EPA SAMPLE NO.

MYE5N3

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE5N3

Matrix: SOIL Lab Sample ID: P4590-01

% Solids: 97.3 Date Received: 10/26/2024

Analytical Method: ICP_AES

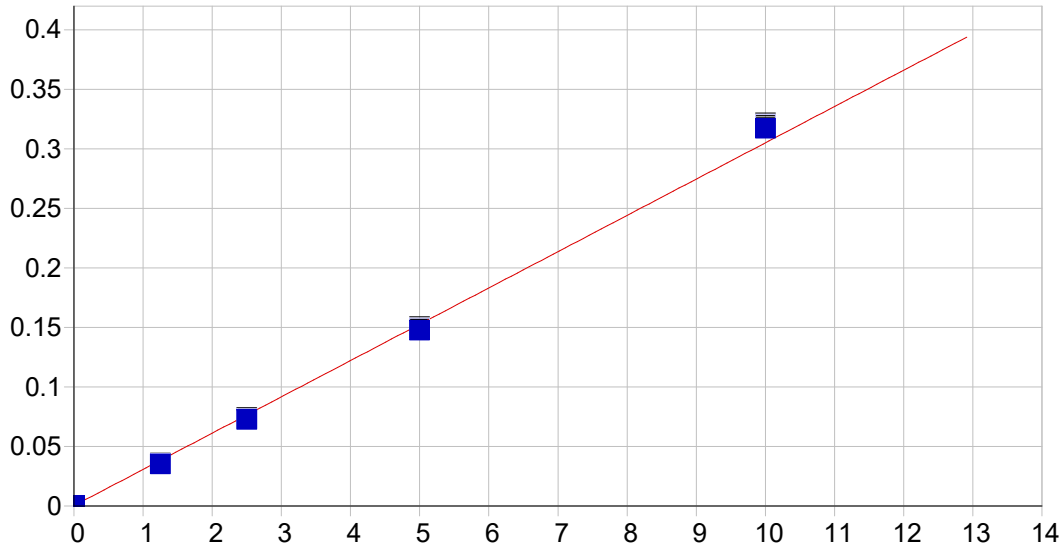
Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	10000	D	11/14/2024	1852
7440-36-0	Antimony	9.8	UD	11/14/2024	1852
7440-38-2	Arsenic	19	D*	11/14/2024	1852
7440-39-3	Barium	130	D	11/14/2024	1852
7440-41-7	Beryllium	0.30	JD	11/14/2024	1852
7440-43-9	Cadmium	0.34	JD	11/14/2024	1852
7440-70-2	Calcium	3200	D	11/14/2024	1852
7440-47-3	Chromium	28	D	11/14/2024	1852
7440-48-4	Cobalt	14	D	11/14/2024	1852
7440-50-8	Copper	74	D*	11/14/2024	1852
7439-89-6	Iron	27000	D	11/14/2024	1852
7439-92-1	Lead	24	D	11/14/2024	1852
7439-95-4	Magnesium	5300	D	11/14/2024	1852
7439-96-5	Manganese	760	D	11/14/2024	1852
7440-02-0	Nickel	25	D	11/14/2024	1852
7440-09-7	Potassium	2900	D	11/14/2024	1852
7782-49-2	Selenium	5.7	UD	11/14/2024	1852
7440-22-4	Silver	1.6	UD	11/14/2024	1852
7440-23-5	Sodium	820	UD	11/14/2024	1852
7440-28-0	Thallium	4.1	UD	11/14/2024	1852
7440-62-2	Vanadium	39	D*	11/14/2024	1852
7440-66-6	Zinc	80	D	11/14/2024	1852

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

Comments:

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



As 189.042 {479}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000232	Re-Slope:	1.000000
A1 (Gain):	0.030493	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999066	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	0.008526		
Predicted MQL:	0.028419		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00023	.000	1
S1	.01000	.00933	-.001	-6.72	.00052	.000	1
S2	1.2500	1.1480	-.102	-8.16	.03569	.000	1
S3	2.5000	2.3713	-.129	-5.15	.07346	.001	1
S4	5.0000	4.8365	-.163	-3.27	.14954	.001	1
S5	10.000	10.395	.395	3.95	.32086	.001	1

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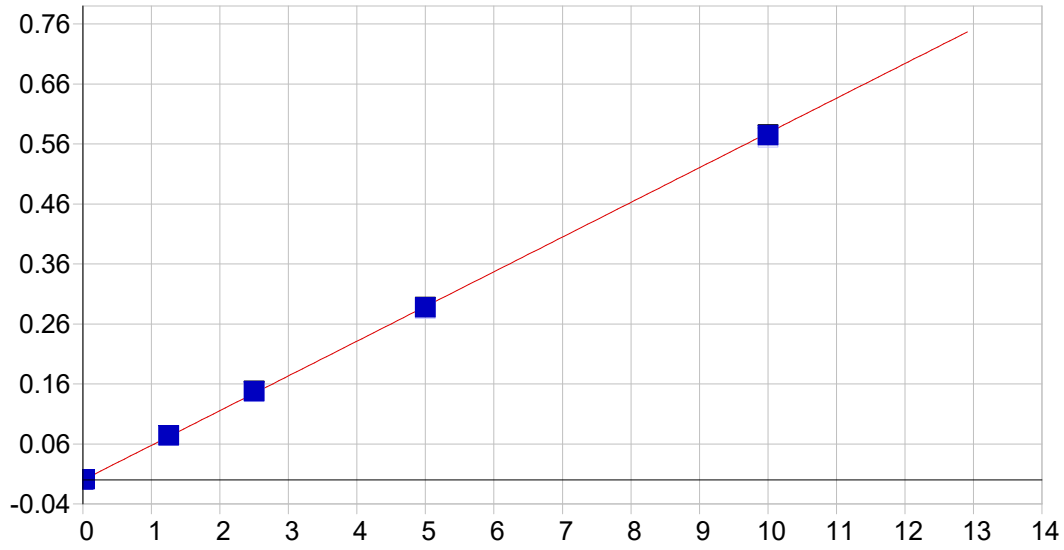
On:11/15/2024 5:15:22 AM
Inst Id :P5



Tl 190.856 {477}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000239	Re-Slope:	1.000000
A1 (Gain):	0.057859	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999930	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.003594		
Predicted MQL:	0.011979		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00024	.000	1
S1	.02500	.02538	.000	1.52	.00120	.000	1
S2	1.2500	1.2818	.032	2.54	.07343	.000	1
S3	2.5000	2.5560	.056	2.24	.14665	.001	1
S4	5.0000	4.9753	-.025	-.494	.28563	.001	1
S5	10.000	9.9366	-.063	-.634	.57069	.001	1

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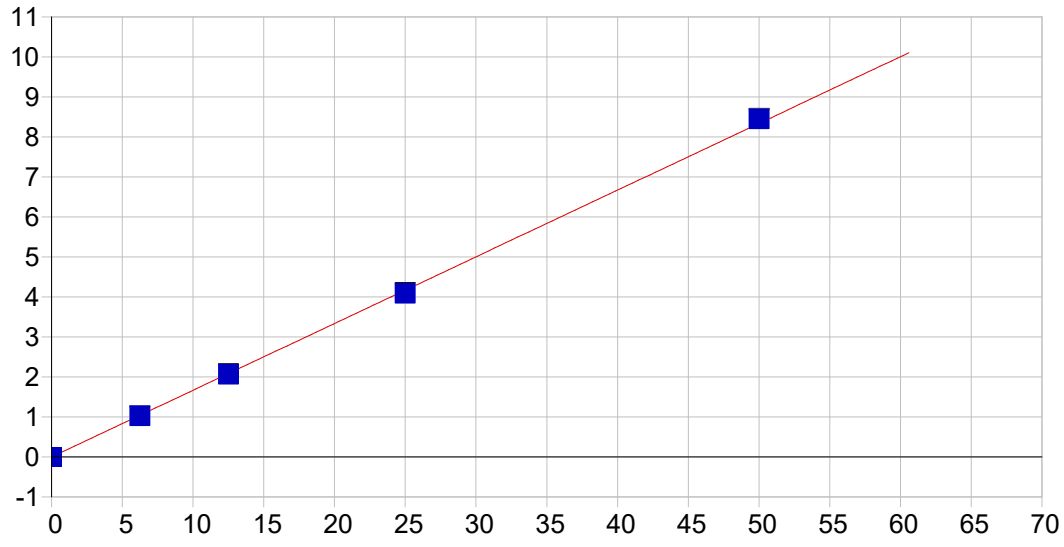
On:11/15/2024 5:15:22 AM
Inst Id :P5



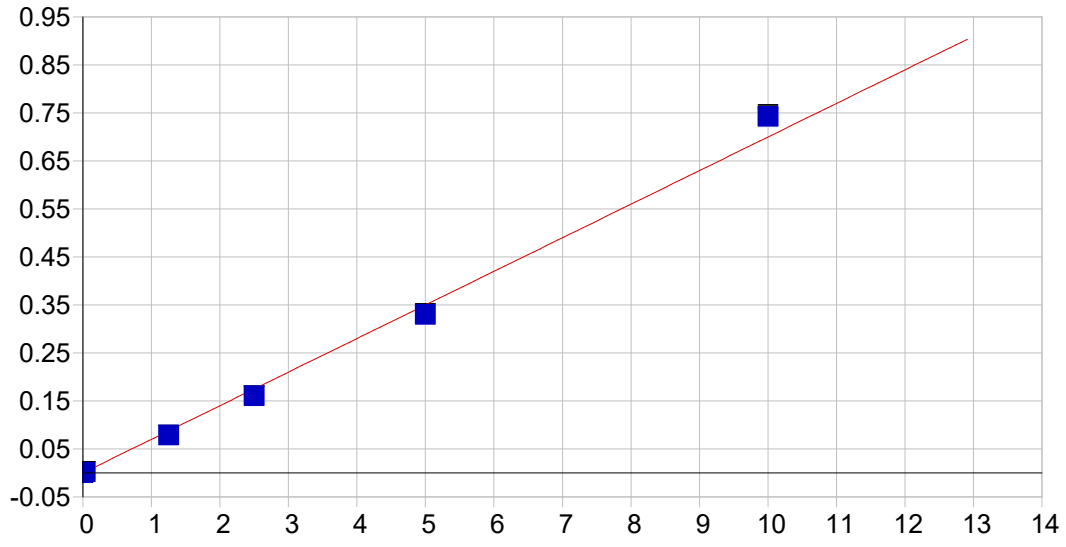
Pb 220.353 {453}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000273	Re-Slope:	1.000000
A1 (Gain):	0.166745	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999883	Status:	OK.
Std Error of Est:	0.000096		
Predicted MDL:	0.003090		
Predicted MQL:	0.010300		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00027	.000	1
S1	.01000	.00722	-.003	-27.8	.00093	.000	1
S2	6.2500	6.1328	-.117	-1.88	1.0221	.003	1
S3	12.500	12.400	-.100	-.802	2.0668	.009	1
S4	25.000	24.533	-.467	-1.87	4.0894	.014	1
S5	50.000	50.687	.687	1.37	8.4495	.013	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



Se 196.090 {472}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000049	Re-Slope:	1.000000
A1 (Gain):	0.069969	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997755	Status:	OK.
Std Error of Est:	0.000147		
Predicted MDL:	0.006200		
Predicted MQL:	0.020665		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00005	.000	1
S1	.03500	.03108	-.004	-11.2	.00222	.000	1
S2	1.2500	1.1233	-.127	-10.1	.07848	.000	1
S3	2.5000	2.2928	-.207	-8.29	.16014	.001	1
S4	5.0000	4.7200	-.280	-5.60	.32964	.001	1
S5	10.000	10.618	.618	6.18	.74164	.004	1

Reviewed By:Mohan
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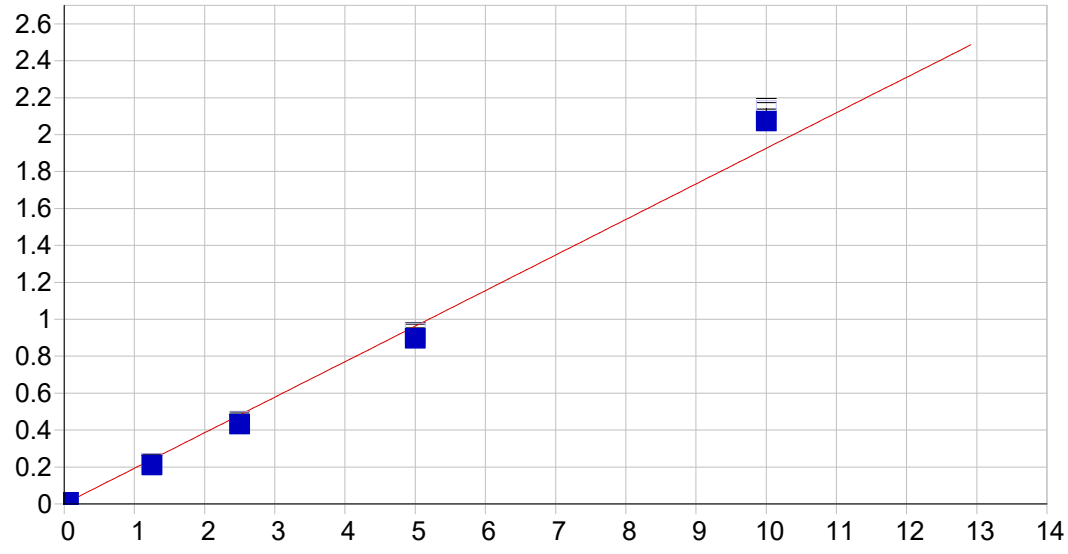
Inst Id :P5



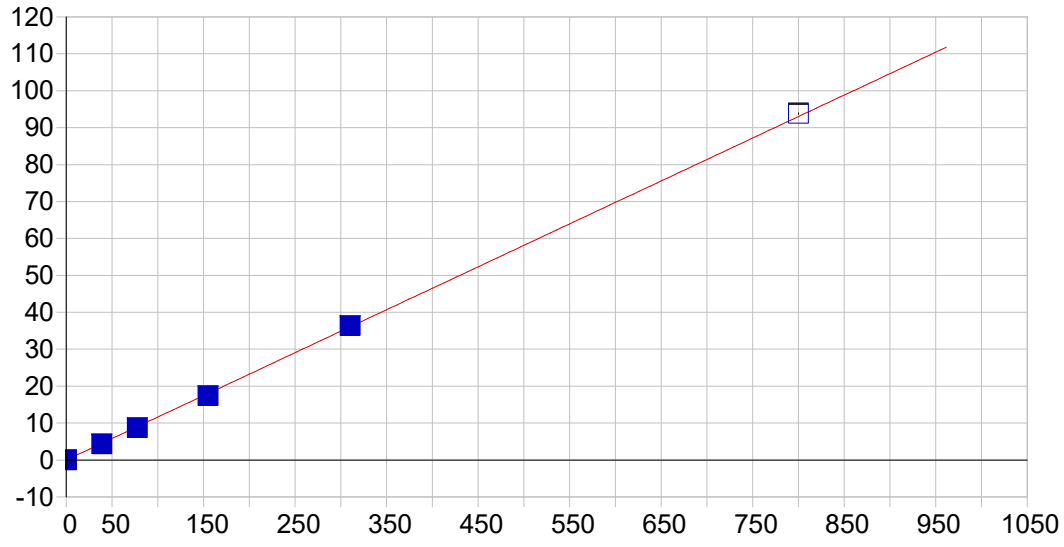
Sb 206.833 {463}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000206	Re-Slope:	1.000000
A1 (Gain):	0.192509	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.996739	Status:	OK.
Std Error of Est:	0.000660		
Predicted MDL:	0.002701		
Predicted MQL:	0.009005		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00021	.000	1
S1	.06000	.05307	-.007	-11.6	.01042	.000	1
S2	1.2500	1.0923	-.158	-12.6	.21758	.001	1
S3	2.5000	2.2404	-.260	-10.4	.44571	.002	1
S4	5.0000	4.6550	-.345	-6.90	.92475	.004	1
S5	10.000	10.769	.769	7.69	2.1302	.011	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



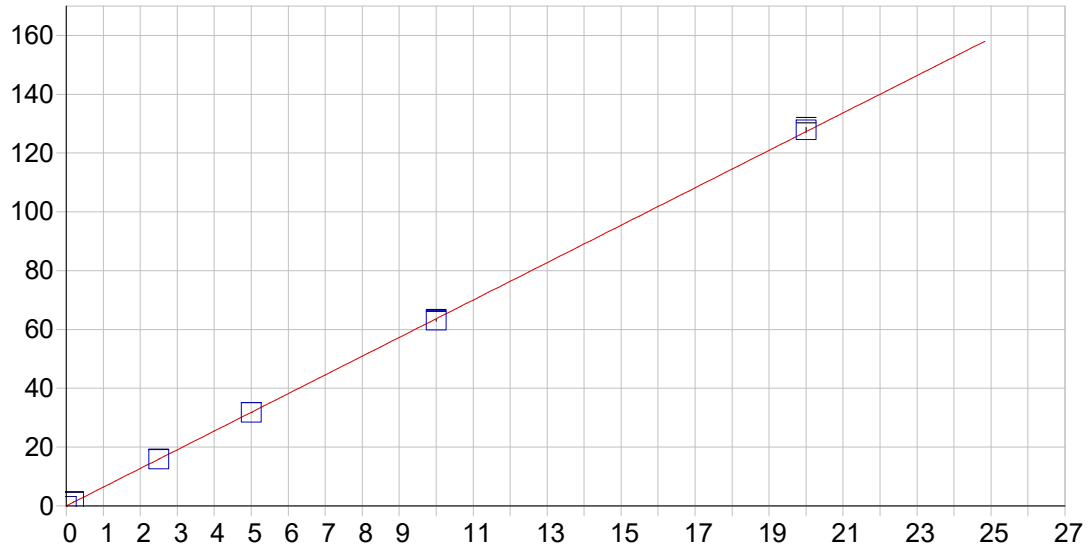
Al 396.152 { 85}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.003574	Re-Slope:	1.000000
A1 (Gain):	0.116273	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999837	Status:	OK.
Std Error of Est:	0.001304		
Predicted MDL:	0.016304		
Predicted MQL:	0.054347		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00357	.001	1
S1	.20000	.20559	.006	2.80	.02037	.002	1
S2	38.750	37.346	-1.40	-3.62	4.3442	.002	1
S3	77.500	74.698	-2.80	-3.62	8.6926	.011	1
S4	155.00	149.31	-5.69	-3.67	17.379	.051	1
S5	310.00	312.69	2.69	.868	36.397	.027	1
S6	800.00	807.21	7.21	.901	93.853	.189	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



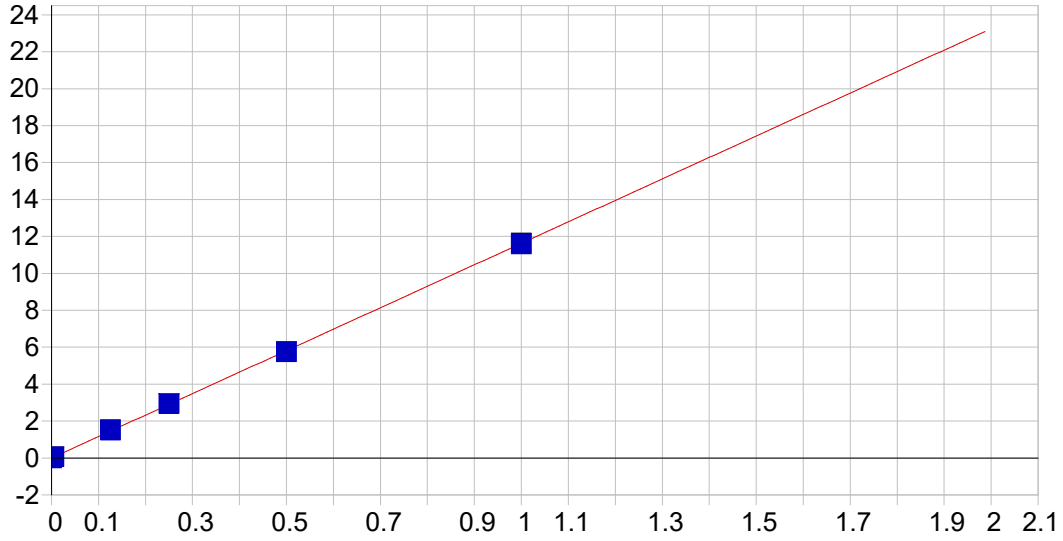
Ba 493.409 { 68}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006092	Re-Slope:	1.000000
A1 (Gain):	6.364081	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.004924		
Predicted MDL:	0.000605		
Predicted MQL:	0.002018		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00602	.001	1
S1	.20000	.21294	.013	6.47	1.3612	.007	1
S2	2.5000	2.4908	-.009	-.369	15.858	.062	1
S3	5.0000	4.9927	-.007	-.145	31.780	.027	1
S4	10.000	9.9149	-.085	-.851	63.106	.296	1
S5	20.000	20.089	.089	.443	127.85	.928	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



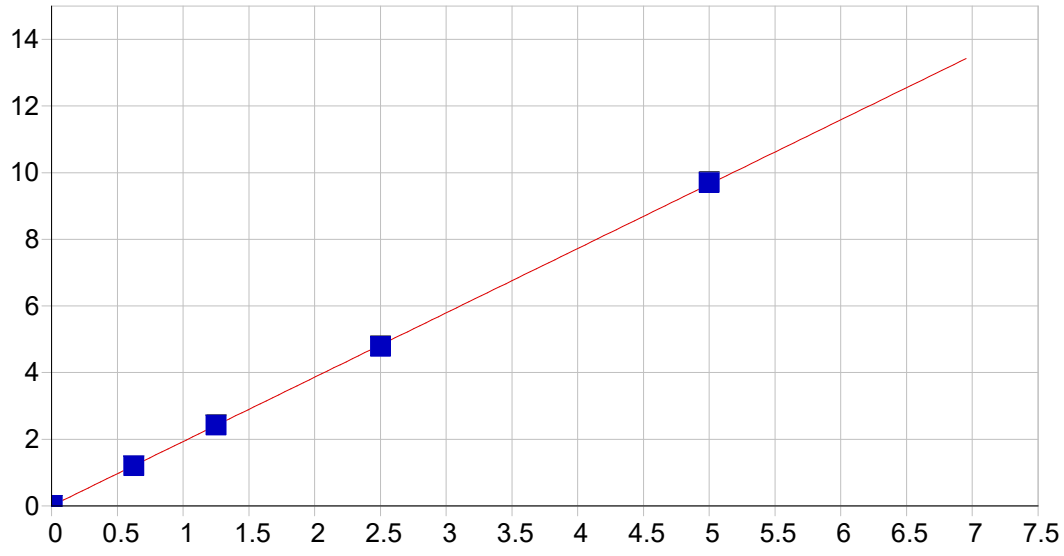
Be 234.861 {144}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.002251	Re-Slope:	1.000000
A1 (Gain):	11.627627	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999894	Status:	OK.
Std Error of Est:	0.000634		
Predicted MDL:	0.000098		
Predicted MQL:	0.000327		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00226	.001	1
S1	.00500	.00568	.001	13.5	.06371	.001	1
S2	.12500	.12985	.005	3.88	1.5053	.006	1
S3	.25000	.25304	.003	1.22	2.9353	.003	1
S4	.50000	.49391	-.006	-1.22	5.7313	.012	1
S5	1.0000	.99752	-.002	-.248	11.578	.047	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



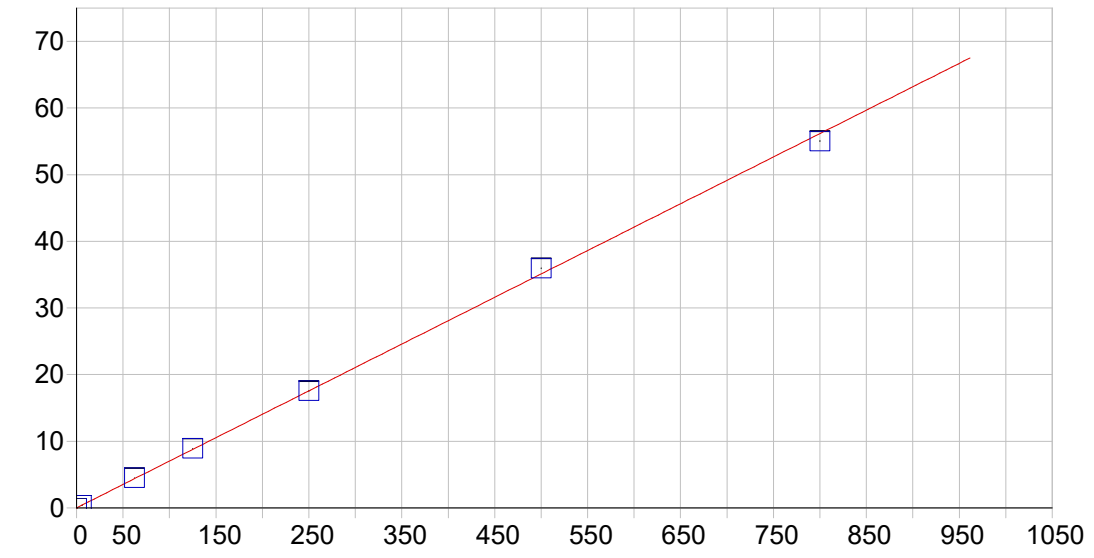
Cd 214.438 {457}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000484	Re-Slope:	1.000000
A1 (Gain):	1.930915	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000109		
Predicted MDL:	0.000159		
Predicted MQL:	0.000529		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00048	.000	1
S1	.00500	.00546	.000	9.16	.01103	.000	1
S2	.62500	.62241	-.003	-.414	1.2052	.001	1
S3	1.2500	1.2553	.005	.423	2.4301	.010	1
S4	2.5000	2.4749	-.025	-1.00	4.7909	.014	1
S5	5.0000	5.0220	.022	.439	9.7206	.012	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



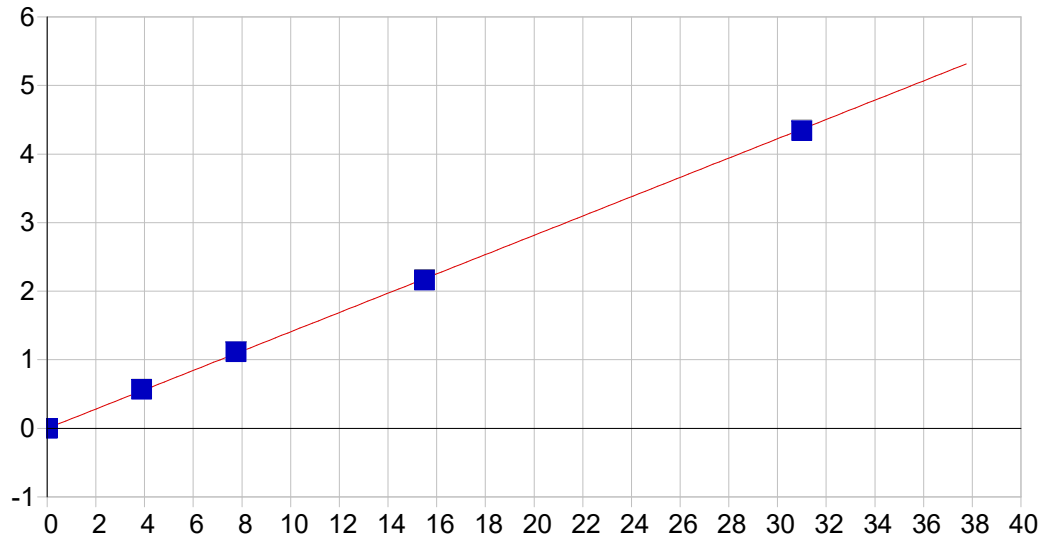
Ca 373.690 { 90}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006920	Re-Slope:	1.000000
A1 (Gain):	0.070207	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999782	Status:	OK.
Std Error of Est:	0.005120		
Predicted MDL:	0.021089		
Predicted MQL:	0.070296		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00083	-.001	.000	.00686	.001	1
S1	5.0000	5.6121	.612	12.2	.40093	.002	1
S2	62.500	63.998	1.50	2.40	4.5000	.025	1
S3	125.00	126.82	1.82	1.45	8.9102	.016	1
S4	250.00	249.94	-.063	-.025	17.554	.076	1
S5	500.00	512.23	12.2	2.45	35.969	.042	1
S6	800.00	783.90	-16.1	-2.01	55.042	.079	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



