

Cover Page

Order ID : Q1879

Project ID : Tank Farm - Acid Analysis

Client : METEM A GE POWER Business

Lab Sample Number

Q1879-01
Q1879-02
Q1879-03
Q1879-04

Client Sample Number

STEM-31-SULFURIC-ACID
STEM-32-NITRIC-ACID
STEM-46-NITRIC-ACID
ACID-MIXTURE-TF-CONTAINMENT

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

Signature : _____

Date: 5/6/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

DATA REPORTING QUALIFIERS- INORGANIC

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

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1879

Completed

For thorough review, the report must have the following:

GENERAL:

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

✓

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

✓

Is the chain of custody signed and complete

✓

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

✓

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

✓

COVER PAGE:

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

✓

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

✓

CHAIN OF CUSTODY:

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

✓

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

✓

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

✓

Were the samples received within hold time

✓

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

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: KETAN PATEL

Date: 05/06/2025

LAB CHRONICLE

OrderID:	Q1879	OrderDate:	4/24/2025 3:50:52 PM
Client:	METEM A GE POWER Business	Project:	Tank Farm - Acid Analysis
Contact:	Sundas Pervez	Location:	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1879-01	STEM-31-SULFURIC-ACID	Water			04/23/25			04/24/25
			Mercury	7470A		04/25/25	04/25/25	
			Metals ICP-TAL	6010D		04/25/25	04/25/25	
Q1879-02	STEM-32-NITRIC-ACID	Water			04/24/25			04/24/25
			Mercury	7470A		04/25/25	04/25/25	
			Metals ICP-TAL	6010D		04/25/25	04/25/25	
Q1879-03	STEM-46-NITRIC-ACID	Water			04/24/25			04/24/25
			Mercury	7470A		04/25/25	04/25/25	
			Metals ICP-TAL	6010D		04/25/25	04/25/25	
Q1879-04	ACID-MIXTURE-TF-CO NTAINMENT	Water			04/24/25			04/24/25
			Mercury	7470A		04/25/25	04/25/25	
			Metals ICP-TAL	6010D		04/25/25	04/25/25	

Hit Summary Sheet SW-846

SDG No.: Q1879

Order ID: Q1879

Client: METEM A GE POWER Business

Project ID: Tank Farm - Acid Analysis

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : STEM-31-SULFURIC-ACID								
Q1879-01	STEM-31-SULFURIC-ACID	Water	Aluminum	43800	D	28.4	250	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Arsenic	513	D	12.8	50.0	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Calcium	146000	D	585	5000	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Chromium	132000	D	53.0	250	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Cobalt	98700	D	56.5	750	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Copper	1350	D	11.5	50.0	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Iron	39200	D	58.5	250	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Magnesium	45200	D	610	5000	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Manganese	654	D	14.9	50.0	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Mercury	2.60		0.076	0.20	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Nickel	770000	D	153	2000	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Potassium	4240	JD	2300	5000	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Selenium	304	D	24.1	50.0	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Silver	17.7	JD	4.05	25.0	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Sodium	69300	D	2170	5000	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Thallium	140	D	10.9	100	ug/L
Q1879-01	STEM-31-SULFURIC-ACID	Water	Zinc	1470	D	41.7	100	ug/L
Client ID : STEM-32-NITRIC-ACID								
Q1879-02	STEM-32-NITRIC-ACID	Water	Aluminum	47000	D	28.4	250	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Arsenic	262	D	12.8	50.0	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Beryllium	4.17	JD	1.40	15.0	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Calcium	83200	D	585	5000	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Chromium	67400	D	5.30	25.0	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Cobalt	75400	D	56.5	750	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Copper	191	D	11.5	50.0	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Iron	1710	D	58.5	250	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Magnesium	26700	D	610	5000	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Nickel	509000	D	76.5	1000	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Selenium	404	D	24.1	50.0	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Sodium	42300	D	2170	5000	ug/L
Q1879-02	STEM-32-NITRIC-ACID	Water	Zinc	533	D	41.7	100	ug/L
Client ID : STEM-46-NITRIC-ACID								
Q1879-03	STEM-46-NITRIC-ACID	Water	Aluminum	4270		11.3	100	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Arsenic	78.5		5.12	20.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Calcium	50900		234	2000	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Chromium	23800		2.12	10.0	ug/L

Hit Summary Sheet
SW-846

SDG No.: Q1879

Order ID: Q1879

Client: METEM A GE POWER Business

Project ID: Tank Farm - Acid Analysis

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Q1879-03	STEM-46-NITRIC-ACID	Water	Cobalt	7200		2.26	30.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Copper	2220		4.60	20.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Iron	39000		23.4	100	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Magnesium	16400		244	2000	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Manganese	380		5.94	20.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Nickel	71600	D	15.3	200	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Potassium	1230	J	918	2000	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Selenium	39.1		9.64	20.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Silver	2.98	J	1.62	10.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Sodium	28900		868	2000	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Thallium	13.8	J	4.38	40.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Vanadium	15.2	J	6.26	40.0	ug/L
Q1879-03	STEM-46-NITRIC-ACID	Water	Zinc	116		16.7	40.0	ug/L
Client ID : ACID-MIXTURE-TF-CONTAINMENT								
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Aluminum	58400	D	28.4	250	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Arsenic	447	D	12.8	50.0	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Barium	140	JD	36.4	250	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Beryllium	8.86	JD	1.40	15.0	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Calcium	403000	D	585	5000	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Chromium	61000	D	5.30	25.0	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Cobalt	89300	D	56.5	750	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Copper	6970	D	11.5	50.0	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Iron	1740000	D	58.5	250	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Magnesium	50900	D	610	5000	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Manganese	10800	D	14.9	50.0	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Mercury	1.39		0.076	0.20	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Nickel	629000	D	76.5	1000	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Potassium	2290000	D	2300	5000	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Selenium	2080	D	24.1	50.0	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Silver	50.7	D	4.05	25.0	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Sodium	344000	D	2170	5000	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Thallium	595	D	10.9	100	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Vanadium	27.1	JD	15.7	100	ug/L
Q1879-04	ACID-MIXTURE-TF-CONTAIN	Water	Zinc	31000	D	41.7	100	ug/L



SAMPLE DATA

Report of Analysis

Client:	METEM A GE POWER Business	Date Collected:	04/23/25
Project:	Tank Farm - Acid Analysis	Date Received:	04/24/25
Client Sample ID:	STEM-31-SULFURIC-ACID	SDG No.:	Q1879
Lab Sample ID:	Q1879-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	43800	D	5	28.4	250	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-36-0	Antimony	16.9	UD	5	16.9	125	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-38-2	Arsenic	513	D	5	12.8	50.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-39-3	Barium	36.4	UD	5	36.4	250	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-41-7	Beryllium	1.40	UD	5	1.40	15.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-43-9	Cadmium	1.25	UD	5	1.25	15.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-70-2	Calcium	146000	D	5	585	5000	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-47-3	Chromium	132000	D	50	53.0	250	ug/L	04/25/25 10:05	04/25/25 16:17	SW6010	SW3010
7440-48-4	Cobalt	98700	D	50	56.5	750	ug/L	04/25/25 10:05	04/25/25 16:17	SW6010	SW3010
7440-50-8	Copper	1350	D	5	11.5	50.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7439-89-6	Iron	39200	D	5	58.5	250	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7439-92-1	Lead	5.75	UD	5	5.75	30.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7439-95-4	Magnesium	45200	D	5	610	5000	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7439-96-5	Manganese	654	D	5	14.9	50.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7439-97-6	Mercury	2.60		1	0.076	0.20	ug/L	04/25/25 10:15	04/25/25 13:39	SW7470A	
7440-02-0	Nickel	770000	D	100	153	2000	ug/L	04/25/25 10:05	04/25/25 16:33	SW6010	SW3010
7440-09-7	Potassium	4240	JD	5	2300	5000	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7782-49-2	Selenium	304	D	5	24.1	50.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-22-4	Silver	17.7	JD	5	4.05	25.0	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-23-5	Sodium	69300	D	5	2170	5000	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-28-0	Thallium	140	D	5	10.9	100	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-62-2	Vanadium	15.7	UD	5	15.7	100	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010
7440-66-6	Zinc	1470	D	5	41.7	100	ug/L	04/25/25 10:05	04/25/25 15:36	SW6010	SW3010

Color Before:	Light Blue	Clarity Before:	Cloudy	Texture:
Color After:	Light Blue	Clarity After:	Clear	Artifacts:
Comments:	METALS-TAL			

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

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

Report of Analysis

Client:	METEM A GE POWER Business	Date Collected:	04/24/25
Project:	Tank Farm - Acid Analysis	Date Received:	04/24/25
Client Sample ID:	STEM-32-NITRIC-ACID	SDG No.:	Q1879
Lab Sample ID:	Q1879-02	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	47000	D	5	28.4	250	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-36-0	Antimony	16.9	UD	5	16.9	125	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-38-2	Arsenic	262	D	5	12.8	50.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-39-3	Barium	36.4	UD	5	36.4	250	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-41-7	Beryllium	4.17	JD	5	1.40	15.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-43-9	Cadmium	1.25	UD	5	1.25	15.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-70-2	Calcium	83200	D	5	585	5000	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-47-3	Chromium	67400	D	5	5.30	25.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-48-4	Cobalt	75400	D	50	56.5	750	ug/L	04/25/25 10:05	04/25/25 16:21	SW6010	SW3010
7440-50-8	Copper	191	D	5	11.5	50.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7439-89-6	Iron	1710	D	5	58.5	250	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7439-92-1	Lead	5.75	UD	5	5.75	30.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7439-95-4	Magnesium	26700	D	5	610	5000	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7439-96-5	Manganese	14.9	UD	5	14.9	50.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7439-97-6	Mercury	0.076	U	1	0.076	0.20	ug/L	04/25/25 10:15	04/25/25 13:41	SW7470A	
7440-02-0	Nickel	509000	D	50	76.5	1000	ug/L	04/25/25 10:05	04/25/25 16:21	SW6010	SW3010
7440-09-7	Potassium	2300	UD	5	2300	5000	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7782-49-2	Selenium	404	D	5	24.1	50.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-22-4	Silver	4.05	UD	5	4.05	25.0	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-23-5	Sodium	42300	D	5	2170	5000	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-28-0	Thallium	10.9	UD	5	10.9	100	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-62-2	Vanadium	15.7	UD	5	15.7	100	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010
7440-66-6	Zinc	533	D	5	41.7	100	ug/L	04/25/25 10:05	04/25/25 15:40	SW6010	SW3010

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

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

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

Report of Analysis

Client:	METEM A GE POWER Business	Date Collected:	04/24/25
Project:	Tank Farm - Acid Analysis	Date Received:	04/24/25
Client Sample ID:	STEM-46-NITRIC-ACID	SDG No.:	Q1879
Lab Sample ID:	Q1879-03	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4270		1	11.3	100	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-36-0	Antimony	6.76	U	1	6.76	50.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-38-2	Arsenic	78.5		1	5.12	20.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-39-3	Barium	14.6	U	1	14.6	100	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-41-7	Beryllium	0.56	U	1	0.56	6.00	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-43-9	Cadmium	0.50	U	1	0.50	6.00	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-70-2	Calcium	50900		1	234	2000	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-47-3	Chromium	23800		1	2.12	10.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-48-4	Cobalt	7200		1	2.26	30.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-50-8	Copper	2220		1	4.60	20.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7439-89-6	Iron	39000		1	23.4	100	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7439-92-1	Lead	2.30	U	1	2.30	12.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7439-95-4	Magnesium	16400		1	244	2000	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7439-96-5	Manganese	380		1	5.94	20.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7439-97-6	Mercury	0.076	U	1	0.076	0.20	ug/L	04/25/25 10:15	04/25/25 13:44	SW7470A	
7440-02-0	Nickel	71600	D	5	15.3	200	ug/L	04/25/25 10:05	04/25/25 15:47	SW6010	SW3010
7440-09-7	Potassium	1230	J	1	918	2000	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7782-49-2	Selenium	39.1		1	9.64	20.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-22-4	Silver	2.98	J	1	1.62	10.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-23-5	Sodium	28900		1	868	2000	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-28-0	Thallium	13.8	J	1	4.38	40.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-62-2	Vanadium	15.2	J	1	6.26	40.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010
7440-66-6	Zinc	116		1	16.7	40.0	ug/L	04/25/25 10:05	04/25/25 16:25	SW6010	SW3010

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

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

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

Report of Analysis

Client:	METEM A GE POWER Business	Date Collected:	04/24/25
Project:	Tank Farm - Acid Analysis	Date Received:	04/24/25
Client Sample ID:	ACID-MIXTURE-TF-CONTAINMENT	SDG No.:	Q1879
Lab Sample ID:	Q1879-04	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	58400	D	5	28.4	250	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-36-0	Antimony	16.9	UD	5	16.9	125	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-38-2	Arsenic	447	D	5	12.8	50.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-39-3	Barium	140	JD	5	36.4	250	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-41-7	Beryllium	8.86	JD	5	1.40	15.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-43-9	Cadmium	1.25	UD	5	1.25	15.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-70-2	Calcium	403000	D	5	585	5000	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-47-3	Chromium	61000	D	5	5.30	25.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-48-4	Cobalt	89300	D	50	56.5	750	ug/L	04/25/25 10:05	04/25/25 16:29	SW6010	SW3010
7440-50-8	Copper	6970	D	5	11.5	50.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7439-89-6	Iron	1740000	D	5	58.5	250	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7439-92-1	Lead	5.75	UD	5	5.75	30.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7439-95-4	Magnesium	50900	D	5	610	5000	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7439-96-5	Manganese	10800	D	5	14.9	50.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7439-97-6	Mercury	1.39		1	0.076	0.20	ug/L	04/25/25 10:15	04/25/25 13:46	SW7470A	
7440-02-0	Nickel	629000	D	50	76.5	1000	ug/L	04/25/25 10:05	04/25/25 16:29	SW6010	SW3010
7440-09-7	Potassium	2290000	D	5	2300	5000	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7782-49-2	Selenium	2080	D	5	24.1	50.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-22-4	Silver	50.7	D	5	4.05	25.0	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-23-5	Sodium	344000	D	5	2170	5000	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-28-0	Thallium	595	D	5	10.9	100	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-62-2	Vanadium	27.1	JD	5	15.7	100	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010
7440-66-6	Zinc	31000	D	5	41.7	100	ug/L	04/25/25 10:05	04/25/25 15:51	SW6010	SW3010

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

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

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



METAL CALIBRATION DATA

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM AGE POWER Business **SDG No.:** Q1879
Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV102	Mercury	3.87	4.0	97	90 - 110	CV	04/25/2025	13:19	LB135560

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business **SDG No.:** Q1879
Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV29	Mercury	5.31	5.0	106	90 - 110	CV	04/25/2025	13:23	LB135560
CCV30	Mercury	5.41	5.0	108	90 - 110	CV	04/25/2025	13:58	LB135560

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business **SDG No.:** Q1879

Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2330	2500	93	90 - 110	P	04/25/2025	13:48	LB135566
	Antimony	1040	1000	104	90 - 110	P	04/25/2025	13:48	LB135566
	Arsenic	1010	1000	101	90 - 110	P	04/25/2025	13:48	LB135566
	Barium	528	520	102	90 - 110	P	04/25/2025	13:48	LB135566
	Beryllium	501	510	98	90 - 110	P	04/25/2025	13:48	LB135566
	Cadmium	510	510	100	90 - 110	P	04/25/2025	13:48	LB135566
	Calcium	9260	10000	93	90 - 110	P	04/25/2025	13:48	LB135566
	Chromium	507	520	98	90 - 110	P	04/25/2025	13:48	LB135566
	Cobalt	493	520	95	90 - 110	P	04/25/2025	13:48	LB135566
	Copper	505	510	99	90 - 110	P	04/25/2025	13:48	LB135566
	Iron	9400	10000	94	90 - 110	P	04/25/2025	13:48	LB135566
	Lead	994	1000	99	90 - 110	P	04/25/2025	13:48	LB135566
	Magnesium	5650	6000	94	90 - 110	P	04/25/2025	13:48	LB135566
	Manganese	493	520	95	90 - 110	P	04/25/2025	13:48	LB135566
	Nickel	539	530	102	90 - 110	P	04/25/2025	13:48	LB135566
	Potassium	9160	9900	92	90 - 110	P	04/25/2025	13:48	LB135566
	Selenium	1040	1000	104	90 - 110	P	04/25/2025	13:48	LB135566
	Silver	244	250	98	90 - 110	P	04/25/2025	13:48	LB135566
	Sodium	9220	10000	92	90 - 110	P	04/25/2025	13:48	LB135566
	Thallium	1030	1000	103	90 - 110	P	04/25/2025	13:48	LB135566
	Vanadium	465	500	93	90 - 110	P	04/25/2025	13:48	LB135566
	Zinc	986	1000	99	90 - 110	P	04/25/2025	13:48	LB135566

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business **SDG No.:** Q1879

Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	96.6	100	97	80 - 120	P	04/25/2025	13:52	LB135566
	Antimony	54.1	50.0	108	80 - 120	P	04/25/2025	13:52	LB135566
	Arsenic	21.3	20.0	106	80 - 120	P	04/25/2025	13:52	LB135566
	Barium	91.6	100	92	80 - 120	P	04/25/2025	13:52	LB135566
	Beryllium	5.67	6.0	95	80 - 120	P	04/25/2025	13:52	LB135566
	Cadmium	6.17	6.0	103	80 - 120	P	04/25/2025	13:52	LB135566
	Calcium	1930	2000	97	80 - 120	P	04/25/2025	13:52	LB135566
	Chromium	10.0	10.0	100	80 - 120	P	04/25/2025	13:52	LB135566
	Cobalt	29.1	30.0	97	80 - 120	P	04/25/2025	13:52	LB135566
	Copper	21.8	20.0	109	80 - 120	P	04/25/2025	13:52	LB135566
	Iron	91.6	100	92	80 - 120	P	04/25/2025	13:52	LB135566
	Lead	11.1	12.0	93	80 - 120	P	04/25/2025	13:52	LB135566
	Magnesium	2030	2000	102	80 - 120	P	04/25/2025	13:52	LB135566
	Manganese	19.8	20.0	99	80 - 120	P	04/25/2025	13:52	LB135566
	Nickel	39.2	40.0	98	80 - 120	P	04/25/2025	13:52	LB135566
	Potassium	1930	2000	96	80 - 120	P	04/25/2025	13:52	LB135566
	Selenium	18.3	20.0	92	80 - 120	P	04/25/2025	13:52	LB135566
	Silver	10.2	10.0	102	80 - 120	P	04/25/2025	13:52	LB135566
	Sodium	1930	2000	96	80 - 120	P	04/25/2025	13:52	LB135566
	Thallium	43.4	40.0	109	80 - 120	P	04/25/2025	13:52	LB135566
	Vanadium	38.2	40.0	96	80 - 120	P	04/25/2025	13:52	LB135566
	Zinc	40.5	40.0	101	80 - 120	P	04/25/2025	13:52	LB135566

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business **SDG No.:** Q1879

Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9800	10000	98	90 - 110	P	04/25/2025	14:22	LB135566
	Antimony	4990	5000	100	90 - 110	P	04/25/2025	14:22	LB135566
	Arsenic	4980	5000	100	90 - 110	P	04/25/2025	14:22	LB135566
	Barium	9580	10000	96	90 - 110	P	04/25/2025	14:22	LB135566
	Beryllium	252	250	101	90 - 110	P	04/25/2025	14:22	LB135566
	Cadmium	2460	2500	98	90 - 110	P	04/25/2025	14:22	LB135566
	Calcium	24300	25000	97	90 - 110	P	04/25/2025	14:22	LB135566
	Chromium	999	1000	100	90 - 110	P	04/25/2025	14:22	LB135566
	Cobalt	2470	2500	99	90 - 110	P	04/25/2025	14:22	LB135566
	Copper	1250	1250	100	90 - 110	P	04/25/2025	14:22	LB135566
	Iron	4840	5000	97	90 - 110	P	04/25/2025	14:22	LB135566
	Lead	4950	5000	99	90 - 110	P	04/25/2025	14:22	LB135566
	Magnesium	24200	25000	97	90 - 110	P	04/25/2025	14:22	LB135566
	Manganese	2420	2500	97	90 - 110	P	04/25/2025	14:22	LB135566
	Nickel	2470	2500	99	90 - 110	P	04/25/2025	14:22	LB135566
	Potassium	24000	25000	96	90 - 110	P	04/25/2025	14:22	LB135566
	Selenium	5010	5000	100	90 - 110	P	04/25/2025	14:22	LB135566
	Silver	1250	1250	100	90 - 110	P	04/25/2025	14:22	LB135566
	Sodium	24100	25000	96	90 - 110	P	04/25/2025	14:22	LB135566
	Thallium	5060	5000	101	90 - 110	P	04/25/2025	14:22	LB135566
	Vanadium	2420	2500	97	90 - 110	P	04/25/2025	14:22	LB135566
	Zinc	2510	2500	100	90 - 110	P	04/25/2025	14:22	LB135566
CCV02	Aluminum	9950	10000	100	90 - 110	P	04/25/2025	15:14	LB135566
	Antimony	5060	5000	101	90 - 110	P	04/25/2025	15:14	LB135566
	Arsenic	5000	5000	100	90 - 110	P	04/25/2025	15:14	LB135566
	Barium	10000	10000	100	90 - 110	P	04/25/2025	15:14	LB135566
	Beryllium	243	250	97	90 - 110	P	04/25/2025	15:14	LB135566
	Cadmium	2460	2500	98	90 - 110	P	04/25/2025	15:14	LB135566
	Calcium	24700	25000	99	90 - 110	P	04/25/2025	15:14	LB135566
	Chromium	1020	1000	102	90 - 110	P	04/25/2025	15:14	LB135566
	Cobalt	2480	2500	99	90 - 110	P	04/25/2025	15:14	LB135566
	Copper	1270	1250	101	90 - 110	P	04/25/2025	15:14	LB135566
	Iron	5170	5000	103	90 - 110	P	04/25/2025	15:14	LB135566
	Lead	4970	5000	99	90 - 110	P	04/25/2025	15:14	LB135566

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business **SDG No.:** Q1879

Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Magnesium	24300	25000	97	90 - 110	P	04/25/2025	15:14	LB135566
	Manganese	2470	2500	99	90 - 110	P	04/25/2025	15:14	LB135566
	Nickel	2480	2500	99	90 - 110	P	04/25/2025	15:14	LB135566
	Potassium	25700	25000	103	90 - 110	P	04/25/2025	15:14	LB135566
	Selenium	5050	5000	101	90 - 110	P	04/25/2025	15:14	LB135566
	Silver	1270	1250	102	90 - 110	P	04/25/2025	15:14	LB135566
	Sodium	26000	25000	104	90 - 110	P	04/25/2025	15:14	LB135566
	Thallium	5020	5000	100	90 - 110	P	04/25/2025	15:14	LB135566
	Vanadium	2470	2500	99	90 - 110	P	04/25/2025	15:14	LB135566
	Zinc	2570	2500	103	90 - 110	P	04/25/2025	15:14	LB135566
CCV03	Aluminum	10100	10000	101	90 - 110	P	04/25/2025	16:08	LB135566
	Antimony	5120	5000	102	90 - 110	P	04/25/2025	16:08	LB135566
	Arsenic	5070	5000	101	90 - 110	P	04/25/2025	16:08	LB135566
	Barium	9780	10000	98	90 - 110	P	04/25/2025	16:08	LB135566
	Beryllium	266	250	106	90 - 110	P	04/25/2025	16:08	LB135566
	Cadmium	2480	2500	99	90 - 110	P	04/25/2025	16:08	LB135566
	Calcium	24800	25000	99	90 - 110	P	04/25/2025	16:08	LB135566
	Chromium	1030	1000	103	90 - 110	P	04/25/2025	16:08	LB135566
	Cobalt	2510	2500	100	90 - 110	P	04/25/2025	16:08	LB135566
	Copper	1280	1250	103	90 - 110	P	04/25/2025	16:08	LB135566
	Iron	4830	5000	97	90 - 110	P	04/25/2025	16:08	LB135566
	Lead	5020	5000	100	90 - 110	P	04/25/2025	16:08	LB135566
	Magnesium	24700	25000	99	90 - 110	P	04/25/2025	16:08	LB135566
	Manganese	2490	2500	100	90 - 110	P	04/25/2025	16:08	LB135566
	Nickel	2510	2500	100	90 - 110	P	04/25/2025	16:08	LB135566
	Potassium	24000	25000	96	90 - 110	P	04/25/2025	16:08	LB135566
	Selenium	5110	5000	102	90 - 110	P	04/25/2025	16:08	LB135566
	Silver	1290	1250	103	90 - 110	P	04/25/2025	16:08	LB135566
	Sodium	24400	25000	98	90 - 110	P	04/25/2025	16:08	LB135566
	Thallium	5080	5000	102	90 - 110	P	04/25/2025	16:08	LB135566
	Vanadium	2470	2500	99	90 - 110	P	04/25/2025	16:08	LB135566
	Zinc	2600	2500	104	90 - 110	P	04/25/2025	16:08	LB135566
CCV04	Aluminum	9710	10000	97	90 - 110	P	04/25/2025	16:46	LB135566
	Antimony	4940	5000	99	90 - 110	P	04/25/2025	16:46	LB135566

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business **SDG No.:** Q1879

Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Arsenic	4900	5000	98	90 - 110	P	04/25/2025	16:46	LB135566
	Barium	9850	10000	98	90 - 110	P	04/25/2025	16:46	LB135566
	Beryllium	238	250	95	90 - 110	P	04/25/2025	16:46	LB135566
	Cadmium	2400	2500	96	90 - 110	P	04/25/2025	16:46	LB135566
	Calcium	24400	25000	98	90 - 110	P	04/25/2025	16:46	LB135566
	Chromium	973	1000	97	90 - 110	P	04/25/2025	16:46	LB135566
	Cobalt	2430	2500	97	90 - 110	P	04/25/2025	16:46	LB135566
	Copper	1240	1250	99	90 - 110	P	04/25/2025	16:46	LB135566
	Iron	4950	5000	99	90 - 110	P	04/25/2025	16:46	LB135566
	Lead	4870	5000	97	90 - 110	P	04/25/2025	16:46	LB135566
	Magnesium	23800	25000	95	90 - 110	P	04/25/2025	16:46	LB135566
	Manganese	2450	2500	98	90 - 110	P	04/25/2025	16:46	LB135566
	Nickel	2430	2500	97	90 - 110	P	04/25/2025	16:46	LB135566
	Potassium	24400	25000	98	90 - 110	P	04/25/2025	16:46	LB135566
	Selenium	4950	5000	99	90 - 110	P	04/25/2025	16:46	LB135566
	Silver	1220	1250	98	90 - 110	P	04/25/2025	16:46	LB135566
	Sodium	24400	25000	98	90 - 110	P	04/25/2025	16:46	LB135566
	Thallium	4910	5000	98	90 - 110	P	04/25/2025	16:46	LB135566
	Vanadium	2420	2500	97	90 - 110	P	04/25/2025	16:46	LB135566
	Zinc	2460	2500	98	90 - 110	P	04/25/2025	16:46	LB135566
CCV05	Aluminum	9820	10000	98	90 - 110	P	04/25/2025	17:45	LB135566
	Antimony	4920	5000	98	90 - 110	P	04/25/2025	17:45	LB135566
	Arsenic	4870	5000	98	90 - 110	P	04/25/2025	17:45	LB135566
	Barium	10100	10000	101	90 - 110	P	04/25/2025	17:45	LB135566
	Beryllium	239	250	96	90 - 110	P	04/25/2025	17:45	LB135566
	Cadmium	2460	2500	98	90 - 110	P	04/25/2025	17:45	LB135566
	Calcium	24600	25000	99	90 - 110	P	04/25/2025	17:45	LB135566
	Chromium	978	1000	98	90 - 110	P	04/25/2025	17:45	LB135566
	Cobalt	2460	2500	99	90 - 110	P	04/25/2025	17:45	LB135566
	Copper	1240	1250	99	90 - 110	P	04/25/2025	17:45	LB135566
	Iron	4800	5000	96	90 - 110	P	04/25/2025	17:45	LB135566
	Lead	4930	5000	99	90 - 110	P	04/25/2025	17:45	LB135566
	Magnesium	24300	25000	97	90 - 110	P	04/25/2025	17:45	LB135566
	Manganese	2470	2500	99	90 - 110	P	04/25/2025	17:45	LB135566

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business **SDG No.:** Q1879

Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Nickel	2460	2500	98	90 - 110	P	04/25/2025	17:45	LB135566
	Potassium	23900	25000	96	90 - 110	P	04/25/2025	17:45	LB135566
	Selenium	4860	5000	97	90 - 110	P	04/25/2025	17:45	LB135566
	Silver	1200	1250	96	90 - 110	P	04/25/2025	17:45	LB135566
	Sodium	24000	25000	96	90 - 110	P	04/25/2025	17:45	LB135566
	Thallium	4850	5000	97	90 - 110	P	04/25/2025	17:45	LB135566
	Vanadium	2470	2500	99	90 - 110	P	04/25/2025	17:45	LB135566
	Zinc	2420	2500	97	90 - 110	P	04/25/2025	17:45	LB135566
CCV06	Aluminum	9720	10000	97	90 - 110	P	04/25/2025	18:44	LB135566
	Antimony	4740	5000	95	90 - 110	P	04/25/2025	18:44	LB135566
	Arsenic	4760	5000	95	90 - 110	P	04/25/2025	18:44	LB135566
	Barium	9590	10000	96	90 - 110	P	04/25/2025	18:44	LB135566
	Beryllium	265	250	106	90 - 110	P	04/25/2025	18:44	LB135566
	Cadmium	2470	2500	99	90 - 110	P	04/25/2025	18:44	LB135566
	Calcium	24300	25000	97	90 - 110	P	04/25/2025	18:44	LB135566
	Chromium	989	1000	99	90 - 110	P	04/25/2025	18:44	LB135566
	Cobalt	2440	2500	98	90 - 110	P	04/25/2025	18:44	LB135566
	Copper	1210	1250	97	90 - 110	P	04/25/2025	18:44	LB135566
	Iron	4510	5000	90	90 - 110	P	04/25/2025	18:44	LB135566
	Lead	4900	5000	98	90 - 110	P	04/25/2025	18:44	LB135566
	Magnesium	24400	25000	98	90 - 110	P	04/25/2025	18:44	LB135566
	Manganese	2430	2500	97	90 - 110	P	04/25/2025	18:44	LB135566
	Nickel	2440	2500	98	90 - 110	P	04/25/2025	18:44	LB135566
	Potassium	23200	25000	93	90 - 110	P	04/25/2025	18:44	LB135566
	Selenium	4680	5000	94	90 - 110	P	04/25/2025	18:44	LB135566
	Silver	1210	1250	97	90 - 110	P	04/25/2025	18:44	LB135566
	Sodium	23400	25000	94	90 - 110	P	04/25/2025	18:44	LB135566
	Thallium	4760	5000	95	90 - 110	P	04/25/2025	18:44	LB135566
	Vanadium	2430	2500	97	90 - 110	P	04/25/2025	18:44	LB135566
	Zinc	2390	2500	96	90 - 110	P	04/25/2025	18:44	LB135566
CCV07	Aluminum	9780	10000	98	90 - 110	P	04/25/2025	19:05	LB135566
	Antimony	4820	5000	96	90 - 110	P	04/25/2025	19:05	LB135566
	Arsenic	4860	5000	97	90 - 110	P	04/25/2025	19:05	LB135566
	Barium	9730	10000	97	90 - 110	P	04/25/2025	19:05	LB135566

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: METEM A GE POWER Business SDG No.: Q1879

Contract: METE01 Lab Code: CHEM Case No.: Q1879 SAS No.: Q1879

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV07	Beryllium	260	250	104	90 - 110	P	04/25/2025	19:05	LB135566
	Cadmium	2510	2500	100	90 - 110	P	04/25/2025	19:05	LB135566
	Calcium	24600	25000	99	90 - 110	P	04/25/2025	19:05	LB135566
	Chromium	989	1000	99	90 - 110	P	04/25/2025	19:05	LB135566
	Cobalt	2470	2500	99	90 - 110	P	04/25/2025	19:05	LB135566
	Copper	1230	1250	99	90 - 110	P	04/25/2025	19:05	LB135566
	Iron	4790	5000	96	90 - 110	P	04/25/2025	19:05	LB135566
	Lead	4970	5000	99	90 - 110	P	04/25/2025	19:05	LB135566
	Magnesium	24700	25000	99	90 - 110	P	04/25/2025	19:05	LB135566
	Manganese	2480	2500	99	90 - 110	P	04/25/2025	19:05	LB135566
	Nickel	2480	2500	99	90 - 110	P	04/25/2025	19:05	LB135566
	Potassium	24600	25000	98	90 - 110	P	04/25/2025	19:05	LB135566
	Selenium	4810	5000	96	90 - 110	P	04/25/2025	19:05	LB135566
	Silver	1220	1250	98	90 - 110	P	04/25/2025	19:05	LB135566
	Sodium	24600	25000	98	90 - 110	P	04/25/2025	19:05	LB135566
	Thallium	4760	5000	95	90 - 110	P	04/25/2025	19:05	LB135566
	Vanadium	2470	2500	99	90 - 110	P	04/25/2025	19:05	LB135566
	Zinc	2420	2500	97	90 - 110	P	04/25/2025	19:05	LB135566



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

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: METEM A GE POWER Business **SDG No.:** Q1879
Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879
Initial Calibration Source: _____
Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRA	Mercury	0.18	0.2	92	40 - 160	CV	04/25/2025	13:28	LB135560
CRI01	Aluminum	94.9	100	95	40 - 160	P	04/25/2025	14:01	LB135566
	Antimony	53.0	50.0	106	40 - 160	P	04/25/2025	14:01	LB135566
	Arsenic	21.0	20.0	105	40 - 160	P	04/25/2025	14:01	LB135566
	Barium	88.5	100	88	40 - 160	P	04/25/2025	14:01	LB135566
	Beryllium	6.00	6.0	100	40 - 160	P	04/25/2025	14:01	LB135566
	Cadmium	6.11	6.0	102	40 - 160	P	04/25/2025	14:01	LB135566
	Calcium	1910	2000	95	40 - 160	P	04/25/2025	14:01	LB135566
	Chromium	9.52	10.0	95	40 - 160	P	04/25/2025	14:01	LB135566
	Cobalt	29.2	30.0	97	40 - 160	P	04/25/2025	14:01	LB135566
	Copper	22.4	20.0	112	40 - 160	P	04/25/2025	14:01	LB135566
	Iron	87.9	100	88	40 - 160	P	04/25/2025	14:01	LB135566
	Lead	10.3	12.0	86	40 - 160	P	04/25/2025	14:01	LB135566
	Magnesium	2050	2000	102	40 - 160	P	04/25/2025	14:01	LB135566
	Manganese	19.9	20.0	100	40 - 160	P	04/25/2025	14:01	LB135566
	Nickel	39.0	40.0	97	40 - 160	P	04/25/2025	14:01	LB135566
	Potassium	1860	2000	93	40 - 160	P	04/25/2025	14:01	LB135566
	Selenium	15.5	20.0	77	40 - 160	P	04/25/2025	14:01	LB135566
	Silver	9.96	10.0	100	40 - 160	P	04/25/2025	14:01	LB135566
	Sodium	1850	2000	93	40 - 160	P	04/25/2025	14:01	LB135566
	Thallium	42.8	40.0	107	40 - 160	P	04/25/2025	14:01	LB135566
	Vanadium	38.6	40.0	97	40 - 160	P	04/25/2025	14:01	LB135566
	Zinc	41.0	40.0	102	40 - 160	P	04/25/2025	14:01	LB135566



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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB102	Mercury	0.20	+/-0.20	U	0.20	CV	04/25/2025	13:21	LB135560

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB29	Mercury	0.20	+/-0.20	U	0.20	CV	04/25/2025	13:25	LB135560
CCB30	Mercury	0.20	+/-0.20	U	0.20	CV	04/25/2025	14:01	LB135560

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	04/25/2025	13:56	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	13:56	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	13:56	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	13:56	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	13:56	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	13:56	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	13:56	LB135566
	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	13:56	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	13:56	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	13:56	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	13:56	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	13:56	LB135566
	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	13:56	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	13:56	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	13:56	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	13:56	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	13:56	LB135566
	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	13:56	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	13:56	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	13:56	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	13:56	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	13:56	LB135566

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	04/25/2025	14:26	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	14:26	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	14:26	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	14:26	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	14:26	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	14:26	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	14:26	LB135566
	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	14:26	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	14:26	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	14:26	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	14:26	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	14:26	LB135566
	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	14:26	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	14:26	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	14:26	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	14:26	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	14:26	LB135566
	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	14:26	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	14:26	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	14:26	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	14:26	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	14:26	LB135566
CCB02	Aluminum	100	+/-100	U	100	P	04/25/2025	15:18	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	15:18	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	15:18	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	15:18	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	15:18	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	15:18	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	15:18	LB135566
	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	15:18	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	15:18	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	15:18	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	15:18	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	15:18	LB135566
	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	15:18	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	15:18	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	15:18	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	15:18	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	15:18	LB135566

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	15:18	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	15:18	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	15:18	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	15:18	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	15:18	LB135566
CCB03	Aluminum	100	+/-100	U	100	P	04/25/2025	16:12	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	16:12	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	16:12	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	16:12	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	16:12	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	16:12	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	16:12	LB135566
	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	16:12	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	16:12	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	16:12	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	16:12	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	16:12	LB135566
	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	16:12	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	16:12	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	16:12	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	16:12	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	16:12	LB135566
	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	16:12	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	16:12	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	16:12	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	16:12	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	16:12	LB135566
CCB04	Aluminum	100	+/-100	U	100	P	04/25/2025	16:50	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	16:50	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	16:50	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	16:50	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	16:50	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	16:50	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	16:50	LB135566
	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	16:50	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	16:50	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	16:50	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	16:50	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	16:50	LB135566

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	16:50	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	16:50	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	16:50	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	16:50	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	16:50	LB135566
	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	16:50	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	16:50	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	16:50	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	16:50	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	16:50	LB135566
CCB05	Aluminum	100	+/-100	U	100	P	04/25/2025	17:49	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	17:49	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	17:49	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	17:49	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	17:49	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	17:49	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	17:49	LB135566
	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	17:49	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	17:49	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	17:49	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	17:49	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	17:49	LB135566
	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	17:49	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	17:49	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	17:49	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	17:49	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	17:49	LB135566
	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	17:49	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	17:49	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	17:49	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	17:49	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	17:49	LB135566
CCB06	Aluminum	100	+/-100	U	100	P	04/25/2025	18:48	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	18:48	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	18:48	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	18:48	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	18:48	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	18:48	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	18:48	LB135566

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: METEM A GE POWER Business		SDG No.: Q1879							
Contract: METE01	Lab Code: CHEM	Case No.: Q1879	SAS No.: Q1879						
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	18:48	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	18:48	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	18:48	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	18:48	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	18:48	LB135566
	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	18:48	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	18:48	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	18:48	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	18:48	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	18:48	LB135566
	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	18:48	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	18:48	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	18:48	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	18:48	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	18:48	LB135566
CCB07	Aluminum	100	+/-100	U	100	P	04/25/2025	19:09	LB135566
	Antimony	50.0	+/-50.0	U	50.0	P	04/25/2025	19:09	LB135566
	Arsenic	20.0	+/-20.0	U	20.0	P	04/25/2025	19:09	LB135566
	Barium	100	+/-100	U	100	P	04/25/2025	19:09	LB135566
	Beryllium	6.00	+/-6.00	U	6.00	P	04/25/2025	19:09	LB135566
	Cadmium	6.00	+/-6.00	U	6.00	P	04/25/2025	19:09	LB135566
	Calcium	2000	+/-2000	U	2000	P	04/25/2025	19:09	LB135566
	Chromium	10.0	+/-10.0	U	10.0	P	04/25/2025	19:09	LB135566
	Cobalt	30.0	+/-30.0	U	30.0	P	04/25/2025	19:09	LB135566
	Copper	20.0	+/-20.0	U	20.0	P	04/25/2025	19:09	LB135566
	Iron	100	+/-100	U	100	P	04/25/2025	19:09	LB135566
	Lead	12.0	+/-12.0	U	12.0	P	04/25/2025	19:09	LB135566
	Magnesium	2000	+/-2000	U	2000	P	04/25/2025	19:09	LB135566
	Manganese	20.0	+/-20.0	U	20.0	P	04/25/2025	19:09	LB135566
	Nickel	40.0	+/-40.0	U	40.0	P	04/25/2025	19:09	LB135566
	Potassium	2000	+/-2000	U	2000	P	04/25/2025	19:09	LB135566
	Selenium	20.0	+/-20.0	U	20.0	P	04/25/2025	19:09	LB135566
	Silver	10.0	+/-10.0	U	10.0	P	04/25/2025	19:09	LB135566
	Sodium	2000	+/-2000	U	2000	P	04/25/2025	19:09	LB135566
	Thallium	40.0	+/-40.0	U	40.0	P	04/25/2025	19:09	LB135566
	Vanadium	40.0	+/-40.0	U	40.0	P	04/25/2025	19:09	LB135566
	Zinc	40.0	+/-40.0	U	40.0	P	04/25/2025	19:09	LB135566

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167749BL		WATER		Batch Number:	PB167749		Prep Date:	04/25/2025	
	Mercury	0.20	<0.20	U	0.20	CV	04/25/2025	13:34	LB135560

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167747BL	WATER			Batch Number:	PB167747		Prep Date:	04/25/2025	
	Aluminum	50.0	<50.0	U	50.0	P	04/25/2025	15:55	LB135566
	Antimony	25.0	<25.0	U	25.0	P	04/25/2025	15:55	LB135566
	Arsenic	10.0	<10.0	U	10.0	P	04/25/2025	15:55	LB135566
	Barium	50.0	<50.0	U	50.0	P	04/25/2025	15:55	LB135566
	Beryllium	3.00	<3.00	U	3.00	P	04/25/2025	15:55	LB135566
	Cadmium	3.00	<3.00	U	3.00	P	04/25/2025	15:55	LB135566
	Calcium	1000	<1000	U	1000	P	04/25/2025	15:55	LB135566
	Chromium	5.00	<5.00	U	5.00	P	04/25/2025	15:55	LB135566
	Cobalt	15.0	<15.0	U	15.0	P	04/25/2025	15:55	LB135566
	Copper	10.0	<10.0	U	10.0	P	04/25/2025	15:55	LB135566
	Iron	50.0	<50.0	U	50.0	P	04/25/2025	15:55	LB135566
	Lead	6.00	<6.00	U	6.00	P	04/25/2025	15:55	LB135566
	Magnesium	1000	<1000	U	1000	P	04/25/2025	15:55	LB135566
	Manganese	10.0	<10.0	U	10.0	P	04/25/2025	15:55	LB135566
	Nickel	2.05	<20.0	J	20.0	P	04/25/2025	15:55	LB135566
	Potassium	1000	<1000	U	1000	P	04/25/2025	15:55	LB135566
	Selenium	10.0	<10.0	U	10.0	P	04/25/2025	15:55	LB135566
	Silver	5.00	<5.00	U	5.00	P	04/25/2025	15:55	LB135566
	Sodium	1000	<1000	U	1000	P	04/25/2025	15:55	LB135566
	Thallium	20.0	<20.0	U	20.0	P	04/25/2025	15:55	LB135566
	Vanadium	20.0	<20.0	U	20.0	P	04/25/2025	15:55	LB135566
	Zinc	20.0	<20.0	U	20.0	P	04/25/2025	15:55	LB135566

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: METEM A GE POWER Business **SDG No.:** Q1879
Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879
ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Aluminum	235000	255000	92	216000	294000	04/25/2025	14:05	LB135566
	Antimony	-0.014			-50	50	04/25/2025	14:05	LB135566
	Arsenic	-1.81			-20	20	04/25/2025	14:05	LB135566
	Barium	3.44	6.0	57	-94	106	04/25/2025	14:05	LB135566
	Beryllium	0.48			-6	6	04/25/2025	14:05	LB135566
	Cadmium	-3.20	1.0	320	-5	7	04/25/2025	14:05	LB135566
	Calcium	224000	245000	91	208000	282000	04/25/2025	14:05	LB135566
	Chromium	54.8	52.0	105	42	62	04/25/2025	14:05	LB135566
	Cobalt	0.50			-30	30	04/25/2025	14:05	LB135566
	Copper	4.72	2.0	236	-18	22	04/25/2025	14:05	LB135566
	Iron	97800	101000	97	85600	116500	04/25/2025	14:05	LB135566
	Lead	-4.37			-12	12	04/25/2025	14:05	LB135566
	Magnesium	238000	255000	93	216000	294000	04/25/2025	14:05	LB135566
	Manganese	2.25	7.0	32	-13	27	04/25/2025	14:05	LB135566
	Nickel	2.25	2.0	112	-38	42	04/25/2025	14:05	LB135566
	Potassium	28.6			0	0	04/25/2025	14:05	LB135566
	Selenium	-4.67			-20	20	04/25/2025	14:05	LB135566
	Silver	1.85			-10	10	04/25/2025	14:05	LB135566
	Sodium	27.9			0	0	04/25/2025	14:05	LB135566
	Thallium	10.4			-40	40	04/25/2025	14:05	LB135566
	Vanadium	2.68			-40	40	04/25/2025	14:05	LB135566
	Zinc	2.41			-40	40	04/25/2025	14:05	LB135566
ICSAB01	Aluminum	235000	247000	95	209000	285000	04/25/2025	14:09	LB135566
	Antimony	632	618	102	525	711	04/25/2025	14:09	LB135566
	Arsenic	112	104	108	88.4	120	04/25/2025	14:09	LB135566
	Barium	456	537	85	437	637	04/25/2025	14:09	LB135566
	Beryllium	485	495	98	420	570	04/25/2025	14:09	LB135566
	Cadmium	1010	972	104	826	1120	04/25/2025	14:09	LB135566
	Calcium	222000	235000	94	199000	271000	04/25/2025	14:09	LB135566
	Chromium	550	542	102	460	624	04/25/2025	14:09	LB135566
	Cobalt	493	476	104	404	548	04/25/2025	14:09	LB135566
	Copper	488	511	96	434	588	04/25/2025	14:09	LB135566
	Iron	92600	99300	93	84400	114500	04/25/2025	14:09	LB135566
	Lead	46.4	49.0	95	37	61	04/25/2025	14:09	LB135566
	Magnesium	238000	248000	96	210000	286000	04/25/2025	14:09	LB135566
	Manganese	461	507	91	430	584	04/25/2025	14:09	LB135566
	Nickel	975	954	102	810	1100	04/25/2025	14:09	LB135566
	Potassium	43.5			0	0	04/25/2025	14:09	LB135566
	Selenium	44.6	46.0	97	26	66	04/25/2025	14:09	LB135566
	Silver	175	201	87	170	232	04/25/2025	14:09	LB135566
	Sodium	8.65			0	0	04/25/2025	14:09	LB135566
	Thallium	101	108	94	68	148	04/25/2025	14:09	LB135566

Metals

- 4 -

INTERFERENCE CHECK SAMPLE

Client: METEM A GE POWER Business **SDG No.:** Q1879
Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879
ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSAB01	Vanadium	461	491	94	417	565	04/25/2025	14:09	LB135566
	Zinc	1020	952	107	809	1095	04/25/2025	14:09	LB135566



METAL

QC

DATA

metals

- 5a -

client: _____ level: low sdg no.: _____
contract: _____ lab code: _____ case no.: _____ sas no.: _____
matrix: _____ sample id: _____ client id: _____
Percent Solids for Sample: _____ Spiked ID: _____ Percent Solids for Spike Sample: _____

Analyte	Units	Acceptance Limit %R	C	Sample Result	C	Spike Added	% Recovery	Qual	M
---------	-------	------------------------	---	------------------	---	----------------	---------------	------	---

Metals

- 5b -

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879 **SAS No.:** Q1879

Matrix:

Level: LOW

Client ID:

Sample ID: **Spiked ID:**

Analyte	Units	Acceptance Limit %R	C	Sample Result	C	Spike Added	% Recovery	Qual	M
---------	-------	------------------------	---	------------------	---	----------------	---------------	------	---

.....

