-.007501	.0001807
#3	-.009647	428.6036	4.136301	.0025432	-.007214	.0004042

Elem	Sr4077
Units	ppm
Avg	2.829223
Stddev	.012937
%RSD	.4572683
#1	2.820484
#2	2.844085
#3	2.823101

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3182.426	66139.15	10933.27	2226.850	3880.052
Stddev	1.379	102.91	61.56	.992	7.764
%RSD	.0433374	.1555957	.5630928	.0445526	.2001116
#1	3182.631	66032.19	10977.93	2227.475	3886.208
#2	3180.955	66237.47	10958.83	2227.370	3882.619
#3	3183.691	66147.79	10863.04	2225.706	3871.330

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-09 Acquired: 1/24/2025 17:29:14 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4261511**	**-.015933**	**.0281633**	**.0595525**	**.0332890**	**34.77627**
Stddev	.0007441	.001884	.0015344	.0015901	.0009746	.22965
%RSD	.1745998	11.82704	5.448066	2.669992	2.927704	.6603771
#1	.4259026	-.014855	.0274626	.0611732	.0340834	34.75749
#2	.4269876	-.018109	.0271044	.0594893	.0335821	34.55658
#3	.4255631	-.014835	.0299229	.0579950	.0322015	35.01473

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0631185**	**.0100699**	**.0235272**	**92.54140**	**.0484334**	**.9131872**
Stddev	.0008838	.0000773	.0000795	.52129	.0002022	.0031688
%RSD	1.400181	.7676372	.3380228	.5633021	.4175092	.3470072
#1	.0623811	.0100045	.0234905	92.51612	.0482001	.9129411
#2	.0628763	.0101552	.0234727	92.03321	.0485588	.9101487
#3	.0640981	.0100501	.0236185	93.07486	.0485412	.9164720

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.361267**	**332.9156**	**4.548168**	**62.81545**	**1.674446**	**.0045287**
Stddev	.003402	.9548	.029167	.21423	.003935	.0004955
%RSD	.1440795	.2867878	.6412976	.3410400	.2350103	10.94116
#1	2.361332	333.9445	4.541061	62.76732	1.675621	.0046082
#2	2.364635	332.7442	4.523211	62.62937	1.670057	.0049796
#3	2.357832	332.0582	4.580232	63.04964	1.677659	.0039982

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.50017**	**.6943088**	**16.72973**	**9.013751**	**1.219535**	**1.799119**
Stddev	.30379	.0007065	.15610	.077955	.003691	.003826
%RSD	2.893208	.1017507	.9330926	.8648487	.3026825	.2126502
#1	10.25161	.6934993	16.83999	9.012521	1.215286	1.803061
#2	10.83882	.6946263	16.55111	8.936418	1.221371	1.798874
#3	10.41008	.6948009	16.79809	9.092315	1.221948	1.795421

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-09 Acquired: 1/24/2025 17:29:14 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H3 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008196	F 373.9158	F 17.46153	-.000490	-.001873	.0244303
Stddev	.000371	.6072	.02990	.000446	.000556	.0007535
%RSD	4.527184	.1623797	.1712465	91.15096	29.70293	3.084442
#1	-.008042	374.0586	17.42899	-.000746	-.001376	.0246657
#2	-.007927	373.2500	17.48780	-.000748	-.002474	.0235872
#3	-.008620	374.4389	17.46781	.000026	-.001769	.0250381

Elem	Sr4077
Units	ppm
Avg	1.387288
Stddev	.019244
%RSD	1.387157
#1	1.397782
#2	1.399003
#3	1.365078

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4308.202	89188.96	14157.75	3017.484	3975.359
Stddev	12.037	140.42	68.46	20.103	8.466
%RSD	.2793884	.1574403	.4835513	.6662054	.2129718
#1	4302.781	89140.85	14161.51	2995.011	3971.397
#2	4321.996	89347.11	14087.49	3033.754	3985.080
#3	4299.830	89078.92	14224.25	3023.687	3969.600

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV016 Acquired: 1/24/2025 17:42:12 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV016 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.894018**	**4.791908**	**23.88833**	**4.977031**	**5.048841**	**409.8568**
Stddev	.106973	.099505	.41283	.110030	.118751	3.9266
%RSD	2.185787	2.076529	1.728159	2.210762	2.352040	.9580396
#1	4.796333	4.695477	23.51308	4.889771	4.943603	407.7059
#2	4.877391	4.786021	23.82138	4.940685	5.025332	407.4757
#3	5.008331	4.894227	24.33055	5.100635	5.177588	414.3889

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.15338**	**.4529913**	**2.371790**	**395.6088**	**14.80133**	**2.437658**
Stddev	.21454	.0004700	.041446	3.7951	.05578	.044261
%RSD	2.112944	.1037574	1.747452	.9593052	.3768840	1.815710
#1	10.21548	.4534325	2.332933	391.9587	14.73702	2.397362
#2	9.91464	.4524970	2.367024	395.3338	14.83021	2.430582
#3	10.33001	.4530445	2.415413	399.5339	14.83675	2.485031

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.21940**	**405.2310**	**14.72757**	**390.0977**	**2.428556**	**1.245227**
Stddev	.06711	2.6753	.10815	2.1309	.046038	.004636
%RSD	.4719403	.6601861	.7343401	.5462364	1.895695	.3723146
#1	14.15187	402.2783	14.60641	387.6819	2.386883	1.240069
#2	14.22025	405.9210	14.76195	390.9015	2.420807	1.246564
#3	14.28608	407.4937	14.81436	391.7098	2.477976	1.249047

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**366.0317**	**2.348930**	**15.39187**	**155.5963**	**4.819363**	F **5.610673**
Stddev	.1392	.009615	.06758	1.1700	.096977	.018539
%RSD	.0380291	.4093415	.4390617	.7519506	2.012236	.3304226
#1	365.8721	2.338110	15.31625	154.3122	4.730902	5.593848
#2	366.0947	2.356496	15.41300	155.8747	4.804132	5.607625
#3	366.1282	2.352183	15.44636	156.6019	4.923054	5.630548

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV016 Acquired: 1/24/2025 17:42:12 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV016 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.869141**	**4.942784**	**4.672270**	**4.831558**	**4.751369**	**5.085736**
Stddev	.105637	.095140	.009712	.086890	.008851	.035759
%RSD	2.169525	1.924829	.2078700	1.798392	.1862808	.7031269
#1	4.774229	4.857889	4.665743	4.751144	4.741373	5.045548
#2	4.850242	4.924848	4.683431	4.819801	4.754527	5.097617
#3	4.982952	5.045616	4.667635	4.923728	4.758209	5.114042

Elem	Sr4077
Units	ppm
Avg	**5.043433**
Stddev	.014989
%RSD	.2972043
#1	5.046479
#2	5.027155
#3	5.056666

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2681.011**	**60338.93**	**10284.48**	**1981.125**	**3171.942**
Stddev	46.632	170.67	18.66	2.067	48.412
%RSD	1.739345	.2828456	.1814466	.1043154	1.526242
#1	2724.131	60534.14	10262.95	1979.378	3217.355
#2	2687.381	60264.67	10296.05	1983.407	3177.467
#3	2631.521	60217.97	10294.44	1980.592	3121.006

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB016 Acquired: 1/24/2025 17:46:30 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB016 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004784**	**-.000945**	**.0000296**	**-.000710**	**-.000274**	**.0119322**	**-.007471**
Stddev	.0018372	.001685	.0011451	.001711	.000688	.0046454	.000247
%RSD	383.9956	178.3123	3869.536	241.0420	251.1232	38.93176	3.311831
#1	-.001632	-.002890	.0012713	-.000942	-.000365	.0111754	-.007187
#2	.001351	.000026	-.000198	-.002292	-.000912	.0169095	-.007583
#3	.001717	.000030	-.000985	.001105	.000455	.0077116	-.007643

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000082**	**.0000238**	**.0052836**	**.0005894**	**.0001222**	**.0021546**	**.0147737**
Stddev	.0000344	.0000643	.0047396	.0001488	.0001956	.0022090	.0054046
%RSD	417.7766	269.6174	89.70504	25.23600	160.0478	102.5216	36.58284
#1	.0000302	.0000646	.0085999	.0006047	.0000222	-.000261	.0086449
#2	.0000259	.0000572	.0073957	.0004336	.0003476	.002652	.0168191
#3	-.000031	-.000050	-.000145	.0007300	-.000003	.004073	.0188572

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000158**	**-.004630**	**-.000019**	**-.000087**	**-.102240**	**.0006872**	**-.000713**
Stddev	.000105	.005487	.000180	.000135	.379512	.0008225	.002415
%RSD	66.57641	118.5022	934.8393	154.2193	371.1978	119.6955	338.8621
#1	-.000040	.001334	.000165	-.000122	.167445	.0003463	-.001605
#2	-.000192	-.009464	-.000028	.000061	-.536217	.0016253	.002021
#3	-.000242	-.005760	-.000194	-.000202	.062053	.0000899	-.002554

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.135114**	**.0034128**	**-.006243**	**-.000185**	**.0179839**	**.0004980**	**.0010319**
Stddev	.031874	.0007036	.000606	.000449	.0022023	.0003658	.0004000
%RSD	23.59071	20.61685	9.705959	243.0415	12.24613	73.46089	38.76558
#1	-.098490	.0040827	-.006921	.000332	.0205264	.0006533	.0007882
#2	-.156589	.0026797	-.006050	-.000404	.0166683	.0007605	.0014936
#3	-.150263	.0034760	-.005756	-.000481	.0167569	.0000801	.0008140

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB016 Acquired: 1/24/2025 17:46:30 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB016 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000168	-.002906	.0001828
Stddev	.000275	.001275	.0001064
%RSD	163.4071	43.88476	58.19193
#1	-.000446	-.004194	.0001268
#2	-.000165	-.001644	.0003054
#3	.000105	-.002880	.0001161

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3434.752	70739.36	11020.44	2413.557	4258.063
Stddev	5.478	383.19	47.54	16.976	4.899
%RSD	.1594755	.5416919	.4313489	.7033578	.1150537
#1	3432.792	70340.61	10965.56	2395.971	4252.548
#2	3440.940	70772.63	11049.02	2429.848	4261.913
#3	3430.524	71104.82	11046.73	2414.853	4259.727

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-10 Acquired: 1/24/2025 17:50:39 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016427**	**-.001544**	**.0023738**	**-.009807**	**.0010844**	**2.289355**
Stddev	.0026325	.001226	.0011332	.001698	.0003809	.005966
%RSD	160.2610	79.38689	47.73969	17.31079	35.12137	.2606180
#1	-.000637	-.002954	.0023151	-.010566	.0006537	2.282467
#2	.001041	-.000734	.0035353	-.010993	.0012229	2.292670
#3	.004524	-.000944	.0012710	-.007862	.0013766	2.292928

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0688990**	**.0007173**	**.0020967**	**711.9091**	**.0110069**	**.0193360**
Stddev	.0003662	.0000404	.0000500	2.6996	.0000977	.0001064
%RSD	.5315657	5.636682	2.385567	.3792104	.8879976	.5504890
#1	.0687209	.0007142	.0021541	710.2948	.0110962	.0194132
#2	.0693203	.0006786	.0020728	710.4067	.0109025	.0193803
#3	.0686560	.0007592	.0020630	715.0257	.0110220	.0192146

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0079030**	**.1640593**	**1.837748**	**22.73651**	**.0909661**	**-.000238**
Stddev	.0004403	.0023687	.010622	.03460	.0009056	.000465
%RSD	5.571003	1.443792	.5779779	.1521906	.9955407	195.4620
#1	.0083200	.1667718	1.825835	22.69909	.0913575	.000215
#2	.0074427	.1623993	1.841174	22.76734	.0899307	-.000215
#3	.0079464	.1630068	1.846233	22.74312	.0916103	-.000714

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.363916**	**.0046010**	**.4888578**	**.6907341**	**.0081696**	**.2820787**
Stddev	.084628	.0013222	.0049539	.0207748	.0006599	.0013666
%RSD	1.011827	28.73582	1.013352	3.007637	8.077072	.4844717
#1	8.303128	.0061274	.4843693	.6687099	.0086948	.2836107
#2	8.328048	.0038653	.4880313	.6935126	.0074290	.2816407
#3	8.460571	.0038104	.4941730	.7099798	.0083851	.2809849

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-10 Acquired: 1/24/2025 17:50:39 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H4 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005699	F 452.3746	8.116803	-.002888	-.022212	.0124717
Stddev	.0003664	1.6696	.007559	.000911	.000658	.0010237
%RSD	64.29465	.3690677	.0931285	31.56360	2.963158	8.208479
#1	.0002709	453.0575	8.111856	-.002395	-.021760	.0114003
#2	.0004601	450.4718	8.125505	-.002328	-.021910	.0134400
#3	.0009786	453.5945	8.113050	-.003940	-.022967	.0125750

Elem	Sr4077
Units	ppm
Avg	1.213460
Stddev	.011221
%RSD	.9246966
#1	1.201086
#2	1.222975
#3	1.216320

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3335.448	71064.23	11736.41	2367.219	3621.981
Stddev	10.966	126.99	40.34	7.362	11.542
%RSD	.3287601	.1786995	.3437248	.3109856	.3186665
#1	3340.191	71210.83	11695.75	2372.112	3628.730
#2	3343.244	70993.69	11737.06	2358.752	3628.559
#3	3322.910	70988.17	11776.43	2370.791	3608.653

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-11 Acquired: 1/24/2025 17:54:57 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4942766**	**-.016973**	**.0165252**	**.0731794**	**.0337622**	**43.29696**
Stddev	.0001880	.001376	.0024156	.0043092	.0007867	.18160
%RSD	.0380358	8.109803	14.61750	5.888615	2.330047	.4194362
#1	.4942002	-.016145	.0158491	.0689685	.0330587	43.44592
#2	.4941389	-.018562	.0192068	.0729889	.0336163	43.35030
#3	.4944908	-.016212	.0145198	.0775807	.0346116	43.09466

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0602506**	**.0096569**	**.0151545**	**91.23357**	**.1109931**	**.8130278**
Stddev	.0003830	.0001299	.0002216	.21345	.0007127	.0012448
%RSD	.6357478	1.345267	1.462271	.2339546	.6421247	.1531042
#1	.0598776	.0097362	.0152771	91.41065	.1105795	.8135305
#2	.0606429	.0097275	.0148987	91.29350	.1105836	.8116103
#3	.0602312	.0095069	.0152878	90.99657	.1118160	.8139426

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8457935**	**365.8647**	**4.446877**	**81.42089**	**.5576574**	**.0102206**
Stddev	.0009146	3.1060	.014248	.15336	.0004466	.0009826
%RSD	.1081314	.8489439	.3204056	.1883492	.0800885	9.613861
#1	.8466466	362.3091	4.461440	81.55267	.5579942	.0091743
#2	.8459060	368.0493	4.446226	81.45743	.5571508	.0111237
#3	.8448279	367.2358	4.432966	81.25256	.5578271	.0103637

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.701678**	**1.011997**	**3.255072**	**4.807895**	**.6232748**	**1.940081**
Stddev	.298370	.002494	.003075	.035924	.0039771	.014094
%RSD	3.075451	.2464755	.0944683	.7471804	.6381014	.7264582
#1	10.04175	1.010050	3.251548	4.838238	.6264663	1.923844
#2	9.48380	1.011133	3.256458	4.817217	.6188193	1.949158
#3	9.57949	1.014808	3.257211	4.768229	.6245389	1.947240

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-11 Acquired: 1/24/2025 17:54:57 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H5 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005584	F 400.8836	F 23.01329	-.000078	.0004103	.0378616
Stddev	.000236	1.4118	.00500	.001035	.0003142	.0008320
%RSD	4.221050	.3521666	.0217376	1329.429	76.58982	2.197520
#1	-.005792	402.0264	23.01467	.000659	.0007702	.0384157
#2	-.005328	399.3054	23.00774	-.001261	.0002697	.0382641
#3	-.005632	401.3190	23.01746	.000368	.0001908	.0369048

Elem	Sr4077
Units	ppm
Avg	1.388638
Stddev	.006489
%RSD	.4672858
#1	1.395863
#2	1.386747
#3	1.383305

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3971.279	85649.83	14223.69	2860.283	3827.754
Stddev	8.498	55.70	48.33	11.497	8.351
%RSD	.2139928	.0650350	.3397963	.4019411	.2181682
#1	3968.125	85587.15	14244.46	2854.867	3826.704
#2	3980.903	85693.68	14258.16	2873.487	3836.580
#3	3964.809	85668.66	14168.44	2852.495	3819.977

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-12 Acquired: 1/24/2025 17:59:09 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089102	.0047048	.0102341	.0039128	.0017809	61.00366
Stddev	.0003853	.0018522	.0004954	.0034648	.0004279	.04636
%RSD	4.323892	39.36764	4.840947	88.54931	24.02635	.0759994
#1	.0093353	.0046150	.0108041	-.000081	.0022002	61.05342
#2	.0085840	.0066002	.0099916	.005705	.0017974	60.96167
#3	.0088113	.0028992	.0099067	.006115	.0013450	60.99590

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0606525	.0156937	.0080506	205.1899	.0383943	.7195668
Stddev	.0001234	.0000828	.0001615	.4295	.0001768	.0104537
%RSD	.2035155	.5274176	2.006220	.2093245	.4604515	1.452772
#1	.0605362	.0157704	.0079801	205.6853	.0385554	.7141273
#2	.0606394	.0157047	.0079364	204.9216	.0382052	.7129545
#3	.0607820	.0156060	.0082354	204.9628	.0384224	.7316187

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.339306	61.24574	F 47.70017	50.01139	.2015688	.0082475
Stddev	.003103	.06958	.24845	.07346	.0030288	.0001855
%RSD	.2317045	.1136034	.5208644	.1468870	1.502613	2.249572
#1	1.342830	61.32603	47.93539	50.08807	.1999441	.0081887
#2	1.338103	61.20807	47.44032	49.94165	.1996989	.0080984
#3	1.336983	61.20312	47.72480	50.00445	.2050633	.0084553

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.34672	.2418770	1.965966	21.81673	9.232152	.6753996
Stddev	.27015	.0021951	.006447	.04871	.133502	.0007377
%RSD	1.208886	.9075240	.3279310	.2232773	1.446060	.1092195
#1	22.59859	.2443096	1.969907	21.84568	9.163511	.6746094
#2	22.06141	.2400441	1.969465	21.76049	9.146935	.6755193
#3	22.38017	.2412774	1.958526	21.84403	9.386010	.6760701

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-12 Acquired: 1/24/2025 17:59:09 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H6 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002761	F 421.9902	F 26.77015	-.002465	-.005922	.0484049
Stddev	.000238	6.0694	.05114	.000344	.000193	.0007788
%RSD	8.603528	1.438287	.1910343	13.94300	3.265088	1.608864
#1	-.002803	419.0428	26.82867	-.002086	-.005823	.0492389
#2	-.002505	417.9572	26.73403	-.002551	-.006144	.0482792
#3	-.002975	428.9704	26.74775	-.002756	-.005798	.0476967

Elem	Sr4077
Units	ppm
Avg	1.167393
Stddev	.013260
%RSD	1.135903
#1	1.159069
#2	1.160424
#3	1.182684

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4235.043	90208.02	14553.90	3020.227	3703.828
Stddev	37.433	218.12	24.41	7.944	48.180
%RSD	.8838886	.2417926	.1677007	.2630206	1.300824
#1	4260.187	90236.44	14560.16	3029.045	3731.814
#2	4252.918	90410.53	14574.56	3013.629	3731.476
#3	4192.023	89977.09	14526.97	3018.008	3648.194

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-13 Acquired: 1/24/2025 18:03:21 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0276073**	**-.003603**	**.0133895**	**-.003989**	**-.001125**	**36.51420**
Stddev	.0010257	.001422	.0007591	.000908	.001257	.22501
%RSD	3.715461	39.47904	5.669506	22.75858	111.7717	.6162144
#1	.0287745	-.002807	.0141321	-.003444	-.001076	36.27748
#2	.0268497	-.002756	.0134215	-.003485	-.002406	36.53980
#3	.0271976	-.005245	.0126149	-.005037	.000107	36.72531

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0870308**	**.0054171**	**.0185571**	**283.0250**	**.0348456**	**.7450936**
Stddev	.0005716	.0000333	.0000478	1.1179	.0000631	.0017251
%RSD	.6568206	.6148617	.2578453	.3949991	.1810685	.2315220
#1	.0871467	.0054480	.0185019	282.7464	.0347941	.7452083
#2	.0864101	.0053818	.0185853	284.2559	.0348266	.7433140
#3	.0875357	.0054214	.0185842	282.0727	.0349160	.7467584

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5273506**	**19.96850**	**17.38735**	**51.88607**	**.9263132**	**.0025392**
Stddev	.0014552	.07446	.09876	.12685	.0017767	.0002191
%RSD	.2759540	.3729024	.5679728	.2444832	.1918055	8.627799
#1	.5286010	19.89334	17.28711	51.73960	.9260854	.0022866
#2	.5257532	19.96991	17.39038	51.95797	.9246614	.0026782
#3	.5276976	20.04225	17.48455	51.96064	.9281928	.0026527

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.954257**	**.0804122**	**1.334104**	**4.836457**	**2.577599**	**.5764640**
Stddev	.157122	.0010562	.005178	.032524	.002211	.0022463
%RSD	2.638813	1.313434	.3881231	.6724671	.0857765	.3896762
#1	6.091732	.0811374	1.328137	4.798925	2.578279	.5790426
#2	5.988052	.0808987	1.336754	4.856376	2.579390	.5754177
#3	5.782988	.0792005	1.337420	4.854069	2.575128	.5749317

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-13 Acquired: 1/24/2025 18:03:21 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F6 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000505**	F **339.5002**	F **14.49062**	**-.002764**	**-.006681**	**.0418848**
Stddev	.000436	.4886	.04117	.001188	.001047	.0005400
%RSD	86.36013	.1439172	.2840831	42.97270	15.67419	1.289194
#1	-.000206	339.4342	14.53522	-.003917	-.005489	.0413699
#2	-.001005	339.0480	14.48258	-.002832	-.007452	.0424467
#3	-.000303	340.0185	14.45407	-.001544	-.007102	.0418378

Elem	Sr4077
Units	ppm
Avg	**1.506852**
Stddev	.010512
%RSD	.6976392
#1	1.518675
#2	1.498560
#3	1.503320

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3767.806**	**80384.38**	**13068.42**	**2673.718**	**3755.526**
Stddev	7.843	220.61	83.54	13.293	2.206
%RSD	.2081617	.2744433	.6392292	.4971791	.0587501
#1	3774.618	80620.77	12992.28	2688.727	3756.619
#2	3759.232	80183.97	13055.22	2663.428	3756.972
#3	3769.567	80348.40	13157.78	2669.000	3752.986

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-14 Acquired: 1/24/2025 18:07:35 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067354	.0053616	.0047526	.0002302	-.000241	54.29221
Stddev	.0010526	.0004985	.0004015	.0010392	.001170	.35098
%RSD	15.62834	9.297483	8.447642	451.4992	484.7314	.6464608
#1	.0064030	.0050678	.0043265	.0008892	.000849	53.98375
#2	.0058892	.0059372	.0048077	-.000968	-.001477	54.67409
#3	.0079142	.0050799	.0051238	.000769	-.000096	54.21878

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0624370	.0021897	.0041056	80.61874	.0313196	.3101203
Stddev	.0003322	.0000513	.0000872	.35542	.0001752	.0003478
%RSD	.5320174	2.340946	2.124375	.4408633	.5594755	.1121614
#1	.0621413	.0022265	.0041321	80.36922	.0311457	.3099472
#2	.0627964	.0022115	.0041766	81.02569	.0313169	.3098930
#3	.0623732	.0021312	.0040083	80.46133	.0314961	.3105207

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1894008	24.39937	5.039472	35.53458	.2157865	.0006299
Stddev	.0012903	.15386	.014163	.15707	.0000749	.0001154
%RSD	.6812689	.6305835	.2810407	.4420310	.0346876	18.32081
#1	.1904648	24.28109	5.032381	35.40847	.2157019	.0006758
#2	.1879656	24.57331	5.055780	35.71053	.2158440	.0007153
#3	.1897722	24.34371	5.030254	35.48476	.2158136	.0004986

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.650557	.0048080	.8345097	6.152318	.2278271	.4368764
Stddev	.100434	.0011891	.0040929	.057200	.0013456	.0010545
%RSD	2.159607	24.73162	.4904561	.9297239	.5905995	.2413601
#1	4.549755	.0034354	.8378413	6.107951	.2270157	.4376183
#2	4.750618	.0055231	.8357468	6.216874	.2270854	.4356694
#3	4.651299	.0054656	.8299409	6.132128	.2293803	.4373416

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-14 Acquired: 1/24/2025 18:07:35 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F9 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001032	F 299.9502	F 18.81792	-.002426	.0122864	.0476890
Stddev	.000252	1.1855	.08461	.000517	.0002741	.0002473
%RSD	24.45310	.3952169	.4496347	21.30062	2.230911	.5185820
#1	-.001323	299.1274	18.90674	-.002147	.0119895	.0479626
#2	-.000879	299.4141	18.73825	-.002110	.0123399	.0476230
#3	-.000894	301.3090	18.80878	-.003023	.0125298	.0474813

Elem	Sr4077
Units	ppm
Avg	.4840809
Stddev	.0028975
%RSD	.5985605
#1	.4823959
#2	.4874266
#3	.4824201

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5344.657	114671.3	18540.73	3865.487	3903.664
Stddev	9.864	111.6	126.44	10.275	1.163
%RSD	.1845595	.0973021	.6819711	.2658151	.0297964
#1	5339.931	114783.2	18454.30	3855.947	3903.041
#2	5338.044	114670.6	18685.86	3876.366	3905.006
#3	5355.994	114560.1	18482.05	3864.147	3902.945

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-15 Acquired: 1/24/2025 18:11:32 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0192912	-.001029	.0988136	.0386126	.0159314	119.2954
Stddev	.0034517	.002508	.0009012	.0025933	.0011680	.5228
%RSD	17.89260	243.7319	.9119747	6.716140	7.331508	.4382091
#1	.0178916	-.001751	.0988646	.0361971	.0168012	118.7094
#2	.0232229	.001761	.0978881	.0382878	.0146038	119.7138
#3	.0167592	-.003096	.0996882	.0413531	.0163891	119.4631

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0854518	.0052333	.0226570	81.96009	.1179462	.5275754
Stddev	.0007792	.0000966	.0001138	.24796	.0003732	.0013739
%RSD	.9118774	1.845374	.5022096	.3025425	.3164452	.2604089
#1	.0849956	.0053331	.0227785	81.71269	.1183526	.5283045
#2	.0863516	.0052264	.0225529	82.20862	.1176187	.5259907
#3	.0850083	.0051404	.0226396	81.95894	.1178674	.5284310

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.128435	185.8953	5.156511	57.46778	.3527343	.0058989
Stddev	.003046	.6680	.016837	.15107	.0011016	.0003617
%RSD	.2699140	.3593646	.3265181	.2628864	.3122906	6.131625
#1	1.131021	185.2334	5.140974	57.34450	.3526712	.0058701
#2	1.129207	186.5693	5.174401	57.63631	.3516657	.0062741
#3	1.125078	185.8834	5.154157	57.42252	.3538661	.0055525

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.689280	.2524434	1.620206	16.40529	F 13.29587	1.211270
Stddev	.127908	.0010399	.003851	.08444	.04272	.002287
%RSD	1.912130	.4119313	.2377052	.5146885	.3213170	.1888129
#1	6.553729	.2522005	1.624626	16.30794	13.33334	1.211043
#2	6.807848	.2515465	1.618426	16.45868	13.24935	1.213662
#3	6.706262	.2535833	1.617567	16.44924	13.30492	1.209105

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-15 Acquired: 1/24/2025 18:11:32 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G0 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001941	F 612.0184	F 40.13079	-.000660	.2104339	.1219649
Stddev	.000166	1.8130	.13448	.001243	.0013731	.0010586
%RSD	8.562059	.2962248	.3351125	188.2057	.6524979	.8679719
#1	-.001811	613.3605	40.25299	-.001849	.2119385	.1218006
#2	-.002128	609.9560	40.15268	.000630	.2101147	.1230961
#3	-.001882	612.7387	39.98671	-.000761	.2092485	.1209981

Elem	Sr4077
Units	ppm
Avg	.3508060
Stddev	.0013857
%RSD	.3950036
#1	.3492405
#2	.3518750
#3	.3513026

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3990.186	81916.63	13470.91	2818.363	3966.297
Stddev	10.388	310.61	27.94	5.350	7.217
%RSD	.2603296	.3791825	.2073965	.1898129	.1819665
#1	3978.372	82263.73	13448.52	2820.308	3961.213
#2	3997.891	81664.85	13461.99	2822.468	3974.558
#3	3994.293	81821.30	13502.22	2812.313	3963.121

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-16 Acquired: 1/24/2025 18:15:26 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002107**	**-.009854**	**.0057418**	**.0297751**	**.0180792**	**4.735958**
Stddev	.001045	.001823	.0007035	.0019342	.0005280	.028354
%RSD	49.60032	18.49933	12.25186	6.495899	2.920660	.5986883
#1	-.001849	-.010742	.0055170	.0290269	.0185547	4.722607
#2	-.001216	-.011062	.0051782	.0319716	.0175109	4.716744
#3	-.003258	-.007757	.0065302	.0283268	.0181718	4.768523

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0935409**	**.0025484**	**.0077545**	**419.8190**	**.0004857**	**.0248712**
Stddev	.0009148	.0000887	.0001222	1.6938	.0001439	.0001318
%RSD	.9779831	3.481258	1.576293	.4034581	29.61706	.5297116
#1	.0943999	.0025278	.0076146	417.9344	.0005453	.0247526
#2	.0925790	.0024718	.0078081	421.2144	.0003217	.0248480
#3	.0936439	.0026456	.0078408	420.3082	.0005902	.0250130

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.023382**	**190.9998**	**7.337250**	**48.41829**	**.0944861**	**.0053562**
Stddev	.000897	.7137	.037077	.19976	.0001188	.0001783
%RSD	3.836568	.3736771	.5053298	.4125783	.1257751	3.328681
#1	-.022769	191.0519	7.369841	48.52427	.0945133	.0051717
#2	-.022966	190.2615	7.296911	48.18787	.0943560	.0053693
#3	-.024412	191.6860	7.344997	48.54273	.0945890	.0055276

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.19436**	**-.013115**	**1.038489**	**49.68025**	**.0060133**	**1.276337**
Stddev	.19655	.000981	.010125	.27112	.0032965	.002561
%RSD	1.384683	7.481321	.9749451	.5457330	54.81961	.2006212
#1	14.20670	-.013537	1.046399	49.69176	.0023697	1.275461
#2	13.99194	-.013814	1.027079	49.40355	.0087889	1.274329
#3	14.38445	-.011993	1.041990	49.94543	.0068814	1.279221

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-16 Acquired: 1/24/2025 18:15:26 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G1 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002332**	F **369.0480**	F **17.02473**	**-.002100**	**-.014217**	**.0713711**
Stddev	.000086	1.1286	.07837	.001437	.000411	.0021277
%RSD	3.704186	.3058076	.4603325	68.41051	2.890083	2.981223
#1	-.002403	368.0034	17.10613	-.000465	-.013836	.0721593
#2	-.002236	368.8955	17.01827	-.003160	-.014161	.0689617
#3	-.002358	370.2451	16.94979	-.002675	-.014653	.0729922

Elem	Sr4077
Units	ppm
Avg	**1.021886**
Stddev	.008915
%RSD	.8723629
#1	1.025613
#2	1.028332
#3	1.011713