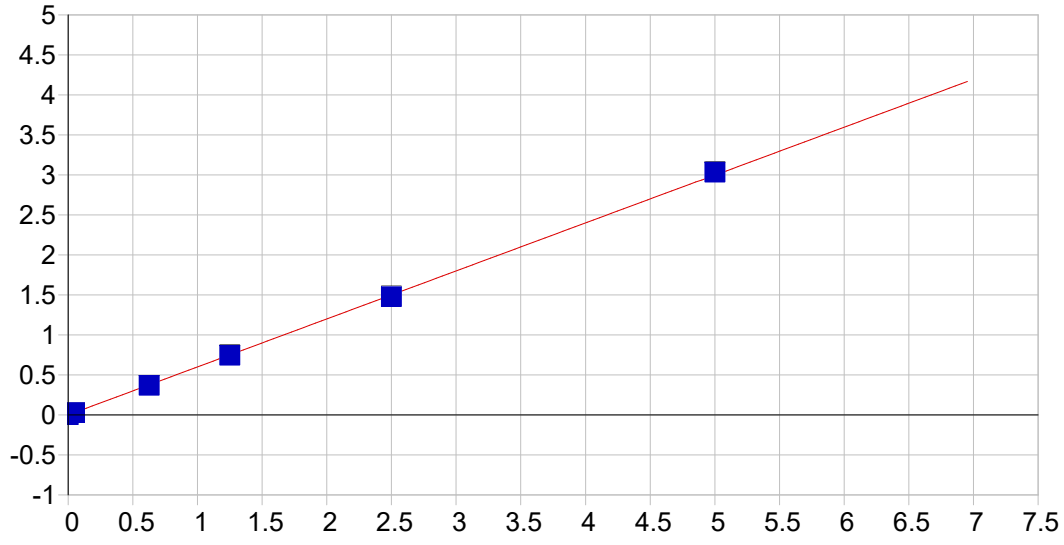
Cr 267.716 {126}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.140755	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999888	Status:	OK.
Std Error of Est:	0.000062		
Predicted MDL:	0.001282		
Predicted MQL:	0.004275		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00002	.000	1
S1	.01000	.00987	-.000	-1.33	.00141	.000	1
S2	3.8750	4.0340	.159	4.10	.56844	.001	1
S3	7.7500	7.9245	.174	2.25	1.1167	.002	1
S4	15.500	15.348	-.152	-.978	2.1628	.003	1
S5	31.000	30.818	-.182	-.586	4.3427	.006	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



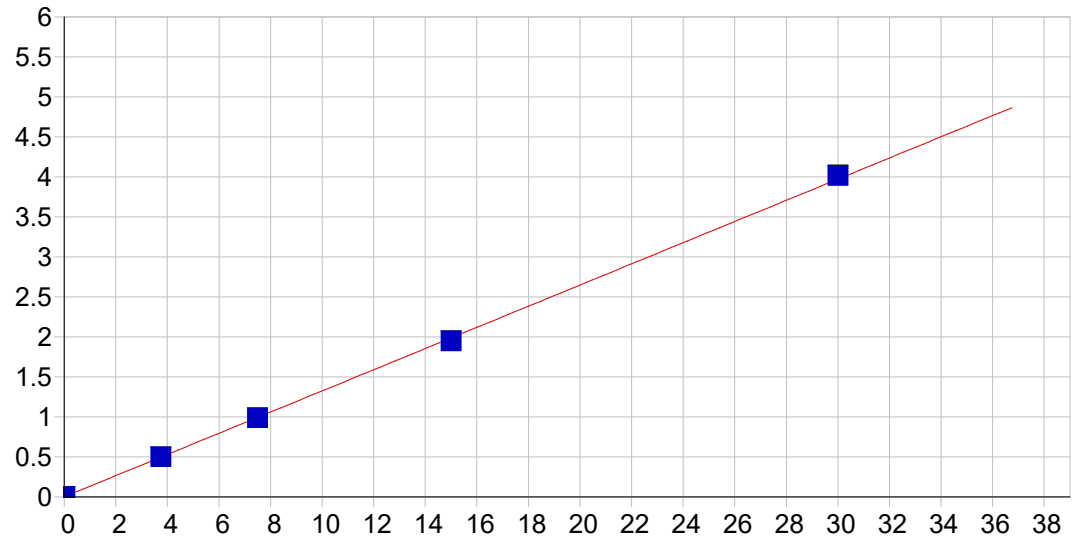
Co 228.616 {448}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000331	Re-Slope:	1.000000
A1 (Gain):	0.599658	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999918	Status:	OK.
Std Error of Est:	0.000205		
Predicted MDL:	0.000591		
Predicted MQL:	0.001969		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00033	.000	1
S1	.05000	.05008	.000	.154	.02980	.000	1
S2	.62500	.61278	-.012	-1.96	.36758	.001	1
S3	1.2500	1.2397	-.010	-.821	.74400	.003	1
S4	2.5000	2.4634	-.037	-1.46	1.4787	.005	1
S5	5.0000	5.0590	.059	1.18	3.0370	.004	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



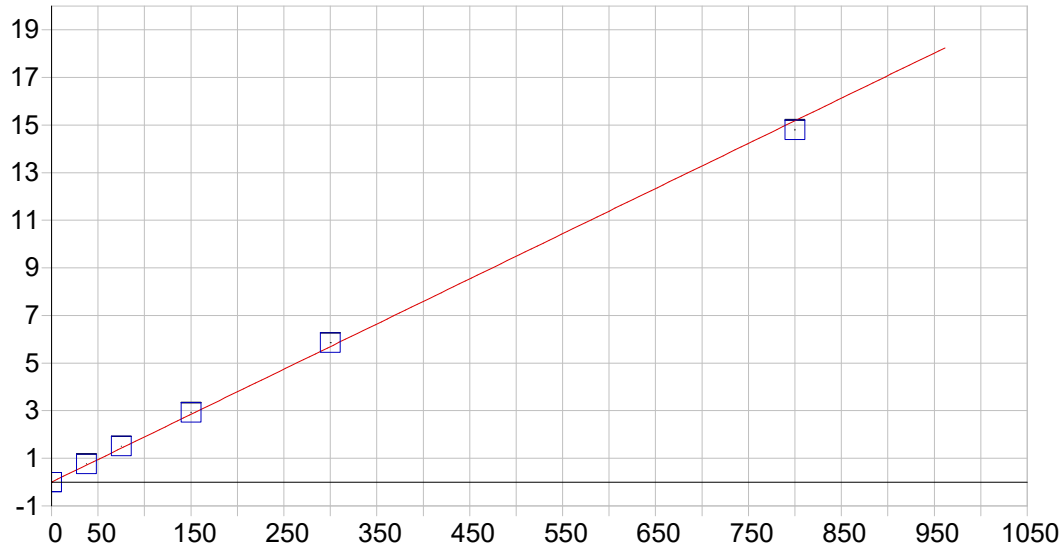
Cu 324.754 {104}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001428	Re-Slope:	1.000000
A1 (Gain):	0.132355	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999900	Status:	OK.
Std Error of Est:	0.000086		
Predicted MDL:	0.006202		
Predicted MQL:	0.020672		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00143	.001	1
S1	.02500	.01866	-.006	-25.3	.00390	.000	1
S2	3.7500	3.7576	.008	.203	.49845	.002	1
S3	7.5000	7.4541	-.046	-.612	.98738	.003	1
S4	15.000	14.710	-.290	-1.93	1.9471	.003	1
S5	30.000	30.334	.334	1.11	4.0138	.006	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



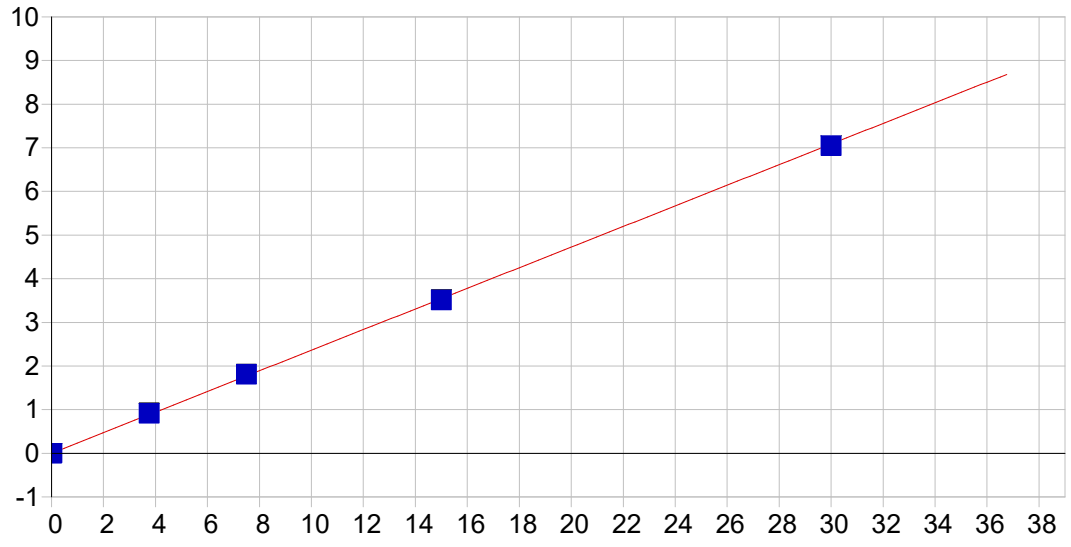
Fe 259.837 {130}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000279	Re-Slope:	1.000000
A1 (Gain):	0.018974	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999511	Status:	OK.
Std Error of Est:	0.000259		
Predicted MDL:	0.026211		
Predicted MQL:	0.087369		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00004	-.000	.000	.00028	.001	1
S1	.10000	.12257	.023	22.6	.00260	.000	1
S2	37.500	40.423	2.92	7.79	.76729	.004	1
S3	75.000	79.427	4.43	5.90	1.5074	.003	1
S4	150.00	153.93	3.93	2.62	2.9210	.013	1
S5	300.00	308.54	8.54	2.85	5.8547	.004	1
S6	800.00	780.16	-19.8	-2.48	14.803	.017	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



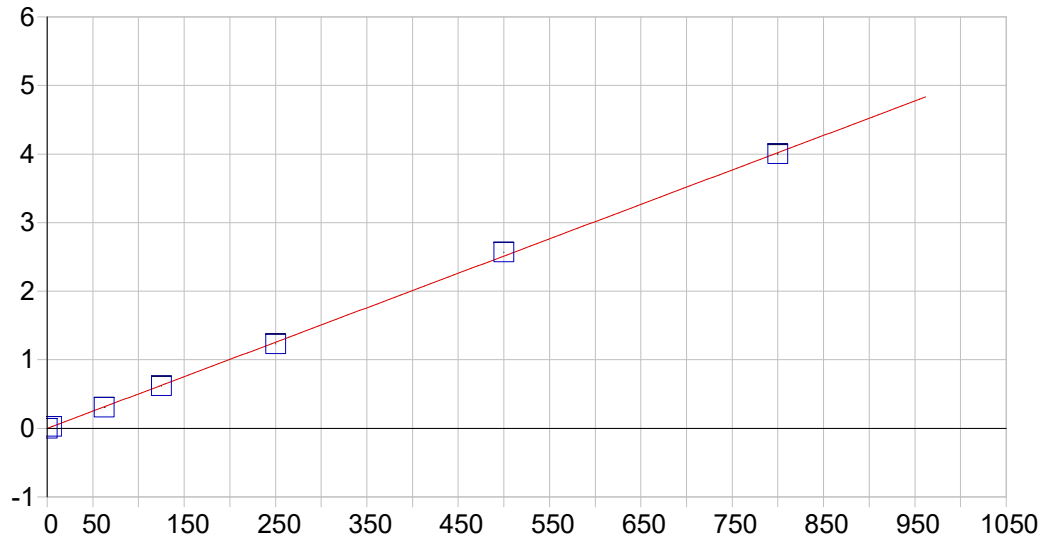
Mn 257.610 {131}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000040	Re-Slope:	1.000000
A1 (Gain):	0.236236	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999910	Status:	OK.
Std Error of Est:	0.000113		
Predicted MDL:	0.001855		
Predicted MQL:	0.006184		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00004	.000	1
S1	.01500	.01607	.001	7.16	.00377	.001	1
S2	3.7500	3.8822	.132	3.53	.91721	.006	1
S3	7.5000	7.6598	.160	2.13	1.8097	.002	1
S4	15.000	14.871	-.129	-.860	3.5135	.014	1
S5	30.000	29.836	-.164	-.547	7.0494	.004	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



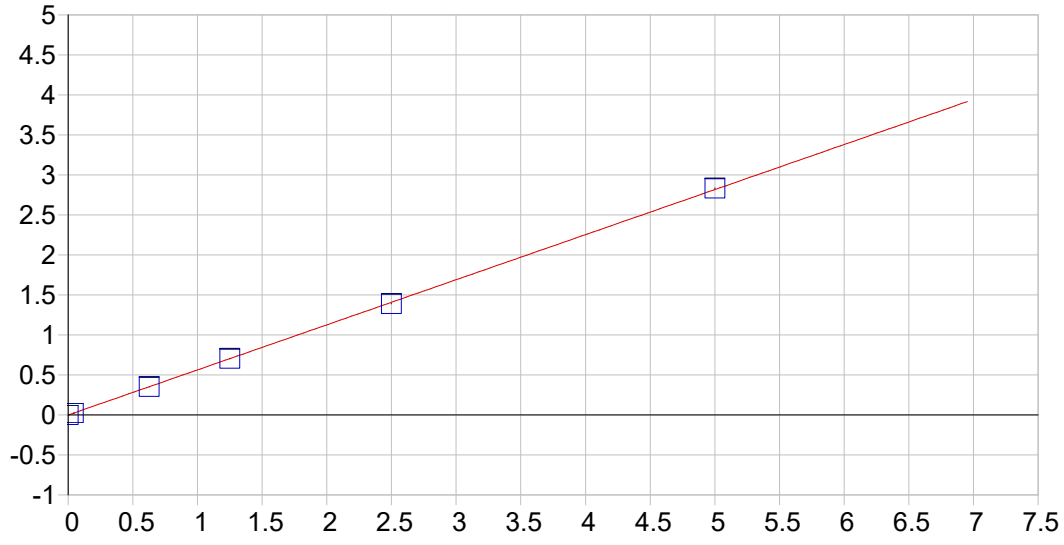
Mg 279.079 {121}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000459	Re-Slope:	1.000000
A1 (Gain):	0.005026	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999872	Status:	OK.
Std Error of Est:	0.000281		
Predicted MDL:	0.097144		
Predicted MQL:	0.323813		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00019	-.000	.000	-.00046	.000	1
S1	5.0000	5.3768	.377	7.54	.02656	.000	1
S2	62.500	61.217	-1.28	-2.05	.30719	.001	1
S3	125.00	123.02	-1.98	-1.59	.61777	.002	1
S4	250.00	245.39	-4.61	-1.85	1.2327	.003	1
S5	500.00	511.34	11.3	2.27	2.5693	.003	1
S6	800.00	796.16	-3.84	-.479	4.0007	.007	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



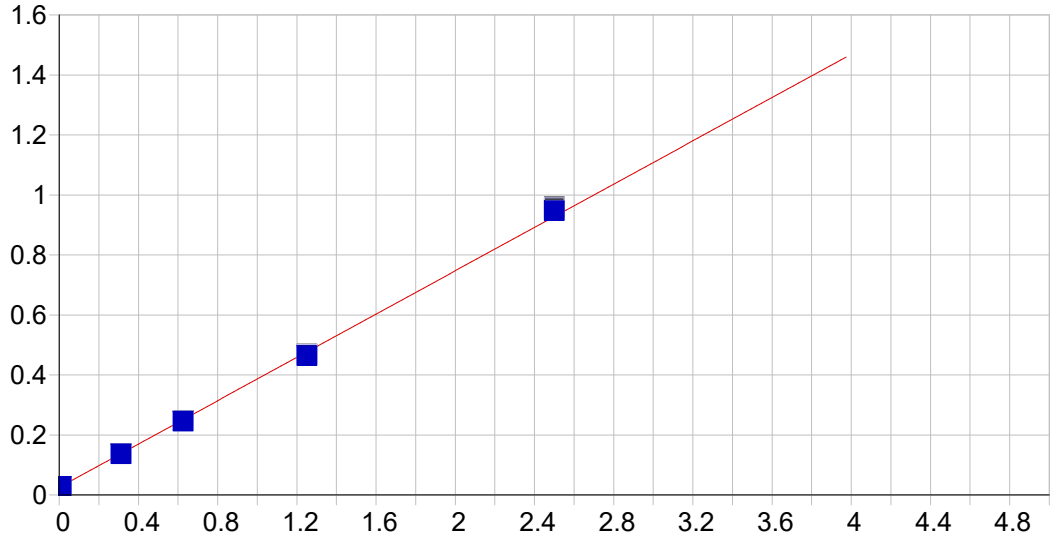
Ni 231.604 {446}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000367	Re-Slope:	1.000000
A1 (Gain):	0.563298	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999958	Status:	OK.
Std Error of Est:	0.000122		
Predicted MDL:	0.000666		
Predicted MQL:	0.002221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00037	.000	1
S1	.04000	.04236	.002	5.91	.02350	.000	1
S2	.62500	.62295	-.002	-.328	.35054	.001	1
S3	1.2500	1.2516	.002	.129	.70467	.004	1
S4	2.5000	2.4667	-.033	-1.33	1.3891	.002	1
S5	5.0000	5.0314	.031	.627	2.8338	.004	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



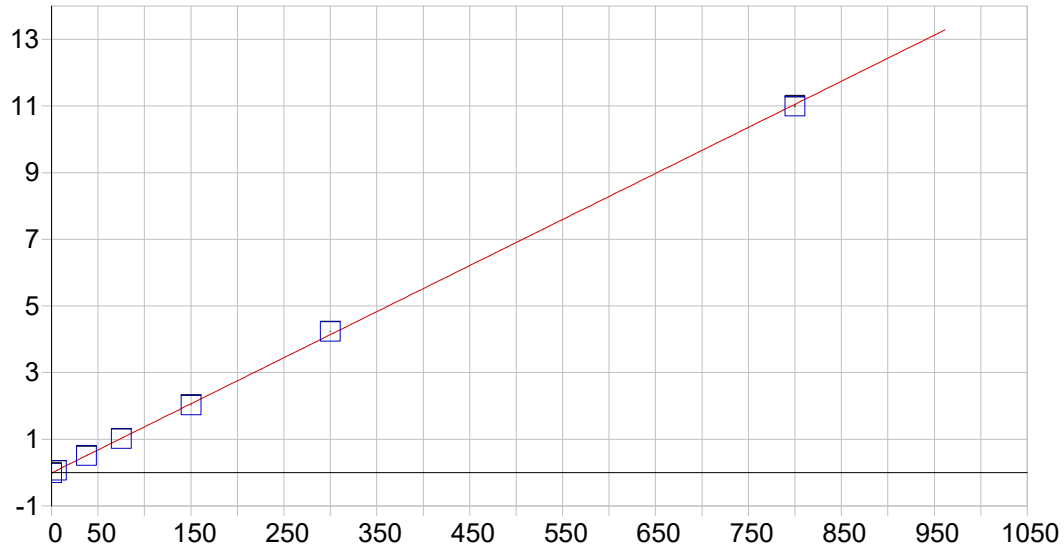
Ag 328.068 {103}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.025410	Re-Slope:	1.000000
A1 (Gain):	0.360903	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999626	Status:	OK.
Std Error of Est:	0.000084		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.02541	.000	1
S1	.01000	.01291	.003	29.1	.03006	.000	1
S2	.31250	.30717	-.005	-1.70	.13748	.001	1
S3	.62500	.60804	-.017	-2.71	.24728	.000	1
S4	1.2500	1.2147	-.035	-2.82	.46866	.000	1
S5	2.5000	2.5547	.055	2.19	.95713	.002	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



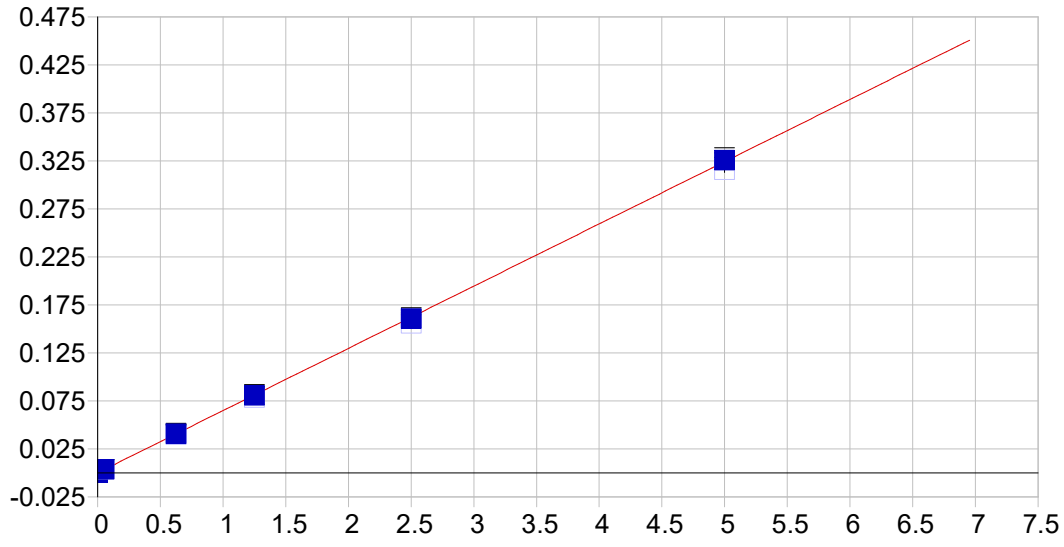
Na 818.326 { 41}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.009720	Re-Slope:	1.000000
A1 (Gain):	0.013827	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000587		
Predicted MDL:	0.328895		
Predicted MQL:	1.096316		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00024	-.000	.000	-.00972	.004	1
S1	5.0000	5.3180	.318	6.36	.06381	.003	1
S2	37.500	37.133	-.367	-.979	.50372	.010	1
S3	75.000	74.382	-.618	-.825	1.0188	.005	1
S4	150.00	147.50	-2.50	-1.67	2.0297	.003	1
S5	300.00	307.09	7.09	2.36	4.2365	.005	1
S6	800.00	796.08	-3.92	-.490	10.998	.026	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



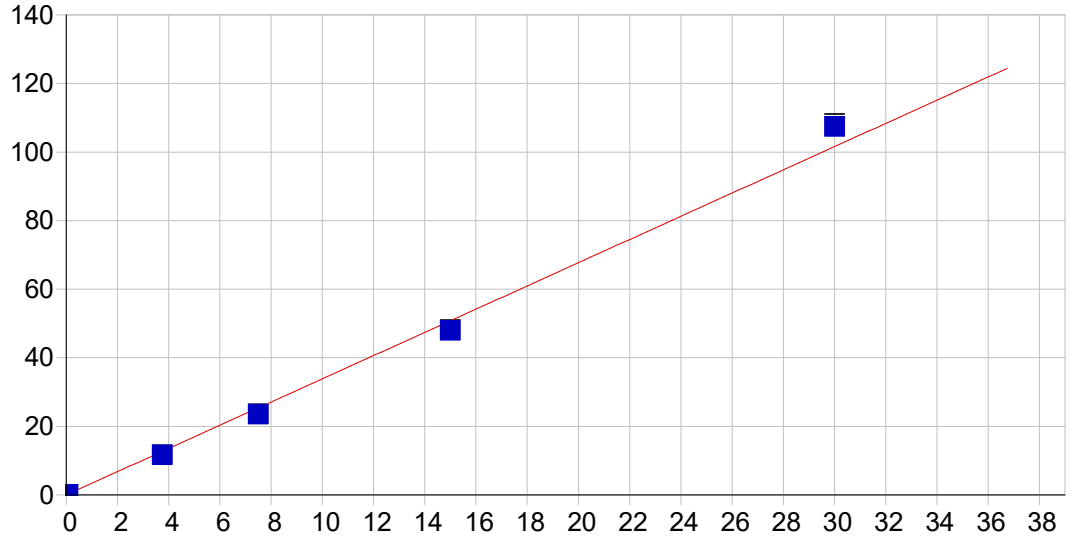
V 292.402 {115}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000085	Re-Slope:	1.000000
A1 (Gain):	0.064825	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.013238		
Predicted MQL:	0.044126		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00008	.001	1
S1	.05000	.05311	.003	6.23	.00352	.000	1
S2	.62500	.62747	.002	.396	.03952	.000	1
S3	1.2500	1.2450	-.005	-.402	.07830	.001	1
S4	2.5000	2.4751	-.025	-.994	.15556	.001	1
S5	5.0000	5.0242	.024	.484	.31582	.003	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



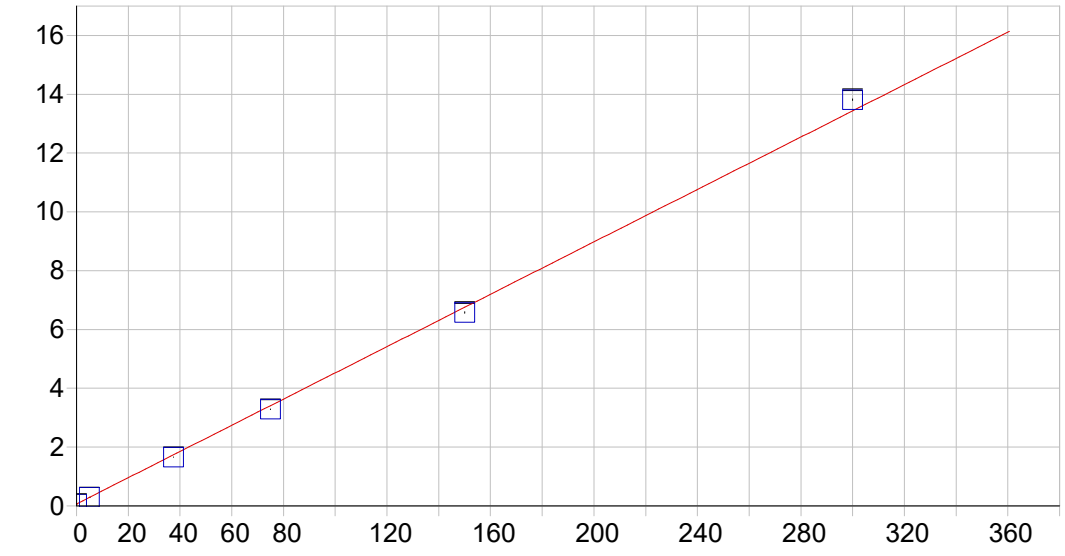
Zn 213.856 {158}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004628	Re-Slope:	1.000000
A1 (Gain):	3.385914	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998120	Status:	OK.
Std Error of Est:	0.014811		
Predicted MDL:	0.000421		
Predicted MQL:	0.001404		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00467	.001	1
S1	.06000	.05725	-.003	-4.59	.19945	.003	1
S2	3.7500	3.4305	-.319	-8.52	11.635	.052	1
S3	7.5000	6.9530	-.547	-7.29	23.578	.150	1
S4	15.000	14.155	-.845	-5.63	47.993	.156	1
S5	30.000	31.714	1.71	5.71	107.51	.782	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