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: METEM A GE POWER Business **Level:** LOW **SDG No.:** Q1879
Contract: METE01 **Lab Code:** CHEM **Case No.:** Q1879 **SAS No.:** Q1879
Matrix: _____ **Sample ID:** _____ **Client ID:** _____
Percent Solids for Sample: _____ **Duplicate ID** _____ **Percent Solids for Spike Sample:** _____

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
---------	-------	---------------------	------------------	---	---------------------	---	-----	------	---

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167747BS							
Aluminum	ug/L	1000	937		94	80 - 120	P
Antimony	ug/L	400	412		103	80 - 120	P
Arsenic	ug/L	400	399		100	80 - 120	P
Barium	ug/L	100	89.4		89	80 - 120	P
Beryllium	ug/L	100	94.8		95	80 - 120	P
Cadmium	ug/L	100	97.7		98	80 - 120	P
Calcium	ug/L	500	484	J	97	80 - 120	P
Chromium	ug/L	200	192		96	80 - 120	P
Cobalt	ug/L	100	95.2		95	80 - 120	P
Copper	ug/L	150	150		100	80 - 120	P
Iron	ug/L	1500	1400		93	80 - 120	P
Lead	ug/L	500	484		97	80 - 120	P
Magnesium	ug/L	1000	925	J	92	80 - 120	P
Manganese	ug/L	100	96.2		96	80 - 120	P
Nickel	ug/L	250	240		96	80 - 120	P
Potassium	ug/L	5000	4490		90	80 - 120	P
Selenium	ug/L	1000	1010		101	80 - 120	P
Silver	ug/L	37.5	36.1		96	80 - 120	P
Sodium	ug/L	1500	1380		92	80 - 120	P
Thallium	ug/L	1000	995		100	80 - 120	P
Vanadium	ug/L	150	140		93	80 - 120	P
Zinc	ug/L	100	97.7		98	80 - 120	P

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167749BS Mercury	ug/L	4.0	3.66		92	80 - 120	CV

Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

Lab Name: Chemtech Consulting Group

Contract: METE01

Lab Code: CHEM Lb No.: Lab Sample ID : SDG No.: Q1879

Matrix (soil/water): Level (low/med): LOW

Concentration Units:

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Differ- ence	Q	M
	C		C				



METAL PREPARATION & INSTRUMENT DATA

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Case No.: Q1879

SAS No.: Q1879

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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



METAL PREPARATION & ANALYICAL SUMMARY

Metals

- 13 -

SAMPLE PREPARATION SUMMARY

Client: METEM A GE POWER Business

SDG No.: Q1879

Contract: METE01

Lab Code: CHEM

Method:

Case No.: Q1879 **SAS No.:** Q1879

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB167747							
PB167747BL	PB167747BL	MB	WATER	04/25/2025	50.0	25.0	
PB167747BS	PB167747BS	LCS	WATER	04/25/2025	50.0	25.0	
Q1879-01	STEM-31-SULFURIC-ACID	SAM	WATER	04/25/2025	50.0	25.0	
Q1879-01	STEM-31-SULFURIC-ACIDDL	SAM	WATER	04/25/2025	50.0	25.0	
Q1879-02	STEM-32-NITRIC-ACID	SAM	WATER	04/25/2025	50.0	25.0	
Q1879-03	STEM-46-NITRIC-ACID	SAM	WATER	04/25/2025	50.0	50.0	
Q1879-04	ACID-MIXTURE-TF-CONTAINMENT	SAM	WATER	04/25/2025	50.0	25.0	

Metals

- 13 -

SAMPLE PREPARATION SUMMARY

Client: METEM A GE POWER Business **SDG No.:** Q1879
Contract: METE01 **Lab Code:** CHEM **Method:**
Case No.: Q1879 **SAS No.:** Q1879

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB167749							
PB167749BL	PB167749BL	MB	WATER	04/25/2025	30.0	30.0	
PB167749BS	PB167749BS	LCS	WATER	04/25/2025	30.0	30.0	
Q1879-01	STEM-31-SULFURIC-ACID	SAM	WATER	04/25/2025	30.0	30.0	
Q1879-02	STEM-32-NITRIC-ACID	SAM	WATER	04/25/2025	30.0	30.0	
Q1879-03	STEM-46-NITRIC-ACID	SAM	WATER	04/25/2025	30.0	30.0	
Q1879-04	ACID-MIXTURE-TF-CONTAINMENT	SAM	WATER	04/25/2025	30.0	30.0	

metals
- 14 -
ANALYSIS RUN LOG

Client: METEM A GE POWER Business

Contract: METE01

Lab code: CHEM **Case no.:** Q1879 **Sas no.:** Q1879

Sdg no.: Q1879

Instrument id number: **Method:**

Run number: LB135560

Start date: 04/25/2025 **End date:** 04/25/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1301	HG
S0.2	S0.2	1	1303	HG
S2.5	S2.5	1	1306	HG
S5	S5	1	1308	HG
S7.5	S7.5	1	1310	HG
S10	S10	1	1313	HG
ICV102	ICV102	1	1319	HG
ICB102	ICB102	1	1321	HG
CCV29	CCV29	1	1323	HG
CCB29	CCB29	1	1325	HG
CRA	CRA	1	1328	HG
PB167749BL	PB167749BL	1	1334	HG
PB167749BS	PB167749BS	1	1337	HG
Q1879-01	STEM-31-SULFURIC-ACID	1	1339	HG
Q1879-02	STEM-32-NITRIC-ACID	1	1341	HG
Q1879-03	STEM-46-NITRIC-ACID	1	1344	HG
Q1879-04	ACID-MIXTURE-TF-CONTAIN	1	1346	HG
CCV30	CCV30	1	1358	HG
CCB30	CCB30	1	1401	HG

metals
- 14 -
ANALYSIS RUN LOG

Client: METEM A GE POWER Business

Contract: METE01

Lab code: CHEM **Case no.:** Q1879

Sas no.: Q1879

Sdg no.: Q1879

Instrument id number: **Method:**

Run number: LB135566

Start date: 04/25/2025 **End date:** 04/25/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1322	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1326	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1331	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1335	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1339	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1343	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1348	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1352	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1356	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1401	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1405	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1409	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1422	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1426	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1514	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1518	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1879-01	STEM-31-SULFURIC-ACID	5	1536	Ag,Al,As,Ba,Be,Ca,Cd,Cu,Fe,K,Mg,Mn,Na,Pb,Sb,Se,Tl,V,Zn
Q1879-02	STEM-32-NITRIC-ACID	5	1540	Ag,Al,As,Ba,Be,Ca,Cd,Cr,Cu,Fe,K,Mg,Mn,Na,Pb,Sb,Se,Tl,V,Zn
Q1879-03	STEM-46-NITRIC-ACID	5	1547	Ni
Q1879-04	ACID-MIXTURE-TF-CONTAIN	5	1551	Ag,Al,As,Ba,Be,Ca,Cd,Cr,Cu,Fe,K,Mg,Mn,Na,Pb,Sb,Se,Tl,V,Zn
PB167747BL	PB167747BL	1	1555	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB167747BS	PB167747BS	1	1600	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1608	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1612	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1879-01	STEM-31-SULFURIC-ACID	50	1617	Co,Cr
Q1879-02	STEM-32-NITRIC-ACID	50	1621	Co,Ni
Q1879-03	STEM-46-NITRIC-ACID	1	1625	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Pb,Sb,Se,Tl,V,Zn
Q1879-04	ACID-MIXTURE-TF-CONTAIN	50	1629	Co,Ni
Q1879-01	STEM-31-SULFURIC-ACIDDL	100	1633	Ni
CCV04	CCV04	1	1646	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1650	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV05	CCV05	1	1745	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB05	CCB05	1	1749	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV06	CCV06	1	1844	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB06	CCB06	1	1848	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV07	CCV07	1	1905	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB07	CCB07	1	1909	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn



METAL RAW DATA

Sample Name: S0 Acquired: 4/25/2025 13:22:25 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00006	-.00010	-.00004	.00028	.00027	.00022	.05059	.00027
Stddev	.00011	.00001	.00008	.00009	.00019	.00008	.00120	.00017
%RSD	196.83	6.3507	178.79	32.910	70.373	35.412	2.3795	60.119

#1	.00006	-.00010	-.00002	.00019	.00016	.00030	.05008	.00032
#2	-.00008	-.00011	-.00013	.00038	.00016	.00016	.05196	.00041
#3	-.00016	-.00010	.00002	.00028	.00049	.00019	.04972	.00009

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00007	.00059	.00005	.00017	-.00026	.00007	.00121	-.00023
Stddev	.00006	.00032	.00004	.00016	.00015	.00001	.00010	.00016
%RSD	87.937	53.377	69.438	98.650	56.492	13.395	7.8848	67.976

#1	.00007	.00034	.00005	.00031	-.00016	.00008	.00126	-.00016
#2	.00001	.00050	.00002	-.00001	-.00020	.00007	.00128	-.00012
#3	.00013	.00095	.00009	.00020	-.00043	.00007	.00110	-.00041

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00012	-.00120	.00112	-.00001	.00584	.00066	.00138	-.00002
Stddev	.00005	.00008	.00011	.00018	.00058	.00005	.00023	.00008
%RSD	40.412	6.9877	9.5589	2335.1	9.9240	7.4445	16.557	542.70

#1	-.00015	-.00125	.00124	-.00022	.00571	.00070	.00144	-.00001
#2	-.00015	-.00110	.00104	.00010	.00647	.00066	.00113	-.00010
#3	-.00007	-.00125	.00109	.00009	.00533	.00061	.00157	.00007

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.00026	.00310	.00011	-.00113	.00014	-.00298	-.00010	
Stddev	.00003	.00003	.00001	.00006	.00002	.00065	.00057	
%RSD	9.7842	1.0487	7.0312	5.4559	15.792	21.765	583.34	

#1	.00025	.00306	.00011	-.00107	.00011	-.00371	-.00075	
#2	.00024	.00310	.00010	-.00119	.00015	-.00248	.00028	
#3	.00028	.00313	.00012	-.00114	.00015	-.00274	.00017	

Sample Name: S0 Acquired: 4/25/2025 13:22:25 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3221.0	73733.	11061.	2112.0	5000.0
Stddev	15.9	809.	20.	22.0	19.1
%RSD	.49335	1.0969	.18086	1.0433	.38282
#1	3215.1	73697.	11070.	2113.2	4999.4
#2	3208.9	74559.	11076.	2133.5	4981.1
#3	3239.0	72942.	11038.	2089.5	5019.4

Sample Name: S1 Acquired: 4/25/2025 13:26:50 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00066	.00160	.00153	.00076	.00551	.00727	.23422	.03560
Stddev	.00006	.00004	.00016	.00003	.00025	.00018	.00156	.00074
%RSD	9.3980	2.7563	10.407	4.0500	4.5417	2.5363	.66748	2.0666

#1	.00063	.00161	.00156	.00073	.00528	.00736	.23440	.03505
#2	.00073	.00164	.00136	.00076	.00548	.00706	.23257	.03531
#3	.00061	.00155	.00168	.00079	.00578	.00739	.23568	.03643

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01045	.08556	.00141	.01542	.00985	.00037	.00778	.02142
Stddev	.00005	.00028	.00006	.00013	.00024	.00002	.00014	.00023
%RSD	.44664	.33189	4.2119	.84160	2.4824	4.1105	1.7534	1.0597

#1	.01048	.08549	.00145	.01535	.00980	.00036	.00784	.02168
#2	.01040	.08587	.00134	.01534	.00963	.00039	.00762	.02134
#3	.01047	.08532	.00144	.01557	.01012	.00037	.00787	.02124

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01489	.00097	.03142	.00454	.08737	.01020	.03288	.09816
Stddev	.00004	.00004	.00016	.00021	.00050	.00008	.00027	.00105
%RSD	.26363	4.3283	.51694	4.7090	.57398	.77071	.81147	1.0727

#1	.01488	.00102	.03155	.00463	.08683	.01026	.03315	.09777
#2	.01486	.00097	.03147	.00429	.08783	.01022	.03287	.09736
#3	.01493	.00094	.03124	.00468	.08746	.01011	.03262	.09935

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.00339	.01724	.00127	-.00058	.00037	.01071	.17139	
Stddev	.00009	.00016	.00003	.00006	.00003	.00132	.00116	
%RSD	2.6107	.95330	2.3155	10.127	8.7913	12.339	.67513	

#1	.00329	.01734	.00130	-.00057	.00040	.01221	.17249	
#2	.00341	.01705	.00126	-.00064	.00034	.00970	.17150	
#3	.00347	.01732	.00124	-.00052	.00038	.01021	.17019	

Sample Name: S1 Acquired: 4/25/2025 13:26:50 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3264.1	74246.	10529.	2129.7	5101.4
Stddev	28.6	232.	39.	2.9	39.5
%RSD	.87720	.31282	.37062	.13563	.77382
#1	3268.4	74023.	10517.	2131.1	5104.2
#2	3290.4	74486.	10573.	2126.4	5139.4
#3	3233.6	74229.	10497.	2131.6	5060.6

Sample Name: S2 Acquired: 4/25/2025 13:31:11 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02952	.03596	.12032	.02047	.08106	.10340	3.1333	.25303
Stddev	.00031	.00033	.00134	.00015	.00096	.00040	.0047	.00072
%RSD	1.0338	.90542	1.1147	.70961	1.1863	.38935	.14888	.28281
#1	.02985	.03621	.12168	.02062	.08210	.10366	3.1358	.25247
#2	.02925	.03559	.11900	.02033	.08021	.10293	3.1279	.25384
#3	.02946	.03608	.12027	.02044	.08087	.10359	3.1362	.25279
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.70574	.17892	.02389	.21832	.09945	.00281	.13907	.04239
Stddev	.00591	.00092	.00008	.00186	.00116	.00003	.00060	.00055
%RSD	.83704	.51349	.33852	.85196	1.1664	1.0748	.42821	1.3011
#1	.71227	.17846	.02381	.22045	.10061	.00280	.13976	.04226
#2	.70077	.17833	.02397	.21698	.09829	.00284	.13868	.04191
#3	.70418	.17998	.02390	.21755	.09944	.00278	.13878	.04299
Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.15819	.04505	.06495	.04861	.85971	.02067	.25961	.39305
Stddev	.00122	.00009	.00010	.00020	.00332	.00015	.00203	.00391
%RSD	.77204	.19205	.15868	.41659	.38647	.72253	.78015	.99538
#1	.15951	.04505	.06506	.04839	.86355	.02078	.25727	.39707
#2	.15710	.04513	.06486	.04867	.85775	.02050	.26065	.38925
#3	.15797	.04496	.06494	.04878	.85783	.02073	.26089	.39283
Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.06207	.28815	.00307	.02024	.01087	.56348	7.0170	
Stddev	.00062	.00094	.00004	.00013	.00014	.00079	.0152	
%RSD	1.0012	.32552	1.1768	.66414	1.3146	.13971	.21671	
#1	.06279	.28862	.00307	.02039	.01099	.56303	7.0028	
#2	.06172	.28707	.00310	.02017	.01071	.56439	7.0153	
#3	.06171	.28875	.00303	.02015	.01092	.56302	7.0330	

Sample Name: S2 Acquired: 4/25/2025 13:31:11 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3220.7	73647.	10351.	2125.7	4950.3
Stddev	28.5	33.	50.	5.3	50.2
%RSD	.88537	.04497	.47943	.24882	1.0137
#1	3187.8	73628.	10405.	2119.6	4892.9
#2	3235.9	73628.	10341.	2128.8	4972.4
#3	3238.3	73685.	10307.	2128.7	4985.7

Sample Name: S3 Acquired: 4/25/2025 13:35:19 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.08949	.10824	.36314	.06148	.24164	.30920	9.6182	.71330
Stddev	.00015	.00167	.00101	.00005	.00039	.00007	.0080	.00250
%RSD	.16663	1.5392	.27894	.07418	.16336	.02404	.08368	.35045

#1	.08951	.10648	.36247	.06144	.24123	.30928	9.6231	.71042
#2	.08964	.10842	.36431	.06147	.24201	.30914	9.6227	.71462
#3	.08934	.10980	.36265	.06153	.24169	.30918	9.6090	.71486

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.1172	.53607	.07058	.65513	.29541	.00881	.41271	.12684
Stddev	.0069	.00033	.00029	.00246	.00061	.00003	.00037	.00042
%RSD	.32591	.06091	.40904	.37487	.20575	.28852	.09075	.33003

#1	2.1119	.53594	.07076	.65408	.29558	.00881	.41312	.12690
#2	2.1250	.53582	.07024	.65793	.29592	.00879	.41239	.12639
#3	2.1148	.53644	.07072	.65337	.29474	.00884	.41261	.12722

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.47530	.13643	.20336	.14741	2.5449	.06442	.73625	1.1673
Stddev	.00208	.00005	.00072	.00059	.0020	.00038	.00173	.0004
%RSD	.43819	.03956	.35401	.39829	.07688	.58398	.23482	.03099

#1	.47513	.13647	.20387	.14773	2.5426	.06465	.73519	1.1670
#2	.47746	.13637	.20254	.14776	2.5462	.06399	.73824	1.1677
#3	.47331	.13646	.20368	.14673	2.5459	.06463	.73531	1.1672

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.18744	.86832	.00959	.06266	.03343	1.6959	20.874
Stddev	.00073	.00199	.00007	.00035	.00023	.0034	.268
%RSD	.39037	.22885	.73672	.55871	.67865	.19772	1.2858

#1	.18663	.86972	.00964	.06226	.03333	1.6997	20.661
#2	.18805	.86604	.00951	.06282	.03369	1.6950	21.176
#3	.18764	.86919	.00962	.06291	.03328	1.6932	20.786

Sample Name: S3 Acquired: 4/25/2025 13:35:19 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3142.3	72160.	10823.	2072.7	4745.9
Stddev	10.8	194.	17.	3.4	22.1
%RSD	.34370	.26880	.15450	.16307	.46562
#1	3140.1	71954.	10823.	2069.2	4755.5
#2	3132.8	72340.	10806.	2076.0	4720.6
#3	3154.0	72184.	10840.	2072.9	4761.6

Sample Name: S4 Acquired: 4/25/2025 13:39:30 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.17549	.21229	.71794	.12076	.48027	.62353	19.284	1.4051
Stddev	.00015	.00102	.00140	.00018	.00059	.00173	.266	.0132
%RSD	.08507	.47975	.19535	.14944	.12349	.27793	1.3796	.94125

#1	.17534	.21301	.71826	.12096	.47959	.62153	19.048	1.4082
#2	.17564	.21272	.71641	.12061	.48068	.62467	19.232	1.3906
#3	.17548	.21112	.71916	.12071	.48054	.62439	19.572	1.4165

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.1848	1.0721	.13803	1.2967	.57939	.01768	.82550	.25590
Stddev	.0095	.0011	.00296	.0026	.00061	.00045	.00046	.00086
%RSD	.22660	.10318	2.1447	.19709	.10609	2.5203	.05624	.33626

#1	4.1862	1.0711	.13464	1.2974	.57952	.01719	.82499	.25612
#2	4.1747	1.0718	.14009	1.2938	.57871	.01807	.82562	.25495
#3	4.1935	1.0733	.13935	1.2988	.57992	.01777	.82590	.25663

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.93428	.27034	.41016	.29755	4.9758	.13111	1.4650	2.3082
Stddev	.00182	.00508	.01091	.00052	.0989	.00332	.0123	.0001
%RSD	.19503	1.8798	2.6592	.17613	1.9869	2.5346	.84047	.00561

#1	.93430	.26452	.39909	.29759	4.8649	.12767	1.4702	2.3080
#2	.93245	.27387	.42090	.29700	5.0546	.13430	1.4509	2.3083
#3	.93609	.27264	.41049	.29805	5.0080	.13138	1.4738	2.3082

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.37149	1.7477	.01924	.12491	.06643	3.4683	41.574
Stddev	.00074	.0008	.00055	.00048	.00006	.0108	.350
%RSD	.19814	.04851	2.8467	.38730	.08656	.31173	.84240

#1	.37189	1.7467	.01864	.12539	.06648	3.4572	41.177
#2	.37064	1.7484	.01971	.12493	.06637	3.4788	41.837
#3	.37193	1.7480	.01938	.12442	.06643	3.4690	41.709

Sample Name: S4 Acquired: 4/25/2025 13:39:30 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3143.2	71491.	10735.	2054.7	4713.9
Stddev	4.3	1523.	76.	48.3	12.5
%RSD	.13635	2.1309	.70571	2.3521	.26425
#1	3140.2	73201.	10709.	2109.4	4705.3
#2	3148.1	70277.	10820.	2017.6	4728.1
#3	3141.3	70995.	10676.	2037.2	4708.2

Sample Name: S5 Acquired: 4/25/2025 13:43:44 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.35804	.43057	1.4515	.24494	.97740	1.3096	40.087	2.9239
Stddev	.00009	.00224	.0019	.00072	.00133	.0066	.267	.0218
%RSD	.02608	.51980	.13238	.29340	.13638	.50327	.66576	.74646

#1	.35798	.42820	1.4522	.24411	.97648	1.3167	40.393	2.9491
#2	.35799	.43085	1.4530	.24527	.97679	1.3037	39.965	2.9121
#3	.35815	.43265	1.4493	.24543	.97893	1.3083	39.903	2.9105

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	8.5003	2.2256	.27448	2.6400	1.1556	.03482	1.7025	.53886
Stddev	.0207	.0093	.00439	.0055	.0009	.00055	.0073	.00235
%RSD	.24396	.41882	1.5982	.20706	.07663	1.5896	.43086	.43537

#1	8.5198	2.2362	.27656	2.6441	1.1565	.03489	1.7102	.54157
#2	8.5026	2.2215	.27744	2.6421	1.1555	.03533	1.7015	.53755
#3	8.4786	2.2189	.26944	2.6338	1.1547	.03423	1.6956	.53746

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.8907	.54682	.83210	.62233	9.9350	.26460	3.0883	4.6202
Stddev	.0039	.00776	.01155	.00318	.1166	.00409	.0288	.0027
%RSD	.20600	1.4190	1.3880	.51024	1.1733	1.5441	.93248	.05903

#1	1.8947	.55066	.83406	.62600	10.008	.26518	3.1212	4.6192
#2	1.8905	.55191	.84255	.62051	9.9961	.26836	3.0677	4.6181
#3	1.8870	.53789	.81970	.62049	9.8006	.26025	3.0761	4.6233

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.75430	3.6407	.03879	.25868	.13945	7.3689	87.429	
Stddev	.00154	.0184	.00055	.00039	.00034	.0396	1.256	
%RSD	.20361	.50549	1.4161	.14898	.24658	.53796	1.4364	

#1	.75482	3.6618	.03883	.25841	.13911	7.4145	88.878	
#2	.75551	3.6325	.03932	.25912	.13980	7.3424	86.764	
#3	.75257	3.6279	.03822	.25851	.13945	7.3498	86.646	

Sample Name: S5 Acquired: 4/25/2025 13:43:44 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3068.0	70433.	10118.	1982.6	4512.8
Stddev	7.7	1194.	72.	24.6	15.6
%RSD	.25215	1.6952	.70700	1.2419	.34464
#1	3061.5	70097.	10039.	1970.9	4500.8
#2	3066.0	69442.	10135.	1966.0	4507.1
#3	3076.5	71759.	10179.	2010.9	4530.4

Sample Name: ICV01 Acquired: 4/25/2025 13:48:04 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.008189	1.031327	.9940928	1.039393	1.036627	2.333473
Stddev	.002599	.006697	.0019592	.004331	.001253	.010623
%RSD	.2578116	.6493983	.1970791	.4166726	.1208583	.4552640
#1	1.007162	1.031423	.9926574	1.037532	1.037867	2.335068
#2	1.011144	1.024582	.9932963	1.036304	1.035361	2.322143
#3	1.006260	1.037976	.9963248	1.044343	1.036652	2.343209
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5280972	.5006833	.5101090	9.263802	.5073431	.4933198
Stddev	.0045395	.0064414	.0012500	.065103	.0081136	.0001122
%RSD	.8595905	1.286518	.2450484	.7027658	1.599232	.0227512
#1	.5325454	.5076288	.5110823	9.300418	.5166333	.4934347
#2	.5234716	.4949058	.5105454	9.188636	.5037470	.4933142
#3	.5282746	.4995153	.5086993	9.302351	.5016491	.4932104
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5053215	9.397345	.4932588	5.650904	.5392204	.2439923
Stddev	.0013847	.102186	.0050533	.059357	.0010447	.0033503
%RSD	.2740302	1.087393	1.024481	1.050407	.1937469	1.373117
#1	.5069201	9.513802	.4984537	5.705336	.5398145	.2478474
#2	.5045487	9.355558	.4883600	5.587616	.5398325	.2423446
#3	.5044956	9.322675	.4929626	5.659758	.5380141	.2417850
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.217999	.4653164	.9855643	9.162029	F .0318269	F .0006046
Stddev	.082603	.0023040	.0161157	.079783	.0011014	.0002181
%RSD	.8961072	.4951380	1.635176	.8708052	3.460547	36.08105
#1	9.313232	.4664332	1.003817	9.253705	.0328428	.0007847
#2	9.165769	.4626669	.979576	9.108312	.0306564	.0006670
#3	9.174995	.4668491	.973300	9.124071	.0319815	.0003620

Sample Name: ICV01 Acquired: 4/25/2025 13:48:04 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0012796	F -.000620	F .0044770	F .0022214	F .0073296	F .0040712
Stddev	.0007694	.000165	.0110709	.0011611	.0042981	.0004798
%RSD	60.12293	26.67234	247.2818	52.26850	58.64004	11.78545
#1	.0014330	-.000469	.0172227	.0008893	.0068535	.0038023
#2	.0019607	-.000797	-.001044	.0030188	.0118459	.0046252
#3	.0004452	-.000593	-.002747	.0027561	.0032894	.0037863

Elem	Sr4077
Units	ppm
Avg	F .0014705
Stddev	.0000398
%RSD	2.704236
#1	.0014913
#2	.0014956
#3	.0014247

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3194.014	74260.47	11112.36	2098.083	4921.810
Stddev	10.138	933.70	130.19	32.689	14.806
%RSD	.3173910	1.257333	1.171564	1.558018	.3008344
#1	3182.471	73186.68	10982.47	2060.584	4905.309
#2	3201.474	74881.21	11242.84	2113.099	4933.936
#3	3198.096	74713.52	11111.75	2120.565	4926.184

Sample Name: LLICV01 Acquired: 4/25/2025 13:52:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0212908	.0434249	.0111224	.0182950	.0541185	.0966074	.0915792
Stddev	.0010910	.0014368	.0016730	.0034587	.0001695	.0087286	.0003321
%RSD	5.124289	3.308617	15.04182	18.90519	.3132653	9.035105	.3625895

#1	.0209189	.0418128	.0109564	.0185312	.0539254	.0928054	.0912151
#2	.0225191	.0438918	.0095385	.0216295	.0542429	.1065921	.0916572
#3	.0204344	.0445701	.0128722	.0147242	.0541872	.0904247	.0918653

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056744	.0061723	1.934465	.0100291	.0290614	.0218156	.0915655
Stddev	.0000100	.0001356	.023289	.0001560	.0003094	.0005515	.0048599
%RSD	.1756958	2.197406	1.203919	1.554951	1.064628	2.528123	5.307550

#1	.0056839	.0061768	1.907830	.0102029	.0292554	.0219547	.0860516
#2	.0056640	.0060345	1.950998	.0099829	.0287045	.0222843	.0934193
#3	.0056754	.0063057	1.944566	.0099014	.0292241	.0212079	.0952257

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0197509	2.034431	.0391629	.0102185	1.930644	.0381992	.0405381
Stddev	.0003494	.018936	.0000945	.0002600	.028098	.0016034	.0006981
%RSD	1.769225	.9308000	.2413203	2.544312	1.455348	4.197441	1.722052

#1	.0201379	2.038385	.0392554	.0100140	1.899235	.0400160	.0404435
#2	.0194585	2.051079	.0391666	.0105111	1.953389	.0369819	.0412787
#3	.0196563	2.013830	.0390665	.0101304	1.939309	.0375998	.0398922

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.927904	.1109652	.2094234	.0418761	.0385893	.3313475	.0229769
Stddev	.053567	.0004703	.0011340	.0001516	.0014552	.0051808	.0024671
%RSD	2.778522	.4238645	.5414624	.3619060	3.771033	1.563561	10.73731

#1	1.866340	.1104355	.2104939	.0419140	.0402319	.3307520	.0256782
#2	1.963869	.1113341	.2082352	.0417092	.0374611	.3368004	.0224096
#3	1.953502	.1111259	.2095412	.0420051	.0380749	.3264902	.0208428

Sample Name: LLICV01 Acquired: 4/25/2025 13:52:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0227108	.0198712	.0200597
Stddev	.0010786	.0020389	.0000684
%RSD	4.749368	10.26039	.3408869
#1	.0222077	.0221401	.0201083
#2	.0239490	.0192809	.0200894
#3	.0219755	.0181927	.0199815

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3264.988	74659.28	11289.30	2128.822	5083.480
Stddev	18.329	943.62	7.55	29.562	37.903
%RSD	.5613951	1.263896	.0669207	1.388662	.7456109
#1	3244.143	75681.13	11295.20	2159.713	5040.688
#2	3278.585	73820.83	11280.78	2100.797	5112.832
#3	3272.237	74475.88	11291.92	2125.955	5096.918

Sample Name: ICB01 Acquired: 4/25/2025 13:56:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004707	-.000111	-.000611	-.007119	.0020526	.0057488	-.001399
Stddev	.0024834	.000782	.000271	.001904	.0023921	.0063244	.001715
%RSD	527.6274	701.7603	44.42959	26.73980	116.5373	110.0120	122.6064
#1	-.002225	.000666	-.000709	-.008737	-.000415	-.000237	-.000187
#2	.002666	-.000103	-.000304	-.007600	.004361	.012365	-.003361
#3	.000971	-.000897	-.000819	-.005022	.002212	.005119	-.000648
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000026	.0000171	-.011094	-.000003	.0000141	-.000657	-.007337
Stddev	.000025	.0000481	.003600	.000450	.0001198	.000403	.006756
%RSD	93.56345	281.3619	32.45320	14491.23	847.9801	61.41261	92.07706
#1	-.000032	.0000331	-.014987	.000248	.0001292	-.000350	-.014436
#2	-.000048	-.000037	-.007884	.000266	.0000231	-.001113	-.006591
#3	.000001	.000055	-.010410	-.000523	-.000110	-.000506	-.000986
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011319	.0081925	.0000881	-.000070	.0032121	-.001288	-.000553
Stddev	.0006979	.0167404	.0001384	.000270	.0083609	.000774	.000463
%RSD	61.65740	204.3375	157.0767	383.9026	260.2934	60.07071	83.72307
#1	.0003262	.0042031	-.000000	.000135	.0008762	-.000403	-.000087
#2	.0015475	-.006193	.000248	-.000376	-.003732	-.001837	-.000559
#3	.0015220	.026567	.000017	.000030	.012493	-.001625	-.001012
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0240656	.0101217	.0002974	.0011819	.0002951	.0061447	.0014512
Stddev	.0177104	.0002372	.0003067	.0004740	.0009195	.0067101	.0024579
%RSD	73.59216	2.343440	103.1025	40.10520	311.5747	109.2011	169.3673
#1	.0075867	.0103361	.0001800	.0009590	-.000765	.0052516	-.001324
#2	.0218173	.0101621	.0000669	.0008604	.000873	.0132566	.002323
#3	.0427928	.0098669	.0006454	.0017263	.000778	-.000074	.003354

Sample Name: ICB01 Acquired: 4/25/2025 13:56:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0001023	-.000793	-.000011
Stddev	.0026338	.000707	.000047
%RSD	2575.869	89.06665	436.5672

#1	-.001531	-.001188	-.000009
#2	-.001303	.000022	.000035
#3	.003141	-.001215	-.000058

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3253.765	74994.07	10904.08	2131.922	5065.348
Stddev	2.461	973.81	123.21	28.939	4.297
%RSD	.0756236	1.298518	1.129901	1.357434	.0848411

#1	3256.118	75664.54	10904.88	2151.409	5063.989
#2	3251.209	73877.07	10780.47	2098.670	5070.160
#3	3253.968	75440.61	11026.88	2145.689	5061.893

Sample Name: CRI01 Acquired: 4/25/2025 14:01:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0209900	.0428123	.0102680	.0154682	.0529694	.0948961	.0885389
Stddev	.0019078	.0014095	.0013118	.0039378	.0033467	.0037722	.0004070
%RSD	9.088903	3.292206	12.77582	25.45775	6.318157	3.975085	.4597233

#1	.0190280	.0411902	.0115260	.0163131	.0497201	.0915667	.0888596
#2	.0228385	.0435081	.0089082	.0189149	.0527825	.0941285	.0880810
#3	.0211034	.0437385	.0103699	.0111764	.0564057	.0989930	.0886760

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060027	.0061075	1.908465	.0095247	.0291887	.0224441	.0878612
Stddev	.0000956	.0001187	.008428	.0002750	.0003247	.0004202	.0043454
%RSD	1.592308	1.943262	.4415973	2.887750	1.112296	1.872207	4.945709

#1	.0059537	.0062012	1.918194	.0098294	.0294289	.0226071	.0861409
#2	.0059415	.0059740	1.903814	.0094500	.0288194	.0219668	.0928033
#3	.0061128	.0061473	1.903388	.0092947	.0293179	.0227583	.0846393

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0199294	2.048693	.0389727	.0099581	1.851911	.0386450	.0409509
Stddev	.0001958	.015731	.0003800	.0002110	.021874	.0020756	.0008081
%RSD	.9826262	.7678723	.9749633	2.119016	1.181162	5.370917	1.973331

#1	.0198579	2.066801	.0388729	.0101578	1.853597	.0408241	.0416453
#2	.0197793	2.038392	.0386526	.0099792	1.872894	.0384197	.0411435
#3	.0201509	2.040885	.0393926	.0097374	1.829243	.0366913	.0400639

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.856910	.1116220	.2088682	.0420626	.0387274	.3092451	.0193546
Stddev	.007684	.0007711	.0024009	.0005706	.0001883	.0064617	.0013049
%RSD	.4137833	.6907707	1.149474	1.356492	.4862432	2.089505	6.742163

#1	1.859374	.1109966	.2101800	.0420270	.0385245	.3166679	.0186184
#2	1.863059	.1113859	.2060972	.0415106	.0387610	.3048778	.0208612
#3	1.848296	.1124835	.2103273	.0426501	.0388966	.3061895	.0185840

Sample Name: CRI01 Acquired: 4/25/2025 14:01:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0181998	.0180262	.0199320
Stddev	.0006589	.0002738	.0000732
%RSD	3.620602	1.518798	.3674627
#1	.0184463	.0179360	.0200119
#2	.0174532	.0178088	.0198680
#3	.0187000	.0183337	.0199162

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3234.322	73968.61	10699.46	2120.401	5028.557
Stddev	32.802	415.90	41.01	17.801	53.952
%RSD	1.014183	.5622588	.3832891	.8395220	1.072905
#1	3212.660	73861.88	10689.54	2109.854	4989.652
#2	3272.061	73616.48	10744.52	2110.395	5090.147
#3	3218.245	74427.47	10664.32	2140.954	5005.872

Sample Name: ICSA01 Acquired: 4/25/2025 14:05:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001814	.0103554	-.004371	-.004673	-.000014	234.7884
Stddev	.001993	.0036080	.000915	.001997	.005773	.9517
%RSD	109.8410	34.84118	20.93956	42.73519	40402.12	.4053469
#1	-.002606	.0127434	-.003353	-.004585	.004655	235.0774
#2	.000453	.0062050	-.004633	-.006712	.001771	235.5621
#3	-.003289	.0121180	-.005126	-.002721	-.006469	233.7257
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034429	.0004805	-.003199	223.9742	.0548415	.0004971
Stddev	.0017091	.0000436	.000216	.8433	.0002541	.0005544
%RSD	49.64118	9.065687	6.757770	.3765263	.4633525	111.5426
#1	.0042819	.0004987	-.003206	224.3990	.0550544	.0003396
#2	.0045703	.0005120	-.002979	224.5207	.0549099	.0011132
#3	.0014764	.0004308	-.003411	223.0030	.0545602	.0000384
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047181	97.78637	.0022486	238.3737	.0022534	.0018460
Stddev	.0012764	.63879	.0004677	1.4369	.0003566	.0001523
%RSD	27.05221	.6532457	20.79947	.6027748	15.82420	8.250802
#1	.0054895	97.47244	.0017958	238.7036	.0024767	.0017468
#2	.0054199	97.36530	.0027299	239.6169	.0018422	.0017698
#3	.0032449	98.52138	.0022202	236.8006	.0024413	.0020214
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0278854	.0026824	.0024084	.0285633	F .1267625	.0011256
Stddev	.0110446	.0013751	.0003520	.0171521	.0020549	.0007211
%RSD	39.60687	51.26155	14.61605	60.04945	1.621084	64.06854
#1	.0183546	.0037740	.0020020	.0483006	.1261474	.0013710
#2	.0253123	.0011381	.0026095	.0201173	.1250854	.0016919
#3	.0399894	.0031352	.0026138	.0172720	.1290547	.0003138

Sample Name: ICSA01 Acquired: 4/25/2025 14:05:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005641	-.002048	.0220594	.0047948	F -.025115	.0069487
Stddev	.000359	.000234	.0121062	.0024322	.004824	.0004822
%RSD	6.356696	11.42221	54.87996	50.72502	19.20991	6.939661

#1	-.005666	-.001822	.0211558	.0037699	-.030227	.0075033
#2	-.005987	-.002032	.0104303	.0075716	-.020642	.0066282
#3	-.005271	-.002289	.0345921	.0030428	-.024474	.0067147

Elem	Sr4077
Units	ppm
Avg	F .0961992
Stddev	.0004113
%RSD	.4275598

#1	.0962810
#2	.0965634
#3	.0957531

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2912.274	66369.68	10830.34	1902.314	4265.368
Stddev	2.666	179.52	86.66	.584	6.805
%RSD	.0915412	.2704919	.8001817	.0306736	.1595298

#1	2911.404	66442.75	10802.27	1901.696	4258.983
#2	2915.266	66501.16	10761.19	1902.389	4272.526
#3	2910.152	66165.15	10927.56	1902.856	4264.594

Sample Name: ICSAB01 Acquired: 4/25/2025 14:09:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1117858	.1010921	.0463552	.0446479	.6323269	235.3349
Stddev	.0047580	.0018269	.0014447	.0014742	.0014154	.6461
%RSD	4.256328	1.807173	3.116612	3.301795	.2238470	.2745419
#1	.1119913	.0989986	.0476252	.0449048	.6324835	235.0621
#2	.1164378	.1023637	.0447834	.0430622	.6308396	236.0726
#3	.1069285	.1019141	.0466570	.0459768	.6336574	234.8699
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4556449	.4853450	1.006865	222.1717	.5499237	.4925892
Stddev	.0002901	.0048095	.001977	.4809	.0085356	.0001438
%RSD	.0636721	.9909408	.1963194	.2164516	1.552148	.0291852
#1	.4559115	.4866023	1.009146	221.9511	.5519190	.4927541
#2	.4553359	.4894009	1.005667	222.7233	.5572850	.4924901
#3	.4556874	.4800317	1.005781	221.8407	.5405672	.4925235
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4878080	92.60447	.4611584	237.8528	.9750422	.1746448
Stddev	.0014044	.65654	.0012305	.5842	.0014813	.0022549
%RSD	.2879032	.7089679	.2668229	.2455939	.1519190	1.291115
#1	.4894281	92.74569	.4619157	237.6062	.9767280	.1745240
#2	.4869366	93.17891	.4597386	238.5198	.9744497	.1769576
#3	.4870592	91.88882	.4618208	237.4323	.9739488	.1724528
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086479	.4613800	1.022649	.0435173	F .1103700	F .0005038
Stddev	.0066776	.0017300	.017875	.0094981	.0013263	.0004329
%RSD	77.21673	.3749730	1.747924	21.82602	1.201666	85.92832
#1	.0119073	.4625770	1.023983	.0395714	.1113714	.0008770
#2	.0009665	.4621665	1.039819	.0366282	.1108728	.0000292
#3	.0130699	.4593964	1.004144	.0543523	.1088659	.0006052

Sample Name: ICSAB01 Acquired: 4/25/2025 14:09:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.004576	F -.002651	F .0055224	F .0032479	F -.022154	F .0033178
Stddev	.001273	.000756	.0107544	.0060788	.006092	.0017211
%RSD	27.81834	28.50494	194.7412	187.1617	27.49730	51.87449
#1	-.005636	-.003519	-.005754	.0099525	-.028718	.0051509
#2	-.004928	-.002139	.006655	-.001904	-.021061	.0030661
#3	-.003164	-.002295	.015666	.001695	-.016682	.0017365

Elem	Sr4077
Units	ppm
Avg	F .0969697
Stddev	.0004199
%RSD	.4330372
#1	.0966962
#2	.0974532
#3	.0967598

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2931.662	67302.10	10462.06	1912.128	4316.757
Stddev	6.084	662.86	48.74	19.520	10.138
%RSD	.2075177	.9848968	.4658665	1.020848	.2348483
#1	2931.265	67219.24	10467.35	1913.269	4318.927
#2	2925.787	66684.57	10410.90	1892.062	4305.710
#3	2937.935	68002.49	10507.95	1931.052	4325.634

Sample Name: ICSADLX20 Acquired: 4/25/2025 14:13:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010406	.0024070	-.001285	-.001311	.0013130	11.41086	-.001368
Stddev	.0026181	.0013888	.000860	.003150	.0014619	.08994	.001076
%RSD	251.5940	57.69940	66.92607	240.3395	111.3425	.7881983	78.62202

#1	-.001492	.0015130	-.000766	.000185	.0008843	11.46216	-.002466
#2	.003736	.0040070	-.002277	.000813	.0029413	11.46342	-.000316
#3	.000878	.0017010	-.000811	-.004930	.0001133	11.30701	-.001322

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000403	-.000177	11.38706	.0021824	-.000142	.0002810	4.669559
Stddev	.0000323	.000032	.08788	.0005115	.000439	.0004459	.054815
%RSD	80.09263	18.32919	.7717261	23.43670	309.5163	158.6873	1.173870

#1	.0000503	-.000203	11.44651	.0016175	.000179	-.000143	4.606876
#2	.0000042	-.000186	11.42854	.0023153	.000037	.000746	4.693301
#3	.0000663	-.000141	11.28612	.0026142	-.000642	.000241	4.708501

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013732	11.64804	.0001833	.0000523	-.028482	-.000973	-.000143
Stddev	.0003267	.06986	.0002128	.0000463	.009142	.001008	.000229
%RSD	23.79445	.5997913	116.0703	88.43011	32.09938	103.6834	160.2639

#1	.0011893	11.67937	.0000748	.0001030	-.038113	-.000684	-.000371
#2	.0011798	11.69674	.0004285	.0000417	-.027410	-.002094	.000087
#3	.0017504	11.56799	.0000467	.0000123	-.019923	-.000140	-.000145

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000393	.0066566	.0003549	.0010900	-.000234	.0034315	.0002748
Stddev	.019162	.0005642	.0000152	.0010929	.000540	.0039022	.0023290
%RSD	4872.204	8.476377	4.287596	100.2630	231.1594	113.7166	847.4851

#1	-.016033	.0060437	.0003689	.0011230	-.000542	.0023259	-.001531
#2	-.006128	.0067718	.0003387	-.000019	-.000549	.0077671	-.000548
#3	.020981	.0071544	.0003572	.002166	.000390	.0002014	.002904

Sample Name: ICSADLX20 Acquired: 4/25/2025 14:13:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000996	-.000086	.0047872
Stddev	.004929	.000885	.0000389
%RSD	495.0704	1030.661	.8135483
#1	.003827	-.000702	.0047514
#2	-.006025	-.000485	.0048287
#3	-.000790	.000929	.0047815

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3218.616	75778.59	11312.92	2145.824	4993.614
Stddev	5.493	955.17	113.68	25.646	9.215
%RSD	.1706509	1.260479	1.004838	1.195146	.1845407
#1	3222.047	76878.71	11227.61	2174.058	5000.148
#2	3212.281	75160.26	11269.18	2123.971	4983.074
#3	3221.520	75296.80	11441.97	2139.443	4997.621

Sample Name: ICSABDLX20 Acquired: 4/25/2025 14:18:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044859	.0077948	.0014272	-.000812	.0299759	11.25828	.0207204
Stddev	.0008156	.0009668	.0005951	.002562	.0011360	.00504	.0015851
%RSD	18.18032	12.40346	41.69772	315.3725	3.789654	.0447671	7.649725
#1	.0038529	.0087674	.0020200	-.000800	.0302864	11.25253	.0214446
#2	.0054063	.0068338	.0008297	.001744	.0309244	11.26195	.0189026
#3	.0041987	.0077831	.0014320	-.003381	.0287170	11.26037	.0218140
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0231600	.0495823	11.21500	.0273672	.0236535	.0246173	4.753282
Stddev	.0002029	.0001311	.02406	.0002692	.0001375	.0001909	.038271
%RSD	.8762405	.2643472	.2144950	.9837765	.5811813	.7753454	.8051401
#1	.0229502	.0494863	11.18859	.0272202	.0237730	.0248356	4.794040
#2	.0233553	.0495289	11.23567	.0272035	.0235033	.0245346	4.718113
#3	.0231746	.0497316	11.22073	.0276779	.0236844	.0244817	4.747695
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0249422	11.47082	.0481974	.0084572	-.024000	.0237354	.0491899
Stddev	.0007116	.06023	.0004173	.0004863	.012742	.0023805	.0006417
%RSD	2.853026	.5250947	.8658566	5.750699	53.09130	10.02930	1.304638
#1	.0241295	11.43001	.0478854	.0088951	-.021828	.0217152	.0485086
#2	.0254539	11.44246	.0486714	.0085428	-.012484	.0263597	.0492780
#3	.0252430	11.54000	.0480353	.0079337	-.037689	.0231312	.0497830
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004743	.0067384	.0005160	.0002394	-.000592	.0088685	-.000824
Stddev	.020263	.0003498	.0002002	.0001906	.000333	.0018539	.002097
%RSD	427.1799	5.191559	38.80746	79.62821	56.31375	20.90472	254.4922
#1	.016745	.0063398	.0003626	.0002339	-.000974	.0070988	-.002137
#2	-.023504	.0069942	.0004430	.0004328	-.000446	.0107965	-.001930
#3	-.007472	.0068813	.0007425	.0000516	-.000357	.0087102	.001595

Sample Name: ICSABDLX20 Acquired: 4/25/2025 14:18:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000169	-.000835	.0047710
Stddev	.009418	.000936	.0000530
%RSD	5577.110	112.1238	1.110906
#1	-.003598	-.000175	.0048120
#2	.010483	-.000423	.0047112
#3	-.007392	-.001905	.0047900

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3209.514	73333.81	11340.75	2103.039	4968.285
Stddev	9.436	249.79	83.64	7.618	12.408
%RSD	.2939991	.3406209	.7375188	.3622511	.2497412
#1	3202.554	73054.49	11437.17	2096.740	4956.624
#2	3205.735	73535.76	11287.77	2100.872	4966.907
#3	3220.254	73411.18	11297.32	2111.506	4981.325

Sample Name: CCV01 Acquired: 4/25/2025 14:22:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.976129	5.062534	4.950473	5.010421	4.986944	9.795261	9.575696
Stddev	.017428	.043141	.014901	.030210	.016010	.015725	.179576
%RSD	.3502404	.8521661	.3009992	.6029467	.3210380	.1605358	1.875334
#1	4.991211	5.104468	4.957122	5.036476	4.996320	9.810514	9.617331
#2	4.957049	5.064854	4.933405	4.977306	4.968458	9.779103	9.378959
#3	4.980127	5.018279	4.960892	5.017480	4.996053	9.796166	9.730797
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2516073	2.459979	24.32128	.9993234	2.468674	1.253023	4.836239
Stddev	.0019448	.003675	.09933	.0029695	.004949	.005236	.041376
%RSD	.7729559	.1493834	.4083919	.2971473	.2004532	.4179000	.8555422
#1	.2537250	2.462011	24.35668	.9994265	2.472105	1.254589	4.802423
#2	.2499013	2.455737	24.20910	1.002240	2.463002	1.247183	4.882376
#3	.2511954	2.462189	24.39805	.996304	2.470917	1.257298	4.823918
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.424850	24.19971	2.470292	1.248588	24.07397	2.418289	2.512366
Stddev	.011788	.12393	.005149	.004376	.19262	.001756	.001959
%RSD	.4861489	.5121010	.2084416	.3504590	.8000994	.0726013	.0779841
#1	2.430055	24.31698	2.473632	1.247974	23.86252	2.419955	2.510861
#2	2.411354	24.07006	2.464362	1.253239	24.23944	2.416456	2.511656
#3	2.433139	24.21208	2.472882	1.244552	24.11994	2.418457	2.514582
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.96069	5.132559	4.997415	4.942526	4.837596	4.818367	4.932556
Stddev	.16120	.037954	.013705	.007584	.020938	.026699	.019200
%RSD	.6727550	.7394692	.2742332	.1534497	.4328223	.5541187	.3892517
#1	23.79625	5.175276	5.010952	4.950372	4.844090	4.788548	4.953606
#2	24.11843	5.102721	4.983549	4.935233	4.814181	4.840057	4.928059
#3	23.96738	5.119679	4.997745	4.941973	4.854518	4.826497	4.916004

Sample Name: CCV01 Acquired: 4/25/2025 14:22:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.899056	4.843852	4.863849
Stddev	.017972	.018042	.053149
%RSD	.3668559	.3724787	1.092741

#1	4.916486	4.842080	4.813114
#2	4.880586	4.826762	4.859312
#3	4.900096	4.862715	4.919122

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3129.080	71711.15	10404.72	2045.596	4714.647
Stddev	6.754	291.66	61.27	3.549	6.458
%RSD	.2158607	.4067195	.5888569	.1734837	.1369840

#1	3127.184	71835.84	10338.00	2045.820	4713.692
#2	3136.580	71377.87	10458.46	2041.941	4721.529
#3	3123.476	71919.75	10417.71	2049.028	4708.719

Sample Name: CCB01 Acquired: 4/25/2025 14:26:44 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017087	-.000269	-.001119	-.001947	.0004570	.0024255	-.003244
Stddev	.0035351	.001492	.000785	.005248	.0007043	.0037337	.000579
%RSD	206.8861	554.2103	70.12113	269.4871	154.0899	153.9320	17.86255

#1	.0051153	-.000146	-.001599	-.001483	.0001862	-.001757	-.002921
#2	-.001942	.001157	-.001546	-.007412	-.000072	.005422	-.002898
#3	.001953	-.001818	-.000214	.003053	.001257	.003612	-.003913

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000005	-.000019	-.012257	.0001114	-.000255	-.000240	-.006701
Stddev	.000032	.000039	.005560	.0001823	.000332	.000430	.000772
%RSD	666.8275	204.5656	45.36227	163.6629	130.3309	179.0118	11.52199

#1	.000014	-.000034	-.018180	.0001729	-.000435	.000108	-.006667
#2	-.000042	.000025	-.011441	.0002550	-.000459	-.000721	-.005947
#3	.000013	-.000048	-.007150	-.000094	.000129	-.000108	-.007490

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010559	-.004005	.0000549	.0001407	-.023806	.0015121	-.000204
Stddev	.0003302	.009774	.0003227	.0001029	.011767	.0022596	.000502
%RSD	31.26804	244.0577	587.3924	73.12390	49.42905	149.4303	245.6356

#1	.0013112	-.013331	-.000316	.0000359	-.037086	.0036003	-.000045
#2	.0011735	-.004846	.000273	.0001445	-.014674	-.000887	.000198
#3	.0006831	.006163	.000207	.0002415	-.019660	.001823	-.000766

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0144797	.0085474	.0004182	.0018184	-.000186	.0028525	.0001766
Stddev	.0382413	.0007301	.0000356	.0004105	.001074	.0112196	.0019921
%RSD	264.1022	8.541785	8.504113	22.57751	576.7442	393.3298	1128.012

#1	.0585214	.0093902	.0004204	.0021441	.000491	.0151281	.0011337
#2	-.010307	.0081411	.0004526	.0013572	-.001424	-.006871	.0015095
#3	-.004775	.0081108	.0003815	.0019539	.000375	.000301	-.002113

Sample Name: CCB01 Acquired: 4/25/2025 14:26:44 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003461	-.001058	.0000396
Stddev	.000904	.000887	.0000266
%RSD	26.12016	83.81762	67.13332

#1	-.004269	-.000114	.0000650
#2	-.002485	-.001186	.0000420
#3	-.003629	-.001874	.0000119

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3281.904	75510.53	10697.88	2133.964	5178.316
Stddev	3.278	48.95	18.50	3.638	13.059
%RSD	.0998722	.0648309	.1729091	.1704773	.2521846

#1	3283.968	75545.50	10719.24	2138.156	5185.550
#2	3278.124	75454.58	10686.99	2131.630	5186.157
#3	3283.619	75531.51	10687.41	2132.107	5163.241

Sample Name: PB167722BL Acquired: 4/25/2025 14:31:04 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001069	.0012778	-.001164	-.002359	.0007756	.0029776	-.003023
Stddev	.001202	.0019834	.000230	.003041	.0011850	.0074016	.001160
%RSD	112.3715	155.2189	19.78437	128.9431	152.7858	248.5748	38.35881

#1	-.000367	.0030710	-.000920	-.004951	.0017477	.0115017	-.003918
#2	-.000384	-.000853	-.001195	.000989	.0011234	-.001823	-.001713
#3	-.002457	.001615	-.001377	-.003113	-.000544	-.000746	-.003439

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000026	.0000045	-.005760	.0002025	-.000151	-.000112	-.012325
Stddev	.000014	.0000896	.006369	.0000985	.000140	.000076	.003734
%RSD	53.10545	1978.139	110.5808	48.63944	92.38647	68.04310	30.29835

#1	-.000012	-.000089	-.006288	.0002239	-.000013	-.000041	-.008472
#2	-.000026	.000090	-.011849	.0000951	-.000147	-.000192	-.015928
#3	-.000040	.000013	.000857	.0002886	-.000293	-.000102	-.012577

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012388	-.014297	-.000022	.0001762	-.021635	-.000528	-.000787
Stddev	.0005786	.016936	.000134	.0003924	.007448	.000956	.000465
%RSD	46.70922	118.4611	601.0975	222.7041	34.42826	181.2247	59.17508

#1	.0005709	.005221	-.000156	.0000186	-.022635	-.000438	-.000267
#2	.0015877	-.025120	.000113	-.000113	-.028532	.000381	-.000928
#3	.0015577	-.022992	-.000025	.000623	-.013736	-.001526	-.001165

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005064	.0046288	.0003553	.0004721	-.000136	.0064905	-.000908
Stddev	.009347	.0004589	.0003722	.0003917	.000686	.0001289	.001358
%RSD	184.5640	9.914108	104.7552	82.98208	505.7622	1.986024	149.6154

#1	-.013866	.0043257	.0007706	.0001880	-.000881	.0064152	.000634
#2	-.006073	.0051568	.0000521	.0009189	.000469	.0064170	-.001431
#3	.004746	.0044041	.0002431	.0003092	.000004	.0066394	-.001927

Sample Name: PB167722BL Acquired: 4/25/2025 14:31:04 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002781	-.000961	-.000030
Stddev	.000634	.000725	.000061
%RSD	22.81711	75.50773	202.3601

#1	-.003297	-.001689	-.000100
#2	-.002972	-.000953	.000012
#3	-.002072	-.000239	-.000003

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3291.532	74168.41	10670.58	2107.225	5196.180
Stddev	19.566	541.31	88.72	21.037	29.767
%RSD	.5944201	.7298402	.8314581	.9983139	.5728566

#1	3297.298	74524.01	10686.33	2127.102	5200.532
#2	3269.731	74435.77	10575.04	2109.378	5164.477
#3	3307.566	73545.43	10750.37	2085.194	5223.531

Sample Name: PB167722BS Acquired: 4/25/2025 14:35:24 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7867988	1.985049	.9626284	1.992808	.8020805	1.833582
Stddev	.0056142	.007106	.0004565	.014473	.0028302	.007545
%RSD	.7135475	.3579942	.0474246	.7262708	.3528567	.4114818

#1	.7855710	1.977126	.9623237	1.980952	.7991772	1.828368
#2	.7819001	1.987161	.9631533	1.988534	.8022328	1.830145
#3	.7929253	1.990860	.9624082	2.008936	.8048314	1.842234

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1728586	.1949140	.1957327	.9317905	.3879466	.1889830
Stddev	.0012409	.0014644	.0008236	.0085840	.0007219	.0007133
%RSD	.7178713	.7512901	.4207728	.9212400	.1860930	.3774358

#1	.1742914	.1963393	.1950298	.9235255	.3881195	.1883515
#2	.1721514	.1934135	.1966389	.9311846	.3885664	.1897567
#3	.1721330	.1949892	.1955294	.9406615	.3871539	.1888408

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2968388	2.719173	.1876560	1.815357	.4782349	.0720301
Stddev	.0008946	.009967	.0008964	.021390	.0018386	.0004283
%RSD	.3013646	.3665311	.4776863	1.178291	.3844554	.5946313

#1	.2959033	2.719275	.1884752	1.817613	.4763130	.0723257
#2	.2969270	2.729089	.1866985	1.835529	.4799769	.0722258
#3	.2976859	2.709156	.1877943	1.792928	.4784150	.0715389

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.661621	.2729373	.1969831	8.667762	.3008712	.3992214
Stddev	.009941	.0025332	.0012665	.058075	.0011535	.0010358
%RSD	.3735086	.9281394	.6429433	.6700088	.3833845	.2594602

#1	2.666949	.2742859	.1981402	8.602318	.3009919	.3980264
#2	2.667763	.2700150	.1971790	8.713151	.2996621	.3998615
#3	2.650151	.2745109	.1956301	8.687817	.3019595	.3997764

Sample Name: PB167722BS Acquired: 4/25/2025 14:35:24 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6799722	.1880823	F .6396709	5.633091	F -.015415	.1954003
Stddev	.0019533	.0003988	.0025938	.003685	.002625	.0004150
%RSD	.2872595	.2120508	.4054953	.0654177	17.02930	.2123843
#1	.6778502	.1883734	.6405058	5.637108	-.013193	.1955146
#2	.6816952	.1876277	.6367625	5.629867	-.018311	.1949402
#3	.6803712	.1882457	.6417446	5.632299	-.014740	.1957462

Elem	Sr4077
Units	ppm
Avg	.1937903
Stddev	.0003136
%RSD	.1618183
#1	.1934341
#2	.1939117
#3	.1940250

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3215.914	74176.11	10552.57	2109.352	5007.949
Stddev	5.543	186.95	63.73	13.812	8.102
%RSD	.1723537	.2520300	.6039216	.6547930	.1617872
#1	3220.158	74007.79	10503.52	2095.026	5016.604
#2	3217.942	74143.22	10624.60	2110.445	5000.545
#3	3209.643	74377.32	10529.58	2122.584	5006.699

Sample Name: Q1852-02 Acquired: 4/25/2025 14:39:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003988	-.002728	.0018832	-.001759	.0017815	.0984175	.1836218
Stddev	.001637	.001417	.0014560	.003165	.0016677	.0055775	.0026782
%RSD	41.03331	51.93496	77.31404	179.9279	93.61245	5.667230	1.458547

#1	-.005306	-.001415	.0004548	.001766	.0028760	.1009159	.1814718
#2	-.004502	-.004230	.0018295	-.002687	-.000138	.1023090	.1827717
#3	-.002157	-.002540	.0033653	-.004356	.002606	.0920275	.1866219

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000060	-.000061	6.574924	.0001101	.0002487	.0049240	.1308594
Stddev	.000021	.000103	.061866	.0002541	.0003806	.0006590	.0064838
%RSD	35.25920	167.5100	.9409383	230.8639	153.0352	13.38348	4.954753

#1	-.000060	.000056	6.523690	.0001362	.0006011	.0056841	.1236766
#2	-.000080	-.000133	6.557429	-.000156	.0003001	.0045763	.1326218
#3	-.000038	-.000107	6.643654	.000350	-.000155	.0045117	.1362798

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1686941	.9237053	.0018546	.0000188	317.2644	.0004026	.0642228
Stddev	.0020311	.0295783	.0002243	.0002560	2.1073	.0017155	.0003475
%RSD	1.203984	3.202136	12.09661	1359.075	.6642112	426.1089	.5410384

#1	.1676485	.9505572	.0016447	.0002151	316.4677	.0023522	.0644737
#2	.1673990	.8920008	.0018280	-.000271	315.6715	-.000876	.0643685
#3	.1710350	.9285580	.0020910	.000112	319.6539	-.000269	.0638262

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5924293	.0247465	.0002988	-.002304	.0025098	.6354981	.0141400
Stddev	.0076136	.0005736	.0002529	.000424	.0004658	.0041788	.0026893
%RSD	1.285158	2.317836	84.64959	18.40327	18.55746	.6575713	19.01915

#1	.5849465	.0242735	.0003313	-.002728	.0028806	.6368046	.0171819
#2	.5921740	.0245813	.0005339	-.001880	.0026616	.6388675	.0131595
#3	.6001674	.0253845	.0000312	-.002304	.0019870	.6308221	.0120784

Sample Name: Q1852-02 Acquired: 4/25/2025 14:39:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3821624	-.003369	.0374238
Stddev	.0040173	.000927	.0004810
%RSD	1.051211	27.50976	1.285297
#1	.3777765	-.004182	.0371228
#2	.3830467	-.002360	.0371700
#3	.3856639	-.003567	.0379785

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3087.456	71680.22	11163.48	2014.187	4654.524
Stddev	3.859	203.99	187.30	13.099	6.717
%RSD	.1250001	.2845891	1.677790	.6503205	.1443019
#1	3083.007	71915.24	11252.47	2028.262	4648.463
#2	3089.897	71549.03	11289.69	2002.354	4653.364
#3	3089.463	71576.40	10948.28	2011.945	4661.745

Sample Name: Q1852-04 Acquired: 4/25/2025 14:43:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003525	-.002847	.0019870	.0010249	.0010864	.0884992	.3091571
Stddev	.001856	.000894	.0011320	.0055655	.0010834	.0087900	.0016529
%RSD	52.65741	31.40727	56.97023	542.9975	99.71930	9.932320	.5346540

#1	-.001472	-.003386	.0016695	.0070316	.0015331	.0982748	.3107164
#2	-.004019	-.001815	.0010476	.0000001	.0018751	.0859760	.3093307
#3	-.005085	-.003340	.0032438	-.003957	-.000149	.0812467	.3074243

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000124	.0001468	27.64650	.0024676	.0002599	.0123892	.7340467
Stddev	.0000265	.0000924	.14933	.0001436	.0001771	.0004132	.0137468
%RSD	214.0192	62.94914	.5401379	5.819679	68.12067	3.335321	1.872740

#1	.0000017	.0000785	27.75401	.0023023	.0000819	.0128554	.7259112
#2	.0000425	.0002519	27.70949	.0025614	.0002620	.0120683	.7499185
#3	-.000007	.0001099	27.47600	.0025391	.0004360	.0122438	.7263105

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3718716	3.104125	.0044482	.0001110	322.5405	.0000568	.0893929
Stddev	.0031129	.022901	.0001336	.0002677	2.8124	.0022165	.0009943
%RSD	.8370798	.7377529	3.003521	241.1345	.8719610	3901.633	1.112234

#1	.3743852	3.112703	.0044745	.0001562	322.7935	.0017844	.0883488
#2	.3728399	3.121498	.0045667	-.000176	325.2179	-.002442	.0903284
#3	.3683896	3.078174	.0043034	.000353	319.6101	.000828	.0895014

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.236561	.0259388	.0007271	-.003379	.0014699	.9292626	.0195898
Stddev	.012144	.0006525	.0002034	.000975	.0004848	.0061371	.0009514
%RSD	.9820535	2.515682	27.97179	28.85798	32.98313	.6604232	4.856756

#1	1.223759	.0253714	.0009054	-.003747	.0009111	.9227591	.0205937
#2	1.238007	.0257931	.0005056	-.002274	.0017198	.9349519	.0187013
#3	1.247917	.0266519	.0007705	-.004117	.0017787	.9300768	.0194744

Sample Name: Q1852-04 Acquired: 4/25/2025 14:43:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5461237	-.005636	.0795261
Stddev	.0118749	.001185	.0002462
%RSD	2.174400	21.02925	.3095461
#1	.5538989	-.005013	.0794708
#2	.5520173	-.007003	.0793123
#3	.5324548	-.004892	.0797952