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3482.069**	**73962.91**	**11992.46**	**2471.372**	**3681.486**
Stddev	12.623	85.67	42.84	10.135	12.083
%RSD	.3625215	.1158226	.3572051	.4100779	.3282212
#1	3488.296	73998.62	11998.35	2463.092	3685.460
#2	3490.368	74024.95	11946.98	2482.674	3691.082
#3	3467.542	73865.17	12032.04	2468.349	3667.916

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-17 Acquired: 1/24/2025 18:19:42 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0056346**	**.0027836**	**.0151358**	**.0010929**	**-.000491**	**61.34300**
Stddev	.0018959	.0014480	.0002269	.0028664	.001412	.13242
%RSD	33.64678	52.02042	1.499187	262.2668	287.8534	.2158739
#1	.0046256	.0028194	.0148752	-.002068	.000605	61.44911
#2	.0044566	.0013180	.0152897	.001824	.000007	61.19460
#3	.0078216	.0042134	.0152424	.003523	-.002084	61.38530

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0839125**	**.0076613**	**.0092967**	**89.18156**	**.0371663**	**.8643215**
Stddev	.0004886	.0000736	.0000469	.21254	.0003193	.0036728
%RSD	.5823042	.9609131	.5046108	.2383235	.8591962	.4249297
#1	.0843948	.0075780	.0093262	89.42026	.0372522	.8624185
#2	.0834178	.0077175	.0092426	89.01281	.0368128	.8619907
#3	.0839248	.0076885	.0093214	89.11162	.0374339	.8685552

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2290995**	**33.05441**	**22.09287**	**49.22096**	**2.037184**	**.0039416**
Stddev	.0014217	.08559	.00564	.12171	.008907	.0000507
%RSD	.6205479	.2589242	.0255229	.2472803	.4372056	1.286362
#1	.2300406	33.14374	22.08943	49.35830	2.031922	.0039075
#2	.2297937	32.97314	22.09938	49.12646	2.032162	.0039176
#3	.2274641	33.04635	22.08980	49.17812	2.047468	.0039999

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.332781**	**.0073576**	**1.587001**	**4.299298**	**1.488600**	**.5086817**
Stddev	.251575	.0006153	.006713	.042669	.006161	.0009394
%RSD	4.717527	8.362205	.4230207	.9924691	.4138631	.1846802
#1	5.609371	.0080607	1.590403	4.347260	1.493795	.5097584
#2	5.117587	.0069183	1.579268	4.285086	1.481794	.5082574
#3	5.271385	.0070936	1.591332	4.265549	1.490211	.5080292

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-17 Acquired: 1/24/2025 18:19:42 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G2 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001410**	F **314.8233**	F **21.82160**	**-.001487**	**.0057472**	**.1006393**
Stddev	.000163	1.6850	.09190	.000483	.0006655	.0012212
%RSD	11.54695	.5352145	.4211261	32.46577	11.58002	1.213491
#1	-.001336	313.7856	21.92637	-.001312	.0049941	.1020486
#2	-.001596	313.9169	21.78377	-.001116	.0062563	.0998919
#3	-.001297	316.7675	21.75465	-.002033	.0059910	.0999773

Elem	Sr4077
Units	ppm
Avg	**.4576007**
Stddev	.0012441
%RSD	.2718795
#1	.4590060
#2	.4566396
#3	.4571567

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4528.418**	**94604.57**	**15412.54**	**3184.334**	**3984.194**
Stddev	8.510	292.57	20.39	9.772	14.855
%RSD	.1879189	.3092524	.1322708	.3068693	.3728394
#1	4528.700	94501.62	15407.04	3180.106	3990.014
#2	4536.783	94934.70	15435.12	3195.508	3995.257
#3	4519.771	94377.40	15395.47	3177.389	3967.310

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-18 Acquired: 1/24/2025 18:23:49 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040005**	**.0014764**	**.0036772**	**-.003824**	**-.001225**	**40.06976**
Stddev	.0006359	.0027604	.0008786	.001533	.001751	.17502
%RSD	15.89643	186.9621	23.89452	40.08352	142.9727	.4367905
#1	.0036601	-.001707	.0042750	-.003177	-.002699	39.94429
#2	.0036072	.003211	.0026684	-.005575	.000711	39.99529
#3	.0047342	.002925	.0040881	-.002721	-.001687	40.26970

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0913109**	**.0027195**	**.0069388**	**282.9395**	**.0299197**	**.2088162**
Stddev	.0002579	.0000215	.0000624	.7315	.0003308	.0002569
%RSD	.2824269	.7898959	.8991431	.2585405	1.105595	.1230149
#1	.0910879	.0027358	.0069822	282.1080	.0296449	.2088602
#2	.0912514	.0026951	.0068673	283.2265	.0298275	.2085401
#3	.0915933	.0027275	.0069669	283.4840	.0302869	.2090482

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2826458**	**9.679564**	**2.927350**	**65.26450**	**.4357389**	**.0003447**
Stddev	.0015463	.054614	.005865	.14489	.0023259	.0001232
%RSD	.5470640	.5642223	.2003405	.2220089	.5337911	35.73574
#1	.2817570	9.636794	2.925575	65.26320	.4353445	.0004349
#2	.2844313	9.660815	2.922578	65.12026	.4336354	.0003947
#3	.2817492	9.741084	2.933897	65.41003	.4382368	.0002044

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.133720**	**.0133244**	**1.364808**	**.8285762**	**.3849546**	**.6018152**
Stddev	.128988	.0004172	.006178	.0400276	.0030638	.0002766
%RSD	2.102938	3.131248	.4526707	4.830893	.7958796	.0459562
#1	6.131671	.0137839	1.370077	.8222053	.3864235	.6019172
#2	6.005768	.0129693	1.358008	.7921161	.3814329	.6020263
#3	6.263720	.0132199	1.366338	.8714072	.3870073	.6015021

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-18 Acquired: 1/24/2025 18:23:49 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H9 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000496	F 325.4159	F 23.77387	-.002686	.0005259	.0911831
Stddev	.000205	1.1128	.05682	.001225	.0003315	.0010201
%RSD	41.33868	.3419736	.2389974	45.62109	63.02320	1.118729
#1	-.000350	325.9300	23.83937	-.001537	.0004805	.0902823
#2	-.000730	324.1389	23.74431	-.002546	.0002195	.0909763
#3	-.000407	326.1787	23.73792	-.003975	.0008777	.0922908

Elem	Sr4077
Units	ppm
Avg	1.011419
Stddev	.013553
%RSD	1.340021
#1	1.022536
#2	.996321
#3	1.015399

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3878.935	81908.17	13603.27	2718.847	3826.795
Stddev	2.730	302.63	62.08	23.963	4.463
%RSD	.0703694	.3694757	.4563476	.8813798	.1166209
#1	3875.890	81729.06	13534.69	2702.360	3826.867
#2	3879.751	82257.59	13655.64	2746.336	3831.222
#3	3881.163	81737.88	13619.46	2707.846	3822.297

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-19 Acquired: 1/24/2025 18:28:04 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0217116	.0042453	.0105920	-.004022	-.001708	47.63948
Stddev	.0005861	.0014969	.0013586	.001600	.000847	.34287
%RSD	2.699571	35.26068	12.82665	39.77284	49.59898	.7197275
#1	.0220272	.0025571	.0105265	-.003347	-.002005	48.03359
#2	.0210353	.0047681	.0092673	-.002870	-.000752	47.40963
#3	.0220724	.0054106	.0119821	-.005849	-.002366	47.47523

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0693494	.0050942	.0036762	173.0610	.0156981	.1846160
Stddev	.0003680	.0000369	.0001066	.7955	.0001859	.0002277
%RSD	.5306658	.7235895	2.900768	.4596575	1.184503	.1233366
#1	.0695436	.0050862	.0035896	173.9732	.0158983	.1843942
#2	.0689250	.0050620	.0037953	172.5118	.0156653	.1846047
#3	.0695796	.0051344	.0036437	172.6979	.0155307	.1848491

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0656363	.7833716	7.708350	37.08333	.2750765	.0007284
Stddev	.0007650	.0076008	.048747	.16389	.0002080	.0001554
%RSD	1.165517	.9702668	.6323929	.4419473	.0756226	21.33034
#1	.0660694	.7917681	7.763934	37.27236	.2749925	.0006992
#2	.0660866	.7769606	7.672867	36.99660	.2753134	.0008963
#3	.0647531	.7813862	7.688250	36.98104	.2749236	.0005897

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.336196	.0161243	1.066529	7.922794	F 13.20090	.3914477
Stddev	.297719	.0002807	.002220	.078382	.02388	.0033984
%RSD	6.865897	1.740946	.2081088	.9893199	.1808675	.8681733
#1	4.029923	.0164483	1.069041	7.992668	13.19492	.3876125
#2	4.624552	.0159519	1.064833	7.838038	13.18058	.3940848
#3	4.354113	.0159729	1.065712	7.937674	13.22720	.3926459

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-19 Acquired: 1/24/2025 18:28:04 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J0 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000438	F 308.6939	9.060932	-.001371	-.004121	.0141856
Stddev	.000130	.9260	.009041	.001047	.000247	.0007390
%RSD	29.79790	.2999613	.0997775	76.37686	5.985242	5.209770
#1	-.000360	307.9370	9.063996	-.000351	-.004404	.0138759
#2	-.000365	308.4184	9.050757	-.002444	-.004004	.0136518
#3	-.000588	309.7264	9.068042	-.001318	-.003954	.0150292

Elem	Sr4077
Units	ppm
Avg	1.040529
Stddev	.009675
%RSD	.9298187
#1	1.040693
#2	1.050121
#3	1.030773

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4855.672	102087.3	16658.12	3408.665	3882.900
Stddev	14.924	135.3	111.65	5.759	9.796
%RSD	.3073482	.1325418	.6702265	.1689572	.2522835
#1	4869.310	101951.1	16785.34	3415.314	3893.649
#2	4857.976	102089.2	16576.45	3405.435	3880.576
#3	4839.731	102221.6	16612.57	3405.245	3874.475

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-20 Acquired: 1/24/2025 18:32:10 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046364**	**-.002954**	**.0113888**	**.0079642**	**.0025296**	**83.20164**
Stddev	.0005070	.002418	.0009412	.0020173	.0007132	.62055
%RSD	10.93442	81.86529	8.264594	25.32928	28.19430	.7458335
#1	.0045647	-.001544	.0111156	.0101409	.0026057	83.60566
#2	.0051754	-.001571	.0124364	.0061575	.0017814	82.48713
#3	.0041691	-.005746	.0106144	.0075943	.0032017	83.51213

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0787371**	**.0058951**	**.0134520**	**127.6965**	**.1017312**	**1.351965**
Stddev	.0011361	.0000643	.0001093	.7793	.0003341	.004473
%RSD	1.442935	1.091213	.8125800	.6102988	.3284438	.3308329
#1	.0798831	.0059373	.0133337	127.8850	.1018276	1.353997
#2	.0776111	.0058211	.0134733	126.8402	.1013595	1.346837
#3	.0787170	.0059270	.0135492	128.3644	.1020066	1.355062

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9238086**	**56.17627**	**15.62501**	**53.20586**	**1.105010**	**.0035295**
Stddev	.0050580	.34198	.10114	.26977	.003627	.0001289
%RSD	.5475166	.6087541	.6473192	.5070333	.3281951	3.653538
#1	.9206633	56.36048	15.63310	53.33934	1.107672	.0035394
#2	.9211194	55.78168	15.52007	52.89537	1.100880	.0036532
#3	.9296431	56.38665	15.72187	53.38287	1.106480	.0033959

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.978294**	**.1603141**	**1.316100**	**13.37095**	**2.136421**	**.6627891**
Stddev	.198670	.0005820	.010809	.14632	.003626	.0004097
%RSD	2.846971	.3630590	.8213180	1.094333	.1697110	.0618137
#1	6.759155	.1596422	1.308642	13.43219	2.132235	.6630865
#2	7.146629	.1606348	1.311162	13.20396	2.138442	.6623218
#3	7.029099	.1606652	1.328497	13.47670	2.138585	.6629590

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1106-20 Acquired: 1/24/2025 18:32:10 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J1 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001396	F 318.4632	F 31.31567	-.002640	.0026195	.1033136
Stddev	.000056	.9437	.03244	.000602	.0004334	.0012171
%RSD	4.043663	.2963258	.1035837	22.78486	16.54724	1.178093
#1	-.001430	318.3512	31.27822	-.002681	.0021983	.1029379
#2	-.001427	317.5806	31.33402	-.003220	.0030642	.1023286
#3	-.001331	319.4579	31.33477	-.002019	.0025959	.1046743

Elem	Sr4077
Units	ppm
Avg	.5639314
Stddev	.0042376
%RSD	.7514376
#1	.5651299
#2	.5592237
#3	.5674408

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4314.525	89873.90	14923.26	3016.321	3904.864
Stddev	18.235	542.22	61.81	20.059	13.597
%RSD	.4226310	.6033092	.4141805	.6650217	.3482002
#1	4334.901	90012.92	14994.44	3027.262	3909.970
#2	4308.932	90333.07	14883.08	3028.530	3915.170
#3	4299.742	89275.71	14892.27	2993.170	3889.454

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166163BL Acquired: 1/24/2025 18:36:05 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW163 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016198**	**-.000773**	**-.000805**	**-.001041**	**-.000891**	**.0066851**
Stddev	.0010712	.000548	.001315	.001053	.002036	.0099511
%RSD	66.12752	70.84097	163.3725	101.1288	228.3432	148.8544
#1	.0011285	-.000143	.000624	.000067	-.002023	-.003828
#2	.0008825	-.001138	-.001074	-.002028	-.002110	.007925
#3	.0028485	-.001038	-.001964	-.001162	.001458	.015958

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.008600**	**-.000052**	**-.000041**	**.0101705**	**.0004032**	**-.000143**
Stddev	.000639	.000053	.000004	.0046174	.0002902	.000059
%RSD	7.428421	101.4601	8.581141	45.39955	71.98800	41.45039
#1	-.008151	-.000054	-.000041	.0153794	.0007073	-.000211
#2	-.009331	.000002	-.000037	.0065806	.0003730	-.000110
#3	-.008316	-.000105	-.000044	.0085516	.0001292	-.000107

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000424**	**.0070675**	**-.000228**	**-.014578**	**-.000052**	**.0005106**
Stddev	.000601	.0010841	.000185	.013144	.000338	.0002261
%RSD	141.8030	15.33978	80.88734	90.16075	645.0359	44.27841
#1	.000205	.0063231	-.000307	-.001446	.000135	.0006953
#2	-.000993	.0083113	-.000361	-.014554	-.000442	.0002585
#3	-.000484	.0065680	-.000017	-.027733	.000150	.0005780

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4565594**	**-.000068**	**.0000199**	**-.275464**	**.0046143**	F **-.011013**
Stddev	.0953692	.001116	.0007182	.063690	.0016274	.000747
%RSD	20.88868	1648.480	3605.892	23.12094	35.26873	6.785794
#1	.5528651	-.001274	.0008141	-.296884	.0063873	-.010201
#2	.3621551	.000145	-.000584	-.325682	.0042673	-.011673
#3	.4546579	.000927	-.000171	-.203825	.0031884	-.011164

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166163BL Acquired: 1/24/2025 18:36:05 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW163 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000644	.0589315	.0032688	-.000381	.0000182	-.002737
Stddev	.000178	.0064938	.0004176	.000258	.0001304	.000889
%RSD	27.63478	11.01915	12.77622	67.60851	717.4525	32.48870
#1	-.000444	.0663588	.0029220	-.000565	.0001471	-.003382
#2	-.000701	.0561094	.0031519	-.000087	.0000210	-.001723
#3	-.000786	.0543263	.0037324	-.000491	-.000114	-.003106

Elem	Sr4077
Units	ppm
Avg	-.000003
Stddev	.000069
%RSD	2627.637
#1	-.000078
#2	.000057
#3	.000013

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3485.940	71552.05	11249.28	2409.973	4375.492
Stddev	3.094	55.56	93.30	2.607	3.169
%RSD	.0887619	.0776567	.8293452	.1081675	.0724178
#1	3484.874	71517.56	11147.98	2407.918	4377.873
#2	3489.427	71522.45	11331.67	2409.097	4376.707
#3	3483.520	71616.15	11268.20	2412.905	4371.895

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166163BS Acquired: 1/24/2025 18:40:14 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS163 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0194735**	**.0480730**	**.0184952**	**.0628865**	**.1064445**	**.3671088**	**.3499020**
Stddev	.0018416	.0007903	.0005394	.0019037	.0014892	.0061794	.0016416
%RSD	9.456862	1.644063	2.916522	3.027225	1.399076	1.683262	.4691557
#1	.0175014	.0486379	.0183282	.0641359	.1063023	.3710480	.3514390
#2	.0211484	.0484112	.0180590	.0606955	.1050314	.3599868	.3481727
#3	.0197708	.0471698	.0190984	.0638280	.1079997	.3702916	.3500943

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0093082**	**.0094500**	**9.199381**	**.0202423**	**.0938680**	**.0504764**	**.2018083**
Stddev	.0000796	.0000408	.044242	.0002682	.0006142	.0013233	.0045562
%RSD	.8550003	.4319346	.4809265	1.324906	.6543665	2.621544	2.257671
#1	.0092931	.0094649	9.230872	.0204857	.0933689	.0490685	.2032865
#2	.0093943	.0094813	9.148799	.0199548	.0936812	.0516946	.1966966
#3	.0092373	.0094038	9.218473	.0202866	.0945540	.0506660	.2054419

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0280971**	**8.178304**	**.0769857**	**.0180702**	**8.977765**	**.0986976**	**.1160557**
Stddev	.0002045	.036170	.0000744	.0003024	.308050	.0020685	.0016638
%RSD	.7276495	.4422627	.0966707	1.673343	3.431256	2.095812	1.433591
#1	.0278670	8.219551	.0770321	.0184170	9.306537	.1009518	.1170240
#2	.0282577	8.163361	.0768999	.0178622	8.695792	.0982545	.1141346
#3	.0281667	8.152001	.0770252	.0179312	8.930967	.0968865	.1170085

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.501226**	**.0176669**	**-.009738**	**.0188078**	**.2058301**	**.4276933**	**.0132555**
Stddev	.033620	.0022332	.000319	.0001787	.0012560	.0012330	.0003464
%RSD	.3954740	12.64052	3.280653	.9503132	.6101952	.2882841	2.613154
#1	8.539960	.0164806	-.009371	.0189403	.2070267	.4275143	.0133902
#2	8.484112	.0202429	-.009887	.0186045	.2045222	.4265596	.0128620
#3	8.479606	.0162772	-.009955	.0188785	.2059416	.4290060	.0135143

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166163BS Acquired: 1/24/2025 18:40:14 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS163 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1949160	.0219276	.1673810
Stddev	.0005276	.0009174	.0009279
%RSD	.2706975	4.183561	.5543704
#1	.1954937	.0213105	.1683886
#2	.1947949	.0229818	.1665617
#3	.1944595	.0214906	.1671926

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3411.240	72531.07	11102.14	2421.667	4189.122
Stddev	5.689	138.36	44.22	7.768	6.477
%RSD	.1667622	.1907543	.3982817	.3207663	.1546127
#1	3409.461	72385.98	11131.79	2420.947	4182.430
#2	3417.606	72545.71	11051.32	2414.284	4195.359
#3	3406.654	72661.53	11123.30	2429.769	4189.576

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166132TB Acquired: 1/24/2025 18:44:17 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB132 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014999	-.005264	-.001815	.0090881	.0009507	.0114953
Stddev	.0010659	.000756	.000691	.0007002	.0012509	.0032247
%RSD	71.06255	14.35886	38.06326	7.704637	131.5752	28.05224
#1	.0023391	-.005873	-.001880	.0092932	-.000450	.0148303
#2	.0018600	-.005501	-.002470	.0083083	.001958	.0112619
#3	.0003006	-.004418	-.001094	.0096629	.001344	.0083936

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.010595	-.000075	-.000122	-.002633	.0018627	-.000068
Stddev	.001131	.000018	.000072	.004039	.0001258	.000324
%RSD	10.67712	23.57461	58.92030	153.3884	6.751925	479.3298
#1	-.009399	-.000056	-.000050	.001967	.0019983	.000169
#2	-.010739	-.000091	-.000121	-.004268	.0017498	.000064
#3	-.011647	-.000076	-.000194	-.005598	.0018400	-.000437

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011770	.0129098	.0013415	-.009527	.0036947	.0004876
Stddev	.0008021	.0026396	.0003169	.009222	.0003592	.0003532
%RSD	68.14605	20.44690	23.62055	96.79940	9.722199	72.43657
#1	.0009384	.0159253	.0017014	.001082	.0036180	.0002734
#2	.0020713	.0110178	.0012187	-.014031	.0033801	.0002942
#3	.0005213	.0117862	.0011044	-.015632	.0040861	.0008953

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1424.337	-.000059	.0009371	-1.15556	.0074143	-.013633
Stddev	13.523	.001511	.0008119	.04245	.0031966	.000584
%RSD	.9494254	2571.274	86.63342	3.673177	43.11333	4.285832
#1	1439.952	.001591	.0014869	-1.18410	.0066561	-.013085
#2	1416.567	-.000391	.0000046	-1.17580	.0046651	-.013568
#3	1416.492	-.001375	.0013198	-1.10678	.0109219	-.014248

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166132TB Acquired: 1/24/2025 18:44:17 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB132 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000207	.0492760	.0035293	.0029707	-.000912	-.005395
Stddev	.000120	.0041912	.0027389	.0003444	.000529	.000969
%RSD	58.27334	8.505627	77.60358	11.59470	57.95164	17.95800
#1	-.000123	.0446699	.0035374	.0025937	-.000510	-.004337
#2	-.000345	.0528651	.0007864	.0030495	-.000716	-.005607
#3	-.000153	.0502931	.0062641	.0032689	-.001511	-.006240

Elem	Sr4077
Units	ppm
Avg	.0000033
Stddev	.0000396
%RSD	1207.100
#1	-.000023
#2	-.000016
#3	.000049

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2960.580	62195.14	11084.65	2095.838	3409.471
Stddev	9.370	145.24	68.81	6.799	5.089
%RSD	.3164965	.2335302	.6207764	.3244020	.1492534
#1	2970.994	62049.55	11020.22	2091.389	3414.923
#2	2957.918	62340.04	11076.59	2092.460	3404.848
#3	2952.829	62195.82	11157.13	2103.664	3408.640

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-01 Acquired: 1/24/2025 18:48:26 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1513800**	**-.004875**	**.0065656**	**.0081975**	**.1205482**	**-.113478**
Stddev	.0041194	.002835	.0025253	.0012567	.0008710	.006449
%RSD	2.721220	58.14526	38.46274	15.33007	.7224950	5.683233
#1	.1478743	-.005000	.0044107	.0068713	.1214902	-.110212
#2	.1559171	-.001980	.0059417	.0093706	.1197721	-.109316
#3	.1503487	-.007646	.0093444	.0083504	.1203824	-.120907

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6003426**	**-.000300**	**.0006402**	**450.2302**	**.0000515**	**.0472456**
Stddev	.0023926	.000009	.0000502	3.4011	.0001308	.0005323
%RSD	.3985369	2.855880	7.845195	.7554226	253.8811	1.126746
#1	.6030675	-.000299	.0006525	450.0832	.0000259	.0469650
#2	.5993749	-.000309	.0006831	453.7025	.0001933	.0469123
#3	.5985855	-.000292	.0005850	446.9050	-.000065	.0478595

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001157**	**45.53705**	**1.441161**	**48.84887**	**.0221038**	**.0021377**
Stddev	.001424	.06432	.008405	.10900	.0002530	.0001919
%RSD	123.0997	.1412457	.5831823	.2231291	1.144401	8.977160
#1	.000386	45.60994	1.449914	48.97100	.0221084	.0020844
#2	-.001436	45.48828	1.440415	48.81416	.0218485	.0023507
#3	-.002421	45.51293	1.433155	48.76146	.0223544	.0019782

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **1734.866**	**-.001472**	**1.004943**	**36.89522**	**.0574136**	**.6911872**
Stddev	9.403	.001318	.006045	.08990	.0023309	.0005258
%RSD	.5419870	89.57258	.6015210	.2436549	4.059747	.0760665
#1	1740.588	-.002292	1.011638	36.99177	.0574607	.6909655
#2	1739.996	-.002171	1.003306	36.87994	.0597205	.6917875
#3	1724.014	.000049	.999886	36.81394	.0550595	.6908085

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-01 Acquired: 1/24/2025 18:48:26 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0160980	F 31.28503	5.033621	-.001451	-.013425	.0401206
Stddev	.0005541	.09632	.015958	.001133	.000668	.0005728
%RSD	3.441713	.3078656	.3170327	78.12086	4.976934	1.427587
#1	.0155112	31.23673	5.040390	-.000482	-.012946	.0403340
#2	.0166122	31.22242	5.045080	-.002697	-.014188	.0394718
#3	.0161706	31.39594	5.015395	-.001173	-.013140	.0405561

Elem	Sr4077
Units	ppm
Avg	3.560129
Stddev	.014294
%RSD	.4014952
#1	3.548566
#2	3.555712
#3	3.576110

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2769.949	58995.03	10843.69	1942.038	3138.040
Stddev	10.268	73.86	13.68	3.699	17.083
%RSD	.3706930	.1251979	.1262010	.1904707	.5443994
#1	2777.211	58910.47	10843.56	1945.152	3146.560
#2	2774.435	59027.70	10830.08	1937.949	3149.189
#3	2758.202	59046.92	10857.45	1943.012	3118.372

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-02 Acquired: 1/24/2025 18:52:44 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1481625	-.004916	.0051214	.0094150	.1172541	-.104361
Stddev	.0022566	.000902	.0012544	.0022614	.0030505	.008184
%RSD	1.523064	18.34406	24.49363	24.01960	2.601613	7.842318
#1	.1505829	-.005612	.0036931	.0114523	.1173933	-.108655
#2	.1477880	-.003897	.0060444	.0098110	.1141364	-.109504
#3	.1461165	-.005238	.0056266	.0069817	.1202326	-.094923

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5897026	-.000308	.0005763	447.8873	.0001229	.0476495
Stddev	.0036443	.000025	.0000922	1.7085	.0001857	.0001493
%RSD	.6179912	8.145697	16.00251	.3814666	151.0899	.3133622
#1	.5871659	-.000280	.0006123	446.2099	-.000040	.0475656
#2	.5880632	-.000329	.0006452	449.6253	.000325	.0475610
#3	.5938787	-.000315	.0004715	447.8266	.000083	.0478219

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001398	45.05722	1.426256	48.44567	.0213196	.0021007
Stddev	.000578	.17105	.009466	.26351	.0004513	.0002050
%RSD	41.31659	.3796285	.6636920	.5439291	2.116700	9.757497
#1	-.001466	44.91598	1.419553	48.22201	.0207991	.0020133
#2	-.000789	45.00826	1.422130	48.37885	.0216009	.0023349
#3	-.001938	45.24741	1.437084	48.73616	.0215589	.0019539

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1731.591	-.001715	.9866430	36.40418	.0562235	.6985372
Stddev	23.191	.000395	.0112168	.16198	.0008671	.0037948
%RSD	1.339270	23.01359	1.136861	.4449461	1.542288	.5432470
#1	1710.570	-.002171	.9794515	36.29758	.0567412	.6948365
#2	1727.735	-.001468	.9809099	36.32437	.0552224	.6983555
#3	1756.468	-.001508	.9995676	36.59057	.0567068	.7024196

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-02 Acquired: 1/24/2025 18:52:44 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3D Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0154682	F 30.25348	5.044627	-.002614	-.013376	.0389760
Stddev	.0001767	.05113	.065872	.001667	.000246	.0015766
%RSD	1.142606	.1690163	1.305789	63.77841	1.837293	4.044983
#1	.0156239	30.19689	4.983445	-.004297	-.013658	.0406931
#2	.0155045	30.29635	5.036081	-.002583	-.013209	.0375938
#3	.0152761	30.26722	5.114355	-.000963	-.013261	.0386410

Elem	Sr4077
Units	ppm
Avg	3.485251
Stddev	.037004
%RSD	1.061738
#1	3.485055
#2	3.448345
#3	3.522353

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2817.922	58543.97	10568.54	1942.657	3185.351
Stddev	8.476	158.75	92.39	10.053	10.035
%RSD	.3007977	.2711577	.8742009	.5174941	.3150312
#1	2822.896	58651.79	10669.05	1951.248	3193.323
#2	2822.735	58618.44	10549.27	1945.123	3188.647
#3	2808.135	58361.68	10487.31	1931.600	3174.082

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-01LX5 Acquired: 1/24/2025 18:57:03 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0271751	-.001801	.0009511	.0017174	.0212601	-.042529	.1029019
Stddev	.0012268	.001933	.0004663	.0011259	.0002431	.011577	.0009421
%RSD	4.514575	107.3589	49.03324	65.55791	1.143459	27.22135	.9155099
#1	.0262758	-.004009	.0004434	.0029370	.0214084	-.055371	.1030769
#2	.0266769	-.000985	.0013603	.0007175	.0213923	-.032894	.1037441
#3	.0285727	-.000409	.0010495	.0014977	.0209795	-.039321	.1018846

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000040	.0001187	84.72067	.0000824	.0096997	-.000627	8.761690
Stddev	.000060	.0000763	.37089	.0004726	.0001701	.001679	.023227
%RSD	149.8764	64.28242	.4377806	573.3916	1.753300	267.8103	.2651013
#1	-.000104	.0000382	84.84244	.0006038	.0095090	.000446	8.764130
#2	.000014	.0001279	85.01537	-.000039	.0097548	-.002562	8.783601
#3	-.000029	.0001900	84.30420	-.000318	.0098354	.000235	8.737339

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2761704	9.351569	.0043957	.0002857	332.8664	.0006754	.1821704
Stddev	.0010004	.018514	.0004747	.0005347	.9060	.0016000	.0016745
%RSD	.3622323	.1979811	10.79853	187.1936	.2721806	236.8977	.9191865
#1	.2760160	9.331456	.0038496	.0004583	333.3038	.0017646	.1803351
#2	.2772390	9.367900	.0046274	-.000314	331.8247	-.001162	.1836150
#3	.2752562	9.355352	.0047100	.000713	333.4706	.001423	.1825611

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.435567	.0133587	.1404574	.0027920	5.824700	1.016217	-.002060
Stddev	.020967	.0024961	.0006342	.0001544	.013974	.000923	.000899
%RSD	.3257995	18.68556	.4515028	5.528677	.2399046	.0908009	43.63827
#1	6.422127	.0104787	.1398516	.0028874	5.811518	1.017282	-.001277
#2	6.424847	.0146996	.1404041	.0026139	5.823231	1.015703	-.003042
#3	6.459726	.0148978	.1411165	.0028747	5.839350	1.015666	-.001862

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-01LX5 Acquired: 1/24/2025 18:57:03 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003264	.0101842	.6558418
Stddev	.000267	.0018065	.0027029
%RSD	8.174973	17.73832	.4121331
#1	-.003340	.0081702	.6581587
#2	-.002968	.0107206	.6564945
#3	-.003486	.0116617	.6528723

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3171.879	66248.77	10912.32	2221.822	3714.762
Stddev	2.617	260.45	18.57	14.281	6.068
%RSD	.0825141	.3931468	.1701738	.6427674	.1633544
#1	3173.126	66072.00	10890.88	2214.647	3721.752
#2	3168.871	66126.44	10923.32	2212.551	3710.853
#3	3173.640	66547.87	10922.76	2238.267	3711.679

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-03 Acquired: 1/24/2025 19:01:07 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1900639**	**.0429253**	**.0239162**	**.1213898**	**.2176646**	**2.055295**
Stddev	.0009502	.0012347	.0005768	.0050343	.0017104	.010140
%RSD	.4999499	2.876475	2.411580	4.147235	.7858105	.4933453
#1	.1897431	.0442472	.0232671	.1239891	.2177217	2.066742
#2	.1911330	.0418017	.0243698	.1155872	.2159264	2.051701
#3	.1893157	.0427271	.0241117	.1245932	.2193459	2.047442