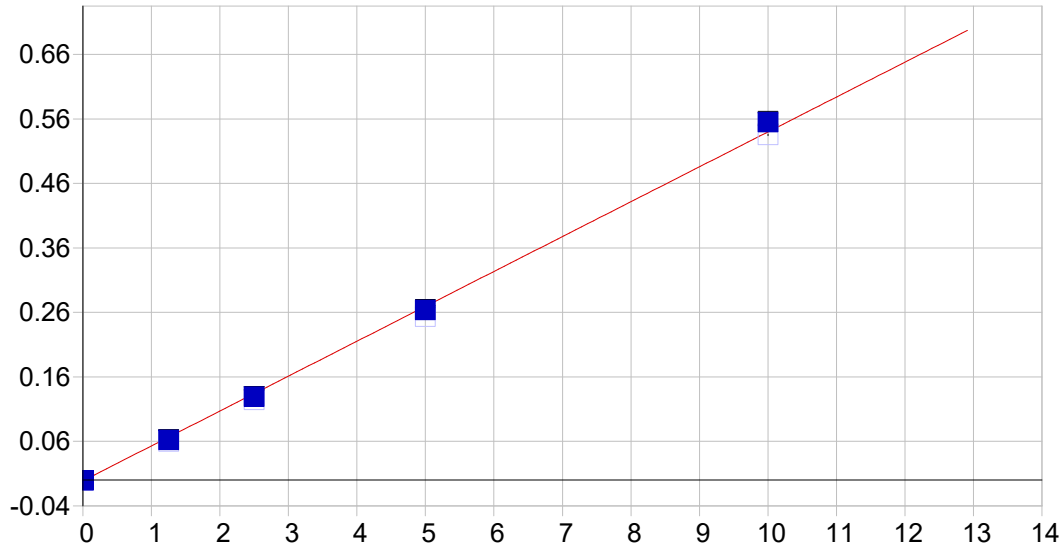
K 769.896 { 44}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.069037	Re-Slope:	1.000000
A1 (Gain):	0.044556	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999530	Status:	OK.
Std Error of Est:	0.002817		
Predicted MDL:	0.102999		
Predicted MQL:	0.343331		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00043	.000	.000	.06906	.003	1
S1	5.0000	4.9890	-.011	-.220	.29133	.001	1
S2	37.500	35.694	-1.81	-4.82	1.6594	.005	1
S3	75.000	72.213	-2.79	-3.72	3.2865	.006	1
S4	150.00	146.10	-3.90	-2.60	6.5785	.030	1
S5	300.00	308.51	8.51	2.84	13.815	.028	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



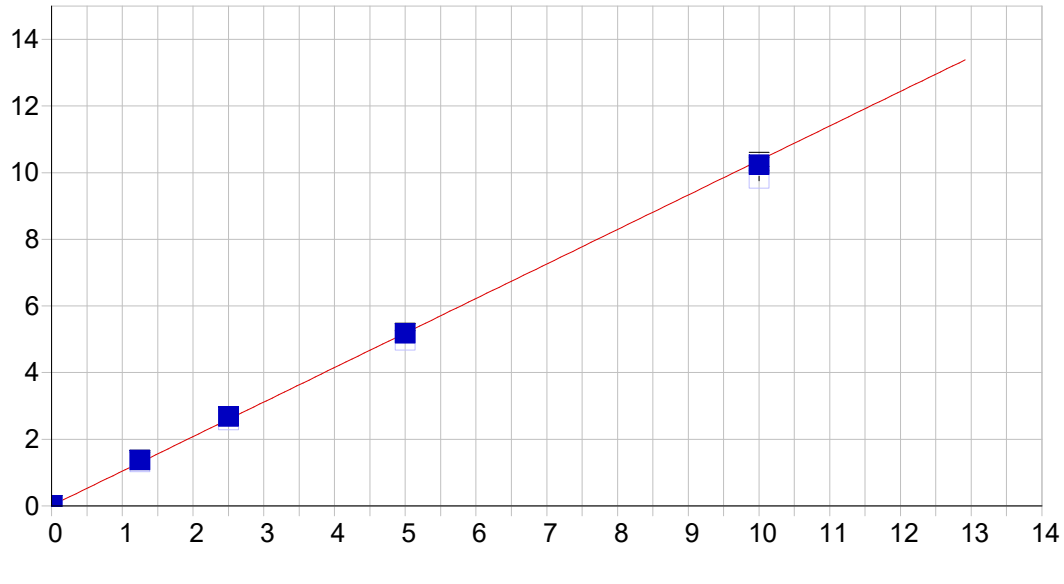
P 177.495 {490}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001036	Re-Slope:	1.000000
A1 (Gain):	0.054089	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999463	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	0.003711		
Predicted MQL:	0.012370		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00104	.000	1
S1	.01000	.00893	-.001	-10.7	-.00057	.000	1
S2	1.2500	1.1711	-.079	-6.31	.05982	.000	1
S3	2.5000	2.4095	-.091	-3.62	.12432	.000	1
S4	5.0000	4.8893	-.111	-2.21	.25347	.001	1
S5	10.000	10.281	.281	2.81	.53517	.001	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



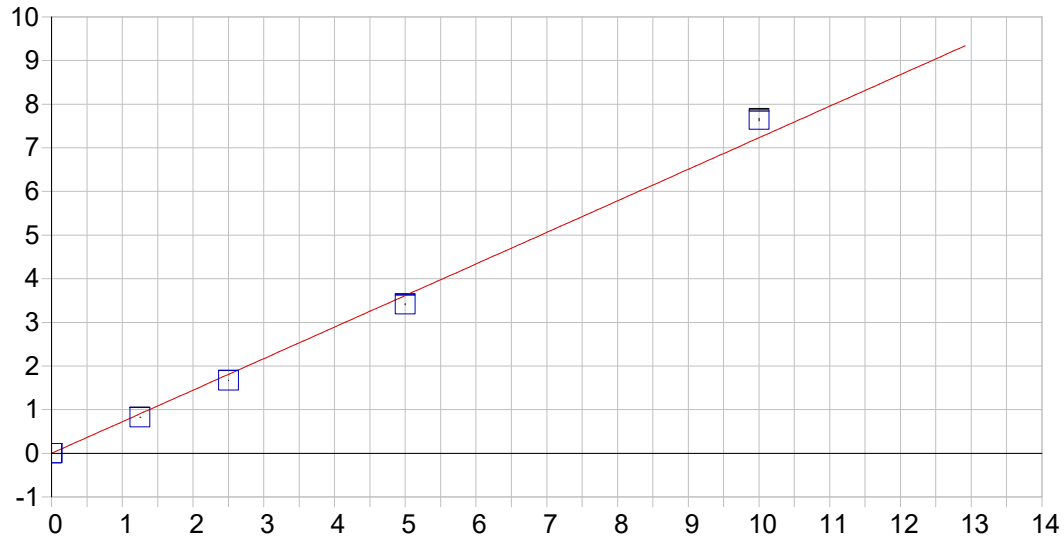
B 249.678 {135}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.007987	Re-Slope:	1.000000
A1 (Gain):	1.035893	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999598	Status:	OK.
Std Error of Est:	0.000473		
Predicted MDL:	0.001253		
Predicted MQL:	0.004176		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00799	.001	1
S1	.01000	.00167	-.008	-83.3	.00962	.000	1
S2	1.2500	1.3134	.063	5.08	1.3163	.002	1
S3	2.5000	2.5750	.075	3.00	2.5709	.001	1
S4	5.0000	4.9911	-.009	-.178	4.9692	.010	1
S5	10.000	9.8790	-.121	-1.21	9.8235	.071	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



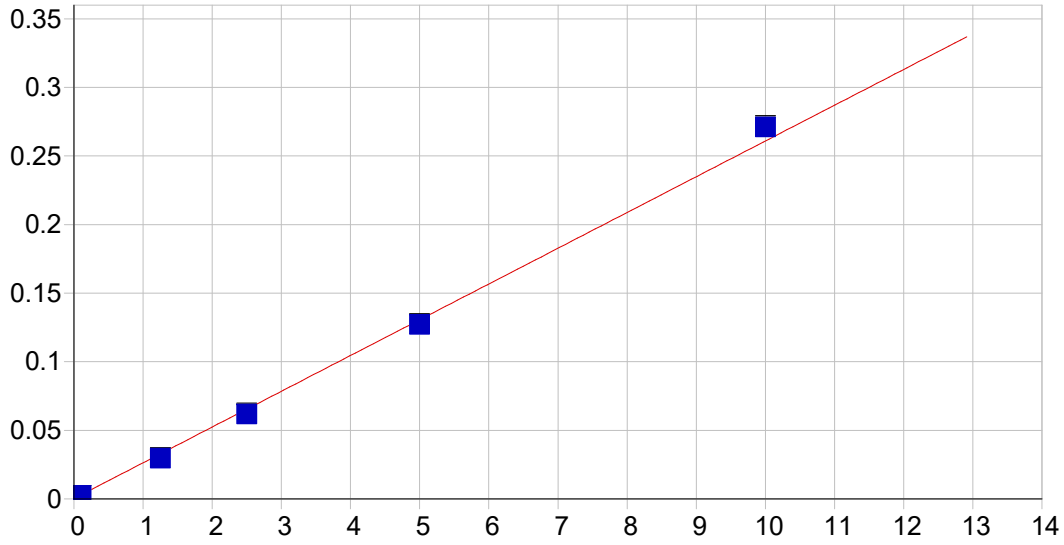
Mo 202.030 {467}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.723099	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998067	Status:	OK.
Std Error of Est:	0.000755		
Predicted MDL:	0.000604		
Predicted MQL:	0.002015		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00003	.000	1
S1	.01000	.00955	-.000	-4.49	.00693	.000	1
S2	1.2500	1.1406	-.109	-8.75	.82477	.002	1
S3	2.5000	2.3099	-.190	-7.60	1.6703	.003	1
S4	5.0000	4.7229	-.277	-5.54	3.4151	.012	1
S5	10.000	10.577	.577	5.77	7.6483	.029	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



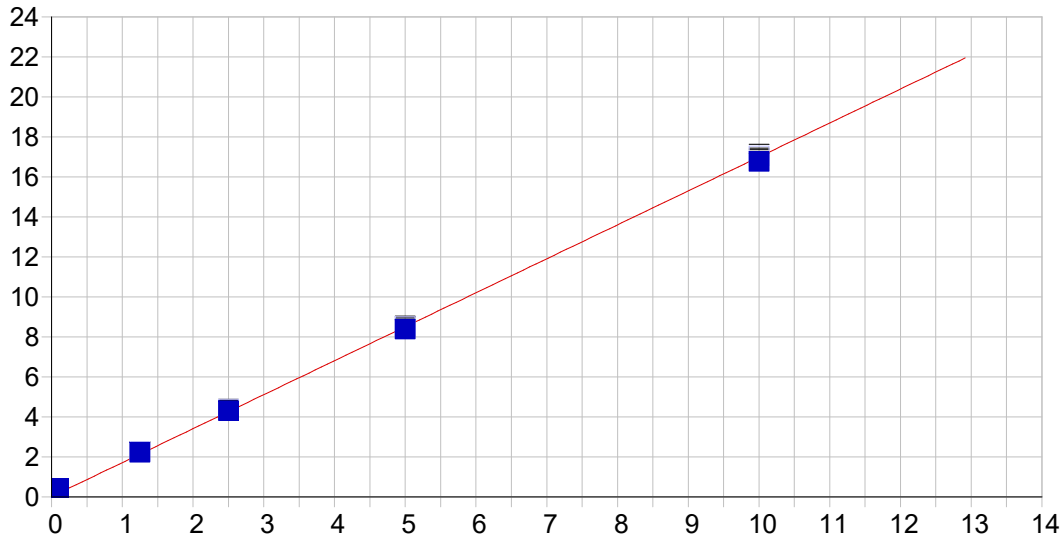
S 182.034 {485}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000275	Re-Slope:	1.000000
A1 (Gain):	0.026068	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999011	Status:	OK.
Std Error of Est:	0.000062		
Predicted MDL:	0.007405		
Predicted MQL:	0.024682		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00028	.000	1
S1	.10000	.09563	-.004	-4.37	.00277	.000	1
S2	1.2500	1.1304	-.120	-9.57	.02975	.000	1
S3	2.5000	2.3651	-.135	-5.40	.06193	.001	1
S4	5.0000	4.8707	-.129	-2.59	.12726	.000	1
S5	10.000	10.388	.388	3.88	.27111	.001	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



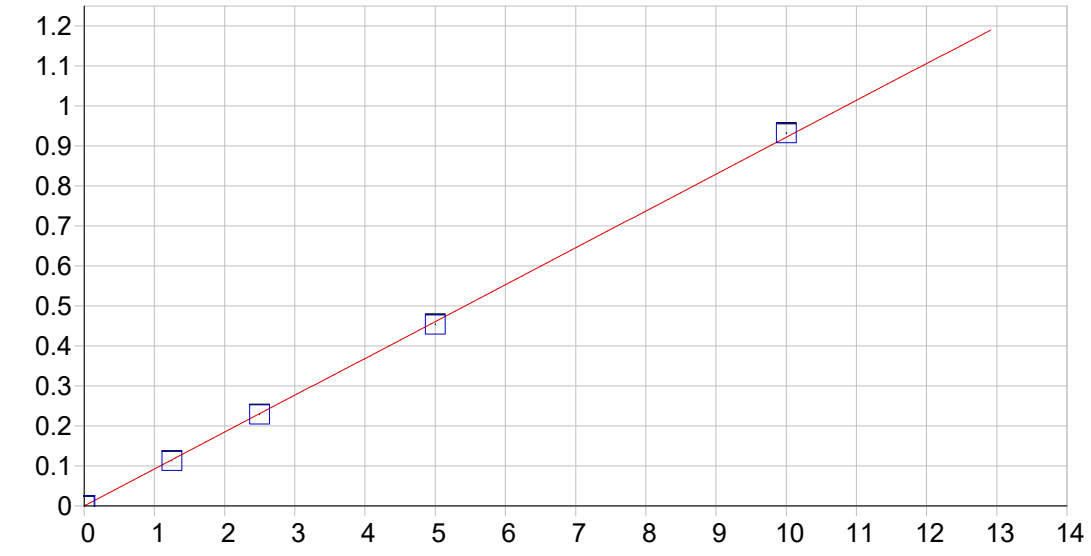
Si 251.611 {134}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.015769	Re-Slope:	1.000000
A1 (Gain):	1.698305	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995312	Status:	OK.
Std Error of Est:	0.008911		
Predicted MDL:	0.000659		
Predicted MQL:	0.002196		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00014	-.000	.000	.01554	.001	1
S1	.10000	.23339	.133	133.	.41328	.004	1
S2	1.2500	1.3038	.054	4.31	2.2644	.007	1
S3	2.5000	2.5271	.027	1.09	4.3763	.004	1
S4	5.0000	4.9238	-.076	-1.52	8.5152	.025	1
S5	10.000	9.8631	-.137	-1.37	17.041	.093	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



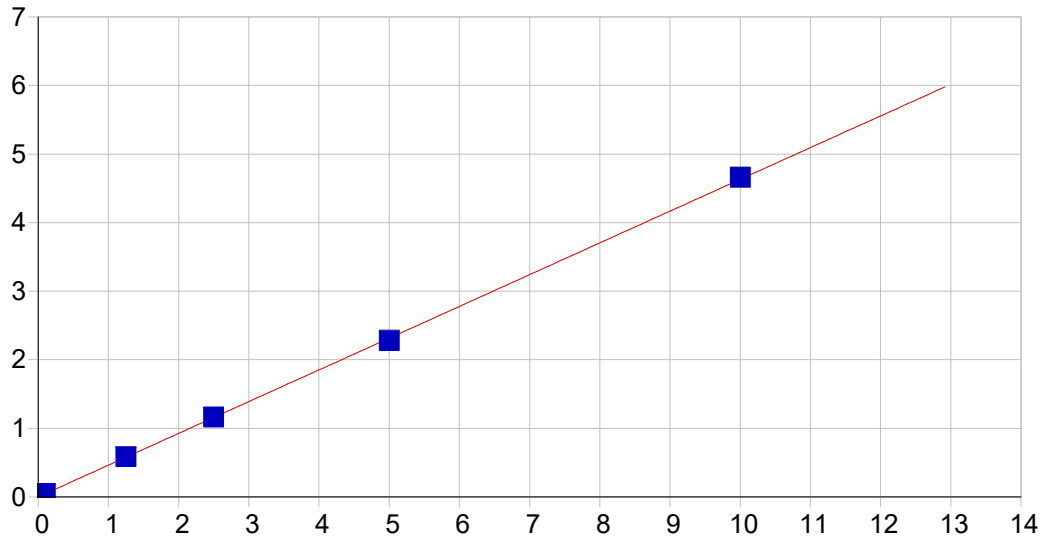
Sn 189.989 {478}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000175	Re-Slope:	1.000000
A1 (Gain):	0.092159	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999290	Status:	OK.
Std Error of Est:	0.000049		
Predicted MDL:	0.002102		
Predicted MQL:	0.007008		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00017	.000	1
S1	.00700	.01977	.013	182.	.00200	.000	1
S2	1.2500	1.2197	-.030	-2.43	.11258	.001	1
S3	2.5000	2.4821	-.018	-.716	.22892	.001	1
S4	5.0000	4.9225	-.077	-1.55	.45383	.001	1
S5	10.000	10.113	.113	1.13	.93217	.002	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



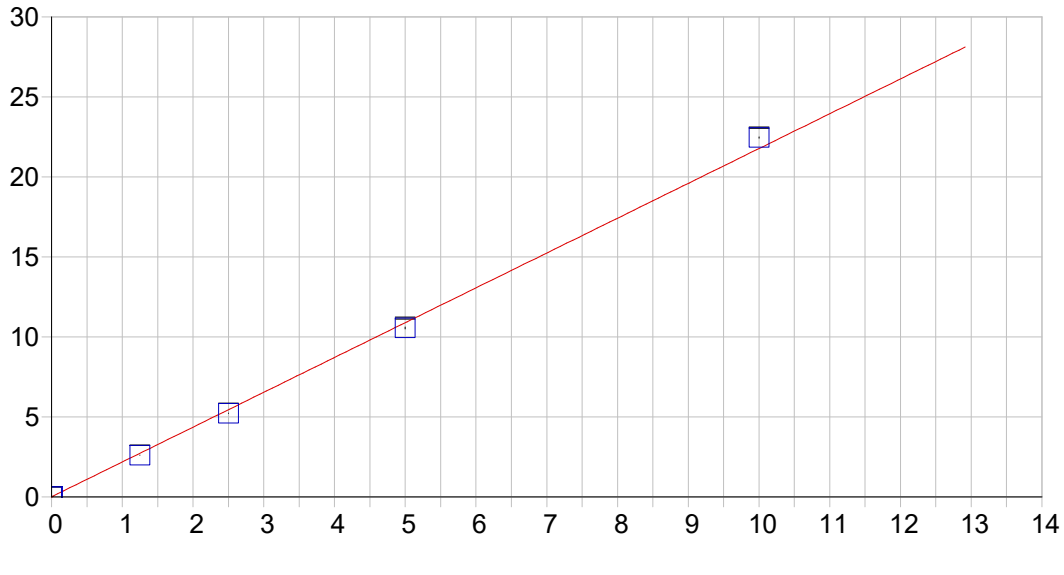
Ti 336.121 {100}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000469	Re-Slope:	1.000000
A1 (Gain):	0.462974	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999948	Status:	OK.
Std Error of Est:	0.000250		
Predicted MDL:	0.002218		
Predicted MQL:	0.007394		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00047	.000	1
S1	.10000	.10545	.005	5.45	.04927	.000	1
S2	1.2500	1.2559	.006	.471	.58163	.001	1
S3	2.5000	2.5050	.005	.202	1.1597	.001	1
S4	5.0000	4.9217	-.078	-1.57	2.2779	.006	1
S5	10.000	10.062	.062	.619	4.6566	.005	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



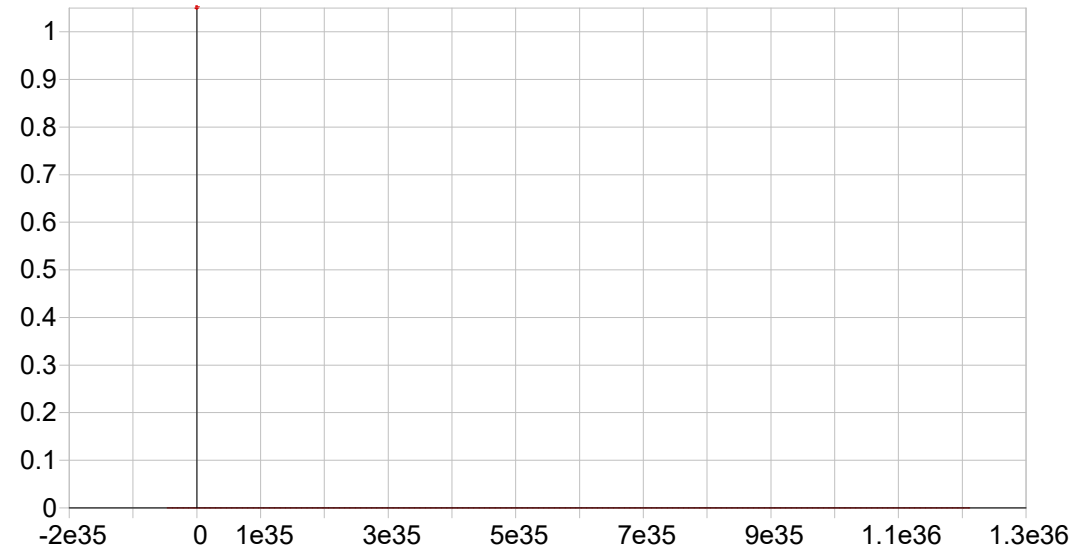
Li 670.784 { 50}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.008738	Re-Slope:	1.000000
A1 (Gain):	2.176300	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999420	Status:	OK.
Std Error of Est:	0.001522		
Predicted MDL:	0.002059		
Predicted MQL:	0.006862		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00874	.003	1
S5	10.000	10.316	.316	3.16	22.460	.043	1
S4	5.0000	4.8446	-.155	-3.11	10.552	.059	1
S3	2.5000	2.3962	-.104	-4.15	5.2235	.012	1
S2	1.2500	1.1927	-.057	-4.58	2.6045	.010	1
S1	.01500	.01545	.000	2.98	.04236	.002	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

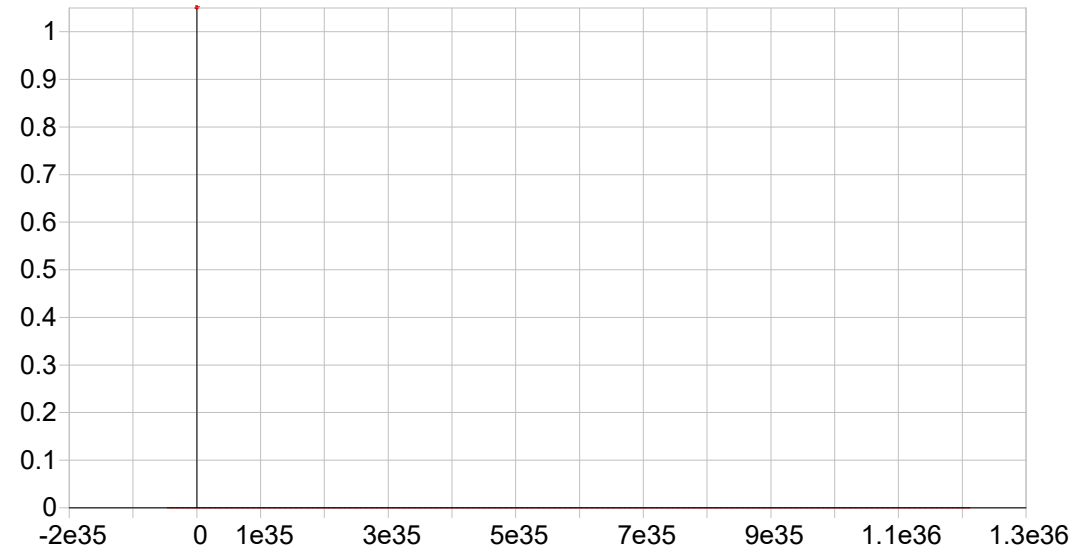


Y 224.306 {450}*

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

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

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



Y 360.073 { 94}*

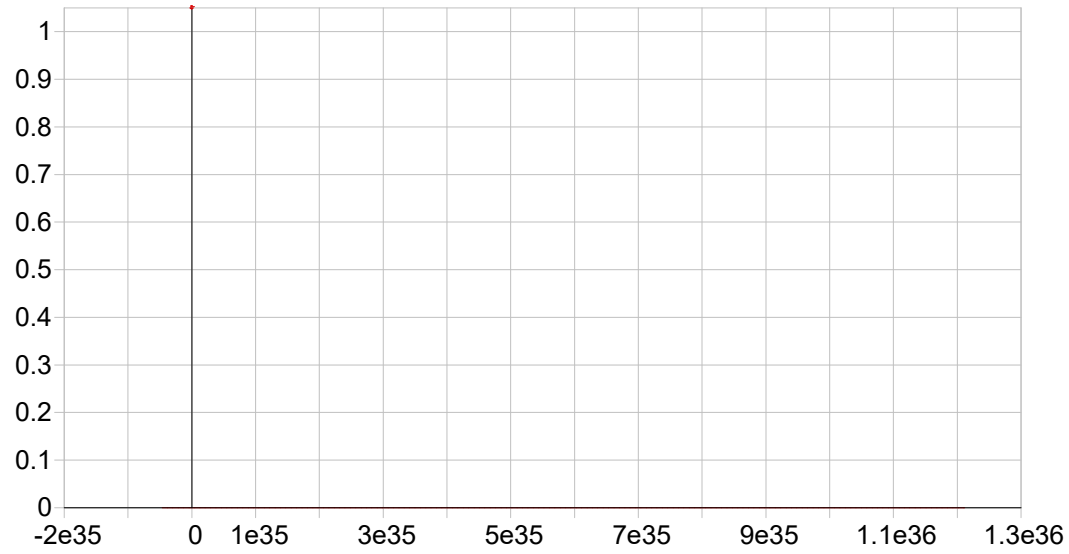
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

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

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

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

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

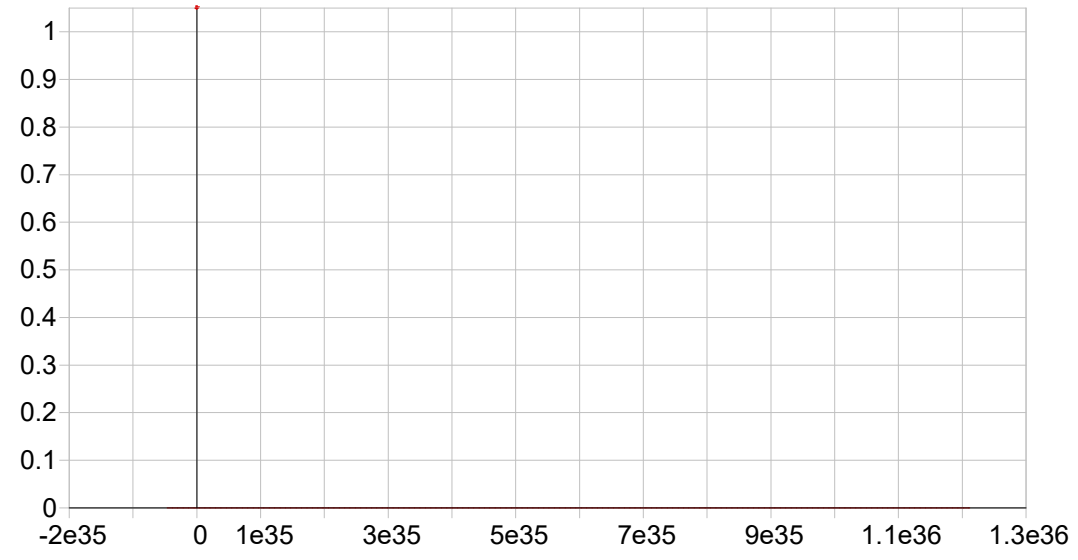


Y 371.030 { 91}*

Date of Fit:	<not fit>		Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):		0.000000		Re-Slope:	1.000000	
A1 (Gain):		0.000000		Y-int:	0.000000	
A2 (Curvature):		0.000000				
n (Exponent):		1.000000				
Correlation:		0.000000		Status:	Warning	Zero Gain
Std Error of Est:		0.000000				
Predicted MDL:		n/a				
Predicted MQL:		n/a				