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3047.405	70864.71	10639.37	1988.811	4563.701
Stddev	45.925	841.99	32.74	18.027	65.960
%RSD	1.507021	1.188165	.3077700	.9064039	1.445308
#1	2997.515	71173.04	10616.01	2003.413	4491.365
#2	3056.781	69912.02	10676.79	1968.663	4579.221
#3	3087.918	71509.07	10625.30	1994.356	4620.516

Sample Name: Q1852-06 Acquired: 4/25/2025 14:48:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004782	-.003653	.0024689	-.001298	.0000653	.0490131	.2437185
Stddev	.003619	.001572	.0003033	.003191	.0003336	.0069529	.0012455
%RSD	75.68635	43.03601	12.28470	245.7601	510.6915	14.18576	.5110420

#1	-.008906	-.005466	.0028121	-.004898	.0003619	.0569314	.2451343
#2	-.002133	-.002814	.0022368	-.000178	-.000296	.0439061	.2427919
#3	-.003308	-.002678	.0023579	.001182	.000130	.0462017	.2432292

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000025	.0001474	21.45984	.0001956	.0003458	.0093411	.2583145
Stddev	.000048	.0000499	.04151	.0002002	.0002450	.0005826	.0010410
%RSD	189.7060	33.82574	.1934138	102.3849	70.86063	6.237207	.4029953

#1	-.000039	.0001745	21.43604	.0001088	.0001018	.0097071	.2571461
#2	.000028	.0000899	21.50777	.0004245	.0003437	.0096470	.2586538
#3	-.000065	.0001778	21.43573	.0000534	.0005918	.0086692	.2591434

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2660316	7.075480	.0031545	.0002254	292.9165	-.000681	.1603053
Stddev	.0005171	.039457	.0003927	.0001711	2.9686	.000318	.0010375
%RSD	.1943742	.5576525	12.45019	75.89415	1.013469	46.67401	.6472207

#1	.2665892	7.088541	.0032088	.0003584	293.1203	-.000486	.1594023
#2	.2659379	7.106750	.0035173	.0002855	289.8512	-.001048	.1600749
#3	.2655678	7.031149	.0027374	.0000324	295.7779	-.000510	.1614387

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5929199	.0221250	.0002775	-.003906	.0000035	.6327911	.0136476
Stddev	.0289125	.0009670	.0004737	.000362	.0005885	.0073520	.0018080
%RSD	4.876288	4.370517	170.6695	9.264880	16729.71	1.161842	13.24792

#1	.6204574	.0232108	.0001057	-.003802	-.000375	.6410193	.0149620
#2	.5628050	.0218078	-.000086	-.004308	.000682	.6268673	.0115857
#3	.5954972	.0213565	.000813	-.003606	-.000296	.6304867	.0143952

Sample Name: Q1852-06 Acquired: 4/25/2025 14:48:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3291579	-.004997	.0503445
Stddev	.0036039	.001325	.0000902
%RSD	1.094876	26.51187	.1792467

#1	.3332529	-.005015	.0502403
#2	.3277515	-.006312	.0503939
#3	.3264692	-.003663	.0503992

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3083.562	71540.08	11289.85	2007.546	4652.452
Stddev	9.127	373.34	43.88	5.006	11.204
%RSD	.2960014	.5218555	.3886742	.2493344	.2408234

#1	3082.262	71150.09	11297.08	2012.878	4659.178
#2	3075.155	71894.17	11242.80	2002.949	4639.518
#3	3093.270	71575.97	11329.67	2006.811	4658.660

Sample Name: Q1852-08 Acquired: 4/25/2025 14:52:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003578	-.005598	.0014421	-.003780	-.000630	.0108785	.2550281
Stddev	.002142	.001961	.0001903	.003446	.000351	.0066685	.0012387
%RSD	59.86996	35.02085	13.19692	91.18194	55.61250	61.30039	.4857017

#1	-.004730	-.007814	.0012842	-.002653	-.000963	.0044642	.2540753
#2	-.001106	-.004086	.0013888	-.001038	-.000264	.0177751	.2545807
#3	-.004898	-.004895	.0016534	-.007649	-.000665	.0103962	.2564283

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000025	.0000027	54.62694	.0020327	.0035678	.0106992	.7054761
Stddev	.000037	.0000859	.37668	.0004023	.0001523	.0005866	.0045506
%RSD	147.0540	3144.660	.6895478	19.79287	4.268811	5.483014	.6450451

#1	-.000040	.0000784	54.52609	.0024371	.0037370	.0112516	.7103310
#2	.000017	.0000204	54.31095	.0020283	.0035251	.0107624	.7047898
#3	-.000051	-.000091	55.04378	.0016325	.0034415	.0100835	.7013076

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5907856	17.67016	.0044102	.0001388	335.4937	-.000281	.0690576
Stddev	.0040861	.14354	.0002050	.0003345	3.5577	.000025	.0002942
%RSD	.6916326	.8123162	4.649256	241.0804	1.060424	8.763062	.4259587

#1	.5891610	17.66269	.0044211	-.000133	339.6017	-.000269	.0693001
#2	.5877617	17.53050	.0046096	.000037	333.4218	-.000309	.0687303
#3	.5954341	17.81729	.0041999	.000512	333.4577	-.000264	.0691423

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6850841	.0219221	.0007720	-.004679	-.000744	.6450523	.0115181
Stddev	.0170730	.0006675	.0000933	.001526	.000201	.0015359	.0024874
%RSD	2.492108	3.045046	12.08350	32.62418	27.05765	.2381097	21.59588

#1	.6653700	.0220271	.0008078	-.003084	-.000761	.6438067	.0125509
#2	.6948871	.0212083	.0008421	-.006126	-.000535	.6467684	.0133227
#3	.6949952	.0225309	.0006662	-.004826	-.000936	.6445816	.0086806

Sample Name: Q1852-08 Acquired: 4/25/2025 14:52:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3394770	-.009635	.1320565
Stddev	.0043061	.000443	.0008710
%RSD	1.268458	4.599628	.6595769

#1	.3391639	-.009703	.1313516
#2	.3439311	-.009161	.1317877
#3	.3353360	-.010040	.1330303

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3039.326	72454.30	11251.83	2000.943	4540.774
Stddev	7.907	521.71	88.20	13.912	16.298
%RSD	.2601456	.7200501	.7838562	.6952816	.3589364

#1	3048.306	71853.48	11238.10	1984.938	4558.943
#2	3033.411	72716.85	11346.09	2010.143	4535.938
#3	3036.262	72792.59	11171.30	2007.748	4527.441

Sample Name: Q1791-15 Acquired: 4/25/2025 14:57:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016070	-.004923	.0011518	.0001211	.0018965	1.127736
Stddev	.0036960	.001041	.0014441	.0025066	.0028840	.005209
%RSD	229.9920	21.15371	125.3728	2069.522	152.0680	.4619016

#1	-.001752	-.005331	-.000512	.0017241	.0000167	1.131670
#2	.001007	-.005699	.001895	-.002767	.0052170	1.121829
#3	.005566	-.003740	.002073	.001407	.0004559	1.129710

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0723666	.0002746	-.000741	33.76651	.0071481	.0044509
Stddev	.0013528	.0000323	.000121	.02484	.0002751	.0002480
%RSD	1.869423	11.76562	16.36001	.0735750	3.848507	5.573002

#1	.0736795	.0002455	-.000811	33.76619	.0074512	.0043617
#2	.0724432	.0002689	-.000810	33.74182	.0069142	.0047312
#3	.0709771	.0003094	-.000601	33.79151	.0070789	.0042598

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022736	11.35485	.7249582	2.712128	.0095481	.0006968
Stddev	.0004253	.01456	.0015110	.024187	.0001698	.0002950
%RSD	18.70829	.1282303	.2084241	.8917969	1.778831	42.33381

#1	.0018745	11.36605	.7267026	2.706000	.0096451	.0008123
#2	.0022252	11.33839	.7240572	2.691594	.0096472	.0003616
#3	.0027210	11.36011	.7241148	2.738789	.0093520	.0009167

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	391.4934	.0113931	.1591103	2.874826	.0668084	.0014721
Stddev	3.6424	.0015523	.0011747	.024089	.0006391	.0002018
%RSD	.9303796	13.62535	.7382724	.8379211	.9566755	13.70898

#1	390.0797	.0096069	.1591627	2.887029	.0675098	.0016917
#2	395.6307	.0124163	.1579103	2.847078	.0666563	.0014301
#3	388.7699	.0121559	.1602579	2.890372	.0662589	.0012947

Sample Name: Q1791-15 Acquired: 4/25/2025 14:57:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004086	.0150918	4.290951	.5014291	F 70.09277	.0021301
Stddev	.000657	.0005390	.011043	.0046579	.03091	.0026449
%RSD	16.08598	3.571751	.2573445	.9289184	.0440994	124.1650

#1	-.003450	.0156592	4.303141	.5034789	70.10079	.0049653
#2	-.004045	.0145865	4.288092	.5047106	70.11889	-.000271
#3	-.004762	.0150296	4.281619	.4960979	70.05864	.001696

Elem	Sr4077
Units	ppm
Avg	.2826610
Stddev	.0003469
%RSD	.1227308

#1	.2827364
#2	.2829641
#3	.2822826

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3015.442	70053.42	11005.97	1970.727	4496.566
Stddev	2.378	91.42	29.81	5.731	10.676
%RSD	.0788709	.1304947	.2708252	.2908138	.2374345

#1	3012.936	70142.60	11040.24	1972.127	4498.435
#2	3015.720	69959.92	10986.07	1975.629	4485.078
#3	3017.668	70057.74	10991.58	1964.426	4506.184

Sample Name: Q1791-16 Acquired: 4/25/2025 15:01:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001643	-.004526	-.001791	-.000397	-.000495	-.051132	.1984515
Stddev	.002724	.002540	.000255	.006336	.000716	.003360	.0021543
%RSD	165.7686	56.12973	14.22091	1597.258	144.4867	6.572059	1.085560

#1	-.002965	-.006798	-.001899	-.007136	-.000960	-.052510	.2003676
#2	-.003454	-.004996	-.001974	.000509	.000329	-.053584	.1988675
#3	.001489	-.001783	-.001500	.005438	-.000856	-.047301	.1961196

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000069	-.000358	84.34905	.0024201	.0031824	.0006709	7.168680
Stddev	.000025	.000055	.99672	.0004120	.0004134	.0002631	.029703
%RSD	36.12612	15.49661	1.181655	17.02484	12.99068	39.20981	.4143423

#1	-.000045	-.000298	85.47321	.0019521	.0036492	.0008317	7.169165
#2	-.000095	-.000408	84.00063	.0027285	.0030355	.0008137	7.198137
#3	-.000068	-.000367	83.57332	.0025796	.0028624	.0003673	7.138737

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6788024	4.876422	.0046244	.0004919	281.1883	.0017555	.1065925
Stddev	.0080129	.070281	.0000320	.0002365	1.8955	.0014854	.0007004
%RSD	1.180452	1.441234	.6913197	48.07013	.6740943	84.61314	.6570671

#1	.6879330	4.951120	.0045901	.0006848	282.0612	.0005240	.1068803
#2	.6755336	4.866544	.0046300	.0005629	279.0136	.0034052	.1071032
#3	.6729405	4.811604	.0046533	.0002281	282.4901	.0013374	.1057941

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.992011	.0589311	.0014882	-.005872	-.002334	6.202947	.1374919
Stddev	.038495	.0001583	.0002188	.000774	.000213	.029351	.0024854
%RSD	.9642927	.2686803	14.70351	13.18998	9.107304	.4731770	1.807687

#1	4.015559	.0590148	.0016724	-.006305	-.002521	6.173175	.1403418
#2	3.947588	.0587485	.0015460	-.004978	-.002103	6.203808	.1357740
#3	4.012885	.0590299	.0012463	-.006332	-.002380	6.231858	.1363598

Sample Name: Q1791-16 Acquired: 4/25/2025 15:01:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.161851	-.003605	.6210202
Stddev	.005318	.000971	.0066822
%RSD	.2459756	26.94212	1.076012

#1	2.156333	-.004530	.6287036
#2	2.162277	-.003693	.6165650
#3	2.166943	-.002593	.6177920

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3025.997	70724.91	10981.76	1978.534	4544.290
Stddev	4.229	74.47	121.60	2.898	7.778
%RSD	.1397675	.1052904	1.107321	.1464678	.1711608

#1	3029.116	70749.90	10847.52	1981.821	4552.375
#2	3021.183	70641.16	11013.19	1977.433	4536.860
#3	3027.691	70783.67	11084.56	1976.348	4543.636

Sample Name: Q1791-17 Acquired: 4/25/2025 15:06:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009146	-.005069	.0130382	.0010762	.0018026	.9853010	.1921825
Stddev	.0032968	.000554	.0019550	.0005191	.0003418	.0087971	.0015711
%RSD	360.4488	10.93675	14.99463	48.23353	18.95997	.8928334	.8175270

#1	-.002401	-.004731	.0132912	.0005488	.0021752	.9939466	.1937097
#2	.004192	-.005709	.0109690	.0015866	.0017286	.9763599	.1922670
#3	.000953	-.004768	.0148545	.0010934	.0015038	.9855966	.1905709

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000766	-.000299	15.51122	.0047807	.0013245	.0083264	4.927566
Stddev	.0000302	.000137	.15777	.0001455	.0000916	.0004345	.094534
%RSD	39.36936	45.70337	1.017154	3.042416	6.918856	5.217986	1.918470

#1	.0000754	-.000255	15.65232	.0046236	.0014218	.0085661	4.881395
#2	.0001073	-.000452	15.54047	.0048078	.0012398	.0078248	5.036313
#3	.0000470	-.000190	15.34087	.0049107	.0013120	.0085881	4.864991

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1104853	2.053974	.0043088	.0004620	31.73335	.0119331	.1209497
Stddev	.0014758	.042615	.0003510	.0002787	.52209	.0005690	.0013678
%RSD	1.335697	2.074759	8.146774	60.31814	1.645227	4.767936	1.130914

#1	.1117179	2.103127	.0044808	.0001805	31.46580	.0124572	.1195485
#2	.1108881	2.031408	.0039049	.0004677	32.33498	.0120140	.1222815
#3	.1088500	2.027388	.0045405	.0007378	31.39928	.0113280	.1210192

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.942053	.0887403	.0042718	-.002248	.0366697	2.693450	.3362595
Stddev	.037289	.0003745	.0002858	.000331	.0006989	.051538	.0029978
%RSD	1.267459	.4220143	6.689609	14.70949	1.906006	1.913465	.8915026

#1	2.929949	.0884605	.0044039	-.001981	.0372607	2.657186	.3368217
#2	2.983890	.0891658	.0039439	-.002618	.0368502	2.752446	.3330204
#3	2.912319	.0885947	.0044678	-.002144	.0358982	2.670717	.3389363

Sample Name: Q1791-17 Acquired: 4/25/2025 15:06:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.645700	.0036609	.1839838
Stddev	.009173	.0007148	.0016800
%RSD	.1624827	19.52369	.9131051
#1	5.638184	.0030124	.1850150
#2	5.655922	.0035431	.1848910
#3	5.642994	.0044273	.1820452

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3191.482	73547.53	10744.45	2065.746	5018.760
Stddev	4.496	897.43	59.65	21.318	8.792
%RSD	.1408667	1.220205	.5551259	1.031987	.1751918
#1	3189.372	74318.14	10677.86	2081.052	5028.445
#2	3196.645	72562.22	10762.51	2041.397	5016.557
#3	3188.430	73762.23	10792.98	2074.788	5011.279

Sample Name: Q1791-18 Acquired: 4/25/2025 15:10:20 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0063444	-.004959	.0026700	.0027367	.0008344	.0664242	.0600984
Stddev	.0014857	.001143	.0006656	.0006639	.0017781	.0067258	.0011467
%RSD	23.41734	23.04493	24.92706	24.25926	213.1022	10.12550	1.907963

#1	.0053251	-.005898	.0028808	.0034408	-.000318	.0606553	.0589068
#2	.0056589	-.003687	.0032046	.0021220	.002882	.0648059	.0601943
#3	.0080490	-.005293	.0019246	.0026473	-.000061	.0738115	.0611941

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000096	-.000045	26.04883	.0520037	.0016066	.0059375	1.368221
Stddev	.000013	.000102	.06773	.0005874	.0003664	.0003789	.012773
%RSD	14.07845	228.6258	.2600025	1.129463	22.80548	6.380625	.9335815

#1	-.000081	.000042	26.04323	.0523100	.0011901	.0059367	1.374633
#2	-.000099	-.000019	25.98408	.0513265	.0017507	.0055591	1.353511
#3	-.000108	-.000157	26.11919	.0523746	.0018791	.0063168	1.376517

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138438	.6079783	.0282558	.0002730	46.99638	.0280205	.0285091
Stddev	.0010042	.0148789	.0004665	.0001969	.60041	.0007680	.0004452
%RSD	7.253469	2.447276	1.651091	72.14247	1.277557	2.740991	1.561614

#1	.0134016	.6039050	.0277543	.0002231	47.45992	.0285393	.0282044
#2	.0131366	.6244696	.0286769	.0004900	46.31814	.0271382	.0283028
#3	.0149932	.5955603	.0283363	.0001058	47.21109	.0283839	.0290200

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.809705	.1450749	.0077389	-.004068	.0053623	2.662529	.3050956
Stddev	.028263	.0014263	.0001835	.001157	.0008387	.028407	.0003189
%RSD	.7418616	.9831544	2.370842	28.43948	15.64001	1.066931	.1045301

#1	3.800862	.1438221	.0075282	-.005395	.0044788	2.682224	.3050479
#2	3.786921	.1447754	.0078249	-.003544	.0061475	2.629965	.3054357
#3	3.841332	.1466271	.0078635	-.003267	.0054605	2.675399	.3048032

Sample Name: Q1791-18 Acquired: 4/25/2025 15:10:20 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	8.483637	-.003461	.2570114
Stddev	.020152	.001106	.0004972
%RSD	.2375349	31.95231	.1934636
#1	8.486955	-.003459	.2567544
#2	8.501924	-.002356	.2566951
#3	8.462032	-.004567	.2575845

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3191.173	73695.51	11249.46	2064.841	5009.532
Stddev	7.454	744.11	19.13	19.337	12.620
%RSD	.2335889	1.009711	.1700138	.9364948	.2519221
#1	3190.522	73098.27	11262.85	2049.807	5003.448
#2	3184.066	74529.09	11227.55	2086.655	5001.108
#3	3198.932	73459.17	11257.98	2058.060	5024.042

Sample Name: CCV02 Acquired: 4/25/2025 15:14:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.002415	5.021264	4.966066	5.048917	5.061453	9.951359	10.01088
Stddev	.013750	.022529	.016097	.009812	.017352	.057739	.15517
%RSD	.2748635	.4486679	.3241446	.1943301	.3428310	.5802128	1.549975
#1	5.015795	5.046676	4.984639	5.059866	5.081151	10.01802	10.18918
#2	4.988323	5.013379	4.957431	5.045964	5.054781	9.91688	9.93702
#3	5.003127	5.003738	4.956130	5.040921	5.048426	9.91918	9.90644
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2427599	2.455578	24.71380	1.016248	2.480407	1.266522	5.170990
Stddev	.0014497	.010935	.08283	.015316	.012248	.004361	.051484
%RSD	.5971528	.4453065	.3351737	1.507144	.4938093	.3443252	.9956290
#1	.2444323	2.468160	24.80454	1.033790	2.494357	1.271483	5.230234
#2	.2418633	2.450197	24.69463	1.009425	2.475450	1.263293	5.145638
#3	.2419840	2.448376	24.64223	1.005529	2.471414	1.264790	5.137099
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.470363	24.34717	2.478628	1.272949	26.00137	2.468268	2.569366
Stddev	.007434	.19291	.011130	.017271	.35173	.009688	.027592
%RSD	.3009207	.7923166	.4490494	1.356771	1.352740	.3925145	1.073887
#1	2.477632	24.55633	2.491479	1.292831	26.39662	2.478524	2.600959
#2	2.470683	24.30893	2.472317	1.264355	25.88466	2.459271	2.557135
#3	2.462775	24.17625	2.472087	1.261660	25.72282	2.467008	2.550003
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.72918	4.984849	5.064115	4.938491	4.956480	5.131632	4.932025
Stddev	.32173	.021771	.014974	.011144	.027015	.057959	.021925
%RSD	1.250435	.4367535	.2956974	.2256656	.5450481	1.129455	.4445535
#1	26.09139	5.008874	5.080844	4.951356	4.987188	5.192720	4.957342
#2	25.61955	4.966425	5.059536	4.931795	4.945881	5.124765	4.919157
#3	25.47660	4.979248	5.051965	4.932323	4.936372	5.077413	4.919577

Sample Name: CCV02 Acquired: 4/25/2025 15:14:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.898840	4.995196	5.031115
Stddev	.017463	.014955	.017476
%RSD	.3564801	.2993892	.3473499
#1	4.919002	5.011327	5.039694
#2	4.889038	4.992472	5.042643
#3	4.888480	4.981791	5.011008

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3159.208	71978.65	10973.03	2023.819	4802.115
Stddev	9.388	859.86	41.58	17.950	19.087
%RSD	.2971526	1.194606	.3789529	.8869578	.3974725
#1	3148.376	70986.18	10932.02	2003.478	4780.118
#2	3164.269	72449.97	11015.16	2030.540	4811.920
#3	3164.980	72499.79	10971.91	2037.439	4814.306

Sample Name: CCB02 Acquired: 4/25/2025 15:18:50 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001670	.0028061	-.000938	-.003872	.0016567	-.000176	-.004471
Stddev	.001123	.0012932	.002824	.005100	.0009671	.004068	.000504
%RSD	67.26385	46.08465	300.9486	131.7173	58.37727	2316.300	11.26492

#1	-.000386	.0035887	-.003336	-.000759	.0010013	.004312	-.005036
#2	-.002473	.0013135	-.001654	-.009758	.0027675	-.001217	-.004304
#3	-.002150	.0035162	.002174	-.001099	.0012013	-.003622	-.004071

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000050	.0000249	-.009804	.0000882	-.000448	-.000414	-.004821
Stddev	.000074	.0000148	.001421	.0002973	.000179	.000537	.001077
%RSD	147.5754	59.20680	14.49815	337.1382	39.91619	129.8202	22.33939

#1	-.000063	.0000205	-.009956	.0000265	-.000306	-.000374	-.005963
#2	-.000117	.0000129	-.008313	.0004115	-.000388	-.000970	-.004678
#3	.000029	.0000414	-.011144	-.000173	-.000649	.000102	-.003823

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001126	-.007118	.0001160	.0002015	.0697375	-.000272	-.000258
Stddev	.000444	.014603	.0001046	.0003792	.0055272	.000976	.000501
%RSD	39.45055	205.1704	90.12535	188.1624	7.925690	358.5686	194.3140

#1	-.001638	.008057	.0000133	-.000236	.0665179	.000565	-.000661
#2	-.000884	-.021073	.0001125	.000416	.0665751	-.001345	-.000416
#3	-.000854	-.008336	.0002223	.000425	.0761197	-.000038	.000303

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0405584	.0053304	.0006194	.0017233	-.000836	.0012325	-.001374
Stddev	.0292583	.0008145	.0002339	.0006537	.000897	.0061204	.000498
%RSD	72.13879	15.28082	37.76919	37.93451	107.3480	496.5848	36.25853

#1	.0114393	.0062321	.0008801	.0023015	-.000887	.0014362	-.001472
#2	.0402819	.0051112	.0004279	.0018545	-.001706	.0072485	-.001816
#3	.0699539	.0046479	.0005501	.0010139	.000086	-.004987	-.000834

Sample Name: CCB02 Acquired: 4/25/2025 15:18:50 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002011	.0045218	.0000948
Stddev	.002353	.0006563	.0000932
%RSD	117.0204	14.51521	98.26475
#1	-.004711	.0050326	.0001578
#2	-.000399	.0047513	-.000012
#3	-.000923	.0037815	.000139

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3312.640	78304.72	11302.74	2176.512	5304.915
Stddev	9.365	93.87	49.64	6.816	17.605
%RSD	.2827072	.1198810	.4392076	.3131820	.3318678
#1	3312.592	78209.51	11273.77	2171.193	5311.557
#2	3303.299	78307.46	11360.06	2184.196	5284.955
#3	3322.028	78397.19	11274.38	2174.148	5318.233

Sample Name: Q1791-19 Acquired: 4/25/2025 15:23:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022868	-.004413	.0003104	-.003040	.0018180	.1484507	.0395187
Stddev	.0018694	.000883	.0014712	.006182	.0008270	.0062339	.0010112
%RSD	81.74704	20.00642	474.0119	203.3409	45.49014	4.199323	2.558863

#1	.0021149	-.003411	-.001097	.003982	.0026277	.1514812	.0385398
#2	.0005093	-.005077	.000190	-.005441	.0009748	.1525899	.0394569
#3	.0042363	-.004751	.001838	-.007661	.0018513	.1412809	.0405594

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000053	-.000155	16.33980	.0024599	.0007266	.0073601	1.896182
Stddev	.000021	.000098	.08646	.0002995	.0003954	.0002724	.012778
%RSD	40.26430	63.34578	.5291174	12.17653	54.41404	3.700616	.6738638

#1	-.000039	-.000111	16.36534	.0026784	.0004594	.0074836	1.889490
#2	-.000077	-.000267	16.41060	.0021184	.0011808	.0070479	1.910916
#3	-.000043	-.000086	16.24345	.0025828	.0005395	.0075489	1.888140

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0081241	.4076990	.0028671	.0002423	27.71601	.0420670	.0218946
Stddev	.0003512	.0225720	.0001528	.0003396	.21572	.0005543	.0003881
%RSD	4.323369	5.536443	5.327740	140.1817	.7783291	1.317696	1.772606

#1	.0082449	.3816801	.0030416	.0003954	27.62284	.0427060	.0215094
#2	.0083990	.4220350	.0027575	-.000147	27.96266	.0417153	.0222856
#3	.0077284	.4193819	.0028022	.000478	27.56253	.0417796	.0218889

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.504834	.1007033	.0050702	-.003542	.0102977	1.825147	.2357449
Stddev	.061284	.0006908	.0001619	.000072	.0004384	.006978	.0008850
%RSD	2.446611	.6860194	3.192423	2.045800	4.257031	.3823362	.3754013

#1	2.453910	.1005851	.0049905	-.003496	.0097917	1.825946	.2347231
#2	2.572848	.1014456	.0049636	-.003625	.0105634	1.831691	.2362450
#3	2.487742	.1000791	.0052564	-.003504	.0105380	1.817803	.2362667

Sample Name: Q1791-19 Acquired: 4/25/2025 15:23:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.380512	-.004071	.1600022
Stddev	.011376	.001050	.0006861
%RSD	.2114361	25.78582	.4288042

#1	5.390193	-.002938	.1600304
#2	5.367982	-.005010	.1606738
#3	5.383362	-.004265	.1593025

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3193.463	73801.42	10677.70	2084.779	5030.341
Stddev	.658	294.55	6.95	12.060	5.510
%RSD	.0206082	.3991085	.0651081	.5784656	.1095272

#1	3193.454	74106.02	10669.68	2091.564	5029.733
#2	3194.126	73518.08	10681.93	2070.855	5036.129
#3	3192.810	73780.16	10681.50	2091.917	5025.160

Sample Name: Q1791-20 Acquired: 4/25/2025 15:27:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011731	-.004048	.0257172	-.001914	.0027127	1.914782	.1035303
Stddev	.0026923	.002031	.0005286	.004582	.0020965	.009971	.0016596
%RSD	229.4987	50.16597	2.055523	239.3941	77.28462	.5207368	1.602968

#1	-.001772	-.005163	.0252325	-.001081	.0051238	1.925658	.1051040
#2	.001782	-.001704	.0256382	.002194	.0013200	1.906073	.1036904
#3	.003509	-.005276	.0262808	-.006855	.0016942	1.912616	.1017965

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001950	-.000295	15.78740	.0091712	.0017628	.0142699	6.020259
Stddev	.0000501	.000034	.13867	.0004206	.0000114	.0003379	.073956
%RSD	25.67184	11.62511	.8783328	4.586046	.6454784	2.367642	1.228448

#1	.0002453	-.000307	15.93412	.0095069	.0017749	.0139613	6.087144
#2	.0001944	-.000322	15.76957	.0086994	.0017612	.0146309	6.032799
#3	.0001452	-.000257	15.65851	.0093072	.0017523	.0142176	5.940836

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1436651	2.967655	.0052069	.0006172	26.72147	.0180956	.1352780
Stddev	.0016186	.011040	.0000396	.0002678	.24843	.0015999	.0003671
%RSD	1.126639	.3720263	.7608827	43.38506	.9296850	8.841666	.2714001

#1	.1453281	2.980055	.0051658	.0008057	26.98981	.0199073	.1355667
#2	.1420950	2.958891	.0052448	.0007351	26.67512	.0168765	.1354026
#3	.1435721	2.964020	.0052102	.0003107	26.49949	.0175030	.1348648

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.070113	.1437082	.0038879	-.002648	.0621962	4.347807	.4081508
Stddev	.018028	.0001664	.0001678	.000824	.0011141	.046427	.0038353
%RSD	.5872095	.1158171	4.315605	31.13040	1.791334	1.067818	.9396640

#1	3.090720	.1435830	.0040720	-.002186	.0632319	4.393886	.4075322
#2	3.062368	.1436445	.0038479	-.002158	.0610174	4.348493	.4046624
#3	3.057253	.1438971	.0037436	-.003599	.0623392	4.301041	.4122577

Sample Name: Q1791-20 Acquired: 4/25/2025 15:27:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.553290	.0049419	.1655008
Stddev	.020281	.0016707	.0007748
%RSD	.3094846	33.80727	.4681555

#1	6.539338	.0056487	.1662672
#2	6.543976	.0030339	.1655174
#3	6.576555	.0061430	.1647179

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3191.933	73157.98	10777.98	2067.579	5043.237
Stddev	2.090	730.64	67.68	18.257	2.456
%RSD	.0654868	.9987219	.6279744	.8830064	.0487056

#1	3192.771	72487.52	10720.29	2050.061	5045.586
#2	3189.554	73049.71	10761.16	2066.179	5043.441
#3	3193.474	73936.72	10852.48	2086.495	5040.685

Sample Name: Q1791-21 Acquired: 4/25/2025 15:31:43 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000230	-.004123	.0067674	-.002685	.0015866	.3576571	.1541359
Stddev	.000179	.001494	.0007270	.002780	.0030764	.0048361	.0014794
%RSD	78.00749	36.22618	10.74219	103.5519	193.8937	1.352161	.9597752

#1	-.000227	-.005063	.0065867	-.003276	.0039366	.3592493	.1524325
#2	-.000052	-.002401	.0075676	.000343	-.001895	.3614964	.1548772
#3	-.000411	-.004906	.0061478	-.005123	.002719	.3522257	.1550981

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000458	-.000166	14.15205	.0024894	.0005193	.0045547	3.366332
Stddev	.0000843	.000064	.17444	.0001320	.0000993	.0006902	.021713
%RSD	184.0163	38.58746	1.232621	5.304194	19.11446	15.15375	.6450085

#1	.0000341	-.000096	13.97232	.0023574	.0005776	.0044517	3.359204
#2	-.000032	-.000180	14.32067	.0024892	.0005756	.0039218	3.349079
#3	.000135	-.000221	14.16316	.0026215	.0004047	.0052907	3.390713

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0953305	1.691434	.0025984	.0002593	30.47490	.0063519	.0597672
Stddev	.0009478	.031359	.0005648	.0002410	.14489	.0017770	.0015195
%RSD	.9941741	1.853965	21.73661	92.93530	.4754427	27.97517	2.542417

#1	.0942520	1.665618	.0032499	.0001613	30.39134	.0066964	.0615186
#2	.0960305	1.726331	.0022990	.0005339	30.39116	.0079313	.0589832
#3	.0957091	1.682354	.0022463	.0000828	30.64221	.0044279	.0587998

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.424320	.0620342	.0039450	-.003130	.0169070	1.847345	.2920537
Stddev	.039642	.0020117	.0001574	.000818	.0006860	.018675	.0009362
%RSD	1.635189	3.242937	3.990866	26.13718	4.057295	1.010914	.3205647

#1	2.425743	.0642971	.0037801	-.003588	.0172825	1.844472	.2927563
#2	2.383985	.0613572	.0040938	-.002186	.0161153	1.830273	.2909909
#3	2.463231	.0604483	.0039611	-.003617	.0173232	1.867290	.2924139

Sample Name: Q1791-21 Acquired: 4/25/2025 15:31:43 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.034522	.0025618	.1859909
Stddev	.016674	.0000534	.0019239
%RSD	.4132813	2.086519	1.034409
#1	4.029893	.0025169	.1837982
#2	4.020651	.0025477	.1873966
#3	4.053021	.0026209	.1867777

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3224.173	74022.54	10523.48	2078.908	5088.589
Stddev	12.887	233.74	85.71	12.308	17.624
%RSD	.3996955	.3157628	.8144891	.5920192	.3463478
#1	3219.682	74211.26	10609.83	2092.552	5076.884
#2	3238.704	74095.26	10438.42	2075.532	5108.859
#3	3214.132	73761.08	10522.17	2068.641	5080.024

Sample Name: Q1879-01DLX5 Acquired: 4/25/2025 15:36:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2052349	.0560856	-.068371	.1215448	-.235095	17.52046
Stddev	.0057423	.0053835	.006609	.0044586	.011694	.03906
%RSD	2.797896	9.598784	9.666214	3.668236	4.974152	.2229566
#1	.2091274	.0511047	-.068149	.1265391	-.240237	17.53918
#2	.2079374	.0617972	-.075088	.1201299	-.243337	17.47556
#3	.1986400	.0553550	-.061876	.1179653	-.221711	17.54664
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043935	-.000953	-.048118	58.48508	F 49.11120	F 37.16771
Stddev	.0005320	.000043	.000407	.16074	.82256	.23382
%RSD	12.10950	4.494713	.8448436	.2748391	1.674894	.6290892
#1	.0049726	-.000908	-.048228	58.29961	49.48366	37.35406
#2	.0042812	-.000993	-.048459	58.57175	49.68164	37.24372
#3	.0039265	-.000957	-.047668	58.58389	48.16829	36.90534
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5401727	15.69185	.2614368	18.06664	F 249.2517	.0070762
Stddev	.0068584	.07103	.0002068	.00292	1.8389	.0003412
%RSD	1.269658	.4526512	.0790860	.0161398	.7377664	4.821399
#1	.5356730	15.74033	.2616475	18.06442	249.9174	.0072384
#2	.5480663	15.72489	.2612342	18.06555	250.6651	.0066842
#3	.5367789	15.61032	.2614288	18.06994	247.1727	.0073060
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.70801	-.052647	.5890865	1.694645	.1181682	11.41645
Stddev	.14416	.003157	.0168989	.030890	.0006400	.08588
%RSD	.5202711	5.996091	2.868667	1.822825	.5415728	.7522039
#1	27.87445	-.049888	.5918277	1.664242	.1188629	11.47828
#2	27.62654	-.051962	.6044472	1.726001	.1180390	11.45268
#3	27.62302	-.056089	.5709845	1.693691	.1176027	11.31840

Sample Name: Q1879-01DLX5 Acquired: 4/25/2025 15:36:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.038015	F 34.53436	4.300927	.2815310	F 3406.377	.0040989
Stddev	.001164	.04789	.025596	.0044550	27.815	.0005317
%RSD	3.062552	.1386739	.5951337	1.582412	.8165475	12.97187
#1	-.039052	34.50838	4.316037	.2866347	3427.909	.0044961
#2	-.038237	34.50507	4.315371	.2795364	3416.248	.0043058
#3	-.036756	34.58962	4.271373	.2784218	3374.973	.0034949

Elem	Sr4077
Units	ppm
Avg	.1781083
Stddev	.0007614
%RSD	.4274705
#1	.1783688
#2	.1772508
#3	.1787051

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2392.792	65688.28	10815.68	1670.926	4368.366
Stddev	17.077	467.72	46.22	18.084	29.180
%RSD	.7136827	.7120337	.4273364	1.082281	.6679958
#1	2384.086	65358.72	10828.99	1661.301	4349.095
#2	2381.822	65482.50	10764.27	1659.690	4354.065
#3	2412.467	66223.61	10853.80	1691.787	4401.938

Sample Name: Q1879-02DLX5 Acquired: 4/25/2025 15:40:24 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1046224	.0018914	-.138143	.1615810	-.183714	18.78988
Stddev	.0056645	.0048000	.001218	.0074363	.005084	.15899
%RSD	5.414198	253.7818	.8815285	4.602238	2.767360	.8461392

#1	.1040979	.0015169	-.139460	.1633093	-.182738	18.66291
#2	.1105309	.0068676	-.137911	.1680009	-.189215	18.96819
#3	.0992384	-.002710	-.137058	.1534326	-.179189	18.73852

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0091024	.0016696	-.044824	33.29506	26.95439	F 29.37423
Stddev	.0005539	.0000492	.000395	.33084	.34947	.22918
%RSD	6.084732	2.943561	.8812563	.9936488	1.296525	.7802110

#1	.0084811	.0016872	-.045031	33.08365	27.09816	29.57238
#2	.0092814	.0017076	-.045071	33.67633	27.20905	29.42707
#3	.0095446	.0016141	-.044368	33.12521	26.55597	29.12324

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0765331	.6828991	.0019327	10.69891	F 175.3757	-.000043
Stddev	.0015022	.0066599	.0005803	.11440	.7112	.000218
%RSD	1.962871	.9752319	30.02583	1.069305	.4055101	512.2227

#1	.0755802	.6899717	.0020515	10.62274	176.1330	-.000100
#2	.0757542	.6819776	.0024444	10.83047	175.2720	.000199
#3	.0782648	.6767479	.0013022	10.64353	174.7220	-.000226

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.91103	-.010663	.2130942	.6613619	.1303463	1.047690
Stddev	.11933	.001217	.0081350	.0294770	.0050177	.010860
%RSD	.7056188	11.41538	3.817570	4.457013	3.849554	1.036519

#1	16.89954	-.009982	.2092127	.6835388	.1361365	1.057142
#2	17.03569	-.012068	.2224430	.6279121	.1276331	1.050098
#3	16.79787	-.009938	.2076269	.6726348	.1272693	1.035828

Sample Name: Q1879-02DLX5 Acquired: 4/25/2025 15:40:24 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005476	2.145720	2.377654	-.086394	F 22.68559	.0003905
Stddev	.001434	.012787	.010436	.005082	.23419	.0014272
%RSD	26.19193	.5959460	.4389233	5.882773	1.032324	365.4670

#1	-.004302	2.138112	2.369996	-.083487	22.81653	-.001239
#2	-.007075	2.160484	2.389541	-.092262	22.82502	.000994
#3	-.005052	2.138565	2.373426	-.083432	22.41521	.001417

Elem	Sr4077
Units	ppm
Avg	.1076324
Stddev	.0009543
%RSD	.8866424

#1	.1066532
#2	.1085597
#3	.1076845

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2931.805	73126.87	10509.02	1978.478	4924.478
Stddev	26.233	535.03	80.71	19.107	42.486
%RSD	.8947841	.7316524	.7679731	.9657472	.8627556

#1	2904.804	72917.31	10541.38	1977.569	4883.207
#2	2933.414	72728.33	10417.16	1959.841	4922.144
#3	2957.196	73734.96	10568.53	1998.023	4968.083

Sample Name: Q1879-03DLX5 Acquired: 4/25/2025 15:47:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0144367	.0020561	-.009154	.0091345	-.023802	.9633391	-.005104
Stddev	.0018468	.0012395	.001797	.0021706	.001664	.0157032	.002019
%RSD	12.79211	60.28428	19.62730	23.76241	6.991754	1.630084	39.55488

#1	.0156563	.0026208	-.007535	.0114855	-.021894	.9452067	-.005899
#2	.0123120	.0006348	-.008839	.0087114	-.024956	.9723414	-.002809
#3	.0153418	.0029128	-.011087	.0072067	-.024556	.9724691	-.006605

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000127	-.003279	11.00729	4.978681	1.635553	.4522223	8.072506
Stddev	.000038	.000044	.02819	.039003	.006757	.0019566	.069265
%RSD	29.92483	1.349007	.2560655	.7833922	.4131494	.4326512	.8580412

#1	-.000144	-.003263	10.98265	4.996822	1.638137	.4531181	8.095295
#2	-.000153	-.003245	11.03802	5.005310	1.640637	.4535707	8.127505
#3	-.000083	-.003329	11.00120	4.933912	1.627885	.4499783	7.994717

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0869803	3.605355	14.31487	.0006426	5.669432	.0017428	.0367640
Stddev	.0005499	.022477	.07637	.0003330	.049319	.0009675	.0005868
%RSD	.6322104	.6234225	.5334965	51.81602	.8699031	55.51301	1.596053

#1	.0867730	3.580303	14.32633	.0005378	5.714175	.0006305	.0365949
#2	.0876037	3.623753	14.38486	.0010154	5.677569	.0023892	.0362804
#3	.0865641	3.612011	14.23342	.0003746	5.616550	.0022088	.0374168

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.435323	-.010540	.4064598	.0010878	.2788378	.6395078	.5331445
Stddev	.031434	.000863	.0024303	.0011106	.0019905	.0100877	.0031587
%RSD	2.190021	8.187671	.5979111	102.0951	.7138514	1.577408	.5924663

#1	1.417894	-.011066	.4075065	-.000177	.2768351	.6382089	.5348584
#2	1.416466	-.011009	.4081914	.001538	.2808159	.6501819	.5350758
#3	1.471611	-.009544	.4036816	.001903	.2788623	.6301324	.5294993

Sample Name: Q1879-03DLX5 Acquired: 4/25/2025 15:47:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.518075	.0039438	.0346848
Stddev	.036683	.0011547	.0001953
%RSD	1.456787	29.27966	.5630331
#1	2.535899	.0031007	.0348002
#2	2.542440	.0052600	.0347949
#3	2.475886	.0034708	.0344593

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3082.297	75483.92	11256.23	2077.930	4932.449
Stddev	17.921	778.81	20.30	12.874	29.465
%RSD	.5814025	1.031753	.1803094	.6195680	.5973619
#1	3075.165	74823.37	11233.34	2067.699	4917.220
#2	3069.039	75285.69	11272.05	2073.706	4913.716
#3	3102.685	76342.68	11263.30	2092.386	4966.411

Sample Name: Q1879-04DLX5 Acquired: 4/25/2025 15:51:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1788952	.2381847	-.508732	.8328762	-.124531	23.34109
Stddev	.0067218	.0010024	.005075	.0036461	.007472	.11820
%RSD	3.757370	.4208543	.9975198	.4377756	5.999808	.5064228
#1	.1785200	.2386404	-.512103	.8291951	-.128030	23.28027
#2	.1857967	.2370355	-.502896	.8329472	-.129612	23.26569
#3	.1723689	.2388784	-.511197	.8364863	-.115952	23.47733
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0561430	.0035447	-.114310	161.3617	24.39125	F 33.88486
Stddev	.0007173	.0001024	.000397	1.1606	.25947	.11787
%RSD	1.277686	2.888741	.3473074	.7192785	1.063788	.3478630
#1	.0561494	.0034406	-.113975	161.1493	24.42150	33.88210
#2	.0554224	.0036453	-.114748	160.3220	24.63427	33.76838
#3	.0568570	.0035483	-.114205	162.6139	24.11798	34.00408
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.789309	696.8855	4.316652	20.34343	F 210.9167	.0202896
Stddev	.011513	3.3534	.026087	.16562	.8779	.0005542
%RSD	.4127544	.4812024	.6043240	.8141027	.4162188	2.731570
#1	2.790040	697.0237	4.313166	20.27830	211.9180	.0209285
#2	2.777448	700.1677	4.292484	20.22028	210.5531	.0200018
#3	2.800439	693.4651	4.344307	20.53171	210.2791	.0199385
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	137.4343	.0108331	12.40472	916.4159	1.629809	17.78725
Stddev	1.2078	.0029930	.04508	12.9601	.004161	.07772
%RSD	.8788183	27.62832	.3634316	1.414219	.2552864	.4369264
#1	137.4549	.0102015	12.42492	915.2848	1.630074	17.75676
#2	138.6316	.0140915	12.43617	929.9046	1.633832	17.72940
#3	136.2163	.0082063	12.35307	904.0585	1.625523	17.87559

Sample Name: Q1879-04DLX5 Acquired: 4/25/2025 15:51:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0488858	3.815035	5.952254	F 235.4761	F 457.9455	.2757758
Stddev	.0013013	.022788	.049028	1.4755	2.2018	.0011519
%RSD	2.661950	.5973217	.8236820	.6265831	.4807961	.4176972
#1	.0485391	3.808647	5.959640	236.0898	458.1886	.2748376
#2	.0477930	3.796123	5.997169	233.7929	455.6322	.2770614
#3	.0503254	3.840336	5.899952	236.5457	460.0156	.2754284

Elem	Sr4077
Units	ppm
Avg	.8073059
Stddev	.0038244
%RSD	.4737264
#1	.8053459
#2	.8048587
#3	.8117130

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2729.716	66939.19	10945.11	1838.098	4037.361
Stddev	9.433	668.95	47.22	8.689	14.202
%RSD	.3455513	.9993389	.4314238	.4727199	.3517758
#1	2734.769	66799.60	10932.95	1841.683	4036.654
#2	2735.545	66351.05	10997.22	1828.190	4051.903
#3	2718.833	67666.92	10905.17	1844.420	4023.525

Sample Name: PB167747BL Acquired: 4/25/2025 15:55:50 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000756	.0004323	-.001090	.0000941	.0030302	-.008252
Stddev	.001140	.0006463	.001658	.0019372	.0012860	.006251
%RSD	150.7532	149.4989	152.1899	2057.958	42.43871	75.75104

#1	-.001511	.0005908	-.002774	-.002038	.0016073	-.006295
#2	-.001313	.0009846	-.001036	.000574	.0041093	-.015247
#3	.000555	-.000279	.000541	.001746	.0033741	-.003213

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004880	-.000022	-.000069	-.003351	.0006079	.0002485
Stddev	.000961	.000019	.000011	.006444	.0004483	.0001297
%RSD	19.69834	85.28770	15.91822	192.2880	73.75182	52.19802

#1	-.005793	-.000002	-.000070	-.001500	.0006645	.0003195
#2	-.003877	-.000039	-.000058	-.010518	.0010252	.0000988
#3	-.004970	-.000025	-.000080	.001965	.0001339	.0003272

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000525	.0081995	.0014094	.0082293	.0041096	.0002261
Stddev	.000356	.0072726	.0004370	.0046381	.0003187	.0002798
%RSD	67.83206	88.69558	31.00735	56.36119	7.755637	123.7270

#1	-.000118	.0057380	.0018930	.0065162	.0044765	-.000034
#2	-.000678	.0163835	.0010428	.0046915	.0039505	.000191
#3	-.000778	.0024771	.0012925	.0134804	.0039016	.000522

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0350388	-.000579	-.000333	.1398288	-.000993	.0006868
Stddev	.0049039	.000290	.000272	.0393553	.000261	.0002960
%RSD	13.99577	49.98649	81.84913	28.14538	26.33523	43.10397

#1	.0403109	-.000277	-.000231	.1841257	-.001065	.0003911
#2	.0341922	-.000854	-.000641	.1264659	-.000703	.0006860
#3	.0306132	-.000607	-.000126	.1088949	-.001210	.0009831

Sample Name: PB167747BL Acquired: 4/25/2025 15:55:50 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006743	.0000633	.0068539	.0056938	F .1121296	.0018603
Stddev	.0009192	.0007359	.0016578	.0023386	.0091400	.0002167
%RSD	136.3323	1162.840	24.18729	41.07341	8.151265	11.64768
#1	.0006515	.0001944	.0082079	.0082130	.1218990	.0016129
#2	-.000233	.0007248	.0073487	.0052766	.1107030	.0020163
#3	.001605	-.000729	.0050050	.0035919	.1037869	.0019517

Elem	Sr4077
Units	ppm
Avg	-.000025
Stddev	.000015
%RSD	58.88635
#1	-.000037
#2	-.000009
#3	-.000028

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3248.966	75469.04	10628.35	2152.648	5110.225
Stddev	10.790	154.04	176.89	2.309	20.556
%RSD	.3321071	.2041090	1.664288	.1072859	.4022556
#1	3239.739	75646.89	10671.84	2152.212	5092.776
#2	3246.329	75382.64	10433.78	2150.587	5105.012
#3	3260.830	75377.61	10779.44	2155.144	5132.885

Sample Name: PB167747BS Acquired: 4/25/2025 16:00:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7980804	1.989038	.9681122	2.026857	.8244377	1.874023
Stddev	.0018129	.009579	.0029321	.002060	.0016156	.025341
%RSD	.2271608	.4816122	.3028674	.1016345	.1959676	1.352223

#1	.7964025	1.982060	.9673584	2.029165	.8248721	1.856190
#2	.7978354	1.999960	.9713476	2.026200	.8257918	1.862848
#3	.8000034	1.985094	.9656306	2.025205	.8226493	1.903031

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1787572	.1896551	.1954587	.9685708	.3831506	.1903890
Stddev	.0038302	.0035082	.0004078	.0203093	.0045549	.0010897
%RSD	2.142654	1.849800	.2086393	2.096828	1.188789	.5723549

#1	.1768747	.1883654	.1951175	.9558937	.3883919	.1896410
#2	.1762327	.1869743	.1959103	.9578233	.3801519	.1916393
#3	.1831643	.1936257	.1953483	.9919955	.3809079	.1898869

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3009448	2.804327	.1924291	1.850937	.4807696	.0721716
Stddev	.0010873	.016743	.0031325	.056686	.0001867	.0005873
%RSD	.3612836	.5970326	1.627879	3.062542	.0388313	.8137411

#1	.3022001	2.821688	.1901706	1.835201	.4807172	.0725777
#2	.3003008	2.788280	.1911115	1.803782	.4809769	.0714982
#3	.3003335	2.803012	.1960052	1.913828	.4806147	.0724389

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.762187	.2804462	.1954335	8.978457	.2963200	.4069465
Stddev	.022908	.0056367	.0034471	.094657	.0053055	.0012588
%RSD	.8293574	2.009914	1.763835	1.054272	1.790455	.3093211

#1	2.788299	.2781976	.1994005	9.086502	.2936480	.4068794
#2	2.752794	.2762808	.1931681	8.938746	.2928819	.4082374
#3	2.745469	.2868602	.1937318	8.910124	.3024303	.4057226

Sample Name: PB167747BS Acquired: 4/25/2025 16:00:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6859806	.1952244	F .6593102	5.747636	F .0595726	.2027838
Stddev	.0015408	.0024301	.0081958	.039248	.0104767	.0026368
%RSD	.2246123	1.244794	1.243085	.6828619	17.58648	1.300293
#1	.6843361	.1929034	.6677082	5.739548	.0689695	.2021566
#2	.6873909	.1950192	.6513328	5.790298	.0614721	.2005171
#3	.6862148	.1977506	.6588895	5.713061	.0482760	.2056776

Elem	Sr4077
Units	ppm
Avg	.1962255
Stddev	.0034249
%RSD	1.745403
#1	.1941175
#2	.1943816
#3	.2001773

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3217.347	76386.53	10954.52	2161.617	5042.786
Stddev	.472	817.07	167.97	22.000	6.804
%RSD	.0146552	1.069646	1.533356	1.017741	.1349333
#1	3217.346	75463.04	11013.88	2138.612	5048.447
#2	3216.876	77015.51	11084.76	2182.450	5035.237
#3	3217.819	76681.03	10764.93	2163.791	5044.673

Sample Name: Q1865-01 Acquired: 4/25/2025 16:04:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007796	-.000156	-.000687	.0043195	.0049708	.1047958	.1281609
Stddev	.001670	.001563	.001348	.0008468	.0025819	.0024864	.0037244
%RSD	21.42516	1001.992	196.3166	19.60487	51.94103	2.372570	2.906070

#1	-.006248	-.001439	.000857	.0046196	.0045742	.1022953	.1252545
#2	-.007575	.001585	-.001635	.0033635	.0077280	.1048244	.1323593
#3	-.009566	-.000615	-.001282	.0049753	.0026102	.1072678	.1268690

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000087	.0006004	10.94408	.0031417	.0000601	.0029645	.3260364
Stddev	.000029	.0000972	.22114	.0001215	.0002366	.0001522	.0096299
%RSD	33.55648	16.18694	2.020616	3.868003	393.9488	5.134544	2.953633

#1	-.000055	.0005242	10.84013	.0030660	-.000139	.0030642	.3371265
#2	-.000113	.0007099	11.19804	.0032819	-.000003	.0030400	.3197892
#3	-.000093	.0005673	10.79407	.0030773	.000322	.0027893	.3211936

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0581589	1.067608	.0086608	.0001465	293.6552	-.001055	1.406373
Stddev	.0014764	.041057	.0002496	.0002294	5.3638	.001554	.032517
%RSD	2.538539	3.845657	2.881651	156.5888	1.826578	147.2577	2.312152

#1	.0570157	1.022988	.0083728	.0004092	298.6479	-.002791	1.431403
#2	.0598258	1.103789	.0088138	.0000443	294.3330	-.000581	1.418096
#3	.0576353	1.076046	.0087958	-.000014	287.9847	.000207	1.369619

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.660213	.3803431	.2402150	-.002871	-.000374	.1187923	.8577475
Stddev	.023128	.0055423	.0005781	.000980	.000304	.0064733	.0035960
%RSD	1.393048	1.457181	.2406515	34.12447	81.28818	5.449232	.4192326

#1	1.635109	.3784936	.2407952	-.003198	-.000123	.1170546	.8601744
#2	1.680653	.3865736	.2396391	-.003645	-.000287	.1259570	.8594519
#3	1.664876	.3759620	.2402107	-.001770	-.000711	.1133652	.8536163

Sample Name: Q1865-01 Acquired: 4/25/2025 16:04:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.202962	.0062338	.0426691
Stddev	.007372	.0011186	.0008068
%RSD	.3346412	17.94348	1.890805
#1	2.211446	.0050270	.0421213
#2	2.199326	.0072358	.0435955
#3	2.198115	.0064386	.0422904

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3033.827	73216.92	10839.95	2031.933	4610.012
Stddev	6.968	1733.94	155.55	50.483	15.462
%RSD	.2296663	2.368218	1.434977	2.484494	.3353989
#1	3026.913	71691.38	10884.51	1990.100	4594.198
#2	3033.723	72856.71	10666.98	2017.691	4610.744
#3	3040.847	75102.67	10968.36	2088.007	4625.096

Sample Name: CCV03 Acquired: 4/25/2025 16:08:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.067625	5.081760	5.024910	5.114990	5.117902	10.08490
Stddev	.006740	.032126	.013186	.005329	.017378	.16819
%RSD	.1329986	.6321904	.2624066	.1041888	.3395612	1.667762
#1	5.067888	5.071458	5.039796	5.120810	5.117706	10.19087
#2	5.074230	5.056048	5.014698	5.113812	5.135378	10.17287
#3	5.060758	5.117774	5.020236	5.110349	5.100623	9.89097
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.779368	.2655097	2.479558	24.79523	1.029172	2.513492
Stddev	.148057	.0033361	.002351	.31603	.020114	.003982
%RSD	1.513970	1.256488	.0948044	1.274551	1.954406	.1584187
#1	9.853312	.2676500	2.481319	24.94103	1.052398	2.515450
#2	9.875887	.2672132	2.480465	25.01204	1.017561	2.516115
#3	9.608904	.2616657	2.476888	24.43263	1.017558	2.508910
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.283094	4.834219	2.490249	24.66265	2.508425	1.293026
Stddev	.004249	.086078	.029268	.34482	.006101	.027299
%RSD	.3311873	1.780596	1.175303	1.398154	.2432288	2.111262
#1	1.283894	4.933491	2.501482	24.79911	2.515038	1.324548
#2	1.286886	4.788852	2.512237	24.91835	2.507221	1.277076
#3	1.278501	4.780315	2.457029	24.27048	2.503015	1.277455
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.38342	2.468115	2.597153	24.00932	F 5.519315	5.117121
Stddev	.48108	.039837	.050367	.57175	.074298	.005802
%RSD	1.972995	1.614083	1.939313	2.381349	1.346151	.1133745
#1	24.93784	2.492697	2.655251	24.66951	5.572829	5.117292
#2	24.13641	2.489497	2.570396	23.68175	5.550631	5.122835
#3	24.07603	2.422152	2.565811	23.67671	5.434486	5.111236