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.879745**	**.0453717**	**.0491849**	**441.7864**	**.2050005**	**.5393697**
Stddev	.006308	.0001740	.0001821	.9876	.0006034	.0022967
%RSD	.2190541	.3834289	.3702528	.2235395	.2943448	.4258125
#1	2.874822	.0455579	.0492014	442.6250	.2056603	.5380552
#2	2.886856	.0452133	.0489951	442.0363	.2048645	.5380323
#3	2.877558	.0453440	.0493582	440.6979	.2044767	.5420217

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2499521**	**45.88712**	**1.945308**	**47.95853**	**.5100740**	**.0434536**
Stddev	.0047987	.03154	.004353	.04893	.0016711	.0004712
%RSD	1.919836	.0687268	.2237533	.1020253	.3276131	1.084309
#1	.2535900	45.88077	1.942931	47.90772	.5081510	.0434341
#2	.2517527	45.92134	1.950331	47.96251	.5108981	.0429924
#3	.2445135	45.85923	1.942660	48.00534	.5111730	.0439341

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **1706.962**	**.4905669**	**1.555576**	**36.74793**	**.0568810**	**.6935859**
Stddev	4.730	.0002996	.024141	.09184	.0032551	.0006920
%RSD	.2770857	.0610684	1.551901	.2499247	5.722630	.0997758
#1	1707.895	.4907364	1.536597	36.64210	.0606384	.6941460
#2	1711.155	.4902210	1.582747	36.79493	.0550865	.6937995
#3	1701.835	.4907433	1.547384	36.80676	.0549181	.6928123

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: Q1129-03 Acquired: 1/24/2025 19:01:07 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MJNLA3S Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0155242	F 30.03999	4.978789	-.001054	-.014078	.0400312
Stddev	.0001446	.12249	.007400	.000429	.000860	.0017007
%RSD	.9311605	.4077587	.1486296	40.70596	6.108756	4.248531
#1	.0156217	30.04509	4.984822	-.000793	-.014338	.0414636
#2	.0153581	29.91503	4.970532	-.001550	-.014778	.0404784
#3	.0155928	30.15985	4.981013	-.000821	-.013118	.0381515

Elem	Sr4077
Units	ppm
Avg	3.499734
Stddev	.020626
%RSD	.5893537
#1	3.513710
#2	3.509446
#3	3.476045

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2833.168	58938.62	10765.18	1949.661	3207.163
Stddev	8.134	75.36	20.10	23.918	10.478
%RSD	.2871107	.1278701	.1867090	1.226790	.3266982
#1	2841.497	58986.63	10754.53	1972.185	3217.788
#2	2832.762	58977.48	10788.36	1924.557	3206.862
#3	2825.244	58851.76	10752.65	1952.240	3196.839

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166162BL Acquired: 1/24/2025 19:05:19 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW162 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003445**	**.0004994**	**-.000425**	**-.001093**	**.0002602**	**.0028087**
Stddev	.0005248	.0025041	.000369	.003016	.0014171	.0073646
%RSD	152.3296	501.4119	86.93739	275.9589	544.6164	262.2045
#1	.0000978	.0001930	-.000851	.001854	-.001375	.0077920
#2	-.000011	-.001837	-.000208	-.004173	.001121	-.005651
#3	.000947	.003143	-.000215	-.000959	.001035	.006285

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.010461**	**-.000012**	**-.000004**	**.0084325**	**.0002612**	**-.000014**
Stddev	.000584	.000028	.000033	.0055474	.0002069	.000129
%RSD	5.583781	229.4896	923.0127	65.78530	79.21544	899.6489
#1	-.010069	-.000040	.000032	.0071695	.0001264	-.000115
#2	-.011132	.000016	-.000034	.0145025	.0004995	-.000060
#3	-.010181	-.000013	-.000009	.0036256	.0001578	.000132

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014259**	**.0009512**	**-.000498**	**-.013900**	**-.000021**	**.0003615**
Stddev	.0020920	.0051694	.000144	.009982	.000272	.0002939
%RSD	146.7176	543.4502	28.83733	71.80971	1270.243	81.30215
#1	.0024959	-.003453	-.000528	-.018136	.000070	.0002582
#2	.0027665	-.000336	-.000341	-.021066	-.000327	.0006932
#3	-.000985	.006643	-.000623	-.002499	.000193	.0001333

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5019128**	**.0001347**	**-.000562**	**.1632552**	**.0028607**	F **-.012309**
Stddev	.2746277	.0010852	.001377	.0465436	.0011389	.000375
%RSD	54.71622	805.6533	245.2363	28.50971	39.81191	3.045472
#1	.3472180	-.000718	.000160	.1536105	.0036311	-.012441
#2	.8189945	-.000234	.000305	.1222897	.0033986	-.012600
#3	.3395259	.001356	-.002150	.2138656	.0015525	-.011886

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166162BL Acquired: 1/24/2025 19:05:19 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW162 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000550	.0200738	.0013583	-.000152	-.000358	.0025110
Stddev	.000126	.0033581	.0011748	.000561	.000790	.0008056
%RSD	22.85791	16.72858	86.49579	370.0521	220.2505	32.08151
#1	-.000616	.0165372	.0006907	.000477	.000109	.0016022
#2	-.000629	.0232191	.0006693	-.000329	-.001270	.0027935
#3	-.000405	.0204651	.0027148	-.000603	.000086	.0031372

Elem	Sr4077
Units	ppm
Avg	.0000437
Stddev	.0000195
%RSD	44.63686
#1	.0000227
#2	.0000613
#3	.0000473

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3375.205	71043.48	11152.65	2400.865	4207.284
Stddev	5.852	152.44	25.88	10.956	10.745
%RSD	.1733964	.2145662	.2320419	.4563292	.2553915
#1	3379.900	70945.27	11132.69	2398.228	4210.088
#2	3377.067	71219.08	11181.89	2412.899	4216.349
#3	3368.648	70966.08	11143.36	2391.469	4195.415

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166162BS Acquired: 1/24/2025 19:09:29 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS162 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0186984**	**.0511025**	**.0177839**	**.0618847**	**.1074178**	**.3827428**	**.3773381**
Stddev	.0014921	.0002504	.0013914	.0019285	.0017185	.0052395	.0034675
%RSD	7.979750	.4900484	7.823745	3.116242	1.599865	1.368947	.9189276
#1	.0199808	.0508355	.0175316	.0597979	.1075025	.3842471	.3734537
#2	.0170607	.0511397	.0165359	.0622549	.1056584	.3870656	.3784397
#3	.0190536	.0513322	.0192841	.0636012	.1090924	.3769156	.3801211

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0093579**	**.0095503**	**9.750133**	**.0210308**	**.0952595**	**.0525518**	**.2108211**
Stddev	.0000982	.0000979	.054009	.0002711	.0001738	.0004275	.0051427
%RSD	1.049240	1.025296	.5539359	1.288953	.1824737	.8134475	2.439350
#1	.0094543	.0094859	9.693261	.0213018	.0951360	.0525853	.2048936
#2	.0093615	.0095020	9.756406	.0207596	.0951842	.0529615	.2140935
#3	.0092580	.0096630	9.800732	.0210309	.0954582	.0521085	.2134762

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0297179**	**8.653244**	**.0773006**	**.0188226**	**9.706324**	**.1004330**	**.1201721**
Stddev	.0000328	.069134	.0003444	.0003456	.173037	.0009554	.0015058
%RSD	.1105303	.7989424	.4455589	1.835867	1.782721	.9513173	1.253074
#1	.0296879	8.578620	.0771704	.0185684	9.610514	.1014774	.1187896
#2	.0297128	8.665998	.0776911	.0186834	9.906074	.0996030	.1199500
#3	.0297530	8.715113	.0770402	.0192161	9.602383	.1002185	.1217766

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.429584**	**.0205569**	**-.011076**	**.0192243**	**.1839162**	**.4379320**	**.0134053**
Stddev	.068371	.0012899	.000293	.0002851	.0005890	.0051239	.0005090
%RSD	.7250733	6.274639	2.643771	1.483246	.3202415	1.170030	3.796753
#1	9.366273	.0208427	-.011236	.0194402	.1844205	.4328530	.0139667
#2	9.420394	.0191480	-.010738	.0193316	.1832689	.4378432	.0132750
#3	9.502086	.0216798	-.011254	.0189010	.1840593	.4430997	.0129741

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: PB166162BS Acquired: 1/24/2025 19:09:29 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS162 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1989422	.0305549	.1792710
Stddev	.0008012	.0015147	.0015814
%RSD	.4027059	4.957190	.8821100
#1	.1990904	.0289739	.1774616
#2	.1980773	.0306976	.1799627
#3	.1996589	.0319932	.1803886

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3411.354	70582.10	11269.36	2392.923	4221.835
Stddev	5.141	140.90	53.86	4.628	6.629
%RSD	.1507162	.1996203	.4778930	.1934055	.1570221
#1	3407.380	70691.93	11207.53	2397.881	4219.489
#2	3417.161	70631.14	11294.58	2392.172	4229.318
#3	3409.522	70423.24	11305.99	2388.716	4216.697

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV017 Acquired: 1/24/2025 19:13:30 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV017 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.742382**	**4.720587**	**23.22714**	**4.841065**	**4.905671**	**420.6313**
Stddev	.011015	.018243	.03830	.021924	.013221	1.0849
%RSD	.2322742	.3864468	.1648923	.4528845	.2695079	.2579334
#1	4.742522	4.718556	23.22570	4.861072	4.916871	419.6240
#2	4.731297	4.703444	23.18957	4.817628	4.891086	420.4899
#3	4.753326	4.739759	23.26613	4.844494	4.909056	421.7800

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.73894**	**.4506087**	**2.312653**	**406.6380**	**14.68873**	**2.375691**
Stddev	.13825	.0014861	.004580	3.3174	.02431	.003851
%RSD	1.287331	.3297924	.1980530	.8158108	.1654999	.1620942
#1	10.58084	.4493668	2.309766	410.4184	14.67445	2.376728
#2	10.79888	.4502040	2.310259	404.2125	14.67494	2.371428
#3	10.83711	.4522551	2.317935	405.2831	14.71680	2.378918

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.70008**	**413.9968**	**15.38865**	**399.4267**	**2.364326**	**1.257562**
Stddev	.02699	2.3000	.04397	1.5264	.004775	.001686
%RSD	.1836185	.5555698	.2857036	.3821518	.2019747	.1340676
#1	14.73103	416.5536	15.43818	401.0251	2.364633	1.259505
#2	14.68146	412.0960	15.35426	397.9842	2.359404	1.256493
#3	14.68774	413.3409	15.37350	399.2710	2.368940	1.256687

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**379.2645**	**2.369531**	**15.82248**	**157.8968**	**4.699497**	F **5.654083**
Stddev	.4220	.008149	.03868	1.0661	.017047	.003905
%RSD	.1112762	.3438878	.2444815	.6752090	.3627374	.0690714
#1	379.0398	2.376343	15.77882	159.0878	4.697516	5.657085
#2	379.0023	2.360504	15.83613	157.0314	4.683527	5.649668
#3	379.7513	2.371746	15.85248	157.5712	4.717448	5.655497

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCV017 Acquired: 1/24/2025 19:13:30 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV017 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.744021**	**4.804109**	**4.768936**	**4.673767**	**4.835493**	**5.311027**
Stddev	.008540	.007584	.012633	.004475	.002533	.033664
%RSD	.1800081	.1578713	.2649043	.0957412	.0523828	.6338419
#1	4.748031	4.809770	4.774011	4.674314	4.836241	5.349857
#2	4.734214	4.795492	4.754555	4.669044	4.832670	5.290058
#3	4.749818	4.807064	4.778243	4.677943	4.837568	5.293167

Elem	Sr4077
Units	ppm
Avg	**5.308841**
Stddev	.020491
%RSD	.3859733
#1	5.308462
#2	5.288543
#3	5.329519

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2765.279**	**60265.10**	**10494.79**	**2008.936**	**3266.999**
Stddev	4.155	159.56	32.09	1.914	4.928
%RSD	.1502552	.2647597	.3057791	.0952715	.1508392
#1	2760.881	60139.59	10518.60	2009.428	3264.783
#2	2769.139	60444.66	10507.46	2010.556	3272.646
#3	2765.816	60211.03	10458.29	2006.825	3263.568

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB017 Acquired: 1/24/2025 19:22:06 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB017 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010604**	**-.001480**	**-.000288**	**-.001319**	**.0009028**	**.0006181**	**-.009191**
Stddev	.0022679	.000877	.001047	.001478	.0005762	.0020179	.000081
%RSD	213.8693	59.25773	363.1327	112.1008	63.82900	326.4524	.8827890
#1	.0013748	-.001124	.000895	-.002989	.0006985	.0016424	-.009270
#2	-.001348	-.002479	-.001095	-.000791	.0004565	-.001706	-.009196
#3	.003155	-.000837	-.000665	-.000177	.0015533	.001918	-.009108

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000044**	**-.000012**	**.0058151**	**.0004315**	**-.000142**	**-.000900**	**.0091148**
Stddev	.000084	.000015	.0018364	.0002521	.000340	.002726	.0053451
%RSD	191.8479	130.5000	31.58010	58.42227	239.8509	302.7998	58.64177
#1	.000003	.000005	.0040289	.0005522	.000189	.000310	.0051451
#2	.000006	-.000026	.0076979	.0001417	-.000489	.001011	.0151924
#3	-.000140	-.000014	.0057186	.0006005	-.000125	-.004022	.0070068

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000136**	**-.015986**	**-.000197**	**.0001332**	**.0198400**	**.0014407**	**-.000405**
Stddev	.000179	.004822	.000214	.0003273	.4327141	.0005587	.001001
%RSD	131.0710	30.16201	108.6907	245.7199	2181.022	38.78252	247.1588
#1	-.000140	-.021554	-.000444	.0003890	.2951282	.0012355	.000177
#2	.000044	-.013160	-.000063	.0002463	-.478919	.0010136	-.001562
#3	-.000313	-.013245	-.000084	-.000236	.243311	.0020730	.000169

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1893799**	**.0043961**	**-.005592**	**.0001704**	**.0160169**	**.0025448**	**.0003397**
Stddev	.0734804	.0024413	.000386	.0003248	.0011974	.0029827	.0004180
%RSD	38.80052	55.53261	6.904574	190.5955	7.475614	117.2053	123.0398
#1	.1602469	.0052255	-.006037	.0005431	.0158976	.0024160	.0007582
#2	.1349332	.0016482	-.005349	-.000052	.0172694	-.000371	-.000078
#3	.2729595	.0063147	-.005390	.000020	.0148837	.005590	.000339

Reviewed By:Mohan
On:1/27/2025 6:21:46 AM
Inst Id :P4

Sample Name: CCB017 Acquired: 1/24/2025 19:22:06 Type: Unk
Method: EPA SFAM01.0(v55) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB017 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000942	.0010828	.0000484
Stddev	.000310	.0008704	.0000445
%RSD	32.90850	80.38023	91.93671
#1	-.000824	.0012607	.0000975
#2	-.001293	.0001373	.0000107
#3	-.000708	.0018506	.0000371

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3423.345	70040.32	11207.20	2381.335	4272.560
Stddev	7.581	1372.48	64.68	43.919	6.810
%RSD	.2214415	1.959562	.5771099	1.844289	.1593916
#1	3415.025	70928.87	11214.95	2417.057	4265.711
#2	3425.147	70732.52	11139.00	2394.648	4272.638
#3	3429.862	68459.57	11267.66	2332.300	4279.331

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Prep Standard - Chemical Standard Summary

Order ID : Q1129

Test : TCLP ICP Metals

Prepbatch ID : PB166162,

Sequence ID/Qc Batch ID: LB134411,

Standard ID :
MP83499,MP83500,MP84041,MP84058,MP84059,MP84060,MP84061,MP84062,MP84063,MP84064,MP84065,MP840
66,MP84067,MP84069,MP84070,MP84071,MP84072,WP110801,WP110803,WP110804,

Chemical ID :
M5130,M5218,M5223,M5289,M5295,M5296,M5298,M5393,M5429,M5472,M5476,M5496,M5497,M5513,M5516,M5519
,M5565,M5658,M5697,M5798,M5799,M5800,M5801,M5802,M5806,M5815,M5816,M5817,M5819,M5820,M5875,M594
2,M5959,M5961,M5962,M5970,M5976,M5985,M5990,M6021,M6023,M6025,M6028,M6030,M6032,M6118,M6120,M612
1,M6126,M6127,M6128,W3038,W3112,W3113,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP83499	12/09/2024	01/30/2025	Eman Mughal	None	None	Sarabjit Jaswal 12/09/2024

FROM 1250.00000ml of M6121 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP83500	12/06/2024	01/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 12/09/2024

FROM 125.00000ml of M6121 + 2350.00000ml of W3112 + 25.00000ml of M6126 = 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
169	1:1HNO3	MP84041	01/14/2025	07/14/2025	Eman Mughal	None	None	Sarabjit Jaswal 01/16/2025

FROM 1250.00000ml of M6126 + 1250.00000ml of W3112 = 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	MP84058	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 4.00000ml of M5289 + 4.00000ml of M5298 + 4.00000ml of M5497 + 4.00000ml of M5806 + 4.00000ml of M6127 + 30.00000ml of MP83500 = 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)	MP84059	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 0.25000ml of M5798 + 0.50000ml of M5429 + 0.50000ml of M5476 + 0.50000ml of M5815 + 0.50000ml of M5817 + 12.50000ml of M5519 + 12.50000ml of M5806 + 12.50000ml of M5819 + 12.50000ml of M6128 + 13.75000ml of M5697 + 14.50000ml of M5298 + 14.50000ml of M5496 + 14.50000ml of M5658 + 2.00000ml of M5513 + 22.50000ml of M5497 + 22.50000ml of M6127 + 5.00000ml of M5296 + 5.00000ml of M5393 + 5.00000ml of M5802 + 5.00000ml of M5875 + 303.50000ml of MP83500 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1005	ICPAES ISM01.2(S4)	MP84060	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 250.00000ml of MP83500 + 250.00000ml of MP84059 = 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)	MP84061	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 25.00000ml of MP84059 + 75.00000ml of MP83500 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1008	ICPAES ISM01.2(S2)	MP84062	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 12.50000ml of MP84059 + 87.50000ml of MP83500 = 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
994	ICPAES ISM01.2 S1 (CONC.)	MP84063	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 0.02000ml of M5815 + 0.03000ml of M5429 + 0.10000ml of M5798 + 0.10000ml of M6028 + 0.14000ml of M5799 + 0.20000ml of M5298 + 0.20000ml of M5476 + 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 M6128 + 0.40000ml of M5496 + 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 M5497 + 10.00000ml of M5519 + 10.00000ml of M5806 + 10.00000ml of M6127 + 2.00000ml of M5942 + 4.00000ml of M6032 + 34.24000ml of MP83500 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1003	ICPAES ISM01.2 S1	MP84064	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 0.50000ml of MP84063 + 99.50000ml of MP83500 = 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	MP84065	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 0.50000ml of M5218 + 0.50000ml of M5472 + 0.50000ml of M5816 + 0.50000ml of M5820 + 0.50000ml of M5970 + 10.00000ml of M5295 + 87.50000ml of MP83500 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP84066	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 25.00000ml of M5130 + 225.00000ml of MP83500 = 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	MP84067	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 25.00000ml of M5130 + 25.00000ml of M5223 + 200.00000ml of MP83500 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1119	ICPAES ISM01.2(CCV)	MP84069	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 0.75000ml of M5497 + 0.75000ml of M6127 + 1.22500ml of M5496 + 1.25000ml of M5298 + 1.25000ml of M5516 + 19.77500ml of MP83500 + 25.00000ml of MP84059 = 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
921	ICPAES SPIKE SOL#6	MP84070	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 2.50000ml of M5962 + 50.00000ml of M5565 + 50.00000ml of M5990 + 147.50000ml of MP83500 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP84071	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6126 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP84072	01/14/2025	02/14/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/16/2025

FROM 200.00000ml of M6126 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
83	TCLP Fluid#1	WP110801	11/21/2024	05/21/2025	Jignesh Parikh	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 11/21/2024

FROM 114.00000ml of W3038 + 19834.00000ml of W3112 + 52.00000gram of W3113 = Final Quantity: 20000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1789	HCL for TCLP, 1N	WP110803	11/21/2024	05/09/2025	Jignesh Parikh	None	None	Iwona Zarych 11/21/2024

FROM 83.00000ml of M6118 + 917.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1788	HNO3 for TCLP, 1N	WP110804	11/21/2024	05/13/2025	Jignesh Parikh	None	None	Iwona Zarych 11/21/2024

FROM 64.00000ml of M6120 + 936.00000ml of W3112 = Final Quantity: 1000.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	01/31/2025	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 #
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	01/31/2025	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.	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	04/20/2021 / 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

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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.	58126 / Fe, 10000 PPM, 500 ml	020422	02/04/2025	05/02/2023 / jaswal	06/15/2022 / jaswal	M5298

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	10/12/2022 / bin	09/19/2022 / bin	M5393

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	01/14/2025 / Jaswal	03/16/2023 / jaswal	M5472

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	07/29/2024 / jaswal	03/16/2023 / jaswal	M5476

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	08/15/2023 / jaswal	03/17/2023 / bin	M5496

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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.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	03/18/2023 / bin	03/17/2023 / bin	M5497

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.	58111 / Na, 10000 PPM, 500 ml	022123	11/06/2025	11/06/2024 / kareem	03/17/2023 / bin	M5516

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

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	05/30/2023 / jaswal	05/26/2023 / jaswal	M5565

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

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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.	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.	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.	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.	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

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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 #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	06/18/2024 / Jaswal	02/22/2024 / Jaswal	M5942

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	07/01/2024 / Jaswal	06/14/2024 / Jaswal	M5959

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

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

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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	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	CGIN10-5 / INDIUM 1 x 500 ml	U2-IN729349	02/21/2028	10/08/2024 / Jaswal	06/14/2024 / Jaswal	M5985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-5 / CLP Spike Standard 5	V2-MEB742037	03/12/2029	10/04/2024 / Jaswal	02/22/2024 / Jaswal	M5990

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	11/09/2026	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6028

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22E1662006	05/09/2025	11/09/2024 / Janvi	10/09/2024 / Janvi	M6118

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)	23I0662003	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6120

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)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	101124	10/11/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6128

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC01050-3 / ACETIC ACID, GLACIAL, ACS, 2.5L	511115	06/19/2028	06/20/2023 / jignesh	06/19/2023 / jignesh	W3038

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	23B1556310	12/31/2025	07/08/2024 / Iwona	07/08/2024 / Iwona	W3113

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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) HNO3
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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 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

M6032

R: 8/5/24

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

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CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**010924**	**Solvent:**	24002546	Nitric Acid	
Description:	**Barium (Ba)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	010927				
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		

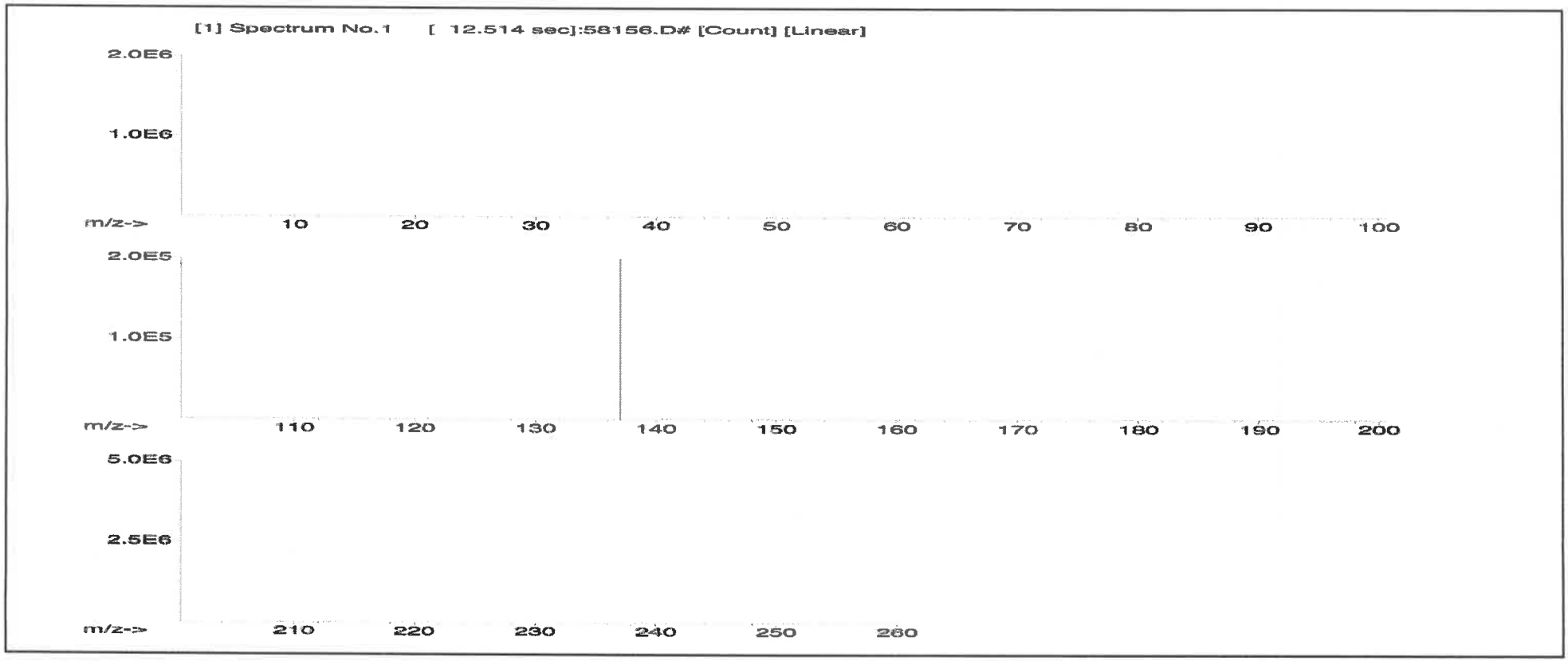
Giovanni Esposito

Formulated By:	Giovanni Esposito	010924

Pedro Rentas

Reviewed By:	Pedro L. Rentas	010924

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	3.82441	**1000.1**	**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:

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

M6028

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

R: 8/5/24

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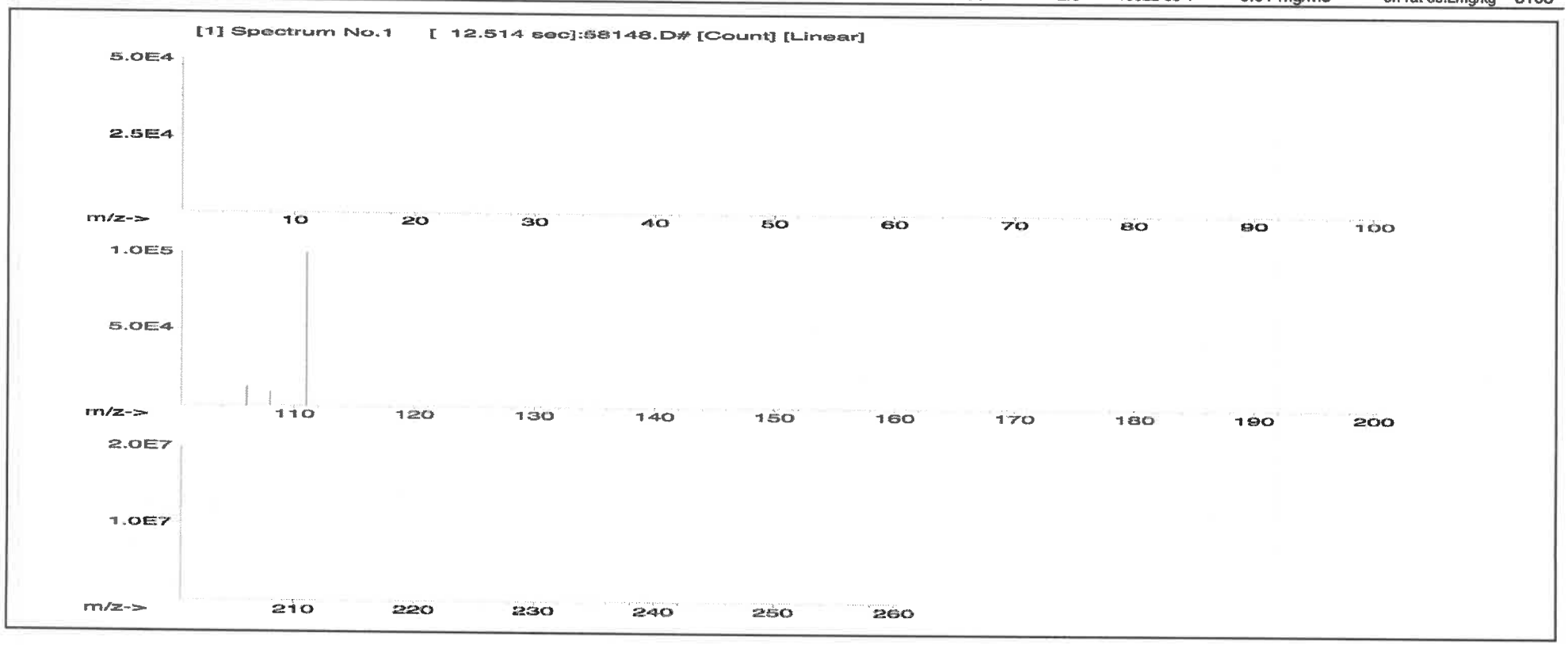
CERTIFIED WEIGHT REPORT:

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
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:

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).

M5296 OP: 09/19/2022 BH

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Certificate of Analysis

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info@inorganicventures.com

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.