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

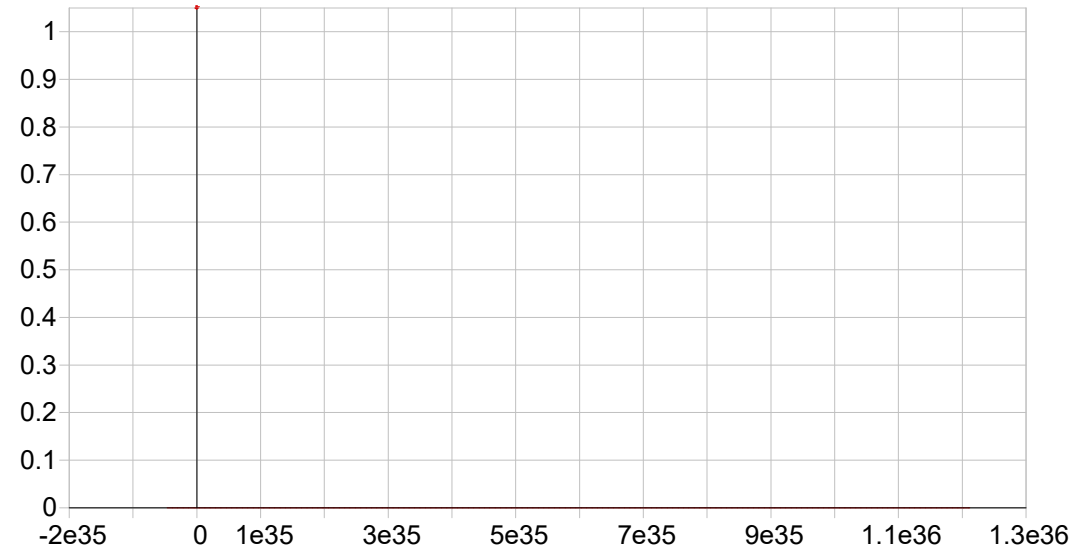
Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5



Y 224.306 {150}*

Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

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



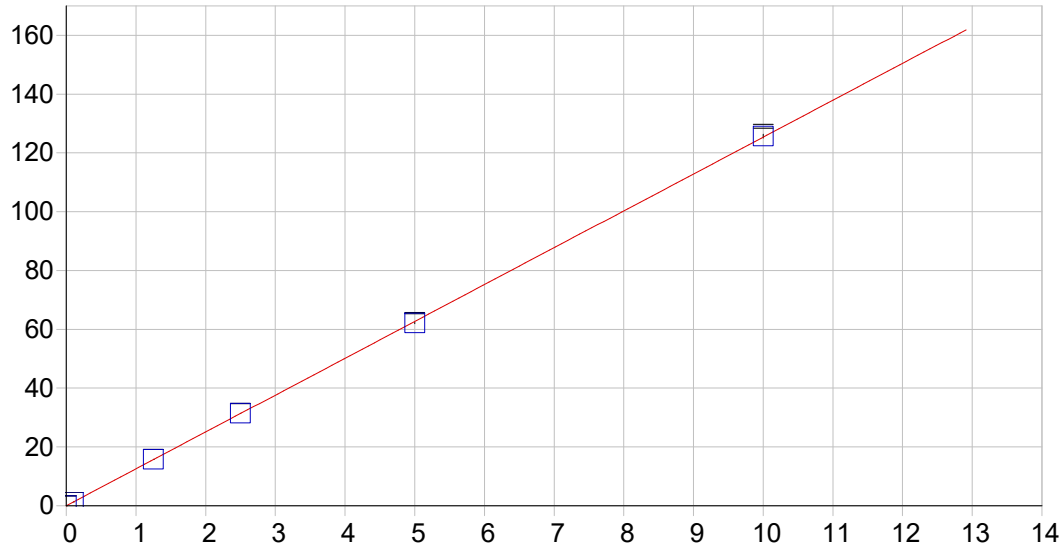
In 230.606 {446}*

Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

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

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



Sr 407.771 { 83}

Date of Fit:	11/14/2024 23:54:04	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005653	Re-Slope:	1.000000
A1 (Gain):	12.535774	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999977	Status:	OK.
Std Error of Est:	0.004498		
Predicted MDL:	0.000138		
Predicted MQL:	0.000459		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00557	.000	1
S1	.10000	.10619	.006	6.19	1.3368	.004	1
S2	1.2500	1.2565	.006	.517	15.756	.012	1
S3	2.5000	2.5047	.005	.189	31.404	.042	1
S4	5.0000	4.9571	-.043	-.859	62.146	.211	1
S5	10.000	10.026	.026	.256	125.68	.636	1

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S0 Acquired: 11/14/2024 15:50:10 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00023	-.00024	-.00027	.00005	.00021	-.00357	.00602	-.00226
Stddev	.00014	.00013	.00050	.00020	.00010	.00148	.00099	.00090
%RSD	61.191	52.892	182.81	406.92	45.222	41.540	16.394	39.638
#1	.00024	-.00010	.00030	.00016	.00011	-.00411	.00710	-.00324
#2	.00037	-.00028	-.00053	-.00018	.00030	-.00472	.00516	-.00206
#3	.00009	-.00034	-.00059	.00017	.00023	-.00190	.00581	-.00148

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00048	.00686	.00002	-.00033	.00143	.00028	-.00004	-.00046
Stddev	.00018	.00116	.00014	.00026	.00076	.00067	.00022	.00035
%RSD	37.398	16.863	633.98	78.585	53.176	240.34	546.39	75.639
#1	.00067	.00730	.00018	-.00015	.00200	-.00014	.00014	-.00073
#2	.00030	.00555	-.00005	-.00063	.00057	.00105	.00003	-.00007
#3	.00048	.00773	-.00006	-.00021	.00172	-.00008	-.00029	-.00058

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00037	.02541	-.00972	.00008	.00467	.06906	-.00104	.00799
Stddev	.00046	.00007	.00374	.00089	.00126	.00309	.00014	.00051
%RSD	125.25	.28109	38.486	1055.0	26.994	4.4734	13.661	6.4355
#1	-.00084	.02541	-.00678	-.00094	.00587	.07040	-.00115	.00833
#2	-.00034	.02534	-.01393	.00054	.00478	.07124	-.00108	.00825
#3	.00008	.02548	-.00846	.00066	.00336	.06552	-.00088	.00740

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00003	.00028	.01554	.00017	.00047	.00874	.00557
Stddev	.00046	.00021	.00104	.00005	.00021	.00340	.00048
%RSD	1754.3	77.272	6.6953	29.930	44.376	38.946	8.5230
#1	-.00048	.00022	.01592	.00012	.00064	.01200	.00594
#2	.00012	.00051	.01436	.00023	.00024	.00521	.00504
#3	.00043	.00009	.01633	.00017	.00052	.00901	.00575

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S0 Acquired: 11/14/2024 15:50:10 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	900.64	22555.	2133.0	796.91	1726.2
Stddev	2.20	15.	9.4	6.08	4.6
%RSD	.24383	.06733	.44133	.76341	.26879
#1	901.32	22552.	2143.8	792.61	1731.4
#2	898.18	22572.	2128.0	794.26	1724.5
#3	902.41	22542.	2127.1	803.87	1722.7

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S1 Acquired: 11/14/2024 15:54:47 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00052	.00120	.00093	.00222	.01042	.02037	1.3612	.06371
Stddev	.00006	.00023	.00032	.00026	.00029	.00152	.0073	.00090
%RSD	11.724	19.500	33.727	11.644	2.8196	7.4705	.53527	1.4148
#1	.00053	.00107	.00063	.00198	.01076	.01951	1.3542	.06402
#2	.00045	.00105	.00126	.00250	.01029	.02213	1.3688	.06441
#3	.00057	.00147	.00091	.00218	.01021	.01948	1.3607	.06269

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01103	.40093	.00141	.02980	.00390	.00260	.00377	.02656
Stddev	.00009	.00157	.00016	.00034	.00026	.00022	.00081	.00035
%RSD	.85270	.39190	11.639	1.1517	6.7348	8.3344	21.586	1.3078
#1	.01095	.39995	.00149	.02973	.00420	.00267	.00376	.02631
#2	.01101	.40274	.00122	.02950	.00373	.00236	.00458	.02642
#3	.01113	.40009	.00153	.03018	.00376	.00278	.00296	.02696

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02350	.03006	.06381	.00352	.19945	.29133	-.00057	.00962
Stddev	.00014	.00015	.00289	.00027	.00282	.00149	.00008	.00034
%RSD	.58927	.50936	4.5334	7.5954	1.4141	.51155	14.255	3.5218
#1	.02366	.02996	.06221	.00328	.19898	.29201	-.00048	.00964
#2	.02341	.02998	.06207	.00347	.20247	.29235	-.00059	.00928
#3	.02343	.03023	.06715	.00381	.19689	.28962	-.00063	.00995

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00693	.00277	.41328	.00200	.04927	.04236	1.3368
Stddev	.00013	.00008	.00449	.00015	.00039	.00193	.0045
%RSD	1.9384	2.8403	1.0871	7.3632	.78248	4.5616	.33297
#1	.00704	.00271	.41256	.00195	.04908	.04433	1.3322
#2	.00678	.00286	.41808	.00188	.04903	.04047	1.3411
#3	.00698	.00274	.40918	.00216	.04972	.04228	1.3370

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S1 Acquired: 11/14/2024 15:54:47 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	898.96	22461.	2097.3	791.33	1706.9
Stddev	.38	53.	10.1	1.70	1.3
%RSD	.04242	.23615	.48321	.21428	.07423
#1	899.14	22447.	2108.9	789.54	1707.7
#2	899.21	22519.	2090.3	791.56	1707.5
#3	898.52	22416.	2092.8	792.90	1705.4

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S2 Acquired: 11/14/2024 15:59:27 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.03569	.07343	1.0221	.07848	.21758	4.3442	15.858	1.5053
Stddev	.00040	.00018	.0028	.00036	.00138	.0017	.062	.0060
%RSD	1.1257	.24760	.27155	.45432	.63423	.03805	.39300	.39718
#1	.03523	.07336	1.0189	.07813	.21871	4.3461	15.922	1.5122
#2	.03593	.07329	1.0230	.07846	.21604	4.3433	15.797	1.5023
#3	.03592	.07363	1.0243	.07884	.21799	4.3431	15.854	1.5014

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.2052	4.5000	.56844	.36758	.49845	.76729	.91721	.30719
Stddev	.0011	.0252	.00093	.00065	.00150	.00380	.00650	.00084
%RSD	.08787	.56098	.16284	.17811	.30162	.49562	.70827	.27228
#1	1.2040	4.5268	.56743	.36808	.49702	.77160	.91906	.30780
#2	1.2061	4.4767	.56862	.36684	.49832	.76440	.90999	.30623
#3	1.2055	4.4965	.56926	.36783	.50002	.76586	.92259	.30753

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.35054	.13748	.50372	.03952	11.635	1.6594	.05982	1.3163
Stddev	.00057	.00065	.01015	.00042	.052	.0047	.00021	.0024
%RSD	.16194	.47035	2.0156	1.0710	.44557	.28197	.35281	.18196
#1	.34999	.13679	.50279	.03931	11.647	1.6540	.05958	1.3146
#2	.35113	.13807	.49407	.03923	11.579	1.6619	.05990	1.3190
#3	.35049	.13759	.51431	.04000	11.680	1.6623	.05998	1.3153

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.82477	.02975	2.2644	.11258	.58163	2.6045	15.756
Stddev	.00154	.00041	.0065	.00065	.00126	.0098	.012
%RSD	.18621	1.3884	.28733	.57574	.21723	.37796	.07585
#1	.82623	.03013	2.2692	.11272	.58288	2.6153	15.746
#2	.82317	.02931	2.2670	.11187	.58165	2.5960	15.754
#3	.82491	.02980	2.2570	.11314	.58035	2.6022	15.769

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S2 Acquired: 11/14/2024 15:59:27 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	854.07	22095.	2082.0	747.84	1557.6
Stddev	.99	16.	4.2	3.66	.6
%RSD	.11620	.07157	.20302	.48914	.04148
#1	853.82	22079.	2077.1	745.45	1557.8
#2	855.16	22111.	2084.9	752.05	1558.2
#3	853.22	22094.	2083.8	746.00	1556.9

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S3 Acquired: 11/14/2024 16:03:53 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.07346	.14665	2.0668	.16014	.44571	8.6926	31.780	2.9353
Stddev	.00062	.00070	.0088	.00061	.00193	.0107	.027	.0030
%RSD	.85009	.47942	.42468	.37989	.43379	.12280	.08514	.10109
#1	.07275	.14628	2.0588	.15947	.44371	8.6898	31.775	2.9344
#2	.07369	.14621	2.0654	.16066	.44584	8.7044	31.810	2.9386
#3	.07393	.14746	2.0762	.16029	.44757	8.6836	31.757	2.9329

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.4301	8.9102	1.1167	.74400	.98738	1.5074	1.8097	.61777
Stddev	.0101	.0156	.0022	.00300	.00260	.0031	.0022	.00195
%RSD	.41711	.17473	.20176	.40273	.26285	.20594	.11977	.31592
#1	2.4225	8.9126	1.1169	.74081	.98870	1.5099	1.8106	.61771
#2	2.4263	8.9245	1.1188	.74444	.98906	1.5039	1.8114	.61975
#3	2.4416	8.8936	1.1143	.74676	.98439	1.5083	1.8073	.61585

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.70467	.24728	1.0188	.07830	23.578	3.2865	.12432	2.5709
Stddev	.00411	.00038	.0050	.00072	.150	.0060	.00024	.0015
%RSD	.58314	.15349	.49204	.92383	.63534	.18317	.19124	.05692
#1	.70143	.24710	1.0228	.07749	23.574	3.2915	.12415	2.5699
#2	.70328	.24703	1.0204	.07889	23.730	3.2882	.12459	2.5726
#3	.70929	.24772	1.0131	.07852	23.430	3.2799	.12421	2.5704

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.6703	.06193	4.3763	.22892	1.1597	5.2235	31.404
Stddev	.0027	.00050	.0043	.00091	.0007	.0118	.042
%RSD	.16467	.81093	.09745	.39680	.06415	.22570	.13297
#1	1.6674	.06136	4.3794	.22821	1.1603	5.2113	31.450
#2	1.6707	.06216	4.3779	.22995	1.1598	5.2348	31.393
#3	1.6728	.06229	4.3714	.22862	1.1588	5.2245	31.369

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S3 Acquired: 11/14/2024 16:03:53 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	815.32	21680.	2088.1	705.40	1473.4
Stddev	1.89	45.	9.3	4.37	1.3
%RSD	.23129	.20818	.44674	.61910	.08730
#1	813.91	21637.	2081.6	703.59	1474.3
#2	814.59	21675.	2083.9	702.23	1473.9
#3	817.47	21727.	2098.8	710.38	1471.9

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S4 Acquired: 11/14/2024 16:08:16 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.14954	.28563	4.0894	.32964	.92475	17.379	63.106	5.7313
Stddev	.00099	.00055	.0142	.00137	.00378	.051	.296	.0118
%RSD	.66096	.19329	.34782	.41433	.40924	.29393	.46946	.20587
#1	.14843	.28606	4.0848	.32821	.92329	17.360	63.001	5.7376
#2	.14985	.28501	4.0781	.33093	.92191	17.437	63.440	5.7387
#3	.15034	.28583	4.1054	.32978	.92904	17.340	62.876	5.7177

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.7909	17.554	2.1628	1.4787	1.9471	2.9210	3.5135	1.2327
Stddev	.0140	.076	.0031	.0053	.0031	.0127	.0142	.0031
%RSD	.29205	.43555	.14322	.35623	.15763	.43535	.40514	.25274
#1	4.7853	17.551	2.1611	1.4791	1.9453	2.9228	3.5140	1.2351
#2	4.7805	17.632	2.1664	1.4733	1.9507	2.9328	3.5275	1.2339
#3	4.8068	17.480	2.1610	1.4838	1.9455	2.9075	3.4991	1.2292

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.3891	.46866	2.0297	.15556	47.993	6.5785	.25347	4.9692
Stddev	.0022	.00035	.0035	.00117	.156	.0298	.00115	.0098
%RSD	.16031	.07395	.17097	.75528	.32505	.45353	.45518	.19795
#1	1.3880	.46866	2.0321	.15571	47.912	6.5536	.25354	4.9801
#2	1.3877	.46832	2.0314	.15664	48.173	6.6116	.25229	4.9666
#3	1.3917	.46901	2.0258	.15431	47.895	6.5703	.25459	4.9609

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.4151	.12726	8.5152	.45383	2.2779	10.552	62.146
Stddev	.0118	.00045	.0252	.00128	.0056	.059	.211
%RSD	.34398	.35169	.29543	.28152	.24620	.55789	.34002
#1	3.4036	.12674	8.5189	.45382	2.2777	10.535	61.991
#2	3.4148	.12752	8.5383	.45256	2.2836	10.617	62.387
#3	3.4270	.12751	8.4884	.45512	2.2724	10.503	62.061

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S4 Acquired: 11/14/2024 16:08:16 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	754.85	21167.	2069.5	640.43	1384.0
Stddev	2.08	30.	5.3	.90	4.1
%RSD	.27501	.13952	.25530	.14044	.29390
#1	755.71	21134.	2066.4	640.36	1383.8
#2	756.35	21189.	2066.5	639.58	1388.2
#3	752.48	21179.	2075.6	641.37	1380.0

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S5 Acquired: 11/14/2024 16:12:36 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.32086	.57069	8.4495	.74164	2.1302	36.397	127.85	11.578
Stddev	.00111	.00082	.0132	.00371	.0110	.027	.93	.047
%RSD	.34562	.14355	.15602	.49968	.51733	.07403	.72561	.40400
#1	.31966	.56994	8.4363	.74158	2.1362	36.426	128.92	11.622
#2	.32106	.57057	8.4494	.74538	2.1369	36.373	127.27	11.584
#3	.32185	.57156	8.4627	.73797	2.1174	36.392	127.37	11.529

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	9.7206	35.969	4.3427	3.0370	4.0138	5.8547	7.0494	2.5693
Stddev	.0124	.042	.0059	.0038	.0057	.0044	.0044	.0030
%RSD	.12781	.11748	.13590	.12532	.14309	.07566	.06261	.11633
#1	9.7063	36.017	4.3374	3.0326	4.0153	5.8524	7.0511	2.5661
#2	9.7274	35.952	4.3491	3.0388	4.0074	5.8598	7.0443	2.5698
#3	9.7282	35.938	4.3417	3.0395	4.0186	5.8519	7.0526	2.5720

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.8338	.95713	4.2365	.31582	107.51	13.815	.53517	9.8235
Stddev	.0040	.00250	.0046	.00267	.78	.028	.00122	.0712
%RSD	.14283	.26099	.10968	.84520	.72708	.20045	.22879	.72441
#1	2.8298	.95611	4.2418	.31544	108.26	13.845	.53429	9.8951
#2	2.8337	.95998	4.2344	.31336	106.70	13.790	.53465	9.8224
#3	2.8379	.95531	4.2332	.31866	107.57	13.810	.53657	9.7528

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7.6483	.27111	17.041	.93217	4.6566	22.460	125.68
Stddev	.0287	.00091	.093	.00178	.0054	.043	.64
%RSD	.37490	.33665	.54795	.19138	.11623	.19092	.50581
#1	7.6479	.27006	17.139	.93060	4.6511	22.446	126.17
#2	7.6772	.27155	17.030	.93411	4.6567	22.425	125.92
#3	7.6198	.27171	16.954	.93180	4.6619	22.508	124.96

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S5 Acquired: 11/14/2024 16:12:36 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	646.77	20343.	2042.3	517.76	1272.2
Stddev	2.54	52.	7.4	2.92	3.4
%RSD	.39339	.25540	.36199	.56406	.26410
#1	647.47	20393.	2035.3	514.76	1276.0
#2	643.94	20289.	2041.6	520.59	1270.8
#3	648.88	20347.	2050.1	517.95	1269.8

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: S6 Acquired: 11/14/2024 16:17:11 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S06 Custom ID2: Custom ID3:
Comment:

Elem	Al3961	Ca3736	Fe2598	Mg2790	Na8183
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	93.853	55.042	14.803	4.0007	10.998
Stddev	.189	.079	.017	.0073	.026
%RSD	.20089	.14316	.11534	.18234	.23540
#1	93.729	55.000	14.789	3.9926	10.981
#2	94.070	55.133	14.822	4.0068	11.028
#3	93.760	54.993	14.798	4.0026	10.985

Int. Std.	Y_3710
Units	Cts/S
Avg	1967.1
Stddev	8.4
%RSD	.42786
#1	1976.8
#2	1961.9
#3	1962.6

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICV012 Acquired: 11/14/2024 16:21:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV012 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.050012	1.066163	.9824852	.9905461	.9229929	2.468727
Stddev	.006937	.003539	.0064354	.0072448	.0065301	.039387
%RSD	.6606427	.3319103	.6550131	.7313926	.7074964	1.595430
#1	1.043610	1.062242	.9862822	.9985546	.9159370	2.424193
#2	1.049046	1.069119	.9750549	.9844478	.9242178	2.498984
#3	1.057382	1.067128	.9861187	.9886359	.9288238	2.483005

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5104314	.5325179	.5071043	10.14219	.5633722	.4985328
Stddev	.0095274	.0071933	.0016541	.19156	.0011259	.0024290
%RSD	1.866539	1.350803	.3261917	1.888749	.1998456	.4872382
#1	.4994322	.5242121	.5055376	9.92234	.5646598	.4964661
#2	.5161140	.5367266	.5069415	10.23094	.5625729	.4979240
#3	.5157482	.5366150	.5088339	10.27327	.5628840	.5012084

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4836664	10.90764	.5313905	5.896636	.5112183	.2425228
Stddev	.0045902	.20982	.0093203	.190291	.0005971	.0011736
%RSD	.9490453	1.923633	1.753936	3.227104	.1168001	.4839234
#1	.4818215	10.67046	.5206361	5.772583	.5108105	.2426891
#2	.4888920	11.06908	.5371200	6.115725	.5109407	.2412749
#3	.4802856	10.98337	.5364154	5.801600	.5119036	.2436044

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.06461	.5291719	.9701767	10.56078	F .0037740	F .0169441
Stddev	.17396	.0164168	.0009550	.18704	.0025926	.0007097
%RSD	1.728421	3.102357	.0984322	1.771114	68.69706	4.188673
#1	10.10784	.5108120	.9711050	10.39405	.0032020	.0167230
#2	9.87311	.5424381	.9702281	10.76304	.0015151	.0163713
#3	10.21287	.5342656	.9691971	10.52525	.0066048	.0177381

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICV012 Acquired: 11/14/2024 16:21:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV012 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.000375	F .0062990	F .0016348	F .0048203	F -.002415	F .0072660
Stddev	.000253	.0022870	.0002311	.0018656	.001741	.0030036
%RSD	67.33740	36.30756	14.13614	38.70292	72.10780	41.33784
#1	-.000416	.0084070	.0016480	.0043730	-.003136	.0051249
#2	-.000105	.0066225	.0018590	.0032190	-.003680	.0059736
#3	-.000605	.0038675	.0013973	.0068689	-.000429	.0106995

Elem	Sr4077
Units	ppm
Avg	F .0011437
Stddev	.0000344
%RSD	3.003383
#1	.0011487
#2	.0011072
#3	.0011753

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	890.7635	22495.26	2125.003	782.3336	1688.162
Stddev	1.6633	31.78	30.260	2.3433	3.099
%RSD	.1867223	.1412773	1.423993	.2995316	.1835952
#1	890.4246	22516.68	2159.658	784.9122	1686.860
#2	892.5700	22510.36	2103.808	780.3340	1691.700
#3	889.2957	22458.74	2111.544	781.7547	1685.925

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICB012 Acquired: 11/14/2024 16:38:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB012 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000944	-.000668	-.000934	.0049888	-.002366	.0049149	-.000281
Stddev	.004448	.003277	.001443	.0047381	.000491	.0125107	.000298
%RSD	471.2174	490.2390	154.5441	94.97452	20.76392	254.5445	105.7162
#1	.000718	.002547	.000635	.0002118	-.002114	-.006739	-.000508
#2	.002434	-.004004	-.001232	.0050677	-.002052	.018135	-.000392
#3	-.005984	-.000548	-.002203	.0096870	-.002932	.003349	.000056

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000065	.0000016	.0154141	-.001090	-.000148	-.004041	.0071024
Stddev	.0000193	.0001079	.0165145	.000963	.000444	.001280	.0119746
%RSD	296.0464	6830.239	107.1392	88.31738	299.4699	31.67107	168.5991
#1	-.000002	-.000114	.0344658	.000021	.000069	-.003679	.0184598
#2	.000029	.000099	.0065988	-.001607	.000145	-.002980	-.005406
#3	-.000007	.000020	.0051777	-.001683	-.000659	-.005462	.008254

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003328	-.072892	.0007314	.0020221	-.071827	-.008491	.0007442
Stddev	.003122	.063877	.0004103	.0010561	.431008	.008943	.0000684
%RSD	93.80792	87.63186	56.09285	52.23051	600.0595	105.3144	9.188078
#1	-.006919	-.001400	.0003008	.0013376	-.048500	-.018082	.0007764
#2	-.001265	-.092927	.0007756	.0014902	.347043	-.000381	.0006656
#3	-.001799	-.124350	.0011178	.0032384	-.514025	-.007012	.0007905

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1544213	-.001395	-.001469	-.000153	.0037594	-.000916	.0066906
Stddev	.1004667	.003200	.001408	.000564	.0081204	.000527	.0005945
%RSD	65.06010	229.3575	95.82857	368.4973	216.0040	57.47771	8.886198
#1	.0415083	-.002712	-.001072	-.000529	.0044134	-.000321	.0069289
#2	.2339329	-.003728	-.003034	.000496	-.004668	-.001320	.0071290
#3	.1878228	.002253	-.000303	-.000426	.011533	-.001108	.0060139

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICB012 Acquired: 11/14/2024 16:38:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB012 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000424	.0080862	-.000162
Stddev	.001054	.0028639	.000043
%RSD	248.9041	35.41726	26.60731
#1	.000388	.0049811	-.000120
#2	-.000043	.0106241	-.000206
#3	-.001615	.0086534	-.000161

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	889.4005	22196.08	2082.783	780.0698	1715.825
Stddev	.7219	254.17	14.965	10.0539	.717
%RSD	.0811686	1.145100	.7185268	1.288845	.0417677
#1	890.1718	22380.83	2069.918	790.1047	1716.583
#2	888.7410	22301.20	2079.225	780.1079	1715.159
#3	889.2886	21906.22	2099.207	769.9970	1715.732

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICSA012 Acquired: 11/14/2024 16:43:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA012 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000370	-.018730	.0014361	.0018905	-.001854	228.9834
Stddev	.032840	.003665	.0022526	.0054481	.004940	3.0384
%RSD	8867.927	19.56728	156.8619	288.1815	266.4983	1.326926
#1	.008944	-.022949	.0033633	-.002810	-.000567	231.2270
#2	-.036862	-.016327	.0019853	.000620	.002316	230.1976
#3	.026807	-.016915	-.001040	.007862	-.007310	225.5256

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059035	-.000110	-.000410	240.0966	.0479896	.0007732
Stddev	.0005862	.000100	.000140	2.8756	.0008700	.0002519
%RSD	9.929832	91.27021	33.98308	1.197694	1.812933	32.57984
#1	.0062970	-.000061	-.000398	242.1479	.0487493	.0006946
#2	.0052298	-.000225	-.000556	241.3322	.0481790	.0005699
#3	.0061838	-.000043	-.000278	236.8097	.0470405	.0010550