Sample Name: CCV03 Acquired: 4/25/2025 16:08:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.987362	4.952128	4.797410	4.988078	5.003926	5.075755
Stddev	.003872	.068409	.102614	.009928	.010250	.067881
%RSD	.0776304	1.381414	2.138945	.1990288	.2048395	1.337355

#1	4.990363	4.987722	4.915651	4.979001	5.001243	5.111506
#2	4.988731	4.995402	4.731654	4.986553	5.015250	5.118288
#3	4.982992	4.873260	4.744926	4.998680	4.995283	4.997470

Elem	Sr4077
Units	ppm
Avg	5.099521
Stddev	.087050
%RSD	1.707014

#1	5.148587
#2	5.150961
#3	4.999014

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3155.309	71674.61	10115.49	2044.152	4797.006
Stddev	10.428	1241.73	114.17	29.772	8.445
%RSD	.3304880	1.732450	1.128640	1.456455	.1760510

#1	3160.833	70240.80	10066.07	2009.819	4803.107
#2	3143.281	72396.12	10034.35	2059.800	4787.367
#3	3161.812	72386.91	10246.04	2062.838	4800.543

Sample Name: CCB03 Acquired: 4/25/2025 16:12:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001226	.0011789	-.001801	-.002013	.0021410	.0093938
Stddev	.0021482	.0012662	.001854	.003955	.0020446	.0043153
%RSD	1752.153	107.4047	102.9377	196.4939	95.49499	45.93789

#1	.0024051	.0021928	-.000262	-.001781	.0021016	.0074271
#2	-.000178	.0015841	-.001281	.001821	.0001164	.0143421
#3	-.001860	-.000240	-.003859	-.006079	.0042050	.0064121

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003902	-.000014	.0000489	-.007274	.0002403	-.000390
Stddev	.000635	.000019	.0000452	.010392	.0002015	.000475
%RSD	16.27164	138.2187	92.39740	142.8516	83.88270	121.8293

#1	-.003554	-.000019	.0000097	-.019273	.0000102	-.000922
#2	-.004634	-.000029	.0000984	-.001382	.0003251	-.000239
#3	-.003516	.000007	.0000386	-.001168	.0003856	-.000009

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000943	-.003542	-.000828	.0005459	.0004180	.0005569
Stddev	.0007755	.002407	.000234	.0036987	.0002590	.0000820
%RSD	821.9662	67.95277	28.19357	677.5674	61.96409	14.72820

#1	-.000643	-.006301	-.000876	.0043772	.0002858	.0004890
#2	.000023	-.001875	-.000575	-.003004	.0002518	.0005337
#3	.000903	-.002449	-.001034	.000265	.0007164	.0006480

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0163756	.0001522	.0124958	.0640460	.0070144	.0007582
Stddev	.0043797	.0009759	.0002562	.0064754	.0011694	.0006482
%RSD	26.74511	640.9993	2.050271	10.11061	16.67195	85.48810

#1	.0143582	-.000682	.0124931	.0568118	.0083301	.0015063
#2	.0133681	.001226	.0122410	.0660260	.0066198	.0003661
#3	.0214003	-.000087	.0127534	.0693004	.0060934	.0004021

Sample Name: CCB03 Acquired: 4/25/2025 16:12:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009806	.0000287	.0005736	-.000183	F .0395453	.0013061
Stddev	.0004648	.0004116	.0027817	.001682	.0010103	.0010394
%RSD	47.40545	1433.816	484.9384	919.8338	2.554710	79.58178

#1	.0004650	.0004383	-.002604	.001465	.0406260	.0021207
#2	.0011090	.0000325	.001759	-.000117	.0386246	.0016622
#3	.0013677	-.000385	.002567	-.001896	.0393853	.0001355

Elem	Sr4077
Units	ppm
Avg	.0001494
Stddev	.0000695
%RSD	46.52556

#1	.0001708
#2	.0000717
#3	.0002057

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3242.403	78042.06	10943.94	2179.513	5108.312
Stddev	7.858	177.89	25.81	6.189	13.901
%RSD	.2423379	.2279374	.2358113	.2839776	.2721174

#1	3239.740	78072.19	10953.94	2177.255	5104.249
#2	3236.223	77851.04	10963.24	2174.769	5096.897
#3	3251.246	78202.96	10914.62	2186.514	5123.792

Sample Name: Q1879-01DL2X50 Acquired: 4/25/2025 16:17:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0230692	.0071477	-.010632	.0103485	-.034526	1.837437
Stddev	.0013663	.0015902	.000767	.0047507	.001842	.008341
%RSD	5.922726	22.24802	7.217449	45.90726	5.335628	.4539446
#1	.0245768	.0056045	-.011465	.0124334	-.036332	1.846680
#2	.0227181	.0070575	-.010476	.0049118	-.034598	1.830470
#3	.0219127	.0087811	-.009954	.0137002	-.032649	1.835162
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005722	-.000144	-.005090	6.057281	5.271411	3.948692
Stddev	.001324	.000028	.000015	.016284	.028278	.005876
%RSD	23.14476	19.79399	.2959970	.2688278	.5364408	.1487996
#1	-.004392	-.000115	-.005090	6.073948	5.289820	3.953886
#2	-.005732	-.000172	-.005076	6.056487	5.285562	3.949876
#3	-.007041	-.000145	-.005106	6.041410	5.238851	3.942315
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0867404	1.556772	.0290870	1.922024	F 30.77846	.0008032
Stddev	.0001294	.010885	.0005350	.006915	.04044	.0000451
%RSD	.1492024	.6991980	1.839369	.3597979	.1313870	5.613907
#1	.0867027	1.568885	.0297034	1.927857	30.81977	.0008296
#2	.0868844	1.553620	.0287427	1.914385	30.77664	.0008288
#3	.0866340	1.547811	.0288150	1.923831	30.73896	.0007511
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.718136	-.004698	.0236251	.1636026	.0148982	1.044902
Stddev	.014834	.001997	.0006424	.0137576	.0010366	.004286
%RSD	.5457307	42.49455	2.719053	8.409126	6.957774	.4102122
#1	2.735020	-.006524	.0235422	.1535654	.0138672	1.046542
#2	2.712188	-.005006	.0243049	.1579577	.0148872	1.048126
#3	2.707199	-.002566	.0230282	.1792847	.0159403	1.040038

Sample Name: Q1879-01DL2X50 Acquired: 4/25/2025 16:17:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002946	3.466588	.3709011	.0166980	F 1690.170	.0025080
Stddev	.000487	.005745	.0085202	.0027509	8.326	.0015214
%RSD	16.52396	.1657312	2.297163	16.47421	.4925971	60.66361

#1	-.002907	3.471393	.3777140	.0187092	1694.479	.0027111
#2	-.002479	3.460224	.3736414	.0135632	1695.459	.0008952
#3	-.003450	3.468147	.3613479	.0178216	1680.573	.0039176

Elem	Sr4077
Units	ppm
Avg	.0180834
Stddev	.0001533
%RSD	.8474497

#1	.0182285
#2	.0179231
#3	.0180984

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3131.670	73011.07	11364.20	2052.348	5080.391
Stddev	15.315	608.23	55.31	8.254	17.961
%RSD	.4890357	.8330604	.4866780	.4021905	.3535384

#1	3114.108	72521.99	11355.20	2049.300	5059.747
#2	3138.648	72819.10	11313.95	2046.050	5092.441
#3	3142.252	73692.12	11423.46	2061.692	5088.983

Sample Name: Q1879-02DL2X50 Acquired: 4/25/2025 16:21:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0105160	.0006659	-.013958	.0137073	-.020578	1.836047	-.004382
Stddev	.0025943	.0009144	.001847	.0030624	.001873	.013084	.000600
%RSD	24.67007	137.3309	13.23145	22.34165	9.101161	.7126215	13.68918

#1	.0075767	-.000202	-.013547	.0171177	-.018871	1.843735	-.004833
#2	.0124863	.001620	-.012352	.0111926	-.022581	1.843466	-.004612
#3	.0114851	.000580	-.015976	.0128116	-.020282	1.820940	-.003701

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001398	-.004587	3.354879	2.749428	3.015273	.0262656	.0685400
Stddev	.0000273	.000137	.023948	.010226	.004585	.0005392	.0017600
%RSD	19.52002	2.980185	.7138301	.3719259	.1520715	2.052901	2.567833

#1	.0001478	-.004722	3.372787	2.737649	3.013540	.0264806	.0705676
#2	.0001094	-.004589	3.364174	2.754602	3.020472	.0256521	.0676448
#3	.0001622	-.004449	3.327677	2.756032	3.011806	.0266642	.0674075

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019966	1.074491	20.37697	.0003917	1.803528	-.001304	.0038554
Stddev	.0002110	.024208	.04461	.0002141	.024468	.001014	.0010968
%RSD	10.56687	2.252985	.2189153	54.65270	1.356679	77.77553	28.44841

#1	.0017591	1.099544	20.34167	.0002811	1.793693	-.000226	.0034988
#2	.0021623	1.072703	20.42710	.0002556	1.785508	-.001448	.0029813
#3	.0020685	1.051226	20.36213	.0006385	1.831384	-.002238	.0050862

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0567121	.0109458	.0967876	.0006014	.2129852	.2502234	-.007954
Stddev	.0130009	.0040944	.0009578	.0003019	.0007002	.0033014	.002381
%RSD	22.92438	37.40621	.9895574	50.19322	.3287753	1.319363	29.93830

#1	.0431018	.0104502	.0973964	.0006012	.2129983	.2467680	-.005473
#2	.0690030	.0152655	.0972827	.0002997	.2122785	.2505568	-.008168
#3	.0580315	.0071217	.0956836	.0009034	.2136788	.2533454	-.010221

Sample Name: Q1879-02DL2X50 Acquired: 4/25/2025 16:21:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.499075	.0013746	.0104477
Stddev	.011796	.0010868	.0000807
%RSD	.4720100	79.06604	.7720376
#1	2.509070	.0007296	.0105356
#2	2.502092	.0007648	.0103772
#3	2.486064	.0026293	.0104302

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3153.350	74344.88	11561.77	2116.445	4978.257
Stddev	2.323	152.89	85.89	14.585	12.894
%RSD	.0736721	.2056453	.7428873	.6891455	.2590095
#1	3154.925	74517.07	11528.50	2132.837	4993.040
#2	3150.682	74225.05	11497.50	2111.599	4969.328
#3	3154.444	74292.52	11659.32	2104.900	4972.404

Sample Name: Q1879-03 Acquired: 4/25/2025 16:25:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0784673	.0138164	-.038179	.0391134	-.086842	4.269379
Stddev	.0040845	.0024271	.001644	.0033505	.004710	.024127
%RSD	5.205304	17.56723	4.305726	8.566144	5.423718	.5651272
#1	.0765129	.0118836	-.037510	.0370408	-.084995	4.261762
#2	.0831617	.0165404	-.036975	.0373204	-.092196	4.249979
#3	.0757271	.0130251	-.040052	.0429788	-.083335	4.296396
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0108814	-.000196	-.014844	50.88162	23.79768	7.199982
Stddev	.0005252	.000034	.000190	.09185	.33095	.018596
%RSD	4.826193	17.59237	1.282077	.1805229	1.390696	.2582775
#1	.0108184	-.000227	-.015005	50.78206	23.69906	7.211066
#2	.0114352	-.000159	-.014892	50.89973	24.16674	7.210368
#3	.0103906	-.000202	-.014634	50.96307	23.52725	7.178513
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.215447	38.96452	.3802084	16.43924	F 61.72938	.0029804
Stddev	.007829	.24790	.0018498	.06950	.14026	.0000381
%RSD	.3533944	.6362234	.4865169	.4227514	.2272171	1.276733
#1	2.222367	39.15428	.3782656	16.39762	61.83560	.0029927
#2	2.217024	39.05525	.3804113	16.40063	61.78215	.0030108
#3	2.206949	38.68404	.3819485	16.51947	61.57039	.0029378
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.92348	.0152399	.1158838	1.228368	-.036820	2.093296
Stddev	.21443	.0003683	.0009216	.009555	.002675	.010363
%RSD	.7413709	2.416490	.7952899	.7778905	7.266469	.4950463
#1	29.09196	.0149824	.1169378	1.227981	-.036782	2.098058
#2	28.99638	.0156618	.1154845	1.219012	-.034163	2.100421
#3	28.68211	.0150756	.1152293	1.238111	-.039514	2.081408

Sample Name: Q1879-03 Acquired: 4/25/2025 16:25:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014095	1.330241	3.362136	.2102644	6.840816	.0088034
Stddev	.0004080	.002120	.025000	.0001123	.034514	.0015394
%RSD	28.94914	.1594010	.7435753	.0534254	.5045319	17.48624
#1	.0015953	1.327895	3.367794	.2103717	6.873706	.0104742
#2	.0009416	1.332022	3.383822	.2102740	6.843862	.0074426
#3	.0016916	1.330806	3.334792	.2101476	6.804880	.0084935

Elem	Sr4077
Units	ppm
Avg	.1587771
Stddev	.0001129
%RSD	.0710998
#1	.1587885
#2	.1588838
#3	.1586589

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2670.000	68970.94	11627.05	1795.813	4669.260
Stddev	8.897	531.36	30.50	16.203	13.055
%RSD	.3332354	.7704051	.2623615	.9022673	.2795847
#1	2662.106	68409.75	11603.95	1779.958	4657.992
#2	2668.253	69036.72	11661.63	1795.139	4666.222
#3	2679.642	69466.34	11615.57	1812.343	4683.565

Sample Name: Q1879-04DL2X50 Acquired: 4/25/2025 16:29:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0172407	.0259534	-.054524	.0821272	-.013313	2.374000
Stddev	.0020268	.0016444	.002830	.0034001	.000883	.012031
%RSD	11.75614	6.336098	5.191121	4.140086	6.630685	.5067722
#1	.0168455	.0262105	-.057538	.0845632	-.013009	2.380650
#2	.0194360	.0241955	-.051922	.0782427	-.014308	2.360112
#3	.0154406	.0274541	-.054114	.0835756	-.012622	2.381238
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030914	.0003420	-.013158	17.20292	2.600985	3.571936
Stddev	.0004181	.0000579	.000034	.08527	.005945	.031842
%RSD	13.52399	16.91593	.2595025	.4956580	.2285784	.8914496
#1	.0034766	.0004013	-.013140	17.28885	2.607530	3.553045
#2	.0031506	.0003390	-.013137	17.11833	2.599505	3.554062
#3	.0026468	.0002857	-.013198	17.20160	2.595919	3.608699
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3329757	70.73404	.4652118	2.260307	25.16832	.0026466
Stddev	.0047393	.30970	.0031484	.004233	.23302	.0002524
%RSD	1.423313	.4378428	.6767663	.1872738	.9258463	9.536112
#1	.3294287	70.84088	.4687044	2.256678	25.02819	.0029060
#2	.3311403	70.38506	.4625916	2.259287	25.03946	.0026320
#3	.3383582	70.97618	.4643393	2.264957	25.43731	.0024019
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.30241	-.000041	1.396319	85.01435	.1637409	1.849560
Stddev	.04125	.001450	.003381	.26184	.0012284	.019454
%RSD	.3352636	3498.460	.2421314	.3079932	.7501826	1.051794
#1	12.33261	-.001319	1.392428	85.18100	.1634941	1.834643
#2	12.25542	-.000340	1.398539	84.71255	.1650739	1.842474
#3	12.31920	.001535	1.397991	85.14950	.1626547	1.871563

Sample Name: Q1879-04DL2X50 Acquired: 4/25/2025 16:29:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045566	.3932492	.5663524	F 34.33841	F 51.89885	.0293284
Stddev	.0007343	.0023527	.0092699	.28140	.47632	.0011650
%RSD	16.11436	.5982801	1.636770	.8194766	.9177829	3.972248
#1	.0037308	.3957041	.5622028	34.18414	51.60432	.0305928
#2	.0051359	.3910141	.5598822	34.16788	51.64385	.0290938
#3	.0048032	.3930296	.5769722	34.66320	52.44838	.0282985

Elem	Sr4077
Units	ppm
Avg	.0804069
Stddev	.0001197
%RSD	.1489192
#1	.0803323
#2	.0803434
#3	.0805450

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3158.278	77255.88	11535.48	2158.440	4808.647
Stddev	38.502	221.22	43.46	11.423	47.860
%RSD	1.219082	.2863489	.3767716	.5292228	.9952858
#1	3196.661	77290.11	11498.08	2164.668	4853.337
#2	3158.515	77457.99	11583.16	2165.396	4814.455
#3	3119.659	77019.54	11525.20	2145.257	4758.148

Sample Name: Q1879-01DL3X100 Acquired: 4/25/2025 16:33:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107786	.0020586	-.005660	.0022750	-.016159	.9125317
Stddev	.0001378	.0014842	.001540	.0043726	.000591	.0038885
%RSD	1.278137	72.09451	27.21162	192.2039	3.654968	.4261222

#1	.0109376	.0030060	-.005984	.0051097	-.016481	.9080734
#2	.0106935	.0003482	-.007012	-.002761	-.015478	.9142991
#3	.0107047	.0028217	-.003983	.004476	-.016520	.9152225

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004943	-.000076	-.002576	2.971034	2.577367	1.958024
Stddev	.001390	.000041	.000060	.004585	.011579	.002332
%RSD	28.12446	53.77831	2.315079	.1543211	.4492417	.1190952

#1	-.006368	-.000085	-.002598	2.976323	2.586562	1.959919
#2	-.004871	-.000112	-.002508	2.968588	2.564363	1.958733
#3	-.003590	-.000032	-.002621	2.968190	2.581174	1.955420

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0446861	.7160234	.0147270	.9706432	15.39700	.0010419
Stddev	.0007005	.0044699	.0004081	.0147107	.01169	.0000504
%RSD	1.567684	.6242621	2.770932	1.515561	.0759246	4.836659

#1	.0447951	.7161209	.0144561	.9859294	15.39445	.0010654
#2	.0453258	.7204437	.0151963	.9565850	15.40975	.0009840
#3	.0439375	.7115056	.0145285	.9694151	15.38679	.0010761

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.234837	-.003431	.0090397	.0861265	.0054973	.5069586
Stddev	.014373	.001386	.0004027	.0299238	.0005893	.0034551
%RSD	1.163948	40.39094	4.454507	34.74398	10.71953	.6815277

#1	1.227326	-.004993	.0089359	.0883683	.0048337	.5090820
#2	1.225775	-.002951	.0086991	.0551449	.0059595	.5088219
#3	1.251409	-.002349	.0094841	.1148664	.0056986	.5029718

Sample Name: Q1879-01DL3X100 Acquired: 4/25/2025 16:33:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001414	1.700776	.1220349	.0085894	F 1153.796	.0003057
Stddev	.000565	.003733	.0016411	.0015653	2.086	.0001707
%RSD	39.96875	.2194591	1.344775	18.22400	.1808228	55.82518
#1	-.001690	1.697146	.1201404	.0078876	1154.118	.0004769
#2	-.001787	1.700580	.1229424	.0074976	1155.703	.0003046
#3	-.000764	1.704603	.1230217	.0103827	1151.568	.0001356

Elem	Sr4077
Units	ppm
Avg	.0088818
Stddev	.0001256
%RSD	1.413976
#1	.0088027
#2	.0088162
#3	.0090266

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3216.088	77285.94	11188.70	2164.339	5171.421
Stddev	3.954	414.62	21.25	1.417	6.405
%RSD	.1229447	.5364690	.1899243	.0654485	.1238534
#1	3213.905	76918.37	11164.17	2163.213	5178.808
#2	3213.707	77735.38	11201.28	2165.930	5168.036
#3	3220.652	77204.06	11200.66	2163.876	5167.418

Sample Name: Q1879-02DL3X100 Acquired: 4/25/2025 16:38:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038245	.0004849	-.006311	.0021061	-.010266	.9285284	-.004090
Stddev	.0018582	.0016744	.001900	.0009450	.001159	.0043657	.001026
%RSD	48.58551	345.3403	30.10959	44.87205	11.29368	.4701707	25.08843
#1	.0019888	.0001689	-.008501	.0023076	-.008940	.9321907	-.005275
#2	.0037804	.0022947	-.005087	.0029341	-.011090	.9236973	-.003473
#3	.0057044	-.001009	-.005346	.0010765	-.010768	.9296971	-.003523
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000010	-.002123	1.708751	1.390406	1.508024	.0148177	.0326919
Stddev	.000018	.000116	.006818	.006834	.005318	.0001337	.0043976
%RSD	175.9910	5.440335	.3990087	.4914983	.3526186	.9023941	13.45175
#1	-.000010	-.002170	1.705026	1.397215	1.514106	.0146701	.0283679
#2	.000008	-.002208	1.704606	1.390455	1.505712	.0149307	.0325483
#3	-.000028	-.001992	1.716620	1.383548	1.504254	.0148524	.0371596
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017982	.5374286	10.18406	.0003648	.8475065	-.002343	.0024189
Stddev	.0004152	.0139665	.03043	.0001642	.0042502	.000629	.0007072
%RSD	23.08786	2.598763	.2987881	45.00550	.5014925	26.86121	29.23810
#1	.0020085	.5291537	10.21837	.0002517	.8513289	-.001639	.0020928
#2	.0020662	.5295782	10.17347	.0005531	.8482609	-.002851	.0032303
#3	.0013200	.5535539	10.16034	.0002896	.8429296	-.002539	.0019335
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0427745	.0029334	.0464061	.0008444	.1019355	.1119476	-.004999
Stddev	.0179160	.0004865	.0005267	.0010872	.0014054	.0122584	.000392
%RSD	41.88474	16.58489	1.134992	128.7619	1.378674	10.95011	7.834244
#1	.0632972	.0024805	.0469860	.0014761	.1016455	.1247169	-.005095
#2	.0347710	.0034477	.0462750	-.000411	.1034633	.1108522	-.005334
#3	.0302553	.0028721	.0459574	.001468	.1006978	.1002737	-.004569

Sample Name: Q1879-02DL3X100 Acquired: 4/25/2025 16:38:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.228214	.0006416	.0052980
Stddev	.011371	.0006435	.0000455
%RSD	.9258553	100.3015	.8592479
#1	1.239951	.0013750	.0053183
#2	1.227445	.0001714	.0052459
#3	1.217247	.0003783	.0053299

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3254.180	75712.72	11029.35	2157.593	5176.846
Stddev	16.122	242.78	44.54	9.657	21.352
%RSD	.4954333	.3206611	.4038458	.4475687	.4124577
#1	3236.067	75492.93	11062.67	2161.713	5153.042
#2	3259.516	75671.91	11046.62	2146.560	5183.185
#3	3266.958	75973.32	10978.76	2164.506	5194.311

Sample Name: Q1879-04DL3X100 Acquired: 4/25/2025 16:42:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0058764	.0114670	-.026303	.0373869	-.006050	1.126140
Stddev	.0014956	.0025898	.000605	.0045475	.000765	.012405
%RSD	25.45007	22.58503	2.299193	12.16331	12.64869	1.101551
#1	.0042425	.0120939	-.026979	.0329119	-.006931	1.118565
#2	.0071775	.0086213	-.025812	.0420035	-.005542	1.119398
#3	.0062093	.0136858	-.026119	.0372452	-.005679	1.140456
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001645	.0001888	-.006269	8.208956	1.261463	1.683296
Stddev	.000395	.0000131	.000038	.022756	.002066	.007672
%RSD	24.03262	6.912591	.6077912	.2772048	.1637605	.4557532
#1	-.001250	.0001841	-.006231	8.211157	1.259274	1.679655
#2	-.002041	.0001788	-.006307	8.230531	1.261735	1.692110
#3	-.001643	.0002036	-.006268	8.185180	1.263379	1.678123
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1598231	33.91594	.2218909	1.073534	11.94294	.0010467
Stddev	.0010233	.11204	.0001611	.020722	.06161	.0002763
%RSD	.6402782	.3303541	.0725963	1.930296	.5159056	26.40037
#1	.1603235	33.87595	.2218299	1.050556	11.91714	.0013180
#2	.1604998	34.04250	.2220735	1.090803	12.01326	.0007655
#3	.1586458	33.82939	.2217691	1.079244	11.89842	.0010567
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.915347	.0001393	.6948056	39.93234	.0787672	.8715443
Stddev	.038731	.0009905	.0018973	.21840	.0005653	.0058284
%RSD	.6547603	711.3528	.2730769	.5469285	.7177306	.6687465
#1	5.871114	.0010948	.6926161	39.78204	.0793094	.8731816
#2	5.943180	.0002058	.6959667	40.18287	.0788108	.8763790
#3	5.931748	-.000883	.6958340	39.83212	.0781813	.8650724

Sample Name: Q1879-04DL3X100 Acquired: 4/25/2025 16:42:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027406	.1841308	.2729705	16.34311	F 24.75291	.0127366
Stddev	.0008155	.0007357	.0101612	.11188	.18307	.0013701
%RSD	29.75617	.3995737	3.722449	.6845661	.7395924	10.75704
#1	.0019984	.1835654	.2687698	16.32676	24.75767	.0115664
#2	.0026097	.1849627	.2655833	16.46227	24.93356	.0123998
#3	.0036136	.1838644	.2845585	16.24031	24.56751	.0142437

Elem	Sr4077
Units	ppm
Avg	.0389877
Stddev	.0003645
%RSD	.9350181
#1	.0385694
#2	.0392376
#3	.0391562

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3179.439	73698.59	11073.00	2107.954	4904.730
Stddev	11.880	218.77	25.49	8.754	23.122
%RSD	.3736439	.2968496	.2301948	.4152632	.4714314
#1	3187.776	73926.68	11089.76	2111.458	4926.686
#2	3165.837	73490.51	11085.57	2097.991	4880.595
#3	3184.704	73678.58	11043.67	2114.412	4906.908

Sample Name: CCV04 Acquired: 4/25/2025 16:46:33 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.896155	4.907696	4.871233	4.952557	4.942319	9.712511	9.851289
Stddev	.021586	.023456	.011797	.025735	.020399	.018330	.101082
%RSD	.4408860	.4779407	.2421788	.5196282	.4127449	.1887242	1.026079

#1	4.908141	4.929706	4.879536	4.974163	4.961576	9.691717	9.892499
#2	4.909088	4.910360	4.876434	4.959423	4.944438	9.719492	9.736112
#3	4.871235	4.883022	4.857729	4.924086	4.920943	9.726325	9.925256

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2381112	2.399973	24.36687	.9728337	2.433156	1.242236	4.950744
Stddev	.0009751	.006209	.05225	.0023135	.006481	.004365	.037769
%RSD	.4095104	.2587310	.2144371	.2378124	.2663776	.3513478	.7628871

#1	.2380490	2.401503	24.35292	.9744029	2.434931	1.243953	4.955329
#2	.2371687	2.405274	24.42469	.9739213	2.438566	1.245481	4.986011
#3	.2391159	2.393141	24.32302	.9701768	2.425973	1.237274	4.910893

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.454529	23.83602	2.431197	1.222426	24.44283	2.418699	2.463705
Stddev	.008264	.03882	.007497	.002288	.12479	.002408	.003801
%RSD	.3366805	.1628485	.3083504	.1871775	.5105301	.0995406	.1542962

#1	2.445589	23.81285	2.434074	1.224804	24.53009	2.419599	2.461641
#2	2.461889	23.88083	2.436828	1.220240	24.49851	2.420528	2.468092
#3	2.456107	23.81437	2.422687	1.222236	24.29990	2.415971	2.461383

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.43961	4.997979	4.938554	4.828543	4.883124	4.839174	4.813818
Stddev	.12475	.026652	.022809	.015514	.015619	.032045	.013575
%RSD	.5104534	.5332486	.4618621	.3212888	.3198562	.6621942	.2819932

#1	24.49503	4.976662	4.951957	4.835798	4.866499	4.860076	4.817385
#2	24.52705	4.989416	4.951487	4.839100	4.897491	4.855165	4.825253
#3	24.29675	5.027860	4.912217	4.810731	4.885383	4.802281	4.798816

Sample Name: CCV04 Acquired: 4/25/2025 16:46:33 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.843951	4.883214	4.835812
Stddev	.016380	.008978	.052663
%RSD	.3381492	.1838490	1.089018
#1	4.852055	4.877408	4.810331
#2	4.854699	4.893554	4.896369
#3	4.825099	4.878678	4.800736

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3181.220	74266.94	10954.21	2124.172	4824.819
Stddev	12.344	229.03	39.31	6.739	14.272
%RSD	.3880225	.3083883	.3588373	.3172758	.2957997
#1	3179.563	74002.96	10975.12	2123.267	4825.527
#2	3169.789	74385.05	10978.65	2117.931	4810.205
#3	3194.309	74412.81	10908.87	2131.319	4838.723

Sample Name: CCB04 Acquired: 4/25/2025 16:50:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001202	.0014044	-.000885	-.000998	.0008184	-.005645
Stddev	.004081	.0012630	.000464	.001937	.0007828	.007147
%RSD	339.4951	89.93319	52.45915	194.1350	95.64729	126.6038
#1	-.000705	.0002023	-.000382	.001092	.0008306	.002421
#2	.002608	.0027206	-.000975	-.002733	.0000296	-.011189
#3	-.005509	.0012903	-.001297	-.001353	.0015951	-.008168
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003909	-.000015	.0000097	-.009520	.0001190	.0000204
Stddev	.000860	.000023	.0000391	.002828	.0003871	.0000576
%RSD	22.00145	158.5380	403.8754	29.71087	325.3594	281.8416
#1	-.004136	-.000013	.0000545	-.012780	.0000587	-.000037
#2	-.004633	.000008	-.000017	-.008047	-.000234	.000078
#3	-.002958	-.000039	-.000008	-.007731	.000533	.000020
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000771	-.001822	.0016084	.0061852	.0001667	.0002853
Stddev	.0003402	.003695	.0003010	.0051466	.0004860	.0001591
%RSD	441.5408	202.7533	18.71511	83.20874	291.5576	55.76623
#1	-.000228	.002238	.0016976	.0022805	.0004285	.0004176
#2	.000016	-.004988	.0012729	.0120173	-.000394	.0001088
#3	.000444	-.002717	.0018547	.0042578	.000466	.0003296
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007182	.0010195	-.000034	.0090368	.0077150	.0007135
Stddev	.007630	.0015778	.000345	.0228290	.0003755	.0002497
%RSD	106.2486	154.7686	1014.988	252.6232	4.867713	34.99952
#1	.001330	-.000654	.000358	.0141150	.0076987	.0008487
#2	-.009466	.001233	-.000294	-.015904	.0080984	.0008664
#3	-.013409	.002480	-.000165	.028899	.0073478	.0004253

Sample Name: CCB04 Acquired: 4/25/2025 16:50:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009959	-.000265	.0115875	-.001448	F .0235039	.0014258
Stddev	.0005652	.000431	.0062868	.001565	.0054049	.0015025
%RSD	56.75619	162.4975	54.25538	108.1217	22.99582	105.3806
#1	.0016447	.000202	.0132487	-.002118	.0284987	.0012519
#2	.0006096	-.000647	.0046369	.000341	.0242473	.0000178
#3	.0007335	-.000351	.0168769	-.002566	.0177658	.0030076

Elem	Sr4077
Units	ppm
Avg	.0002136
Stddev	.0000673
%RSD	31.52266
#1	.0001601
#2	.0001914
#3	.0002892

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3281.848	75373.77	11149.32	2168.911	5189.061
Stddev	2.799	98.65	40.84	3.431	7.933
%RSD	.0853022	.1308841	.3663132	.1581839	.1528767
#1	3283.258	75268.50	11158.24	2165.306	5192.272
#2	3278.623	75388.68	11184.97	2172.136	5180.026
#3	3283.661	75464.11	11104.76	2169.290	5194.885

Sample Name: Q1865-02 Acquired: 4/25/2025 16:55:06 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006534	-.004160	-.002326	-.000196	.0016042	.0154212	.1425484
Stddev	.002369	.000717	.001748	.001107	.0014420	.0015820	.0008331
%RSD	36.24719	17.22646	75.15449	564.1132	89.88713	10.25835	.5844394

#1	-.005756	-.003377	-.000309	.000592	-.000040	.0151575	.1432223
#2	-.009194	-.004321	-.003259	.000281	.002202	.0139877	.1416169
#3	-.004653	-.004783	-.003409	-.001462	.002651	.0171185	.1428059

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000131	-.000080	3.133364	.0016989	-.000125	.0252195	1.180233
Stddev	.000033	.000106	.023234	.0003923	.000195	.0000810	.008247
%RSD	25.31845	131.7090	.7414891	23.09042	155.3328	.3212120	.6987215

#1	-.000156	.000036	3.115617	.0015643	-.000243	.0251757	1.178027
#2	-.000094	-.000170	3.159661	.0013916	-.000232	.0251697	1.173315
#3	-.000145	-.000107	3.124814	.0021407	.000099	.0253129	1.189359

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0441177	.3372880	.0019385	.0003645	267.1499	.0002415	4.520681
Stddev	.0001873	.0028887	.0004999	.0002174	1.8955	.0016472	.008410
%RSD	.4245072	.8564632	25.78673	59.62420	.7095109	682.0439	.1860401

#1	.0442772	.3403037	.0019990	.0005832	268.7520	-.001654	4.521964
#2	.0439115	.3370148	.0014111	.0003620	267.6403	.001329	4.511703
#3	.0441646	.3345456	.0024054	.0001485	265.0575	.001049	4.528376

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7693751	.0400727	-.000235	.0457771	-.000036	.1229986	.5557209
Stddev	.0132514	.0005803	.000361	.0009582	.000209	.0064532	.0027809
%RSD	1.722352	1.448105	153.2999	2.093243	585.8553	5.246546	.5004222

#1	.7802134	.0395826	-.000272	.0451260	.000083	.1184910	.5525110
#2	.7733098	.0407135	-.000577	.0468774	.000087	.1201140	.5572481
#3	.7546019	.0399221	.000142	.0453279	-.000277	.1303910	.5574036

Sample Name: Q1865-02 Acquired: 4/25/2025 16:55:06 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.070298	-.001280	.0168595
Stddev	.008563	.001110	.0000956
%RSD	.8000759	86.69094	.5671896

#1	1.060738	-.000264	.0167491
#2	1.072893	-.001112	.0169138
#3	1.077264	-.002464	.0169157

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3103.190	72979.20	10916.18	2051.626	4730.319
Stddev	6.451	229.59	15.25	5.600	8.263
%RSD	.2078807	.3145965	.1396616	.2729306	.1746736

#1	3104.428	72980.06	10924.35	2053.473	4738.905
#2	3096.210	73208.36	10898.59	2056.069	4722.423
#3	3108.933	72749.18	10925.60	2045.337	4729.628

Sample Name: Q1865-03 Acquired: 4/25/2025 16:59:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007158	-.002745	-.000000	.0045751	.0035285	.0115684	.0759892
Stddev	.002319	.000673	.002003	.0033091	.0012966	.0039654	.0004918
%RSD	32.38962	24.50516	428864.7	72.32770	36.74493	34.27825	.6471418

#1	-.008090	-.002405	-.001077	.0027934	.0022332	.0150088	.0763434
#2	-.008866	-.003519	-.001235	.0083933	.0048263	.0072314	.0754277
#3	-.004519	-.002309	.002310	.0025387	.0035261	.0124651	.0761965

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000145	-.000093	.9950299	.0006464	-.000236	.0039041	.2337534
Stddev	.000014	.000048	.0060128	.0003626	.000304	.0002173	.0022753
%RSD	9.616053	51.73812	.6042867	56.09116	128.8408	5.566758	.9733789

#1	-.000129	-.000061	.9897690	.0009480	-.000137	.0041477	.2313964
#2	-.000149	-.000148	1.001584	.0002441	.000006	.0037300	.2339268
#3	-.000156	-.000070	.993736	.0007470	-.000577	.0038346	.2359371

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0249918	.1711556	.0011317	.0002441	267.6065	.0012510	1.082275
Stddev	.0002581	.0158936	.0003390	.0003497	1.0836	.0003512	.002328
%RSD	1.032690	9.286043	29.96035	143.2721	.4049160	28.07470	.2151426

#1	.0247227	.1789937	.0014847	.0000897	267.2639	.0013702	1.083584
#2	.0252372	.1816077	.0011016	-.000002	266.7356	.0015272	1.083655
#3	.0250155	.1528655	.0008086	.000644	268.8199	.0008557	1.079587

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4975903	.0385259	.0000373	-.000378	.0002404	.1080317	.7463694
Stddev	.0098174	.0003195	.0001984	.000627	.0009307	.0057871	.0061072
%RSD	1.972978	.8291958	532.0367	165.6919	387.0594	5.356848	.8182608

#1	.5076727	.0388219	-.000062	-.000776	-.000830	.1028888	.7409481
#2	.4880614	.0385686	-.000092	.000344	.000855	.1069082	.7451744
#3	.4970370	.0381873	.000266	-.000704	.000697	.1142982	.7529859

Sample Name: Q1865-03 Acquired: 4/25/2025 16:59:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6506819	-.001579	.0076805
Stddev	.0066828	.001485	.0000529
%RSD	1.027052	94.02269	.6887293

#1	.6583484	-.000891	.0077005
#2	.6476093	-.000563	.0076206
#3	.6460880	-.003283	.0077206

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3036.272	72382.37	11940.46	2047.303	4600.824
Stddev	10.078	136.72	28.08	7.667	17.023
%RSD	.3319192	.1888927	.2351745	.3744792	.3700055

#1	3047.057	72229.96	11972.00	2039.263	4618.596
#2	3034.665	72422.93	11918.17	2048.113	4599.214
#3	3027.095	72494.23	11931.21	2054.532	4584.663

Sample Name: Q1865-04 Acquired: 4/25/2025 17:03:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009059	-.003699	.0225004	.0024419	.0023849	.0858815	.1417565
Stddev	.002206	.001814	.0008598	.0075192	.0030826	.0078835	.0007219
%RSD	24.34848	49.02914	3.821457	307.9287	129.2559	9.179483	.5092423

#1	-.011581	-.003774	.0227078	.0062604	-.001174	.0947125	.1410115
#2	-.007492	-.001849	.0215558	.0072855	.004222	.0795531	.1424528
#3	-.008103	-.005474	.0232376	-.006220	.004107	.0833790	.1418052

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000096	.0114124	4.918131	.0109860	-.000212	2.131769	2.647006
Stddev	.000007	.0000931	.034861	.0002570	.000338	.002014	.017823
%RSD	6.853447	.8161020	.7088335	2.339697	159.7590	.0944911	.6733100

#1	-.000103	.0115167	4.878856	.0112012	-.000529	2.132422	2.649400
#2	-.000094	.0113826	4.945411	.0107014	.000144	2.129509	2.663511
#3	-.000090	.0113378	4.930127	.0110555	-.000250	2.133375	2.628108

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0289327	.4724867	.0048469	.0005982	365.9967	-.000930	2.462610
Stddev	.0003601	.0130991	.0006063	.0002405	5.0785	.001273	.017561
%RSD	1.244620	2.772373	12.50896	40.20927	1.387572	136.8080	.7131026

#1	.0285170	.4802122	.0041528	.0005146	370.3872	-.002383	2.482576
#2	.0291344	.4798857	.0051148	.0008694	367.1679	-.000402	2.455695
#3	.0291467	.4573624	.0052732	.0004107	360.4350	-.000007	2.449559

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.223599	.0695593	-.000017	-.001313	.0169734	.4175616	1.412904
Stddev	.026928	.0001170	.000150	.001043	.0007578	.0071381	.005821
%RSD	2.200691	.1681557	902.0092	79.47608	4.464863	1.709470	.4119795

#1	1.233522	.0694725	.000025	-.002273	.0171577	.4240475	1.411959
#2	1.244158	.0696923	-.000184	-.000203	.0176221	.4099139	1.419140
#3	1.193118	.0695129	.000108	-.001462	.0161404	.4187234	1.407614

Sample Name: Q1865-04 Acquired: 4/25/2025 17:03:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.440571	-.001609	.0142239
Stddev	.005453	.001610	.0000579
%RSD	.3785597	100.0551	.4073652

#1	1.446306	-.003351	.0141906
#2	1.439955	-.001297	.0142908
#3	1.435452	-.000178	.0141902

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3019.390	71036.42	10487.82	2016.572	4553.178
Stddev	5.779	207.44	67.86	11.766	14.784
%RSD	.1914072	.2920215	.6470211	.5834721	.3246872

#1	3021.044	71042.56	10565.93	2005.496	4543.706
#2	3012.964	70825.98	10443.40	2015.295	4545.615
#3	3024.162	71240.73	10454.13	2028.924	4570.213

Sample Name: Q1865-04DUP Acquired: 4/25/2025 17:08:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005689	-.004016	.0180996	-.002225	.0019293	.0638252	.1191589
Stddev	.002523	.002036	.0009411	.000313	.0014484	.0051680	.0014120
%RSD	44.35123	50.69924	5.199751	14.04842	75.07661	8.097056	1.184947
#1	-.003755	-.005077	.0176855	-.002080	.0012008	.0665353	.1175356
#2	-.004769	-.005303	.0191768	-.002011	.0035973	.0578659	.1201017
#3	-.008543	-.001669	.0174365	-.002584	.0009896	.0670744	.1198395
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000089	.0092337	3.952551	.0033550	-.000057	1.728891	1.692920
Stddev	.000013	.0000756	.018122	.0002254	.000230	.002567	.011408
%RSD	14.61827	.8189270	.4584869	6.718212	404.4585	.1484789	.6738681
#1	-.000079	.0092423	3.943374	.0031255	.000186	1.725952	1.680527
#2	-.000084	.0091541	3.973426	.0035761	-.000084	1.730698	1.702984
#3	-.000104	.0093046	3.940853	.0033633	-.000272	1.730022	1.695249
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0720528	.3742889	.0030500	.0001883	323.7591	-.000288	1.998680
Stddev	.0002580	.0060139	.0003373	.0000239	2.1026	.000715	.009215
%RSD	.3581043	1.606768	11.06066	12.70779	.6494216	248.5465	.4610337
#1	.0721494	.3804538	.0029222	.0002036	323.0502	.000079	1.995358
#2	.0717604	.3684382	.0034326	.0001607	326.1245	.000169	2.009095
#3	.0722485	.3739747	.0027952	.0002005	322.1026	-.001112	1.991588
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.079014	.0485415	.0001783	-.001629	.0141569	.3627216	1.136211
Stddev	.031809	.0003889	.0001035	.001120	.0007524	.0085282	.005729
%RSD	2.947948	.8011926	58.03687	68.76033	5.314824	2.351154	.5042181
#1	1.060372	.0488237	.0000796	-.000753	.0136917	.3580462	1.130999
#2	1.115742	.0487029	.0001694	-.002890	.0150250	.3575537	1.135289
#3	1.060928	.0480978	.0002860	-.001242	.0137540	.3725650	1.142345

Sample Name: Q1865-04DUP Acquired: 4/25/2025 17:08:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.213972	-.001225	.0112499
Stddev	.002168	.000409	.0000434
%RSD	.1786197	33.36978	.3858068
#1	1.213503	-.001033	.0112045
#2	1.212077	-.000947	.0112909
#3	1.216337	-.001694	.0112544

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3043.712	71165.79	11770.53	2012.338	4595.660
Stddev	9.341	691.25	60.42	14.565	7.715
%RSD	.3069021	.9713194	.5133299	.7237856	.1678652
#1	3052.948	71813.06	11778.98	2025.644	4601.178
#2	3043.917	70437.68	11706.33	1996.777	4598.958
#3	3034.269	71246.63	11826.28	2014.593	4586.845

Sample Name: Q1865-04LX5 Acquired: 4/25/2025 17:12:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004222	.0004508	.0036848	-.002556	.0006420	.0148312	.0268688
Stddev	.003379	.0010484	.0020215	.004085	.0014132	.0079688	.0004816
%RSD	80.04371	232.5343	54.86085	159.8396	220.1283	53.73001	1.792342

#1	-.007934	.0010542	.0023572	-.007107	-.000941	.0239712	.0265565
#2	-.003405	.0010580	.0060113	-.001351	.001091	.0093409	.0274234
#3	-.001326	-.000760	.0026859	.000791	.001776	.0111815	.0266265

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000018	.0021854	.9581089	.0020221	-.000183	.4247537	.5138610
Stddev	.000064	.0001135	.0050839	.0002449	.000066	.0010189	.0041662
%RSD	357.9263	5.195292	.5306228	12.10906	36.16507	.2398894	.8107740

#1	-.000071	.0023164	.9611233	.0021338	-.000228	.4251832	.5153104
#2	.000054	.0021177	.9609643	.0017413	-.000215	.4254877	.5171090
#3	-.000037	.0021220	.9522392	.0021912	-.000107	.4235904	.5091637

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069428	.1010765	.0007785	.0001491	70.44893	-.001290	.4903122
Stddev	.0002490	.0218255	.0000454	.0001718	.56324	.000961	.0034516
%RSD	3.586466	21.59309	5.836564	115.2014	.7995079	74.51381	.7039522

#1	.0066739	.0764143	.0007294	.0000030	70.80169	-.002094	.4927645
#2	.0069892	.1179005	.0007871	.0001061	70.74575	-.000225	.4918070
#3	.0071654	.1089147	.0008190	.0003384	69.79935	-.001550	.4863652

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2957137	.0122203	.0001083	.0015012	.0028761	.0812514	.2666165
Stddev	.0170058	.0007736	.0003187	.0014599	.0004982	.0043821	.0017549
%RSD	5.750781	6.330903	294.2819	97.24623	17.32323	5.393272	.6581984

#1	.2819871	.0118967	.0003267	.0000939	.0027185	.0853529	.2680511
#2	.3147377	.0116609	-.000257	.0014013	.0024758	.0766343	.2671385
#3	.2904161	.0131031	.000256	.0030086	.0034341	.0817669	.2646599

Sample Name: Q1865-04LX5 Acquired: 4/25/2025 17:12:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2912491	.0072546	.0026907
Stddev	.0053720	.0011003	.0000597
%RSD	1.844471	15.16724	2.220049
#1	.2910455	.0073957	.0026620
#2	.2859817	.0060905	.0027593
#3	.2967199	.0082775	.0026507

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3196.778	72600.18	10713.13	2080.898	4916.313
Stddev	6.474	227.40	138.82	13.980	12.729
%RSD	.2025185	.3132229	1.295814	.6718336	.2589184
#1	3196.144	72421.73	10608.97	2066.369	4908.984
#2	3190.644	72522.58	10659.69	2082.069	4908.945
#3	3203.545	72856.22	10870.73	2094.256	4931.012

Sample Name: Q1865-04MS Acquired: 4/25/2025 17:17:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7983357	1.853216	.9738626	1.940693	.8001840	1.932484	.3127027
Stddev	.0030078	.018803	.0042921	.005150	.0006256	.001744	.0010235
%RSD	.3767644	1.014641	.4407314	.2653837	.0781777	.0902687	.3273072

#1	.8017308	1.851664	.9738453	1.946183	.8008766	1.933710	.3115211
#2	.7972725	1.835236	.9695791	1.935968	.8000154	1.930487	.3133142
#3	.7960039	1.872747	.9781633	1.939928	.7996600	1.933255	.3132727

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1825509	.2078797	5.302148	.3948114	.1933279	2.103538	4.223752
Stddev	.0008935	.0002527	.016429	.0008035	.0002708	.002333	.027874
%RSD	.4894613	.1215628	.3098626	.2035121	.1400945	.1108929	.6599278

#1	.1827284	.2080948	5.317573	.3951893	.1931524	2.101839	4.205433
#2	.1815820	.2076014	5.284871	.3953562	.1931914	2.106198	4.255830
#3	.1833424	.2079430	5.304000	.3938886	.1936398	2.102578	4.209994

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2045113	2.214417	.4843679	.0728516	335.0455	.2820408	2.320889
Stddev	.0004501	.018006	.0006288	.0002783	1.7101	.0015016	.007867
%RSD	.2200821	.8131329	.1298160	.3820036	.5104153	.5323921	.3389675

#1	.2039999	2.208794	.4839022	.0731614	335.9928	.2826716	2.327694
#2	.2048475	2.199893	.4841183	.0726228	336.0724	.2831240	2.322698
#3	.2046863	2.234564	.4850832	.0727705	333.0714	.2803267	2.312275

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.47042	.3226864	.4129800	.6869627	.2076188	1.084532	6.989277
Stddev	.06696	.0031375	.0005917	.0023250	.0006894	.010355	.008891
%RSD	.5837225	.9722893	.1432691	.3384393	.3320412	.9547768	.1272086

#1	11.47197	.3241152	.4123082	.6879376	.2068661	1.090043	6.993869
#2	11.53659	.3190889	.4134238	.6843090	.2077711	1.090965	6.979029
#3	11.40270	.3248552	.4132079	.6886414	.2082194	1.072587	6.994932

Sample Name: Q1865-04MS Acquired: 4/25/2025 17:17:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.190992	.2049434	.2070240
Stddev	.002159	.0016672	.0000887
%RSD	.1812679	.8134731	.0428310
#1	1.193451	.2036501	.2071193
#2	1.189409	.2068249	.2069439
#3	1.190115	.2043552	.2070089

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3088.104	71001.31	10907.11	2012.991	4624.019
Stddev	3.303	285.86	28.71	13.769	3.933
%RSD	.1069602	.4026138	.2632371	.6840202	.0850592
#1	3091.263	70822.58	10891.30	2005.576	4621.717
#2	3084.673	70850.35	10940.25	2004.518	4628.561
#3	3088.376	71331.01	10889.78	2028.878	4621.781

Sample Name: Q1865-04MSD Acquired: 4/25/2025 17:21:15 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7855620	1.868502	.9666199	1.926452	.7878502	1.928668	.3074506
Stddev	.0069844	.004431	.0037385	.004304	.0023248	.013582	.0026066
%RSD	.8890929	.2371254	.3867628	.2233977	.2950875	.7042239	.8478064
#1	.7922381	1.868284	.9708029	1.931261	.7858198	1.941236	.3083226
#2	.7783055	1.864185	.9636044	1.925136	.7873444	1.914260	.3045198
#3	.7861425	1.873038	.9654524	1.922961	.7903863	1.930509	.3095094
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1818829	.2068467	5.125349	.3932064	.1930857	2.010671	4.012112
Stddev	.0012036	.0004508	.027744	.0026119	.0002594	.004528	.005955
%RSD	.6617235	.2179530	.5413191	.6642506	.1343651	.2252033	.1484376
#1	.1815933	.2073043	5.136142	.3907312	.1932547	2.009945	4.015437
#2	.1808506	.2064030	5.093830	.3929515	.1927870	2.006550	4.005237
#3	.1832048	.2068329	5.146076	.3959363	.1932155	2.015519	4.015663
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2051926	2.209232	.4817829	.0723626	318.1438	.2849664	2.217799
Stddev	.0007788	.017303	.0014013	.0004112	3.7642	.0008956	.013967
%RSD	.3795478	.7832119	.2908587	.5683077	1.183173	.3142940	.6297665
#1	.2054000	2.225791	.4826380	.0727895	314.3913	.2852217	2.212423
#2	.2043311	2.191270	.4801657	.0723294	318.1205	.2839708	2.207319
#3	.2058468	2.210634	.4825450	.0719690	321.9196	.2857066	2.233655
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.35015	.3161196	.4106067	.6814917	.2064903	1.050340	6.886053
Stddev	.04494	.0025729	.0007354	.0043204	.0006984	.002503	.012557
%RSD	.3959431	.8139112	.1791082	.6339637	.3382164	.2383410	.1823561
#1	11.40199	.3156649	.4114375	.6847127	.2064455	1.052006	6.886764
#2	11.32605	.3138043	.4100394	.6765820	.2058154	1.051553	6.873156
#3	11.32239	.3188895	.4103431	.6831805	.2072100	1.047461	6.898240

Sample Name: Q1865-04MSD Acquired: 4/25/2025 17:21:15 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.122332	.2031947	.2063539
Stddev	.002462	.0012973	.0006848
%RSD	.2193520	.6384405	.3318782

#1	1.123540	.2041108	.2062545
#2	1.123957	.2037630	.2057242
#3	1.119500	.2017102	.2070830

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3129.482	71445.40	10925.22	2030.420	4683.084
Stddev	4.562	105.79	53.95	5.395	12.826
%RSD	.1457697	.1480723	.4937712	.2657198	.2738884

#1	3124.630	71567.05	10933.60	2034.845	4668.388
#2	3133.683	71374.91	10974.49	2032.005	4692.022
#3	3130.135	71394.25	10867.58	2024.410	4688.843

Sample Name: Q1865-04A Acquired: 4/25/2025 17:25:26 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7813144	1.810385	.9590311	1.913248	.7905083	1.942719	.3049365
Stddev	.0064937	.015477	.0013633	.002866	.0013607	.009550	.0016390
%RSD	.8311213	.8548784	.1421523	.1497772	.1721284	.4915964	.5374917
#1	.7844139	1.793317	.9599964	1.916023	.7889459	1.936066	.3051866
#2	.7856775	1.823505	.9574715	1.913421	.7911456	1.938428	.3031869
#3	.7738517	1.814333	.9596253	1.910299	.7914333	1.953662	.3064362
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1871622	.2053199	5.187125	.3951545	.1913715	2.035115	4.005556
Stddev	.0012071	.0004574	.011397	.0016554	.0006559	.001833	.022949
%RSD	.6449541	.2227845	.2197204	.4189165	.3427437	.0900579	.5729281
#1	.1864095	.2058237	5.187486	.3964177	.1919974	2.036905	4.012960
#2	.1865225	.2049307	5.175552	.3957653	.1906892	2.035198	4.023889
#3	.1885545	.2052053	5.198338	.3932805	.1914278	2.033242	3.979819
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2075904	2.231428	.4775035	.0722804	320.8657	.2832802	2.274238
Stddev	.0011623	.021270	.0009545	.0005443	2.5372	.0015023	.008520
%RSD	.5599019	.9532195	.1998827	.7530831	.7907401	.5303216	.3746133
#1	.2079368	2.225892	.4784689	.0725846	318.0430	.2848156	2.280623
#2	.2085401	2.213474	.4765604	.0726047	322.9563	.2818134	2.277527
#3	.2062943	2.254920	.4774812	.0716520	321.5980	.2832115	2.264564
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.15146	.3244774	.4122390	.6770159	.2069129	1.039096	6.760490
Stddev	.11781	.0019490	.0002194	.0001775	.0007186	.012195	.019659
%RSD	1.056414	.6006543	.0532349	.0262163	.3472748	1.173580	.2907944
#1	11.22722	.3232296	.4120617	.6771999	.2061232	1.047957	6.738465
#2	11.21143	.3234792	.4124845	.6770022	.2075283	1.044144	6.766746
#3	11.01574	.3267233	.4121708	.6768457	.2070873	1.025188	6.776260

Sample Name: Q1865-04A Acquired: 4/25/2025 17:25:26 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.140065	.2031978	.2085017
Stddev	.002049	.0009788	.0001850
%RSD	.1797678	.4816847	.0887388

#1	1.142329	.2043136	.2082965
#2	1.138338	.2024841	.2086558
#3	1.139527	.2027957	.2085528

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3149.417	70931.51	10602.93	2007.445	4736.462
Stddev	12.256	414.76	47.40	7.669	17.521
%RSD	.3891671	.5847371	.4470337	.3820340	.3699165

#1	3135.572	70580.28	10640.32	2002.093	4717.169
#2	3158.882	70825.17	10618.86	2004.011	4751.382
#3	3153.795	71389.10	10549.62	2016.231	4740.836

Sample Name: PB167706TB Acquired: 4/25/2025 17:29:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003691	-.003440	.0058712	.0007596	.0019093	.0016464	-.001110
Stddev	.003573	.002733	.0007551	.0007523	.0010995	.0017054	.000857
%RSD	96.81229	79.43210	12.86084	99.04723	57.58628	103.5821	77.15070

#1	-.007593	-.004020	.0054830	.0002022	.0031319	.0024140	-.001394
#2	-.000578	-.000464	.0053891	.0004612	.0010018	-.000308	-.000148
#3	-.002903	-.005836	.0067414	.0016153	.0015940	.002833	-.001789

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000104	-.000059	.0121892	.0005189	-.000554	.0010273	.0042810
Stddev	.000027	.000072	.0135156	.0004473	.000175	.0003108	.0024000
%RSD	26.05728	123.5209	110.8817	86.18914	31.59726	30.25461	56.06260