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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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-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

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

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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

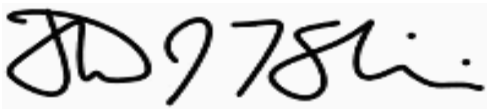
- Sealed TCT Bag Open Date: _____

- 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

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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:

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

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

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

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

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

11.2 Lot Expiration Date

- **January 13, 2027**

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

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

11.3 Period of Validity

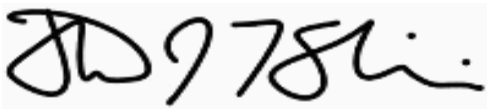
- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 8/5/24 M6025

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

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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

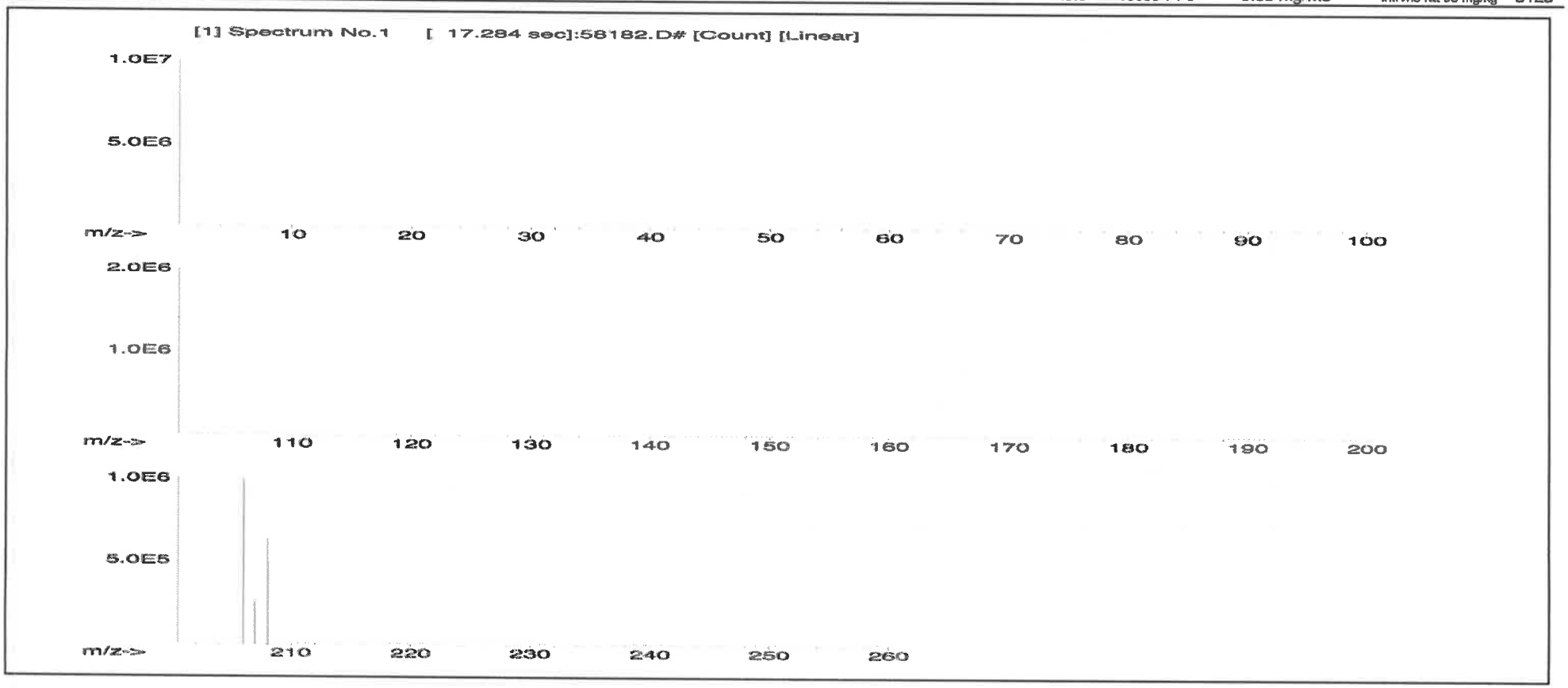
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

		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).

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

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

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.

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

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.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

M5289 R: 07/12/22 (BH)

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

Part Number: 58113
Lot Number: 070622
Description: Aluminum (Al)

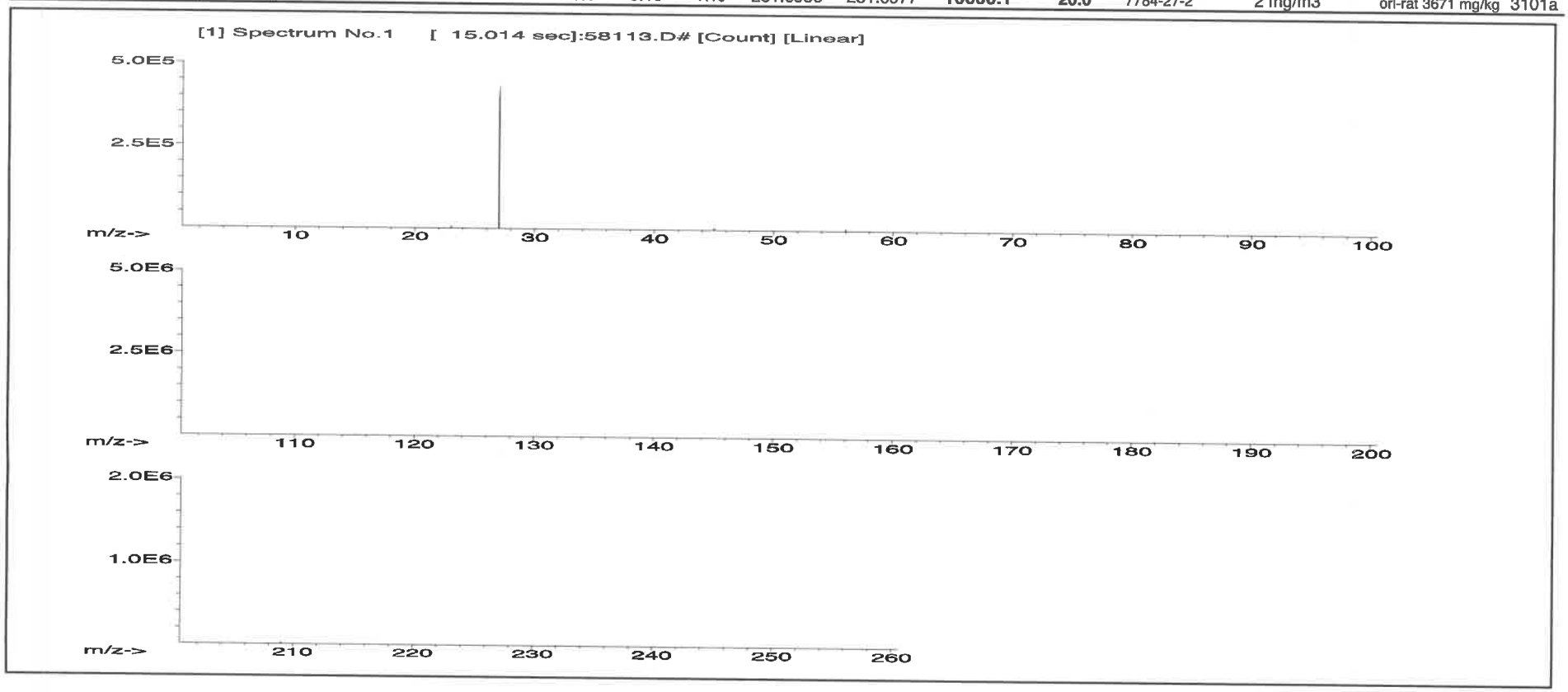
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	20370011	Nitric Acid	
2%	40.0 (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. 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

SJ 6/15/22

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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 020422
Description: Iron (Fe)

M5298

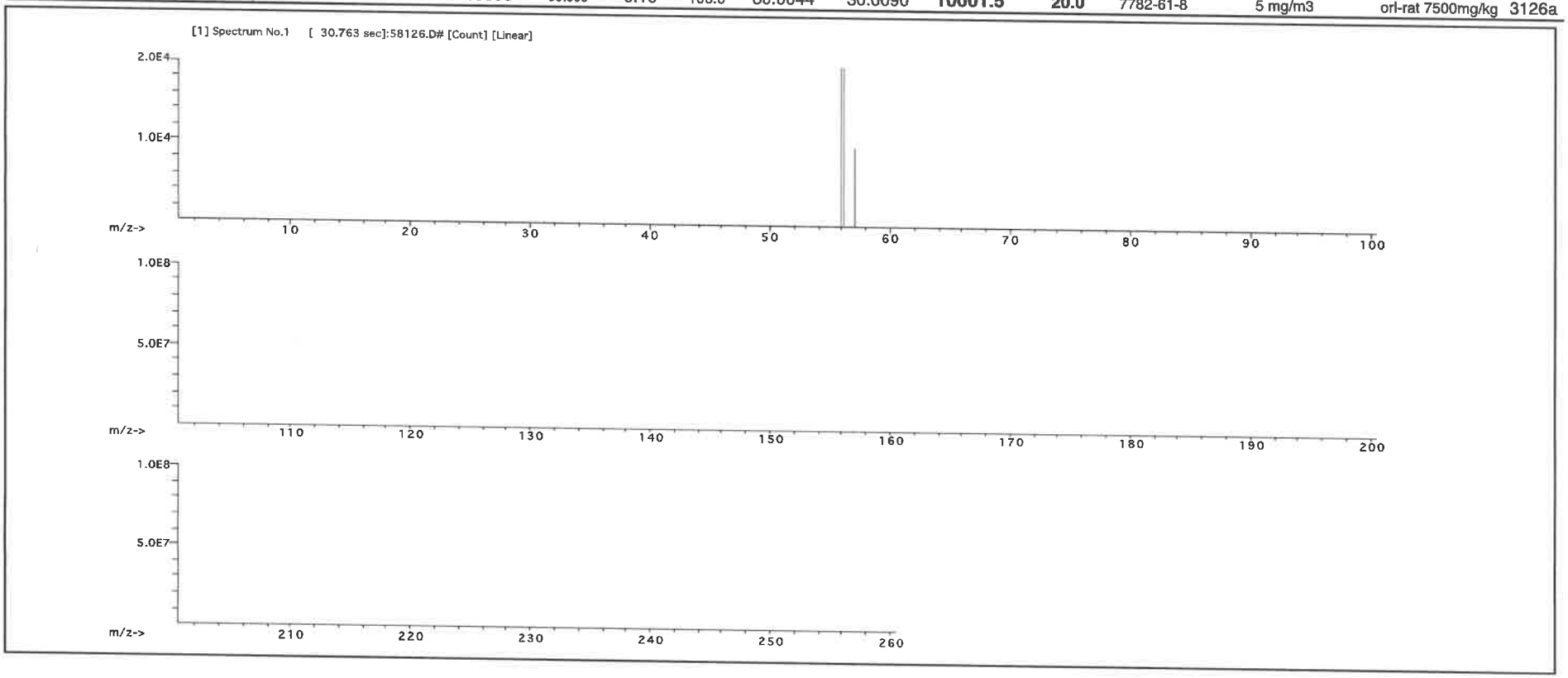
Expiration Date: 020425
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

	Lot #	
Solvent:	20370011	Nitric Acid
5.0%	150.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 3000.41 0.058 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 020422
Pedro Rentas
Reviewed By: Pedro L. Rentas 020422

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(III) nitrate nonahydrate (Fe)	IN346	221035107	10000	99.999	0.10	100.0	30.0044	30.0090	**10001.5**	**20.0**	7782-61-8	5 mg/m3	orl-rat 7500mg/kg	3126a



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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	<0.10	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	<0.5	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	<0.02
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* 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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M5429 R1 01/26/23 BH

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CERTIFIED WEIGHT REPORT:

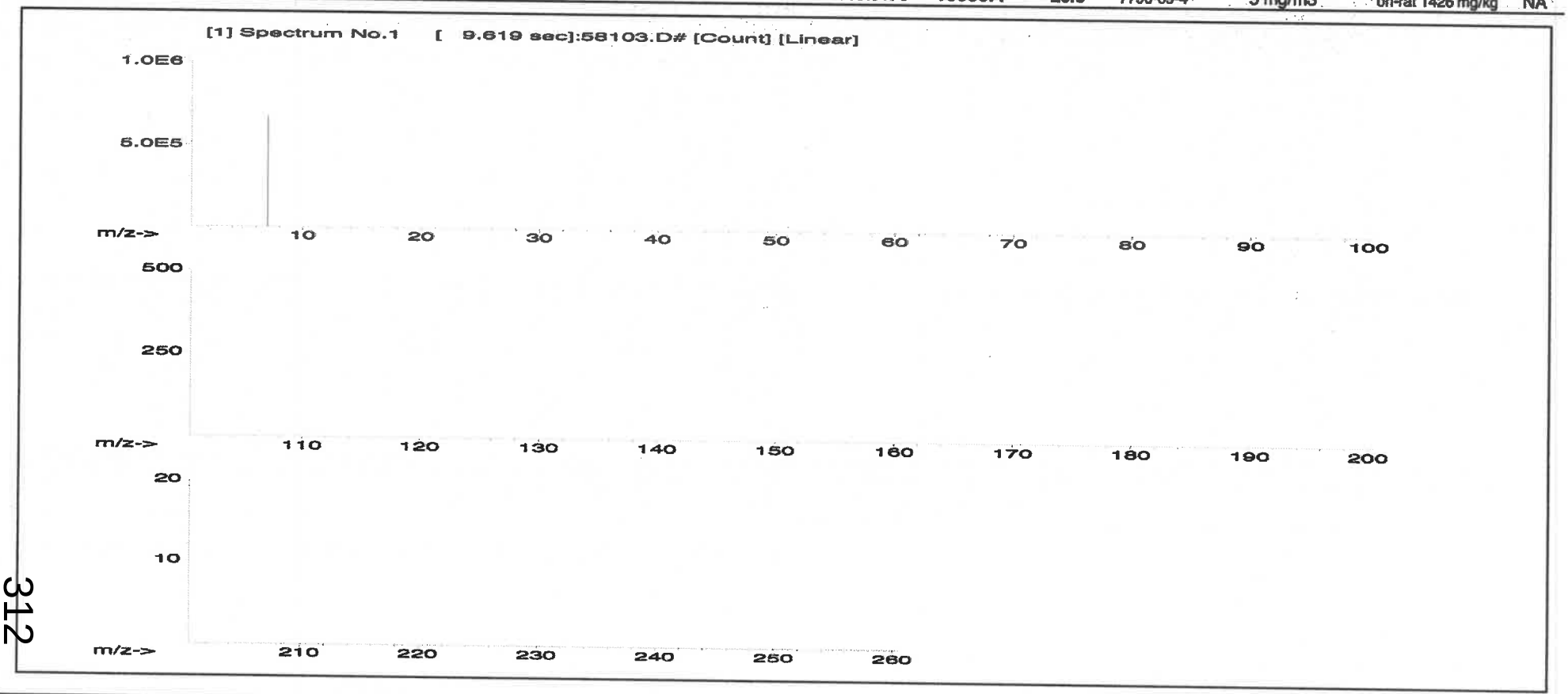
Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

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 ± 0.058 Flask Uncertainty

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	± 5E-05 Balance 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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M5496 R 7/20/23

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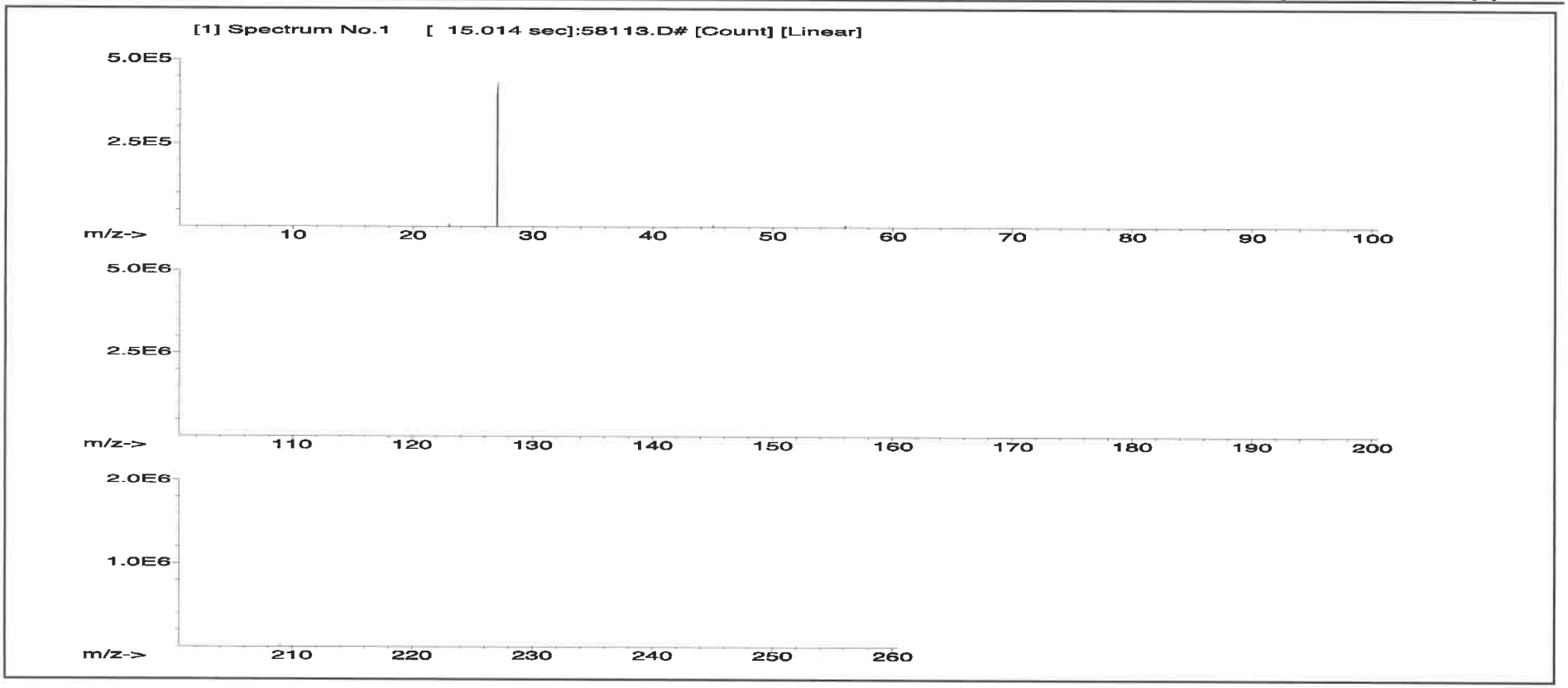
CERTIFIED WEIGHT REPORT:

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
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



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IN5497 - IN5498 R: 03/17/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

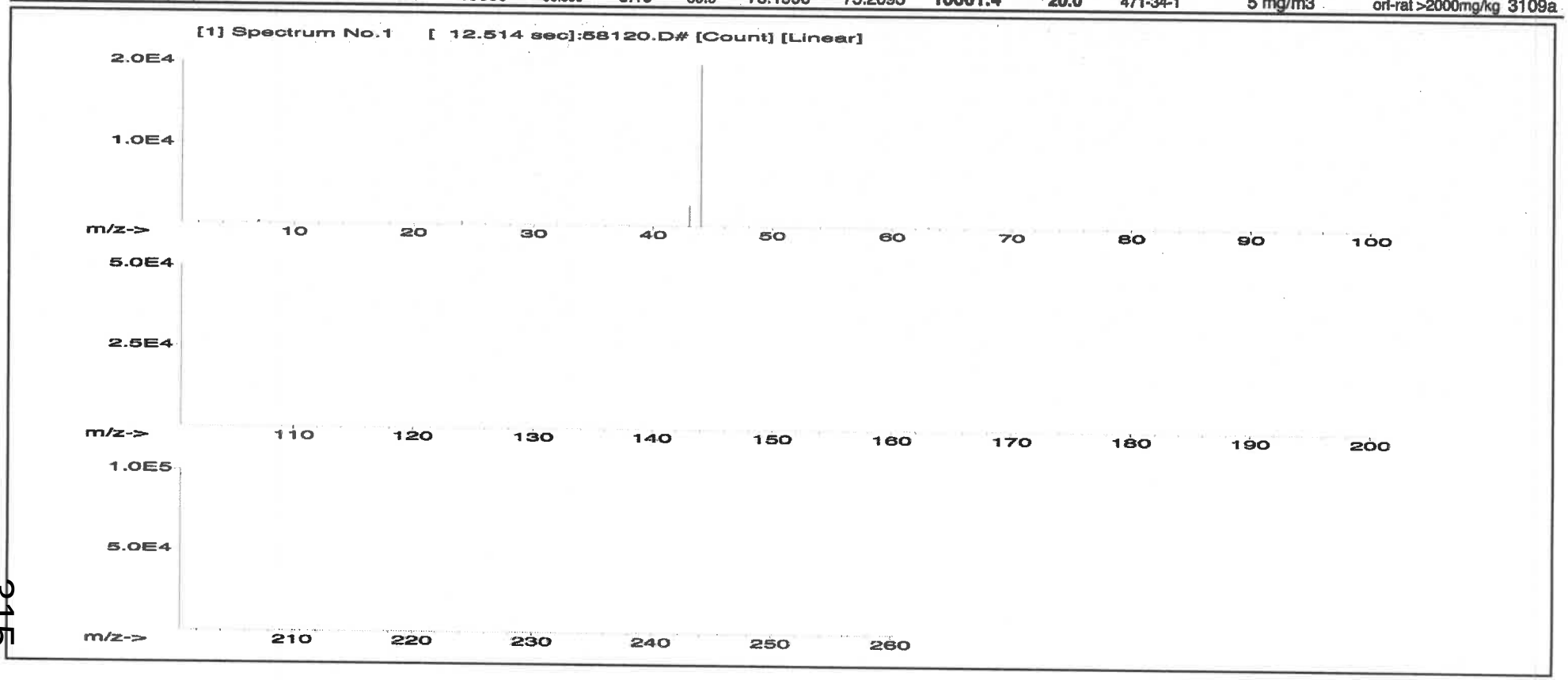
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 ± 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	

Giovanni Esposito
Formulated By: Giovanni Esposito 031523

Pedro Rentas
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



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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	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).

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Certified Reference Material CRM

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

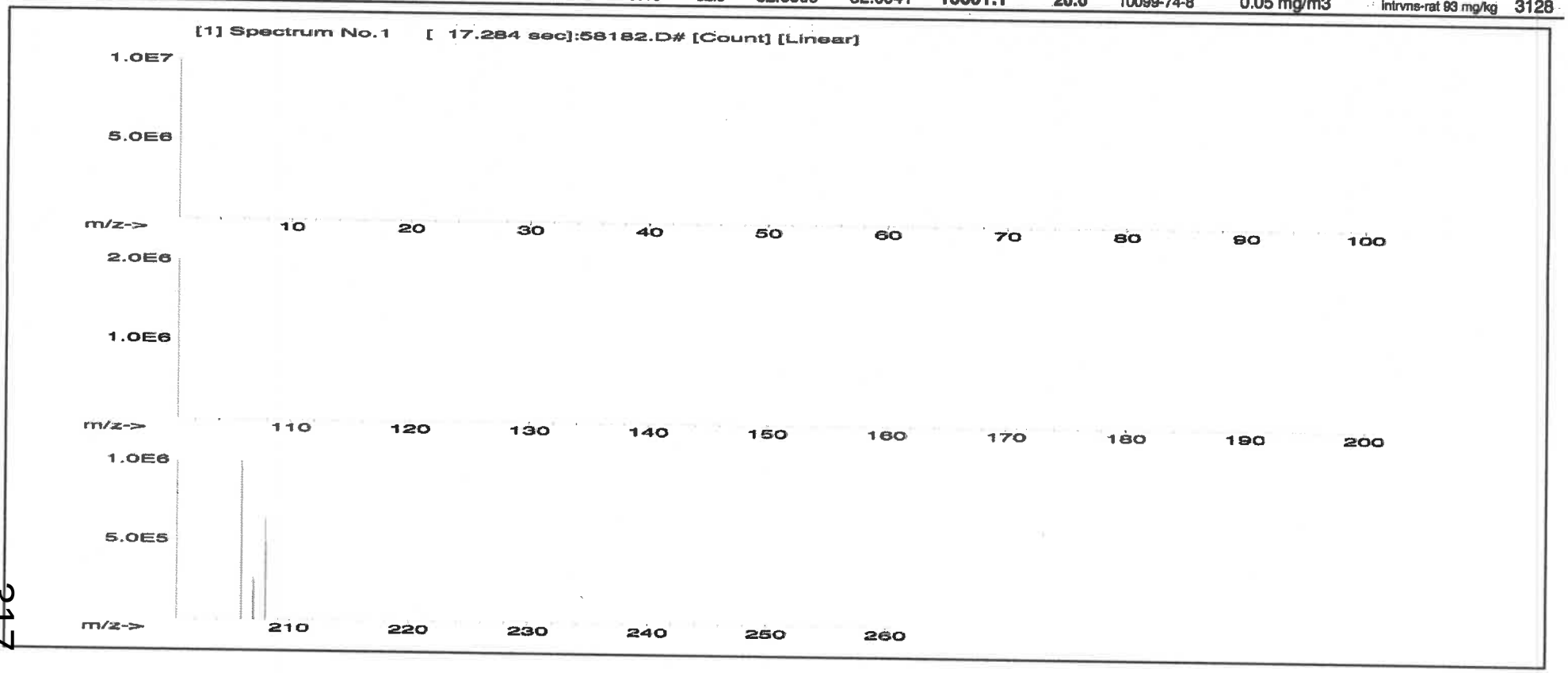
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

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



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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

M516 M517 R: 03/17/22 BH

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CERTIFIED WEIGHT REPORT:

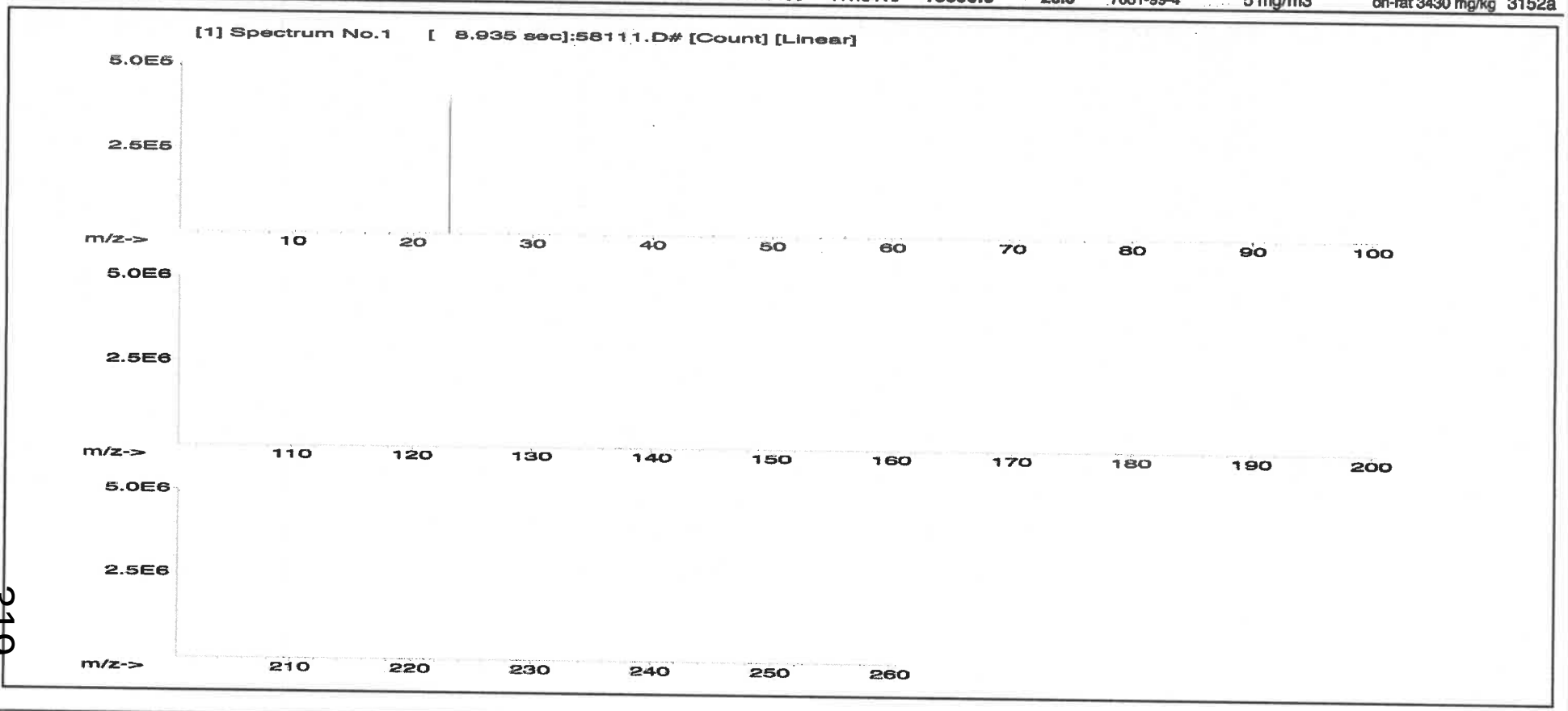
Part Number: 58111
Lot Number: 022123
Description: Sodium (Na)

Expiration Date: 022126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 5E-05 Balance Uncertainty 0.06 Flask Uncertainty

	Lot #	
Solvent:	21110221	Nitric Acid
2%	60.0 (mL)	Nitric Acid

Formulated By:	Lawrence Barry	022123
Reviewed By:	Pedro L. Rentas	022123

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	111.5410	**10000.0**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



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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	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:

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).
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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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M5519. M5520 (BH) R:03/17/23

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CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 120822
Description: Potassium (K)

Expiration Date: 120825
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.4

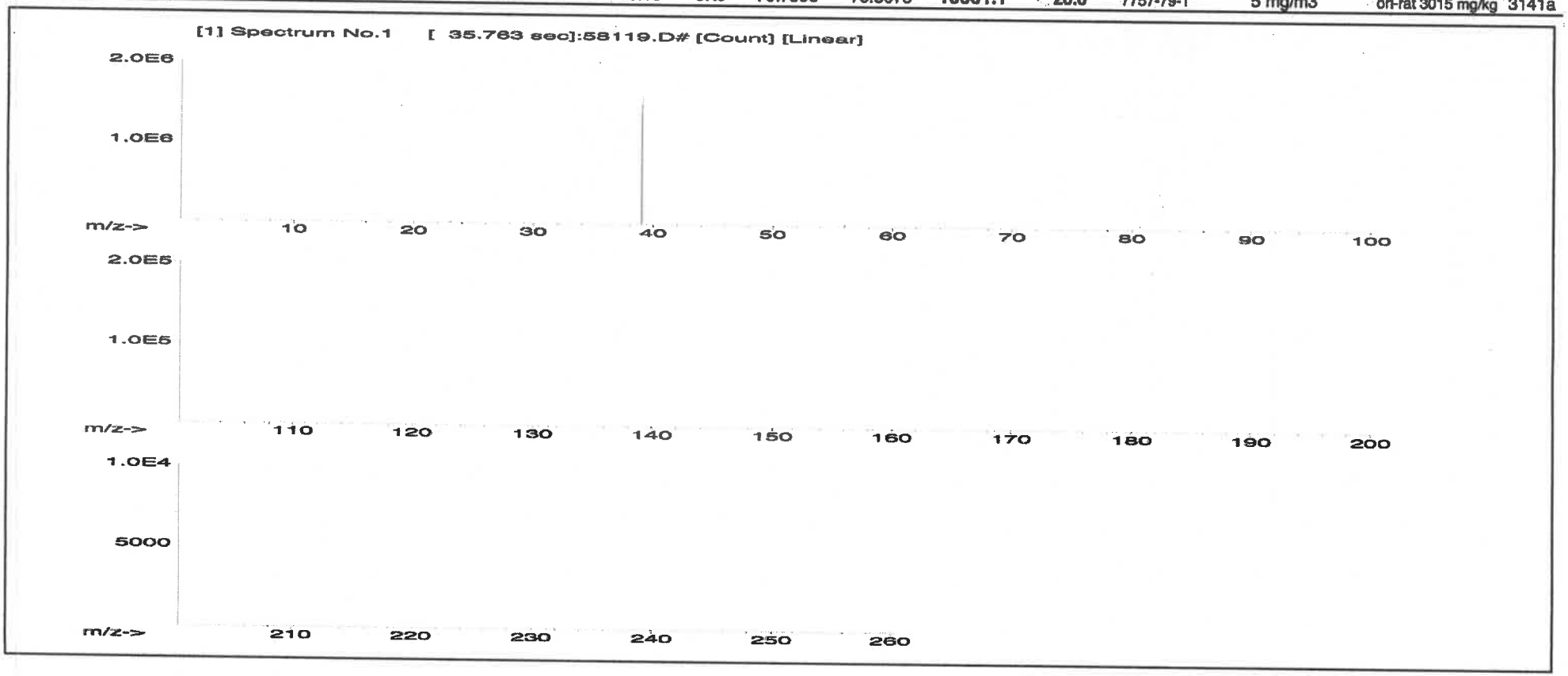
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
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



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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	<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.
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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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Certificate of Analysis

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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	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 (t) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (t) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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M5658 R ! 8/25/23