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.012764	100.0820	.0109193	234.2568	.0046000	.0043087
Stddev	.009317	1.3324	.0017230	2.7464	.0011834	.0009829
%RSD	72.99078	1.331303	15.77899	1.172406	25.72587	22.81207
#1	-.002825	101.0851	.0103189	235.6785	.0050501	.0045334
#2	-.014170	100.5908	.0128622	236.0010	.0032576	.0051598
#3	-.021299	98.5702	.0095769	231.0910	.0054922	.0032329

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3182715	-.011211	.0118091	-.080888	-.000479	F .0940499
Stddev	.0773734	.002426	.0000704	.039056	.006842	.0010687
%RSD	24.31051	21.64370	.5962165	48.28439	1428.424	1.136359
#1	.3522697	-.012723	.0118891	-.114844	-.005058	.0944615
#2	.2297201	-.012497	.0117565	-.038207	.007387	.0948518
#3	.3728248	-.008412	.0117818	-.089612	-.003766	.0928366

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICSA012 Acquired: 11/14/2024 16:43:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA012 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001538	.0008407	.0004548	-.004992	-.001744	.0057458
Stddev	.000834	.0005207	.0007451	.000851	.002808	.0009233
%RSD	54.22330	61.93580	163.8103	17.04232	161.0659	16.06856
#1	-.002139	.0002813	-.000069	-.005800	-.000098	.0057858
#2	-.001890	.0009295	.001308	-.005071	-.004986	.0066483
#3	-.000586	.0013113	.000125	-.004104	-.000146	.0048031

Elem	Sr4077
Units	ppm
Avg	.0984252
Stddev	.0012895
%RSD	1.310130
#1	.0995819
#2	.0986588
#3	.0970348

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	837.4702	21263.54	2057.888	740.6534	1446.310
Stddev	1.1847	89.87	26.652	3.3699	2.922
%RSD	.1414666	.4226454	1.295104	.4549934	.2020447
#1	838.7096	21215.86	2038.391	739.9101	1447.812
#2	837.3522	21207.57	2047.014	744.3329	1448.176
#3	836.3490	21367.20	2088.257	737.7172	1442.943

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICSAB012 Acquired: 11/14/2024 16:47:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB012 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0915587	.0902954	.0551247	.0457132	.5572157	233.1906
Stddev	.0019180	.0093522	.0069116	.0054051	.0047295	.0762
%RSD	2.094857	10.35736	12.53805	11.82390	.8487823	.0326862
#1	.0919986	.1006320	.0516457	.0430748	.5626668	233.2648
#2	.0932185	.0824196	.0630845	.0519307	.5542022	233.1125
#3	.0894589	.0878347	.0506439	.0421340	.5547781	233.1945

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5432264	.5510840	1.066302	245.2335	.6130630	.5281452
Stddev	.0003843	.0031213	.003239	.3290	.0018600	.0022164
%RSD	.0707465	.5663880	.3037745	.1341696	.3033965	.4196513
#1	.5434029	.5544285	1.062805	245.5265	.6110797	.5256105
#2	.5434907	.5505749	1.066904	244.8775	.6147685	.5297184
#3	.5427855	.5482485	1.069198	245.2965	.6133408	.5291068

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4837153	102.1004	.5572900	238.2036	1.062324	.1978350
Stddev	.0128152	.4014	.0027044	.3753	.003180	.0012316
%RSD	2.649321	.3931604	.4852701	.1575393	.2993085	.6225553
#1	.4985085	102.2951	.5583002	238.1651	1.058749	.1969765
#2	.4766350	101.6388	.5542259	237.8491	1.063385	.1992461
#3	.4760025	102.3673	.5593438	238.5966	1.064837	.1972823

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5395096	.5421824	.9601511	-.194419	.0082536	F .0946063
Stddev	.0670895	.0156703	.0051759	.103981	.0020497	.0016924
%RSD	12.43527	2.890225	.5390666	53.48307	24.83342	1.788849
#1	.5455575	.5320171	.9614464	-.196388	.0081501	.0958162
#2	.4696010	.5343014	.9645563	-.297402	.0103531	.0926724
#3	.6033704	.5602288	.9544506	-.089467	.0062577	.0953303

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: ICSAB012 Acquired: 11/14/2024 16:47:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB012 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000891	.0069066	.0005042	-.005577	-.001974	.0027823
Stddev	.000102	.0119855	.0006414	.001984	.001322	.0014690
%RSD	11.41703	173.5378	127.2149	35.56978	66.95067	52.79967
#1	-.000806	-.006276	-.000236	-.003343	-.003351	.0015905
#2	-.000863	.009848	.000847	-.006255	-.001857	.0044235
#3	-.001004	.017147	.000902	-.007132	-.000715	.0023327

Elem	Sr4077
Units	ppm
Avg	F .1001187
Stddev	.0002449
%RSD	.2446106
#1	.1004010
#2	.0999632
#3	.0999919

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	834.5873	21274.85	2067.963	735.4301	1446.233
Stddev	1.1497	19.14	8.110	1.4879	3.982
%RSD	.1377612	.0899563	.3921511	.2023190	.2753670
#1	833.8818	21296.73	2059.582	734.7330	1449.869
#2	835.9140	21261.23	2068.536	734.4187	1446.852
#3	833.9662	21266.58	2075.771	737.1386	1441.977

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV087 Acquired: 11/14/2024 16:52:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV087 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.932341	4.798187	24.51808	4.753125	4.774013	399.7859	10.11171
Stddev	.017146	.028028	.01931	.004168	.003871	13.9524	.34571
%RSD	.3476301	.5841343	.0787441	.0876976	.0810777	3.489973	3.418879
#1	4.935906	4.774190	24.53794	4.756894	4.772109	384.5619	9.73884
#2	4.913693	4.828992	24.51692	4.748648	4.771463	411.9632	10.42160
#3	4.947425	4.791380	24.49938	4.753834	4.778467	402.8327	10.17469

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4985622	2.472110	406.5333	15.30343	2.486163	14.89023	411.4333
Stddev	.0161969	.002938	14.0540	.03147	.002485	.50799	14.3049
%RSD	3.248730	.1188472	3.457043	.2056342	.0999707	3.411558	3.476854
#1	.4807412	2.473830	391.3979	15.33096	2.483361	14.34027	395.9701
#2	.5123869	2.473783	419.1712	15.26912	2.487027	15.34187	424.1946
#3	.5025584	2.468718	409.0306	15.31021	2.488102	14.98854	414.1351

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.89413	404.3124	2.475508	1.253677	406.3445	2.511554	14.50155
Stddev	.52811	14.1099	.003681	.007266	13.3956	.091953	.04009
%RSD	3.545757	3.489860	.1486887	.5795796	3.296620	3.661190	.2764604
#1	14.32942	388.9197	2.471259	1.259768	391.5557	2.421697	14.49066
#2	15.37580	416.6335	2.477580	1.245635	417.6647	2.605468	14.46803
#3	14.97717	407.3841	2.477687	1.255630	409.8129	2.507499	14.54596

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	152.0185	5.015941	5.209257	4.734228	5.024623	4.979262	4.966709
Stddev	5.2014	.009763	.180135	.004386	.000497	.158899	.001630
%RSD	3.421587	.1946357	3.457977	.0926411	.0098871	3.191215	.0328188
#1	146.3285	5.004923	5.008088	4.729983	5.024074	4.804531	4.968145
#2	156.5287	5.019383	5.355632	4.738742	5.025041	5.115112	4.967045
#3	153.1984	5.023516	5.264050	4.733959	5.024756	5.018142	4.964937

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV087 Acquired: 11/14/2024 16:52:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV087 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.943138	5.056783	5.005746
Stddev	.177082	.179183	.175437
%RSD	3.582378	3.543425	3.504707
#1	4.746535	4.865098	4.812738
#2	5.090108	5.220074	5.155532
#3	4.992770	5.085177	5.048967

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	719.9646	20317.35	2022.539	609.0716	1297.735
Stddev	.4644	77.09	62.118	2.5854	.849
%RSD	.0645031	.3794138	3.071304	.4244741	.0654300
#1	719.5814	20257.95	2091.700	608.6458	1297.090
#2	719.8313	20404.46	1971.488	611.8434	1297.417
#3	720.4810	20289.62	2004.428	606.7256	1298.697

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB087 Acquired: 11/14/2024 16:56:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB087 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0063233	.0000373	.0000595	.0036080	.0003955	.0317709	-.000299
Stddev	.0021811	.0026287	.0023597	.0053111	.0006801	.0085013	.000158
%RSD	34.49361	7041.620	3965.715	147.2045	171.9691	26.75801	52.99570
#1	.0049117	.0028937	.0027783	.0024864	.0003337	.0330933	-.000246
#2	.0052226	-.000501	-.001144	.0093903	.0011044	.0395335	-.000174
#3	.0088354	-.002280	-.001456	-.001053	-.000252	.0226859	-.000477

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000382	.0003553	.0392718	-.000165	.0004510	-.001450	.0373417
Stddev	.0000810	.0000246	.0045464	.000829	.0004561	.004693	.0110268
%RSD	212.0533	6.914927	11.57684	501.2503	101.1208	323.7692	29.52953
#1	.0000352	.0003835	.0389868	-.001123	.0008480	.002158	.0485326
#2	-.000041	.0003390	.0348746	.000299	.0005523	-.006755	.0264866
#3	.000121	.0003433	.0439540	.000328	-.000047	.000249	.0370060

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000831	.1119864	.0001751	.0009962	.3165402	-.007784	.0014185
Stddev	.000795	.0636560	.0005561	.0003101	.3675142	.005347	.0002940
%RSD	95.63774	56.84259	317.5541	31.12783	116.1035	68.69063	20.72542
#1	.000064	.0519604	.0001889	.0013494	.3403283	-.011619	.0010878
#2	-.001105	.1052605	.0007242	.0007683	-.062290	-.001676	.0016503
#3	-.001453	.1787382	-.000388	.0008710	.671582	-.010056	.0015173

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1846217	-.000043	.0057015	-.000090	-.000376	.0001742	.0066093
Stddev	.0906993	.000890	.0004286	.000250	.002893	.0003810	.0015404
%RSD	49.12712	2090.011	7.517754	278.9091	770.3602	218.7009	23.30636
#1	.2879817	.000423	.0055277	-.000231	-.003550	.0005851	.0068807
#2	.1183166	.000518	.0053871	.000199	.002112	-.000167	.0079959
#3	.1475667	-.001069	.0061898	-.000237	.000312	.000105	.0049512

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB087 Acquired: 11/14/2024 16:56:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB087 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002626	.0055258	.0000823
Stddev	.0009451	.0014045	.0001933
%RSD	359.9531	25.41638	234.8331
#1	.0004344	.0039154	.0002545
#2	-.000757	.0064966	-.000127
#3	.001110	.0061653	.000119

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	890.1905	22275.54	2085.012	779.5676	1708.275
Stddev	.3909	36.72	11.655	2.2562	3.594
%RSD	.0439136	.1648527	.5589675	.2894137	.2103767
#1	889.7428	22237.37	2095.571	777.3726	1710.322
#2	890.4641	22278.62	2086.957	781.8804	1704.125
#3	890.3646	22310.62	2072.507	779.4499	1710.378

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164636BL Acquired: 11/14/2024 17:00:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS636 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002687	.0010697	-.002923	.0048939	-.000399	.0090618	-.000772
Stddev	.0036828	.0022804	.002444	.0046622	.002774	.0115833	.000597
%RSD	1370.456	213.1783	83.61025	95.26568	695.5623	127.8259	77.34744
#1	.0003477	-.001331	-.000101	.0043165	.000741	-.004246	-.000083
#2	.0039114	.003207	-.004334	.0098178	.001624	.016878	-.001127
#3	-.003453	.001333	-.004334	.0005473	-.003561	.014553	-.001107

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000006	.0002516	.0125566	-.000884	-.000057	.0052915	.0037684
Stddev	.000007	.0000665	.0110186	.001113	.000252	.0036753	.0190225
%RSD	119.7749	26.41759	87.75128	125.9238	442.4196	69.45679	504.7875
#1	.000002	.0003108	.0134096	.000283	.000233	.0045387	.0203800
#2	-.000011	.0002642	.0231239	-.001933	-.000177	.0092849	-.016983
#3	-.000008	.0001797	.0011363	-.001002	-.000227	.0020509	.007908

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001511	.0064637	.0003854	.0018227	.0457570	-.001359	-.000332
Stddev	.001231	.0873789	.0002671	.0002678	.1257230	.014212	.000455
%RSD	81.46097	1351.830	69.30794	14.69516	274.7625	1046.041	137.1161
#1	-.000529	-.094178	.0004493	.0015423	.1583486	.008676	-.000367
#2	-.002893	.062995	.0006148	.0020760	.0688250	-.017622	.000140
#3	-.001112	.050574	.0000921	.0018497	-.089903	.004870	-.000769

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1491714	-.000852	.0019041	-.000222	.0042363	-.000262	.0010469
Stddev	.0576795	.000730	.0021395	.000352	.0040328	.000251	.0014754
%RSD	38.66662	85.66626	112.3604	158.2350	95.19810	95.67280	140.9325
#1	.1599683	-.000653	.0043708	-.000624	.0070246	-.000551	.0019224
#2	.2006895	-.001660	.0007879	-.000076	-.000388	-.000137	-.000657
#3	.0868563	-.000242	.0005535	.000032	.006072	-.000098	.001875

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164636BL Acquired: 11/14/2024 17:00:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS636 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0004009	.0033198	-.000007
Stddev	.0020549	.0013202	.000102
%RSD	512.6109	39.76774	1506.728
#1	-.001124	.0026251	.000067
#2	-.000411	.0024920	.000036
#3	.002738	.0048423	-.000123

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	895.3965	22298.91	2046.310	783.8155	1723.182
Stddev	.1987	20.55	12.684	3.4126	.375
%RSD	.0221896	.0921441	.6198596	.4353790	.0217542
#1	895.6192	22281.59	2046.043	780.0949	1723.058
#2	895.3330	22293.53	2033.761	784.5516	1723.603
#3	895.2373	22321.61	2059.125	786.7999	1722.885

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164636BS Acquired: 11/14/2024 17:05:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS636 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0148376	.0497562	.0205216	.0649294	.1039482	.3858148
Stddev	.0113222	.0028428	.0015398	.0050299	.0032625	.0073222
%RSD	76.30758	5.713384	7.503332	7.746782	3.138542	1.897846
#1	.0221356	.0524856	.0188853	.0687829	.1070301	.3813087
#2	.0017946	.0499709	.0219421	.0592392	.1005311	.3818723
#3	.0205825	.0468122	.0207374	.0667660	.1042834	.3942635

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4072157	.0108750	.0104220	10.65458	.0205444	.0967246
Stddev	.0025453	.0001018	.0001925	.06482	.0007642	.0005525
%RSD	.6250396	.9364720	1.847087	.6083797	3.719888	.5711726
#1	.4079598	.0107714	.0102487	10.60336	.0201437	.0973590
#2	.4043813	.0108786	.0103882	10.63292	.0200639	.0963493
#3	.4093059	.0109750	.0106292	10.72746	.0214257	.0964655

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0403049	.2236300	.0317147	10.11237	.0823331	.0226283
Stddev	.0013645	.0404597	.0026827	.20565	.0008903	.0003126
%RSD	3.385525	18.09224	8.458939	2.033636	1.081362	1.381402
#1	.0400562	.1940559	.0290650	10.12661	.0816409	.0228025
#2	.0417767	.2697382	.0316496	9.89997	.0833375	.0222675
#3	.0390818	.2070960	.0344293	10.31053	.0820210	.0228151

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.01543	.0982426	.1109192	9.631819	.0177822	F .0008263
Stddev	.26405	.0215705	.0002595	.072559	.0008179	.0005375
%RSD	2.636471	21.95630	.2339195	.7533214	4.599296	65.05343
#1	9.82720	.0931538	.1109375	9.560704	.0187243	.0004820
#2	10.31728	.1219025	.1111690	9.705740	.0172543	.0014457
#3	9.90182	.0796716	.1106511	9.629013	.0173681	.0005511

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164636BS Acquired: 11/14/2024 17:05:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS636 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0185960	.1684642	F .4511590	.0117240	.2034111	.0327377
Stddev	.0006370	.0045930	.0002358	.0001678	.0028563	.0003271
%RSD	3.425465	2.726391	.0522770	1.431651	1.404208	.9992322
#1	.0181678	.1645252	.4511528	.0115978	.2006620	.0325069
#2	.0193280	.1673582	.4513978	.0119145	.2032076	.0325941
#3	.0182921	.1735092	.4509263	.0116597	.2063637	.0331120

Elem	Sr4077
Units	ppm
Avg	.2064805
Stddev	.0010605
%RSD	.5135818
#1	.2054574
#2	.2064095
#3	.2075747

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	887.9653	22314.04	2072.051	781.1114	1683.577
Stddev	2.7435	16.68	5.962	1.4032	6.587
%RSD	.3089684	.0747537	.2877455	.1796359	.3912230
#1	889.3162	22327.43	2070.164	780.3575	1686.752
#2	889.7714	22319.33	2078.729	782.7304	1687.975
#3	884.8082	22295.35	2067.261	780.2464	1676.005

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164636BSD Acquired: 11/14/2024 17:09:57 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD636 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098749	.0252810	.0081191	.0388421	.0534420	.2008327	.2125205
Stddev	.0058268	.0019662	.0006519	.0031813	.0017423	.0076462	.0002652
%RSD	59.00606	7.777447	8.029606	8.190417	3.260266	3.807246	.1247955
#1	.0160787	.0270090	.0081322	.0354224	.0514317	.2047139	.2122474
#2	.0090285	.0231416	.0074608	.0393900	.0545163	.1920244	.2125373
#3	.0045176	.0256923	.0087644	.0417138	.0543779	.2057600	.2127770

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056520	.0055733	5.585716	.0099835	.0501147	.0244006	.1137195
Stddev	.0001685	.0000781	.035750	.0005600	.0004454	.0040900	.0027752
%RSD	2.980441	1.401120	.6400206	5.609532	.8888119	16.76188	2.440411
#1	.0056504	.0055450	5.580276	.0102925	.0503589	.0283096	.1124157
#2	.0058213	.0056616	5.623874	.0093370	.0503846	.0201509	.1169065
#3	.0054844	.0055132	5.552998	.0103209	.0496006	.0247411	.1118362

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0160058	5.226285	.0430114	.0116517	5.376157	.0501547	.0576613
Stddev	.0016626	.096370	.0002408	.0002025	.195546	.0130298	.0010658
%RSD	10.38767	1.843952	.5599139	1.737886	3.637291	25.97923	1.848448
#1	.0157456	5.139878	.0427867	.0118531	5.171373	.0592410	.0587697
#2	.0177832	5.330214	.0432656	.0114482	5.560927	.0352262	.0566438
#3	.0144886	5.208764	.0429819	.0116537	5.396171	.0559970	.0575703

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.059935	.0055736	-.000519	.0095901	.0922889	.2344081	.0050262
Stddev	.062758	.0030572	.000667	.0001620	.0036237	.0029432	.0008881
%RSD	1.240291	54.85109	128.6248	1.689681	3.926432	1.255579	17.67064
#1	5.005826	.0034425	-.000533	.0097350	.0964640	.2366320	.0059887
#2	5.128735	.0090764	-.001179	.0094151	.0904397	.2355217	.0042384
#3	5.045243	.0042019	.000155	.0096202	.0899629	.2310706	.0048514

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164636BSD Acquired: 11/14/2024 17:09:57 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD636 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1076949	.0197319	.1076225
Stddev	.0001072	.0038384	.0003054
%RSD	.0994965	19.45286	.2837269
#1	.1075728	.0199727	.1076109
#2	.1077383	.0157788	.1079335
#3	.1077735	.0234443	.1073231

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	893.4593	22403.29	2096.076	788.7633	1707.008
Stddev	1.1160	46.57	12.851	2.9521	6.424
%RSD	.1249118	.2078563	.6130946	.3742719	.3763564
#1	892.5391	22427.89	2092.746	785.5395	1702.002
#2	893.1381	22349.59	2085.218	791.3345	1704.771
#3	894.7007	22432.40	2110.264	789.4160	1714.252

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164656BL Acquired: 11/14/2024 17:14:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS656 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004275	-.001257	-.002439	.0029003	-.000524	.0189377	-.001141
Stddev	.004373	.004769	.002579	.0046807	.001686	.0100927	.000256
%RSD	102.2920	379.2787	105.7544	161.3878	321.7226	53.29425	22.45466
#1	-.002218	.003123	.000483	.0080552	-.002457	.0120952	-.000856
#2	-.009298	-.006338	-.004400	.0017300	.000242	.0305288	-.001353
#3	-.001310	-.000558	-.003399	-.001084	.000643	.0141889	-.001214

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000024	.0000327	.0054270	-.001629	.0006694	-.007997	.0017239
Stddev	.000067	.0000106	.0078544	.000696	.0004463	.000303	.0096553
%RSD	273.1397	32.46362	144.7288	42.70751	66.67394	3.783172	560.0970
#1	.000050	.0000448	.0003462	-.002137	.0011249	-.007659	-.008516
#2	-.000043	.0000250	.0014611	-.000836	.0006505	-.008090	.003025
#3	-.000080	.0000284	.0144736	-.001914	.0002328	-.008242	.010663

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002517	.0111955	.0002667	.0007428	.1431970	-.003333	-.000622
Stddev	.001130	.0498327	.0006629	.0003062	.3411267	.014997	.000241
%RSD	44.88867	445.1152	248.5512	41.22834	238.2219	449.9615	38.73680
#1	-.003659	-.035874	.0009766	.0008620	.4884428	-.001869	-.000899
#2	-.002493	.063395	-.000336	.0003949	-.193656	.010878	-.000461
#3	-.001400	.006065	.000160	.0009715	.134804	-.019009	-.000506

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0166834	-.002645	-.002896	-.000186	.0000927	-.000226	-.001094
Stddev	.0761660	.001362	.001393	.000331	.0024563	.000735	.000571
%RSD	456.5378	51.50147	48.10699	177.3725	2649.961	324.7742	52.17451
#1	-.041192	-.003150	-.004173	-.000158	-.002636	-.000568	-.000521
#2	-.011730	-.001102	-.001410	.000129	.000786	-.000727	-.001099
#3	.102972	-.003683	-.003106	-.000530	.002128	.000617	-.001662

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164656BL Acquired: 11/14/2024 17:14:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS656 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0016246	.0043019	-.000163
Stddev	.0016125	.0010919	.000054
%RSD	99.25817	25.38283	32.95061
#1	.0004096	.0041473	-.000225
#2	.0010102	.0032955	-.000142
#3	.0034539	.0054629	-.000124

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	892.0719	22360.17	2090.377	787.9034	1712.104
Stddev	2.5043	181.89	2.233	8.3675	3.036
%RSD	.2807327	.8134641	.1068326	1.062001	.1773223
#1	889.2643	22243.73	2089.971	780.3696	1708.806
#2	892.8757	22569.77	2088.375	796.9093	1712.727
#3	894.0756	22267.01	2092.786	786.4313	1714.781

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164656BS Acquired: 11/14/2024 17:19:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS656 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0214637	.0499521	.0204661	.0635160	.1066584	.3840867
Stddev	.0041966	.0024779	.0017375	.0058109	.0019591	.0123432
%RSD	19.55181	4.960450	8.489870	9.148651	1.836773	3.213649
#1	.0263072	.0471218	.0221533	.0576461	.1054957	.3779673
#2	.0191707	.0510043	.0205627	.0692659	.1055593	.3982940
#3	.0189133	.0517302	.0186822	.0636360	.1089203	.3759988

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4185006	.0109721	.0107472	10.88011	.0204115	.0989880
Stddev	.0010789	.0000492	.0002781	.05724	.0006390	.0007458
%RSD	.2577990	.4485075	2.587429	.5261300	3.130662	.7534399
#1	.4189065	.0109389	.0106417	10.85800	.0201094	.0985455
#2	.4193177	.0110286	.0105373	10.94511	.0199795	.0998491
#3	.4172777	.0109487	.0110626	10.83722	.0211455	.0985695

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0459283	.2160343	.0328474	10.37197	.0838260	.0223867
Stddev	.0046278	.0186759	.0030318	.08533	.0007885	.0007862
%RSD	10.07618	8.644872	9.229800	.8226573	.9406507	3.511959
#1	.0407466	.2222445	.0362953	10.36147	.0847364	.0217777
#2	.0496501	.2308139	.0305985	10.46206	.0833593	.0221080
#3	.0473884	.1950445	.0316485	10.29238	.0833822	.0232743

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.41967	.1030567	.1118006	9.757937	.0142112	F -.001101
Stddev	.06339	.0013227	.0001880	.094144	.0010390	.000404
%RSD	.6083625	1.283480	.1681632	.9647938	7.311005	36.69561
#1	10.43191	.1015404	.1115843	9.785826	.0147679	-.001538
#2	10.35105	.1039734	.1119247	9.653000	.0148532	-.001025
#3	10.47604	.1036564	.1118929	9.834986	.0130125	-.000741

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164656BS Acquired: 11/14/2024 17:19:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS656 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0191503	.1838654	F .4548308	.0120365	.2064731	.0296183
Stddev	.0000873	.0096702	.0007661	.0030982	.0009301	.0019843
%RSD	.4559424	5.259382	.1684268	25.73973	.4504870	6.699588
#1	.0191831	.1898099	.4556368	.0151204	.2073880	.0318658
#2	.0192165	.1890792	.4547435	.0120650	.2065027	.0281086
#3	.0190514	.1727072	.4541122	.0089243	.2055285	.0288804

Elem	Sr4077
Units	ppm
Avg	.2112691
Stddev	.0007480
%RSD	.3540606
#1	.2120659
#2	.2111591
#3	.2105821

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	889.8647	22341.30	2105.512	788.3093	1675.001
Stddev	1.5310	31.35	4.693	2.1126	2.688
%RSD	.1720435	.1403164	.2228933	.2679929	.1605024
#1	891.5916	22369.49	2100.325	789.1452	1676.405
#2	889.3286	22346.87	2106.746	789.8761	1676.696
#3	888.6739	22307.54	2109.464	785.9066	1671.901

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164656BSD Acquired: 11/14/2024 17:23:30 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD656 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0096923	.0223449	.0086541	.0339188	.0534082	.2027701	.2082418
Stddev	.0098894	.0052700	.0002573	.0032860	.0025134	.0030666	.0002845
%RSD	102.0338	23.58476	2.972791	9.687673	4.706065	1.512346	.1366289
#1	.0207820	.0185864	.0083824	.0374675	.0560054	.2051634	.2081258
#2	.0017887	.0283688	.0088940	.0333076	.0532315	.1993134	.2080337
#3	.0065061	.0200796	.0086858	.0309814	.0509879	.2038336	.2085660

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055595	.0054253	5.459896	.0101895	.0487830	.0188729	.1238927
Stddev	.0000739	.0002852	.027732	.0007450	.0002338	.0027350	.0288938
%RSD	1.329365	5.257165	.5079147	7.311597	.4792076	14.49195	23.32161
#1	.0055243	.0057423	5.450799	.0095419	.0488655	.0159248	.1263584
#2	.0055098	.0053443	5.491034	.0100228	.0489644	.0193660	.0938450
#3	.0056445	.0051894	5.437856	.0110037	.0485192	.0213278	.1514745

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0157437	5.215070	.0414918	.0122530	5.361949	.0612184	.0553678
Stddev	.0018847	.094433	.0008760	.0003513	.197488	.0045772	.0001340
%RSD	11.97146	1.810774	2.111312	2.867133	3.683137	7.476789	.2419711
#1	.0138695	5.261910	.0409293	.0123402	5.156262	.0646311	.0554210
#2	.0176388	5.276928	.0410450	.0118663	5.550063	.0630071	.0552154
#3	.0157227	5.106374	.0425011	.0125525	5.379523	.0560170	.0554670