#1	-.000116	-.000063	-.002522	.0009580	-.000400	.0009118	.0029713
#2	-.000073	.000016	.024057	.0000639	-.000745	.0007907	.0028207
#3	-.000123	-.000129	.015033	.0005349	-.000519	.0013793	.0070510

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001560	-.019443	.0012769	-.000057	305.3037	.0011122	.0008607
Stddev	.000260	.023540	.0002326	.000140	4.3091	.0016612	.0003248
%RSD	16.67596	121.0735	18.21375	244.6620	1.411410	149.3642	37.73376

#1	-.001798	.007647	.0015089	-.000185	305.6981	.0014756	.0005968
#2	-.001602	-.031049	.0010438	.000093	309.4021	-.000701	.0012233
#3	-.001282	-.034926	.0012780	-.000080	300.8110	.002562	.0007618

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0353958	-.002079	.0002324	-.000974	.0004176	-.000842	.0106736
Stddev	.0074128	.000484	.0004649	.000549	.0007486	.001164	.0018823
%RSD	20.94243	23.27850	200.0138	56.39143	179.2547	138.1910	17.63553

#1	.0406061	-.001709	-.000086	-.001072	.0004255	.000227	.0125476
#2	.0269095	-.002627	.000766	-.001467	.0011623	-.002083	.0106900
#3	.0386720	-.001902	.000017	-.000382	-.000335	-.000671	.0087830

Sample Name: PB167706TB Acquired: 4/25/2025 17:29:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0394762	-.003048	.0000471
Stddev	.0043335	.000581	.0000494
%RSD	10.97749	19.06548	105.0211

#1	.0345231	-.003252	.0000615
#2	.0425685	-.002392	-.000008
#3	.0413370	-.003499	.000088

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3080.264	71008.80	10587.45	2028.825	4593.289
Stddev	3.246	137.09	114.38	5.534	5.356
%RSD	.1053760	.1930660	1.080362	.2727671	.1165942

#1	3080.888	70950.76	10682.53	2027.565	4599.434
#2	3076.752	70910.27	10460.52	2024.029	4590.821
#3	3083.153	71165.37	10619.32	2034.880	4589.613

Sample Name: PB167717TB Acquired: 4/25/2025 17:34:06 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000513	-.001438	-.000379	-.001593	.0012717	.0002546	-.001662
Stddev	.001536	.001461	.002091	.002220	.0011096	.0066368	.000309
%RSD	299.1153	101.5623	551.9280	139.3332	87.25347	2606.262	18.57311

#1	-.001839	.000232	-.002658	-.001868	.0025509	.0020577	-.001590
#2	-.000870	-.002072	.000069	-.003663	.0005678	.0058036	-.001395
#3	.001169	-.002475	.001452	.000751	.0006965	-.007097	-.002000

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000118	-.000117	.0098353	.0003116	-.000469	.0003074	.0275723
Stddev	.000038	.000144	.0117739	.0003296	.000145	.0001234	.0009130
%RSD	32.26852	123.5111	119.7115	105.7528	30.96847	40.12903	3.311130

#1	-.000086	.000038	.0183981	.0003605	-.000502	.0004241	.0275044
#2	-.000161	-.000140	.0146990	.0006140	-.000310	.0003200	.0285173
#3	-.000108	-.000248	-.003591	-.000040	-.000595	.0001783	.0266952

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107460	.0007777	.0008230	-.000191	309.1477	-.001041	.0006914
Stddev	.0003600	.0061826	.0003328	.000299	1.2383	.001570	.0001658
%RSD	3.349890	794.9398	40.43342	156.7250	.4005414	150.8513	23.98305

#1	.0111554	-.003429	.0007863	.000134	307.9779	-.001037	.0005717
#2	.0106035	-.002114	.0011726	-.000454	309.0207	-.002612	.0008807
#3	.0104791	.007876	.0005102	-.000253	310.4446	.000528	.0006219

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003843	-.001874	.0001487	-.001025	.0003785	-.002616	.0040037
Stddev	.010982	.000183	.0001971	.000295	.0006785	.004995	.0010611
%RSD	285.7987	9.742809	132.5828	28.81663	179.2806	190.9633	26.50262

#1	-.015727	-.001854	.0002863	-.000917	.0009645	-.008324	.0040174
#2	.005929	-.002066	.0002368	-.000799	.0005359	.000953	.0029358
#3	-.001730	-.001702	-.000077	-.001360	-.000365	-.000476	.0050578

Sample Name: PB167717TB Acquired: 4/25/2025 17:34:06 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0463437	-.001965	.0000022
Stddev	.0071105	.001738	.0000750
%RSD	15.34303	88.44853	3429.097
#1	.0542290	-.000587	.0000659
#2	.0443826	-.003917	-.000080
#3	.0404196	-.001390	.000021

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3131.466	72194.24	11152.78	2053.395	4687.014
Stddev	2.586	395.14	49.60	13.049	8.527
%RSD	.0825934	.5473278	.4447360	.6354990	.1819204
#1	3128.883	72056.39	11101.37	2041.822	4681.486
#2	3134.056	72639.83	11200.35	2067.538	4696.834
#3	3131.459	71886.48	11156.61	2050.827	4682.723

Sample Name: CCV05 Acquired: 4/25/2025 17:45:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.873462	4.851362	4.934519	4.862776	4.916010	9.822000	10.07693
Stddev	.013302	.020239	.004912	.010396	.003958	.033574	.09807
%RSD	.2729514	.4171718	.0995361	.2137894	.0805152	.3418256	.9731937

#1	4.888729	4.828132	4.939214	4.864087	4.914511	9.813514	10.14152
#2	4.864367	4.860766	4.929416	4.851787	4.913021	9.859002	10.12518
#3	4.867290	4.865187	4.934929	4.872455	4.920499	9.793482	9.96408

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2392173	2.462226	24.64115	.9777744	2.463816	1.241180	4.796218
Stddev	.0009112	.003749	.13966	.0013136	.004930	.001849	.029959
%RSD	.3809241	.1522637	.5667955	.1343498	.2000889	.1489321	.6246421

#1	.2400949	2.465485	24.59136	.9775139	2.468339	1.243315	4.779133
#2	.2392812	2.463066	24.79889	.9791988	2.464548	1.240146	4.830811
#3	.2382758	2.458129	24.53321	.9766106	2.458562	1.240081	4.778710

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.474417	24.30639	2.458499	1.203240	24.00958	2.472373	2.423699
Stddev	.009978	.07139	.004045	.002144	.14864	.013166	.006912
%RSD	.4032609	.2937232	.1645284	.1782195	.6191041	.5325390	.2851831

#1	2.474602	24.23661	2.463017	1.201069	23.90778	2.468612	2.428661
#2	2.484301	24.37930	2.457268	1.205356	24.18016	2.487010	2.415804
#3	2.464347	24.30327	2.455213	1.203294	23.94081	2.461495	2.426630

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.89520	4.820166	4.993967	4.932249	4.942109	4.727461	4.878961
Stddev	.14294	.013214	.006053	.013203	.017382	.034213	.022366
%RSD	.5982040	.2741309	.1212027	.2676852	.3517211	.7236993	.4584168

#1	23.79470	4.830072	4.997316	4.935054	4.942531	4.690012	4.879524
#2	24.05884	4.805163	4.986980	4.943824	4.959276	4.757081	4.901040
#3	23.83206	4.825264	4.997605	4.917869	4.924519	4.735289	4.856319

Sample Name: CCV05 Acquired: 4/25/2025 17:45:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.802280	4.910034	4.942482
Stddev	.013807	.015172	.055969
%RSD	.2875118	.3089942	1.132405

#1	4.814806	4.912583	5.006797
#2	4.804560	4.923770	4.904830
#3	4.787475	4.893750	4.915818

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3236.411	77761.65	11052.23	2142.730	4861.950
Stddev	6.226	224.36	38.09	2.358	15.357
%RSD	.1923770	.2885208	.3446414	.1100441	.3158639

#1	3229.233	77850.90	11013.96	2145.256	4847.328
#2	3240.335	77506.40	11052.60	2142.347	4860.572
#3	3239.666	77927.65	11090.14	2140.587	4877.950

Sample Name: CCB05 Acquired: 4/25/2025 17:49:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001883	.0024918	-.000231	.0006741	.0006877	.0004929
Stddev	.001057	.0006546	.000890	.0030427	.0013561	.0061968
%RSD	56.15707	26.26809	385.7545	451.3616	197.1867	1257.250

#1	-.001890	.0030084	-.001255	.0025759	-.000774	-.000738
#2	-.000822	.0017557	.000354	-.002835	.000933	-.004996
#3	-.002936	.0027114	.000209	.002282	.001904	.007213

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000848	.0000049	.0000897	-.005838	.0000549	-.000089
Stddev	.001183	.0000283	.0000725	.003377	.0002874	.000178
%RSD	139.5373	578.8609	80.83981	57.84027	523.5601	199.3477

#1	-.002205	.0000126	.0000609	-.008416	.0003528	-.000234
#2	-.000305	.0000286	.0000360	-.002016	.0000324	-.000143
#3	-.000034	-.000026	.0001723	-.007082	-.000221	.000109

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000121	.0056220	-.001132	.0065851	.0002737	.0001140
Stddev	.000364	.0048129	.000056	.0075795	.0002421	.0001510
%RSD	302.0096	85.60958	4.964792	115.0997	88.47259	132.4304

#1	.000140	.0049817	-.001103	.0136977	.0001895	.0001000
#2	-.000537	.0107230	-.001096	.0074454	.0000849	-.000029
#3	.000036	.0011612	-.001197	-.001388	.0005467	.000272

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1188821	.0007159	.0001238	.0457415	.0050549	.0010808
Stddev	.0083010	.0011378	.0001497	.0207592	.0000586	.0002463
%RSD	6.982540	158.9314	120.9334	45.38366	1.158759	22.78677

#1	.1243405	.0019949	.0002690	.0228920	.0050982	.0010515
#2	.1093294	-.000184	-.000030	.0634406	.0049882	.0013404
#3	.1229765	.000337	.000132	.0508920	.0050782	.0008505

Sample Name: CCB05 Acquired: 4/25/2025 17:49:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026233	-.000145	.0034523	.0026412	F .0285584	.0066053
Stddev	.0005977	.000512	.0054573	.0010108	.0031416	.0008220
%RSD	22.78529	352.2434	158.0771	38.26992	11.00061	12.44418

#1	.0031185	.000440	.0065517	.0033656	.0249361	.0074492
#2	.0027921	-.000364	.0066543	.0030717	.0301993	.0065597
#3	.0019594	-.000512	-.002849	.0014865	.0305397	.0058071

Elem	Sr4077
Units	ppm
Avg	.0003234
Stddev	.0000186
%RSD	5.755584

#1	.0003436
#2	.0003198
#3	.0003069

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3352.794	75142.94	12189.25	2158.159	5239.577
Stddev	23.005	236.94	29.49	1.629	33.326
%RSD	.6861488	.3153203	.2418976	.0754628	.6360353

#1	3378.681	75378.95	12155.68	2159.751	5277.518
#2	3345.012	74905.08	12210.92	2158.231	5226.169
#3	3334.689	75144.80	12201.16	2156.496	5215.044

Sample Name: PB167723BL Acquired: 4/25/2025 17:54:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000846	.0008225	-.001182	.0004062	.0007290	-.001036
Stddev	.002719	.0009413	.001421	.0066548	.0005190	.007643
%RSD	321.6003	114.4375	120.2534	1638.173	71.20118	737.8520
#1	-.003344	.0019082	-.000478	.0080663	.0011279	.005361
#2	.002050	.0003241	-.002818	-.003952	.0009168	.001030
#3	-.001243	.0002352	-.000250	-.002896	.0001422	-.009499
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000450	-.000012	-.000073	-.000305	.0000087	-.000092
Stddev	.001173	.000067	.000056	.005441	.0001250	.000332
%RSD	260.9872	571.2065	76.98224	1783.949	1428.899	361.4968
#1	.000874	.000063	-.000009	-.004278	-.000135	.000200
#2	-.001361	-.000066	-.000096	-.002533	.000091	-.000023
#3	-.000862	-.000032	-.000114	.005896	.000070	-.000452
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000125	-.001837	.0012821	-.011021	-.000204	-.000083
Stddev	.000231	.001449	.0003110	.004242	.000209	.000513
%RSD	184.6821	78.88003	24.25533	38.48826	102.0679	615.9485
#1	-.000387	-.000189	.0014590	-.008434	-.000199	-.000174
#2	-.000041	-.002913	.0014643	-.008712	.000002	-.000545
#3	.000052	-.002408	.0009231	-.015916	-.000415	.000469
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0729317	.0003580	-.000446	.0100479	.0023542	.0004671
Stddev	.0109161	.0016876	.000319	.0369359	.0007244	.0005055
%RSD	14.96759	471.3888	71.46509	367.5991	30.76881	108.2225
#1	.0619086	-.000428	-.000078	.0454721	.0026440	.0003890
#2	.0837376	-.000793	-.000631	-.028234	.0028888	.0010071
#3	.0731487	.002295	-.000628	.012905	.0015298	.0000052

Sample Name: PB167723BL Acquired: 4/25/2025 17:54:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016452	.0003258	.0029288	.0017839	F .0119855	.0032825
Stddev	.0005554	.0008008	.0038317	.0033160	.0026724	.0016350
%RSD	33.75773	245.7858	130.8249	185.8850	22.29718	49.81101

#1	.0022708	-.000566	.0069086	.0007786	.0117162	.0023403
#2	.0012104	.000985	-.000735	.0054862	.0094579	.0051704
#3	.0014543	.000558	.002613	-.000913	.0147824	.0023366

Elem	Sr4077
Units	ppm
Avg	-.000018
Stddev	.000021
%RSD	117.9209

#1	-.000030
#2	.000006
#3	-.000030

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3340.606	75138.36	10973.58	2159.735	5209.927
Stddev	2.060	157.05	48.89	5.202	6.481
%RSD	.0616510	.2090136	.4455066	.2408534	.1244036

#1	3338.277	75006.88	10928.02	2164.185	5205.653
#2	3342.186	75095.94	10967.50	2161.005	5206.743
#3	3341.354	75312.26	11025.23	2154.016	5217.384

Sample Name: PB167723BS Acquired: 4/25/2025 17:58:27 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7830858	1.927595	.9741276	1.956719	.8020088	1.833894
Stddev	.0036205	.018322	.0017866	.006836	.0015866	.009177
%RSD	.4623321	.9504885	.1834091	.3493704	.1978326	.5004040

#1	.7868234	1.923304	.9749490	1.951063	.8018365	1.823978
#2	.7828389	1.911799	.9720780	1.954780	.8005153	1.842088
#3	.7795951	1.947681	.9753559	1.964316	.8036745	1.835617

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1794668	.1948480	.1988912	.9295011	.3870790	.1906839
Stddev	.0001970	.0003716	.0006808	.0118812	.0011952	.0005640
%RSD	.1097897	.1906962	.3422749	1.278235	.3087834	.2957777

#1	.1792732	.1945226	.1995059	.9164906	.3857062	.1909996
#2	.1796671	.1952529	.1981595	.9322368	.3876426	.1900327
#3	.1794602	.1947686	.1990082	.9397758	.3878883	.1910193

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2965376	2.765277	.1906697	1.849443	.4815951	.0712205
Stddev	.0002437	.022482	.0004612	.012656	.0007319	.0003333
%RSD	.0821666	.8129957	.2418917	.6843114	.1519633	.4679661

#1	.2962875	2.739732	.1904925	1.848475	.4817115	.0714285
#2	.2965512	2.774047	.1903235	1.862556	.4808120	.0713968
#3	.2967742	2.782051	.1911933	1.837300	.4822618	.0708360

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.753878	.2795919	.1955030	8.839878	.2864673	.4048423
Stddev	.012528	.0013150	.0009587	.041921	.0003625	.0008550
%RSD	.4549109	.4703364	.4903803	.4742241	.1265410	.2111818

#1	2.739490	.2792752	.1960196	8.791516	.2867334	.4046033
#2	2.759772	.2784642	.1943968	8.865838	.2866140	.4041322
#3	2.762372	.2810364	.1960927	8.862281	.2860544	.4057913

Sample Name: PB167723BS Acquired: 4/25/2025 17:58:27 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6951363	.1922355	F .6533473	5.708722	F -.002093	.1992668
Stddev	.0021007	.0006621	.0094462	.020005	.001477	.0011060
%RSD	.3021995	.3443984	1.445814	.3504373	70.56313	.5550590
#1	.6957513	.1915124	.6433808	5.708229	-.000443	.1982596
#2	.6927967	.1923821	.6544921	5.688967	-.002545	.2004505
#3	.6968608	.1928120	.6621688	5.728969	-.003292	.1990903

Elem	Sr4077
Units	ppm
Avg	.1937840
Stddev	.0005506
%RSD	.2841573
#1	.1935664
#2	.1933755
#3	.1944103

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3263.935	75806.63	10858.99	2174.102	5023.560
Stddev	6.002	363.63	24.87	3.170	16.326
%RSD	.1838743	.4796795	.2290447	.1458268	.3249875
#1	3257.559	76192.19	10864.27	2172.798	5008.247
#2	3269.475	75469.85	10831.90	2177.716	5040.739
#3	3264.771	75757.85	10880.80	2171.791	5021.695

Sample Name: Q1865-05 Acquired: 4/25/2025 18:02:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4092632	.0179917	31.39734	-.048175	.0391634	92.18166
Stddev	.0032988	.0027270	.20425	.012434	.0018494	.17156
%RSD	.8060220	15.15671	.6505434	25.80899	4.722154	.1861140

#1	.4074948	.0211342	31.39308	-.062497	.0390010	92.37849
#2	.4072256	.0162475	31.19526	-.041884	.0374005	92.10266
#3	.4130691	.0165934	31.60369	-.040145	.0410885	92.06382

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.66836	.0084408	.0468754	222.6460	4.265854	.6200109
Stddev	.02241	.0000812	.0011736	.5598	.008552	.0045835
%RSD	.1768781	.9616607	2.503734	.2514496	.2004862	.7392694

#1	12.64278	.0083778	.0469159	222.1679	4.275431	.6197119
#2	12.68448	.0085324	.0456821	223.2619	4.263154	.6155842
#3	12.67783	.0084122	.0480283	222.5082	4.258978	.6247366

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.594051	419.8970	2.937964	62.50138	.4565818	.0331273
Stddev	.012393	1.3643	.009930	.16837	.0032305	.0001817
%RSD	.7774524	.3249245	.3379880	.2693798	.7075468	.5484954

#1	1.593702	420.1499	2.930849	62.37385	.4565786	.0329546
#2	1.581836	421.1172	2.949308	62.69222	.4533529	.0333168
#3	1.606615	418.4239	2.933734	62.43805	.4598140	.0331103

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.10125	.3497346	F 45.95480	62.65859	.8683303	.0352969
Stddev	.24093	.0016484	.27522	.24653	.0021678	.0003301
%RSD	.5861876	.4713323	.5988928	.3934575	.2496578	.9352077

#1	41.36250	.3486384	46.26806	62.90976	.8687128	.0349544
#2	41.05346	.3516303	45.75184	62.64907	.8702815	.0353231
#3	40.88780	.3489351	45.84450	62.41696	.8659967	.0356131

Sample Name: Q1865-05 Acquired: 4/25/2025 18:02:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1991450	5.004408	1.751251	7.459634	F 144.3716	.3058021
Stddev	.0007973	.000891	.007295	.057514	1.0028	.0013241
%RSD	.4003404	.0178090	.4165642	.7710000	.6945665	.4329750

#1	.1998290	5.004112	1.751834	7.472078	144.6789	.3071821
#2	.1982694	5.003702	1.758236	7.396917	143.2511	.3056820
#3	.1993365	5.005409	1.743681	7.509907	145.1847	.3045422

Elem	Sr4077
Units	ppm
Avg	2.294330
Stddev	.004907
%RSD	.2138881

#1	2.290283
#2	2.299788
#3	2.292919

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3211.048	74783.35	11274.20	2069.052	4368.665
Stddev	10.648	223.41	23.51	4.211	21.648
%RSD	.3316103	.2987418	.2085000	.2035468	.4955236

#1	3209.947	74690.29	11298.98	2067.605	4365.030
#2	3222.204	74621.51	11252.22	2065.754	4391.901
#3	3200.993	75038.25	11271.39	2073.796	4349.065

Sample Name: Q1867-01 Acquired: 4/25/2025 18:07:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1513168	.0033500	.6465157	-.012259	.0015934	82.95568	.7034538
Stddev	.0031541	.0035867	.0100737	.005446	.0023390	.19628	.0029471
%RSD	2.084448	107.0649	1.558152	44.42458	146.7901	.2366098	.4189500
#1	.1540078	.0009688	.6459672	-.006981	.0001556	82.77251	.7010462
#2	.1478459	.0074752	.6367275	-.011936	.0042923	83.16286	.7067404
#3	.1520967	.0016061	.6568525	-.017859	.0003324	82.93168	.7025748
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055432	-.003230	43.80621	.1690121	.0854287	.3789879	181.7063
Stddev	.0000691	.000849	.05550	.0004836	.0014148	.0083990	.5127
%RSD	1.246277	26.27131	.1267039	.2861049	1.656055	2.216163	.2821551
#1	.0054792	-.003380	43.74375	.1693880	.0853567	.3776028	182.2892
#2	.0056165	-.003994	43.82500	.1691818	.0840514	.3713676	181.5045
#3	.0055338	-.002317	43.84987	.1684666	.0868781	.3879934	181.3252
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.743623	45.88208	.1715367	.0028126	2.981824	.2921067	1.116073
Stddev	.009863	.21343	.0023117	.0001708	.008449	.0015333	.004590
%RSD	.2634492	.4651613	1.347637	6.072927	.2833660	.5249210	.4112826
#1	3.733733	45.65085	.1709628	.0027987	2.989743	.2905405	1.120181
#2	3.753458	46.07151	.1695661	.0026491	2.972929	.2921748	1.116921
#3	3.743677	45.92388	.1740813	.0029899	2.982801	.2936048	1.111118
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.01758	.2794709	.0059177	.0836683	2.837392	2.550671	2.960071
Stddev	.04391	.0015001	.0002138	.0005820	.003728	.026626	.058311
%RSD	.3985262	.5367771	3.612472	.6956479	.1313718	1.043892	1.969912
#1	11.05209	.2806617	.0060932	.0837372	2.835351	2.576894	2.954546
#2	11.03249	.2799650	.0056796	.0830548	2.841694	2.551460	2.904720
#3	10.96816	.2777861	.0059803	.0842127	2.835131	2.523659	3.020948

Sample Name: Q1867-01 Acquired: 4/25/2025 18:07:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.070225	.2830140	.1988329
Stddev	.025083	.0007371	.0007054
%RSD	2.343712	.2604401	.3547825

#1	1.073690	.2821631	.1980604
#2	1.043590	.2834575	.1994429
#3	1.093396	.2834213	.1989954

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3323.567	76588.31	11497.39	2188.939	4703.101
Stddev	42.348	243.42	19.59	8.177	65.083
%RSD	1.274178	.3178343	.1703716	.3735644	1.383835

#1	3327.909	76308.90	11519.85	2179.696	4707.692
#2	3363.577	76701.52	11483.82	2191.888	4765.768
#3	3279.215	76754.52	11488.51	2195.231	4635.845

Sample Name: Q1867-01DUP Acquired: 4/25/2025 18:11:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1501497	.0038180	.6712242	-.015518	-.002285	83.36073	.6890051
Stddev	.0010627	.0039111	.0014105	.004110	.002551	.02516	.0026421
%RSD	.7077371	102.4395	.2101381	26.48319	111.6282	.0301809	.3834589
#1	.1513381	.0000491	.6705494	-.020263	-.004183	83.37552	.6908458
#2	.1498201	.0035476	.6728453	-.013164	.000615	83.37500	.6901917
#3	.1492908	.0078574	.6702778	-.013127	-.003287	83.33168	.6859778
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0058612	-.002657	43.09281	.1696820	.0843829	.3824117	177.9696
Stddev	.0000380	.000052	.19677	.0002163	.0012969	.0026312	.5392
%RSD	.6480440	1.940305	.4566207	.1274813	1.536929	.6880596	.3029790
#1	.0058446	-.002713	43.24737	.1694499	.0849321	.3809380	178.5723
#2	.0059047	-.002646	43.15976	.1697181	.0853150	.3854495	177.8035
#3	.0058344	-.002612	42.87130	.1698779	.0829018	.3808475	177.5329
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.765172	46.08012	.1698778	.0016240	2.861851	.2945824	1.156202
Stddev	.017022	.11160	.0017194	.0003375	.014550	.0006672	.007806
%RSD	.4521014	.2421897	1.012133	20.78161	.5084164	.2265038	.6751833
#1	3.776760	46.10303	.1710542	.0019643	2.874042	.2940644	1.157278
#2	3.773127	46.17848	.1706746	.0016184	2.845743	.2953353	1.163415
#3	3.745628	45.95884	.1679046	.0012894	2.865768	.2943473	1.147913
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.69076	.2621784	.0060786	.0958941	2.840101	2.795052	2.997546
Stddev	.02627	.0029361	.0003688	.0011213	.009589	.082621	.014297
%RSD	.2457324	1.119876	6.068026	1.169339	.3376254	2.955983	.4769464
#1	10.69975	.2654513	.0063717	.0950540	2.844669	2.877260	3.001715
#2	10.71136	.2597761	.0061998	.0954610	2.846552	2.795874	3.009294
#3	10.66117	.2613076	.0056645	.0971674	2.829082	2.712023	2.981628

Sample Name: Q1867-01DUP Acquired: 4/25/2025 18:11:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.002983	.2812317	.1988911
Stddev	.003916	.0014769	.0002281
%RSD	.3904429	.5251349	.1146855
#1	1.005905	.2818518	.1988209
#2	1.004510	.2795459	.1987062
#3	.998533	.2822974	.1991460

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3370.998	76091.26	10986.86	2187.487	4769.367
Stddev	16.889	118.73	43.24	15.805	26.491
%RSD	.5010219	.1560345	.3935724	.7225167	.5554471
#1	3368.119	76184.68	11014.29	2178.607	4758.713
#2	3355.733	75957.65	10937.01	2178.120	4749.862
#3	3389.142	76131.45	11009.27	2205.735	4799.527

Sample Name: Q1867-01LX5 Acquired: 4/25/2025 18:15:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0322016	.0019214	.1298007	-.000077	-.000886	17.30964	.1432464
Stddev	.0006224	.0027478	.0023871	.005609	.000811	.01348	.0014044
%RSD	1.932907	143.0100	1.839040	7324.810	91.45047	.0778969	.9804121
#1	.0323870	.0027377	.1274194	.006384	-.000533	17.32495	.1426077
#2	.0327102	-.001142	.1297893	-.002915	-.000312	17.30443	.1448566
#3	.0315075	.004169	.1321935	-.003699	-.001814	17.29954	.1422748
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011795	-.001287	9.219847	.0361176	.0161207	.0800128	37.71364
Stddev	.0000182	.000366	.036718	.0017670	.0001502	.0012972	1.67622
%RSD	1.543039	28.43119	.3982519	4.892368	.9315190	1.621260	4.444594
#1	.0011974	-.001096	9.208853	.0349340	.0161170	.0807150	36.67366
#2	.0011799	-.001056	9.260807	.0352701	.0162727	.0808076	36.81994
#3	.0011610	-.001709	9.189882	.0381487	.0159724	.0785159	39.64733
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7925287	9.580510	.0336835	.0000811	.6173811	.0610310	.2331572
Stddev	.0030644	.021607	.0005282	.0004077	.0338744	.0005289	.0096814
%RSD	.3866670	.2255330	1.568222	502.3518	5.486794	.8665652	4.152286
#1	.7924067	9.580742	.0335187	-.000250	.6060010	.0612751	.2285698
#2	.7956523	9.602000	.0332574	.000536	.5906621	.0604241	.2266222
#3	.7895271	9.558788	.0342746	-.000043	.6554802	.0613937	.2442796
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.220931	.0573837	.0012348	.0164833	.6079410	.8936087	.5776781
Stddev	.073180	.0026399	.0001273	.0011593	.0016705	.0401481	.0049058
%RSD	3.295009	4.600384	10.31036	7.033451	.2747759	4.492801	.8492190
#1	2.157597	.0553368	.0011910	.0172565	.6096338	.8828580	.5801482
#2	2.204153	.0564510	.0011351	.0170431	.6078955	.8599304	.5808578
#3	2.301043	.0603633	.0013782	.0151503	.6062938	.9380376	.5720282

Sample Name: Q1867-01LX5 Acquired: 4/25/2025 18:15:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2148034	.0594188	.0414128
Stddev	.0037296	.0004279	.0000615
%RSD	1.736294	.7202022	.1484002

#1	.2135752	.0589738	.0414742
#2	.2189923	.0594553	.0413513
#3	.2118428	.0598273	.0414129

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3377.266	75544.58	11144.27	2159.183	5099.708
Stddev	8.424	3354.21	11.99	86.893	16.282
%RSD	.2494209	4.440035	.1075893	4.024340	.3192666

#1	3374.579	77417.34	11156.47	2210.017	5088.002
#2	3370.513	77544.23	11132.51	2208.681	5092.821
#3	3386.705	71672.17	11143.82	2058.851	5118.302

Sample Name: Q1867-01MS Acquired: 4/25/2025 18:19:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8959421	1.766278	1.659547	1.566619	.3452514	96.38347	.9070243
Stddev	.0022676	.009055	.005282	.012098	.0009648	.10184	.0016266
%RSD	.2530989	.5126770	.3182815	.7722367	.2794552	.1056605	.1793332

#1	.8945827	1.757353	1.662775	1.570943	.3462567	96.50101	.9068045
#2	.8985598	1.775458	1.662414	1.575960	.3451646	96.32172	.9087496
#3	.8946836	1.766024	1.653451	1.552953	.3443329	96.32767	.9055188

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1852520	.1854880	29.63896	.5291530	.2744062	.6837165	181.6807
Stddev	.0010564	.0011641	.03801	.0014549	.0011697	.0037620	.4203
%RSD	.5702300	.6275768	.1282572	.2749510	.4262553	.5502339	.2313224

#1	.1843646	.1858685	29.59889	.5287046	.2751088	.6844491	181.8141
#2	.1849708	.1864142	29.64347	.5279751	.2750539	.6870584	181.2100
#3	.1864204	.1841813	29.67451	.5307793	.2730559	.6796421	182.0182

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.804939	43.52994	.6509514	.0672400	6.071686	.5462461	1.450664
Stddev	.011776	.14409	.0036759	.0001245	.010499	.0023043	.007056
%RSD	.3095016	.3310114	.5646933	.1851701	.1729219	.4218356	.4864164

#1	3.804023	43.42204	.6532421	.0671173	6.082988	.5488952	1.453323
#2	3.793647	43.47420	.6529006	.0672365	6.069835	.5447063	1.442665
#3	3.817146	43.69357	.6467114	.0673662	6.062236	.5451367	1.456005

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.68215	.4823707	.3516192	.7050743	2.905427	1.928949	8.512054
Stddev	.03523	.0020261	.0016772	.0038017	.007489	.014186	.036974
%RSD	.1885781	.4200307	.4769849	.5391914	.2577695	.7354383	.4343773

#1	18.72226	.4800699	.3511443	.7058443	2.913545	1.943826	8.517671
#2	18.65621	.4831543	.3534826	.7084321	2.898787	1.915573	8.545899
#3	18.66798	.4838880	.3502307	.7009465	2.903950	1.927446	8.472593

Sample Name: Q1867-01MS Acquired: 4/25/2025 18:19:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.181884	.4825951	.3759433
Stddev	.006664	.0003823	.0008334
%RSD	.5638823	.0792115	.2216800
#1	1.183140	.4830348	.3766274
#2	1.187830	.4824089	.3761875
#3	1.174680	.4823415	.3750151

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3398.121	76750.53	11062.23	2212.115	4785.451
Stddev	13.430	300.39	58.79	14.431	19.636
%RSD	.3952134	.3913839	.5314799	.6523660	.4103198
#1	3390.559	76891.54	11105.82	2204.463	4773.671
#2	3390.176	76954.47	11085.51	2228.760	4774.564
#3	3413.626	76405.58	10995.36	2203.121	4808.118

Sample Name: Q1867-01MSD Acquired: 4/25/2025 18:23:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8615052	1.760064	1.711857	1.551249	.3438558	98.72263	1.062687
Stddev	.0040988	.019897	.005250	.009121	.0011190	.14911	.001866
%RSD	.4757738	1.130487	.3066621	.5879836	.3254304	.1510393	.1755657

#1	.8600233	1.774836	1.716967	1.543932	.3426123	98.79134	1.064502
#2	.8661389	1.767918	1.712126	1.561468	.3447818	98.55155	1.062786
#3	.8583535	1.737439	1.706478	1.548349	.3441731	98.82500	1.060775

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1716446	.1817467	27.66912	.5429667	.2744743	.7552346	209.4013
Stddev	.0006773	.0010417	.03124	.0013101	.0013868	.0031255	.2784
%RSD	.3945919	.5731548	.1129106	.2412757	.5052616	.4138465	.1329490

#1	.1721874	.1824467	27.66317	.5444608	.2751987	.7565418	209.1101
#2	.1718608	.1822439	27.70291	.5420144	.2753488	.7574942	209.4288
#3	.1708856	.1805496	27.64128	.5424250	.2728753	.7516677	209.6649

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.610368	42.99907	.6474621	.0687093	6.282433	.5618531	1.653286
Stddev	.001245	.14437	.0014234	.0003924	.015054	.0013001	.006778
%RSD	.0344809	.3357601	.2198451	.5710422	.2396192	.2314007	.4099790

#1	3.611290	42.83387	.6478234	.0689643	6.274983	.5620302	1.646198
#2	3.608952	43.06231	.6486700	.0689061	6.272557	.5630556	1.659704
#3	3.610861	43.10104	.6458928	.0682575	6.299759	.5604735	1.653955

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.56787	.5120491	.3494721	.9597629	3.050415	2.133896	8.533885
Stddev	.03816	.0022432	.0013119	.0033264	.003597	.014053	.028032
%RSD	.1769244	.4380902	.3753802	.3465844	.1179205	.6585690	.3284797

#1	21.57131	.5099835	.3500673	.9611198	3.054531	2.139552	8.535092
#2	21.52811	.5117283	.3503809	.9621963	3.047876	2.117896	8.561293
#3	21.60419	.5144355	.3479682	.9559725	3.048837	2.144239	8.505268

Sample Name: Q1867-01MSD Acquired: 4/25/2025 18:23:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.254515	.5086454	.3807808
Stddev	.004230	.0009189	.0015031
%RSD	.3371599	.1806541	.3947338
#1	1.255775	.5092465	.3805561
#2	1.257972	.5075876	.3794027
#3	1.249799	.5091020	.3823836

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3441.620	77780.78	11980.99	2237.986	4814.661
Stddev	8.929	139.15	6.07	9.618	8.200
%RSD	.2594438	.1789009	.0506375	.4297669	.1703060
#1	3437.411	77813.06	11974.21	2248.497	4809.051
#2	3435.574	77900.95	11982.85	2235.836	4810.861
#3	3451.876	77628.32	11985.91	2229.624	4824.072

Sample Name: Q1867-01A Acquired: 4/25/2025 18:27:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8769997	1.758167	1.681533	1.569407	.3455711	96.68025	.9963605
Stddev	.0048657	.007297	.004071	.003992	.0011402	.13158	.0032341
%RSD	.5548151	.4150098	.2420968	.2543489	.3299339	.1360933	.3245963

#1	.8738567	1.759192	1.676862	1.569584	.3458217	96.54109	.9955433
#2	.8826044	1.764896	1.684321	1.565330	.3465651	96.80263	.9999249
#3	.8745380	1.750412	1.683418	1.573308	.3443265	96.69703	.9936133

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1701249	.1807338	28.50223	.5474608	.2737240	.6926434	205.8611
Stddev	.0007808	.0020959	.02138	.0289203	.0004132	.0116838	9.7458
%RSD	.4589550	1.159655	.0750145	5.282623	.1509642	1.686837	4.734160

#1	.1706455	.1783495	28.49422	.5806729	.2740162	.6791996	217.1135
#2	.1692271	.1822856	28.52646	.5278377	.2739046	.7003437	200.0992
#3	.1705021	.1815661	28.48601	.5338719	.2732513	.6983871	200.3707

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.717734	43.14123	.6423832	.0706298	6.412388	.5571955	1.561626
Stddev	.011768	.04634	.0008330	.0033023	.296165	.0004244	.080721
%RSD	.3165386	.1074077	.1296755	4.675562	4.618632	.0761768	5.169030

#1	3.708902	43.14254	.6414564	.0744312	6.754112	.5570884	1.654492
#2	3.731094	43.18689	.6430694	.0684697	6.230028	.5576632	1.508280
#3	3.713207	43.09425	.6426240	.0689885	6.253025	.5568348	1.522105

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.04238	.5173066	.3558114	.8205203	2.990577	2.425657	8.479052
Stddev	1.01991	.0221365	.0011133	.0046601	.009958	.120222	.031229
%RSD	4.846952	4.279179	.3128923	.5679479	.3329644	4.956270	.3683065

#1	22.22002	.5428622	.3549373	.8226885	2.985816	2.563578	8.472728
#2	20.46323	.5040771	.3570648	.8237013	3.002021	2.370363	8.512959
#3	20.44389	.5049803	.3554321	.8151711	2.983893	2.343030	8.451469

Sample Name: Q1867-01A Acquired: 4/25/2025 18:27:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.146848	.4954116	.3767406
Stddev	.013550	.0028789	.0011795
%RSD	1.181500	.5811048	.3130943

#1	1.131222	.4980895	.3753931
#2	1.155347	.4957784	.3772426
#3	1.153974	.4923669	.3775862

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3423.699	76732.39	12073.56	2196.767	4817.359
Stddev	9.124	3305.76	38.84	98.508	12.176
%RSD	.2664912	4.308172	.3217343	4.484224	.2527436

#1	3434.219	72927.63	12118.04	2083.957	4831.222
#2	3418.927	78901.07	12056.29	2265.791	4808.402
#3	3417.952	78368.48	12046.34	2240.554	4812.453

Sample Name: Q1867-03 Acquired: 4/25/2025 18:31:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0884693	.0221569	.5534738	-.056722	-.008122	124.3161	1.769553
Stddev	.0019117	.0014972	.0131408	.009526	.002148	.3332	.007080
%RSD	2.160811	6.757275	2.374245	16.79399	26.44090	.2680615	.4000778

#1	.0865396	.0218278	.5465293	-.058667	-.010147	124.1899	1.765328
#2	.0885058	.0208516	.5686299	-.065126	-.005870	124.6940	1.777726
#3	.0903624	.0237912	.5452623	-.046374	-.008350	124.0644	1.765604

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0156422	.0051754	210.5334	.8971800	.1841469	.3903194	465.8215
Stddev	.0001097	.0023830	.4709	.0024672	.0050685	.0154664	2.3402
%RSD	.7010976	46.04324	.2236690	.2749994	2.752450	3.962490	.5023914

#1	.0155156	.0036138	210.4443	.8952706	.1815704	.3842350	465.1001
#2	.0157044	.0079183	211.0424	.8999658	.1899861	.4079027	468.4375
#3	.0157067	.0039943	210.1134	.8963037	.1808842	.3788206	463.9269

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.024879	62.29822	.3520123	-.000217	5.148015	.5745409	1.160474
Stddev	.040514	.09635	.0105000	.000621	.034080	.0025394	.005003
%RSD	.5048569	.1546536	2.982843	286.7021	.6620074	.4419799	.4311245

#1	8.015002	62.28055	.3472432	.000178	5.135834	.5763349	1.158075
#2	8.069418	62.40218	.3640505	.000105	5.186512	.5716353	1.157123
#3	7.990217	62.21193	.3447434	-.000932	5.121699	.5756524	1.166225

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.52205	.6379018	.0049788	.0240331	3.150684	2.592571	13.25621
Stddev	.07875	.0077803	.0002493	.0014617	.010767	.022913	.32661
%RSD	.4033910	1.219667	5.008076	6.082040	.3417202	.8838060	2.463855

#1	19.46663	.6347333	.0047854	.0251314	3.146845	2.618988	13.08222
#2	19.61219	.6467664	.0052602	.0245938	3.162843	2.580631	13.63299
#3	19.48732	.6322057	.0048907	.0223740	3.142363	2.578093	13.05343

Sample Name: Q1867-03 Acquired: 4/25/2025 18:31:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.883775	.4708486	.4218637
Stddev	.042478	.0007414	.0009493
%RSD	2.254958	.1574521	.2250306
#1	1.862743	.4708254	.4214372
#2	1.932666	.4716013	.4229514
#3	1.855916	.4701191	.4212024

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3646.153	85564.27	12682.37	2418.853	4411.868
Stddev	66.980	271.10	10.55	9.332	96.319
%RSD	1.837007	.3168400	.0831933	.3858053	2.183186
#1	3674.510	85646.74	12690.76	2427.527	4458.031
#2	3569.659	85261.52	12670.53	2408.979	4301.156
#3	3694.290	85784.57	12685.83	2420.054	4476.417

Sample Name: CCV06 Acquired: 4/25/2025 18:44:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.755083	4.755625	4.899189	4.684209	4.738766	9.718822
Stddev	.014772	.042583	.004815	.021379	.007692	.038296
%RSD	.3106471	.8954297	.0982839	.4564048	.1623282	.3940362

#1	4.758394	4.787307	4.901215	4.698157	4.742428	9.678659
#2	4.767918	4.772351	4.902660	4.694873	4.743943	9.722878
#3	4.738937	4.707218	4.893691	4.659595	4.729927	9.754928

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.593929	.2651354	2.467016	24.27777	.9890757	2.437898
Stddev	.144101	.0019053	.005089	.13833	.0032225	.002476
%RSD	1.501997	.7186166	.2062752	.5697882	.3258063	.1015663

#1	9.428577	.2629638	2.469137	24.12084	.9911335	2.436306
#2	9.660516	.2665265	2.470701	24.38206	.9907316	2.440751
#3	9.692695	.2659159	2.461209	24.33040	.9853619	2.436637

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.211341	4.511762	2.434121	24.40324	2.441772	1.210011
Stddev	.002041	.015877	.010213	.15599	.003736	.003061
%RSD	.1685013	.3519048	.4195857	.6392064	.1529906	.2529909

#1	1.210945	4.523686	2.423425	24.22368	2.440599	1.211036
#2	1.213551	4.517859	2.443771	24.48083	2.445953	1.212429
#3	1.209527	4.493740	2.435167	24.50522	2.438763	1.206569

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.42055	2.430767	2.387510	23.22363	5.056547	4.907312
Stddev	.10733	.008059	.010610	.12942	.038947	.009869
%RSD	.4582822	.3315473	.4444013	.5572745	.7702201	.2011053

#1	23.53735	2.421467	2.379966	23.33517	5.011608	4.906688
#2	23.39804	2.435701	2.399642	23.25399	5.080495	4.917477
#3	23.32626	2.435133	2.382923	23.08173	5.077538	4.897769

Sample Name: CCV06 Acquired: 4/25/2025 18:44:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.910078	4.811018	F 4.439146	4.831129	4.698040	4.795739
Stddev	.017746	.019279	.022152	.010604	.023508	.020401
%RSD	.3614119	.4007214	.4990257	.2194947	.5003697	.4254045
#1	4.911348	4.789043	4.462507	4.826989	4.721800	4.773558
#2	4.927155	4.825084	4.436490	4.843178	4.697527	4.813701
#3	4.891732	4.818929	4.418442	4.823219	4.674793	4.799959

Elem	Sr4077
Units	ppm
Avg	4.884343
Stddev	.038842
%RSD	.7952352
#1	4.839642
#2	4.903523
#3	4.909865

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3248.105	74138.51	9912.373	2122.328	4817.947
Stddev	10.360	251.62	73.425	12.924	14.883
%RSD	.3189681	.3393913	.7407376	.6089501	.3089156
#1	3257.048	73999.37	9995.157	2132.741	4829.948
#2	3236.752	73987.18	9855.128	2107.864	4801.293
#3	3250.514	74428.96	9886.835	2126.378	4822.600

Sample Name: CCB06 Acquired: 4/25/2025 18:48:31 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015198	.0022858	-.001025	.0014816	.0018152	-.000484	.0040232
Stddev	.0017040	.0015432	.000821	.0027470	.0013406	.005383	.0003604
%RSD	112.1174	67.51258	80.09585	185.4037	73.85487	1112.292	8.958338

#1	.0015045	.0005667	-.001432	.0030343	.0003386	.004446	.0036071
#2	.0032314	.0027394	-.000080	.0031008	.0021510	-.006227	.0042222
#3	-.000176	.0035515	-.001563	-.001690	.0029560	.000329	.0042402

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000013	.0000022	-.008406	.0001650	-.000254	-.000107	-.002223
Stddev	.000057	.0000999	.010944	.0003613	.000075	.000257	.000601
%RSD	457.0882	4502.151	130.1913	218.9339	29.43693	239.0221	27.03058

#1	-.000036	-.000113	-.001555	.0005232	-.000255	-.000031	-.001614
#2	.000053	.000070	-.021028	.0001711	-.000329	-.000393	-.002241
#3	-.000054	.000049	-.002636	-.000199	-.000179	.000102	-.002815

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017141	-.003050	.0001992	-.000465	.0061853	.0001801	-.000366
Stddev	.0007807	.025662	.0001837	.000328	.0036783	.0015305	.000317
%RSD	45.54598	841.2966	92.19864	70.46408	59.46888	849.7890	86.78843

#1	.0008832	-.015754	.0000618	-.000757	.0104327	-.001567	-.000458
#2	.0018265	-.019882	.0004079	-.000111	.0040584	.001286	-.000012
#3	.0024324	.026485	.0001280	-.000528	.0040648	.000821	-.000626

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004030	.0078917	.0007056	.0014025	.0000636	.0118382	.0037009
Stddev	.027896	.0006430	.0003040	.0006149	.0003403	.0049258	.0038805
%RSD	692.1947	8.148285	43.08646	43.84154	534.7613	41.60967	104.8526

#1	-.018016	.0077991	.0006517	.0019280	-.000284	.0066387	.0081014
#2	-.022166	.0085761	.0010330	.0007263	.000078	.0164348	.0022321
#3	.028092	.0073001	.0004322	.0015533	.000397	.0124410	.0007692

Sample Name: CCB06 Acquired: 4/25/2025 18:48:31 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0043637	.0017782	.0001176
Stddev	.0047193	.0004737	.0000039
%RSD	108.1493	26.63721	3.336236
#1	.0000569	.0012683	.0001145
#2	.0036256	.0022046	.0001162
#3	.0094085	.0018616	.0001220

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3354.044	74384.66	10542.10	2170.282	5157.880
Stddev	22.121	134.66	26.70	11.495	45.735
%RSD	.6595299	.1810261	.2532309	.5296765	.8866985
#1	3379.509	74311.81	10533.34	2157.270	5210.632
#2	3343.031	74302.13	10520.89	2174.514	5129.362
#3	3339.591	74540.05	10572.08	2179.061	5133.645

Sample Name: Q1869-01 Acquired: 4/25/2025 18:52:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0754779	.0197871	.4054631	-.014651	-.005591	89.43118	1.061058
Stddev	.0057357	.0027849	.0042329	.008388	.003444	.11863	.003281
%RSD	7.599206	14.07409	1.043970	57.24966	61.59606	.1326523	.3091774
#1	.0820361	.0228691	.4041596	-.009481	-.002492	89.29748	1.062783
#2	.0729994	.0174515	.4101945	-.010143	-.004984	89.47223	1.057275
#3	.0713982	.0190407	.4020353	-.024328	-.009299	89.52385	1.063117
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0133523	-.001987	64.38445	.3096413	.2130101	.4492769	388.2529
Stddev	.0000897	.000778	.14396	.0006363	.0001768	.0029853	1.6208
%RSD	.6719969	39.17269	.2235892	.2054858	.0830139	.6644756	.4174613
#1	.0133069	-.002067	64.33098	.3096544	.2128531	.4495863	388.4591
#2	.0134556	-.001172	64.27488	.3102709	.2132016	.4520955	386.5388
#3	.0132943	-.002722	64.54749	.3089986	.2129756	.4461489	389.7607
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.480730	44.73664	.3754991	.0061643	2.774403	.4415588	.8108261
Stddev	.010824	.20278	.0010377	.0003551	.017656	.0013873	.0043966
%RSD	.1975004	.4532666	.2763566	5.760028	.6363906	.3141727	.5422333
#1	5.486239	44.60505	.3760401	.0063730	2.771176	.4408161	.8094394
#2	5.468259	44.63471	.3761545	.0057543	2.758584	.4431593	.8157488
#3	5.487691	44.97016	.3743026	.0063655	2.793450	.4407010	.8072901
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.96243	.5702081	.0138269	.0137099	2.542343	2.565755	15.52861
Stddev	.05055	.0044468	.0003533	.0009708	.006232	.015407	.06421
%RSD	.4225587	.7798562	2.554861	7.080682	.2451166	.6004717	.4134722
#1	11.99631	.5723527	.0142266	.0140540	2.547463	2.563992	15.55365
#2	11.90433	.5650955	.0135567	.0126140	2.535404	2.551306	15.57653
#3	11.98665	.5731762	.0136972	.0144618	2.544162	2.581967	15.45566

Sample Name: Q1869-01 Acquired: 4/25/2025 18:52:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.596012	.3950577	.2133127
Stddev	.011268	.0007457	.0002356
%RSD	.4340533	.1887693	.1104445

#1	2.598599	.3959054	.2130481
#2	2.605761	.3947647	.2134998
#3	2.583675	.3945029	.2133901

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3699.563	85920.62	13596.89	2498.693	4433.411
Stddev	5.850	312.56	28.07	4.188	5.940
%RSD	.1581286	.3637778	.2064422	.1676144	.1339877

#1	3701.550	86058.77	13625.32	2500.229	4431.546
#2	3692.978	86140.29	13596.13	2493.954	4428.628
#3	3704.161	85562.79	13569.20	2501.896	4440.060

Sample Name: Q1855-04 Acquired: 4/25/2025 18:56:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001061	-.000814	.0477433	-.001052	.0095843	.7672026	.1423613
Stddev	.002008	.003085	.0006226	.007269	.0012366	.0167624	.0006824
%RSD	189.2564	379.0366	1.304080	691.2956	12.90288	2.184876	.4793572

#1	-.002585	.000066	.0479902	-.009222	.0082351	.7484471	.1416583
#2	.001215	-.004244	.0482046	.001370	.0098540	.7807220	.1424047
#3	-.001813	.001736	.0470351	.004698	.0106639	.7724386	.1430210

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000390	.0055077	38.84836	.0061902	.0033338	1.131542	9.057831
Stddev	.0000163	.0001259	.01185	.0003082	.0003351	.001427	.058074
%RSD	41.86206	2.286701	.0304986	4.978695	10.05166	.1260894	.6411495

#1	.0000265	.0055902	38.84040	.0059676	.0030764	1.133100	9.034111
#2	.0000330	.0055702	38.84270	.0065419	.0032123	1.130300	9.124011
#3	.0000575	.0053627	38.86197	.0060609	.0037127	1.131226	9.015372

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2255407	2.314087	.0437239	-.000688	334.0387	-.001990	.9037834
Stddev	.0003191	.018654	.0002338	.000051	2.6699	.000650	.0040540
%RSD	.1414645	.8060938	.5347052	7.481264	.7992891	32.67865	.4485541

#1	.2252894	2.298461	.0434910	-.000697	336.8059	-.001639	.9004712
#2	.2254330	2.334739	.0439585	-.000633	333.8323	-.002740	.9083042
#3	.2258997	2.309062	.0437222	-.000734	331.4780	-.001590	.9025748

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.382259	.8959407	.0005937	-.004088	-.000310	1.215559	.0080738
Stddev	.028411	.0048365	.0005180	.002005	.000641	.002723	.0016681
%RSD	2.055390	.5398252	87.24625	49.04895	206.6648	.2240509	20.66068

#1	1.353678	.8911251	-.000001	-.006176	.000386	1.212501	.0076433
#2	1.410497	.9007978	.000836	-.003910	-.000875	1.216453	.0099150
#3	1.382603	.8958993	.000946	-.002178	-.000441	1.217723	.0066631

Sample Name: Q1855-04 Acquired: 4/25/2025 18:56:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.174813	-.002869	.0839563
Stddev	.008382	.000704	.0003145
%RSD	.2007678	24.54102	.3745533

#1	4.171235	-.002161	.0838324
#2	4.168815	-.003569	.0843138
#3	4.184390	-.002877	.0837226

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3147.047	70429.53	10863.56	2052.339	4616.493
Stddev	5.203	276.90	6.14	2.926	8.795
%RSD	.1653382	.3931560	.0564959	.1425678	.1905227

#1	3141.630	70601.92	10864.70	2049.187	4613.986
#2	3152.006	70110.14	10869.04	2052.862	4626.269
#3	3147.506	70576.55	10856.93	2054.969	4609.223

Sample Name: CCV07 Acquired: 4/25/2025 19:05:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.862976	4.763608	4.966533	4.810980	4.821920	9.779405	9.729229
Stddev	.024677	.021199	.002829	.018842	.015524	.031053	.013010
%RSD	.5074427	.4450183	.0569514	.3916392	.3219454	.3175368	.1337203
#1	4.835403	4.788060	4.963818	4.789411	4.804057	9.761169	9.718075
#2	4.870540	4.752368	4.966320	4.824236	4.832142	9.815261	9.726091
#3	4.882986	4.750395	4.969462	4.819292	4.829562	9.761786	9.743521
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2595632	2.506510	24.64216	.9894582	2.473255	1.232928	4.785659
Stddev	.0018527	.001483	.06555	.0239317	.004290	.003318	.081864
%RSD	.7137585	.0591648	.2660141	2.418670	.1734672	.2691520	1.710605
#1	.2603991	2.507787	24.60553	.9960735	2.478180	1.229399	4.812556
#2	.2574399	2.504884	24.71784	.9629146	2.470330	1.233401	4.693731
#3	.2608507	2.506861	24.60312	1.009386	2.471256	1.235985	4.850691
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.477950	24.69817	2.479974	1.222051	24.62628	2.469260	2.416765
Stddev	.003917	.05369	.002912	.026100	.40594	.005450	.055444
%RSD	.1580782	.2173852	.1174119	2.135783	1.648417	.2207149	2.294155
#1	2.475959	24.63660	2.482990	1.231856	24.76647	2.465485	2.449892
#2	2.482463	24.72267	2.477178	1.192468	24.16882	2.475508	2.352756
#3	2.475429	24.73524	2.479755	1.241830	24.94355	2.466785	2.447646
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.55691	4.947381	4.927083	4.978256	4.895803	4.667981	5.045532
Stddev	.32781	.026793	.006627	.007162	.011567	.078025	.027812
%RSD	1.334885	.5415681	.1344953	.1438641	.2362579	1.671501	.5512183
#1	24.70031	4.961723	4.919959	4.983408	4.884353	4.675421	5.065084
#2	24.18184	4.916469	4.933064	4.970078	4.907483	4.586502	5.057820
#3	24.78858	4.963950	4.928227	4.981283	4.895574	4.742020	5.013693

Sample Name: CCV07 Acquired: 4/25/2025 19:05:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.884345	4.830445	4.862432
Stddev	.011495	.005201	.031551
%RSD	.2353397	.1076677	.6488814

#1	4.871626	4.825388	4.895839
#2	4.887419	4.835778	4.858317
#3	4.893990	4.830169	4.833140

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3184.450	72991.88	10203.47	2119.764	4700.067
Stddev	5.239	1355.43	15.44	36.790	3.654
%RSD	.1645061	1.856965	.1513223	1.735571	.0777420

#1	3190.057	72432.97	10197.16	2104.378	4698.997
#2	3183.613	74537.40	10221.07	2161.749	4704.137
#3	3179.681	72005.27	10192.18	2093.164	4697.068

Sample Name: CCB07 Acquired: 4/25/2025 19:09:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000235	.0022766	.0003166	-.002284	.0007044	-.003003	.0029000
Stddev	.002369	.0025579	.0020293	.000294	.0003758	.007156	.0007342
%RSD	1006.852	112.3550	640.9533	12.85750	53.34635	238.3175	25.31646