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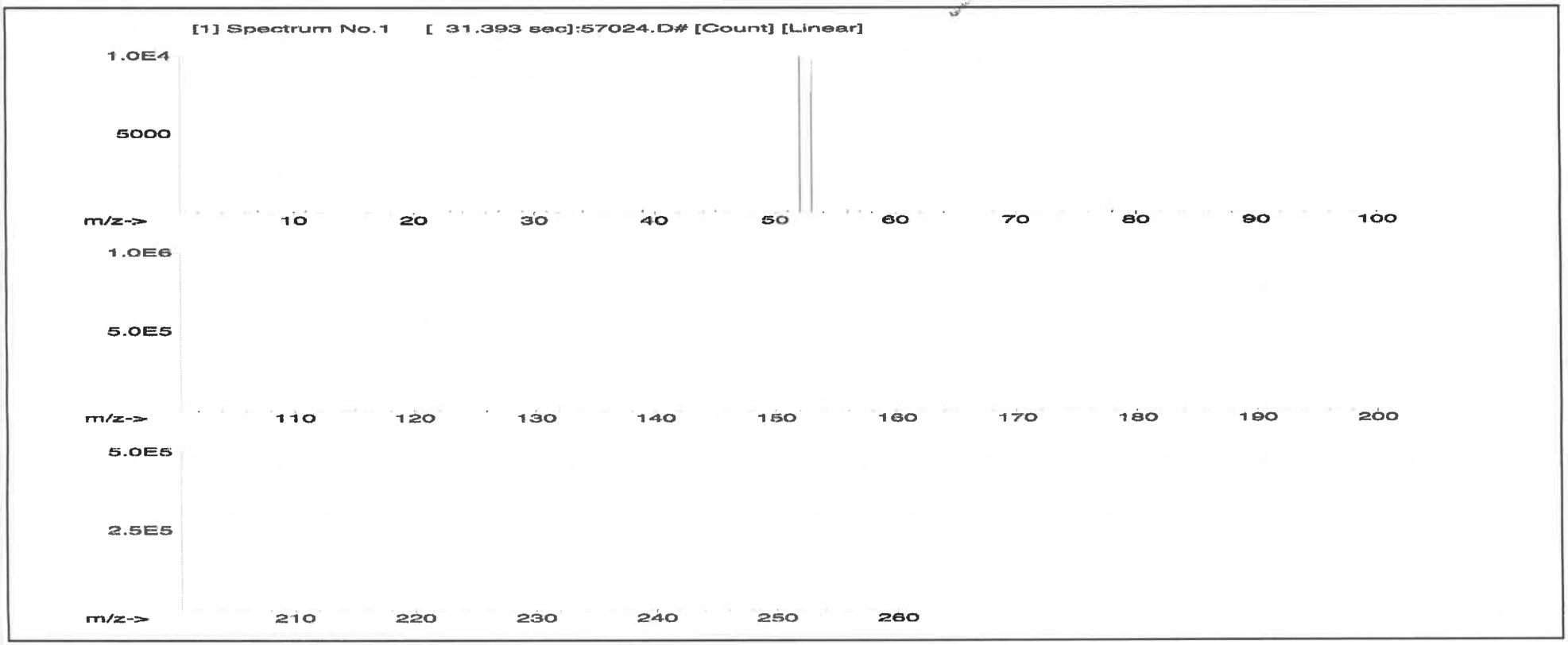
CERTIFIED WEIGHT REPORT:

		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



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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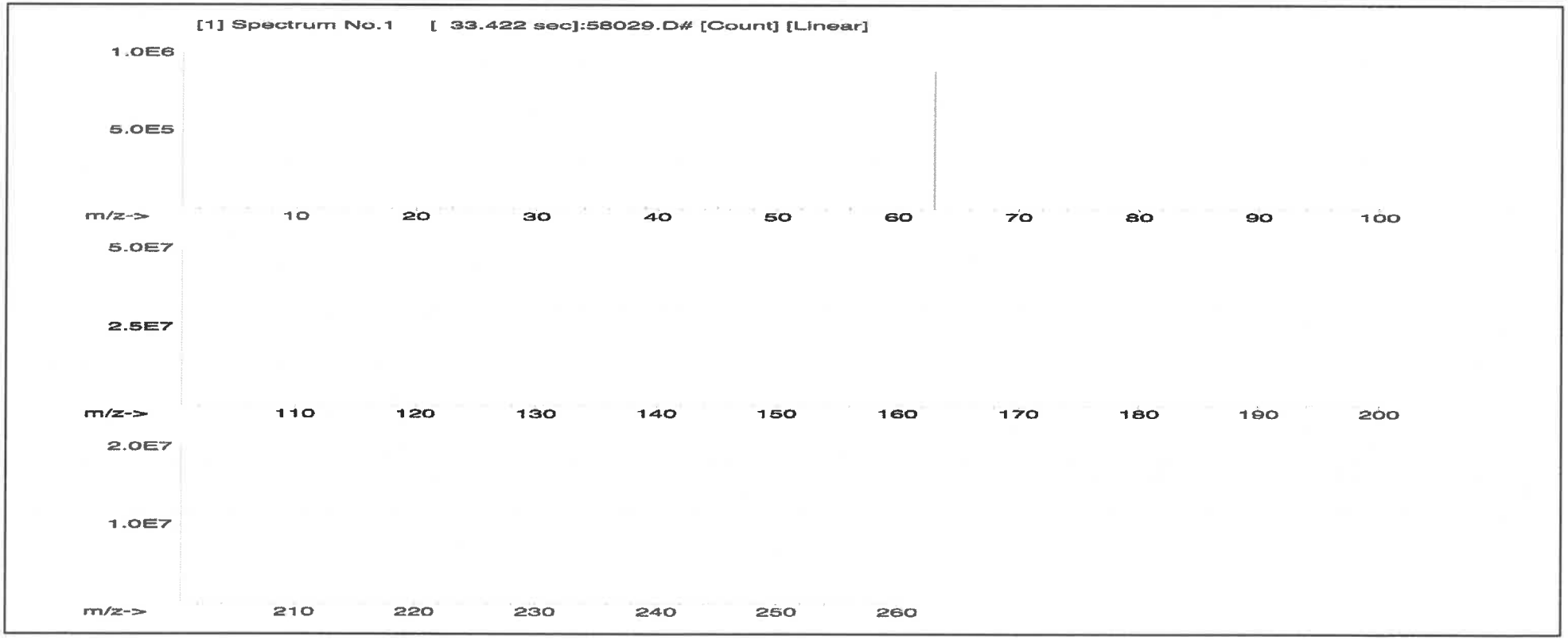
CERTIFIED WEIGHT REPORT:

		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



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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	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are 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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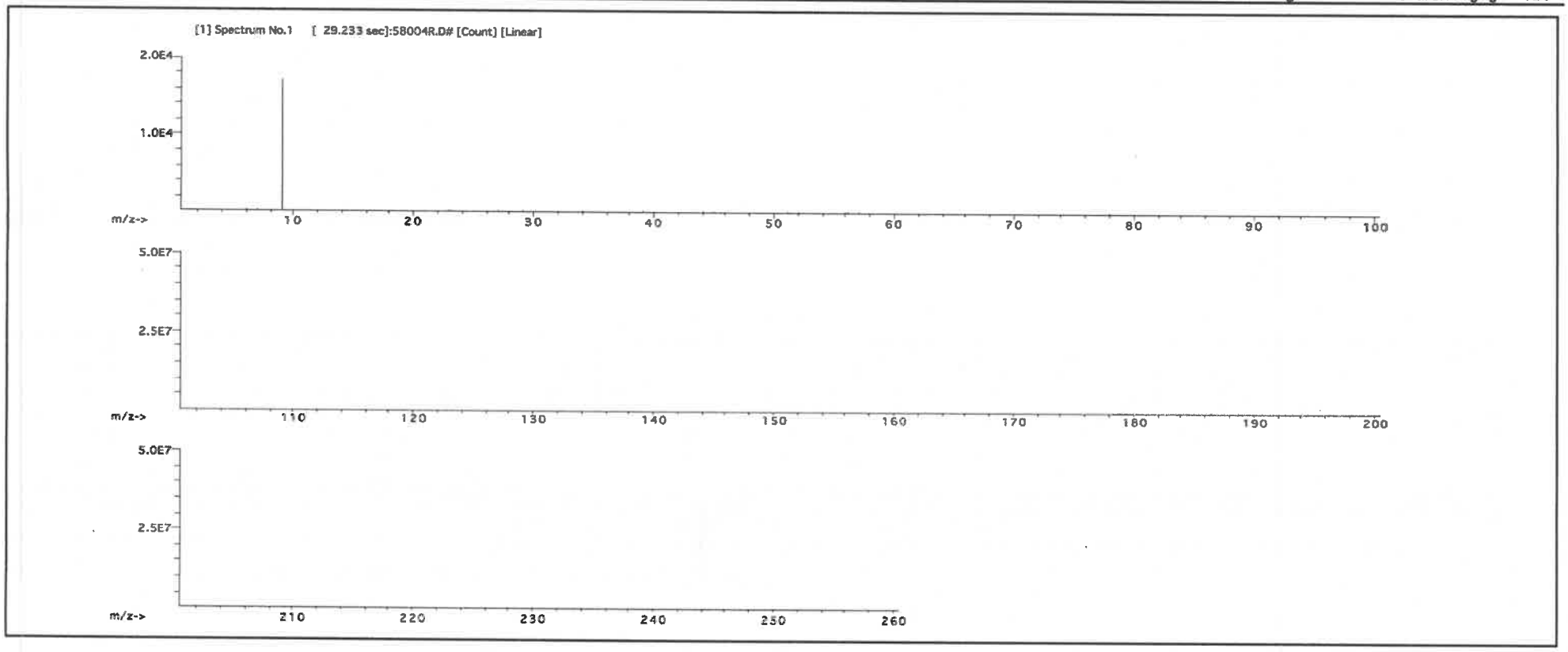
CERTIFIED WEIGHT REPORT:

		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.

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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:

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

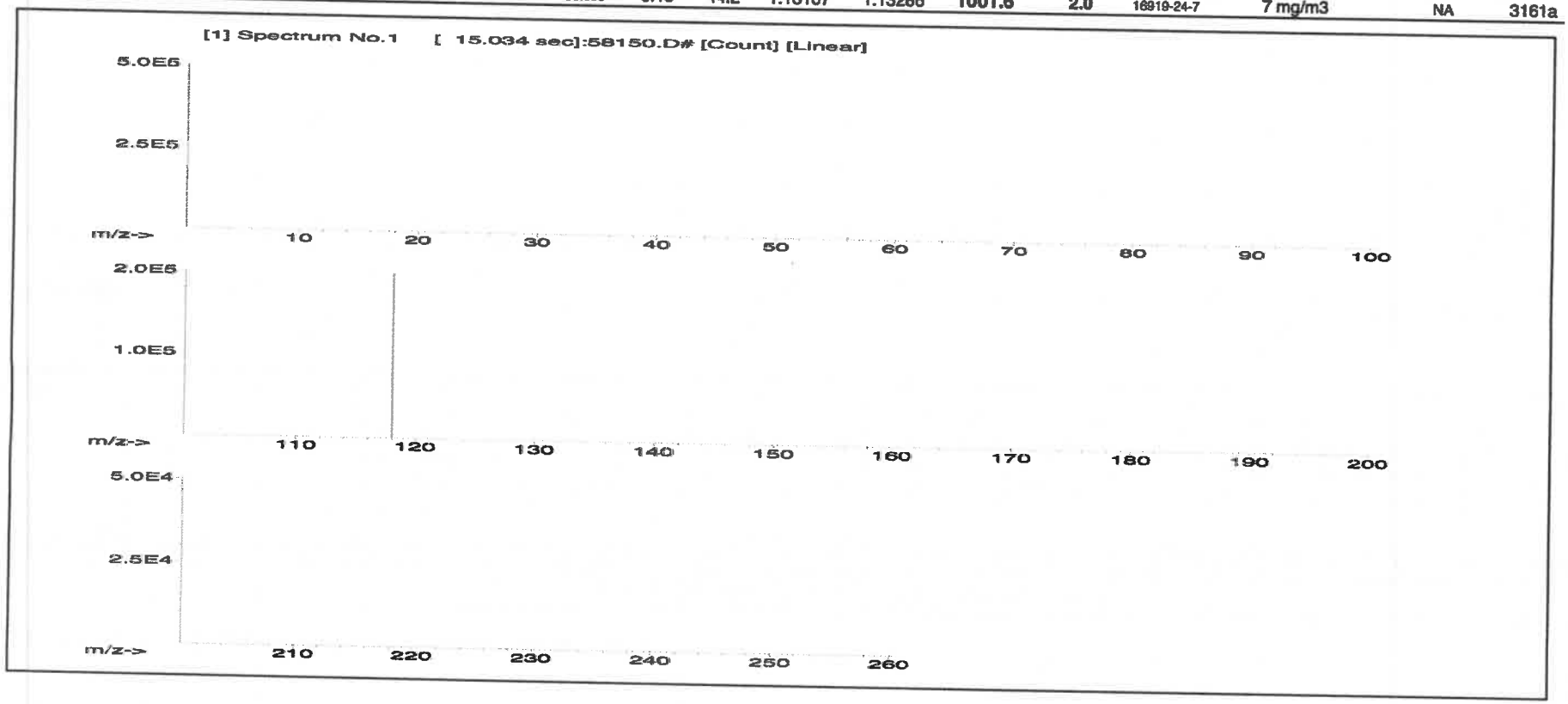
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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



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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	<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:

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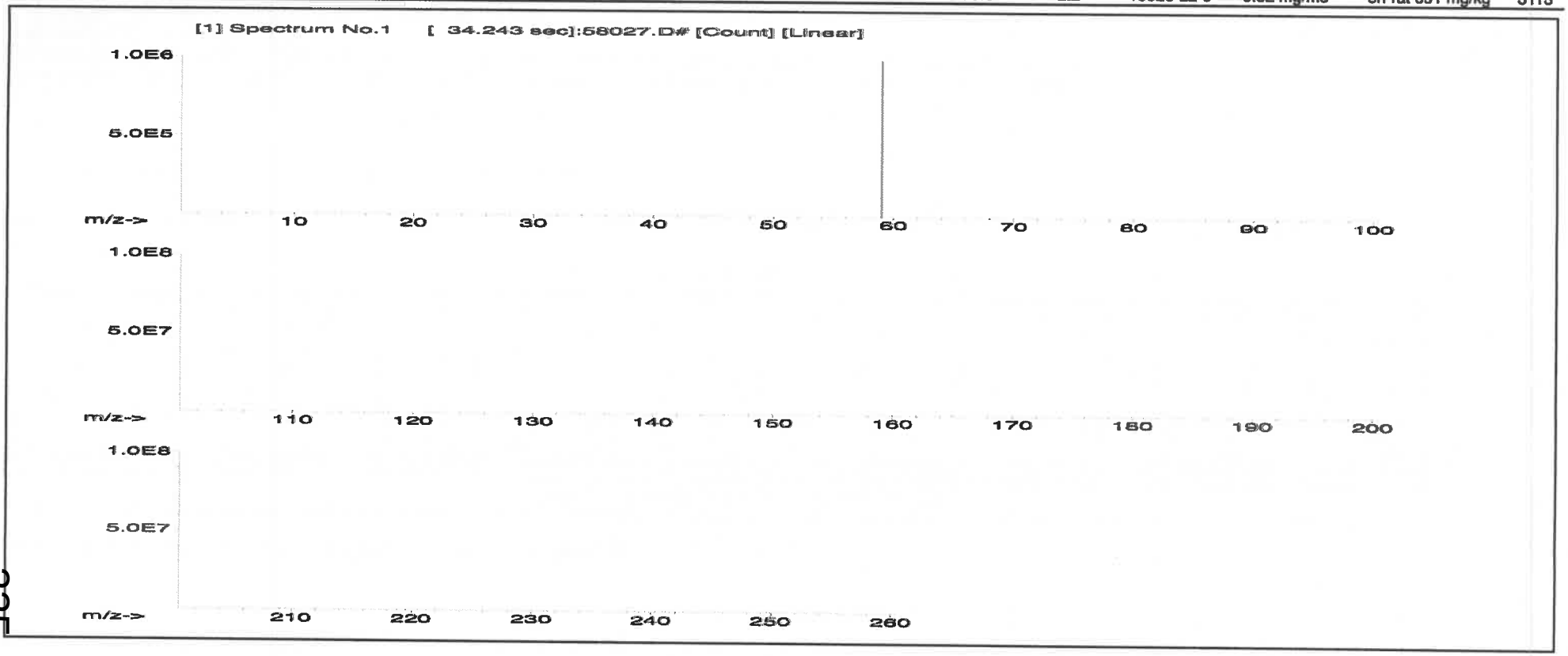
CERTIFIED WEIGHT REPORT:

		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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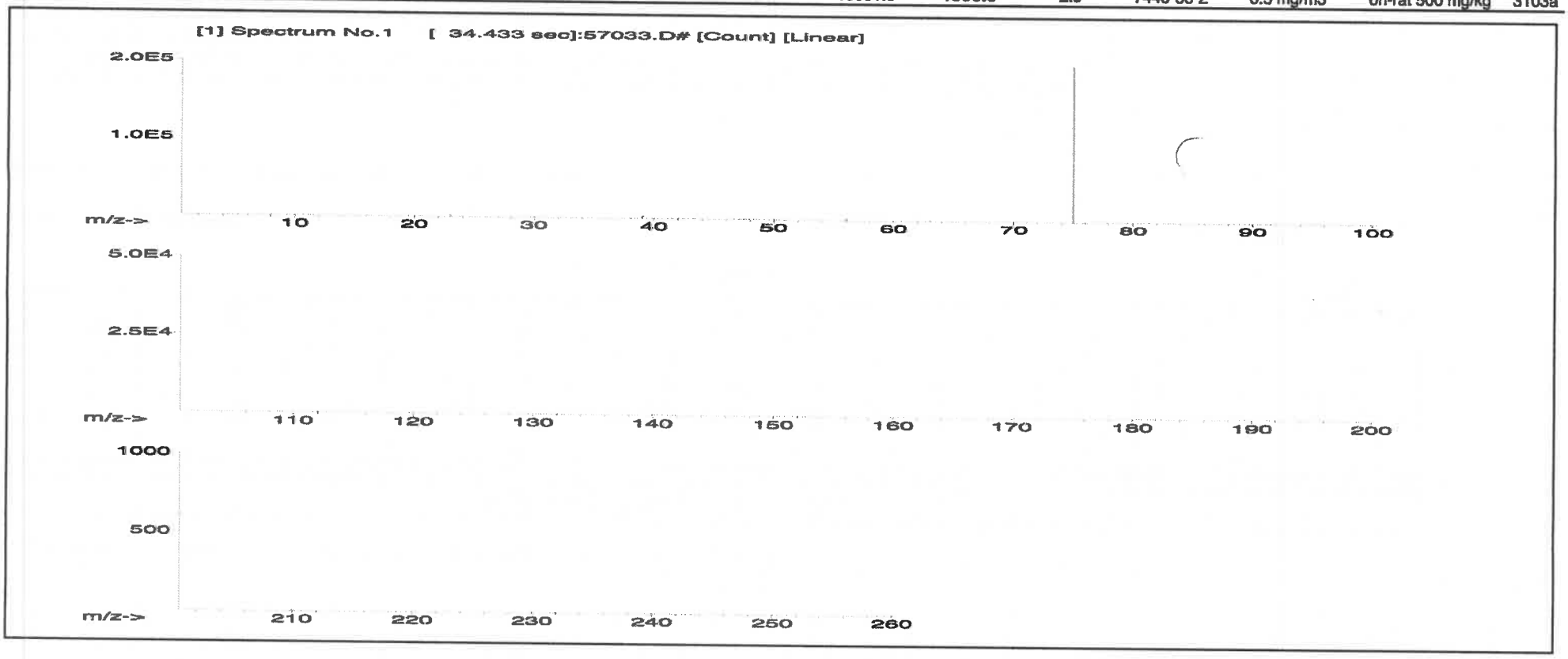
CERTIFIED **WEIGHT** REPORT:

		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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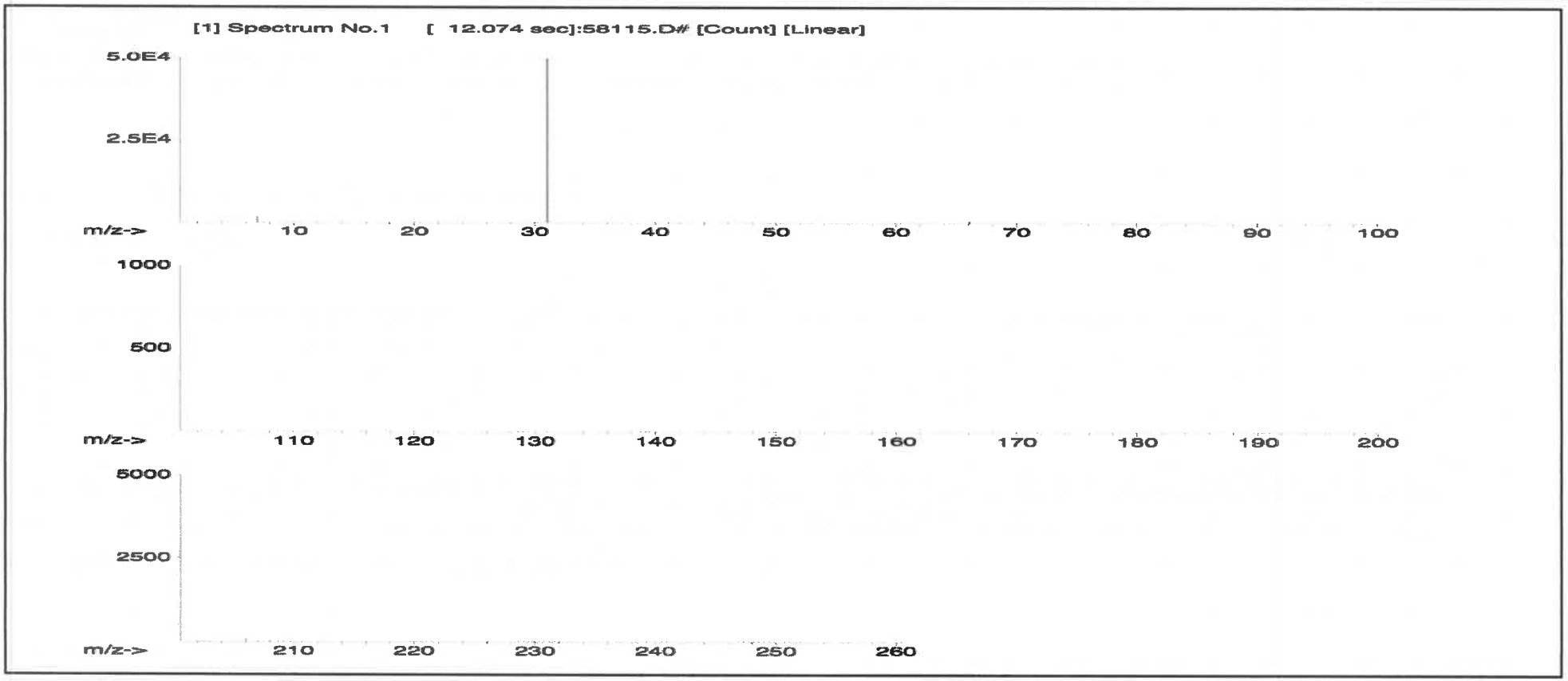
CERTIFIED WEIGHT REPORT:

			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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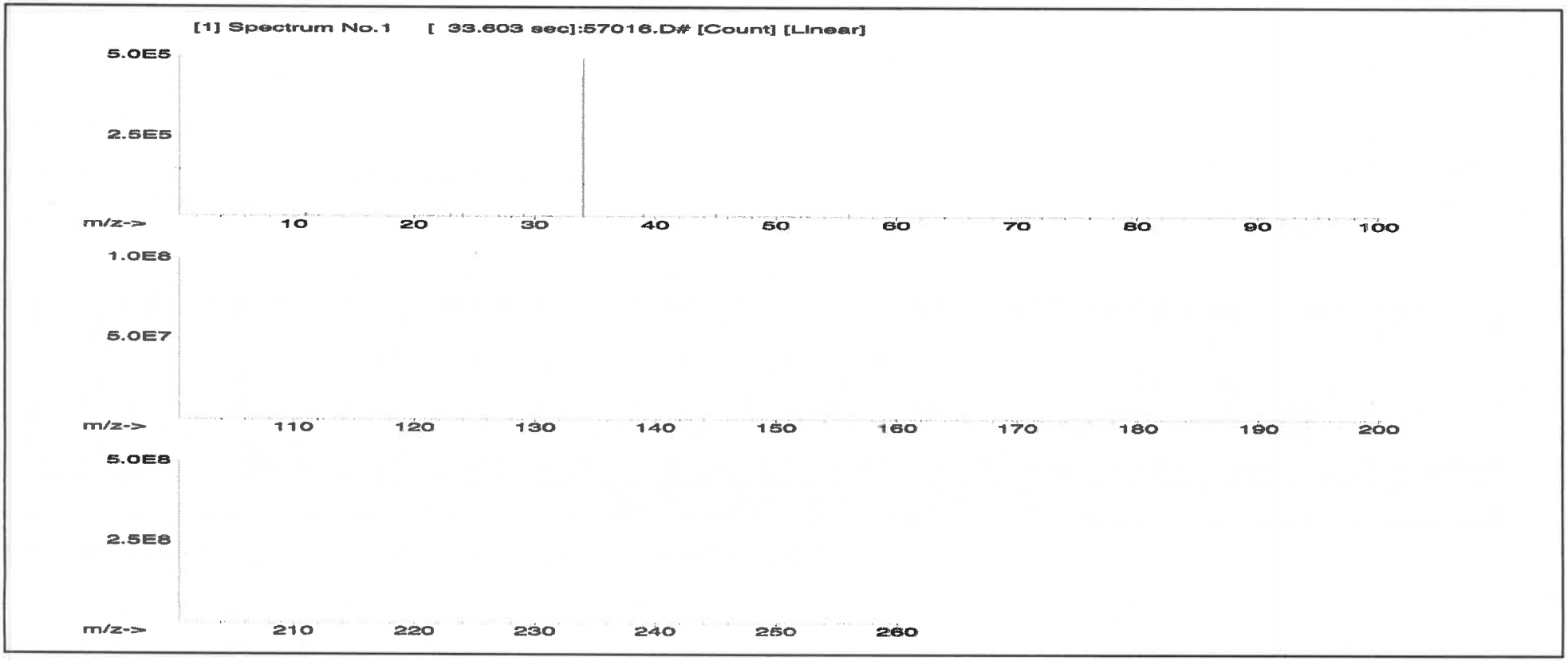
CERTIFIED WEIGHT REPORT:

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



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	<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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Certified Reference Material CRM

R: 02/09/24 M5817

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CERTIFIED WEIGHT REPORT:

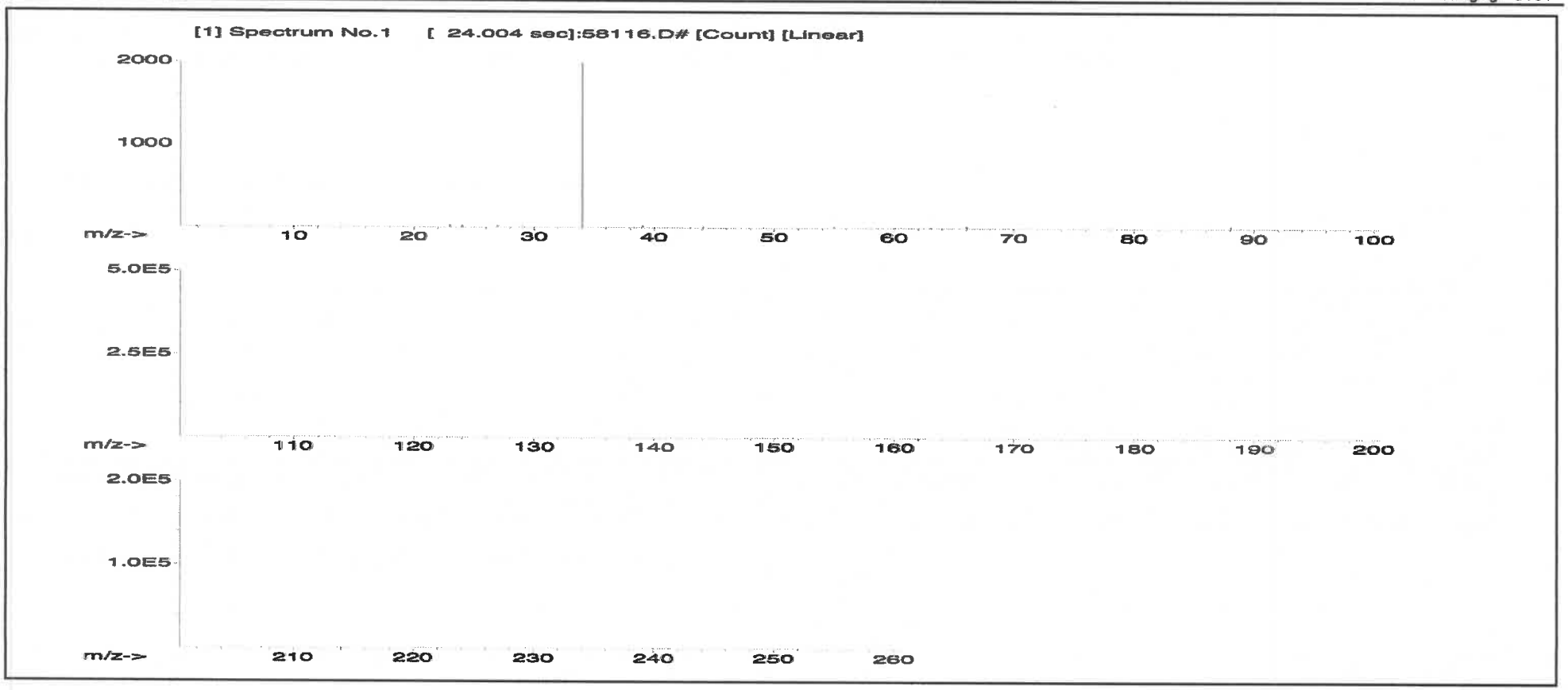
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

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



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	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.
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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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345

CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

Expiration Date: 111626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

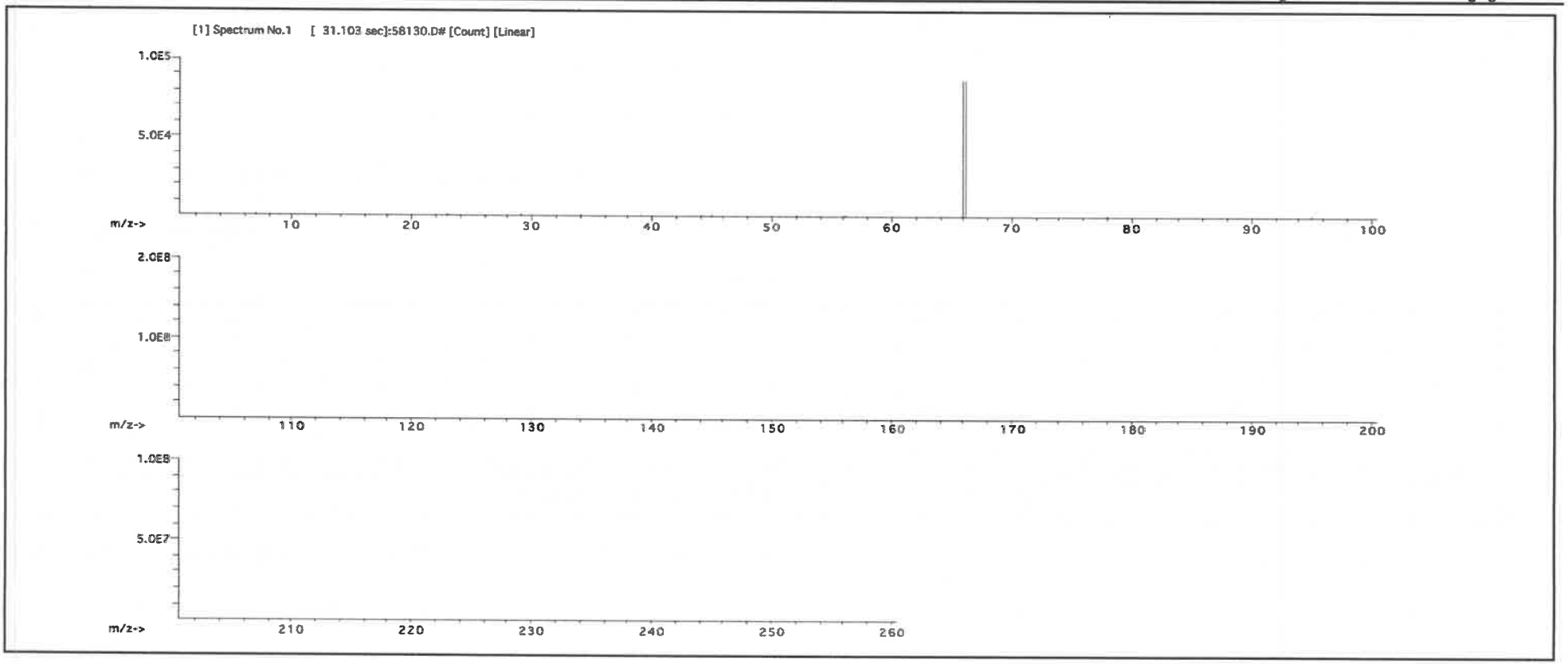
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