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.907413	.0048706	-.001586	.0093951	.0875249	.2301748	.0068729
Stddev	.065206	.0039077	.001368	.0003070	.0007174	.0016665	.0023232
%RSD	1.328729	80.22992	86.23504	3.267432	.8196167	.7240238	33.80186
#1	4.837655	.0046953	-.001704	.0094837	.0882667	.2291665	.0094934
#2	4.917751	.0088630	-.000163	.0096479	.0868347	.2292596	.0060592
#3	4.966832	.0010535	-.002892	.0090535	.0874732	.2320984	.0050660

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164656BSD Acquired: 11/14/2024 17:23:30 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD656 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1018320	.0156580	.1049632
Stddev	.0022648	.0020849	.0000893
%RSD	2.224030	13.31528	.0850994
#1	.1034745	.0172950	.1050137
#2	.1027732	.0163682	.1050158
#3	.0992484	.0133108	.1048601

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	891.7874	22357.77	2065.292	786.9953	1700.568
Stddev	.8289	17.99	7.271	1.5557	2.212
%RSD	.0929436	.0804753	.3520745	.1976796	.1300899
#1	892.0511	22368.23	2073.593	788.5365	1702.033
#2	892.4524	22337.00	2060.050	785.4254	1701.648
#3	890.8588	22368.10	2062.232	787.0241	1698.023

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164658BL Acquired: 11/14/2024 17:28:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS658 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0023358	-.002804	-.002666	-.003526	-.001787	.0008782	-.000702
Stddev	.0023590	.003257	.003957	.007418	.001429	.0037981	.000178
%RSD	100.9911	116.1327	148.4224	210.4023	79.94430	432.4971	25.30541
#1	.0049824	-.000753	-.000635	-.004701	-.003369	-.002608	-.000497
#2	.0004545	-.001100	-.000137	.004410	-.000589	.004926	-.000797
#3	.0015705	-.006560	-.007226	-.010285	-.001404	.000316	-.000812

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000042	.0000867	.0119673	-.001412	.0000294	-.001071	-.014200
Stddev	.0000351	.0000511	.0054438	.000300	.0006907	.002699	.032852
%RSD	837.4374	58.91078	45.48952	21.21177	2346.470	251.9354	231.3516
#1	-.000014	.0000335	.0092391	-.001757	-.000002	-.001717	.022743
#2	-.000018	.0001353	.0084269	-.001259	-.000645	-.003389	-.025209
#3	.000045	.0000913	.0182357	-.001220	.000735	.001892	-.040134

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002157	.0295153	.0000316	.0011624	-.024427	-.007780	-.000407
Stddev	.001284	.0290482	.0003446	.0004572	.286228	.008575	.000088
%RSD	59.50767	98.41764	1090.036	39.33425	1171.760	110.2282	21.72907
#1	-.002983	.0600737	-.000061	.0015609	-.241007	-.005780	-.000311
#2	-.002811	.0262125	-.000258	.0006632	-.132346	-.017178	-.000485
#3	-.000678	.0022596	.000413	.0012632	.300072	-.000381	-.000427

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0998329	-.004209	-.003398	-.000008	.0028160	-.000402	-.002745
Stddev	.0064897	.001027	.000898	.000198	.0047476	.000276	.001135
%RSD	6.500594	24.39820	26.42049	2380.546	168.5938	68.73621	41.32963
#1	.1070842	-.005391	-.003719	.000200	-.001539	-.000442	-.003193
#2	.0945701	-.003695	-.002384	-.000030	.002109	-.000108	-.003587
#3	.0978443	-.003540	-.004091	-.000195	.007877	-.000656	-.001455

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164658BL Acquired: 11/14/2024 17:28:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS658 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002239	.0035103	-.000128
Stddev	.0010945	.0008799	.000101
%RSD	488.8819	25.06730	78.94393
#1	.0014743	.0025097	-.000012
#2	-.000561	.0041636	-.000179
#3	-.000242	.0038575	-.000192

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	893.1009	22318.36	2060.025	782.6436	1722.604
Stddev	1.3057	12.69	15.903	2.5282	2.496
%RSD	.1462031	.0568627	.7719856	.3230311	.1448711
#1	892.7638	22317.06	2071.086	784.7707	1725.274
#2	894.5422	22331.65	2041.800	779.8485	1722.207
#3	891.9968	22306.37	2067.189	783.3117	1720.330

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164658BS Acquired: 11/14/2024 17:32:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS658 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0164055	.0464354	.0183893	.0612627	.1028344	.3821989
Stddev	.0062983	.0013866	.0022986	.0037587	.0032541	.0127740
%RSD	38.39153	2.986150	12.49956	6.135382	3.164356	3.342240
#1	.0230108	.0475214	.0209794	.0654569	.1056533	.3795365
#2	.0104672	.0448735	.0165922	.0581989	.1035767	.3960943
#3	.0157386	.0469114	.0175964	.0601324	.0992734	.3709659

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4061693	.0107329	.0102222	10.57050	.0192964	.0954654
Stddev	.0026037	.0000732	.0002995	.10403	.0007292	.0026687
%RSD	.6410343	.6820991	2.930390	.9841241	3.778951	2.795465
#1	.4042065	.0106698	.0104415	10.45113	.0186289	.0977169
#2	.4051785	.0108131	.0103442	10.61862	.0200746	.0961618
#3	.4091229	.0107158	.0098809	10.64176	.0191857	.0925175

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0428933	.2125312	.0303658	10.00397	.0801021	.0211365
Stddev	.0026763	.0286934	.0012928	.06629	.0016359	.0000530
%RSD	6.239468	13.50080	4.257562	.6626320	2.042237	.2505811
#1	.0443414	.1998708	.0288860	9.93992	.0806637	.0211618
#2	.0445336	.1923454	.0312761	10.07229	.0813832	.0211721
#3	.0398050	.2453774	.0309354	9.99970	.0782594	.0210756

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.857014	.1050774	.1100364	9.370337	.0149845	F -.002324
Stddev	.269530	.0153796	.0005500	.061857	.0020417	.000815
%RSD	2.734400	14.63648	.4998654	.6601378	13.62545	35.04561
#1	9.899084	.0903521	.1098194	9.305105	.0152825	-.003164
#2	9.568923	.1210370	.1106619	9.377753	.0168609	-.001538
#3	10.10304	.1038431	.1096281	9.428151	.0128102	-.002270

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164658BS Acquired: 11/14/2024 17:32:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS658 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0178177	.1643036	F .4458893	.0102230	.1999027	.0294450
Stddev	.0001459	.0023231	.0033256	.0005937	.0039443	.0002539
%RSD	.8186924	1.413932	.7458402	5.807194	1.973098	.8623868
#1	.0179547	.1629296	.4420550	.0108057	.1988669	.0292188
#2	.0178339	.1629953	.4476240	.0096189	.1965797	.0293965
#3	.0176643	.1669859	.4479888	.0102445	.2042616	.0297196

Elem	Sr4077
Units	ppm
Avg	.2042819
Stddev	.0006715
%RSD	.3286979
#1	.2035198
#2	.2045390
#3	.2047868

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	917.0363	22805.06	2140.676	799.5790	1739.148
Stddev	14.5681	28.89	9.607	3.9527	34.356
%RSD	1.588612	.1266986	.4488007	.4943418	1.975477
#1	907.5880	22806.44	2150.321	803.6426	1719.254
#2	909.7073	22833.24	2140.600	795.7475	1719.371
#3	933.8136	22775.50	2131.107	799.3467	1778.820

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164658BSD Acquired: 11/14/2024 17:37:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD658 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0087717	.0260853	.0092834	.0362071	.0545621	.1982138	.2120636
Stddev	.0021393	.0044751	.0003568	.0046090	.0043595	.0212144	.0009860
%RSD	24.38927	17.15571	3.843490	12.72965	7.989907	10.70281	.4649675
#1	.0105545	.0266673	.0088725	.0331221	.0500180	.2105665	.2132003
#2	.0093611	.0302410	.0095153	.0339940	.0549583	.2103572	.2115518
#3	.0063994	.0213477	.0094623	.0415053	.0587099	.1737178	.2114388

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055860	.0054148	5.549797	.0095055	.0504228	.0235206	.1043886
Stddev	.0000969	.0001146	.030866	.0002498	.0003813	.0008942	.0175896
%RSD	1.734335	2.117014	.5561703	2.627555	.7562571	3.801793	16.85017
#1	.0054958	.0053242	5.563427	.0094825	.0500418	.0224916	.1086167
#2	.0056884	.0053766	5.514462	.0092679	.0508045	.0241099	.0850702
#3	.0055738	.0055437	5.571502	.0097659	.0504219	.0239602	.1194788

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0143022	5.284454	.0429001	.0119963	5.279101	.0482626	.0567806
Stddev	.0008794	.172419	.0007690	.0001946	.156386	.0063974	.0003563
%RSD	6.148785	3.262757	1.792584	1.622175	2.962368	13.25548	.6275746
#1	.0132894	5.404855	.0436074	.0121859	5.233432	.0438576	.0566769
#2	.0148722	5.086937	.0420815	.0120061	5.453238	.0556007	.0571773
#3	.0147451	5.361571	.0430114	.0117970	5.150633	.0453295	.0564876

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.954375	.0035792	-.002213	.0096057	.0836325	.2328521	.0069227
Stddev	.111491	.0025526	.000942	.0003298	.0062421	.0003819	.0000408
%RSD	2.250344	71.31683	42.58914	3.432975	7.463749	.1640139	.5901433
#1	4.989087	.0056406	-.001215	.0093172	.0837397	.2328057	.0069593
#2	5.044381	.0043730	-.002334	.0099652	.0773375	.2332551	.0069301
#3	4.829658	.0007240	-.003088	.0095349	.0898204	.2324955	.0068786

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164658BSD Acquired: 11/14/2024 17:37:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD658 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1053142	.0177105	.1066190
Stddev	.0022910	.0013088	.0001739
%RSD	2.175374	7.389862	.1631351
#1	.1054694	.0181674	.1067486
#2	.1075236	.0162345	.1064213
#3	.1029495	.0187296	.1066870

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	893.6504	22435.84	2094.186	789.5956	1699.591
Stddev	1.8338	36.18	5.368	3.3902	2.174
%RSD	.2051988	.1612600	.2563089	.4293642	.1278960
#1	891.5578	22399.91	2088.025	787.8621	1698.263
#2	894.9769	22435.34	2097.854	787.4226	1698.410
#3	894.4165	22472.27	2096.679	793.5021	1702.099

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164655BL Acquired: 11/14/2024 17:41:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS655 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003294	.0009867	-.001058	.0017083	-.001352	.0062797	-.000772
Stddev	.000941	.0016046	.001125	.0053272	.001329	.0094603	.000411
%RSD	28.56413	162.6263	106.3755	311.8465	98.34987	150.6478	53.28953
#1	-.002332	-.000724	-.001356	.0012799	-.002885	-.004416	-.001087
#2	-.004212	.001226	.000186	-.003392	-.000524	.013552	-.000307
#3	-.003339	.002458	-.002004	.007237	-.000645	.009703	-.000922

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000020	.0001969	.0088282	-.001231	-.000224	-.001368	.0000969
Stddev	.000039	.0001106	.0174297	.001059	.000264	.006319	.0232775
%RSD	197.5351	56.18177	197.4326	86.04163	117.7147	461.8957	24025.31
#1	.000020	.0002887	.0286382	-.000098	-.000448	.002108	.0058347
#2	-.000057	.0002280	.0020002	-.002196	.000067	.002450	.0199689
#3	-.000021	.0000741	-.004154	-.001399	-.000291	-.008662	-.025513

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002162	-.061059	-.000183	-.000045	.1598499	-.011608	-.000403
Stddev	.002078	.100559	.000427	.001130	.4433376	.010135	.000287
%RSD	96.09431	164.6901	233.5059	2508.510	277.3462	87.31407	71.11064
#1	-.000897	-.047038	.000067	.000833	-.012708	-.021362	-.000485
#2	-.004560	-.167893	-.000677	.000352	.663521	-.001131	-.000641
#3	-.001029	.031753	.000060	-.001321	-.171263	-.012330	-.000085

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0243421	-.003059	-.002316	.0000137	.0048911	-.000159	-.000774
Stddev	.1728683	.001131	.000986	.0002903	.0083885	.000525	.002191
%RSD	710.1622	36.97003	42.57946	2115.576	171.5061	329.1422	283.1391
#1	.1190861	-.002128	-.003124	.0003489	.0077430	-.000233	.001537
#2	-.175185	-.004318	-.001217	-.000148	-.004552	.000398	-.002821
#3	.129125	-.002733	-.002607	-.000160	.011482	-.000644	-.001037

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164655BL Acquired: 11/14/2024 17:41:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS655 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000903	.0023708	-.000132
Stddev	.003243	.0009196	.000175
%RSD	359.1722	38.78897	132.5150
#1	-.004375	.0021911	-.000313
#2	-.000380	.0033669	.000036
#3	.002047	.0015542	-.000119

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	894.9951	22624.10	2096.161	794.2184	1717.313
Stddev	1.1567	328.12	4.246	11.0989	1.813
%RSD	.1292401	1.450302	.2025795	1.397460	.1055650
#1	893.7023	22466.16	2095.961	786.9641	1716.119
#2	895.3511	22404.83	2092.018	788.6958	1719.399
#3	895.9320	23001.32	2100.504	806.9952	1716.420

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164655BS Acquired: 11/14/2024 17:46:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS655 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0158647	.0511712	.0184192	.0618373	.1041394	.3966602
Stddev	.0048315	.0004760	.0010845	.0026342	.0004072	.0082587
%RSD	30.45422	.9301618	5.887594	4.259844	.3910407	2.082049
#1	.0200454	.0506402	.0173845	.0607258	.1036855	.3975754
#2	.0169737	.0515594	.0195473	.0648450	.1042599	.4044232
#3	.0105752	.0513140	.0183259	.0599410	.1044728	.3879821

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4122079	.0108255	.0105254	10.76211	.0202127	.0975254
Stddev	.0015897	.0001813	.0001374	.03705	.0004553	.0002030
%RSD	.3856433	1.674877	1.304899	.3442557	2.252573	.2081805
#1	.4123426	.0108703	.0105822	10.77404	.0206391	.0976033
#2	.4137259	.0109802	.0103687	10.79173	.0202658	.0976780
#3	.4105551	.0106260	.0106252	10.72057	.0197332	.0972950

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0394553	.2577588	.0316433	10.19368	.0820585	.0230030
Stddev	.0018230	.0074358	.0015743	.03703	.0002482	.0005438
%RSD	4.620316	2.884801	4.975116	.3632193	.3024688	2.363909
#1	.0378273	.2582737	.0303157	10.23023	.0822627	.0233356
#2	.0414249	.2649239	.0312317	10.15620	.0821305	.0223755
#3	.0391136	.2500790	.0333825	10.19460	.0817822	.0232980

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.12616	.0956590	.1105795	9.626738	.0195461	F -.001726
Stddev	.52899	.0166311	.0015112	.061369	.0029626	.001939
%RSD	5.223949	17.38584	1.366583	.6374859	15.15691	112.3469
#1	10.71933	.0774421	.1122792	9.654881	.0223933	-.002893
#2	9.70332	.0995042	.1100716	9.556344	.0164802	-.002797
#3	9.95584	.1100308	.1093877	9.668988	.0197649	.000512

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164655BS Acquired: 11/14/2024 17:46:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS655 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0179696	.1723962	F .4516055	.0135213	.2018146	.0319173
Stddev	.0002660	.0103867	.0022149	.0001458	.0011931	.0010269
%RSD	1.480278	6.024905	.4904397	1.078629	.5912065	3.217419
#1	.0178244	.1827009	.4517136	.0134977	.2022089	.0321328
#2	.0182766	.1619294	.4537643	.0133887	.2027608	.0307997
#3	.0178078	.1725584	.4493386	.0136775	.2004743	.0328193

Elem	Sr4077
Units	ppm
Avg	.2066361
Stddev	.0006833
%RSD	.3306753
#1	.2067789
#2	.2072367
#3	.2058926

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	892.4286	22394.04	2084.169	787.0949	1686.175
Stddev	1.0994	30.05	9.535	6.1724	3.056
%RSD	.1231968	.1341851	.4575122	.7841948	.1812332
#1	891.8773	22383.25	2086.507	782.6141	1686.205
#2	893.6947	22427.99	2073.682	784.5352	1689.217
#3	891.7140	22370.87	2092.318	794.1352	1683.105

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164655BSD Acquired: 11/14/2024 17:50:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD655 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098954	.0266136	.0087207	.0297331	.0553223	.2044920	.2114885
Stddev	.0033311	.0022414	.0010151	.0046046	.0022788	.0116957	.0016745
%RSD	33.66289	8.422192	11.63951	15.48635	4.119095	5.719403	.7917768
#1	.0065251	.0242486	.0075968	.0255421	.0558401	.1921062	.2100699
#2	.0099754	.0268854	.0095707	.0289952	.0528292	.2060229	.2133356
#3	.0131858	.0287067	.0089946	.0346621	.0572976	.2153469	.2110600

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056615	.0054874	5.573164	.0091777	.0502380	.0226844	.0968923
Stddev	.0000703	.0001428	.014452	.0010178	.0006947	.0028724	.0169169
%RSD	1.241131	2.601375	.2593186	11.09029	1.382836	12.66234	17.45947
#1	.0056891	.0053553	5.562555	.0103168	.0494419	.0194121	.1161579
#2	.0057138	.0054680	5.567313	.0083576	.0505506	.0238521	.0900541
#3	.0055816	.0056388	5.589624	.0088586	.0507214	.0247891	.0844650

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0158433	5.476581	.0424006	.0123427	5.487551	.0436576	.0574829
Stddev	.0020548	.152808	.0003573	.0004686	.103298	.0124037	.0005384
%RSD	12.96941	2.790208	.8426268	3.796642	1.882409	28.41127	.9366197
#1	.0174046	5.323119	.0422797	.0119005	5.606757	.0295610	.0569414
#2	.0166100	5.628727	.0421196	.0128338	5.424359	.0485111	.0574891
#3	.0135155	5.477896	.0428027	.0122939	5.431537	.0529006	.0580182

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.997222	.0074705	-.001938	.0095818	.0871910	.2353087	.0050005
Stddev	.042371	.0020768	.001104	.0003668	.0028075	.0014039	.0020970
%RSD	.8478866	27.80074	56.96631	3.828104	3.219942	.5966019	41.93583
#1	5.039589	.0085381	-.003210	.0095963	.0886984	.2343276	.0040583
#2	4.997232	.0050770	-.001221	.0099411	.0839518	.2369168	.0074033
#3	4.954847	.0087964	-.001384	.0092080	.0889229	.2346817	.0035398

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164655BSD Acquired: 11/14/2024 17:50:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD655 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1036105	.0163849	.1071464
Stddev	.0013936	.0019302	.0004178
%RSD	1.345074	11.78045	.3899461
#1	.1049703	.0143556	.1076229
#2	.1021853	.0166014	.1068427
#3	.1036760	.0181978	.1069736

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	891.9252	22414.40	2075.307	788.8352	1709.868
Stddev	1.5973	22.02	5.004	5.4891	3.127
%RSD	.1790839	.0982209	.2411127	.6958469	.1828690
#1	891.1036	22414.44	2080.846	785.0947	1707.733
#2	893.7661	22436.40	2071.114	795.1368	1713.457
#3	890.9060	22392.37	2073.961	786.2742	1708.413

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164715BL Acquired: 11/14/2024 17:55:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS715 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001098	.0006379	-.001096	.0006549	-.003361	-.001772	-.000617
Stddev	.004503	.0006285	.002569	.0026128	.000997	.006352	.000930
%RSD	410.1432	98.54065	234.3330	398.9506	29.67793	358.4387	150.7764
#1	.004101	.0013029	.000028	-.001632	-.004127	-.008274	-.000765
#2	-.003622	.0005570	.000719	.003503	-.002233	-.001461	.000378
#3	-.003773	.0000536	-.004036	.000093	-.003723	.004419	-.001464

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000023	.0001376	.0028142	-.001237	.0003614	-.005356	.0090084
Stddev	.000056	.0000677	.0102102	.001503	.0004208	.005070	.0305764
%RSD	249.7697	49.20707	362.8043	121.5377	116.4368	94.66597	339.4218
#1	-.000023	.0000856	-.002253	-.002762	.0003090	-.011206	.0419239
#2	-.000078	.0002141	.014567	.000243	.0008060	-.002251	.0036114
#3	.000034	.0001130	-.003872	-.001191	-.000031	-.002610	-.018510

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000816	-.044597	.0000031	.0007201	-.151169	.0024562	-.000353
Stddev	.000549	.035951	.0004245	.0001730	.011137	.0088409	.000448
%RSD	67.29672	80.61349	13723.83	24.02016	7.367185	359.9396	126.7598
#1	-.001253	-.079803	-.000361	.0008207	-.156630	.0020141	-.000471
#2	-.000200	-.007944	-.000099	.0005204	-.138356	-.006155	-.000731
#3	-.000996	-.046045	.000469	.0008194	-.158522	.011510	.000141

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1151881	-.003983	-.002926	-.000459	-.001215	-.000232	.0002266
Stddev	.0916713	.001104	.000692	.000306	.005142	.000703	.0006755
%RSD	79.58398	27.71673	23.66033	66.80358	423.3043	303.4845	298.1548
#1	.1272878	-.003716	-.003636	-.000793	.004717	-.000673	.0009969
#2	.2002087	-.005195	-.002890	-.000191	-.004408	-.000602	-.000265
#3	.0180678	-.003036	-.002253	-.000392	-.003954	.000579	-.000053

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164715BL Acquired: 11/14/2024 17:55:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS715 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0006111	-.000348	-.000179
Stddev	.0003736	.002778	.000134
%RSD	61.13264	798.5507	74.57359
#1	.0001821	.002304	-.000036
#2	.0008649	-.003236	-.000301
#3	.0007862	-.000112	-.000200

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	891.0983	22345.78	2075.084	783.5789	1719.965
Stddev	1.1068	57.60	5.699	3.4793	3.184
%RSD	.1242091	.2577788	.2746193	.4440323	.1850932
#1	891.7987	22291.98	2080.871	779.5613	1717.138
#2	891.6740	22406.55	2069.479	785.5752	1723.413
#3	889.8223	22338.81	2074.904	785.6002	1719.344

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164715BS Acquired: 11/14/2024 17:59:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS715 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0168703	.0504721	.0202700	.0654621	.1083798	.4036214
Stddev	.0035471	.0072518	.0020966	.0037782	.0011227	.0189931
%RSD	21.02564	14.36783	10.34321	5.771570	1.035899	4.705668
#1	.0148704	.0472600	.0204189	.0698204	.1083694	.3845310
#2	.0147749	.0587751	.0181030	.0634525	.1072623	.4038175
#3	.0209658	.0453811	.0222882	.0631135	.1095076	.4225156

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4206715	.0110178	.0107734	10.96051	.0207958	.0997272
Stddev	.0018145	.0000889	.0001165	.08341	.0008994	.0004370
%RSD	.4313265	.8070479	1.081022	.7610294	4.324957	.4382285
#1	.4186470	.0109327	.0107337	10.89534	.0207187	.0996495
#2	.4221510	.0111101	.0106820	11.05452	.0217312	.1001979
#3	.4212165	.0110108	.0109045	10.93169	.0199374	.0993342

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0448843	.2139230	.0309414	10.49463	.0840333	.0231834
Stddev	.0013650	.0297291	.0012654	.06017	.0002808	.0003082
%RSD	3.041200	13.89711	4.089587	.5733636	.3341666	1.329497
#1	.0433219	.2453455	.0303261	10.43824	.0843561	.0228277
#2	.0454853	.2101821	.0323967	10.55798	.0838978	.0233509
#3	.0458456	.1862414	.0301013	10.48766	.0838459	.0233717

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.70491	.0916901	.1121422	9.813181	.0166459	F -.002116
Stddev	.09449	.0187162	.0002265	.043686	.0015854	.000964
%RSD	.8826642	20.41249	.2019284	.4451784	9.524402	45.58309
#1	10.60541	.0710379	.1122986	9.809692	.0181848	-.002413
#2	10.79342	.0965017	.1118825	9.858507	.0150178	-.001038
#3	10.71589	.1075309	.1122454	9.771344	.0167352	-.002897

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164715BS Acquired: 11/14/2024 17:59:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS715 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0191376	.1784073	F .4627460	.0126515	.2071503	.0306832
Stddev	.0002127	.0045526	.0008175	.0016044	.0012440	.0024985
%RSD	1.111312	2.551802	.1766585	12.68175	.6005317	8.142845
#1	.0191887	.1737717	.4620996	.0140529	.2071347	.0278235
#2	.0193201	.1785782	.4636649	.0130000	.2059141	.0317827
#3	.0189041	.1828720	.4624734	.0109014	.2084020	.0324434

Elem	Sr4077
Units	ppm
Avg	.2115191
Stddev	.0005914
%RSD	.2796086
#1	.2108362
#2	.2118638
#3	.2118572

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	888.7471	22351.41	2087.309	785.7209	1679.959
Stddev	.5905	46.37	7.268	5.8542	.940
%RSD	.0664459	.2074794	.3482022	.7450777	.0559262
#1	888.2716	22392.53	2095.661	790.8611	1679.335
#2	889.4081	22360.55	2082.414	786.9528	1681.040
#3	888.5615	22301.14	2083.854	779.3487	1679.502

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164715BSD Acquired: 11/14/2024 18:04:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD715 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000512	.0247478	.0092681	.0345286	.0547021	.1992163	.2098180
Stddev	.003211	.0010438	.0020113	.0044474	.0018971	.0065068	.0003141
%RSD	626.6400	4.217547	21.70158	12.88022	3.467992	3.266192	.1496784
#1	.002213	.0259525	.0113140	.0336395	.0554571	.2013987	.2097918
#2	.000302	.0241770	.0091972	.0305929	.0561054	.1918989	.2101444
#3	-.004052	.0241139	.0072932	.0393533	.0525438	.2043514	.2095179

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055042	.0053954	5.484120	.0092231	.0498585	.0203881	.1179495
Stddev	.0000872	.0001208	.017111	.0008741	.0006819	.0036620	.0182088
%RSD	1.584268	2.238439	.3120156	9.477386	1.367658	17.96155	15.43783
#1	.0054199	.0054098	5.498026	.0100727	.0506453	.0242212	.0977268
#2	.0055940	.0052681	5.489323	.0083264	.0494900	.0200176	.1230765
#3	.0054986	.0055084	5.465011	.0092701	.0494402	.0169254	.1330452

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0146270	5.267615	.0419982	.0123410	5.362629	.0552626	.0558732
Stddev	.0017821	.126752	.0001903	.0001866	.244566	.0099742	.0006228
%RSD	12.18380	2.406249	.4531481	1.512040	4.560563	18.04877	1.114705
#1	.0145096	5.175925	.0419702	.0121456	5.113926	.0458401	.0559928
#2	.0164649	5.214663	.0418235	.0123603	5.371124	.0657094	.0564275
#3	.0129064	5.412256	.0422010	.0125173	5.602837	.0542382	.0551992

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.817619	.0048499	-.003832	.0094766	.0856700	.2291771	.0058427
Stddev	.091198	.0037395	.000447	.0005832	.0040911	.0020338	.0005541
%RSD	1.893016	77.10404	11.66662	6.153957	4.775445	.8874377	9.484281
#1	4.890171	.0006993	-.003416	.0099085	.0903860	.2293696	.0058348
#2	4.715242	.0079563	-.004305	.0097080	.0830739	.2311078	.0052926
#3	4.847442	.0058941	-.003776	.0088132	.0835501	.2270539	.0064008

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: PB164715BSD Acquired: 11/14/2024 18:04:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD715 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1041300	.0147310	.1052138
Stddev	.0011299	.0013707	.0003923
%RSD	1.085116	9.304997	.3728777
#1	.1048208	.0134979	.1054062
#2	.1047431	.0144881	.1047625
#3	.1028260	.0162069	.1054728