#1	.002486	.0024787	.0023345	-.002040	.0002786	-.010871	.0037228
#2	-.001353	.0047275	-.001724	-.002610	.0008451	.003119	.0026650
#3	-.001839	-.000376	.000339	-.002202	.0009895	-.001256	.0023120

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000014	.0000226	-.011939	-.000059	-.000122	-.000151	-.000447
Stddev	.000034	.0000395	.007879	.000193	.000257	.000455	.003874
%RSD	239.7652	174.8109	65.99546	329.6164	211.3788	301.8684	866.6734

#1	.000025	.0000452	-.007413	.000042	-.000418	-.000267	-.004293
#2	-.000030	-.000023	-.021037	.000064	.000019	-.000537	-.000501
#3	-.000037	.000046	-.007367	-.000281	.000034	.000351	.003454

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042451	.0102281	.0000495	-.000205	.0213878	-.000198	-.000450
Stddev	.0036675	.0055785	.0001582	.000141	.0036073	.002382	.000322
%RSD	86.39352	54.54069	319.9526	68.82507	16.86597	1202.628	71.41245

#1	.0018453	.0160840	.0001098	-.000125	.0255507	-.001498	-.000568
#2	.0024232	.0049762	.0001687	-.000367	.0194283	-.001647	-.000086
#3	.0084668	.0096240	-.000130	-.000122	.0191844	.002551	-.000696

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.044304	.0078378	.0008123	.0012737	.0000909	.0034837	.0022373
Stddev	.007151	.0008037	.0001177	.0010635	.0001504	.0026150	.0043347
%RSD	16.14006	10.25414	14.49026	83.50279	165.4701	75.06324	193.7503

#1	-.044765	.0084755	.0006773	.0014941	.0000955	.0026978	.0038922
#2	-.051212	.0069351	.0008664	.0022098	.0002388	.0013519	.0055007
#3	-.036933	.0081029	.0008932	.0001172	-.000062	.0064016	-.002681

Sample Name: CCB07 Acquired: 4/25/2025 19:09:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v14) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0051369	.0027015	.0001020
Stddev	.0027413	.0008014	.0000393
%RSD	53.36424	29.66628	38.52203
#1	.0019824	.0034302	.0001257
#2	.0064878	.0028312	.0000566
#3	.0069406	.0018431	.0001237

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3310.861	75469.76	10966.64	2179.166	5072.337
Stddev	3.002	466.98	37.15	17.916	15.691
%RSD	.0906653	.6187641	.3387930	.8221356	.3093468
#1	3313.142	75746.63	10931.85	2188.539	5083.257
#2	3311.980	74930.60	10962.29	2158.509	5079.398
#3	3307.460	75732.04	11005.78	2190.452	5054.356

LB135560

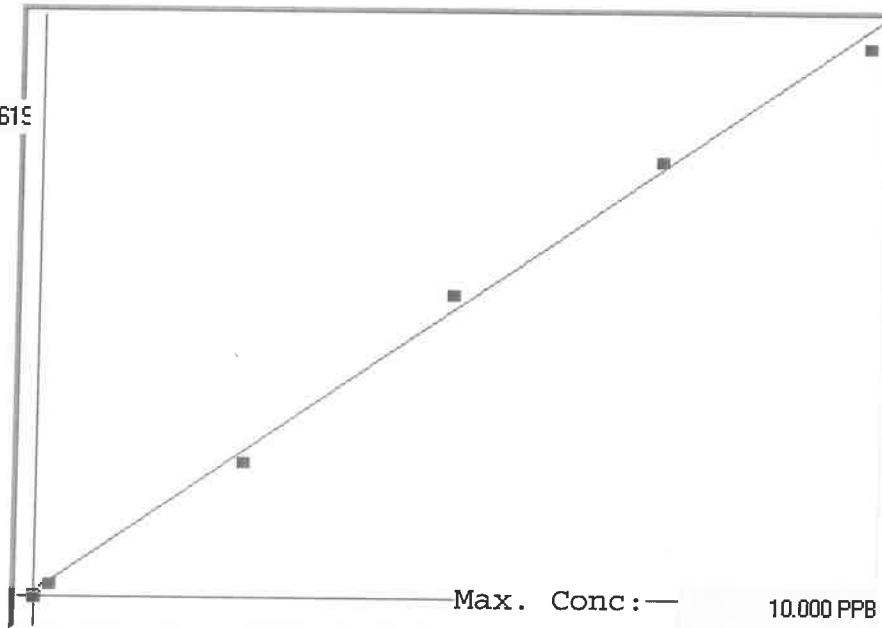
7470A

INSTRUMENT ID: CV1

Linear

μ Abs.:

48619



A= 0.0000e+000

B= 2.0119e-004

C= -7.9072e-002

Rho= 0.9983968

Accept=Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	G/A
0.0	0.000	-0.057	-0.057	109	0.000	109	0				-
0.2	0.200	0.191	-0.009	1341	0.0 %	1341					-5
2.5	2.500	2.341	-0.159	12027	0.0 %	12027					-6
5.0	5.000	5.325	0.325	26858	0.0 %	26858					-7
7.5	7.500	7.698	0.198	38656	0.0 %	38656					-8
10.0	10.000	9.703	-0.297	48619	0.0 %	48619					-3

LB135560 INSTRUMENT ID : CV1

Method: 7470A

Operator: Admin

Date of Analysis: 25 Apr 2025 12:44:40

Sample ID	Extended ID	µ Abs	Conc	Std Conc	Method	Units	Date	Type	Type
0.0 - 1	50	109	-	0.0000	7470A	PPB	25 Apr 2025 13:01:33	S	Std
0.2 - 1	502	1341	-	0.2000	7470A	PPB	25 Apr 2025 13:03:50	S	Std
2.5 - 1		12027	-	2.5000	7470A	PPB	25 Apr 2025 13:06:07	S	Std
5.0 - 1	2.5	26858	-	5.0000	7470A	PPB	25 Apr 2025 13:08:24	S	Std
7.5 - 1	5.5	38656	-	7.5000	7470A	PPB	25 Apr 2025 13:10:42	S	Std
10.0 - 1	32.5	48619	-	10.0000	7470A	PPB	25 Apr 2025 13:13:00	S	Std
ICV102 - 1	ICV102	19618	3.8680	-	7470A	PPB	25 Apr 2025 13:19:06	U	SMPL
ICB102 - 1	ICB102	246	-0.0296	-	7470A	PPB	25 Apr 2025 13:21:21	U	SMPL
CCV29 - 1	CCV29	26783	5.3096	-	7470A	PPB	25 Apr 2025 13:23:36	U	SMPL
CCB29 - 1	CCB29	168	-0.0453	-	7470A	PPB	25 Apr 2025 13:25:53	U	SMPL
CRA - 1	CRA	1308	0.1841	-	7470A	PPB	25 Apr 2025 13:28:10	U	SMPL
HighStd - 1	HighStd	49023	9.7841	-	7470A	PPB	25 Apr 2025 13:30:25	U	SMPL
ChkStd - 1	ChkStd	35866	7.1370	-	7470A	PPB	25 Apr 2025 13:32:40	U	SMPL
PB167749BL - 1	PBW	165	-0.0459	-	7470A	PPB	25 Apr 2025 13:34:59	U	SMPL
PB167749BS - 1	LCSW	18566	3.6563	-	7470A	PPB	25 Apr 2025 13:37:17	U	SMPL
Q1879-01 - 1	STEM-31-SULFURIC-ACID	13312	2.5992	-	7470A	PPB	25 Apr 2025 13:39:34	U	SMPL
Q1879-02 - 1	STEM-32-SULFURIC-ACID	382	-0.0022	-	7470A	PPB	25 Apr 2025 13:41:52	U	SMPL
Q1879-03 - 1	STEM-46-SULFURIC-ACID	628	0.0473	-	7470A	PPB	25 Apr 2025 13:44:11	U	SMPL
Q1879-04 - 1	ACID-MIXTURE-TF-CONTAINMENT	7322	1.3941	-	7470A	PPB	25 Apr 2025 13:46:29	U	SMPL
CCV30 - 1	CCV30	27287	5.4109	-	7470A	PPB	25 Apr 2025 13:58:58	U	SMPL
CCB30 - 1	CCB30	37	-0.0716	-	7470A	PPB	25 Apr 2025 14:01:15	U	SMPL

SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pipette ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

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

Start Digest Date: 04/25/2025 Time : 10:05 Temp : 96 °C

End Digest Date: 04/25/2025 Time : 13:10 Temp : 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: *SPS*

Supervisor Signature: *SD*

Temp : 1. 96°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6005
LFS-2	0.25	M6012
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HCL	5.00	MP85156
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 # 1CELL 50 Temp :96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
04/25/25 14:10	<i>SPS met d/s</i>	<i>(metals lab)</i>
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB167747BL	PBW747	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	1
PB167747BS	LCS747	<2	50	25	Colorless	Colorless	Clear	Clear	M6005,M6012	2
Q1879-01	STEM-31-SULFURIC-ACID	<2	50	25	Light Blue	Light Blue	Cloudy	Clear	N/A	3
Q1879-02	STEM-32-SULFURIC-ACID	<2	50	25	light Brown	light Brown	Clear	Clear	N/A	4
Q1879-03	STEM-46-SULFURIC-ACID	<2	50	50	Colorless	Colorless	Cloudy	Clear	N/A	5
Q1879-04	ACID-MIXTURE-TF-CONTAINMENT	<2	50	25	Light Yellow	Colorless	Cloudy	Clear	N/A	6

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB167747

Worklist ID : 189148

Department : Digestion

Date : 04-25-2025 09:20:17

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1879-01	STEM-31-SULFURIC-ACID	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	METE01		04/23/2025	6010D
Q1879-02	STEM-32-SULFURIC-ACID	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	METE01		04/24/2025	6010D
Q1879-03	STEM-46-SULFURIC-ACID	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	METE01		04/24/2025	6010D
Q1879-04	ACID-MIXTURE-TF-CONTAININ	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	METE01		04/24/2025	6010D

Date/Time

04/25/25 9:40

Raw Sample Received by:

SPS.metalig

Raw Sample Relinquished by:

SPS.m

Date/Time

04/25/25 10:40

Raw Sample Received by:

SPS.metalig

Raw Sample Relinquished by:

SPS.metalig

SOP ID : M7470A-Mercury-19

SDG No : NA

Matrix : WATER

Pipette ID: HG A

Balance ID : N/A

Filter paper ID : NA

pH Strip ID : M6069

Hood ID : #1

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

Start Digest Date: 04/25/2025 Time : 10:15 Temp : 94 °C

End Digest Date: 04/25/2025 Time : 12:15 Temp : 95 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature: *MB*

Supervisor Signature: *12*

Temp : 1. 94°C 2. N/A

Standardized Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP85452
CCV	30mL	MP85454
CRA	30mL	MP85456
Blank Spike	0.48mL	MP85443
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.5mL	MP85240
KMnO4 (5%)	4.5mL	MP85241
K2S2O8 (5%)	2.5mL	MP85242
Hydroxylamine HCL (12%)	2.0mL	MP85243
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
0.0 ppb	S0	30mL	MP85444
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30mL	MP85446
2.5 ppb	S2.5	30mL	MP85447
5.0 ppb	S5.0	30mL	MP85448
7.5 ppb	S7.5	30mL	MP85449
10.0 ppb	S10.0	30mL	MP85450
ICV	ICV	30mL	MP85452
ICB	ICB	30mL	MP85453
CCV	CCV	30mL	MP85454
CCB	CCB	30mL	MP85455
CRI	CRI	30mL	MP85456
CHK STD	CHK STD	30mL	MP85457

Extraction Conformance/Non-Conformance Comments:

NO QC FOR THIS PREP BATCH AS SAMPLE RECEIVED LIMITED FOR MANY TESTS

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
4/25/25 12:40	<i>MB - 1519, MB</i>	<i>MB - 1519, MB</i>
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB167749BL	PBW749	30	30	<2	N/A	3-1
PB167749BS	LCS749	30	30	<2	MP85443	2
Q1879-01	STEM-31-SULFURIC-ACID	30	30	<2	N/A	3
Q1879-02	STEM-32-SULFURIC-ACID	30	30	<2	N/A	4
Q1879-03	STEM-46-SULFURIC-ACID	30	30	<2	N/A	5
Q1879-04	ACID-MIXTURE-TF-CONTAINMENT	30	30	<2	N/A	6

WORKLIST(Hardcopy Internal Chain)

WorkList Name : 042525_7470 **WorkList ID :** 189137 **Department :** Digestion **Date :** 04-25-2025 08:11:35

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1879-01	STEM-31-SULFURIC-ACID	Water	Mercury	1:1 HNO3 to pH < 2	METE01		04/23/2025	7470A
Q1879-02	STEM-32-SULFURIC-ACID	Water	Mercury	1:1 HNO3 to pH < 2	METE01		04/24/2025	7470A
Q1879-03	STEM-46-SULFURIC-ACID	Water	Mercury	1:1 HNO3 to pH < 2	METE01		04/24/2025	7470A
Q1879-04	ACID-MIXTURE-TF-CONTAININ	Water	Mercury	1:1 HNO3 to pH < 2	METE01		04/24/2025	7470A

Date/Time 4/25/25 9:50
Raw Sample Received by: NOB-DIG-648
Raw Sample Relinquished by: NOB-DIG-648

Date/Time 4/25/25 10:35
Raw Sample Received by: NOB-DIG-648
Raw Sample Relinquished by: NOB-DIG-648

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB135560

Review By	mohan	Review On	4/28/2025 2:24:25 PM
Supervise By	Sagar	Supervise On	4/28/2025 4:32:29 PM

STD. NAME	STD REF.#
ICAL Standard	MP85444,MP85446,MP85447,MP85448,MP85449,MP85450
ICV Standard	MP85452
CCV Standard	MP85454
ICSA Standard	
CRI Standard	MP85456
LCS Standard	
Chk Standard	MP85453,MP85455,MP85457,MP85459

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	04/25/25 13:01		mohan	OK
2	S0.2	S0.2	CAL2	04/25/25 13:03		mohan	OK
3	S2.5	S2.5	CAL3	04/25/25 13:06		mohan	OK
4	S5	S5	CAL4	04/25/25 13:08		mohan	OK
5	S7.5	S7.5	CAL5	04/25/25 13:10		mohan	OK
6	S10	S10	CAL6	04/25/25 13:13		mohan	OK
7	ICV102	ICV102	ICV	04/25/25 13:19		mohan	OK
8	ICB102	ICB102	ICB	04/25/25 13:21		mohan	OK
9	CCV29	CCV29	CCV	04/25/25 13:23		mohan	OK
10	CCB29	CCB29	CCB	04/25/25 13:25		mohan	OK
11	CRA	CRA	CRDL	04/25/25 13:28		mohan	OK
12	HighStd	HighStd	HIGH STD	04/25/25 13:30		mohan	OK
13	ChkStd	ChkStd	SAM	04/25/25 13:32		mohan	OK
14	PB167749BL	PB167749BL	MB	04/25/25 13:34		mohan	OK
15	PB167749BS	PB167749BS	LCS	04/25/25 13:37		mohan	OK
16	Q1879-01	STEM-31-SULFURIC	SAM	04/25/25 13:39		mohan	OK
17	Q1879-02	STEM-32-NITRIC-AC	SAM	04/25/25 13:41		mohan	OK
18	Q1879-03	STEM-46-NITRIC-AC	SAM	04/25/25 13:44		mohan	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB135560

Review By	mohan	Review On	4/28/2025 2:24:25 PM
Supervise By	Sagar	Supervise On	4/28/2025 4:32:29 PM

STD. NAME	STD REF.#
ICAL Standard	MP85444,MP85446,MP85447,MP85448,MP85449,MP85450
ICV Standard	MP85452
CCV Standard	MP85454
ICSA Standard	
CRI Standard	MP85456
LCS Standard	
Chk Standard	MP85453,MP85455,MP85457,MP85459

19	Q1879-04	ACID-MIXTURE-TF-C	SAM	04/25/25 13:46		mohan	OK
20	CCV30	CCV30	CCV	04/25/25 13:58		mohan	OK
21	CCB30	CCB30	CCB	04/25/25 14:01		mohan	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135566

Review By	Janvi	Review On	4/28/2025 3:23:01 PM
Supervise By	jaswal	Supervise On	4/30/2025 10:49:36 AM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85022,MP85020,MP85019,MP85018,MP85017		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	04/25/25 13:22		Kareem	OK
2	S1	S1	CAL2	04/25/25 13:26		Kareem	OK
3	S2	S2	CAL3	04/25/25 13:31		Kareem	OK
4	S3	S3	CAL4	04/25/25 13:35		Kareem	OK
5	S4	S4	CAL5	04/25/25 13:39		Kareem	OK
6	S5	S5	CAL6	04/25/25 13:43		Kareem	OK
7	ICV01	ICV01	ICV	04/25/25 13:48		Kareem	OK
8	LLICV01	LLICV01	LLICV	04/25/25 13:52		Kareem	OK
9	ICB01	ICB01	ICB	04/25/25 13:56		Kareem	OK
10	CRI01	CRI01	CRDL	04/25/25 14:01		Kareem	OK
11	ICSA01	ICSA01	ICSA	04/25/25 14:05		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	04/25/25 14:09		Kareem	OK
13	ICSADL	ICSADL	ICSA	04/25/25 14:13		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	04/25/25 14:18		Kareem	OK
15	CCV01	CCV01	CCV	04/25/25 14:22		Kareem	OK
16	CCB01	CCB01	CCB	04/25/25 14:26		Kareem	OK
17	PB167722BL	PB167722BL	MB	04/25/25 14:31		Kareem	OK
18	PB167722BS	PB167722BS	LCS	04/25/25 14:35		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135566

Review By	Janvi	Review On	4/28/2025 3:23:01 PM
Supervise By	jaswal	Supervise On	4/30/2025 10:49:36 AM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85022,MP85020,MP85019,MP85018,MP85017		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

19	Q1852-02	ETGI-354	SAM	04/25/25 14:39		Kareem	OK
20	Q1852-04	72-11977	SAM	04/25/25 14:43		Kareem	OK
21	Q1852-06	ETGI-278	SAM	04/25/25 14:48		Kareem	OK
22	Q1852-08	72-12013	SAM	04/25/25 14:52		Kareem	OK
23	Q1791-15	279312	SAM	04/25/25 14:57		Kareem	OK
24	Q1791-16	290502	SAM	04/25/25 15:01		Kareem	OK
25	Q1791-17	VB16193	SAM	04/25/25 15:06		Kareem	OK
26	Q1791-18	280722	SAM	04/25/25 15:10		Kareem	OK
27	CCV02	CCV02	CCV	04/25/25 15:14		Kareem	OK
28	CCB02	CCB02	CCB	04/25/25 15:18		Kareem	OK
29	Q1791-19	280791	SAM	04/25/25 15:23		Kareem	OK
30	Q1791-20	V1207	SAM	04/25/25 15:27		Kareem	OK
31	Q1791-21	VB16164	SAM	04/25/25 15:31		Kareem	OK
32	Q1879-01DL	STEM-31-SULFURIC	SAM	04/25/25 15:36	Cr,Co,Ni high	Kareem	Dilution
33	Q1879-02DL	STEM-32-NITRIC-AC	SAM	04/25/25 15:40	Co,Ni high	Kareem	Dilution
34	Q1879-03DL	STEM-46-NITRIC-AC	SAM	04/25/25 15:47	5x for Ni	Kareem	Confirms
35	Q1879-04DL	ACID-MIXTURE-TF-C	SAM	04/25/25 15:51	Co,Ni high	Kareem	Dilution
36	PB167747BL	PB167747BL	MB	04/25/25 15:55		Kareem	OK
37	PB167747BS	PB167747BS	LCS	04/25/25 16:00		Kareem	OK
38	Q1865-01	COMP-1	SAM	04/25/25 16:04		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135566

Review By	Janvi	Review On	4/28/2025 3:23:01 PM
Supervise By	jaswal	Supervise On	4/30/2025 10:49:36 AM

STD. NAME	STD REF.#
ICAL Standard	MP85016,MP85022,MP85020,MP85019,MP85018,MP85017
ICV Standard	MP85023
CCV Standard	MP85026
ICSA Standard	MP85024,MP85025
CRI Standard	MP85022
LCS Standard	
Chk Standard	MP85030,MP85031

39	CCV03	CCV03	CCV	04/25/25 16:08		Kareem	OK
40	CCB03	CCB03	CCB	04/25/25 16:12		Kareem	OK
41	Q1879-01DL2	STEM-31-SULFURIC	SAM	04/25/25 16:17	50x for Cr,Co,Ni , Still Ni high	Kareem	Dilution
42	Q1879-02DL2	STEM-32-NITRIC-AC	SAM	04/25/25 16:21	50x for Co,Ni	Kareem	Confirms
43	Q1879-03	STEM-46-NITRIC-AC	SAM	04/25/25 16:25	Ni is high	Kareem	Dilution
44	Q1879-04DL2	ACID-MIXTURE-TF-C	SAM	04/25/25 16:29	50x for Co,Ni	Kareem	Confirms
45	Q1879-01DL3	STEM-31-SULFURIC	SAM	04/25/25 16:33	100x for Ni	Kareem	Confirms
46	Q1879-02DL3	STEM-32-NITRIC-AC	SAM	04/25/25 16:38	NOT Required	Kareem	Not Ok
47	Q1879-04DL3	ACID-MIXTURE-TF-C	SAM	04/25/25 16:42	NOT Required	Kareem	Not Ok
48	CCV04	CCV04	CCV	04/25/25 16:46		Kareem	OK
49	CCB04	CCB04	CCB	04/25/25 16:50		Kareem	OK
50	Q1865-02	COMP-2	SAM	04/25/25 16:55		Kareem	OK
51	Q1865-03	COMP-3	SAM	04/25/25 16:59		Kareem	OK
52	Q1865-04	COMP-4	SAM	04/25/25 17:03		Kareem	OK
53	Q1865-04DUP	COMP-4DUP	DUP	04/25/25 17:08		Kareem	OK
54	Q1865-04L	COMP-4L	SD	04/25/25 17:12		Kareem	OK
55	Q1865-04MS	COMP-4MS	MS	04/25/25 17:17		Kareem	OK
56	Q1865-04MSD	COMP-4MSD	MSD	04/25/25 17:21		Kareem	OK
57	Q1865-04A	COMP-4A	PS	04/25/25 17:25		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135566

Review By	Janvi	Review On	4/28/2025 3:23:01 PM
Supervise By	jaswal	Supervise On	4/30/2025 10:49:36 AM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85022,MP85020,MP85019,MP85018,MP85017		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

58	PB167706TB	PB167706TB	MB	04/25/25 17:29		Kareem	OK
59	PB167717TB	PB167717TB	MB	04/25/25 17:34		Kareem	OK
60	CCV05	CCV05	CCV	04/25/25 17:45		Kareem	OK
61	CCB05	CCB05	CCB	04/25/25 17:49		Kareem	OK
62	PB167723BL	PB167723BL	MB	04/25/25 17:54		Kareem	OK
63	PB167723BS	PB167723BS	LCS	04/25/25 17:58		Kareem	OK
64	Q1865-05	SOM-25-00051	SAM	04/25/25 18:02		Kareem	OK
65	Q1867-01	RBR200059	SAM	04/25/25 18:07		Kareem	OK
66	Q1867-01DUP	RBR200059DUP	DUP	04/25/25 18:11		Kareem	OK
67	Q1867-01L	RBR200059L	SD	04/25/25 18:15		Kareem	OK
68	Q1867-01MS	RBR200059MS	MS	04/25/25 18:19		Kareem	OK
69	Q1867-01MSD	RBR200059MSD	MSD	04/25/25 18:23		Kareem	OK
70	Q1867-01A	RBR200059A	PS	04/25/25 18:27		Kareem	OK
71	Q1867-03	VNJ211	SAM	04/25/25 18:31		Kareem	OK
72	CCV06	CCV06	CCV	04/25/25 18:44		Kareem	OK
73	CCB06	CCB06	CCB	04/25/25 18:48		Kareem	OK
74	Q1869-01	MH-F	SAM	04/25/25 18:52		Kareem	OK
75	Q1855-04	2001-2002	SAM	04/25/25 18:56		Kareem	OK
76	CCV07	CCV07	CCV	04/25/25 19:05		Kareem	OK
77	CCB07	CCB07	CCB	04/25/25 19:09		Kareem	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1879

Test : Mercury, Metals ICP-TAL

Prepbatch ID : PB167747, PB167749,

Sequence ID/Qc Batch ID: LB135560, LB135566,

Standard ID :

MP85016, MP85017, MP85018, MP85019, MP85020, MP85021, MP85022, MP85023, MP85024, MP85025, MP85026, MP85030, MP85031, MP85156, MP85240, MP85241, MP85242, MP85243, MP85443, MP85444, MP85446, MP85447, MP85448, MP85449, MP85450, MP85452, MP85453, MP85454, MP85455, MP85456, MP85457, MP85459,

Chemical ID :

M4251, M4465, M4883, M4891, M4916, M5020, M5062, M5288, M5387, M5395, M5429, M5466, M5472, M5496, M5497, M5516, M5521, M5532, M5658, M5747, M5748, M5768, M5789, M5798, M5799, M5800, M5801, M5811, M5814, M5816, M5817, M5820, M5875, M5882, M5884, M5959, M5970, M5978, M5985, M6005, M6012, M6021, M6023, M6028, M6030, M6041, M6058, M6076, M6128, M6137, M6150, M6151, M6152, M6155, M6156, M6158, M6160, W3112,

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
902	ICP AES CAL BLK (SO/ICB/CCB)	MP85016	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 125.00000ml of M6151 + 2350.00000ml of W3112 + 25.00000ml of M5789 = Final Quantity: 2500.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
907	ICP AES STD S (S5)	MP85017	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 5.00000ml of M5395 + 5.00000ml of M5466 + 5.00000ml of M5472 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M6076 + 5.00000ml of M6160 + 455.00000ml of MP85016 = Final Quantity: 500.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
910	ICP AES STD S4	MP85018	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 50.00000ml of MP85016 + 50.00000ml of MP85017 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
909	ICP AES STD S3	MP85019	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 25.00000ml of MP85017 + 75.00000ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3913	ICP AES STD S2	MP85020	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 16.00000ml of MP85017 + 184.00000ml of MP85016 = Final Quantity: 200.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2950	ICP AES S1/CRI STOCK STD	MP85021	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5496 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.06000ml of M5747 + 0.10000ml of M4883 + 0.10000ml of M5472 + 0.10000ml of M5521 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M4891 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5466 + 0.25000ml of M6160 + 0.50000ml of M5387 + 0.50000ml of M5814 + 1.00000ml of M5288 + 1.00000ml of M5497 + 1.00000ml of M5516 + 1.00000ml of M5768 + 1.00000ml of M5978 + 1.00000ml of M6156 + 2.00000ml of M5816 + 77.68000ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2951	ICP AES S1/CRI WORK STD	MP85022	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 2.00000ml of MP85021 + 98.00000ml of MP85016 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
912	ICP AES ICV SOLN	MP85023	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 0.02500ml of M5020 + 0.02500ml of M5429 + 0.02500ml of M5817 + 0.10000ml of M5466 + 0.25000ml of M5472 + 0.25000ml of M6058 + 10.00000ml of M6150 + 89.77500ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
904	ICP AES ICSA SOLN	MP85024	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 25.00000ml of M6152 + 225.00000ml of MP85016 = Final Quantity: 250.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3494	ICP AES ICSAB SOLN-1	MP85025	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 0.01000ml of M5020 + 0.01000ml of M5817 + 0.10000ml of M5472 + 0.10000ml of M5970 + 0.10000ml of M6076 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.50000ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
911	ICP AES CCV SOLN	MP85026	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 50.00000ml of MP85016 + 50.00000ml of MP85017 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
919	ICP AES INTERNAL STD	MP85030	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M5789 = Final Quantity: 2000.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
513	RINSE SOLN	MP85031	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 200.00000ml of M5789 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
170	1:1HCL	MP85156	04/07/2025	08/18/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 1250.00000ml of M6151 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3965	2:1 H2SO4 : HNO3	MP85240	04/16/2025	10/16/2025	Mohan Bera	None	None	Sarabjit Jaswal
								04/29/2025

FROM 1600.00000ml of M6041 + 800.00000ml of M6158 = Final Quantity: 3200.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP85241	04/16/2025	10/16/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
								04/29/2025

FROM 100.00000gram of M4916 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP85242	04/16/2025	08/06/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
04/29/2025								

FROM 100.00000ml of M4465 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP85243	04/16/2025	06/25/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal
04/29/2025								

FROM 2000.00000ml of W3112 + 240.00000gram of M4251 + 240.00000gram of M5884 = Final Quantity: 2000.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP85443	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
FROM 1.00000ml of M6158 + 2.50000ml of M5062 + 96.50000ml of W3112 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1340	Hg 0.00 PPB STD	MP85444	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG	Sarabjit Jaswal
FROM 2.50000ml of M6158 + 247.50000ml of W3112 = Final Quantity: 250.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1341	Hg 0.2 PPB STD	MP85446	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal 04/29/2025
FROM 2.50000ml of M6158 + 247.30000ml of W3112 + 0.20000ml of MP85443 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1342	Hg 2.5 PPB STD	MP85447	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
FROM 2.50000ml of M6158 + 245.00000ml of W3112 + 2.50000ml of MP85443 = Final Quantity: 250.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1343	Hg 5.0 PPB STD	MP85448	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal 04/29/2025
FROM 2.50000ml of M6158 + 242.50000ml of W3112 + 5.00000ml of MP85443 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1344	Hg 7.5 PPB STD	MP85449	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025
<u>FROM</u>	2.50000ml of M6158 + 240.00000ml of W3112 + 7.50000ml of MP85443 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1345	Hg 10.0 PPB STD	MP85450	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
FROM 2.50000ml of M6158 + 237.50000ml of W3112 + 10.00000ml of MP85443 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1346	Hg ICV SOLUTION	MP85452	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
FROM 2.50000ml of M5532 + 2.50000ml of M6158 + 245.00000ml of W3112 = Final Quantity: 250.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1351	ICB (Hg 0.00 PPB SOLUTION)	MP85453	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG	Sarabjit Jaswal
A) FROM 2.50000ml of M6158 + 247.50000ml of W3112 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1358	CCV (Hg 5.0 PPB SOLUTION)	MP85454	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 04/29/2025
<u>FROM</u> 485.00000ml of W3112 + 5.00000ml of M6158 + 10.00000ml of MP85443 = Final Quantity: 500.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1352	CCB (Hg 0.00 PPB SOLUTION)	MP85455	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
A) FROM 495.00000ml of W3112 + 5.00000ml of M6158 = Final Quantity: 500.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP85456	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 04/29/2025
<u>FROM</u>	2.50000ml of M6158 + 247.30000ml of W3112 + 0.20000ml of MP85443 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP85457	04/25/2025	04/26/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
FROM 2.50000ml of M6158 + 240.50000ml of W3112 + 7.00000ml of MP85443 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipettelID</u>	<u>Supervised By</u>
68	STANNOUS CHLORIDE SOLUTION	MP85459	04/25/2025	04/26/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 04/29/2025
<u>FROM</u> 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6151 = Final Quantity: 500.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-2196-01 / Hydroxylamine Hydrochloride, Crystal (cs/4x500g)	0000215387	06/25/2025	12/19/2018 / mohan	12/05/2018 / mohan	M4251

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 /	07/25/2019 / manojkumar	M4465

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	070221	09/07/2025	08/06/2021 / jaswal	08/05/2021 / jaswal	M4883

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	031921	05/19/2025	08/25/2021 / bin	08/05/2021 / jaswal	M4891

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 #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	032921	05/17/2025	12/13/2021 / bin	12/09/2021 / bin	M5020

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	11/01/2022 / jaswal	09/18/2022 / jaswal	M5387

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	01/30/2024 / bin	09/19/2022 / bin	M5395

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	061322	06/13/2025	03/06/2023 / bin	03/01/2023 / bin	M5466

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	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.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5496

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.	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.	58029 / Cu, 1000 PPM, 500 ml	102622	10/26/2025	11/21/2022 / bin	11/20/2022 / bin	M5521

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	04/30/2025	01/02/2025 /	03/30/2023 / mohan	M5532

CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	01/08/2024 / bin	01/03/2024 / bin	M5768

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)	23G1262003	07/30/2025	02/08/2024 / Al-Terek	06/26/2023 / Al-Terek	M5789

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

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

CHEMICAL RECEIPT LOG BOOK

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.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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 #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	07/01/2024 / Jaswal	06/14/2024 / Jaswal	M5959

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGT11-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5978

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/30/2026	04/15/2025 / JANVI	05/14/2024 / Jaswal	M6005

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	09/17/2025	03/17/2025 / Eman	05/14/2024 / Jaswal	M6012

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	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 #
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 #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	V2-MEB746173	01/29/2026	01/29/2025 / JANVI	08/22/2024 / Jaswal	M6058

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	01/01/2026	01/01/2025 / kareem	09/19/2024 / kareem	M6076

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	101124	10/11/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6128

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSI1-1 / SILICON 125mL 1000ug/mL	V2-SI744713	07/10/2029	01/14/2025 / Jaswal	10/03/2024 / Jaswal	M6137

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-1014	07/07/2025	02/07/2025 / JANVI	04/20/2021 / JANVI	M6150

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	08/24/2025	02/24/2025 / kareem	04/20/2021 / kareem	M6152

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	06/20/2025	02/10/2025 / kareem	02/09/2024 / kareem	M6155

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	032123	03/21/2026	11/06/2024 / JANVI	06/12/2024 / JANVI	M6156

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	03/24/2026	03/24/2025 / kareem	10/18/2024 / kareem	M6160

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

M5882
 M3

Certificate of Analysis

1 Reagent Lane
 Fair Lawn, NJ 07410
 201.796.7100 tel
 201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
 Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)



Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.

If there are any questions with this certificate, please call at (800) 227-6701.

*Based on suggested storage condition.



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57048
070124
Cadmium (Cd)

Solvent: 24002546 Nitric Acid

R: 815/24

Lot #

2% 40.0 Nitric Acid (mL)

Expiration Date: 070127

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

SE-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.07 0.100 Flask Uncertainty

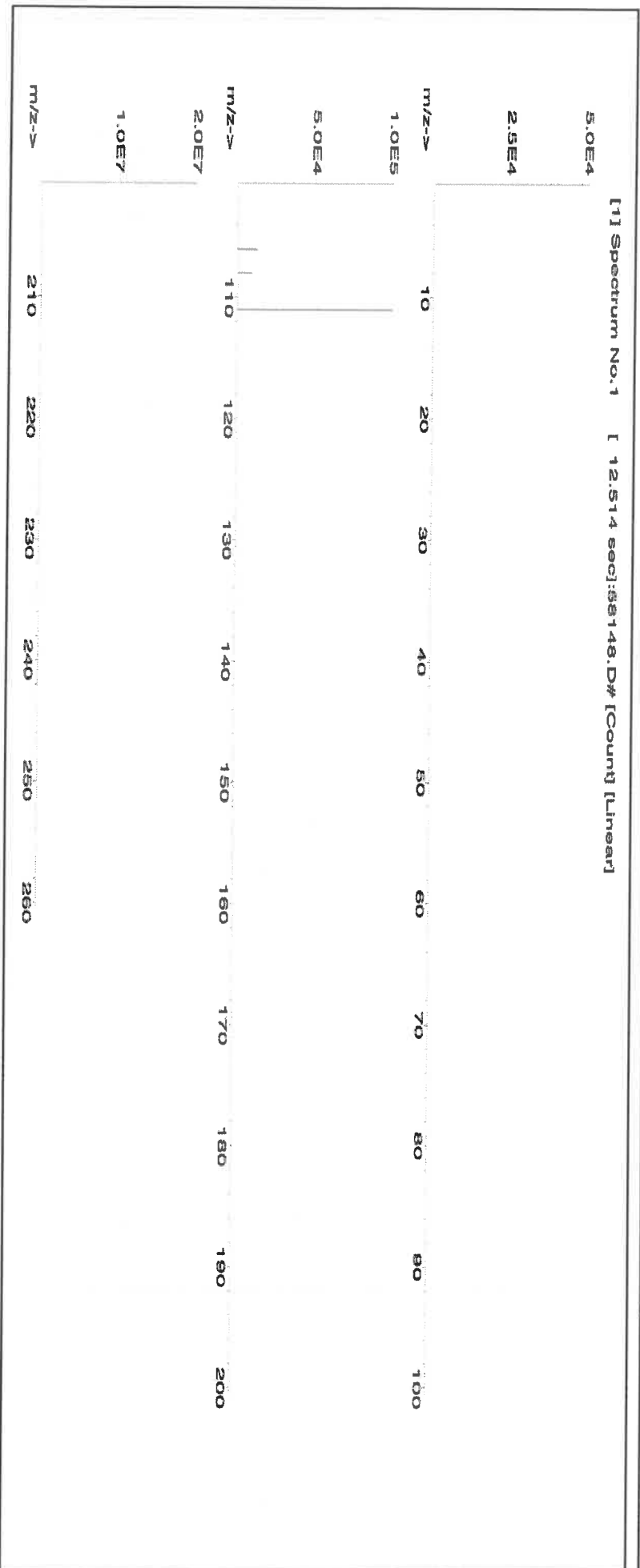
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

Compound

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

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

[T1 Spectrum No.1 [12.514 sec]:\$8148.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



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).



2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution	
Catalog Number:	CLPP-CAL-1	
Lot Number:	T2-MEB714417	
Matrix:	5% (v/v) HNO ₃	
Value / Analyte(s):	5 000 µg/mL ea:	Potassium, Sodium,
	Calcium, Magnesium,	
	2 000 µg/mL ea:	Barium,
	Aluminum,	
	1 000 µg/mL ea:	
	Iron,	
	500 µg/mL ea:	Vanadium, Cobalt,
	Nickel,	
	Zinc,	
	Manganese,	
	250 µg/mL ea:	Copper,
	Silver,	
	200 µg/mL ea:	
	Chromium,	
	50 µg/mL ea:	
	Beryllium	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

<https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver>

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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 27, 2022

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

11.2 Lot Expiration Date

- January 27, 2027

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CLPP-CAL-3
Lot Number: T2-MEB714159
Matrix: 7% (v/v) HNO₃
Value / Analyte(s):
1 000 µg/mL ea:
Arsenic, Lead,
Selenium, Thallium,
500 µg/mL ea:
Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	1 000 ± 8 µg/mL	Cadmium, Cd	500.0 ± 2.1 µg/mL
Lead, Pb	1 000 ± 5 µg/mL	Selenium, Se	1 000 ± 8 µg/mL
Thallium, Tl	1 000 ± 7 µg/mL		

Density: 1.043 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

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

11.2 Lot Expiration Date

- **January 13, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 051523
Description: Iron (Fe)

Solvent: 21110221 Nitric Acid

Lot #

Expiration Date: 051526

5.0% 250.0 (mL) Nitric Acid

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): 5000.1 **0.12 Flask Uncertainty**

Giovanni Esposito

Formulated By: Giovanni Esposito **051523**

Pedro L. Renias

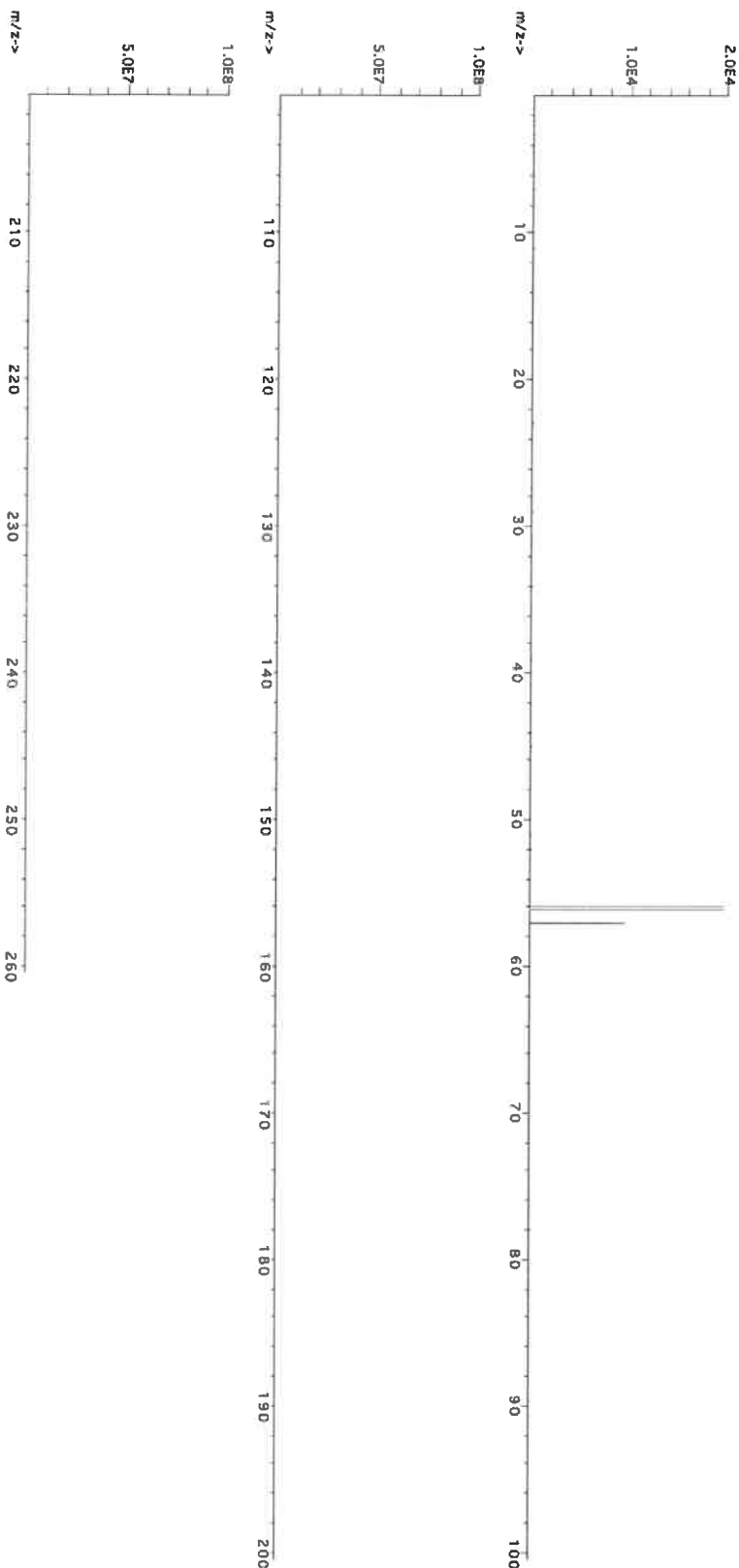
Reviewed By: Pedro L. Renias **051523**

SDS Information

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

1. Iron (Fe) IN346 2302010-500 10000 99.995 0.10 100.0 50.0034 50.0111 10001.5 20.0 7439-89-6 5 mg/m3 or-rel 7500mg/kg 3126a

[1] Spectrum No.1 [30.763 sec]:58126.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rb	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Refine your results. Redefine your industry.

RD:05/14/2024

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO ₃

Value / Analyte(s):	1 000 µg/mL ea:	
	Potassium,	
	600 µg/mL ea:	
	Phosphorus,	
	300 µg/mL ea:	
	Sodium,	Iron,
	200 µg/mL ea:	
	Magnesium,	Aluminum,
	Cerium,	Selenium,
	Thallium,	
	100 µg/mL ea:	
	Lead,	Calcium,
	80 µg/mL ea:	
	Arsenic,	
	70 µg/mL ea:	
	Mercury,	
	50 µg/mL ea:	
	Nickel,	
	40 µg/mL ea:	
	Chromium,	
	30 µg/mL ea:	
	Copper,	Boron,
	Vanadium,	
	20 µg/mL ea:	
	Zinc,	Strontium,
	Barium,	Beryllium,
	Cadmium,	Cobalt,
	Manganese,	Lithium,
	7.5 µg/mL ea:	
	Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com; inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

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

11.2 Lot Expiration Date

- August 30, 2026

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

RD:05/14/2024

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: WW-LFS-2
Lot Number: U2-MEB731108
Matrix: 5% (v/v) HNO₃
tr. HF
Value / Analyte(s):
200 µg/mL ea:
Silica,
80 µg/mL ea:
Antimony,
70 µg/mL ea:
Tin,
40 µg/mL ea:
Molybdenum,
20 µg/mL ea:
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO ₂	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO ₂	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{TS} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{TS} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com;

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2023

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

11.2 Lot Expiration Date

- **March 17, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)



M4251
NB

Material No.: 2196-01
Batch No.: 0000215387
Manufactured Date: 2018/06/27
Retest Date: 2025/06/25
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (NH ₂ OH · HCl) (by KMnO ₄ titrn)	>= 96.0 %	99.1
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.017
Titration 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



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



CERTIFIED WEIGHT REPORT:

Part Number: **57034**
 Lot Number: **070221**
 Description: **Selenium (Se)**

Lot # 20370011
 Solvent: Nitric Acid

2.0% 40.0
 (mL) Nitric Acid

Expiration Date: 070224

Recommended Storage: Ambient (20 °C)

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

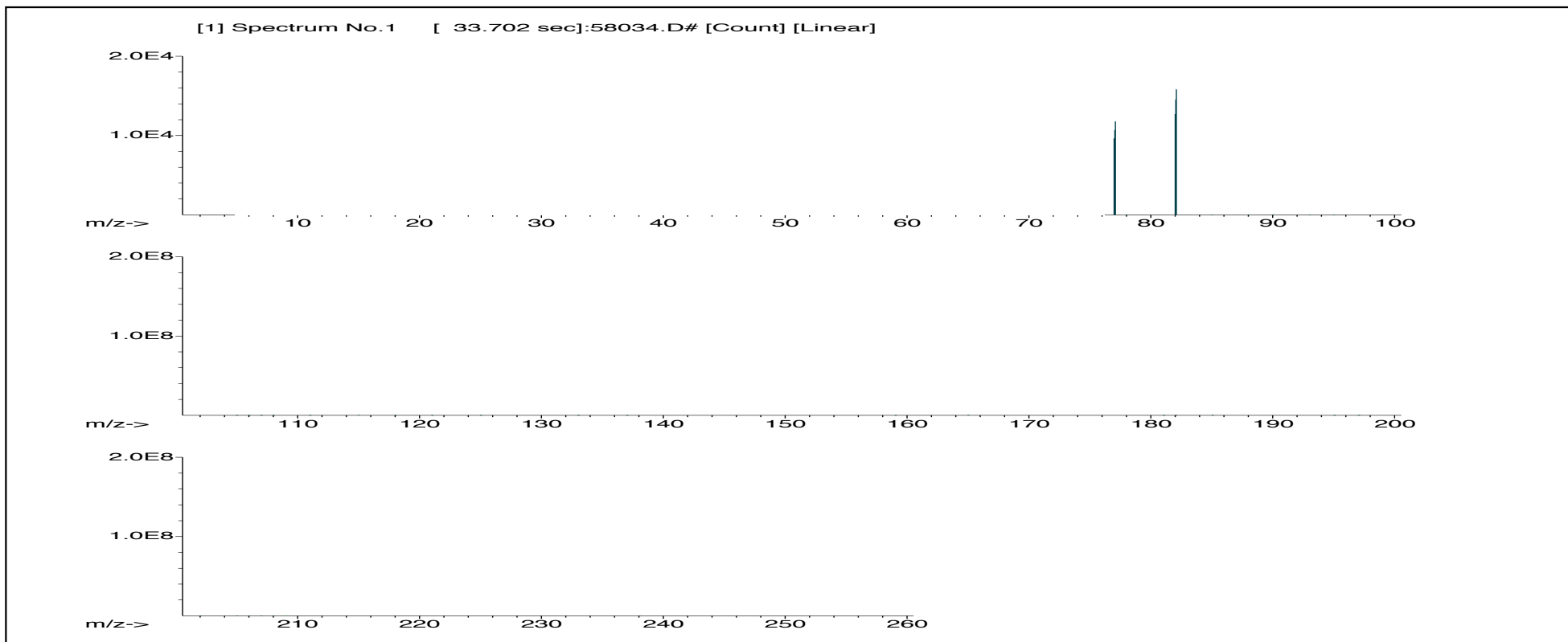
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

<i>Giovanni Esposito</i>		
Formulated By:	Giovanni Esposito	070221
<i>Pedro L. Rentas</i>		
Reviewed By:	Pedro L. Rentas	070221

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	SDS Information			NIST SRM
									Uncertainty	(Solvent Safety Info. On Attached pg.)			
									+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	
Selenium(IV) oxide (Se)	58134	021621	0.1000	200.0	0.084	1000	10000.2	1000.0	2.2	7446-08-4	0.2 mg/m3	orl-rat 68 mg/kg	3149





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **58030**
Lot Number: **031921**
Description: **Zinc (Zn)**

Lot # 20370011
Solvent: Nitric Acid

2.0% 40.0 (mL) Nitric Acid

Expiration Date: 031924
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): **1000**

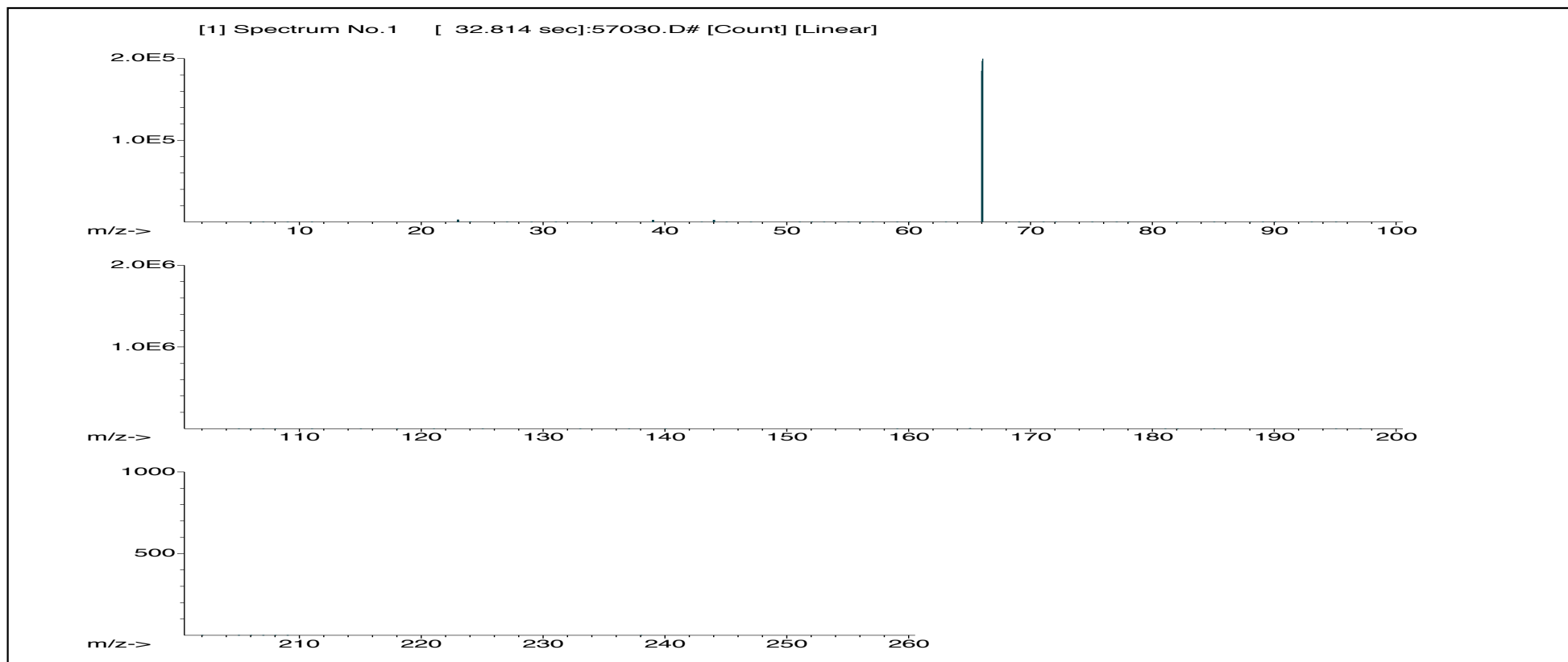
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

<i>Giovanni Esposito</i>		
Formulated By:	Giovanni Esposito	031921
<i>Pedro L. Rentas</i>		
Reviewed By:	Pedro L. Rentas	031921

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			NIST SRM
										(Solvent Safety Info. On Attached pg.)			
										CAS#	OSHA PEL (TWA)	LD50	
Zinc nitrate hexahydrate (Zn)	58130	082020	0.1000	200.0	0.084	1000	10000.3	1000.0	2.2	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	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.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

MS

Certificate of Analysis

1 Reagent Lane
 Fair Lawn, NJ 07410
 201.796.7100 tel
 201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
 Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P279	Quality Test / Release Date	01/12/2021
Lot Number	210306		
Description	POTASSIUM PERMANGANATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Jan/2026

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Dark purple to purple green crystals
ASSAY	%	>= 99	99.3
CHLORIDE & CHLORATE	%	<= 0.005	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
INSOLUBLE MATTER	%	<= 0.2	<0.2
MERCURY (Hg)	ppm	<= 0.05	<0.004
SULFATE (SO4)	%	<= 0.02	<0.02

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
 If there are any questions with this certificate, please call at (800) 227-6701.

*Based on suggested storage condition.



Certified Reference Material CRM

34

MSD



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

CERTIFIED WEIGHT REPORT:

Part Number: 57115
Lot Number: 032921
Description: Phosphorous (P)

Lot #
Solvent: 20370011 Nitric Acid

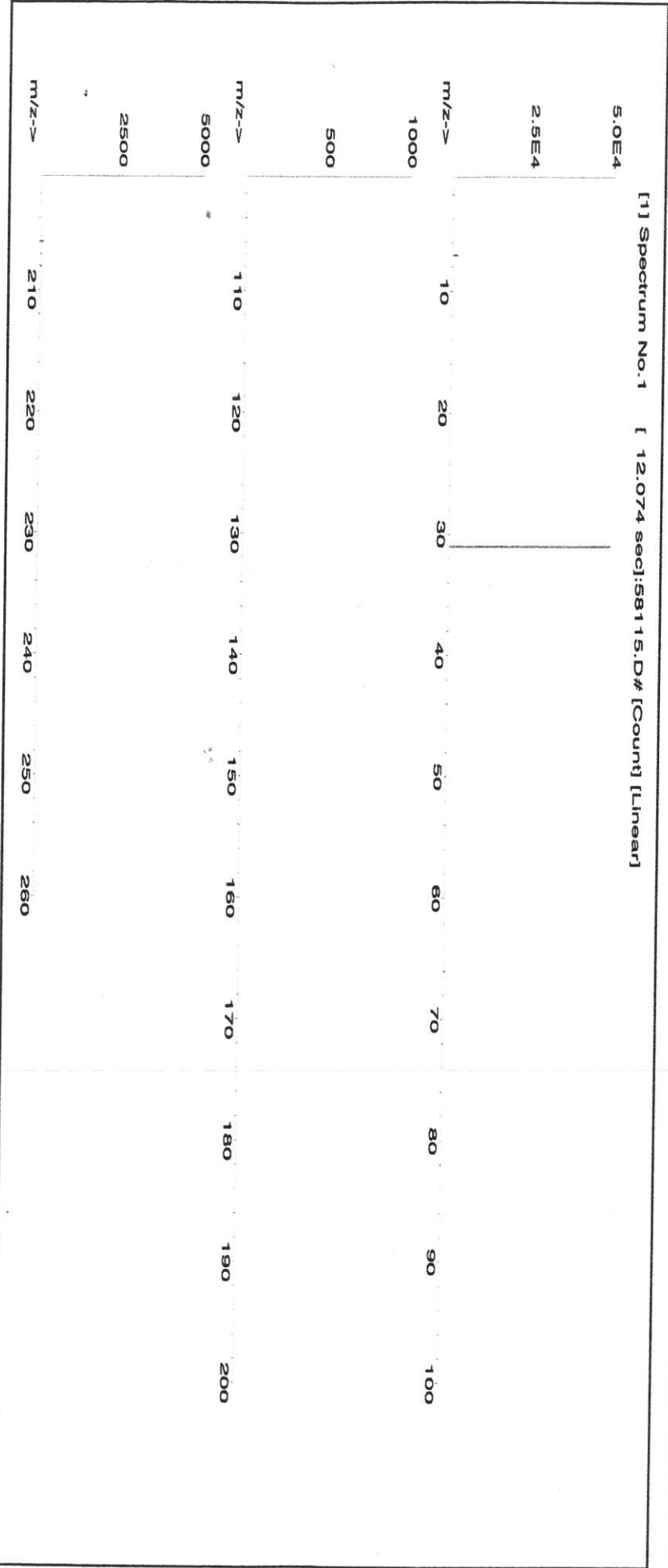
Formulated By: Lawrence Barry 032921
Reviewed By: Pedro L. Rientas 032921

Expiration Date: 032924
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
0.058 Flask Uncertainty

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

1. Ammonium dihydrogen phosphate (P)	IN008	PV65201841	10000	99.999	0.10	27.3	109.9063	109.9093	10000.3	20.0	7722-76-1	5 mg/m3	NA	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	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

300 Technology Drive
 Christiansburg, VA 24073 USA
 inorganicventures.com

MS062
 MS063
 MS

P: 800-669-6799/540-585-3030
 F: 540-585-3012
 info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Mass Spec Solution
 Catalog Number: MSHG-10PPM
 Lot Number: S2-HG709270
 Matrix: 10% (v/v) HCl
 Value / Analyte(s): 10 µg/mL ea:
 Mercury
 Starting Material: Hg metal
 Starting Material Lot#: 1959
 Starting Material Purity: 99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL
Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag	0.000011	M	Eu	<	0.000201	O	Na	0.000004	M	Se	<	0.015915	O	Zn	<	0.001510	
O	Al	0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<		0.000201		
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<		0.001007		
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<		0.000201		
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<		0.000201		
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<		0.000201		
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<		0.002216		
O	Ca	0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<		0.000201			
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<		0.000402		
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<		0.016508		
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<		0.000201		
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<		0.008058		
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<		0.000201		
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<		0.000604		
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<		0.000201		
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<		0.000201		

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO₃. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO₃ / LDPE container, stable in 10% HNO₃ packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO₃ packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO₃ / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO₃); Oxide (Soluble in HNO₃); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

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

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va, 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

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

11.2 Lot Expiration Date

- **September 22, 2026**

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.