		Lot #	
Solvent:	24002546	Nitric Acid	
	2%	60.0 (mL)	Nitric Acid

5E-05 Balance 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



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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	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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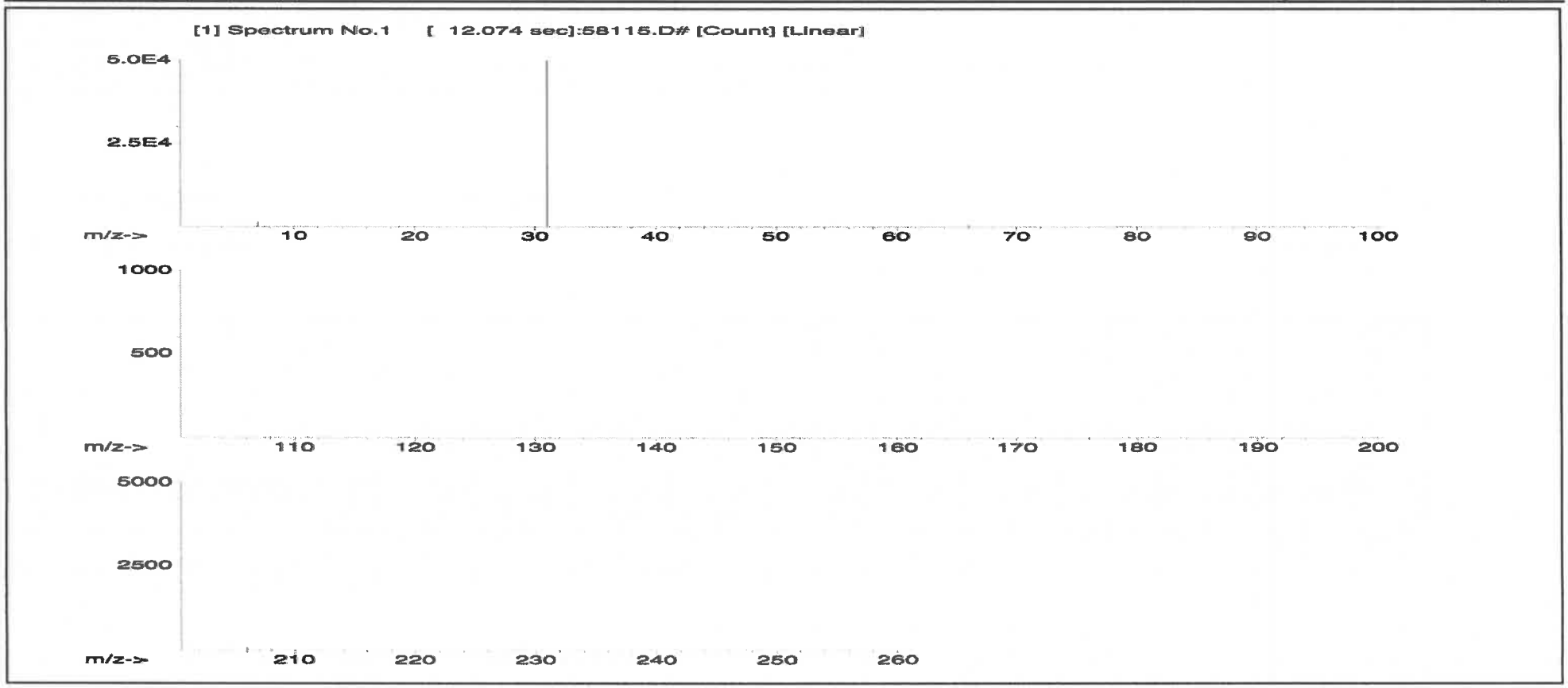
347

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	rl-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

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Certificate of Analysis

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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:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO_3 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:
$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

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

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
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

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

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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 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

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

M5959 R: 6/14/24.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

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 (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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	<	0.004600	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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Certified Reference Material CRM

M5961 R: 6/11/24

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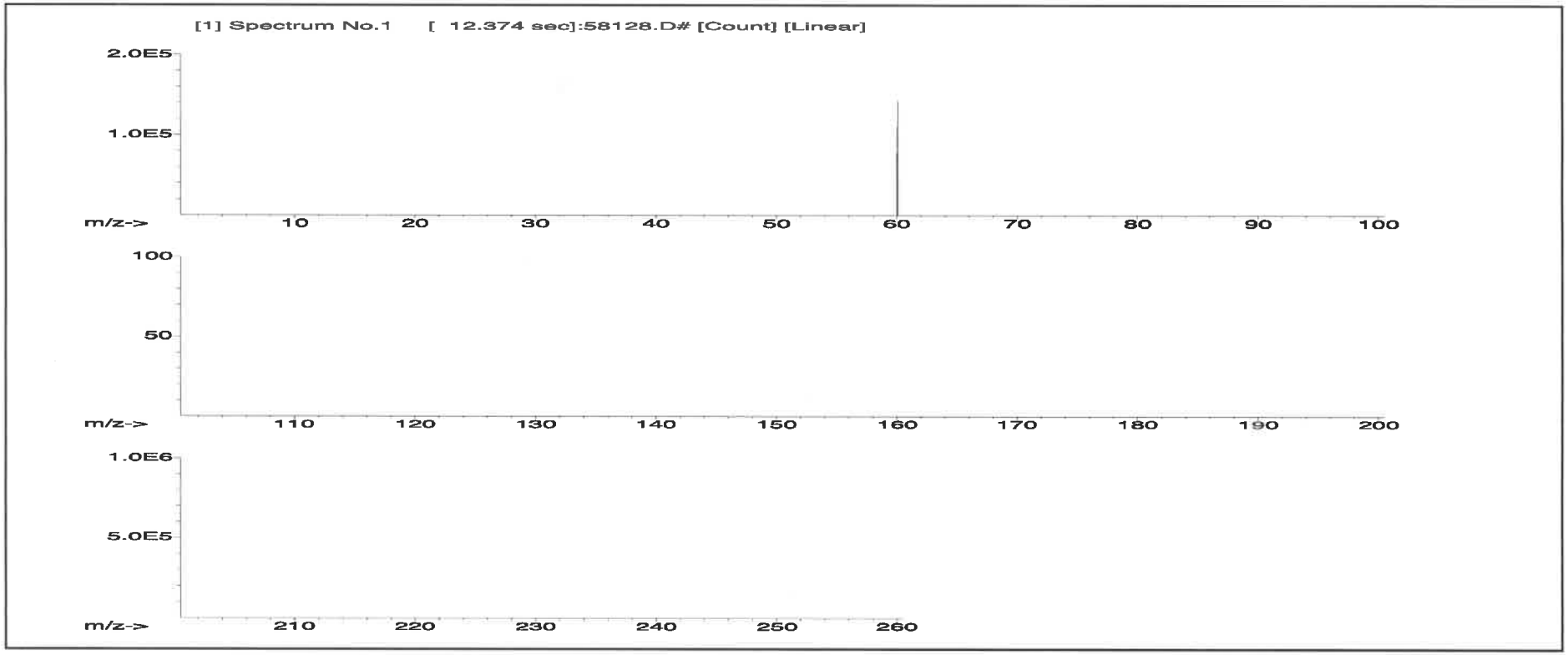
CERTIFIED WEIGHT REPORT:

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



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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	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.
* 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

M5962 R! 06/14/24.

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AR-1539 Certificate Number
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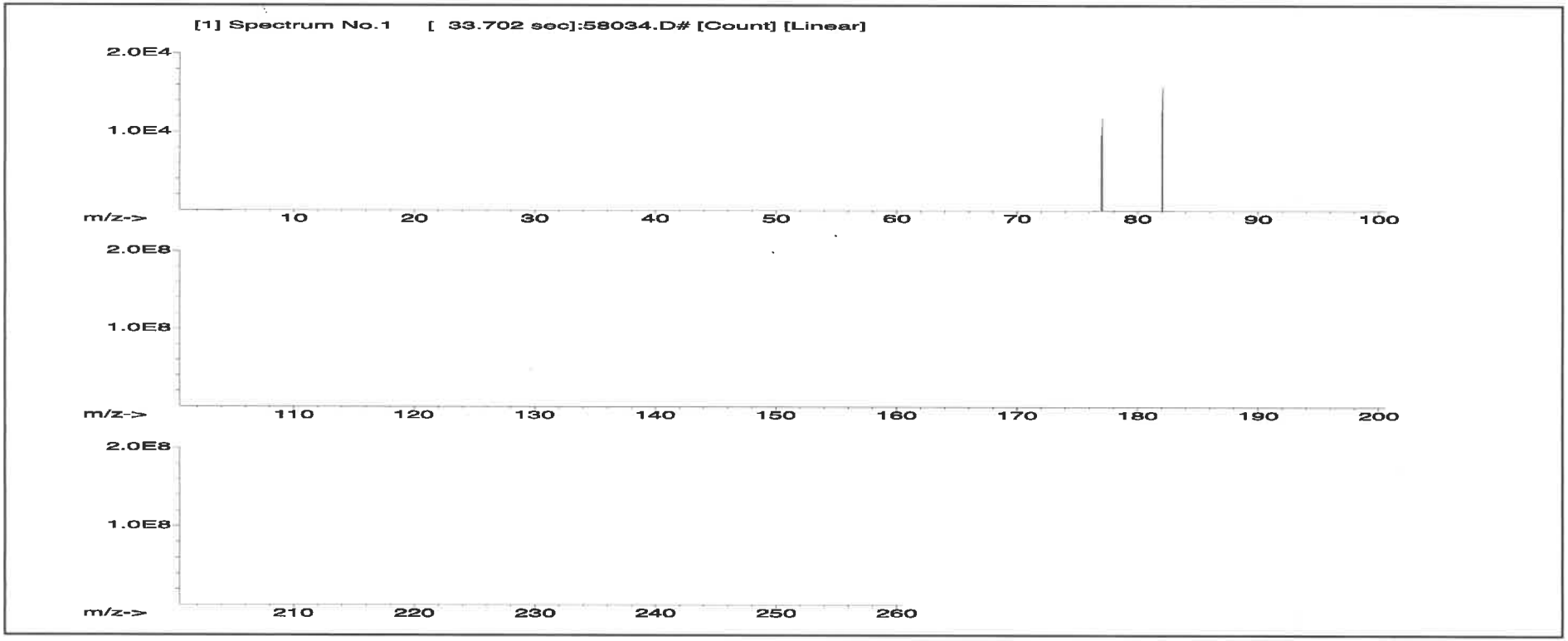
CERTIFIED WEIGHT REPORT:

		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).

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Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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CERTIFIED WEIGHT REPORT:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 062127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11 0.016 Flask Uncertainty

Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	5.0 (mL)	Nitric Acid	

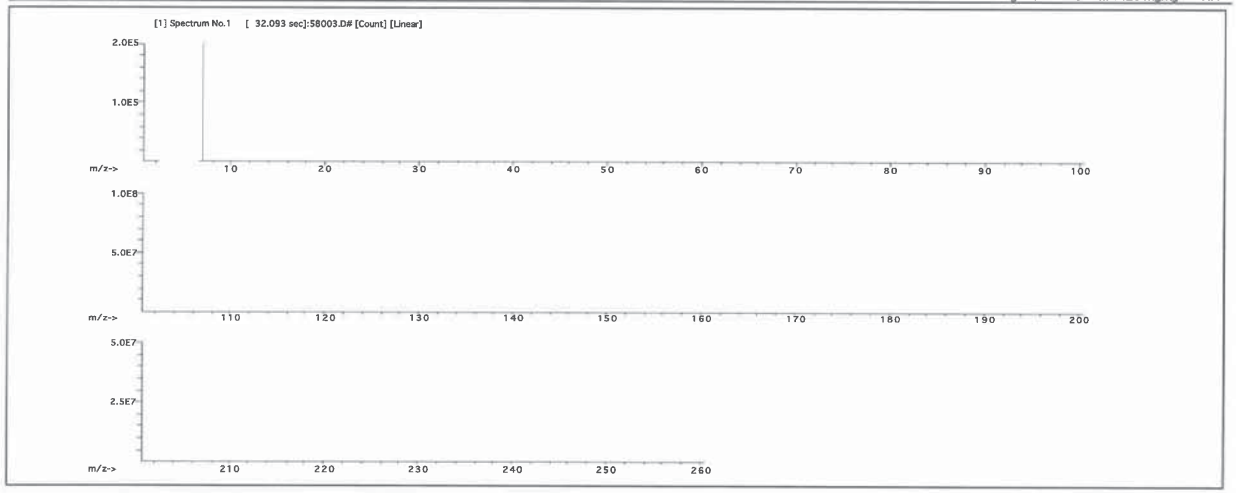
5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By: Giovanni Esposito 062124

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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AR-1539 Certificate Number
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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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Certificate of Analysis

M5976, M5977
R: 02/22/24

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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:	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

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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R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

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

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

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

11.2 Lot Expiration Date

- February 21, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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

avantor™ | J.T.Baker®

Recieve → 10/9/24
Met dig

M 6118

Material No.: 9530-33
Batch No.: 22E1662006
Manufactured Date: 2022-04-11
Retest Date: 2027-04-10
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	1.190
ACS - Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS - Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS - Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities - Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities - Aluminum (Al)	≤ 10.0 ppb	< 0.2 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities - Barium (Ba)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	37.0 ppb
Trace Impurities - Chromium (Cr)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities - Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities - Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities - Gold (Au)	≤ 4.0 ppb	0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities - Iron (Fe)	≤ 15 ppb	1 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.: 22E1662006

Test	Specification	Result
Trace Impurities - Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities - Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Magnesium (Mg)	≤ 10.0 ppb	1.0 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se), For Information Only		1.0 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	< 0.4 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	1.9 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	< 0.3 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.: 22E1662006

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

James T Ethier

Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R ->10/13/24
Metal g

M 6120

Material No.: 9606-03
Batch No.: 2310662003
Manufactured Date: 2023-08-21
Retest Date: 2028-08-19
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.5 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	10
Residue after Ignition	≤ 2 ppm	< 2 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.08 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.10 ppm
Sulfate (SO_4)	≤ 0.2 ppm	0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 40.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 5.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 20.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 50 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	< 50.0 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	30.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 20 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 20 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 40.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 20.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 20 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 20.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

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Material No.: 9606-03
Batch No.: 2310662003

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

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

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Material No.: 9606-03
Batch No.: 2310662003

Test	Specification	Result

For Microelectronic Use

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

Ken Koehnlein
Sr. Manager, Quality Assurance

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

avantor™ | J.T.Baker®

R → 10/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

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
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.190
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	1
ACS - Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.3
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

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Material No.: 9530-33
Batch No.: 0000275677

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	<1
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

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

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R -> 11/12/24

M6126

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

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

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CERTIFIED WEIGHT REPORT:

R→ 1/13/25

M 6127

Part Number:	**58112**		**Solvent:**	**Lot #** 24012496	Nitric Acid
Lot Number:	**112124**				
Description:	**Magnesium (Mg)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	112127				
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):	2000.07	0.100	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	112124
Reviewed By:	Pedro L. Rentas	112124

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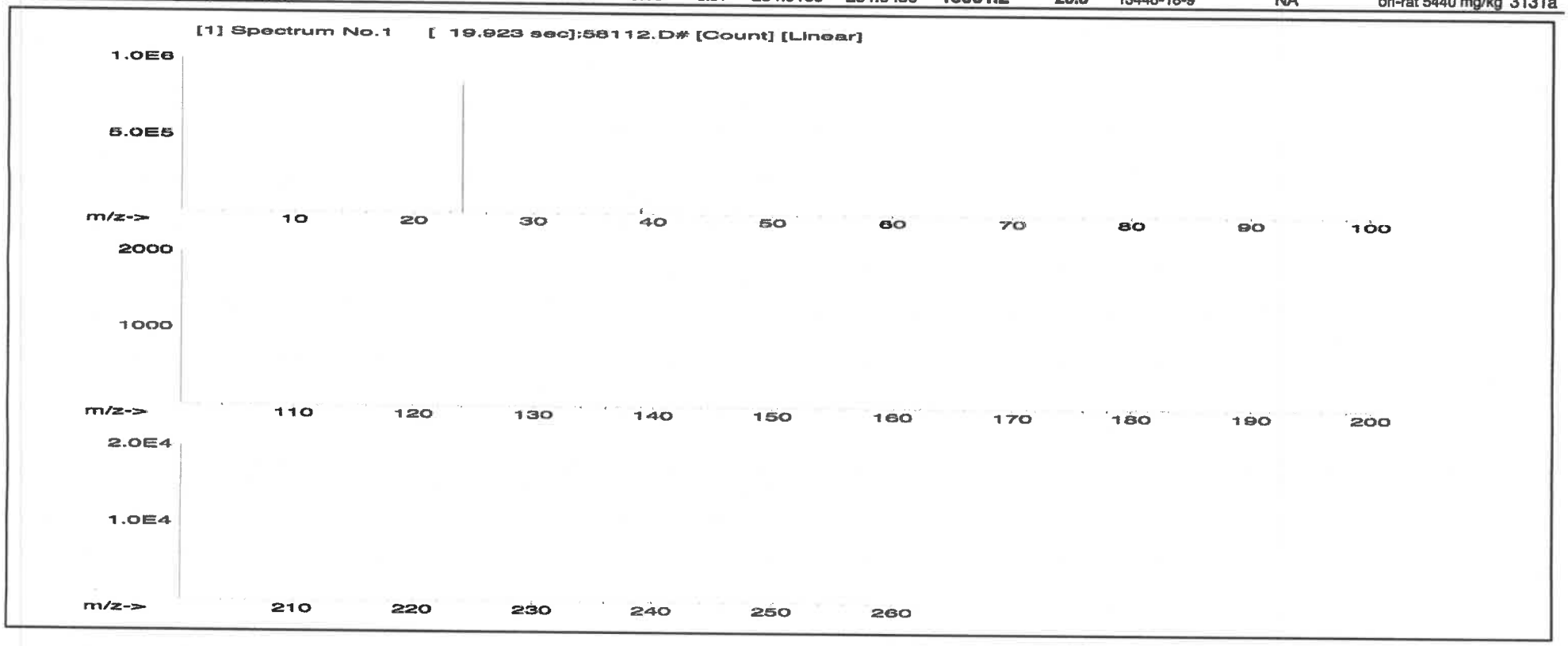
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9183	234.9459	**10001.2**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



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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	T	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are 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:

R->1/13/28

M6128

Part Number:	**58025**	**Solvent:**	**Lot #** 24002546	Nitric Acid
Lot Number:	**101124**			
Description:	**Manganese (Mn)**	2%	80.0 (mL)	Nitric Acid
Expiration Date:	101127			
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):	4000.2	0.10	Flask Uncertainty	

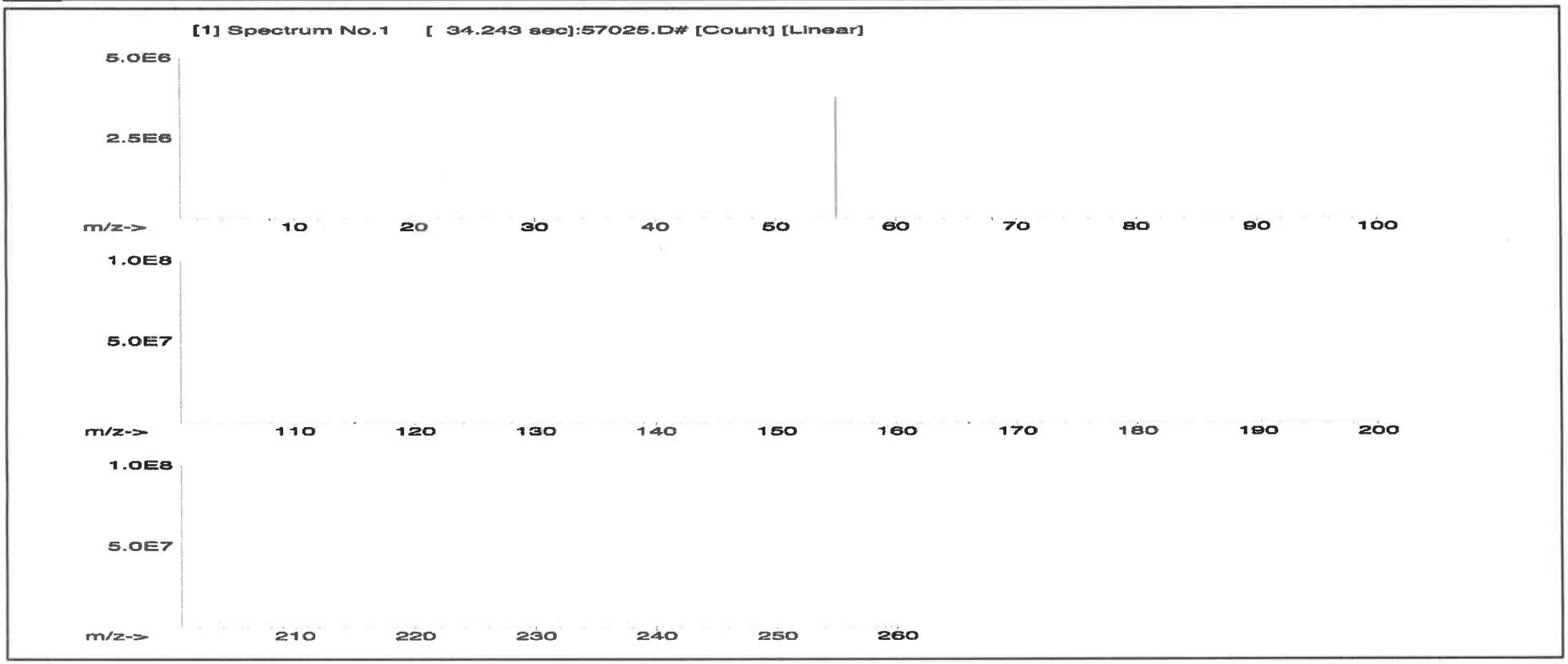
Giovanni Esposito

Formulated By:	Giovanni Esposito	101124

Pedro Rentas

Reviewed By:	Pedro L. Rentas	101124

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. Manganese(II) nitrate hydrate (Mn)	IN031	MNM092020A1	1000	99.999	0.10	20.8	19.2322	19.2344	**1000.1**	**2.0**	15710-66-4	5 mg/m3	orl-rat >300mg/kg	3132



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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	T	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are 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

R: 01/03/24 M5806, M5807

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CERTIFIED WEIGHT REPORT:

			Lot #	
Part Number:	**58111**	**Solvent:**	24002546	Nitric Acid
Lot Number:	**122223**			
Description:	**Sodium (Na)**	2%	60.0 (mL)	Nitric Acid
Expiration Date:	122226			
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	

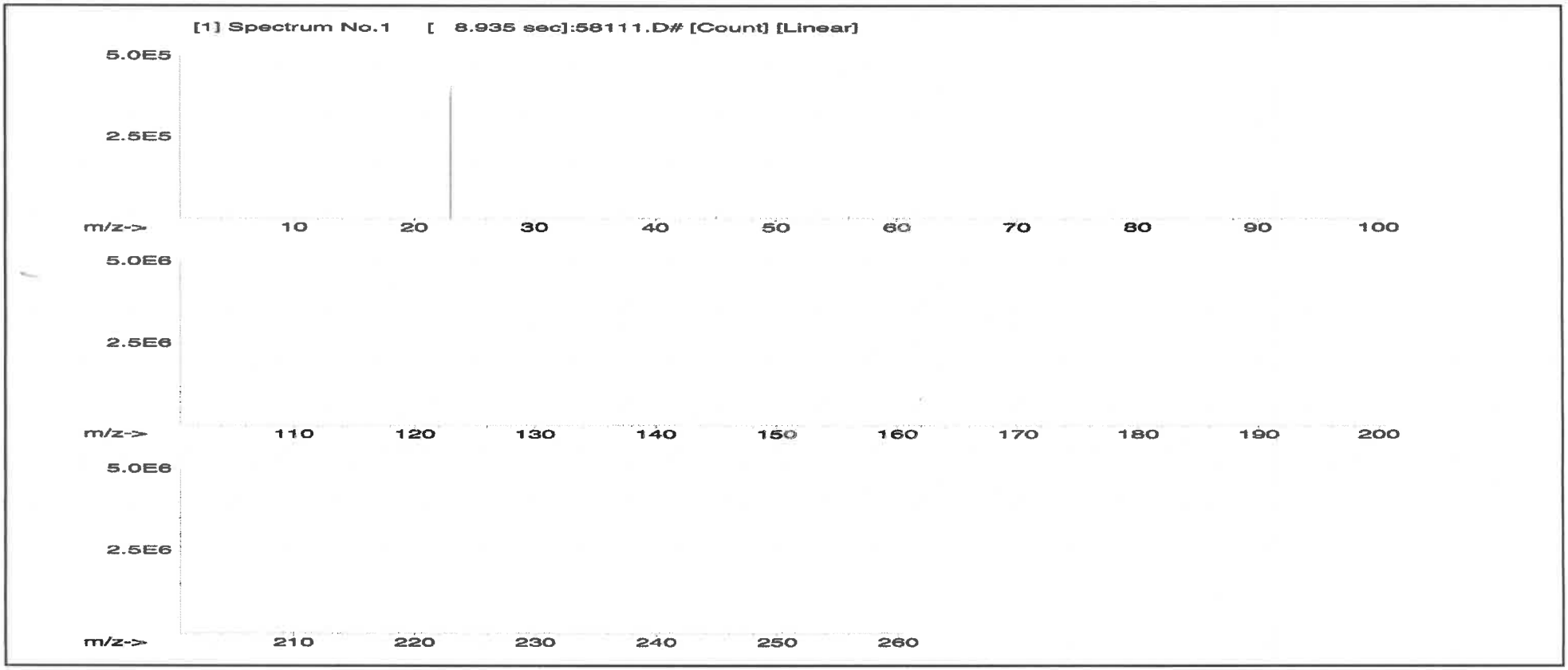
Aleah O'Brady

Formulated By:	Aleah O'Brady	122223

Pedro Rentas

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



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	<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).