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	896.0562	22348.15	2094.286	788.3999	1703.335
Stddev	2.2035	74.98	5.304	3.1891	2.156
%RSD	.2459143	.3354902	.2532770	.4045078	.1265584
#1	896.3257	22400.34	2090.489	790.8026	1702.032
#2	893.7304	22381.88	2092.021	789.6153	1705.824
#3	898.1126	22262.24	2100.346	784.7817	1702.151

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-11DLX2 Acquired: 11/14/2024 18:08:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2749404	-.043517	.1964014	-.002623	.0104026	104.1530	1.571585
Stddev	.0116863	.004135	.0032103	.004644	.0021070	.0538	.002439
%RSD	4.250472	9.502385	1.634576	177.0777	20.25416	.0516312	.1552249
#1	.2656085	-.042362	.1947960	.001983	.0118694	104.2150	1.572738
#2	.2880477	-.048106	.2000977	-.002546	.0079882	104.1199	1.568783
#3	.2711650	-.040082	.1943103	-.007305	.0113503	104.1240	1.573235

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027823	.0019414	28.21149	.3039552	.1885070	.4417486	331.5141
Stddev	.0000863	.0002190	.04285	.0019948	.0007793	.0080888	1.2247
%RSD	3.102377	11.27947	.1519039	.6562914	.4134006	1.831081	.3694140
#1	.0028776	.0017073	28.19140	.3048461	.1887492	.4507840	332.7008
#2	.0027603	.0019758	28.18237	.3053493	.1876353	.4351815	331.5869
#3	.0027092	.0021412	28.26070	.3016702	.1891364	.4392803	330.2547

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.71996	59.08197	.3155511	-.024068	1.235852	.6915513	.5730720
Stddev	.02112	.07053	.0007701	.000337	.065826	.0056703	.0032991
%RSD	.1434960	.1193749	.2440359	1.401917	5.326375	.8199397	.5756848
#1	14.74386	59.15126	.3146634	-.023697	1.228742	.6980444	.5692796
#2	14.71223	59.01026	.3159499	-.024356	1.304945	.6890340	.5746562
#3	14.70379	59.08440	.3160399	-.024151	1.173870	.6875754	.5752801

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.77804	5.241005	.3375156	-.001766	1.053974	7.428364	.0138379
Stddev	.09657	.013612	.0023971	.000688	.002466	.009628	.0005584
%RSD	.4434480	.2597133	.7102249	38.97150	.2339576	.1296148	4.035347
#1	21.88928	5.255198	.3400053	-.001139	1.054235	7.437794	.0132486
#2	21.71569	5.239755	.3373182	-.001656	1.056299	7.418549	.0143591
#3	21.72914	5.228061	.3352233	-.002503	1.051388	7.428750	.0139061

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-11DLX2 Acquired: 11/14/2024 18:08:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.296705	.0863764	.1875581
Stddev	.009561	.0007362	.0004497
%RSD	.4163019	.8523497	.2397839
#1	2.288307	.0856212	.1880712
#2	2.307111	.0864160	.1872322
#3	2.294699	.0870921	.1873710

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	930.6039	23624.56	2241.467	823.8585	1580.703
Stddev	1.2204	22.46	3.055	4.2088	3.832
%RSD	.1311384	.0950675	.1362805	.5108646	.2424125
#1	929.2118	23602.92	2238.117	828.7148	1579.360
#2	931.4896	23647.76	2242.187	821.5925	1585.025
#3	931.1101	23622.99	2244.097	821.2682	1577.723

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-12DLX2 Acquired: 11/14/2024 18:13:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2474853	-.037368	.1949062	-.000945	.0060152	105.2720	1.268892
Stddev	.0148951	.005834	.0037785	.002429	.0029260	.2591	.006507
%RSD	6.018585	15.61237	1.938626	256.9213	48.64270	.2461388	.5127776
#1	.2612427	-.043372	.1908077	-.000732	.0027227	105.4378	1.273983
#2	.2495460	-.031720	.1956596	-.003474	.0083178	105.4048	1.271131
#3	.2316671	-.037013	.1982512	.001370	.0070052	104.9734	1.261561

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029870	.0016562	30.31617	.3001300	.1750057	.4684992	304.1657
Stddev	.0001624	.0001791	.14281	.0014889	.0015101	.0021399	.9272
%RSD	5.437225	10.81677	.4710564	.4960752	.8629022	.4567479	.3048286
#1	.0028664	.0014494	30.39846	.2984157	.1738809	.4707143	304.2254
#2	.0031717	.0017642	30.39878	.3010999	.1767221	.4683397	305.0616
#3	.0029229	.0017549	30.15127	.3008745	.1744141	.4664435	303.2101

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.69729	60.84896	.3097748	-.022802	1.345402	.6449378	.5686015
Stddev	.04577	.09782	.0004470	.000286	.098947	.0056964	.0023123
%RSD	.3604352	.1607515	.1442844	1.254627	7.354457	.8832491	.4066704
#1	12.73253	60.95920	.3093032	-.022911	1.272956	.6409311	.5677544
#2	12.71377	60.77254	.3098289	-.023018	1.305113	.6514588	.5712179
#3	12.64556	60.81514	.3101922	-.022478	1.458138	.6424236	.5668322

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.07478	5.492548	.3127073	-.001919	1.132018	7.297100	.0128878
Stddev	.03857	.009112	.0012641	.000945	.004692	.049360	.0024683
%RSD	.1671448	.1658985	.4042416	49.25607	.4144837	.6764304	19.15194
#1	23.11666	5.482101	.3117702	-.001204	1.132405	7.307073	.0113089
#2	23.06695	5.498854	.3122067	-.001563	1.127144	7.340712	.0157322
#3	23.04073	5.496689	.3141450	-.002991	1.136504	7.243515	.0116224

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-12DLX2 Acquired: 11/14/2024 18:13:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.020547	.0843334	.1748075
Stddev	.004731	.0019771	.0002566
%RSD	.2341499	2.344374	.1467766
#1	2.023101	.0827640	.1751016
#2	2.023453	.0865540	.1746296
#3	2.015088	.0836823	.1746914

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	929.4140	23639.26	2228.485	824.3158	1586.829
Stddev	2.7853	68.94	9.111	2.7233	1.861
%RSD	.2996813	.2916345	.4088432	.3303698	.1173020
#1	929.8474	23711.74	2230.260	827.3370	1588.596
#2	931.9572	23631.54	2218.616	823.5603	1587.004
#3	926.4374	23574.51	2236.577	822.0500	1584.886

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-11LDLX10 Acquired: 11/14/2024 18:17:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0656912	-.013197	.0427843	-.002279	.0026600	23.57445	.3520416
Stddev	.0004073	.001451	.0036808	.002455	.0022349	.06219	.0009432
%RSD	.6199641	10.99746	8.603165	107.7241	84.02079	.2638126	.2679291
#1	.0652218	-.011555	.0457853	.000545	.0042659	23.52515	.3529302
#2	.0659506	-.013730	.0438904	-.003900	.0036064	23.55388	.3510519
#3	.0659012	-.014307	.0386773	-.003482	.0001075	23.64432	.3521427

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006214	.0001987	6.278864	.0703734	.0409043	.0993602	76.77123
Stddev	.0000314	.0002172	.023852	.0033394	.0003950	.0065193	.17579
%RSD	5.047571	109.2967	.3798835	4.745320	.9656240	6.561254	.2289820
#1	.0006427	.0000081	6.303155	.0686374	.0405241	.0918714	76.67264
#2	.0005854	.0001529	6.277962	.0742233	.0408763	.1037672	76.66685
#3	.0006362	.0004352	6.255476	.0682596	.0413125	.1024421	76.97419

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.367852	13.10270	.0691535	-.004386	.5219107	.1511765	.1371133
Stddev	.009094	.10529	.0003416	.002075	.4451587	.0032914	.0036345
%RSD	.2700133	.8035615	.4939675	47.30288	85.29404	2.177209	2.650711
#1	3.372036	13.11894	.0692374	-.006025	.7219625	.1532272	.1349464
#2	3.374101	12.99024	.0694452	-.002053	.8319465	.1473799	.1413093
#3	3.357420	13.19893	.0687777	-.005079	.0118229	.1529223	.1350842

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.991654	1.133411	.0775048	-.001277	.2178830	1.750061	.0129309
Stddev	.118722	.005789	.0011328	.000221	.0051811	.011339	.0012399
%RSD	2.378419	.5107884	1.461585	17.27383	2.377927	.6479396	9.588798
#1	5.042302	1.136346	.0769648	-.001344	.2182807	1.737283	.0143615
#2	4.856008	1.126742	.0788065	-.001457	.2228538	1.753976	.0122639
#3	5.076653	1.137145	.0767430	-.001031	.2125145	1.758924	.0121672

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-11LDLX10 Acquired: 11/14/2024 18:17:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5237114	.0202375	.0427935
Stddev	.0039466	.0023210	.0003314
%RSD	.7535756	11.46871	.7744323
#1	.5271299	.0209211	.0424498
#2	.5193925	.0176515	.0431111
#3	.5246119	.0221400	.0428196

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	902.5108	22428.50	2125.663	781.6694	1666.697
Stddev	.8685	595.67	2.963	21.2456	4.819
%RSD	.0962362	2.655860	.1393740	2.717974	.2891070
#1	903.2053	22828.48	2128.168	795.3730	1667.378
#2	902.7901	21743.91	2126.429	757.1957	1671.138
#3	901.5369	22713.10	2122.393	792.4397	1661.574

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-13DLX2 Acquired: 11/14/2024 18:22:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3486773	.0523023	.2334473	.1506869	.1690625	107.1420	5.391891
Stddev	.0075509	.0022984	.0035718	.0030493	.0009590	.1092	.019749
%RSD	2.165594	4.394462	1.530024	2.023617	.5672215	.1019078	.3662770
#1	.3518496	.0546887	.2332415	.1477691	.1682377	107.0271	5.371578
#2	.3400578	.0501033	.2299828	.1504389	.1701147	107.1545	5.393070
#3	.3541246	.0521148	.2371175	.1538527	.1688350	107.2444	5.411024

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0975684	.1002820	27.52218	.7103389	1.168044	.8840606	331.7507
Stddev	.0006300	.0005484	.09264	.0011848	.000422	.0030425	1.5727
%RSD	.6457204	.5468661	.3366057	.1667916	.0361532	.3441457	.4740699
#1	.0968810	.1003033	27.44207	.7112977	1.168341	.8815530	330.0000
#2	.0981184	.0997232	27.50082	.7107046	1.167561	.8831835	332.2083
#3	.0977058	.1008194	27.62363	.7090143	1.168230	.8874452	333.0440

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.51900	58.58609	1.299236	.0664094	1.547255	1.688814	1.388584
Stddev	.06381	.34022	.001824	.0008938	.354325	.013871	.007874
%RSD	.4111772	.5807184	.1403800	1.345851	22.90022	.8213275	.5670540
#1	15.44622	58.23019	1.297139	.0654139	1.682057	1.679891	1.379679
#2	15.54543	58.62000	1.300115	.0671429	1.814394	1.681758	1.394626
#3	15.56534	58.90809	1.300454	.0666715	1.145313	1.704795	1.391448

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.71651	5.317258	.3406193	-.001532	1.066903	7.462992	.0135099
Stddev	.04715	.010422	.0012024	.000434	.008365	.043598	.0024247
%RSD	.2170945	.1959967	.3530034	28.34464	.7840599	.5841900	17.94765
#1	21.71851	5.322015	.3398166	-.001051	1.059983	7.412797	.0138792
#2	21.66839	5.305307	.3400397	-.001648	1.064527	7.491422	.0157288
#3	21.76262	5.324452	.3420018	-.001896	1.076199	7.484758	.0109217

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-13DLX2 Acquired: 11/14/2024 18:22:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.289206	.0863612	.1872927
Stddev	.004006	.0035690	.0004298
%RSD	.1749876	4.132666	.2294544
#1	2.289511	.0831059	.1869468
#2	2.285056	.0901775	.1877738
#3	2.293050	.0858002	.1871575

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	925.0395	23702.37	2263.284	820.4099	1579.731
Stddev	.5890	43.18	5.471	2.0750	1.081
%RSD	.0636687	.1821628	.2417245	.2529209	.0684514
#1	924.3863	23663.97	2269.006	821.9878	1579.980
#2	925.5299	23694.03	2258.105	818.0594	1580.667
#3	925.2023	23749.10	2262.741	821.1823	1578.547

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07DLX2 Acquired: 11/14/2024 18:26:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1508695	-.051650	.2707753	-.005076	.0103975	91.14835	1.209961
Stddev	.0088106	.001788	.0018029	.009620	.0017492	.13229	.002478
%RSD	5.839847	3.462587	.6658401	189.5130	16.82360	.1451408	.2047656
#1	.1524446	-.049585	.2726141	-.016045	.0118463	91.11526	1.207983
#2	.1587864	-.052699	.2707014	.001926	.0108919	91.03575	1.212740
#3	.1413777	-.052665	.2690105	-.001110	.0084543	91.29405	1.209160

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029276	.0019474	20.16358	.2629820	.1696588	.5243376	399.8971
Stddev	.0000736	.0005575	.10141	.0007105	.0020055	.0025866	.1995
%RSD	2.513033	28.62795	.5029369	.2701776	1.182094	.4933025	.0498911
#1	.0029513	.0025882	20.04825	.2624442	.1675792	.5271524	399.6903
#2	.0028451	.0016796	20.23881	.2637875	.1698160	.5237953	399.9126
#3	.0029864	.0015743	20.20367	.2627142	.1715810	.5220652	400.0884

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.55232	44.27981	.2299581	-.030195	1.878942	.6577709	.6240969
Stddev	.00372	.08467	.0007548	.000498	.266274	.0130132	.0024904
%RSD	.0255787	.1912089	.3282529	1.648590	14.17151	1.978373	.3990369
#1	14.55267	44.24999	.2298626	-.029940	1.927444	.6481388	.6265926
#2	14.55586	44.37535	.2292555	-.029877	2.117631	.6525990	.6216119
#3	14.54844	44.21408	.2307561	-.030769	1.591750	.6725749	.6240860

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.32880	3.878810	.3998649	-.001628	1.055240	6.915782	.0113440
Stddev	.02478	.020619	.0034180	.000462	.006329	.040332	.0013464
%RSD	.1352033	.5315791	.8547969	28.39332	.5998064	.5831898	11.86845
#1	18.33024	3.878154	.4019087	-.001114	1.061210	6.926670	.0097908
#2	18.30332	3.858526	.4017671	-.002009	1.048604	6.871123	.0120640
#3	18.35282	3.899749	.3959189	-.001762	1.055906	6.949552	.0121773

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07DLX2 Acquired: 11/14/2024 18:26:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.685162	.0700632	.1853403
Stddev	.005108	.0028030	.0003996
%RSD	.1902374	4.000684	.2156139
#1	2.690253	.0730969	.1854536
#2	2.685194	.0695235	.1848963
#3	2.680037	.0675694	.1856711

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	918.7797	23382.91	2231.448	814.0171	1602.118
Stddev	1.1347	39.71	9.139	1.6643	3.617
%RSD	.1234971	.1698293	.4095599	.2044565	.2257480
#1	917.7738	23376.03	2226.422	813.3845	1599.857
#2	918.5556	23347.09	2241.997	812.7619	1606.289
#3	920.0097	23425.61	2225.924	815.9050	1600.207

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV088 Acquired: 11/14/2024 18:30:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV088 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.891376	4.755644	24.35293	4.694096	4.728065	403.7416	10.20503
Stddev	.007698	.026833	.07193	.016707	.019341	.9445	.02618
%RSD	.1573737	.5642377	.2953739	.3559046	.4090755	.2339318	.2565837
#1	4.899253	4.763218	24.34285	4.710072	4.749644	404.6775	10.22752
#2	4.891004	4.777876	24.42937	4.676744	4.712290	403.7586	10.21127
#3	4.883871	4.725838	24.28657	4.695473	4.722261	402.7887	10.17629

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5051128	2.456622	410.4520	15.26638	2.472241	15.04488	415.1030
Stddev	.0010919	.008298	.8181	.00675	.005710	.06523	1.3616
%RSD	.2161708	.3377910	.1993080	.0442462	.2309714	.4335607	.3280165
#1	.5059994	2.460463	410.7224	15.26185	2.473257	15.08755	415.3624
#2	.5054457	2.462304	411.1008	15.27414	2.477375	15.07729	416.3162
#3	.5038931	2.447099	409.5330	15.26315	2.466091	14.96979	413.6303

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.98478	408.3985	2.462396	1.246004	410.6859	2.513397	14.41278
Stddev	.04452	1.5213	.006145	.001077	1.5742	.009482	.13410
%RSD	.2970928	.3724954	.2495569	.0864389	.3833158	.3772767	.9304312
#1	15.00981	408.5516	2.460332	1.245859	412.1842	2.502689	14.27970
#2	15.01115	409.8374	2.469307	1.247146	410.8282	2.520730	14.41077
#3	14.93338	406.8064	2.457548	1.245006	409.0454	2.516774	14.54788

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	153.4948	4.968682	5.280033	4.711550	4.980369	5.043673	4.936243
Stddev	.3117	.014032	.016418	.010377	.024225	.014335	.008758
%RSD	.2030982	.2824046	.3109394	.2202499	.4864019	.2842190	.1774268
#1	153.8308	4.968862	5.297945	4.722878	4.995077	5.059896	4.937015
#2	153.4389	4.982623	5.276454	4.709270	4.993621	5.032713	4.944590
#3	153.2148	4.954562	5.265700	4.702502	4.952409	5.038411	4.927124

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV088 Acquired: 11/14/2024 18:30:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV088 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.006714	5.087427	5.063587
Stddev	.010889	.011055	.011797
%RSD	.2174893	.2172939	.2329844
#1	5.019089	5.091959	5.075424
#2	5.002455	5.095495	5.063507
#3	4.998598	5.074826	5.051829

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	719.6434	20346.14	1990.221	612.5910	1298.832
Stddev	2.5606	48.72	.694	6.1025	4.970
%RSD	.3558179	.2394715	.0348803	.9961808	.3826822
#1	716.7918	20374.05	1989.478	618.6677	1296.181
#2	720.3923	20289.88	1990.333	612.6423	1295.750
#3	721.7461	20374.49	1990.852	606.4630	1304.566

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB088 Acquired: 11/14/2024 18:35:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB088 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020795	.0007736	-.000057	-.002487	-.001749	.0207412	-.000359
Stddev	.0029367	.0018204	.001823	.007358	.000370	.0104387	.000561
%RSD	141.2224	235.3081	3194.093	295.8112	21.15593	50.32814	156.1756
#1	.0008849	-.000717	.002043	.005901	-.002153	.0089132	-.000978
#2	-.000072	.000235	-.000980	-.007847	-.001427	.0286652	-.000214
#3	.005425	.002803	-.001234	-.005516	-.001666	.0246452	.000115

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000002	.0004138	.0388754	.0000863	.0004875	-.004636	.0268442
Stddev	.000072	.0001666	.0031566	.0004976	.0008521	.009536	.0207258
%RSD	3267.783	40.25660	8.119684	576.3423	174.7975	205.6865	77.20750
#1	.000015	.0002242	.0420331	-.000420	.0001995	-.005679	.0457765
#2	-.000082	.0005366	.0357200	.000574	.0014462	.005378	.0047000
#3	.000060	.0004805	.0388732	.000105	-.000183	-.013609	.0300562

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003184	-.003679	.0003169	.0019879	.1336547	-.010175	.0015052
Stddev	.0008602	.041060	.0005905	.0007027	.2277955	.004343	.0003264
%RSD	270.1317	1115.950	186.3381	35.34667	170.4358	42.68392	21.68413
#1	-.000628	-.036533	.0000984	.0027709	.0528283	-.009029	.0011297
#2	.000530	-.016857	.0009855	.0014122	.3908423	-.006519	.0016645
#3	.001053	.042352	-.000133	.0017807	-.042706	-.014975	.0017213

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0480060	-.001527	.0060926	.0003740	.0007337	.0003643	-.000122
Stddev	.0372885	.004607	.0007747	.0009430	.0014444	.0006195	.000777
%RSD	77.67476	301.7055	12.71482	252.1396	196.8746	170.0567	638.2394
#1	.0834540	.002255	.0067797	.0011046	.0017588	.0009975	-.000452
#2	.0514484	-.000178	.0062451	.0007080	.0013605	-.000240	.000766
#3	.0091156	-.006657	.0052531	-.000691	-.000918	.000336	-.000680

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB088 Acquired: 11/14/2024 18:35:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB088 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0000876	.0012530	.0000409
Stddev	.0009302	.0027487	.0002132
%RSD	1061.535	219.3741	521.3388
#1	.0008768	-.001174	.0001791
#2	.0003240	.004238	-.000205
#3	-.000938	.000695	.000148

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	894.3146	22355.11	2049.421	787.5947	1726.001
Stddev	2.1516	102.22	18.820	2.3594	5.359
%RSD	.2405873	.4572604	.9182939	.2995649	.3104597
#1	896.7261	22241.21	2045.829	786.1888	1732.127
#2	893.6261	22385.25	2069.779	786.2767	1723.694
#3	892.5915	22438.88	2032.657	790.3185	1722.183

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-08DLX2 Acquired: 11/14/2024 18:39:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1390435	-.051942	.2607319	-.004741	.0130950	89.05959	1.126451
Stddev	.0126722	.002985	.0027597	.006411	.0010405	.73537	.011305
%RSD	9.113862	5.746791	1.058431	135.2155	7.945515	.8257021	1.003593
#1	.1255055	-.055388	.2624484	-.011017	.0119890	89.47204	1.132685
#2	.1410033	-.050157	.2621986	.001797	.0132416	89.49615	1.133267
#3	.1506216	-.050282	.2575485	-.005003	.0140543	88.21057	1.113402

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027771	.0019161	19.23380	.2544625	.1642700	.5135233	392.3969
Stddev	.0000895	.0000631	.12813	.0006230	.0012848	.0016248	4.1268
%RSD	3.221023	3.291142	.6661747	.2448256	.7821223	.3164131	1.051679
#1	.0028553	.0018777	19.27693	.2551746	.1639364	.5148149	393.7593
#2	.0026795	.0019889	19.33480	.2540180	.1631849	.5140559	395.6701
#3	.0027965	.0018818	19.08967	.2541949	.1656886	.5116989	387.7611

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.73800	42.96063	.2222994	-.029442	1.810908	.6337027	.6115828
Stddev	.12888	.66152	.0018455	.000408	.141578	.0097503	.0020077
%RSD	.9381546	1.539832	.8302006	1.384853	7.818076	1.538621	.3282762
#1	13.81071	43.32915	.2204290	-.029285	1.882158	.6390615	.6125790
#2	13.81410	43.35580	.2241190	-.029905	1.647859	.6224483	.6128976
#3	13.58919	42.19692	.2223503	-.029136	1.902707	.6395983	.6092719

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.95227	3.795514	.3934638	-.001230	1.035139	6.835674	.0098036
Stddev	.18883	.015879	.0033473	.000672	.007275	.038834	.0026085
%RSD	1.051847	.4183611	.8507158	54.63913	.7027723	.5681073	26.60766
#1	18.08428	3.792545	.3943259	-.000484	1.028255	6.837658	.0068785
#2	18.03656	3.781330	.3962957	-.001420	1.034413	6.873478	.0118885
#3	17.73598	3.812668	.3897698	-.001787	1.042750	6.795886	.0106437

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-08DLX2 Acquired: 11/14/2024 18:39:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.642709	.0693036	.1806568
Stddev	.019309	.0009338	.0015596
%RSD	.7306403	1.347444	.8632797
#1	2.652462	.0694440	.1817555
#2	2.655195	.0683075	.1813432
#3	2.620469	.0701593	.1788718

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	915.1454	23331.93	2204.118	810.9066	1606.836
Stddev	1.6634	98.55	11.500	2.7342	2.329
%RSD	.1817619	.4223836	.5217658	.3371736	.1449361
#1	914.3200	23220.23	2205.382	808.6179	1608.773
#2	917.0601	23368.96	2192.037	810.1676	1604.252
#3	914.0562	23406.60	2214.933	813.9343	1607.483

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07LDLX10 Acquired: 11/14/2024 18:44:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0493923	-.011059	.0632395	-.004711	.0027365	20.88591	.2772959
Stddev	.0087035	.002965	.0037237	.005972	.0034109	.04043	.0008088
%RSD	17.62117	26.80749	5.888282	126.7627	124.6469	.1935948	.2916623
#1	.0484518	-.009331	.0643717	.001856	.0047849	20.87213	.2763751
#2	.0411972	-.014483	.0662657	-.009815	-.001201	20.93143	.2778912
#3	.0585278	-.009364	.0590811	-.006174	.004626	20.85416	.2776213

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006432	.0002153	4.662665	.0593968	.0377155	.1115042	93.78005
Stddev	.0001118	.0002279	.040741	.0009224	.0003405	.0025575	.56803
%RSD	17.37840	105.8507	.8737666	1.552931	.9026826	2.293596	.6057084
#1	.0007420	-.000033	4.709707	.0604026	.0373988	.1097441	93.49350
#2	.0005219	.000264	4.638760	.0591974	.0376720	.1103306	94.43429
#3	.0006659	.000415	4.639529	.0585905	.0380755	.1144378	93.41237

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.408753	10.11210	.0512649	-.006971	.5911250	.1374093	.1470035
Stddev	.020912	.07111	.0003335	.000594	.3811786	.0128520	.0007395
%RSD	.6134783	.7031821	.6504999	8.521424	64.48359	9.353066	.5030749
#1	3.392617	10.03544	.0509157	-.007088	.5510109	.1435195	.1474620
#2	3.432378	10.12493	.0515800	-.006327	.9907743	.1460662	.1461503
#3	3.401263	10.17591	.0512990	-.007498	.2315898	.1226421	.1473981

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.144583	.8522350	.0944515	-.000871	.2407064	1.628332	.0066985
Stddev	.010987	.0103519	.0002525	.000917	.0031918	.009141	.0012873
%RSD	.2650945	1.214677	.2673644	105.2558	1.326018	.5613968	19.21791
#1	4.152421	.8425901	.0944276	-.000005	.2388059	1.627101	.0069917
#2	4.132025	.8509425	.0942117	-.000776	.2389219	1.638027	.0052899
#3	4.149303	.8631725	.0947151	-.001831	.2443913	1.619869	.0078140

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07LDLX10 Acquired: 11/14/2024 18:44:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6180311	.0174585	.0424391
Stddev	.0028368	.0019946	.0001129
%RSD	.4590011	11.42489	.2660967
#1	.6173414	.0152879	.0423585
#2	.6211492	.0192107	.0425682
#3	.6156029	.0178770	.0423907

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	903.2239	22778.04	2122.969	798.1710	1677.889
Stddev	.6567	45.26	12.761	2.7915	1.567
%RSD	.0727025	.1987082	.6011120	.3497342	.0934001
#1	903.5857	22740.84	2121.589	795.6472	1679.682
#2	903.6200	22764.85	2110.954	801.1693	1676.780
#3	902.4659	22828.44	2136.364	797.6964	1677.205

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-09DLX2 Acquired: 11/14/2024 18:48:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2161458	.0422272	.3042356	.1641812	.1748965	93.53642	5.120857
Stddev	.0041135	.0039977	.0023753	.0027583	.0015050	.07267	.001468
%RSD	1.903107	9.467027	.7807572	1.680061	.8604983	.0776904	.0286751
#1	.2180228	.0379488	.3049067	.1611915	.1766124	93.54752	5.122455
#2	.2114286	.0458674	.3015969	.1647250	.1738003	93.60290	5.119567
#3	.2189860	.0428654	.3062032	.1666272	.1742767	93.45884	5.120549

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0990474	.0996645	19.74727	.6702257	1.137815	.9621176	397.3131
Stddev	.0000910	.0007132	.11554	.0028183	.002284	.0033651	.4296
%RSD	.0918387	.7156142	.5850938	.4204956	.2007320	.3497590	.1081314
#1	.0991495	.0993722	19.61574	.6687448	1.135851	.9601270	397.8055
#2	.0990174	.0991438	19.83236	.6734757	1.137273	.9660028	397.1194
#3	.0989751	.1004774	19.79372	.6684565	1.140321	.9602229	397.0144