800-368-1131
www.absolutestandards.com


Certified Reference Material CRM

M5288 R: 07/21/2022 SA



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

CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

Lot #
Solvent: 20510011 Nitric Acid

2% 40.0 Nitric Acid
(mL)

Expiration Date: 071125
Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

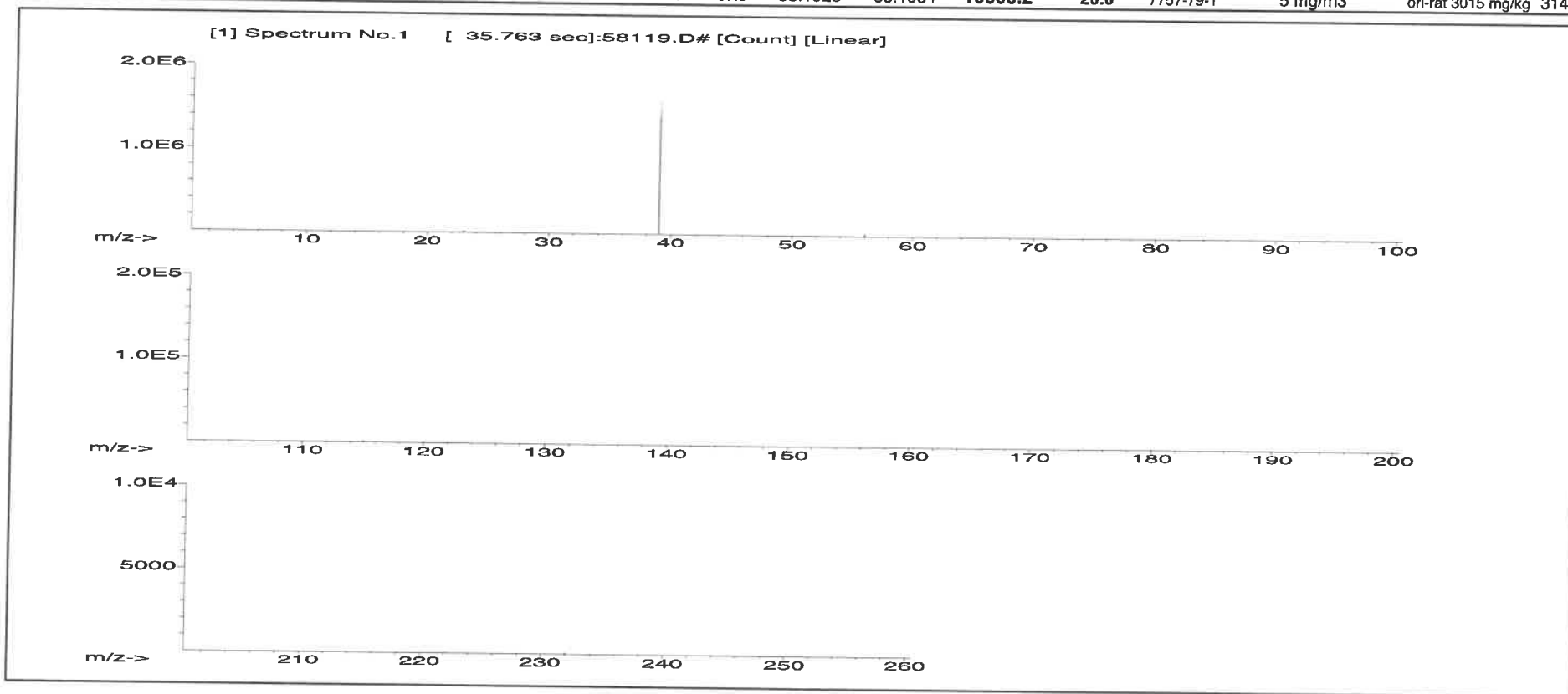
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry 071122
Reviewed By:	Pedro L. Rentas 071122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information			NIST SRM
											(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	
Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	10000.2	20.0	7757-79-1	5 mg/m3	ori-rat 3015 mg/kg	3141a





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

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)																			
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	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:

Certified by:

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

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



R-09/18/22 (B)H

Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

Part Number: **57056**
Lot Number: **072122**
Description: **Barium (Ba)**

Solvent: **20510011 Nitric Acid**

M5387 - M5389 - M5390 - M5391 - M5392



Expiration Date: **072125**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**

2% **40.0 (mL) Nitric Acid**

Weight shown below was diluted to (mL): **2000.02 0.058 Flask Uncertainty**

<i>Giovanni Caporale</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Rentes</i>
	072122

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

1. Barium nitrate (Ba) IN023 BA022019A1 1000 99.999 0.10 52.3 3.82417 3.82426 1000.0 2.0 10022-31-8 0.5 mg/m3 or-al 355 mg/kg 31046

[1] Spectrum No. 1 [12.514 sec]:58156.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

Ben. L. R.

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



Certified Reference Material CRM

M5429 R1 0126/23 (B)

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57103
070622
Lithium (Li)

Solvent: 20510011 Nitric Acid

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

070625
Ambient (20 °C)
10000
6UTB

2% 20.0 (mL)

Weight shown below was diluted to (mL): 1000.12
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

SDS Information

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

Actual Conc. (µg/mL)

Target Weight (g)

Assay Purity (%)

Nominal Conc. (µg/mL)

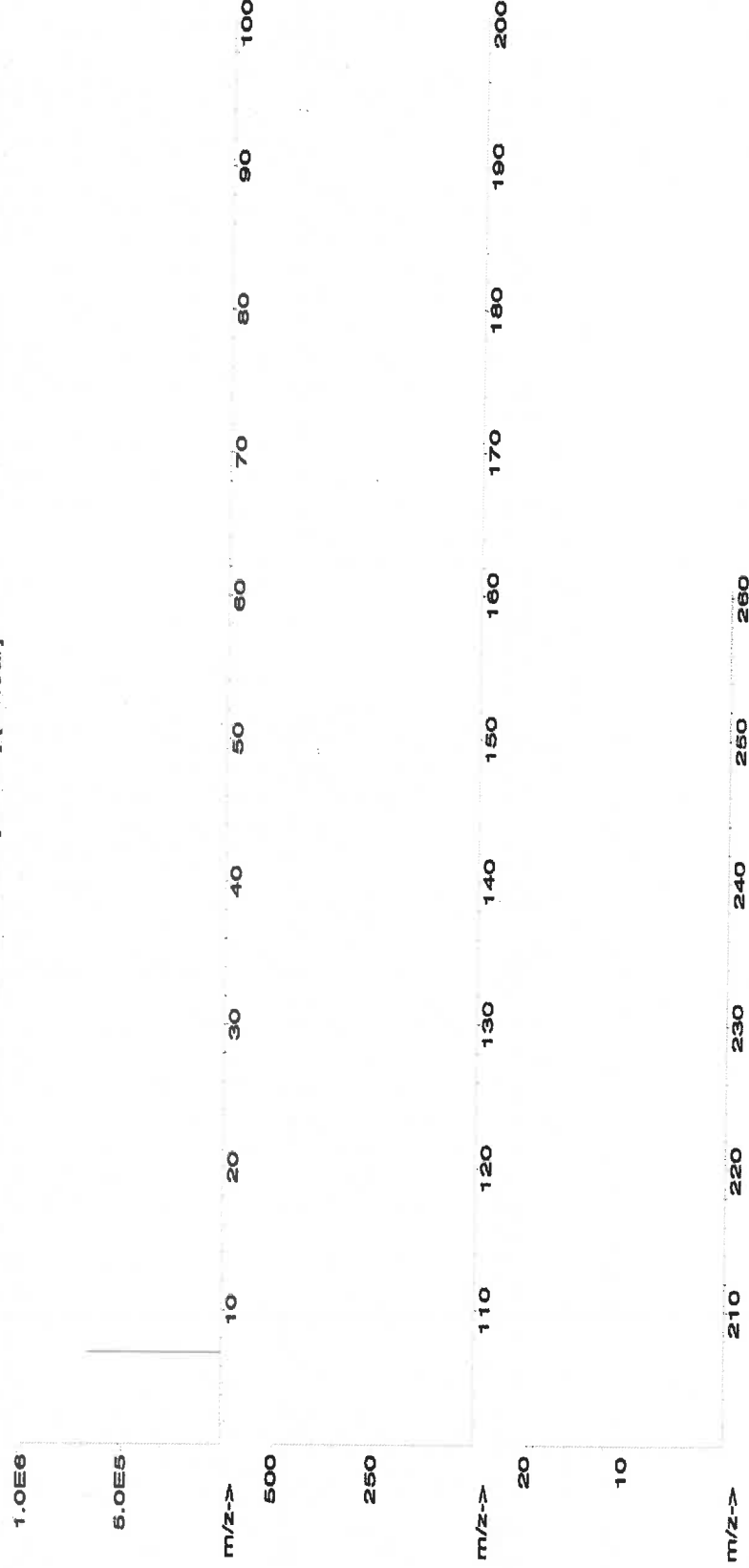
Lot Number

RM#

Compound

1. Lithium nitrate (Li)	IN019	L2042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	10000.4	20.0	7790-69-4	5 mg/m3	of-rat 1426 mg/kg	NA
-------------------------	-------	------------	-------	--------	------	------	----------	----------	---------	------	-----------	---------	-------------------	----

[1] Spectrum No.1 [9.619 sec]:58103.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



AN 5466

Certified Reference Material CRM



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

CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 061322
Description: Cerium (Ce)

Solvent: 20510011 Nitric Acid

Lot #

Expiration Date: 061325

2% 20.0 (mL) Nitric Acid

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

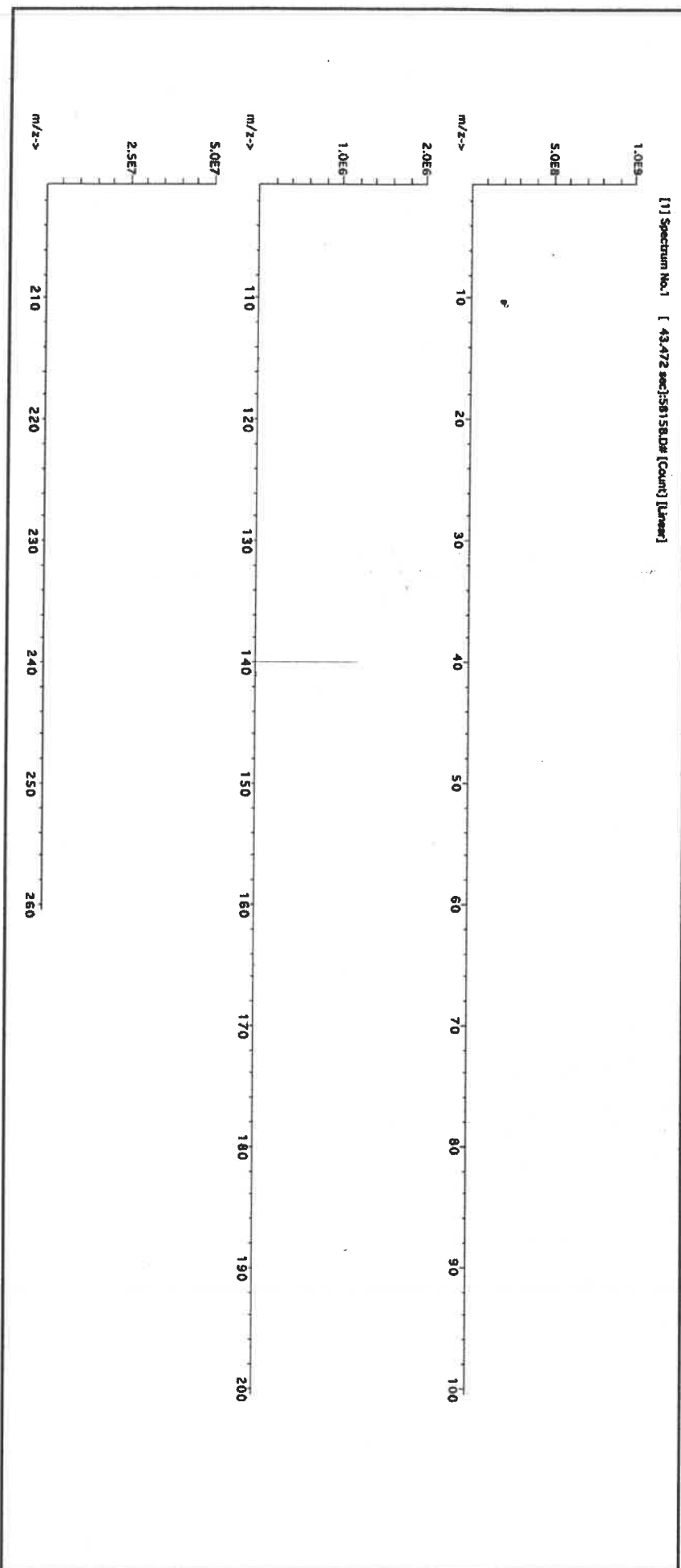
5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 1000.12 **0.058 Flask Uncertainty**

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

1. Cerium nitrate hexahydrate (Ce)	IN146 Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04923	1000.0	2.0	10294-41-4	NA	NA
------------------------------------	----------------	------	--------	------	------	---------	---------	--------	-----	------------	----	----

Formulated By:	Lawrence Barry
	061322
Reviewed By:	Pedro L. Renteria
	061322





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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: **58113**

Lot Number: **011623**

Description: **Aluminum (Al)**

Solvent: **20510011 Nitric Acid**

Lot #

M5496 R 17/20/23

Expiration Date: **011626**

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** Balance Uncertainty **5E-05** Flask Uncertainty

Giovanni Esposito

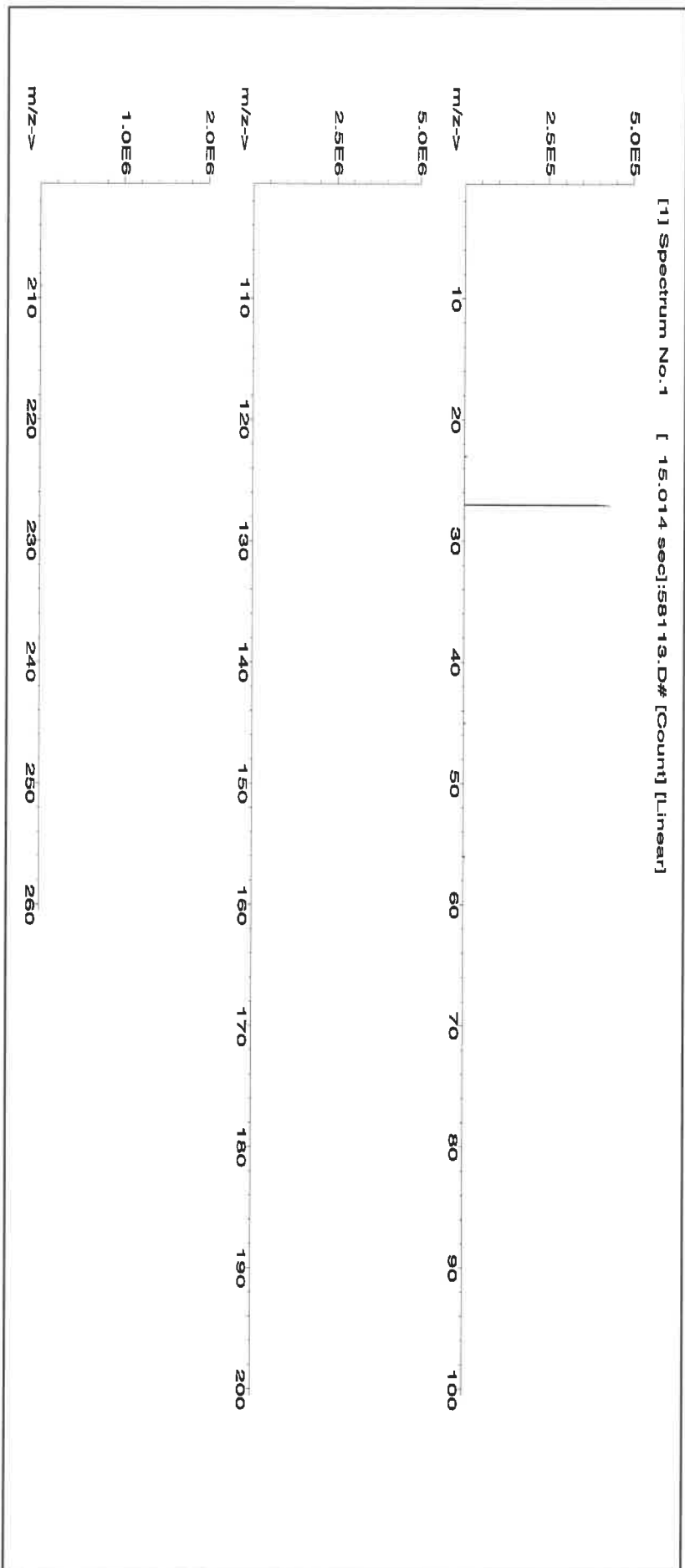
Formulated By: **Giovanni Esposito** **011623**

Reviewed By: **Pedro L. Rentas** **011623**

SDS Information

Compound	Lot	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	10001.1	20.0	7784-27-2	2 mg/m3	or-hat 3671 mg/kg	3101a

[1] Spectrum No. 1 [15.014 sec]:58113.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM



M586 M587 R:03/17/22

CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 022123
Description: Sodium (Na)

Solvent: 21110221 Nitric Acid

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

2% Nitric Acid
(mL)

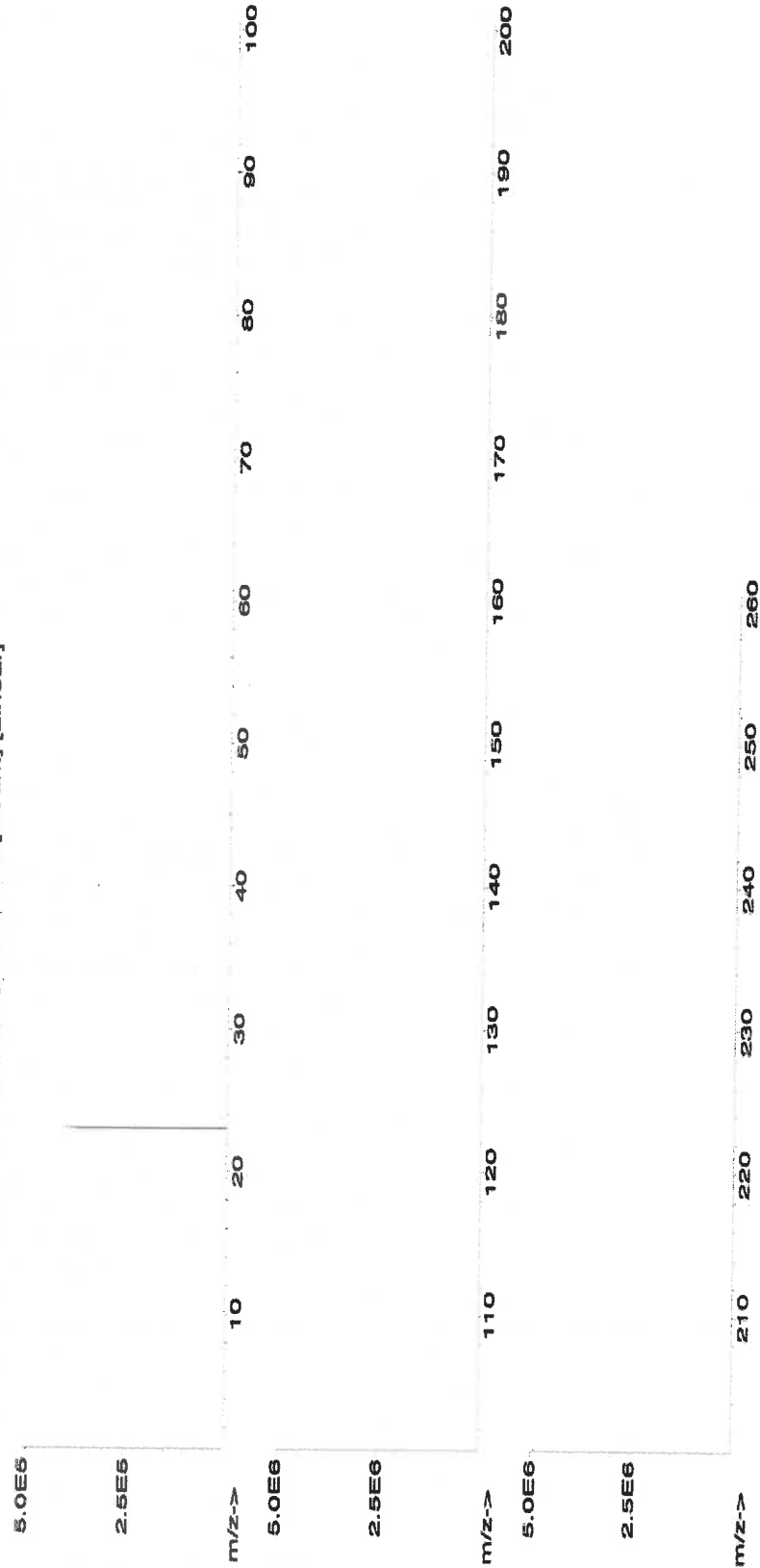
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

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)	NIST SRM

1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.998 0.10 26.9 111.5406 111.5410 10000.0 20.0 7631-99-4 5 mg/m3 orl-rat 3430 mg/kg 3152a

[1] Spectrum No.1 [8.935 sec]:58111.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number: **58029**
Lot Number: **102622**
Description: **Copper (Cu)**

Lot # 20510011
Solvent: Nitric Acid

2.0% 40.0
(mL) Nitric Acid

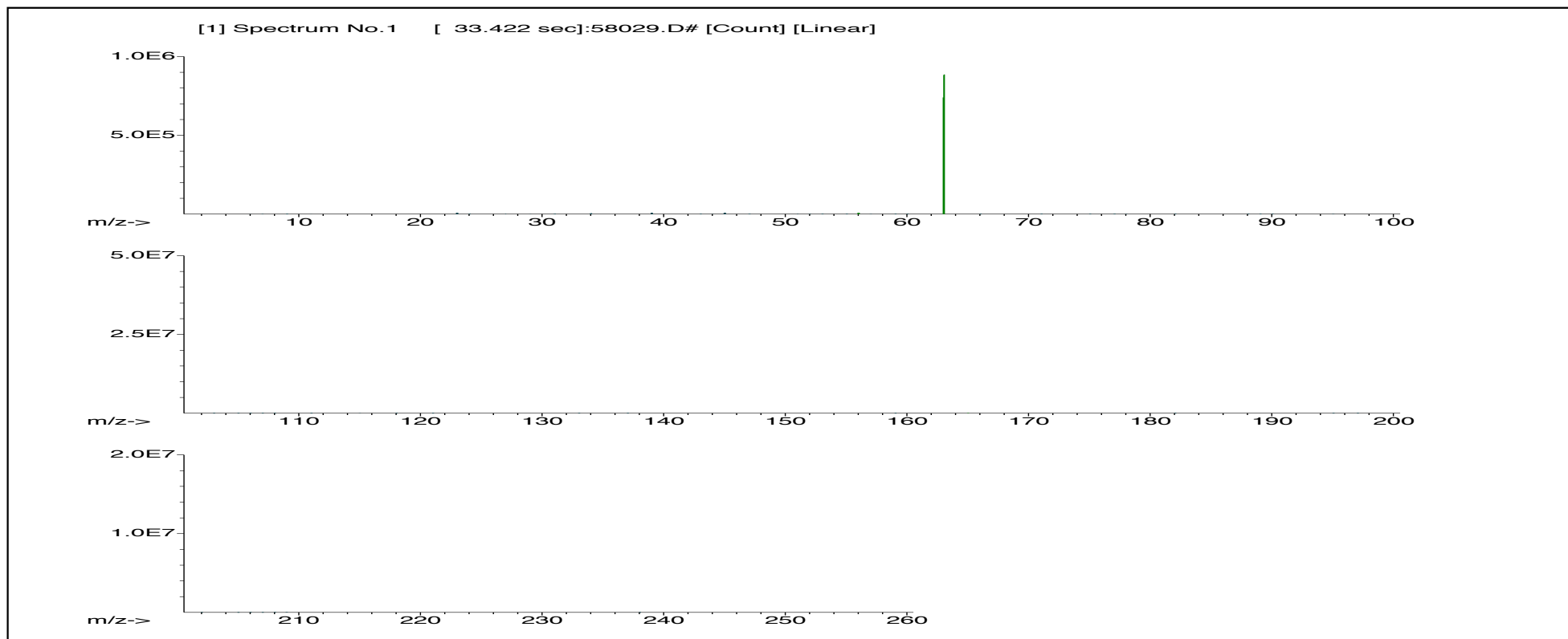
Expiration Date: 102625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): **1000**

NIST Test Number: 6UTB 5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

<i>Eli Aliaga</i>		
Formulated By:	Eli Aliaga	102622
<i>Pedro L. Rentas</i>		
Reviewed By:	Pedro L. Rentas	102622

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.)			NIST SRM
										CAS#	OSHA PEL (TWA)	LD50	
1. Copper(II) nitrate trihydrate (Cu)	58129	021422	0.1000	200.0	0.084	1000	10000.8	1000.0	2.2	10031-43-3	1 mg/m3	ori-rat 794 mg/kg	3114





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



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

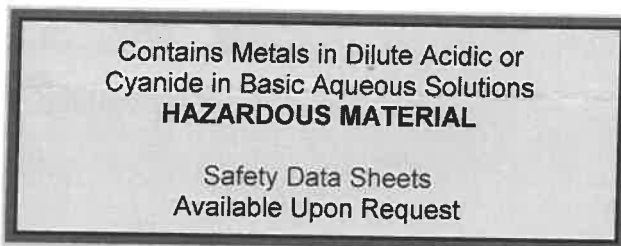
Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.



15528-32
MS

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) ANALYSIS OF SAMPLES

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





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

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

ICV1-1014

For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415

For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400

For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (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



CERTIFIED WEIGHT REPORT:

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

Lot #
21110221
Solvent: Nitric Acid

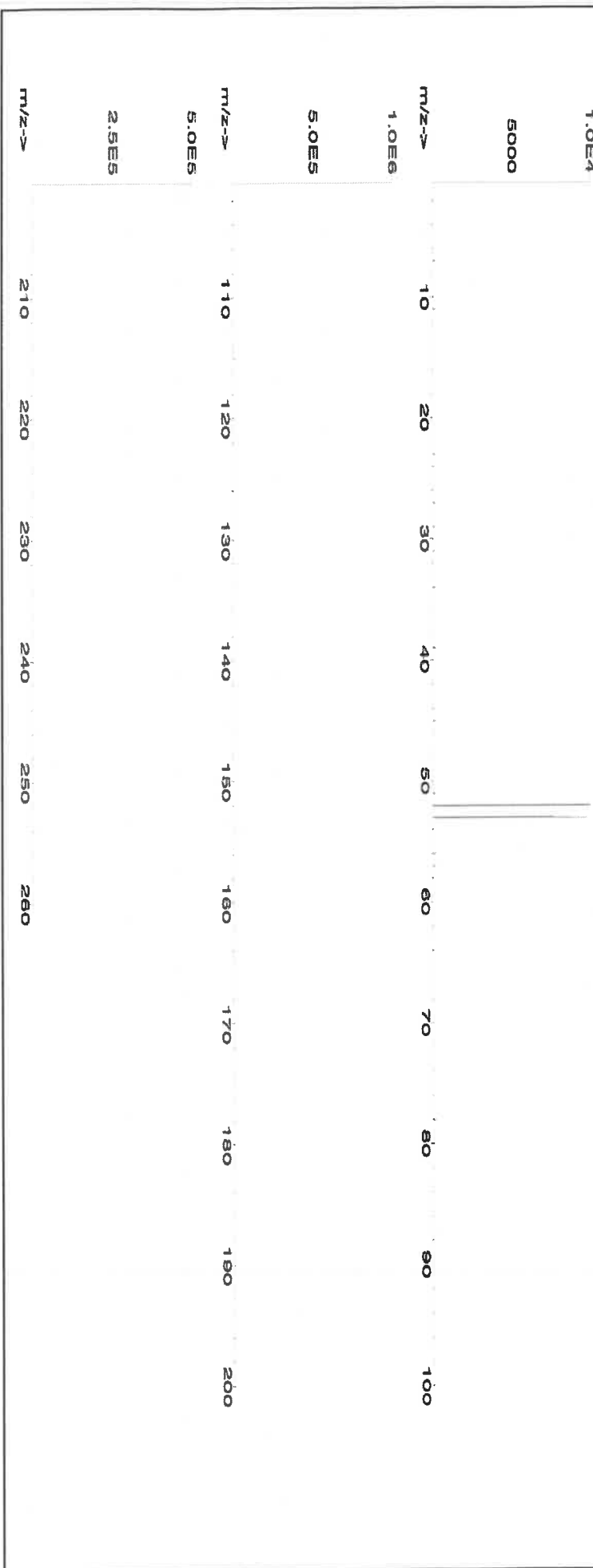
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

Expiration Date: 060526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

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

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Solvent: 24002546 Nitric Acid

Lot #

R: 12/20/23 MS747

Formulated By:	Lawrence Barry
	100923
Reviewed By:	Pedro L. Rentas
	100923

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

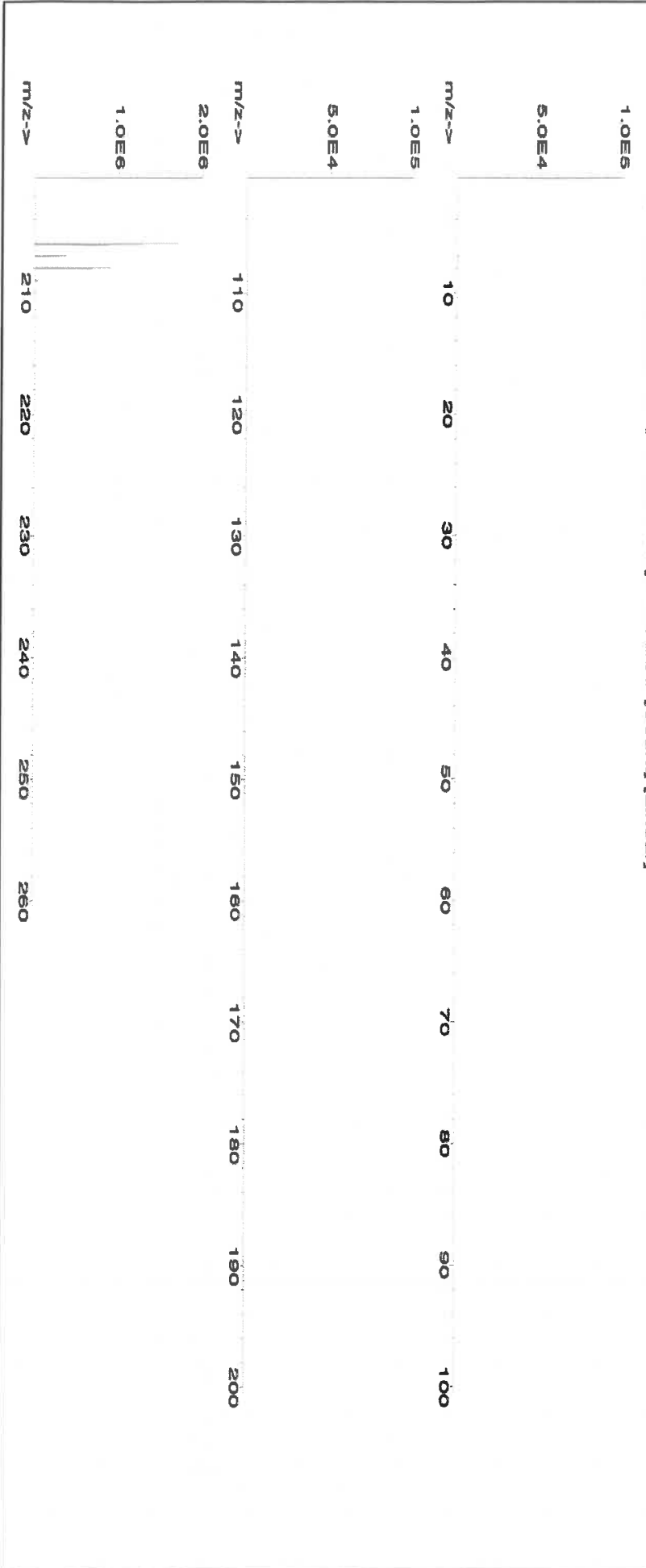
2% 60.0 (mL) Nitric Acid

Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

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

1. Lead(II) nitrate (Pb) IN029 PB0122016A1 1000 99.999 0.10 62.5 4.80071 4.80077 1000.0 2.0 10099-74-8 0.05 mg/m3 Intvms-ret 89 mg/kg 3128

[1] Spectrum No. 1 [14.144 sec]:58082.D# [Count] [Linear]





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

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

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

Physical Characterization:

(T) = Target analyte

Certified by:

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

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



CERTIFIED WEIGHT REPORT:

Part Number: **57028**
Lot Number: **091223**
Description: **Nickel (NI)**

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

Expiration Date: **091226**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**

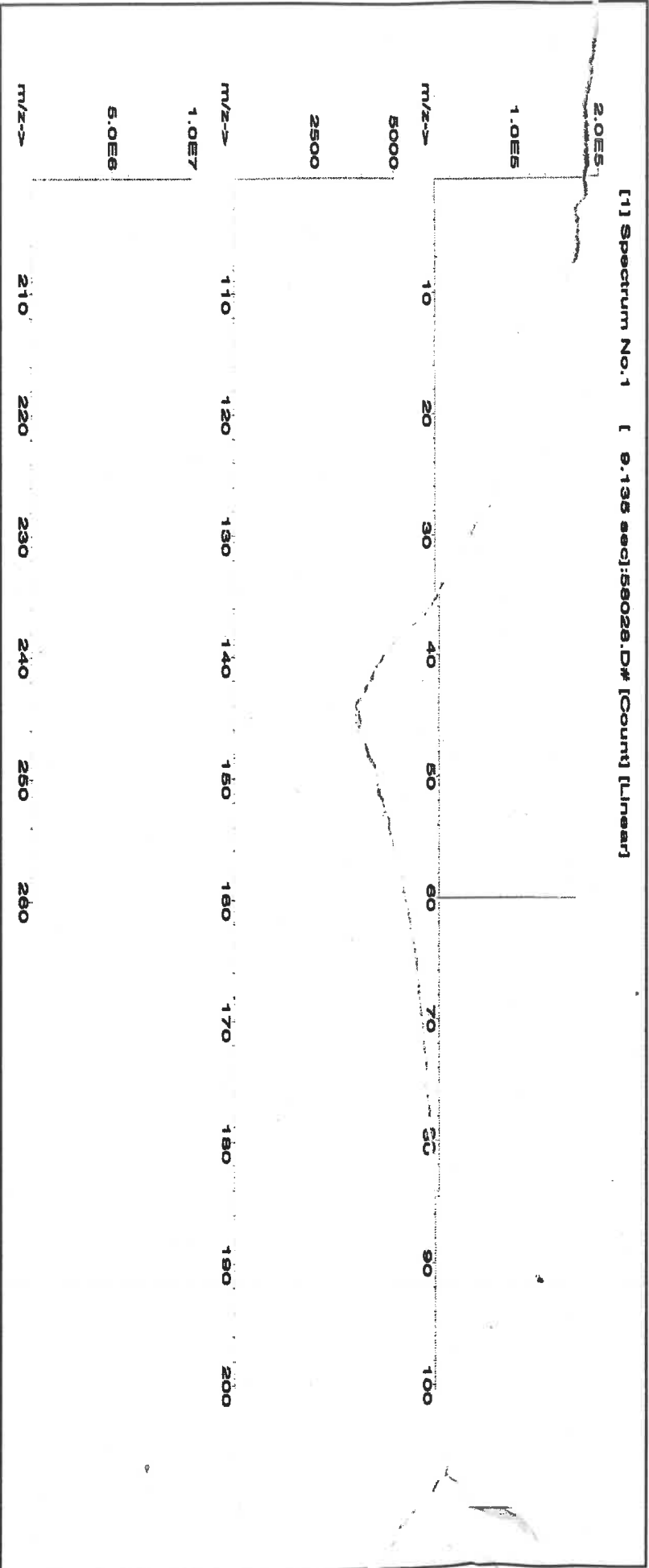
2.0% 40.0 (mL) Nitric Acid

Formulated By:	<i>Lawrence Barry</i>	091223
Reviewed By:	<i>Pedro L. Renteria</i>	091223

NIST Test Number: **6U7B**
Volume shown below was diluted to (mL): **2000.02** Balance Uncertainty: **5E-05** Flask Uncertainty: **0.056**

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

1. Nickel(II) nitrate hexahydrate (NI) 58128 062023 0.1000 200.0 0.084 1000 10000.4 1000.0 2.2 13478-00-7 1 mg/m3 or-rel 1620 mg/kg 3136





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



M5768 M5769
Certified Reference Material CRM
R: 1/13/24



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

CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date: 091826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

M5768 M5769

BP R: 1/13/24

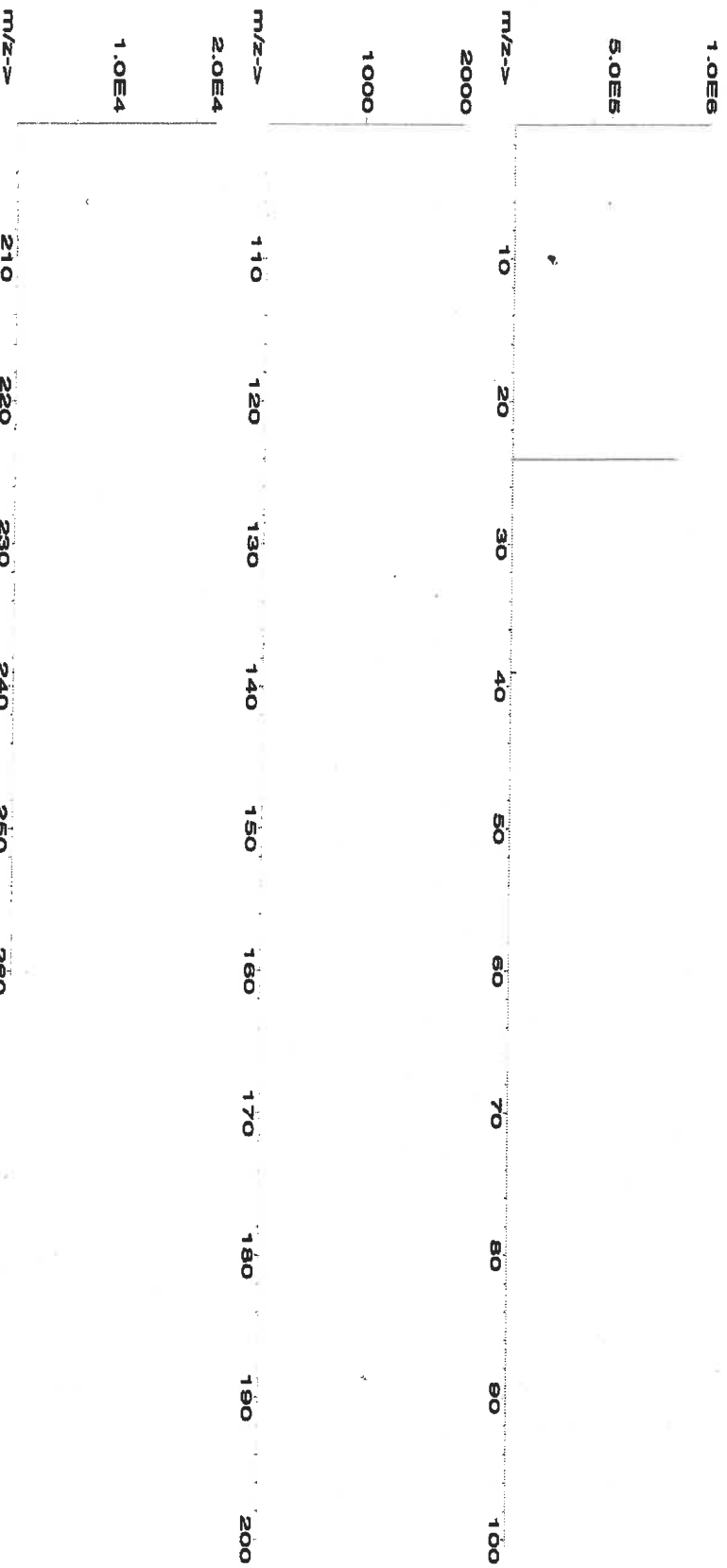
Formulated By: <i>Lawrence Barry</i>		091823
Reviewed By: <i>Pedro L. Rentas</i>		091823

Compound

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

1. Magnesium nitrate hexahydrate (Mg) IN030 M500222A1 10000 99.999 0.10 8.51 234.9118 234.9126 10000.0 20.0 13446-18-9 NA or-rat 5440 mg/kg 3131a

[1] Spectrum No. 1 [19.923 sec]: 58112.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number: 57004
Lot Number: 102523
Description: Beryllium (Be)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date:

102526

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL): 2000.02

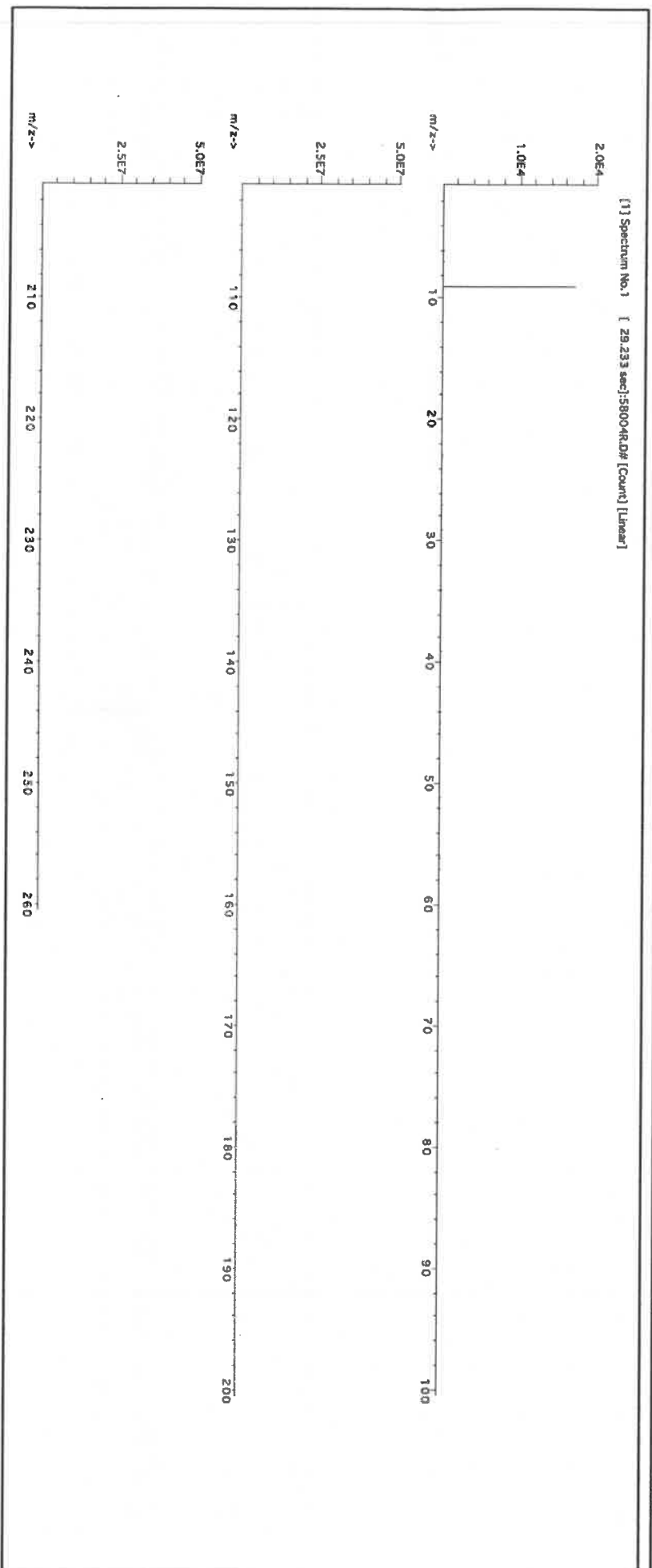
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

SDS Information

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

1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-rat 3.16mg/kg	NA
---------------------------	-------	--------	--------	-------	-------	------	---------	--------	-----	------------	----------	------------------------	----





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

* All standard containers are meticulously cleaned prior to use.

* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
 * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.

* All Standards should be stored with caps tight and under appropriate laboratory conditions.

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



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

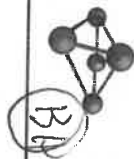
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R-02509124

M599



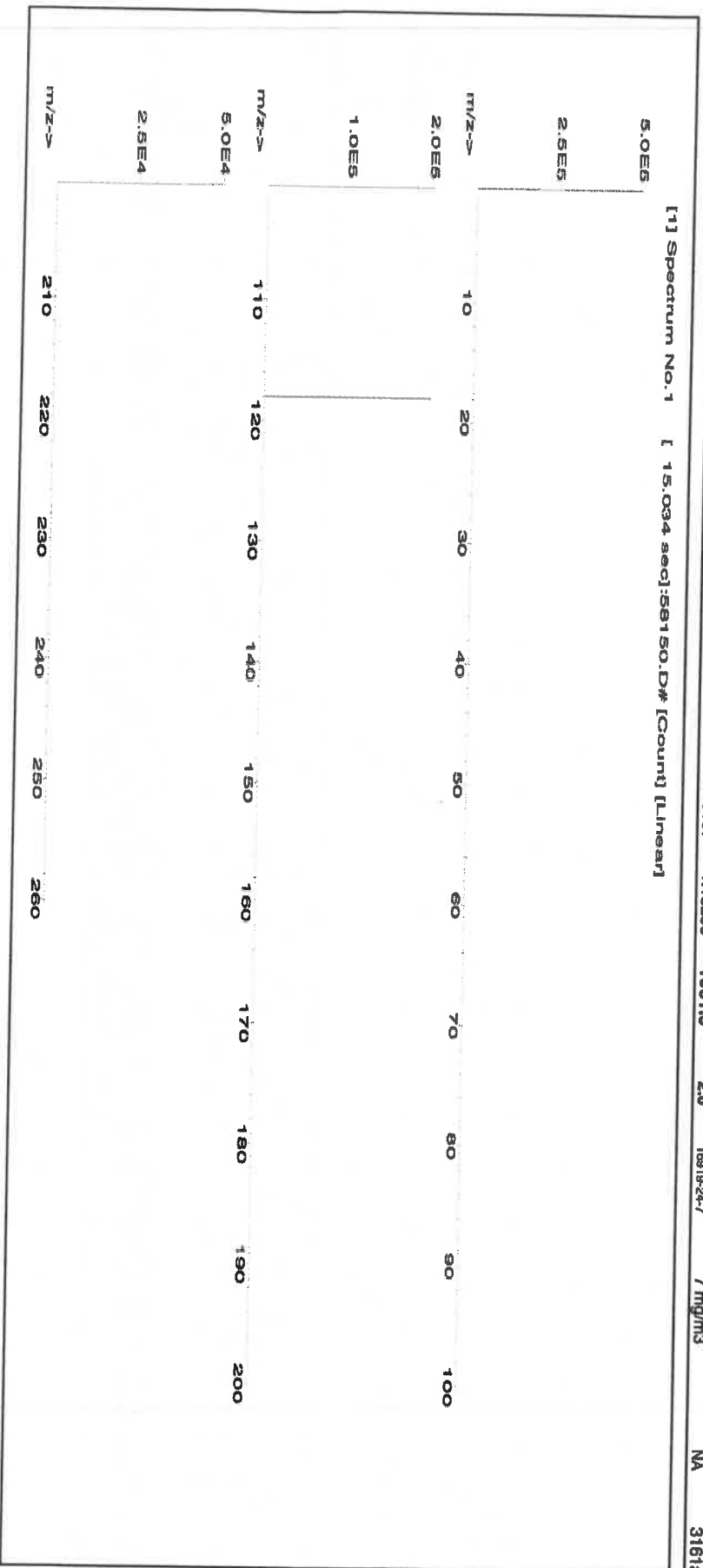
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

SDS Information												
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	Solvent Safety Info. On Attached pg.		
										RM#	Number	Conc. (µg/mL)
NIST												

1. Ammonium hexafluoroantimonate(V) (Sn) INO10 SMD042023A1 1000 99.999 0.10 44.2 1.13107 1.13286 1001.6 2.0 16919-24-7 7 mg/m3 NA 3161a

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



R: 02/09/24 115800 (54)

CERTIFIED WEIGHT REPORT:

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

Expiration Date: 091926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lot # 24002546
Solvent: Nitric Acid

2.0% Nitric Acid
40.0 (mL)

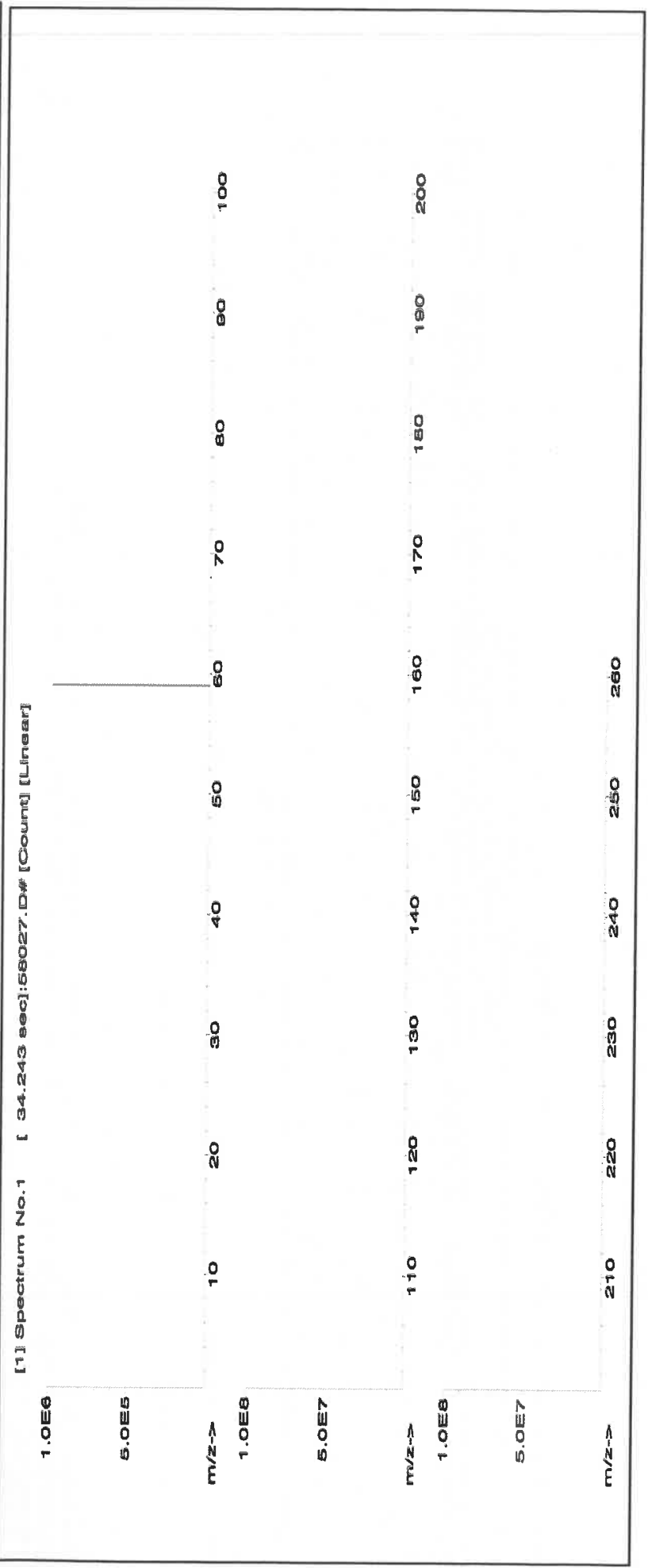
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

SDS Information

Expanded Uncertainty +/- (µg/mL)
Final Conc. (µg/mL)
Initial Conc. (µg/mL)
Nominal Conc. (µg/mL)
Pipette (mL)
Initial Vol. (mL)
Dilution Factor
Part Number
Lot Number

(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





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

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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57033
111323
Arsenic (As)

Lot #
Solvent:

24002546
Nitric Acid

2.0%

80.0

(mL)
Nitric Acid

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

111326
Ambient (20 °C)
1000

NIST Test Number:
Volume shown below was diluted to (mL):

6UTB
4000.0

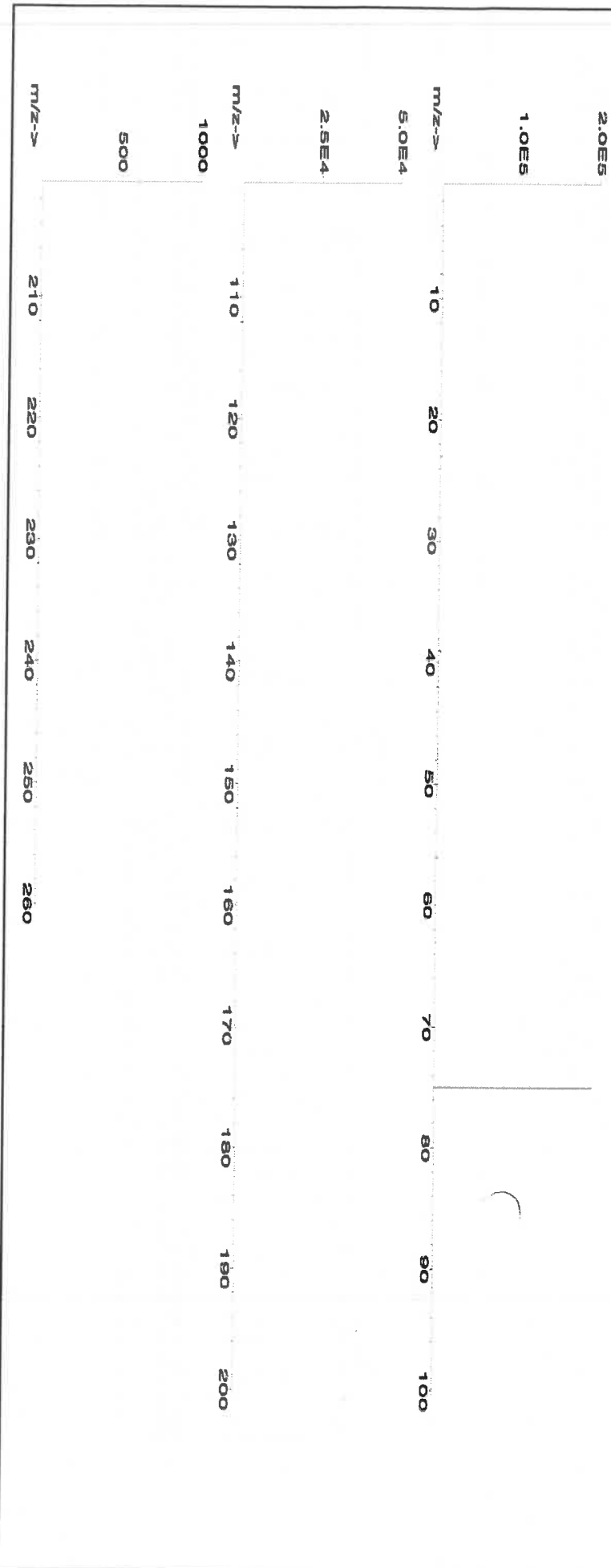
<i>[Signature]</i>	
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rendas
	111323