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Certified Reference Material CRM

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AR-1539 Certificate Number
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R: 01/03/24 M5802, M5803

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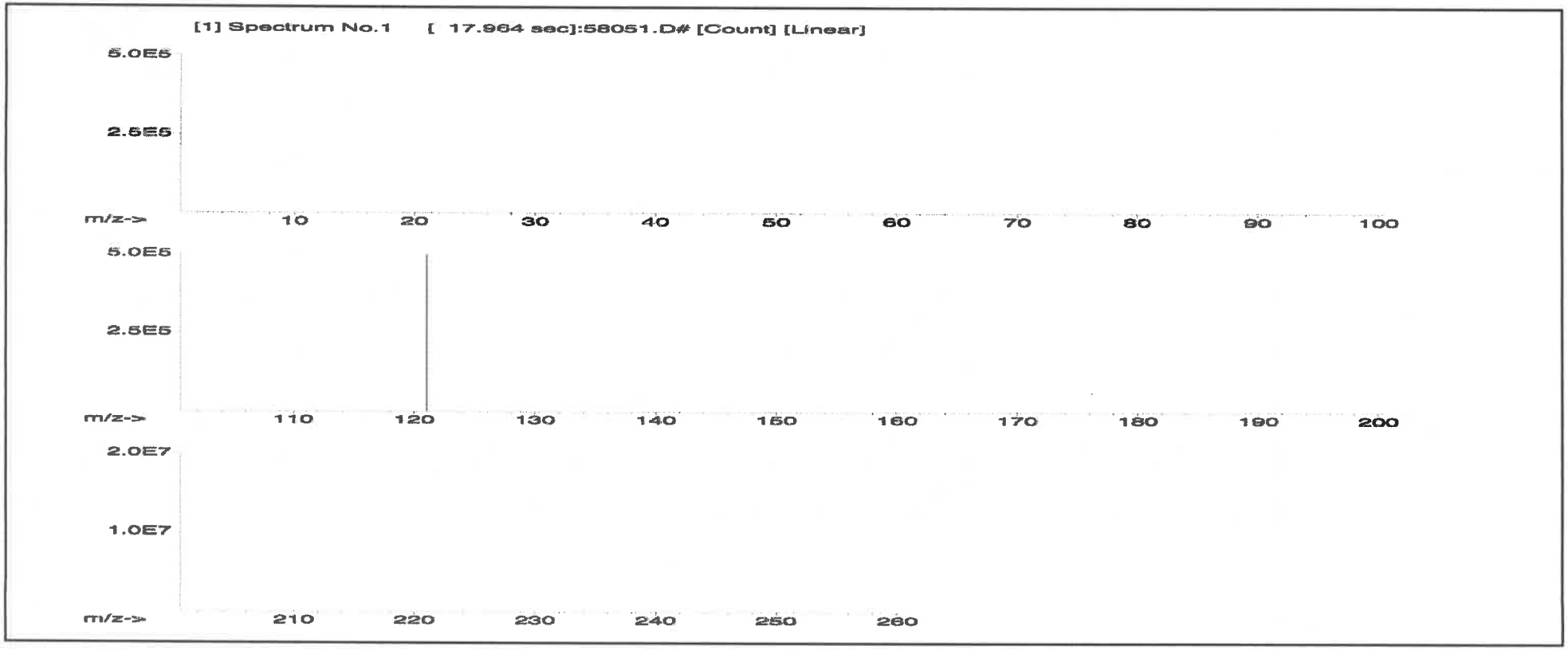
CERTIFIED WEIGHT REPORT:

		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



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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	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.
* 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

M6030

R: 8/5/24

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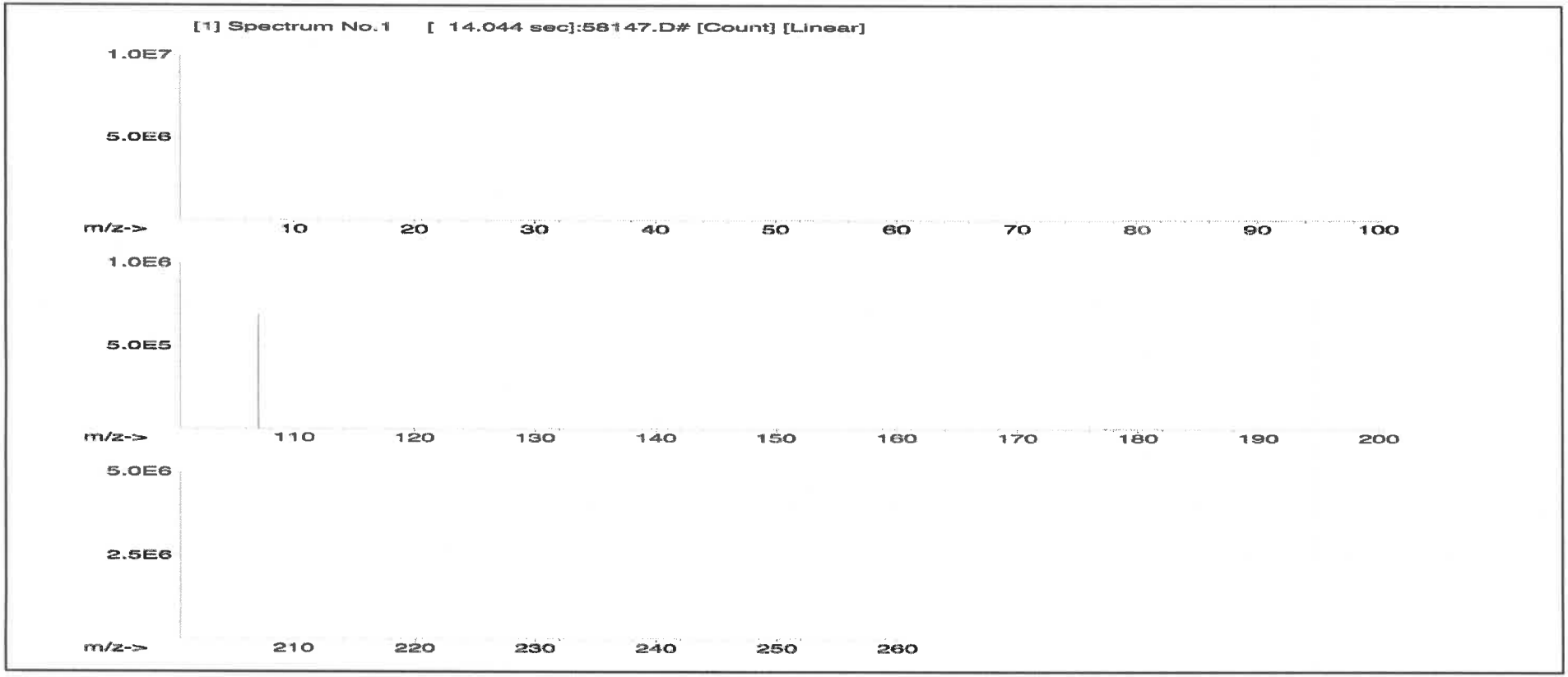
CERTIFIED WEIGHT REPORT:

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



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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	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.
* All standard containers are meticulously cleaned prior to use.
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R: 8/5/24 M6019

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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 885.01 ACCREDITED Reference Material Producer Certificate 885.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_6^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

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

11.2 Lot Expiration Date

- **March 03, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certified Reference Material CRM

R: 03/16/23 M5473, M5474, M5475, M5476

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AR-1539 Certificate Number
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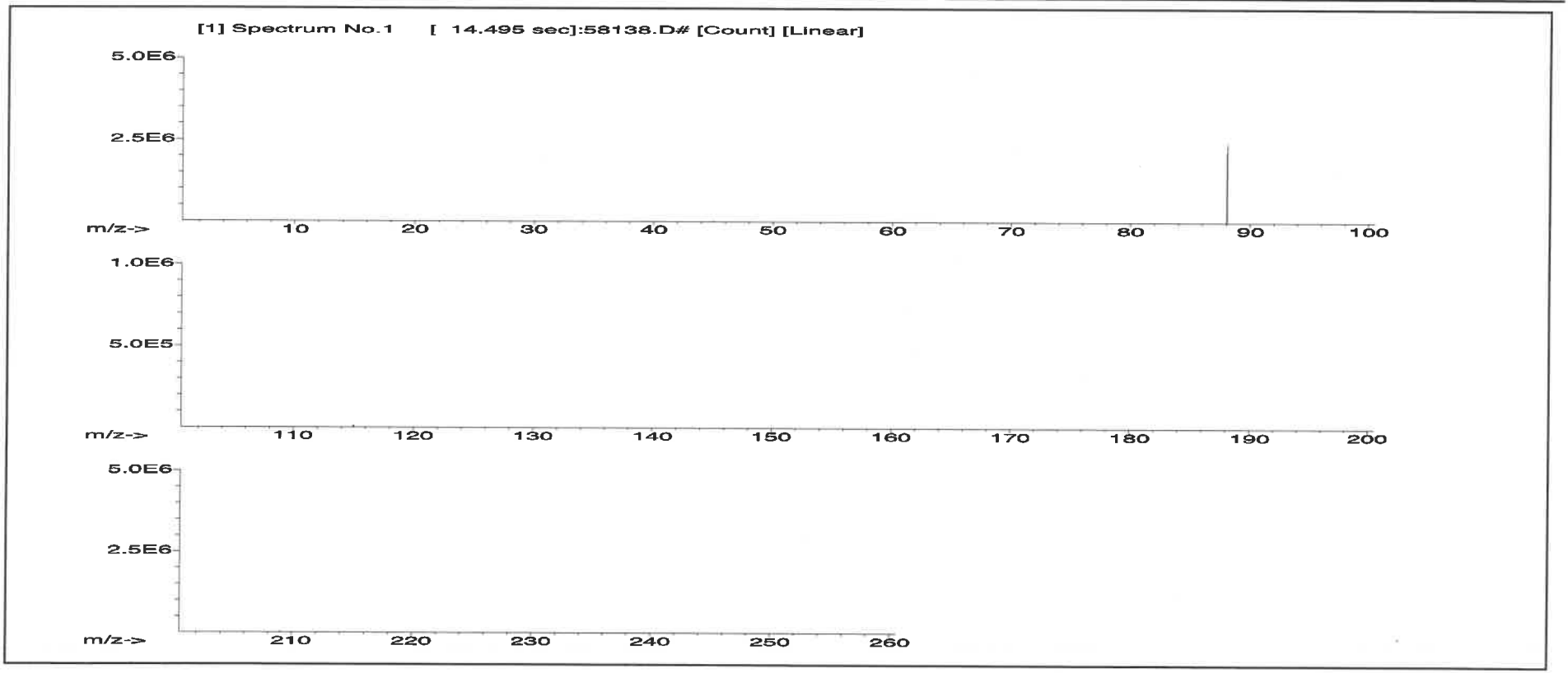
395

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



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.

* 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

M6023

R ! 8/5/24

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

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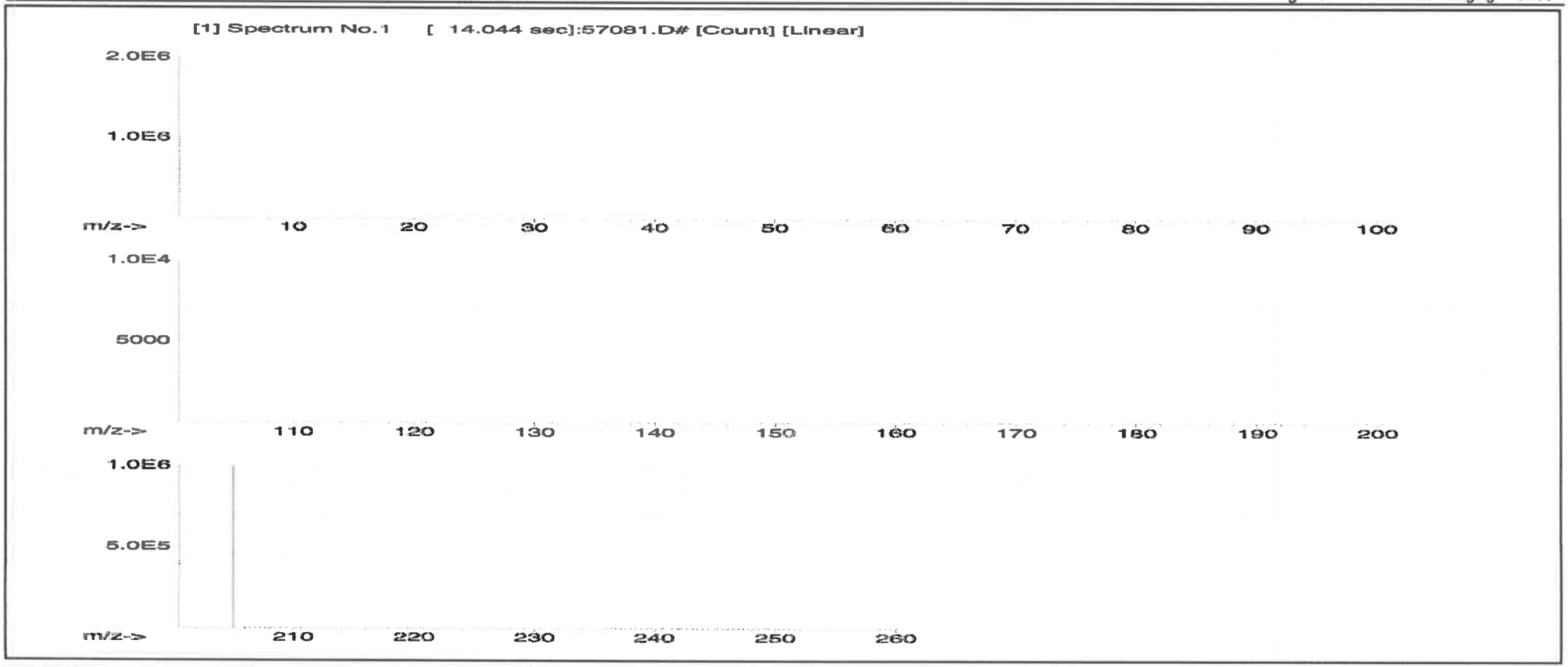
CERTIFIED WEIGHT REPORT:

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
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



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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	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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Certified Reference Material CRM

M6021

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

Rc. 8/5/24

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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	

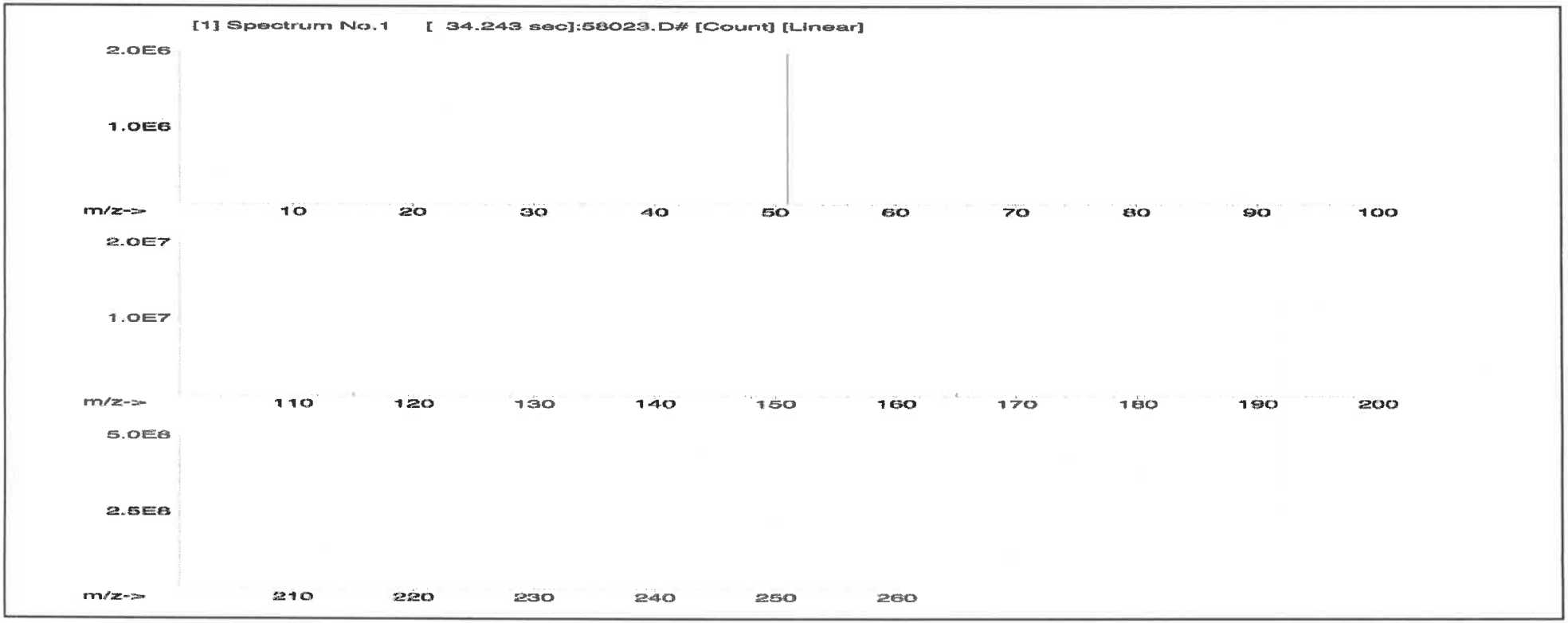
Aleah O'Brady

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



400

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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CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

Office and Plant
299 Cedar Lane
Fairless Hills, PA 19030

Phone: 215-295-5006
Fax: 215-295-0781

W3038
JS
OP4Y21.

Acetic Acid, Glacial, ACS

Reagent Grade

SPECIFICATION	MAXIMUM LIMITS
Appearance	Colorless and free from suspended matter or sediment
Assay	99.7 min.
Color (APHA)	10
Dilution Test	Passes Test
Residue after evaporation	0.001%
Acetic Anhydride	0.01%
Chloride (cl)	1 ppm
Sulfate (SO_4)	1 ppm
Heavy Metals (as Pb)	0.5 ppm
Iron (Fe)	0.2 ppm
Sub. Red. Dichromate	Passes Test
Sub. Red. Permanganate	Passes Test
Titratable Base	0.0004meq/g

06/20/2023

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: **0583**

Grade: **ACS GRADE**

Batch Number: **23B1556310**

Chemical Formula: NaOH
Molecular Weight: 40
CAS #: 1310-73-2
Appearance:

Pellets

Manufacture Date: 12/14/2022
Expiration Date: 12/31/2025

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	<= 0.005 %	<0.005 %	PASS
Chloride	<= 0.005 %	0.002 %	PASS
Heavy Metals	<= 0.002 %	<0.002 %	PASS
Iron	<= 0.001 %	<0.001 %	PASS
Magnesium	<= 0.002 %	<0.002 %	PASS
Mercury	<= 0.1 ppm	<0.1 ppm	PASS
Nickel	<= 0.001 %	<0.001 %	PASS
Nitrogen Compounds	<= 0.001 %	<0.001 %	PASS
Phosphate	<= 0.001 %	<0.001 %	PASS
Potassium	<= 0.02 %	<0.02 %	PASS
Purity	>= 97.0 %	99.2 %	PASS
Sodium Carbonate	<= 1.0 %	0.5 %	PASS
Sulfate	<= 0.003 %	<0.003 %	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: **0583**

Grade: **ACS GRADE**

Batch Number: **23B1556310**

Chemical Formula:	NaOH	Manufacture Date:	12/14/2022
Molecular Weight:	40	Expiration Date:	12/31/2025
CAS #:	1310-73-2		
Appearance:		Storage:	Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166162

SOP ID : M200.7-Trace Elements-22, MSFAM01.1-Trace Metals-2

SDG No : MJNLA3

Matrix : WATER

Pippete ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

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

Start Digest Date: 01/21/2025 **Time :** 12:10 **Temp :** 96 °C

End Digest Date: 01/21/2025 **Time :** 14:15 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SKD.

Supervisor Signature: SKJ

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1.00	MP84063
Spike Sol 6	1.00	MP84070
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	1.00	MP84041
1:1 HCL	0.50	MP83499
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 CELL #55 : 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01/21/25 15:15	SKD. met digestion.	SKJ (Metals Lab)
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166162

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB166132TB	~~PB166132TB~~ LEB132	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	1
PB166162BL	PBW162	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	2
PB166162BS	LCS162	<2	50	50	Colorless	Colorless	Clear	Clear	MP84063	3
Q1129-01	MJNLA3	<2	50	50	light ~~Brown~~	Colorless	Clear	Clear	N/A	5
Q1129-02	MJNLA3D	<2	50	50	light ~~Brown~~	Colorless	Clear	Clear	N/A	6
Q1129-03	MJNLA3S	<2	50	50	light ~~Brown~~	Colorless	Clear	Clear	MP84070	7

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

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134411

Review By	Sarabjit Jaswal	Review On	1/27/2025 6:20:54 AM
Supervise By	Mohan Bera	Supervise On	1/27/2025 6:21:46 AM

STD. NAME	STD REF.#
ICAL Standard	MP83500,MP84064,MP84062,MP84061,MP84060,MP84059,MP84058
ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	01/24/25 11:36		Kareem	OK
2	S1	S01	CAL2	01/24/25 11:40		Kareem	OK
3	S2	S02	CAL3	01/24/25 11:44		Kareem	OK
4	S3	S03	CAL4	01/24/25 11:48		Kareem	OK
5	S4	S04	CAL5	01/24/25 11:52		Kareem	OK
6	S5	S05	CAL6	01/24/25 11:56		Kareem	OK
7	S6	S06	CAL7	01/24/25 12:01		Kareem	OK
8	ICV002	ICV002	ICV	01/24/25 12:18	Inst. paused for calibration review	Kareem	OK
9	ICB002	ICB002	ICB	01/24/25 12:23		Kareem	OK
10	ICSA002	ICSA002	ICSA	01/24/25 12:29	Inst. paused for review	Kareem	OK
11	ICSAB002	ICSAB002	ICSAB	01/24/25 12:36	Inst. paused for review	Kareem	OK
12	CCV013	CCV013	CCV	01/24/25 12:59	Inst. paused for review	Kareem	OK
13	CCB013	CCB013	CCB	01/24/25 13:03		Kareem	OK
14	Q1046-02	GCQ19	SAM	01/24/25 13:07		Kareem	OK
15	Q1046-03	GCQ19D	DUP	01/24/25 13:12		Kareem	OK
16	Q1046-02L	GCQ19L	SD	01/24/25 13:16		Kareem	OK
17	Q1046-04	GCQ19S	MS	01/24/25 13:20		Kareem	OK
18	Q1045-07DL	GCQ04	SAM	01/24/25 13:24	2x for Ba	Kareem	Confirms

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

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134411

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CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

19	Q1045-08DL	GCQ04D	DUP	01/24/25 13:28	2x for Ba	Kareem	Confirms
20	Q1045-07LDL	GCQ04L	SD	01/24/25 13:32	10x for Ba	Kareem	Confirms
21	Q1045-09DL	GCQ04S	MS	01/24/25 13:36	2x for Ba	Kareem	Confirms
22	Q1039-10DL	GCPE5	SAM	01/24/25 13:40	2x for Ba	Kareem	Confirms
23	Q1042-09DL	GCPJ2	SAM	01/24/25 13:45	2x for Ba	Kareem	Confirms
24	Q1044-13DL	GCPY8	SAM	01/24/25 13:49	2x for Ba	Kareem	Confirms
25	Q1044-16DL	GCPZ1	SAM	01/24/25 13:53	2x for Ba	Kareem	Confirms
26	Q1044-18DL	GCPZ3	SAM	01/24/25 13:57	2x for Ba	Kareem	Confirms
27	Q1044-19DL	GCPZ4	SAM	01/24/25 14:01	2x for Ba	Kareem	Confirms
28	Q1044-20DL	GCPZ5	SAM	01/24/25 14:05	2x for Ba	Kareem	Confirms
29	Q1044-21DL	GCPZ6	SAM	01/24/25 14:09	2x for Ba	Kareem	Confirms
30	Q1045-01DL	GCPZ8	SAM	01/24/25 14:14	2x for Ba	Kareem	Confirms
31	Q1045-03DL	GCQ00	SAM	01/24/25 14:18	2x for Ba	Kareem	Confirms
32	Q1045-04DL	GCQ01	SAM	01/24/25 14:22	2x for Ba	Kareem	Confirms
33	Q1045-05DL	GCQ02	SAM	01/24/25 14:26	2x for Ba	Kareem	Confirms
34	CCV014	CCV014	CCV	01/24/25 14:30		Kareem	OK
35	CCB014	CCB014	CCB	01/24/25 14:35		Kareem	OK
36	Q1045-10DL	GCQ05	SAM	01/24/25 14:39	NOT USE	Kareem	Not Ok
37	Q1045-11DL	GCQ06	SAM	01/24/25 14:43	2x for Ba	Kareem	Confirms
38	Q1045-13DL	GCQ08	SAM	01/24/25 14:47	2x for Ba	Kareem	Confirms

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Fax : 908 789 8922

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134411

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Supervise By	Mohan Bera	Supervise On	1/27/2025 6:21:46 AM

STD. NAME	STD REF.#
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ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

39	Q1045-16DL	GCQ11	SAM	01/24/25 14:51	2x for Ba	Kareem	Confirms
40	Q1045-18DL	GCQ13	SAM	01/24/25 14:55	2x for Ba	Kareem	Confirms
41	Q1045-20DL	GCQ15	SAM	01/24/25 14:59	2x for Ba	Kareem	Confirms
42	Q1045-22DL	GCQ17	SAM	01/24/25 15:03	NOT USE	Kareem	Not Ok
43	Q1046-01DL	GCQ18	SAM	01/24/25 15:08	NOT USE	Kareem	Not Ok
44	Q1046-10DL	GCQ25	SAM	01/24/25 15:12	2x for Ba	Kareem	Confirms
45	Q1046-11DL	GCQ26	SAM	01/24/25 15:16	NOT USE	Kareem	Not Ok
46	Q1047-07DL	GCQ42	SAM	01/24/25 15:20	2x for Ba	Kareem	Confirms
47	Q1047-08DL	GCQ43	SAM	01/24/25 15:25	2x for Ba	Kareem	Confirms
48	Q1047-09DL	GCQ44	SAM	01/24/25 15:29	2x for Ba	Kareem	Confirms
49	Q1047-10DL	GCQ45	SAM	01/24/25 15:33	2x for Ba	Kareem	Confirms
50	Q1047-11DL	GCQ46	SAM	01/24/25 15:37	2x for Ba	Kareem	Confirms
51	Q1045-22DL2	GCQ17	SAM	01/24/25 15:41	5x for Ba	Kareem	Confirms
52	Q1045-10DL2	GCQ05	SAM	01/24/25 15:45	5x for Ba	Kareem	Confirms
53	Q1046-01DL2	GCQ18	SAM	01/24/25 15:49	5x for Ba	Kareem	Confirms
54	Q1046-11DL2	GCQ26	SAM	01/24/25 15:53	5x for Ba	Kareem	Confirms
55	Q1047-12DL	GCQ47	SAM	01/24/25 15:58	2x for Ba	Kareem	Confirms
56	CCV015	CCV015	CCV	01/24/25 16:02		Kareem	OK
57	CCB015	CCB015	CCB	01/24/25 16:06		Kareem	OK
58	Q1047-21	GCQ56	SAM	01/24/25 16:10	Already analyzed	Kareem	Not Ok

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

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134411

Review By	Sarabjit Jaswal	Review On	1/27/2025 6:20:54 AM
Supervise By	Mohan Bera	Supervise On	1/27/2025 6:21:46 AM

STD. NAME	STD REF.#
ICAL Standard	MP83500,MP84064,MP84062,MP84061,MP84060,MP84059,MP84058
ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

59	Q1043-15	GCPL7	SAM	01/24/25 16:14	Already analyzed	Kareem	Not Ok
60	Q1047-13DL	GCQ48	SAM	01/24/25 16:18	2x for Ba	Kareem	Confirms
61	Q1047-14DL	GCQ49	SAM	01/24/25 16:22	2x for Ba	Kareem	Confirms
62	Q1047-15DL	GCQ50	SAM	01/24/25 16:26	2x for Ba	Kareem	Confirms
63	Q1047-17DL	GCQ52	SAM	01/24/25 16:30	2x for Ba	Kareem	Confirms
64	Q1047-18DL	GCQ53	SAM	01/24/25 16:34	2x for Ba	Kareem	Confirms
65	Q1047-19DL	GCQ54	SAM	01/24/25 16:38	2x for Ba	Kareem	Confirms
66	Q1047-20DL	GCQ55	SAM	01/24/25 16:42	2x for Ba	Kareem	Confirms
67	PB166163TB	LEB163	MB	01/24/25 16:46		Kareem	OK
68	Q1106-01	YE8G3	SAM	01/24/25 16:50	Ca high	Kareem	Dilution
69	Q1106-02	YE8G5	SAM	01/24/25 16:55	Mn high	Kareem	Dilution
70	Q1106-03	YE8G6	SAM	01/24/25 16:59		Kareem	OK
71	Q1106-04	YE8G6D	DUP	01/24/25 17:03		Kareem	OK
72	Q1106-03L	YE8G6L	SD	01/24/25 17:08		Kareem	OK
73	Q1106-05	YE8G6S	MS	01/24/25 17:12		Kareem	OK
74	Q1106-06	YE8H0	SAM	01/24/25 17:16		Kareem	OK
75	Q1106-07	YE8H1	SAM	01/24/25 17:20	Mn high	Kareem	Dilution
76	Q1106-08	YE8H2	SAM	01/24/25 17:24		Kareem	OK
77	Q1106-09	YE8H3	SAM	01/24/25 17:29		Kareem	OK
78	CCV016	CCV016	CCV	01/24/25 17:42		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134411

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Supervise By	Mohan Bera	Supervise On	1/27/2025 6:21:46 AM

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ICAL Standard	MP83500,MP84064,MP84062,MP84061,MP84060,MP84059,MP84058
ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

79	CCB016	CCB016	CCB	01/24/25 17:46		Kareem	OK
80	Q1106-10	YE8H4	SAM	01/24/25 17:50		Kareem	OK
81	Q1106-11	YE8H5	SAM	01/24/25 17:54		Kareem	OK
82	Q1106-12	YE8H6	SAM	01/24/25 17:59	Mn high	Kareem	Dilution
83	Q1106-13	YE8F6	SAM	01/24/25 18:03		Kareem	OK
84	Q1106-14	YE8F9	SAM	01/24/25 18:07		Kareem	OK
85	Q1106-15	YE8G0	SAM	01/24/25 18:11		Kareem	OK
86	Q1106-16	YE8G1	SAM	01/24/25 18:15		Kareem	OK
87	Q1106-17	YE8G2	SAM	01/24/25 18:19		Kareem	OK
88	Q1106-18	YE8H9	SAM	01/24/25 18:23		Kareem	OK
89	Q1106-19	YE8J0	SAM	01/24/25 18:28		Kareem	OK
90	Q1106-20	YE8J1	SAM	01/24/25 18:32		Kareem	OK
91	PB166163BL	PBW163	MB	01/24/25 18:36		Kareem	OK
92	PB166163BS	LCS163	LCS	01/24/25 18:40		Kareem	OK
93	PB166132TB	LEB132	MB	01/24/25 18:44		Kareem	OK
94	Q1129-01	MJNLA3	SAM	01/24/25 18:48		Kareem	OK
95	Q1129-02	MJNLA3D	DUP	01/24/25 18:52		Kareem	OK
96	Q1129-01L	MJNLA3L	SD	01/24/25 18:57		Kareem	OK
97	Q1129-03	MJNLA3S	MS	01/24/25 19:01		Kareem	OK
98	PB166162BL	PBW162	MB	01/24/25 19:05		Kareem	OK

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ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

99	PB166162BS	LCS162	LCS	01/24/25 19:09		Kareem	OK
100	CCV017	CCV017	CCV	01/24/25 19:13		Kareem	OK
101	CCB017	CCB017	CCB	01/24/25 19:22	Inst. paused for review	Kareem	OK
102	Q1127-09	MJNLE5	SAM	01/24/25 19:26		Kareem	OK
103	Q1127-10	MJNLE5D	DUP	01/24/25 19:30		Kareem	OK
104	Q1127-09L	MJNLE5L	SD	01/24/25 19:34		Kareem	OK
105	Q1127-11	MJNLE5S	MS	01/24/25 19:39		Kareem	OK
106	PB166138BL	PBW138	MB	01/24/25 19:43		Kareem	OK
107	PB166138BS	LCS138	LCS	01/24/25 19:47		Kareem	OK
108	Q1105-01	YE8G3	SAM	01/24/25 19:51	Ca high	Kareem	Dilution
109	Q1105-02	YE8G5	SAM	01/24/25 19:55		Kareem	OK
110	Q1105-03	YE8G6	SAM	01/24/25 19:59		Kareem	OK
111	Q1105-04	YE8G6D	DUP	01/24/25 20:03		Kareem	OK
112	Q1105-03L	YE8G6L	SD	01/24/25 20:07		Kareem	OK
113	Q1105-05	YE8G6S	MS	01/24/25 20:11		Kareem	OK
114	Q1105-06	YE8H0	SAM	01/24/25 20:15		Kareem	OK
115	Q1105-07	YE8H1	SAM	01/24/25 20:19		Kareem	OK
116	Q1105-08	YE8H2	SAM	01/24/25 20:23		Kareem	OK
117	Q1105-09	YE8H3	SAM	01/24/25 20:27		Kareem	OK
118	Q1105-10	YE8H4	SAM	01/24/25 20:31		Kareem	OK

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Supervise By	Mohan Bera	Supervise On	1/27/2025 6:21:46 AM

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ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

119	Q1105-11	YE8H5	SAM	01/24/25 20:35		Kareem	OK
120	Q1105-12	YE8H6	SAM	01/24/25 20:39		Kareem	OK
121	Q1105-13	YE8E9	SAM	01/24/25 20:43		Kareem	OK
122	CCV018	CCV018	CCV	01/24/25 20:47		Kareem	OK
123	CCB018	CCB018	CCB	01/24/25 20:56	Inst. paused for review	Kareem	OK
124	Q1105-14	YE8F0	SAM	01/24/25 21:00		Kareem	OK
125	Q1105-15	YE8F1	SAM	01/24/25 21:04		Kareem	OK
126	Q1105-16	YE8F2	SAM	01/24/25 21:08		Kareem	OK
127	Q1105-17	YE8F3	SAM	01/24/25 21:12		Kareem	OK
128	Q1105-18	YE8F4	SAM	01/24/25 21:16		Kareem	OK
129	Q1105-19	YE8F6	SAM	01/24/25 21:20		Kareem	OK
130	Q1105-20	YE8G0	SAM	01/24/25 21:24		Kareem	OK
131	Q1105-21	YE8G1	SAM	01/24/25 21:28		Kareem	OK
132	Q1105-22	YE8G2	SAM	01/24/25 21:32		Kareem	OK
133	PB166155BL	PBS155	MB	01/24/25 21:36		Kareem	OK
134	PB166155BS	LCS155	LCS	01/24/25 21:40		Kareem	OK
135	Q1135-01	YE8F5	SAM	01/24/25 21:44		Kareem	OK
136	Q1135-02	YE8F7	SAM	01/24/25 21:48		Kareem	OK
137	Q1135-03	YE8F7D	DUP	01/24/25 21:52		Kareem	OK
138	Q1135-02L	YE8F7L	SD	01/24/25 21:56		Kareem	OK

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Daily Analysis Runlog For Sequence/QCBatch ID # LB134411

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ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

139	Q1135-04	YE8F7S	MS	01/24/25 22:00		Kareem	OK
140	Q1135-05	YE8F8	SAM	01/24/25 22:05		Kareem	OK
141	Q1135-06	YE8F9	SAM	01/24/25 22:09		Kareem	OK
142	Q1135-07	YE8H9	SAM	01/24/25 22:13		Kareem	OK
143	Q1135-08	YE8J0	SAM	01/24/25 22:17		Kareem	OK
144	CCV019	CCV019	CCV	01/24/25 22:21		Kareem	OK
145	CCB019	CCB019	CCB	01/24/25 22:29	Inst. paused for review	Kareem	OK
146	Q1135-10	YE8J1	SAM	01/24/25 22:33		Kareem	OK
147	Q1135-11	YE8E3	SAM	01/24/25 22:38		Kareem	OK
148	Q1135-12	YE8E4	SAM	01/24/25 22:42		Kareem	OK
149	Q1135-13	YE8E5	SAM	01/24/25 22:46		Kareem	OK
150	Q1135-14	YE8E6	SAM	01/24/25 22:50		Kareem	OK
151	Q1135-15	YE8E7	SAM	01/24/25 22:54		Kareem	OK
152	Q1135-16	YE8E8	SAM	01/24/25 22:58		Kareem	OK
153	Q1135-17	YE8D2	SAM	01/24/25 23:01		Kareem	OK
154	Q1135-18	YE8D4	SAM	01/24/25 23:05		Kareem	OK
155	Q1135-19	YE8C3	SAM	01/24/25 23:09		Kareem	OK
156	Q1135-21	YE8D0	SAM	01/24/25 23:14		Kareem	OK
157	Q1135-22	YE8D5	SAM	01/24/25 23:17		Kareem	OK
158	PB166196BL	PBS196	MB	01/24/25 23:21		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134411

Review By	Sarabjit Jaswal	Review On	1/27/2025 6:20:54 AM
Supervise By	Mohan Bera	Supervise On	1/27/2025 6:21:46 AM

STD. NAME	STD REF.#
ICAL Standard	MP83500,MP84064,MP84062,MP84061,MP84060,MP84059,MP84058
ICV Standard	MP84065
CCV Standard	MP84069
ICSA Standard	MP84066,MP84067
CRI Standard	
LCS Standard	MP84063
Chk Standard	MP84071,MP84072

159	PB166196BS	LCS196	LCS	01/24/25 23:26		Kareem	OK
160	CCV020	CCV020	CCV	01/24/25 23:30		Kareem	OK
161	CCB020	CCB020	CCB	01/24/25 23:38	Inst. paused for review	Kareem	OK

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166132

SOP ID : M1311-TCLP-15

SDG No : MJNLA3

Weigh By : JP

Balance ID : WC SC-7

pH Meter ID : WC PH METER-1

Extraction By : JP

Filter By : JP

Pippete ID : WC

Tumbler ID : T-2

TCLP Filter ID : 114771

Start Prep Date : 01/20/2025 **Time :** 14:00

End Prep Date : 01/21/2025 **Time :** 07:15

Combination Ratio : 20

ZHE Cleaning Batch : N/A

Initial Room Temperature: 23 °C

Final Room Temperature: 22 °C

TCLP Technician Signature : JB

Supervisor By : 12

Standared Name	MLS USED	STD REF. # FROM LOG
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

Chemical Used	ML/SAMPLE U	Lot Number
TCLP-FLUID-1	N/A	WP110801
HCL-TCLP,1N	N/A	WP110803
HNO3-TCLP,1N	N/A	WP110804
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
120ml Plastic bottle	N/A	405130101
1:1 HNO3	N/A	MP84041

Extraction Conformance/Non-Conformance Comments:

Matrix spikes are added after fiftration and before preservation. Tumbler T-2 checked,30 rpm.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01/21/25 08:30	JB TCLP Room	SIRD. Inst DIG
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166132

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
PB166132TB	LEB132	12	N/A	2000	N/A	N/A	N/A	4.94	1.05	T-2
Q1129-01	MJNLA3	11	100.02	2000	N/A	N/A	N/A	5.80	1.19	T-2
Q1129-02	MJNLA3D	11	100.02	2000	N/A	N/A	N/A	5.80	1.19	T-2
Q1129-03	MJNLA3S	11	100.02	2000	N/A	N/A	N/A	5.80	1.19	T-2

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
PB166132TB	LEB132	N/A	N/A	N/A	N/A	N/A	N/A
Q1129-01	MJNLA3	N/A	N/A	N/A	N/A	100	N/A
Q1129-02	MJNLA3D	N/A	N/A	N/A	N/A	100	N/A
Q1129-03	MJNLA3S	N/A	N/A	N/A	N/A	100	N/A

Alliance TECHNICAL GROUP

TCLP Fluid Determination

PB166132

Hot Block ID : WC S-1 /WC S-2

Thermometer ID : FLASHPOINT

SampleID	ClientID	Sample Weight (g)	Volume DI Water (mL)	PH after 5 min stir	PH after 10 min stir	Extraction Fluid 1 or 2	pH Extraction Fluid
PB166132TB	LEB132	N/A	N/A	N/A	N/A	N/A	N/A
Q1129-01	MJNLA3	5.03	96.5	7.53	3.39	#1	4.94
Q1129-02	MJNLA3D	5.03	96.5	7.53	3.39	#1	4.94
Q1129-03	MJNLA3S	5.03	96.5	7.53	3.39	#1	4.94

EPA SAMPLE NO.

MJNLA3

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51956 MA No. : SDG No.: MJNLA3

Matrix: WATER Lab Sample ID: Q1129-01

% Solids: Date Received: 01/17/2025

Analytical Method: Hg

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	01/22/2025	1527

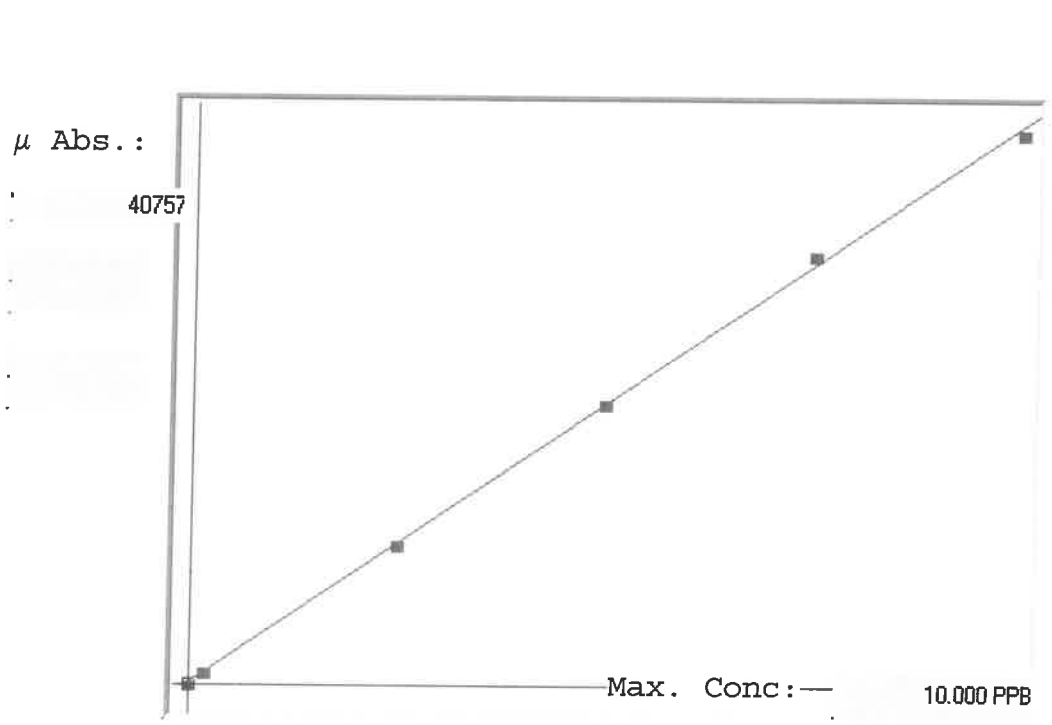
NOTE: Hardness (total) is reported in mg/L

Comments:

Reviewed By:mohan
On:1/22/2025 10:13:36 PM
Inst Id :CV1

LB134366

SFAM01.1 INSTRUMENT ID: CV1



A= 0.0000e+000

B= 2.4269e-004 slope

C= -3.7195e-002 intercept

Rho= 0.9996646

Accept=Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	%)
0.00	0.000	-0.028	-0.028	39	0.000	39	0				-3
0.05	0.050					442	0				-6
0.20	0.200	0.189	-0.011	932	0.0 %	932					-1
2.50	2.500	2.486	-0.014	10398	0.0 %	10398					0
5.00	5.000	5.019	0.019	20833	0.0 %	20833					2
7.50	7.500	7.679	0.179	31795	0.0 %	31795					-1
10.0	10.000	9.854	-0.146	40757	0.0 %	40757					

Reviewed By:mohan
On:1/22/2025 10:13:36 PM
Inst Id :CV1

LB134366
INSTRUMENT ID: CV1

Sample ID	Extended ID	µ Abs.	Conc.		Stnd Conc	Method	Units	Date	Type
0	S0	39	-		0	SFAM01.1	PPB	01/22/2025 13:59	Std
0.2	S01	932	-		0.2	SFAM01.1	PPB	01/22/2025 14:02	Std
2.5	S02	10398	-		2.5	SFAM01.1	PPB	01/22/2025 14:04	Std
5	S03	20833	-		5	SFAM01.1	PPB	01/22/2025 14:11	Std
7.5	S04	31795	-		7.5	SFAM01.1	PPB	01/22/2025 14:13	Std
10	S05	40757	-		10	SFAM01.1	PPB	01/22/2025 14:15	Std
ICV065	ICV065	15165	3.6433	-		SFAM01.1	PPB	01/22/2025 14:18	SMPL
ICB065	ICB065	-174	-0.0794	-		SFAM01.1	PPB	01/22/2025 14:21	SMPL
CCV059	CCV059	20679	4.9815	-		SFAM01.1	PPB	01/22/2025 14:23	SMPL
CCB059	CCB059	-200	-0.0857	-		SFAM01.1	PPB	01/22/2025 14:25	SMPL
PB166178BL	PBW178	-52	-0.0498	-		SFAM01.1	PPB	01/22/2025 14:28	SMPL
Q1106-01	YE8G3	4	-0.0362	-		SFAM01.1	PPB	01/22/2025 14:30	SMPL
Q1106-02	YE8G5	2633	0.6018	-		SFAM01.1	PPB	01/22/2025 14:32	SMPL
Q1106-03	YE8G6	-182	-0.0814	-		SFAM01.1	PPB	01/22/2025 14:34	SMPL
Q1106-04	YE8G6D	-43	-0.0476	-		SFAM01.1	PPB	01/22/2025 14:37	SMPL
Q1106-05	YE8G6S	3982	0.9292	-		SFAM01.1	PPB	01/22/2025 14:39	SMPL
Q1106-06	YE8H0	539	0.0936	-		SFAM01.1	PPB	01/22/2025 14:41	SMPL
Q1106-07	YE8H1	1466	0.3186	-		SFAM01.1	PPB	01/22/2025 14:43	SMPL
Q1106-08	YE8H2	547	0.0956	-		SFAM01.1	PPB	01/22/2025 14:46	SMPL
Q1106-09	YE8H3	274	0.0293	-		SFAM01.1	PPB	01/22/2025 14:48	SMPL
Q1106-10	YE8H4	-46	-0.0484	-		SFAM01.1	PPB	01/22/2025 14:50	SMPL
Q1106-11	YE8H5	366	0.0516	-		SFAM01.1	PPB	01/22/2025 14:53	SMPL
Q1106-12	YE8H6	21	-0.0321	-		SFAM01.1	PPB	01/22/2025 14:55	SMPL
Q1106-13	YE8F6	16	-0.0333	-		SFAM01.1	PPB	01/22/2025 14:57	SMPL
Q1106-14	YE8F9	44	-0.0265	-		SFAM01.1	PPB	01/22/2025 14:59	SMPL
Q1106-15	YE8G0	134	-0.0047	-		SFAM01.1	PPB	01/22/2025 15:02	SMPL
Q1106-16	YE8G1	54	-0.0241	-		SFAM01.1	PPB	01/22/2025 15:04	SMPL
Q1106-17	YE8G2	-3	-0.0379	-		SFAM01.1	PPB	01/22/2025 15:06	SMPL
Q1106-18	YE8H9	20	-0.0323	-		SFAM01.1	PPB	01/22/2025 15:08	SMPL
Q1106-19	YE8J0	76	-0.0187	-		SFAM01.1	PPB	01/22/2025 15:11	SMPL
CCV060	CCV060	20453	4.9266	-		SFAM01.1	PPB	01/22/2025 15:17	SMPL
CCB060	CCB160	-120	-0.0663	-		SFAM01.1	PPB	01/22/2025 15:20	SMPL
Q1106-20	YE8J1	499	0.0839	-		SFAM01.1	PPB	01/22/2025 15:22	SMPL
PB166179BL	PBW179	-40	-0.0469	-		SFAM01.1	PPB	01/22/2025 15:24	SMPL
Q1129-01	MJNLA3	168	0.0036	-		SFAM01.1	PPB	01/22/2025 15:27	SMPL
Q1129-02	MJNLA3D	89	-0.0156	-		SFAM01.1	PPB	01/22/2025 15:29	SMPL
Q1129-03	MJNLA3S	3677	0.8552	-		SFAM01.1	PPB	01/22/2025 15:31	SMPL
PB166178TB	LEB178	-7	-0.0389	-		SFAM01.1	PPB	01/22/2025 15:33	SMPL
PB166132TB	LEB132	92	-0.0149	-		SFAM01.1	PPB	01/22/2025 15:36	SMPL
CCV061	CCV061	22324	5.3807	-		SFAM01.1	PPB	01/22/2025 15:41	SMPL
CCB061	CCB061	-152	-0.0741	-		SFAM01.1	PPB	01/22/2025 15:43	SMPL

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Prep Standard - Chemical Standard Summary

Order ID : Q1129

Test : TCLP Mercury

Prepbatch ID : PB166179,

Sequence ID/Qc Batch ID: LB134366,

Standard ID :
MP83691,MP83692,MP83693,MP83694,MP84137,MP84138,MP84139,MP84140,MP84141,MP84142,MP84143,MP84144,MP84145,MP84146,MP84147,MP84151,

Chemical ID :
M4371,M4465,M4916,M5062,M5532,M5882,M5884,M6041,M6121,M6126,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3965	2:1 H2SO4 : HNO3	MP83691	12/18/2024	06/03/2025	Mohan Bera	None	None	Sarabjit Jaswal 12/18/2024

FROM 1600.00000ml of M6041 + 800.00000ml of M6126 = Final Quantity: 3200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP83692	12/18/2024	06/18/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 12/18/2024

FROM 100.00000gram of M4916 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP83693	12/18/2024	06/18/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 12/18/2024

FROM 100.00000ml of M4465 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP83694	12/18/2024	06/18/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 12/18/2024

FROM 2000.00000ml of W3112 + 240.00000gram of M4371 + 240.00000gram of M5884 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP84137	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 1.00000ml of M6126 + 2.50000ml of M5062 + 96.50000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1340	Hg 0.00 PPB STD	MP84138	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M6126 + 247.50000ml of W3112 = 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
1341	Hg 0.2 PPB STD	MP84139	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M6126 + 247.30000ml of W3112 + 0.20000ml of MP84137 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1342	Hg 2.5 PPB STD	MP84140	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M6126 + 245.00000ml of W3112 + 2.50000ml of MP84137 = 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
1343	Hg 5.0 PPB STD	MP84141	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M6126 + 242.50000ml of W3112 + 5.00000ml of MP84137 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1344	Hg 7.5 PPB STD	MP84142	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M6126 + 240.00000ml of W3112 + 7.50000ml of MP84137 = 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
1345	Hg 10.0 PPB STD	MP84143	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M6126 + 237.50000ml of W3112 + 10.00000ml of MP84137 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP84144	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M5532 + 2.50000ml of M6126 + 245.00000ml of W3112 = 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
1351	ICB (Hg 0.00 PPB SOLUTION)	MP84145	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 2.50000ml of M6126 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP84146	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/22/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6126 + 10.00000ml of MP84137 = 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
1352	CCB (Hg 0.00 PPB SOLUTION)	MP84147	01/22/2025	01/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 01/22/2025

FROM 495.00000ml of W3112 + 5.00000ml of M6126 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP84151	01/22/2025	01/23/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 01/22/2025

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6121 = Final Quantity: 500.000 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 #
Seidler Chemical	BA-2196-01 / Hydroxylamine Hydrochloride, Crystal (cs/4x500g)	0000215387	06/25/2025	07/01/2019 / RICHARD	06/07/2019 / RICHARD	M4371

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3238-05 / Potassium Persulfate (2.5kg)	0000234156	08/06/2025	07/23/2019 / jaswal	07/25/2019 / manojkumar	M4465

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3227-05 / Potassium Permanganate (2.5kg)	210800	03/31/2026	11/30/2022 / mohan	07/28/2021 / mohan	M4916

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0415	02/28/2025	01/02/2025 / jaswal	03/30/2023 / mohan	M5532

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000281938	07/06/2026	04/30/2024 / mohan	04/25/2024 / mohan	M5884

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

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	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

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

Certificate of Analysis

ThermoFisher SCIENTIFIC

M5882 M3

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

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Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)

Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

M4371

Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)

Rec – 06.07.19

J.T.Baker® | avantor™

Material No.: 2196-01
Batch No.: 0000215387
Manufactured Date: 2018/06/27
Retest Date: 2025/06/25
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NH_2OH \cdot HCl$) (by $KMnO_4$ titrn)	>= 96.0 %	99.1
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.017
Titrable Free Acid (meq/g)	<= 0.25	0.19
Ammonium (NH_4)	Passes Test	PT
Sulfur Compounds (as SO_4)	<= 0.005 %	< 0.003
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	4
Trace Impurities - Iron (Fe)	<= 5 ppm	< 3
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	< 0.005

For Laboratory, Research or Manufacturing Use

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

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

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ThermoFisher SCIENTIFIC

M4913-16

MB

Certificate of Analysis

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Catalog Number	P279	Quality Test / Release Date	01/12/2021
Lot Number	210306		
Description	POTASSIUM PERMANGANATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Jan/2026

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Dark purple to purple green crystals
ASSAY	%	>= 99	99.3
CHLORIDE & CHLORATE	%	<= 0.005	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
INSOLUBLE MATTER	%	<= 0.2	<0.2
MERCURY (Hg)	ppm	<= 0.05	<0.004
SULFATE (SO4)	%	<= 0.02	<0.02

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
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Certificate of Analysis

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M5062
M5063
M3

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 Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	S2-HG709270
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

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

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

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

11.2 Lot Expiration Date

- September 22, 2026

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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.

MSS28-37
MB

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

MF884
MB

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 1

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	≥ 99.0 %	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	≤ 0.005 %	0.003 %
Iodide (I)	≤ 0.002 %	< 0.002 %
Bromide (Br)	≤ 0.01 %	< 0.01 %
Chlorate and Nitrate (as NO_3)	≤ 0.003 %	< 0.001 %
ACS - Phosphate (PO_4)	≤ 5 ppm	< 5 ppm
Sulfate (SO_4)	≤ 0.004 %	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Calcium (Ca)	≤ 0.002 %	< 0.001 %
Magnesium (Mg)	≤ 0.001 %	< 0.001 %
Potassium (K)	≤ 0.005 %	0.001 %

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC

James T Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Mansford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M 6041-46
MS

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H_2SO_4)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

For questions on this Certificate of Analysis please contact Technical Services at 855 282 6867 or +1 610 386 1700

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities - Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities - Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory,Research,or Manufacturing Use

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

R → 10/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

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
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.190
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	1
ACS - Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.3
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

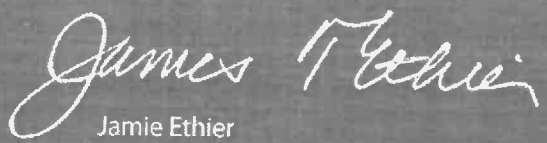
445

Material No.: 9530-33
Batch No.: 0000275677

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	<1
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

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



Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R -> 11/12/24

M6126

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

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB166179

SOP ID : M7470A-Mercury-19, MSFAM01.1-Mercury in Water-2

SDG No : MJNLA3

Matrix : WATER

Pippete ID: HG A

Balance ID : N/A

Filter paper ID : NA

pH Strip ID : M6069

Hood ID : #1

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

Start Digest Date: 01/22/2025 **Time :** 09:25 **Temp :** 94 °C

End Digest Date: 01/22/2025 **Time :** 11:25 **Temp :** N/A

Digestion tube ID: M6054

Block thermometer ID: HG-DIG#2

Dig Technician Signature: MB

Supervisor Signature: JL

Temp : 1. 94°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	100mL	MP84144
CCV	100mL	MP84146
Matrix Spike	0.40mL	MP84137
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	7.5mL	MP83691
KMnO4 (5%)	15.0mL	MP83692
K2S2O8 (5%)	8.0mL	MP83693
Hydroxylamine HCL (12%)	6.0mL	MP83694
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
0.0 ppb	S0	100mL	MP84138
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	100mL	MP84139
2.5 ppb	S2.5	100mL	MP84140
5.0 ppb	S5.0	100mL	MP84141
7.5 ppb	S7.5	100mL	MP84142
10.0 ppb	S10.0	100mL	MP84143
ICV	ICV	100mL	MP84144
ICB	ICB	100mL	MP84145
CCV	CCV	100mL	MP84146
CCB	CCB	100mL	MP84147
CRI	CRI	N/A	N/A
CHK STD	CHK STD	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
1/22/25 @ 12:00	MB - Mag. Lab	MB - Mag Lab
	Preparation Group	**Analysis Group**

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB166179

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB166132TB	PB~~166132TB~~ LEB 132	100	100	<2	N/A	N/A
PB166179BL	PBW179 MS	100	100	<2	N/A	N/A
PB166179TB	LEB179 1/28/21	100	100	<2	N/A	N/A
Q1129-01	MJNLA3	100	100	<2	N/A	N/A
Q1129-02	MJNLA3D	100	100	<2	N/A	N/A
Q1129-03	MJNLA3S	100	100	<2	MP84137	N/A

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

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB134366

Review By	Sarabjit Jaswal	Review On	1/22/2025 10:12:40 PM
Supervise By	Mohan Bera	Supervise On	1/22/2025 10:13:36 PM

STD. NAME	STD REF.#
ICAL Standard	MP84138,MP84139,MP84140,MP84141,MP84142,MP84143
ICV Standard	MP84144
CCV Standard	MP84146
ICSA Standard	
CRI Standard	
LCS Standard	
Chk Standard	MP84145,MP84147,MP84151

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	01/22/25 13:59		Mohan	OK
2	S0.2	S01	CAL2	01/22/25 14:02		Mohan	OK
3	S2.5	S02	CAL3	01/22/25 14:04		Mohan	OK
4	S5	S03	CAL4	01/22/25 14:11		Mohan	OK
5	S7.5	S04	CAL5	01/22/25 14:13		Mohan	OK
6	S10	S05	CAL6	01/22/25 14:15		Mohan	OK
7	ICV065	ICV065	ICV	01/22/25 14:18		Mohan	OK
8	ICB065	ICB065	ICB	01/22/25 14:21		Mohan	OK
9	CCV059	CCV059	CCV	01/22/25 14:23		Mohan	OK
10	CCB059	CCB059	CCB	01/22/25 14:25		Mohan	OK
11	PB166178BL	PBW178	MB	01/22/25 14:28		Mohan	OK
12	Q1106-01	YE8G3	SAM	01/22/25 14:30		Mohan	OK
13	Q1106-02	YE8G5	SAM	01/22/25 14:32		Mohan	OK
14	Q1106-03	YE8G6	SAM	01/22/25 14:34		Mohan	OK
15	Q1106-04	YE8G6D	DUP	01/22/25 14:37		Mohan	OK
16	Q1106-05	YE8G6S	MS	01/22/25 14:39		Mohan	OK
17	Q1106-06	YE8H0	SAM	01/22/25 14:41		Mohan	OK
18	Q1106-07	YE8H1	SAM	01/22/25 14:43		Mohan	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Chk Standard	MP84145,MP84147,MP84151

19	Q1106-08	YE8H2	SAM	01/22/25 14:46		Mohan	OK
20	Q1106-09	YE8H3	SAM	01/22/25 14:48		Mohan	OK
21	Q1106-10	YE8H4	SAM	01/22/25 14:50		Mohan	OK
22	Q1106-11	YE8H5	SAM	01/22/25 14:53		Mohan	OK
23	Q1106-12	YE8H6	SAM	01/22/25 14:55		Mohan	OK
24	Q1106-13	YE8F6	SAM	01/22/25 14:57		Mohan	OK
25	Q1106-14	YE8F9	SAM	01/22/25 14:59		Mohan	OK
26	Q1106-15	YE8G0	SAM	01/22/25 15:02		Mohan	OK
27	Q1106-16	YE8G1	SAM	01/22/25 15:04		Mohan	OK
28	Q1106-17	YE8G2	SAM	01/22/25 15:06		Mohan	OK
29	Q1106-18	YE8H9	SAM	01/22/25 15:08		Mohan	OK
30	Q1106-19	YE8J0	SAM	01/22/25 15:11		Mohan	OK
31	CCV060	CCV060	CCV	01/22/25 15:17		Mohan	OK
32	CCB060	CCB060	CCB	01/22/25 15:20		Mohan	OK
33	Q1106-20	YE8J1	SAM	01/22/25 15:22		Mohan	OK
34	PB166179BL	PBW179	MB	01/22/25 15:24		Mohan	OK
35	Q1129-01	MJNLA3	SAM	01/22/25 15:27		Mohan	OK
36	Q1129-02	MJNLA3D	DUP	01/22/25 15:29		Mohan	OK
37	Q1129-03	MJNLA3S	MS	01/22/25 15:31		Mohan	OK
38	PB166178TB	LEB178	MB	01/22/25 15:33		Mohan	OK

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CCV Standard	MP84146
ICSA Standard	
CRI Standard	
LCS Standard	
Chk Standard	MP84145,MP84147,MP84151

39	PB166132TB	LEB132	MB	01/22/25 15:36		Mohan	OK
40	CCV061	CCV061	CCV	01/22/25 15:41		Mohan	OK
41	CCB061	CCB061	CCB	01/22/25 15:43		Mohan	OK

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166132

SOP ID : M1311-TCLP-15

SDG No : MJNLA3

Weigh By : JP

Balance ID : WC SC-7

pH Meter ID : WC PH METER-1

Extraction By : JP

Filter By : JP

Pippete ID : WC

Tumbler ID : T-2

TCLP Filter ID : 114771

Start Prep Date : 01/20/2025 **Time :** 14:00

End Prep Date : 01/21/2025 **Time :** 07:15

Combination Ratio : 20

ZHE Cleaning Batch : N/A

Initial Room Temperature: 23 °C

Final Room Temperature: 22 °C

TCLP Technician Signature : JB

Supervisor By : 12

Standared Name	MLS USED	STD REF. # FROM LOG
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

Chemical Used	ML/SAMPLE U	Lot Number
TCLP-FLUID-1	N/A	WP110801
HCL-TCLP,1N	N/A	WP110803
HNO3-TCLP,1N	N/A	WP110804
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
120ml Plastic bottle	N/A	405130101
1:1 HNO3	N/A	MP84041

Extraction Conformance/Non-Conformance Comments:

Matrix spikes are added after fiftration and before preservation. Tumbler T-2 checked,30 rpm.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01/21/25 08:30	JB TCLP Room	SIRD. Inst DIG
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166132

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
PB166132TB	LEB132	12	N/A	2000	N/A	N/A	N/A	4.94	1.05	T-2
Q1129-01	MJNLA3	11	100.02	2000	N/A	N/A	N/A	5.80	1.19	T-2
Q1129-02	MJNLA3D	11	100.02	2000	N/A	N/A	N/A	5.80	1.19	T-2
Q1129-03	MJNLA3S	11	100.02	2000	N/A	N/A	N/A	5.80	1.19	T-2

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
PB166132TB	LEB132	N/A	N/A	N/A	N/A	N/A	N/A
Q1129-01	MJNLA3	N/A	N/A	N/A	N/A	100	N/A
Q1129-02	MJNLA3D	N/A	N/A	N/A	N/A	100	N/A
Q1129-03	MJNLA3S	N/A	N/A	N/A	N/A	100	N/A

Alliance TECHNICAL GROUP

TCLP Fluid Determination

PB166132

Hot Block ID : WC S-1 /WC S-2

Thermometer ID : FLASHPOINT

SampleID	ClientID	Sample Weight (g)	Volume DI Water (mL)	PH after 5 min stir	PH after 10 min stir	Extraction Fluid 1 or 2	pH Extraction Fluid
PB166132TB	LEB132	N/A	N/A	N/A	N/A	N/A	N/A
Q1129-01	MJNLA3	5.03	96.5	7.53	3.39	#1	4.94
Q1129-02	MJNLA3D	5.03	96.5	7.53	3.39	#1	4.94
Q1129-03	MJNLA3S	5.03	96.5	7.53	3.39	#1	4.94

ORIGIN ID:BVUA (425) 941-1406
ATTN: CANDICE SCHWARTZ
CH2MHILL
1100 112TH AVE NE
SUITE 500
BELLEVUE, WA 98004
UNITED STATES US

SHIP DATE: 16JAN25
ACTWGT: 53.00 LB
CAD: 105505917/INET4535
DIMS: 15x15x26 IN

BILL SENDER

TO **MOHAMMAD AHMED**
ALLIANCE TECHNICAL (CLP LAB)
284 SHEFFIELD STREET MOUNTAINSIDE

MOUNTAINSIDE NJ 07092
(908) 728-3151 REF: D356100.B.PN.ODC.01.6-2
INV:
PO: ASARCO / KODEY ELEY DEPT:

58CJ3/EC17/C6C4

FedEx Express

J2610241217001uv

2 of 2
MPS# 0263 7714 8350 4502
Mstr# 7714 8350 4498

FRI - 17 JAN 10:30A
PRIORITY OVERNIGHT

0201

07092
NJ-US EWR

XE KBCA

-17-25 0930 3.0C

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

458

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Login Summary Report

Order ID :	Q1129	Order Date :	1/17/2025 9:30:00 AM	Project Mgr :	Deepak
Client :	USEPA CLP SMO	Project :	51956	Report Type :	USEPA CLP
Contact :	Anita Kapadia	Receive Date :	1/17/2025 9:30:00 AM	EDD Type :	EPA CLP
Date Sign Off :	1/20/2025 9:05:43 AM				

Sample ID	Client ID	Matrix	Sampling Date	Test	Test Group	Method	TAT Days	Fax Due Date	HC Due Date
Q1129-01	MJNLA3	Solid	01/15/2025						
				TCLP ICP Metals		SFAM_AES	15	02/07/2025	02/07/2025
				TCLP Mercury		SFAM_HG	15	02/07/2025	02/07/2025
Q1129-02	MJNLA3D	Solid	01/15/2025						
				TCLP ICP Metals		SFAM_AES	15	02/07/2025	02/07/2025
				TCLP Mercury		SFAM_HG	15	02/07/2025	02/07/2025
Q1129-03	MJNLA3S	Solid	01/15/2025						
				TCLP ICP Metals		SFAM_AES	15	02/07/2025	02/07/2025
				TCLP Mercury		SFAM_HG	15	02/07/2025	02/07/2025

WORKLIST(Hardcopy Internal Chain)

WorkList Name : TCLP Q1129 **WorkList ID :** 187008 **Department :** TCLP Extraction **Date :** 01-20-2025 09:14:27

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1129-01	MJNLA3	Solid	TCLP Extraction	Cool 4 deg C	USEP01	A11	01/15/2025	1311
Q1129-02	MJNLA3D	Solid	TCLP Extraction	Cool 4 deg C	USEP01	A11	01/15/2025	1311
Q1129-03	MJNLA3S	Solid	TCLP Extraction	Cool 4 deg C	USEP01	A11	01/15/2025	1311

460

Date/Time 01/20/25 10:00

Raw Sample Received by: JR (WC)

Raw Sample Relinquished by: JD (SM)

Date/Time 01/20/25 15:00

Raw Sample Received by: JD (SM)

Raw Sample Relinquished by: JR (WC)