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	1000.0	2.0	7440-38-2	0.5 mg/m3	or-rat 500 mg/kg	3103a
-----------------	-------	--------	--------	-------	-------	------	---------	--------	-----	-----------	-----------	------------------	-------

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number: **57005**
Lot Number: **071123**
Description: **Boron (B)**

Solvent: MKB0857V Ammonium hydroxide

Lot #

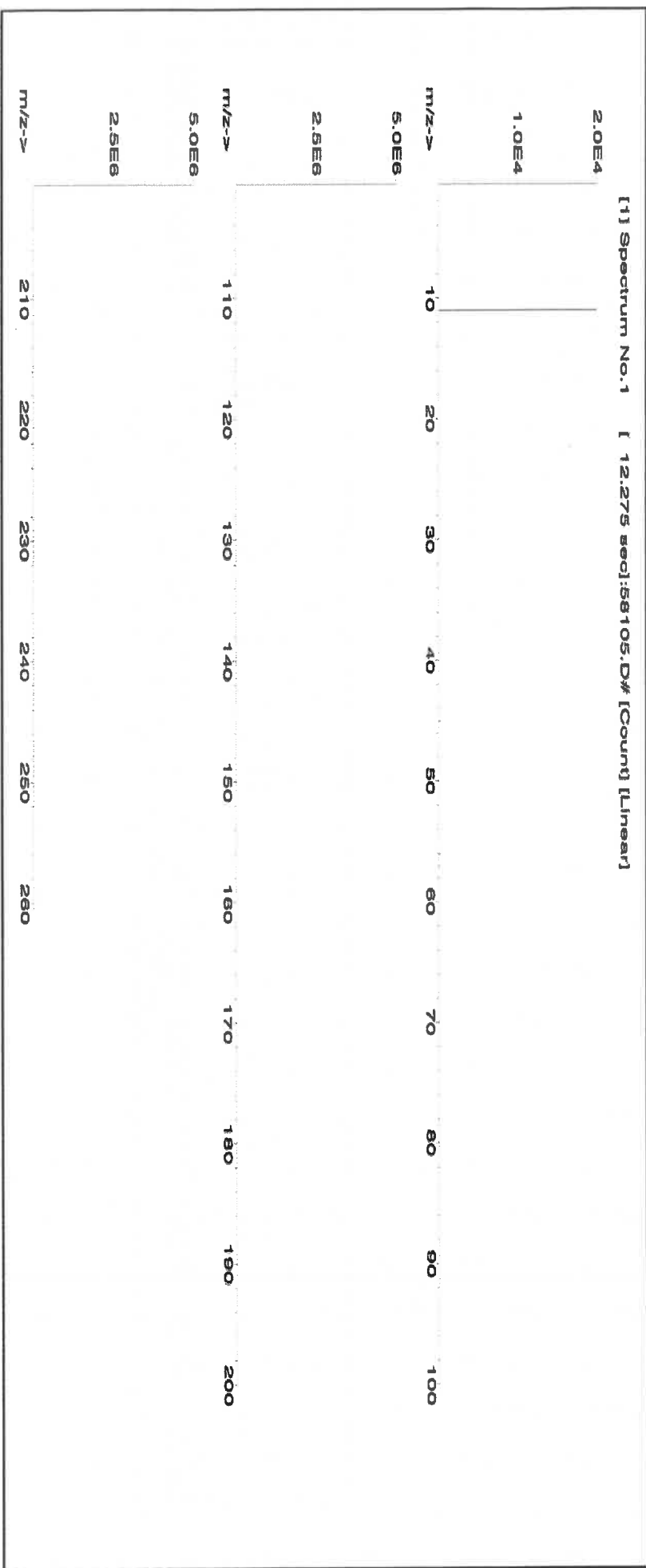
AI: 021009124 M5814

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48 0.058 Balance Uncertainty
2.0% 40.0 Ammonium hydroxide (mL)

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

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

1. Boric acid (B)	IN018	BV082018A1	1000	99.999	0.10	17.3	11.55772	11.56201	1000.4	2.0	10043-35-3	2 mg/m3	ort-nat 2660 mg/kg	3107
-------------------	-------	------------	------	--------	------	------	----------	----------	--------	-----	------------	---------	--------------------	------





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57016
122923
Sulfur (S)

Lot #

ASTM Type 1 Water

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
122923	

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

122926
Ambient (20 °C)
1000
6L7B

Weight shown below was diluted to (mL):

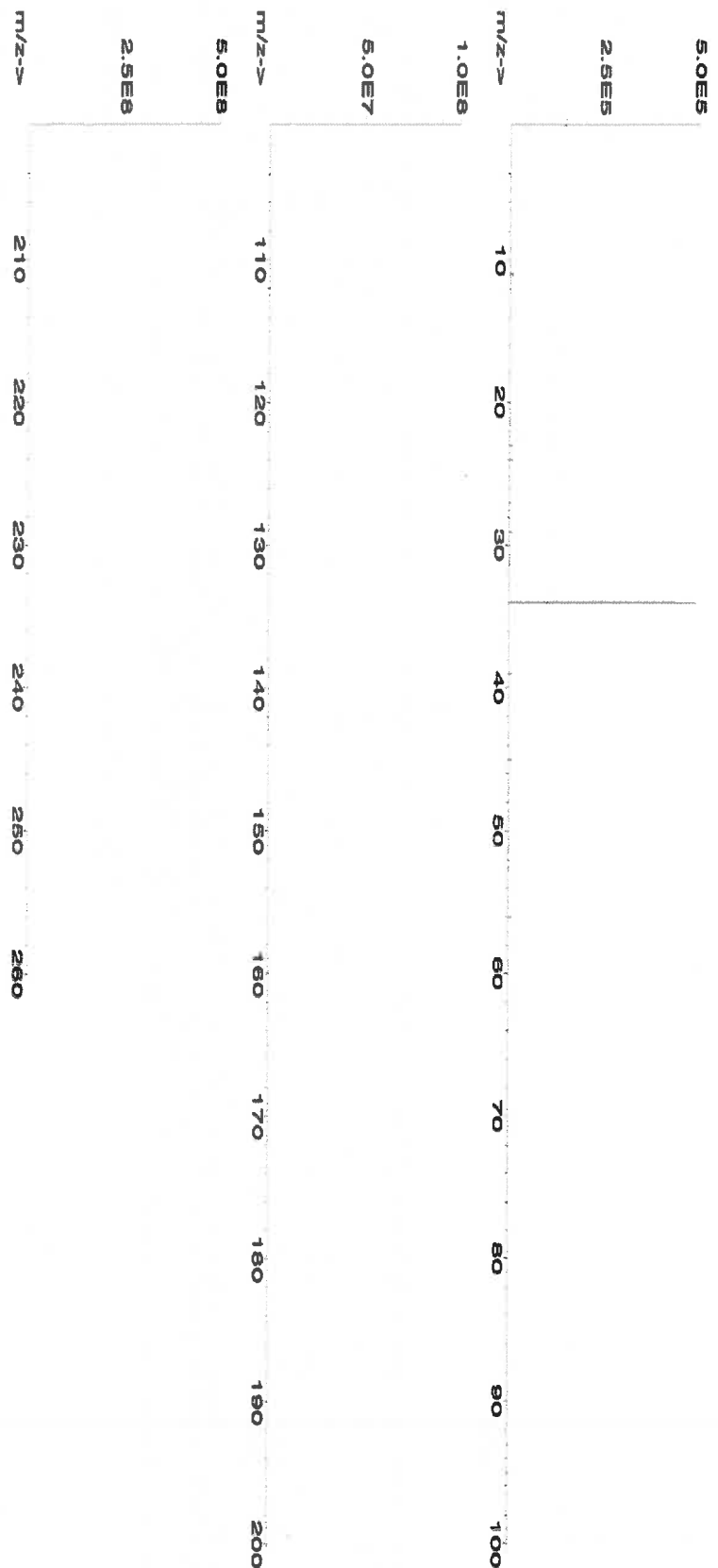
SE-05 Balance Uncertainty
0.06 Flask Uncertainty

Compound

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

1. Ammonium sulfate (S) IN117 SLBR225V 1000 99.9 0.10 24.3 16.4979 16.4980 1000.0 2.0 7783-20-2 NA 0.01-0.14250mg/kg 3181

[1] Spectrum No. 1 [33.603 sec]:57016.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57116
071123
Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

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

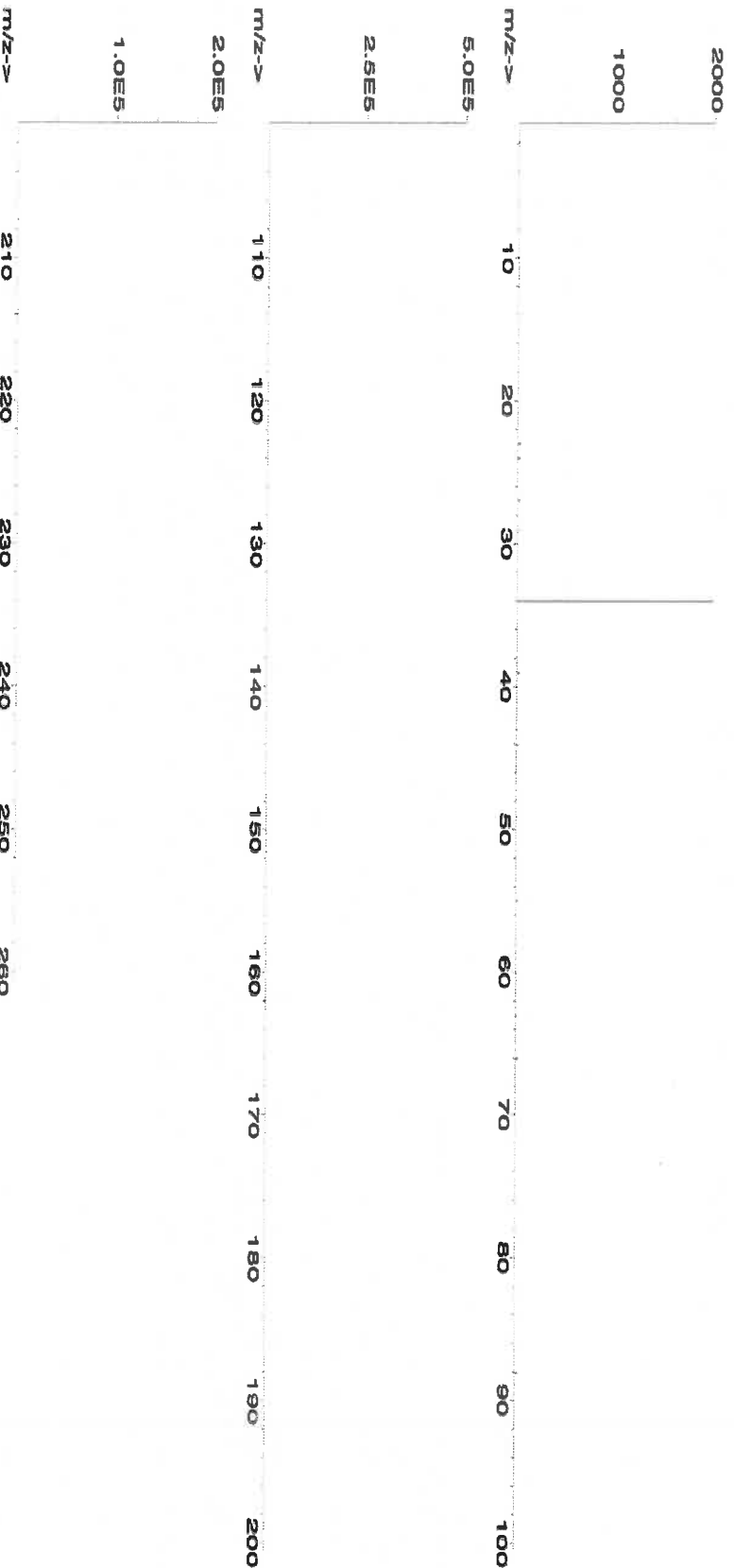
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48 5E-05 Balance Uncertainty 0.058 Flask Uncertainty

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

SDS Information

1. Ammonium sulfate (S) IN117 SLBR725V 10000 99.9 0.10 24.3 82.4675 82.4692 10000.1 20.0 7783-20-2 NA oral 4250mg/kg 3181

[1] Spectrum No. 1 [24.004 sec]:58116.D# [Count] [Linear]





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

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

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

Physical Characterization:

(T)= Target analyte

Certified by:

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

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



CERTIFIED WEIGHT REPORT:

Part Number: **57015**
Lot Number: **091123**
Description: **Phosphorous (P)**

Solvent: **24002546 Nitric Acid**

Lot #

R: 02109124 M5820

Formulated By:	Lawrence Barry
	091123
Reviewed By:	Pedro L. Rentas
	091123

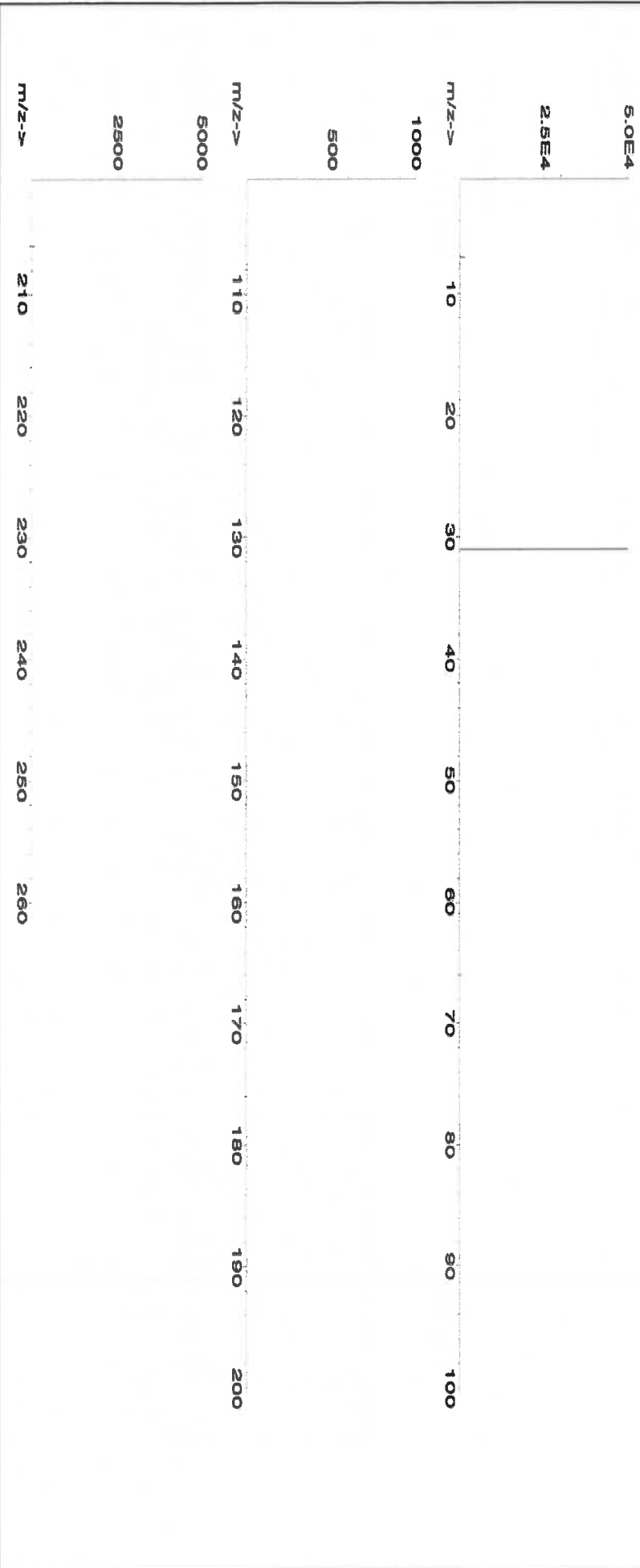
Expiration Date: 091126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LJB
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Compound

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

1. Ammonium dihydrogen phosphate (P) IN008 PY062019A1 1000 99.999 0.10 27.5 7.2729 7.2730 1000.0 2.0 7722-76-1 5 mg/m3 xH-rat >2000mg/kg 3186

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent



MS824
MB

Material No.: 3624-01

Batch No.: 0000281938

Manufactured Date: 2021-06-07

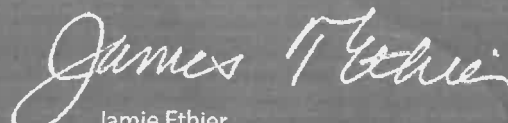
Retest Date: 2026-06-07

Revision No.: 1

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	$\geq 99.0 \%$	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	$\leq 0.005 \%$	0.003 %
Iodide (I)	$\leq 0.002 \%$	< 0.002 %
Bromide (Br)	$\leq 0.01 \%$	< 0.01 %
Chlorate and Nitrate (as NO ₃)	$\leq 0.003 \%$	< 0.001 %
ACS - Phosphate (PO ₄)	$\leq 5 \text{ ppm}$	< 5 ppm
Sulfate (SO ₄)	$\leq 0.004 \%$	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	$\leq 5 \text{ ppm}$	< 5 ppm
Iron (Fe)	$\leq 2 \text{ ppm}$	< 1 ppm
Calcium (Ca)	$\leq 0.002 \%$	< 0.001 %
Magnesium (Mg)	$\leq 0.001 \%$	< 0.001 %
Potassium (K)	$\leq 0.005 \%$	0.001 %

For Laboratory, Research, or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Mansford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

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).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGY10
Lot Number: V2-Y740548
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Yttrium
Starting Material: Yttrium Oxide
Starting Material Lot#: 2661 and 06230520YL
Starting Material Purity: 99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL
Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10011 ± 25 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	9997 ± 50 µg/mL ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	9984 ± 31 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M Ag <	0.004600	M Eu	0.009037	M Na	0.086360	M Se <	0.005200	M Zn	0.030125
M Al	0.014862	O Fe	0.002410	M Nb <	0.000570	O Si	0.024100	O Zr <	0.002600
M As <	0.003500	M Ga <	0.000570	M Nd	0.000923	M Sm	0.000461		
M Au <	0.001700	M Gd <	0.003500	M Ni <	0.005700	M Sn <	0.002300		
O B	0.002209	M Ge <	0.005200	M Os <	0.001200	M Sr <	0.004600		
O Ba <	0.002500	M Hf <	0.000570	n P <		M Ta <	0.000570		
O Be <	0.001400	M Hg <	0.000570	M Pb	0.005020	M Tb	0.001044		
M Bi <	0.003500	M Ho	0.009037	M Pd <	0.005100	M Te <	0.002300		
O Ca	0.009841	M In <	0.002300	M Pr <	0.002300	M Th <	0.000570		
M Cd <	0.000570	M Ir <	0.000570	M Pt <	0.000570	M Ti <	0.003500		
M Ce <	0.002300	O K	0.018677	M Rb <	0.000570	M Tl <	0.000570		
M Co <	0.000570	M La	0.000461	M Re <	0.000570	M Tm <	0.003500		
M Cr <	0.004000	O Li <	0.009300	M Rh <	0.008000	M U <	0.000570		
M Cs <	0.000570	M Lu	0.000582	M Ru <	0.000570	M V	0.001265		
M Cu	0.002610	O Mg	0.001486	n S <		M W <	0.002300		
M Dy	0.003815	M Mn	0.000582	M Sb	0.005422	s Y <			
M Er	0.003615	M Mo <	0.005700	M Sc <	0.001200	M Yb	0.001827		

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H₂O)_{x+2}

Chemical Compatibility -Soluble in HCl, H₂SO₄ and HNO₃. Avoid HF, H₃PO₄ and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride.

Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H₂O / HNO₃); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H₂O / HCl or HNO₃).

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

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

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

11.2 Lot Expiration Date

- February 20, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com



Certified Reference Material CRM

M5970 M5971

R. J. 10/12/24

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

CERTIFIED WEIGHT REPORT:

Part Number: **57003**
Lot Number: **062124**
Description: **Lithium (Li)**
Expiration Date: **06/127**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Volume shown below was diluted to (mL): **250.11**
SE-05 Balance Uncertainty
0.016 Flask Uncertainty

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

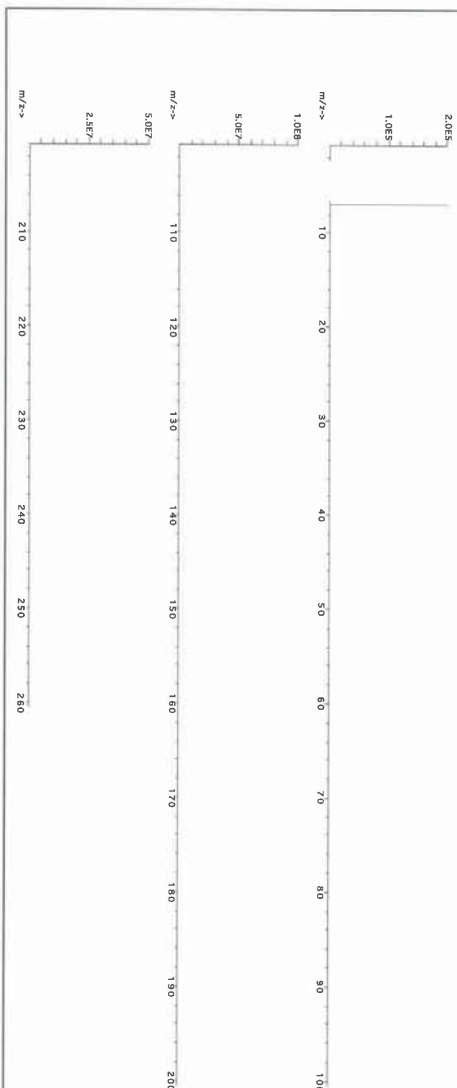
2.0% 5.0 (mL) Nitric Acid

Microvial Capable	
Formulated By:	Giovanni Esposito
Reviewed By:	Petro L. Parias
CAS#	OSHA PEL (TWA)
LD50	
SN#	062124

Compound		Part		Lot		Dilution		Initial		Uncertainty		Nominal		Initial		Final		Expanded		SDS Information		NIST	
Number	Factor	Number	Factor	Number	Factor	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Uncertainty	± (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SN#

1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	1000.0	2.0	7790-68-4	5 mg/m3	01-Hal 1428 mg/kg	NA
-------------------------	-------	--------	--------	------	-------	------	---------	--------	-----	-----------	---------	-------------------	----

[1] Spectrum No. 1 [32.093 sec; 15000.0Hz Count [Lines]



Certificate of Analysis

MS978, MS979



Refine your results. Redefine your industry.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

R: 2/22/24

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution

Catalog Number: CGT1

Lot Number: T2-T1719972

Matrix: 2% (v/v) HNO₃

Value / Analyte(s): tr. HF

Starting Material: 1 000 µg/mL ea.

Starting Material: Titanium

Starting Material: Ti Metal

Starting Material Lot#: 2094

Starting Material Purity: 99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

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

Assay Method #1

1002 ± 4 µg/mL

ICP Assay NIST SRM 3162a Lot Number: 130925

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

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

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

$X_{CRM/RM} = (X_p) / (U_{p,rel})$

X_p = mean of Assay Method A with

$U_{p,rel}$ = the standard uncertainty of characterization Method A

$U_{p,rel} = (U_{CRM/RM} / X_p) / (C_p / (C_{CRM/RM} / 2))$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

$U_{CRM/RM} = (U_{CRM/RM}^2 / (C_p / (C_{CRM/RM} / 2)))^{1/2}$

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M Ag	<	0.000536	M Eu	<	0.000268	O Na	<	0.032670	M Se	<	0.001204	O Zn	<	0.003267
M Al	<	0.000872	O Fe	<	0.003225	O Nb	<	0.043560	O Si	<	0.004735	O Zr	<	0.043560
M As	<	0.008586	M Ga	<	0.000268	M Nd	<	0.000268	M Sm	<	0.000268			
M Au	<	0.004577	M Gd	<	0.000268	O Ni	<	0.010890	M Sn	<	0.000986			
O B	<	0.008929	M Ge	<	0.002146	M Os	<	0.000269	O Sr	<	0.000986			
M Ba	<	0.002683	M Hf	<	0.002161	O P	<	0.054450	M Ta	<	0.010560			
M Be	<	0.005366	M Hg	<	0.003231	M Pb	<	0.001073	M Tb	<	0.000268			
M Bi	<	0.001609	M Ho	<	0.000268	M Pd	<	0.000268	M Th	<	0.001341			
O Ca	<	0.000676	M In	<	0.002683	M Pr	<	0.000268	M Tl	<	0.053663			
M Cd	<	0.000268	M Ir	<	0.000269	M Pt	<	0.000536	S Tl	<				
M Co	<	0.000268	M K	<	0.001172	M Rb	<	0.000268	M Ti	<	0.000268			
M Cr	<	0.000752	O Li	<	0.000268	M Re	<	0.000268	M Tm	<	0.000268			
M Cs	<	0.000268	M Lu	<	0.000268	M Rh	<	0.000268	M U	<	0.000268			
O Cu	<	0.010890	O Mg	<	0.005445	I S	<	0.006976	M Y	<	0.002146			
M Dy	<	0.000268	O Mn	<	0.003267	M Sb	<	0.004900	M Yb	<	0.000536			
M Er	<	0.000268	M Mo	<	0.000774	O Sc	<							

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 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); K₂SiO₇ - no KF if silica not present); Organic Matrices (Dry ash at 450EC in P10 and dissolve by heating with 1:1:1 H₂O / HF / H₂SO₄ or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystaline form).

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

Technique/Line	Estimated D.L.	14 ppt
ICP-MS 48 amu		

HAZARDOUS INFORMATION

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

ICP-OES 323.452 nm	ICP-OES 334.941 nm	ICP-OES 336.121 nm
0.0054 / 0.00092 µg/mL	0.0038 / 0.00028 µg/mL	0.0053 / 0.00034 µg/mL

1 W, Mo, Co
1 Nb, Ta, Cr, U
1 Ce, Ar, Ni
Ru
(where X = Zr, Mo,
14N17N2, 36Ar12C,
48Ca, 196X=2
14N16O18O,
32S16O, 32S14N,
N/A

8.0 HOMOGENEITY

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

9.0 QUALITY STANDARD DOCUMENTATION

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

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, VA 24073, USA; Telephone: 800.868.6786; 540.565.3030; Fax: 540.565.3030; Email: 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 Kozlikowski
Manager, Quality Control

80978

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul Gaines

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

M5985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGIN10
Lot Number: U2-IN729349
Matrix: 5% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Indium
Starting Material: Indium Metal
Starting Material Lot#: 2511
Starting Material Purity: 99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL
Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10021 ± 56 µg/mL ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	10035 ± 25 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	10001 ± 33 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na	0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al	0.003385	O	Fe	0.004462	M	Nb	<	0.000760	O	Si	0.024619	M	Zr	<	0.000760		
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760			
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760			
O	B	0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760			
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb	0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760			
O	Ca	0.004616	s	In	<			M	Pr	<	0.000760	M	Th	<	0.000760			
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100			
M	Ce	<	0.000760	O	K	0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760			
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760			
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600			
M	Cu	<	0.003800	O	Mg	0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn	0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760			

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form In Solution - 114.82 +3 6 In(H₂O)₆+3

Chemical Compatibility -Soluble in HCl, HNO₃, and H₂SO₄. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO₃); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

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

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; Info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

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

11.2 Lot Expiration Date

- February 21, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™



M 6041-4b
MS

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H ₂ SO ₄)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO ₂)	≤ 2 ppm	< 2 ppm
Ammonium (NH ₄)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO ₃)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO ₄)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

 **avantor™**

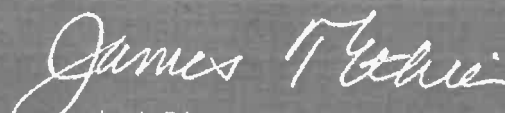


Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities – Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities – Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality

Certificate of Analysis

R: 08/22/24 M6058, M6059

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.comP: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CHEM-CLP-4
Lot Number: V2-MEB746172
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™)

see the Limited License to Use PCRM™ in the Inorganic Ventures [Terms and Conditions of Sale](https://www.inorganicventures.com/terms-and-conditions-sale).

<https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

August 12, 2024

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

11.2 Lot Expiration Date

- **August 12, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

Certificate of Analysis

M6074
M6075
M6076
M6077

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

EXP: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CHEM-CLP-4
Lot Number: V2-MEB746762
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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 06, 2024

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

11.2 Lot Expiration Date

- **September 06, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58025
101124
Manganese (Mn)

R-71113128

Lot #
Solvent: 24002546 Nitric Acid

Expiration Date:

101127

2% 80.0 (mL) Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

SE-05 Balance Uncertainty

Weight shown below was diluted to (mL):

4000.2

0.10 Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Renteria</i>
	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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-----	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Manganese(II) nitrate hydrate (Mn) IN031 MMN032020A1 1000 99.999 0.10 20.8 19.2322 19.2344 **1000.1** **2.0** 15710-66-4 5 mg/m3 or-rel >300mg/kg 3132

[1] Spectrum No.1 [34.243 sec]:57025.D# [Count] [Linear]

5.0E6													
2.5E6													
m/z->	10	20	30	40	50	60	70	80	90	100			
1.0E6													
5.0E7													
m/z->	110	120	130	140	150	160	170	180	190	200			
1.0E6													
5.0E7													
m/z->	210	220	230	240	250	260							



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M6137
R-71013124

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGSI1
Lot Number: V2-SI744713
Matrix: tr. HNO₃
tr. HF
Value / Analyte(s): 1 000 µg/mL ea:
Silicon
Starting Material: Silica
Starting Material Lot#: 1771
Starting Material Purity: 99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL
Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	999 ± 5 µg/mL ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546
Assay Method #2	1000 ± 7 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na	0.001656	M	Se	<	0.022000	M	Zn	<	0.002500	
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphous (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

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

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com;

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

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

11.2 Lot Expiration Date

- July 10, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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

R: 4/20/21

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

MG180

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

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) ANALYSIS OF SAMPLES

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





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

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) K₂Cr₂O₇ 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 K₃Fe(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

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

 **avantor™**



M6151

R → 11/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl ₂)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO ₃)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH ₄)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

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

 **avantorsm**



Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

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



Material No.: 9530-33
Batch No.: 22G2862015

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

A handwritten signature in cursive script that reads 'Jamie Ethier'.
Jamie Ethier
Vice President Global Quality



M6156

Certified Reference Material CRM

R → 6/12/24



CERTIFIED WEIGHT REPORT:

Part Number: 57042
Lot Number: 032123
Description: Molybdenum (Mo)

Expiration Date: 032126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 3000.41

Lot # MKBQ8597V
Solvent: Ammonium hydroxide

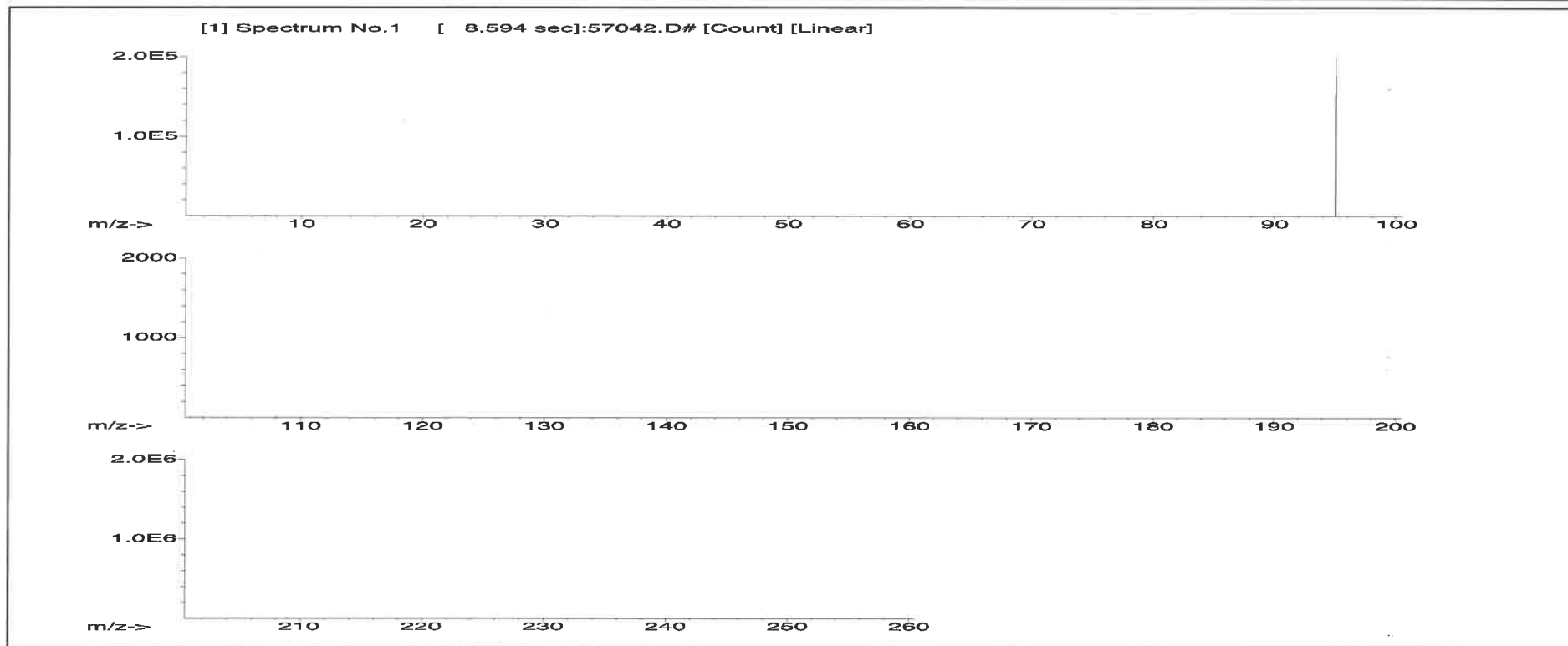
0.5% 15.0 (mL) Ammonium hydroxide

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lawrence Barry
Formulated By: Lawrence Barry 032123

Pedro L. Rentas
Reviewed By: Pedro L. Rentas 032123

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.)			NIST SRM
										CAS#	OSHA PEL (TWA)	LD50	
1. Ammonium molybdate (Mo)	58142	112322	0.1000	300.0	0.084	1000	10001.4	1000.0	2.1	13106-76-8	5 mg(Mo)/m3	ori-rat 333 mg/kg	3134





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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

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

Nitric Acid 69%
CMOS

avantor™



R- 0210212025

m - 6158

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

 **avantorsTM**



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

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

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

 **avantor™**



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



Certified Reference Material CRM

M6030



CERTIFIED WEIGHT REPORT:

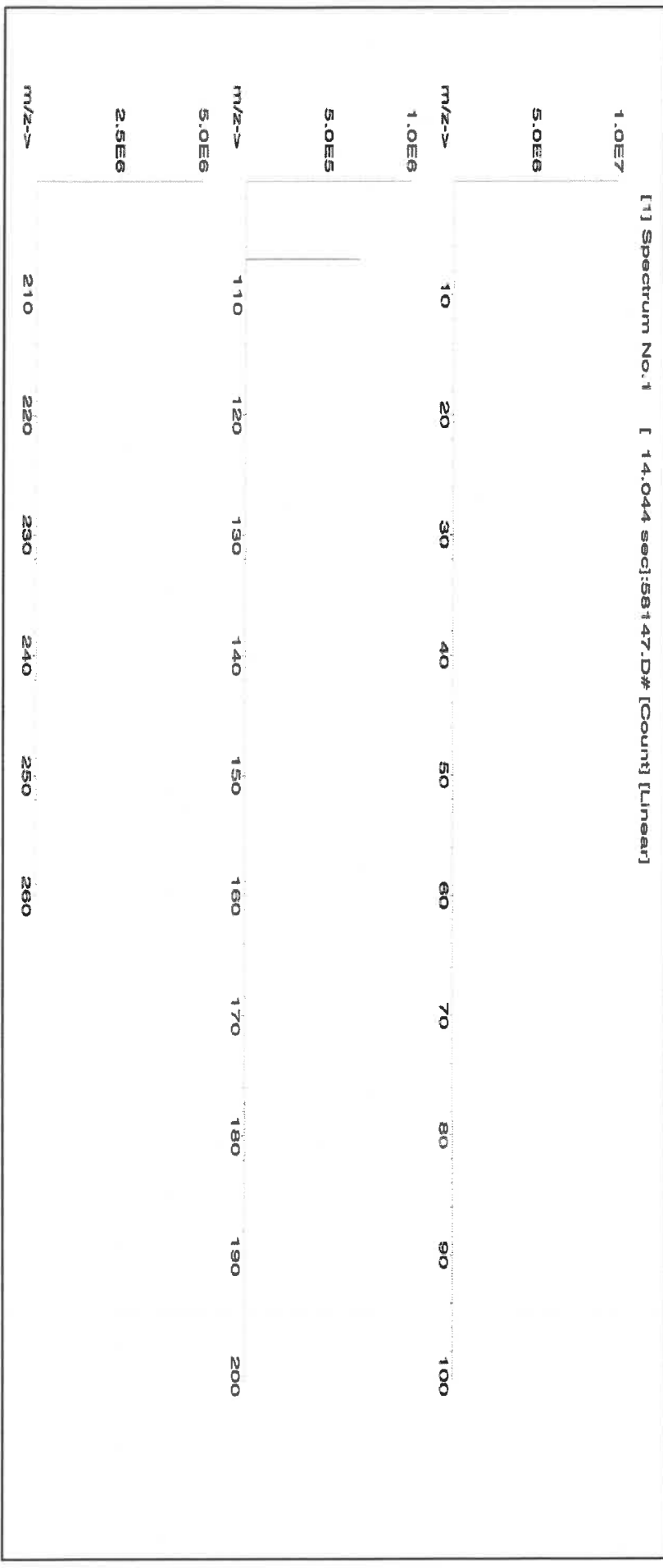
Part Number: **57047**
Lot Number: **122823**
Description: **Silver (Ag)**

Lot #
Solvent: 24002546 Nitric Acid

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

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.30
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

SDS Information									
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9996	0.10	63.7	6.27992	6.27998	1000.0
							2.0	7761-88-8	10 µg/mL
									NA
									3151





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

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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

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



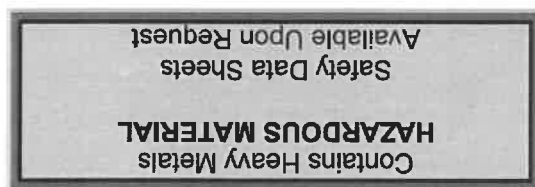
QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

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.

M6152



(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) interfering elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,





Instructions for QATS Reference Material: ICP-AES ICS
Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSAB solution by ICP-AES.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value $\pm$ 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value $\pm$ 15 percent of the listed certified value.



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

R : 04/20/21

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.



M6155

(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,





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

APTIM

Instructions for QATS Reference Material: ICP-AES ICS

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSAB solution by ICP-AES.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57051
071724
Antimony (Sb)

MG160

Lot #
Solvent:

24002546

Nitric Acid

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

071727
Ambient (20 °C)
1000
6UTB

2.0%
Nitric Acid
(mL)

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Volume shown below was diluted to (mL): 2000.26

Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)
58151	060324	0.1000	200.0	0.084	1000	10001.4	1000.0

SDS Information

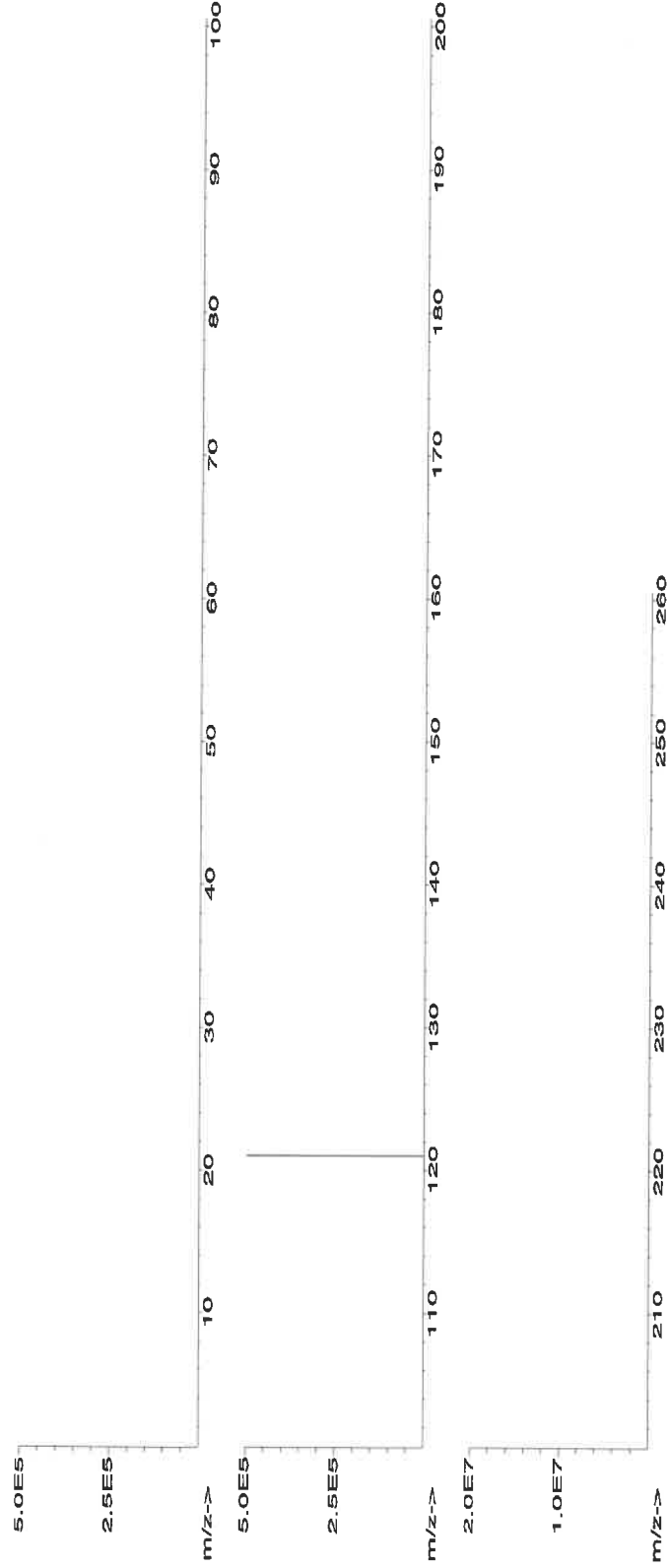
Expanded Uncertainty
(Solvent Safety Info. On Attached pg.)
CAS# OSHA PEL (TWA) **LD50**

NIST SRM

1. Antimony (Sb)

58151 060324 0.1000 200.0 0.084 1000 10001.4 1000.0 2.2 7440-36-0 0.5 mg/m3 or-rat 7000 mg/kg 3102a

[1] Spectrum No.1 [17.964 sec]:58051.D# [Count] [Linear]





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

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)																			
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.02	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	Tc	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.02	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pr	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

R: 8/5/24

M6019

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: 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:

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.001980	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(H₂O)₆+2

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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





CERTIFIED WEIGHT REPORT:

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

Lot #

Solvent: 24002546 Nitric Acid

2% 40.0 Nitric Acid (mL)

Expiration Date:

062727

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL): 2000.1

5E-05 Balance Uncertainty
0.10 Flask Uncertainty

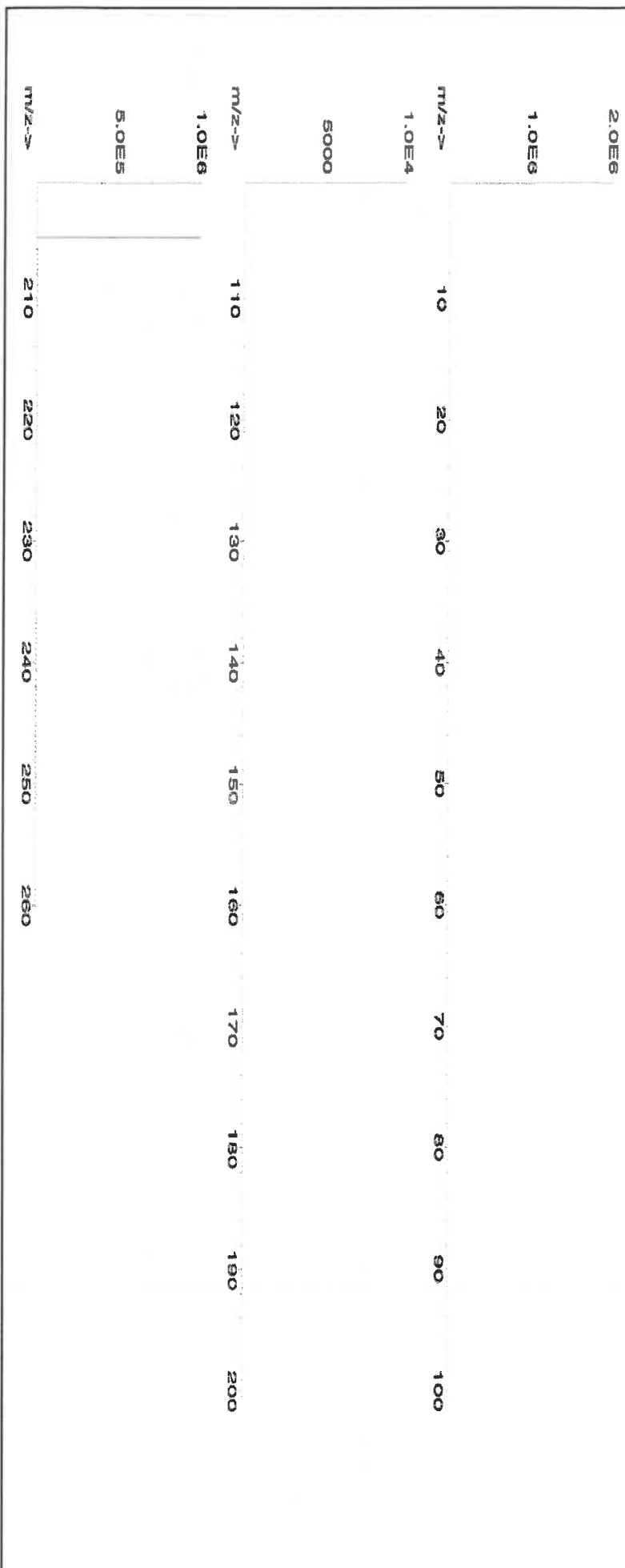
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Renias</i>
	Pedro L. Renias
	062724

SDS Information

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

1. Thallium nitrate (TI) IN037 BCCF4399 1000 99.999 0.10 77.0 2.5975 2.5977 1000.1 2.0 10102-45-1 0.1 mg/m3 orl-mus 15mg/kg 3158

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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



Certified Reference Material CRM

M6021



CERTIFIED WEIGHT REPORT:

Part Number: **57023**
Lot Number: **062424**
Description: **Vanadium (V)**

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

Aleah O'Brady	
Formulated By:	Aleah O'Brady
	062424
Reviewed By:	Pedro L. Rantas
	062424

Expiration Date: **062427**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**

Volume shown below was diluted to (mL): **2000.3**
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Volume shown below was diluted to (mL):

2.0% 40.0 (mL) Nitric Acid

Compound		Part		Lot		Dilution		Initial		Uncertainty		Nominal		Initial		Final		Expanded		SDS Information		NIST	
		Number		Number		Factor		Vol. (mL)		Pipette (mL)		Conc. (µg/mL)		Conc. (µg/mL)		Conc. (µg/mL)		+/- (µg/mL)		(Solvent Safety Info. On Attached pg.)		CAS#	
1. Ammonium metavanadate (V)		58123		021224		0.1000		200.0		0.084		1000		10000.3		1000.0		2.2		7803-55-6		0.05 mg/m3	
																						or -rat 58.1mg/kg	
																						3165	

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]

2.0E6		10		20		30		40		50		60		70		80		90		100	
1.0E7																					
2.0E7																					
1.0E7																					
5.0E8		110		120		130		140		150		160		170		180		190		200	
2.5E8																					
m/z-->		210		220		230		240		250		260									



SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Melcom - A GE Vernova business
ADDRESS: 700 Passipanny Road
CITY: Passipanny STATE: NT ZIP: 07054
ATTENTION: Sundas Pervez
PHONE: 862-259-2531 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Process Tank Acid mixture
PROJECT NO.: LOCATION:
PROJECT MANAGER: Sundas Pervez
e-mail:
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Same as Client PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) DAYS*
HARDCOPY (DATA PACKAGE): 1 Day TAT DAYS*
EDD: 1 Day TAT DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other
☐ EDD FORMAT

Total Metals
Ammonia (Nitrogen)
pH
Total Acidity
TDS
TOC
TCLP
Specific Gravity
Oiliness Test

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	<u>Stem 31 - Sulfuric Acid</u>	<u>Liquid</u>		X	<u>4/23</u>	<u>9 PM</u>	<u>1</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2.	<u>Stem 32 Nitric Acid</u>	<u>Liquid</u>		X	<u>4/24</u>	<u>9 AM</u>	<u>1</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3.	<u>Stem 46 - Nitric Acid</u>	<u>Liquid</u>		X	<u>4/24</u>	<u>9 AM</u>	<u>1</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4.	<u>Acid mixture TF Containment</u>	<u>Liquid</u>		X	<u>4/24</u>	<u>12 PM</u>	<u>1</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER: 1. <u>Sundas Pervez</u>	DATE/TIME: <u>4/24 12 PM</u>	RECEIVED BY: <u>[Signature]</u>	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☒ COOLER TEMP <u>2.9 + 1 = 3.9 °C</u> Comments: <u>IR Gun #1 Temp 3.4° (Adjusted Factor + 1)</u>
RELINQUISHED BY SAMPLER: 2. <u>[Signature]</u>	DATE/TIME: <u>[Blank]</u>	RECEIVED BY: <u>[Blank]</u>	
RELINQUISHED BY SAMPLER: 3. <u>[Signature]</u>	DATE/TIME: <u>4-24-2025</u>	RECEIVED BY: <u>[Signature]</u>	

Page ____ of CLIENT: ☐ Hand Delivered ☐ Other Shipment Complete ☐ YES ☐ NO

From: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>
Sent: Friday, April 25, 2025 10:04 AM
To: Yazmeen Gomez
Cc: Jordan Hedvat
Subject: RE: Acid Samples

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

Hi Yazmeen,

I can source more sample, however, given the urgency of us needing the results today, I will just hold off on specific gravity until we can see our results today for the samples we already gave.

Thanks for your quick support on this!

Regards,

Sundas Pervez

Environmental Health and Safety Leader
Gas Power

M +1 862 289 2531



Please note my e-mail has changed to sundas.pervez@gevernova.com

From: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>
Sent: Friday, April 25, 2025 9:35 AM
To: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>
Cc: Jordan Hedvat <Jordan.Hedvat@AllianceTG.com>
Subject: EXT: RE: Acid Samples

Sundas,

Are you able to provide more volume? Specific Gravity would be a sub analysis, and we would need more volume to send to the sub lab.

Specific Gravity requires a 1L plastic. I could set someone up to bring you the bottles and wait while you fill the bottles?

Best Regards,



Yazmeen Gomez
Sr. Project Manager
An Alliance Technical Group Company
Main: 908-789-8900
Direct: 908-728-3147
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com     

From: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>
Sent: Thursday, April 24, 2025 5:04 PM
To: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>
Cc: Jordan Hedvat <Jordan.Hedvat@AllianceTG.com>
Subject: RE: Acid Samples

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

Thanks, Yazmeen!

Looks good. Is specific gravity a possibility of running also? I believe I indicated that on the COC.

Regards,

Sundas Pervez

Environmental Health and Safety Leader
Gas Power

M +1 862 289 2531



Please note my e-mail has changed to sundas.pervez@gevernova.com

From: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>
Sent: Thursday, April 24, 2025 4:45 PM
To: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>
Cc: Jordan Hedvat <Jordan.Hedvat@AllianceTG.com>
Subject: EXT: RE: Acid Samples

Sundas,

Please see attached. I highlighted all the analysis we will be running.

I wanted to give you a heads up we are no longer certified for Acidity, but we can still run the analysis.

Best Regards,



Yazmeen Gomez
Sr. Project Manager
An Alliance Technical Group Company
Main: 908-789-8900
Direct: 908-728-3147
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com     

From: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>
Sent: Thursday, April 24, 2025 4:22 PM
To: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>
Cc: Jordan Hedvat <Jordan.Hedvat@AllianceTG.com>
Subject: RE: Acid Samples

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

Yes, can you please call me at (862) 289-2531?

Regards,

Sundas Pervez

Environmental Health and Safety Leader
Gas Power

M +1 862 289 2531



Please note my e-mail has changed to sundas.pervez@gevernova.com

From: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>
Sent: Thursday, April 24, 2025 4:11 PM
To: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>
Cc: Jordan Hedvat <Jordan.Hedvat@AllianceTG.com>
Subject: EXT: RE: Acid Samples

Can we hop on a call with the lab manager to discuss this? Let me know if you are available.
He will need more information on these samples before analyzing, he is trying to avoid ruining the instruments.

Best Regards,



Yazmeen Gomez
Sr. Project Manager
An Alliance Technical Group Company
Main: 908-789-8900

Direct: 908-728-3147

Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092

www.alliancetg.com   

From: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>

Sent: Thursday, April 24, 2025 3:38 PM

To: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>

Cc: Jordan Hedvat <Jordan.Hedvat@AllianceTG.com>

Subject: Re: Acid Samples

This is the first time you received an email from this sender (Sundas.Pervez@gevernova.com). Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Secured by Check Point

Hi Yazmeen,

What do you mean by pure products? This is an acid mixture from our process acid tank containment. We suspect some foreign material may have fallen into that mixture that resulted in NO2 orange gas that we observed as a result. So, need to understand the constituents of our mixture.

Please let me know if you need help understanding further. Also, I requested 1 day TAT as this is urgent. Will we be able to get the results tomorrow?

Thanks.

Regards,

Sundas Pervez

Environmental Health and Safety Leader
Gas Power

M +1 862 289 2531



From: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>

Sent: Thursday, April 24, 2025 1:40:12 PM

To: Pervez, Sundas (GE Vernova) <Sundas.Pervez@gevernova.com>

Cc: Jordan Hedvat <Jordan.Hedvat@AllianceTG.com>

Subject: EXT: Acid Samples

WARNING: This email originated from outside of GE. Please validate the sender's email address before clicking on links or attachments as they may not be safe.

Good afternoon Sundas,

Do you know if these samples are pure products?

I also, wanted to confirm the COC mentions a large list of analysis but the Lab Manager mentioned we can only run –

Acidity

Alkalinity

Ammonia

Phenolics

pH

TKN

Total Nitrogen

I am also not completely sure we have enough volume to run all these analysis (only received 1 plastic bottle for each sample).

But I will confirm once you let me know if the samples are pure products.

Best Regards,

Yazmeen Gomez

Sr. Project Manager

An Alliance Technical Group Company

Main: 908-789-8900

Direct: 908-728-3147

Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092

www.alliancetg.com     



Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488