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.36533	43.77265	1.197577	.0617462	1.710107	1.645867	1.445534
Stddev	.02078	.24759	.003571	.0000618	.033817	.009197	.004482
%RSD	.1352679	.5656313	.2981726	.1001744	1.977477	.5588220	.3100279
#1	15.38237	44.03445	1.193643	.0617716	1.741459	1.655603	1.441513
#2	15.37144	43.54227	1.200614	.0617913	1.714590	1.644674	1.450365
#3	15.34217	43.74124	1.198473	.0616757	1.674272	1.637325	1.444723

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.13728	3.851175	.3966519	-.001723	1.070068	6.855416	.0152005
Stddev	.10826	.003146	.0038103	.000919	.023674	.015500	.0029043
%RSD	.5968894	.0816903	.9606100	53.32457	2.212414	.2260953	19.10636
#1	18.01288	3.847659	.3977938	-.001752	1.056484	6.848412	.0119150
#2	18.21016	3.852143	.3997607	-.000790	1.056316	6.844655	.0174254
#3	18.18879	3.853724	.3924013	-.002627	1.097405	6.873182	.0162610

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-09DLX2 Acquired: 11/14/2024 18:48:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.650444	.0692975	.1829118
Stddev	.004271	.0014902	.0002780
%RSD	.1611253	2.150495	.1520020
#1	2.647088	.0708715	.1828767
#2	2.655251	.0691129	.1826530
#3	2.648992	.0679082	.1832057

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	911.8887	23497.46	2230.923	807.8928	1600.920
Stddev	1.8374	51.61	2.774	3.8130	2.935
%RSD	.2014908	.2196458	.1243563	.4719660	.1833209
#1	913.8962	23531.25	2233.913	811.2882	1604.162
#2	911.4794	23438.05	2230.424	803.7677	1600.153
#3	910.2905	23523.08	2228.432	808.6226	1598.444

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-01DLX2 Acquired: 11/14/2024 18:52:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1161489	-.023174	.1468630	-.000930	.0042677	61.07738	.7678007
Stddev	.0099764	.003610	.0054923	.006011	.0018349	.09706	.0030248
%RSD	8.589331	15.57619	3.739749	646.4882	42.99382	.1589105	.3939600
#1	.1083185	-.019520	.1429870	-.006609	.0030665	60.98835	.7657921
#2	.1273814	-.026737	.1444539	.005366	.0063798	61.06294	.7663304
#3	.1127468	-.023265	.1531482	-.001546	.0033569	61.18085	.7712796

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018216	.0020528	19.50443	.1730149	.0878442	.4507849	166.5315
Stddev	.0000674	.0002414	.06805	.0008821	.0006603	.0083740	.9834
%RSD	3.701575	11.76035	.3489023	.5098179	.7517012	1.857650	.5904998
#1	.0018402	.0021103	19.44938	.1737727	.0871130	.4600723	165.9216
#2	.0017468	.0017878	19.48339	.1732253	.0880225	.4484720	166.0069
#3	.0018778	.0022602	19.58052	.1720467	.0883971	.4438104	167.6659

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.627971	32.67720	.1526750	-.013047	.8915801	.2361376	.4913892
Stddev	.026782	.24697	.0012917	.000335	.2240920	.0062480	.0017387
%RSD	.5787064	.7557891	.8460339	2.564165	25.13425	2.645898	.3538354
#1	4.610146	32.41521	.1537692	-.013371	.9649754	.2316439	.4917893
#2	4.614997	32.71064	.1512501	-.012703	1.069771	.2432724	.4894853
#3	4.658769	32.90575	.1530058	-.013067	.639994	.2334965	.4928929

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.97797	4.307778	.1758447	-.000491	.7549748	6.917205	.0063089
Stddev	.10412	.021537	.0015808	.000485	.0046852	.008414	.0015463
%RSD	.5791451	.4999480	.8989899	98.78705	.6205757	.1216350	24.50964
#1	17.86241	4.294740	.1746649	-.000803	.7507011	6.910818	.0048064
#2	18.00703	4.295957	.1752284	-.000737	.7599844	6.926739	.0062250
#3	18.06447	4.332636	.1776409	.000068	.7542391	6.914060	.0078955

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-01DLX2 Acquired: 11/14/2024 18:52:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.330795	.0466488	.1105589
Stddev	.004000	.0015278	.0002448
%RSD	.3006036	3.275130	.2213836
#1	1.335051	.0482575	.1105825
#2	1.327112	.0452174	.1103032
#3	1.330221	.0464716	.1107910

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	922.6081	23459.86	2231.343	815.3450	1619.188
Stddev	1.7803	74.25	7.958	4.1139	1.051
%RSD	.1929662	.3164939	.3566520	.5045626	.0648997
#1	922.4808	23543.61	2240.286	819.8625	1618.987
#2	924.4486	23433.87	2225.040	814.3584	1620.325
#3	920.8948	23402.10	2228.704	811.8140	1618.252

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-02DLX2 Acquired: 11/14/2024 18:57:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1359661	-.027026	.1675514	.0004873	.0055984	66.79965	.8674599
Stddev	.0024618	.002986	.0054629	.0054542	.0026985	1.39583	.0197348
%RSD	1.810580	11.05014	3.260432	1119.307	48.20163	2.089576	2.275010
#1	.1346460	-.025539	.1691024	.0057736	.0068354	68.40460	.8902269
#2	.1388064	-.025074	.1614807	.0008089	.0074568	65.86889	.8552353
#3	.1344459	-.030463	.1720710	-.005121	.0025032	66.12547	.8569173

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020105	.0022565	21.12091	.1768389	.1007191	.5419538	177.2000
Stddev	.0000950	.0000480	.44463	.0021613	.0000356	.0090006	3.5041
%RSD	4.723578	2.128194	2.105161	1.222161	.0353547	1.660765	1.977491
#1	.0021041	.0023120	21.63409	.1744108	.1006781	.5511637	181.2364
#2	.0020132	.0022281	20.85082	.1775533	.1007369	.5331783	174.9386
#3	.0019143	.0022296	20.87782	.1785524	.1007423	.5415195	175.4249

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.248220	35.05859	.1659673	-.013366	.8516147	.2719383	.5462738
Stddev	.106898	.72768	.0000492	.000111	.2433210	.0132804	.0017467
%RSD	2.036848	2.075625	.0296417	.8280868	28.57172	4.883625	.3197384
#1	5.369209	35.89878	.1659329	-.013468	1.126450	.2629239	.5443391
#2	5.166548	34.62943	.1659453	-.013248	.764738	.2871891	.5467475
#3	5.208904	34.64755	.1660236	-.013383	.663656	.2657018	.5477347

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.57492	4.476352	.1859579	-.000412	.8465758	6.854382	.0060588
Stddev	.41923	.012578	.0050519	.000249	.0062176	.117957	.0033749
%RSD	2.141691	.2809827	2.716701	60.51817	.7344451	1.720901	55.70139
#1	20.04129	4.482422	.1915523	-.000699	.8476977	6.980088	.0039766
#2	19.22934	4.461890	.1817292	-.000282	.8398736	6.746116	.0099526
#3	19.45414	4.484743	.1845923	-.000254	.8521561	6.836942	.0042472

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-02DLX2 Acquired: 11/14/2024 18:57:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.368695	.0521134	.1229964
Stddev	.030192	.0025517	.0025105
%RSD	2.205916	4.896497	2.041084
#1	1.403543	.0548517	.1258952
#2	1.350389	.0498020	.1215343
#3	1.352153	.0516866	.1215597

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	927.3283	23471.80	2206.333	816.3820	1616.990
Stddev	2.3690	51.73	38.004	4.1276	3.891
%RSD	.2554622	.2203844	1.722509	.5055939	.2406049
#1	930.0636	23528.47	2164.418	820.9250	1621.341
#2	925.9813	23459.79	2238.546	815.3585	1615.779
#3	925.9399	23427.13	2216.035	812.8624	1613.848

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-01LDLX10 Acquired: 11/14/2024 19:01:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0280378	-.005982	.0285531	-.000688	.0002336	12.54551	.1570113
Stddev	.0063511	.002676	.0022614	.004919	.0014494	.06568	.0004539
%RSD	22.65208	44.74028	7.919861	715.0234	620.3487	.5235211	.2890564
#1	.0340185	-.006716	.0303775	-.002547	.0016899	12.48552	.1575230
#2	.0213718	-.003015	.0292586	.004890	.0002198	12.61569	.1566575
#3	.0287233	-.008215	.0260230	-.004407	-.001209	12.53534	.1568534

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004155	.0003348	4.032195	.0342629	.0169113	.0957773	34.75025
Stddev	.0000824	.0001264	.017571	.0002676	.0005419	.0045437	.18644
%RSD	19.83495	37.75477	.4357657	.7810295	3.204177	4.744050	.5365125
#1	.0004087	.0004385	4.014844	.0343347	.0165012	.0960994	34.59121
#2	.0005010	.0003720	4.049978	.0344872	.0175256	.1001514	34.70410
#3	.0003367	.0001940	4.031763	.0339667	.0167071	.0910811	34.95543

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9619116	6.702679	.0297647	-.001569	.2278153	.0344841	.1030886
Stddev	.0061512	.063614	.0002406	.000335	.0775373	.0061101	.0007162
%RSD	.6394770	.9490847	.8082679	21.36196	34.03515	17.71868	.6946906
#1	.9557583	6.629299	.0297583	-.001434	.1387967	.0342973	.1022749
#2	.9680607	6.742238	.0300084	-.001951	.2640299	.0406855	.1033678
#3	.9619158	6.736501	.0295274	-.001323	.2806192	.0284695	.1036230

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.614386	.8267042	.0356857	-.000367	.1423096	1.484324	.0011744
Stddev	.066614	.0082289	.0011324	.000201	.0077748	.010383	.0019742
%RSD	1.843032	.9953839	3.173242	54.69988	5.463268	.6995123	168.1013
#1	3.551307	.8272744	.0343782	-.000564	.1350417	1.476062	-.000601
#2	3.607805	.8182050	.0363224	-.000373	.1413795	1.495979	.000824
#3	3.684047	.8346331	.0363563	-.000163	.1505075	1.480930	.003300

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-01LDLX10 Acquired: 11/14/2024 19:01:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2690818	.0099236	.0225505
Stddev	.0005593	.0015270	.0001874
%RSD	.2078472	15.38726	.8309502
#1	.2694572	.0116038	.0223819
#2	.2684390	.0086205	.0227523
#3	.2693491	.0095465	.0225174

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	906.2173	22745.75	2099.006	799.3503	1699.549
Stddev	2.2498	45.87	9.337	2.5568	3.534
%RSD	.2482618	.2016592	.4448230	.3198617	.2079311
#1	904.1452	22699.13	2105.461	801.3589	1697.839
#2	905.8964	22790.83	2088.300	800.2199	1697.196
#3	908.6103	22747.29	2103.257	796.4721	1703.613

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-03DLX2 Acquired: 11/14/2024 19:06:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1700575	.0747840	.1814917	.1670231	.1680518	63.23502	4.618262
Stddev	.0175446	.0017468	.0017900	.0058214	.0023375	.16645	.019045
%RSD	10.31684	2.335802	.9862696	3.485375	1.390955	.2632193	.4123933
#1	.1584736	.0765040	.1824323	.1684777	.1677474	63.25249	4.626291
#2	.1614559	.0748364	.1794275	.1606124	.1658814	63.39205	4.631979
#3	.1902429	.0730115	.1826152	.1719793	.1705267	63.06053	4.596517

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0986663	.0984838	18.80064	.5814491	1.054715	.8959977	164.5714
Stddev	.0001652	.0002645	.08458	.0032772	.000912	.0103917	.4932
%RSD	.1674084	.2685901	.4498892	.5636339	.0864707	1.159785	.2996574
#1	.0985203	.0986673	18.75192	.5780074	1.055018	.8968851	164.6887
#2	.0986330	.0986035	18.89831	.5818073	1.053690	.9059173	164.9953
#3	.0988456	.0981806	18.75170	.5845325	1.055438	.8851909	164.0302

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.479988	31.89223	1.126187	.0793130	.9296823	1.221596	1.308565
Stddev	.019597	.27758	.002017	.0009761	.4573010	.016150	.002687
%RSD	.3576073	.8703750	.1790674	1.230741	49.18895	1.322006	.2053610
#1	5.478721	32.10387	1.125642	.0783863	.5740075	1.236595	1.311489
#2	5.500188	31.99487	1.124499	.0792207	.7695172	1.223693	1.308004
#3	5.461056	31.57794	1.128420	.0803320	1.445522	1.204501	1.306203

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.46470	4.186943	.1739473	-.000587	.7588008	6.807738	.0041871
Stddev	.12758	.022885	.0009426	.000283	.0162452	.005019	.0015133
%RSD	.7305220	.5465760	.5418703	48.15105	2.140900	.0737239	36.14237
#1	17.33364	4.198123	.1733565	-.000606	.7552731	6.807517	.0044303
#2	17.58849	4.202089	.1750343	-.000859	.7765200	6.802833	.0055641
#3	17.47198	4.160617	.1734511	-.000295	.7446094	6.812863	.0025669

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-03DLX2 Acquired: 11/14/2024 19:06:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.290258	.0448303	.1077459
Stddev	.003796	.0019153	.0003428
%RSD	.2941728	4.272263	.3181864
#1	1.289254	.0426625	.1076626
#2	1.294454	.0455354	.1081227
#3	1.287065	.0462931	.1074524

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	919.1100	23459.03	2198.478	811.3172	1624.467
Stddev	.9151	43.73	1.435	2.3782	.351
%RSD	.0995616	.1864176	.0652862	.2931313	.0216017
#1	918.8084	23456.41	2196.853	808.6898	1624.829
#2	920.1378	23504.02	2199.572	811.9390	1624.446
#3	918.3837	23416.67	2199.008	813.3227	1624.128

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-01DLX2 Acquired: 11/14/2024 19:10:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1209059	-.026285	.0939959	.0030575	.0055566	82.95617	1.025908
Stddev	.0091897	.006231	.0055892	.0014065	.0033970	.08385	.002076
%RSD	7.600674	23.70560	5.946230	46.00167	61.13538	.1010779	.2023302
#1	.1268254	-.022613	.0993331	.0024914	.0017851	82.86330	1.026114
#2	.1103193	-.033480	.0944699	.0020222	.0065087	83.02631	1.027873
#3	.1255731	-.022763	.0881848	.0046588	.0083760	82.97890	1.023737

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022432	-.000266	42.40942	.2231461	.1088681	.2630397	194.4477
Stddev	.0002442	.000128	.03943	.0003674	.0006328	.0048508	.1134
%RSD	10.88406	48.02997	.0929641	.1646320	.5812366	1.844124	.0583035
#1	.0025122	-.000414	42.37284	.2229172	.1095823	.2584021	194.3168
#2	.0020356	-.000181	42.40424	.2235699	.1086445	.2626383	194.5158
#3	.0021819	-.000205	42.45118	.2229513	.1083775	.2680787	194.5105

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.474193	42.68426	.2126419	-.014242	.9798084	.2961441	.3751444
Stddev	.009918	.16594	.0005820	.000364	.2286388	.0077861	.0028340
%RSD	.1811835	.3887532	.2736795	2.552741	23.33505	2.629149	.7554384
#1	5.470674	42.52509	.2119704	-.013927	.7160039	.3009046	.3727208
#2	5.485391	42.67148	.2129553	-.014640	1.102705	.3003689	.3744520
#3	5.466514	42.85622	.2130000	-.014159	1.120716	.2871588	.3782604

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.35464	3.646461	.2099257	-.001619	.6834901	6.705650	.0061172
Stddev	.02390	.005825	.0019477	.000318	.0081666	.020476	.0042924
%RSD	.1934095	.1597349	.9277979	19.62952	1.194845	.3053539	70.17048
#1	12.34319	3.652245	.2076876	-.001934	.6904042	6.682011	.0035771
#2	12.33862	3.646540	.2108535	-.001299	.6855865	6.717046	.0110732
#3	12.38211	3.640597	.2112360	-.001624	.6744796	6.717892	.0037012

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-01DLX2 Acquired: 11/14/2024 19:10:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.311594	.0679243	.1668892
Stddev	.008391	.0013604	.0003580
%RSD	.6397645	2.002796	.2145398
#1	1.303840	.0686651	.1665455
#2	1.320503	.0663543	.1672600
#3	1.310439	.0687535	.1668620

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	922.1705	23470.67	2217.134	814.3172	1596.967
Stddev	1.4412	84.95	3.146	2.3674	2.926
%RSD	.1562884	.3619427	.1418856	.2907229	.1832209
#1	922.6503	23376.57	2220.000	816.0269	1593.725
#2	923.3107	23541.72	2213.768	815.3097	1599.412
#3	920.5506	23493.71	2217.634	811.6151	1597.764

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-02DLX2 Acquired: 11/14/2024 19:15:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1093700	-.022088	.1008212	-.002640	.0037157	76.95821	2.066263
Stddev	.0035123	.002955	.0030552	.003920	.0028811	.38237	.010664
%RSD	3.211403	13.38061	3.030337	148.4920	77.53831	.4968534	.5160988
#1	.1060288	-.023618	.0982185	-.006219	.0034978	77.09996	2.067328
#2	.1130314	-.023965	.1041851	.001549	.0009497	77.24945	2.076354
#3	.1090497	-.018681	.1000602	-.003249	.0066995	76.52520	2.055106

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022226	.0000214	32.67449	.1746925	.1337114	.2615685	193.2421
Stddev	.0002209	.0000566	.15958	.0014952	.0011120	.0020279	1.3670
%RSD	9.939069	264.7329	.4883968	.8558802	.8316537	.7752925	.7074232
#1	.0020066	.0000302	32.68628	.1758409	.1330641	.2638373	193.4913
#2	.0024481	-.000039	32.82784	.1752346	.1330746	.2609363	194.4675
#3	.0022130	.000073	32.50934	.1730019	.1349954	.2599321	191.7677

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.155192	39.02083	.1815939	-.014973	.9009672	.2952412	.3953954
Stddev	.039798	.27030	.0002552	.000366	.1490073	.0102438	.0011502
%RSD	.4347006	.6927046	.1405277	2.447662	16.53859	3.469640	.2909032
#1	9.180487	39.12694	.1813403	-.015384	.7290916	.2911199	.3945293
#2	9.175771	39.22197	.1815905	-.014679	.9800319	.2876999	.3967005
#3	9.109319	38.71358	.1818507	-.014857	.9937781	.3069037	.3949565

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.73631	3.675209	.2087805	-.000903	.7067328	8.210924	.0054671
Stddev	.05513	.020369	.0018795	.000789	.0051487	.039944	.0012591
%RSD	.4697621	.5542156	.9002451	87.44834	.7285220	.4864783	23.03135
#1	11.67963	3.652207	.2109254	-.001280	.7031205	8.221490	.0068152
#2	11.78976	3.690960	.2074212	.000005	.7126283	8.244524	.0052648
#3	11.73956	3.682460	.2079950	-.001433	.7044496	8.166759	.0043214

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-02DLX2 Acquired: 11/14/2024 19:15:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.089110	.0612799	.1540894
Stddev	.007027	.0013231	.0006814
%RSD	.6452168	2.159156	.4422255
#1	1.093968	.0622290	.1545638
#2	1.092310	.0597685	.1543958
#3	1.081053	.0618423	.1533085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	934.3970	23593.47	2236.062	824.5187	1617.211
Stddev	1.8951	92.27	10.021	3.6522	3.041
%RSD	.2028132	.3911014	.4481451	.4429546	.1880194
#1	936.4628	23617.31	2232.453	828.2750	1620.457
#2	933.9893	23491.62	2228.346	820.9803	1614.430
#3	932.7390	23671.49	2247.387	824.3007	1616.745

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-01LDLX10 Acquired: 11/14/2024 19:19:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0368055	-.010207	.0175994	.0011070	.0014803	17.22103	.2121218
Stddev	.0024314	.001721	.0027937	.0024136	.0006249	.04676	.0007615
%RSD	6.606187	16.86265	15.87400	218.0267	42.21700	.2715062	.3589759
#1	.0348454	-.008532	.0179597	-.001424	.0007911	17.25043	.2116381
#2	.0395264	-.011971	.0201955	.003383	.0016397	17.24555	.2129995
#3	.0360447	-.010118	.0146430	.001362	.0020102	17.16712	.2117277

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004455	-.000090	8.898734	.0458739	.0211892	.0519244	41.04643
Stddev	.0001101	.000164	.020709	.0013841	.0003999	.0017481	.26372
%RSD	24.70353	183.5461	.2327187	3.017225	1.887086	3.366646	.6424853
#1	.0004064	.000096	8.897594	.0448085	.0207492	.0535594	40.83244
#2	.0003604	-.000148	8.919990	.0474383	.0215304	.0521322	41.34105
#3	.0005698	-.000217	8.878619	.0453748	.0212880	.0500817	40.96580

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.151980	8.830626	.0420533	-.003626	.1362258	.0518937	.0801353
Stddev	.010012	.080952	.0005666	.000597	.1156606	.0096969	.0017023
%RSD	.8691481	.9167174	1.347434	16.46686	84.90359	18.68600	2.124268
#1	1.141064	8.843161	.0414348	-.004254	.0031109	.0575930	.0784454
#2	1.154140	8.904579	.0421775	-.003065	.1934187	.0406974	.0818497
#3	1.160737	8.744138	.0425475	-.003558	.2121478	.0573908	.0801107

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.476911	.7235232	.0426408	-.000840	.1369162	1.432768	-.001299
Stddev	.082557	.0055518	.0003327	.000766	.0039370	.004422	.000416
%RSD	3.333047	.7673315	.7802155	91.20810	2.875505	.3086344	32.01582
#1	2.383469	.7177317	.0427310	-.001391	.1384310	1.427692	-.001693
#2	2.507288	.7240386	.0422723	-.001163	.1324468	1.434825	-.000864
#3	2.539975	.7287994	.0429191	.000035	.1398709	1.435787	-.001342

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-01LDLX10 Acquired: 11/14/2024 19:19:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2728190	.0139141	.0346710
Stddev	.0014287	.0013841	.0001048
%RSD	.5236980	9.947143	.3023879
#1	.2711694	.0130092	.0346931
#2	.2736184	.0132257	.0347631
#3	.2736690	.0155074	.0345569

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	911.4083	22935.19	2139.312	805.5712	1689.389
Stddev	5.4790	146.04	4.701	8.8971	9.227
%RSD	.6011618	.6367540	.2197652	1.104444	.5461667
#1	917.1468	23102.69	2144.196	814.7437	1698.537
#2	910.8462	22834.53	2134.818	796.9779	1689.544
#3	906.2320	22868.36	2138.921	804.9920	1680.085

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-03DLX2 Acquired: 11/14/2024 19:23:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1930089	.0662848	.1317828	.1667806	.1635134	85.86042	4.916639
Stddev	.0048595	.0061406	.0023431	.0017066	.0038470	.10771	.016518
%RSD	2.517732	9.264024	1.778026	1.023285	2.352701	.1254445	.3359653
#1	.1985764	.0730971	.1344430	.1670799	.1643382	85.89239	4.929896
#2	.1908298	.0611752	.1300252	.1649442	.1593209	85.74035	4.898134
#3	.1896203	.0645820	.1308803	.1683179	.1668811	85.94853	4.921886

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0972471	.0979241	42.13565	.6345176	1.083219	.7078603	194.6360
Stddev	.0007338	.0002893	.16996	.0029268	.000265	.0036726	.3823
%RSD	.7546152	.2954690	.4033610	.4612667	.0245070	.5188266	.1964405
#1	.0975730	.0980591	42.24531	.6335740	1.083327	.7101037	194.9671
#2	.0964068	.0981212	41.93987	.6321790	1.083414	.7036220	194.2175
#3	.0977616	.0975919	42.22177	.6377998	1.082917	.7098553	194.7235

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.386068	42.05340	1.198183	.0773079	.9261177	1.299980	1.197042
Stddev	.021297	.26389	.001277	.0012856	.1882565	.020124	.003095
%RSD	.3334948	.6275135	.1065535	1.662948	20.32749	1.548023	.2585726
#1	6.383802	41.89851	1.197018	.0761471	.8537524	1.317183	1.196883
#2	6.365995	41.90359	1.197984	.0770868	.7847814	1.277850	1.200214
#3	6.408408	42.35810	1.199548	.0786897	1.139819	1.304907	1.194030

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.15621	3.626723	.2057663	-.001100	.7100751	6.600249	.0032347
Stddev	.10691	.010366	.0000967	.000144	.0106499	.034883	.0011536
%RSD	.8794361	.2858205	.0469858	13.12814	1.499833	.5285096	35.66351
#1	12.26009	3.638348	.2057135	-.000947	.6982105	6.636353	.0019266
#2	12.04651	3.623380	.2058779	-.001120	.7188085	6.566732	.0036706
#3	12.16203	3.618442	.2057074	-.001233	.7132061	6.597663	.0041068

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-03DLX2 Acquired: 11/14/2024 19:23:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N4S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.296108	.0653017	.1663288
Stddev	.010119	.0001689	.0001574
%RSD	.7807129	.2586522	.0946338
#1	1.305976	.0651737	.1661610
#2	1.296592	.0654931	.1663523
#3	1.285756	.0652382	.1664732

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	919.2650	23384.47	2234.694	808.9026	1589.975
Stddev	2.8574	117.77	6.552	2.3848	.794
%RSD	.3108309	.5036051	.2932035	.2948164	.0499666
#1	916.1517	23461.57	2229.277	809.6642	1589.877
#2	921.7676	23442.92	2241.976	806.2300	1589.235
#3	919.8759	23248.91	2232.828	810.8135	1590.814

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-14DLX2 Acquired: 11/14/2024 19:28:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE587 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2341474	-.043838	.1576699	.0002921	.0036074	102.7096	1.165212
Stddev	.0083750	.004763	.0046233	.0012953	.0038862	.2898	.002741
%RSD	3.576807	10.86550	2.932280	443.4938	107.7300	.2821263	.2352209
#1	.2246424	-.043607	.1541335	.0010627	.0080585	102.4955	1.163174
#2	.2404431	-.039194	.1559747	.0010169	.0008888	102.5940	1.164134
#3	.2373567	-.048712	.1629016	-.001203	.0018747	103.0394	1.168327

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030824	.0013518	48.16458	.2771506	.1518817	.3363257	266.1163
Stddev	.0000957	.0002942	.12792	.0027118	.0014104	.0071366	1.1551
%RSD	3.106271	21.76137	.2655869	.9784546	.9285863	2.121929	.4340454
#1	.0031437	.0016895	48.08199	.2774323	.1503870	.3289966	265.5979
#2	.0029721	.0012147	48.09982	.2743090	.1531890	.3367277	265.3112
#3	.0031314	.0011512	48.31193	.2797106	.1520689	.3432528	267.4397

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.175705	53.89388	.2875065	-.018633	1.319189	.5720606	.4864012
Stddev	.058810	.45986	.0017722	.000298	.057021	.0094878	.0027605
%RSD	.7193312	.8532657	.6164082	1.601919	4.322449	1.658529	.5675323
#1	8.183053	53.68530	.2857742	-.018665	1.273591	.5726009	.4838566
#2	8.113566	53.57527	.2893161	-.018320	1.383123	.5623142	.4860110
#3	8.230496	54.42106	.2874292	-.018914	1.300854	.5812667	.4893361

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.08786	4.914387	.2783514	-.002489	.8639508	7.407299	.0140077
Stddev	.13638	.036044	.0028881	.000846	.0149908	.037425	.0017254
%RSD	.7144738	.7334337	1.037580	33.98600	1.735147	.5052452	12.31758
#1	19.08003	4.875819	.2761304	-.001644	.8627968	7.415469	.0159231
#2	18.95556	4.947219	.2773074	-.003336	.8794853	7.366464	.0135250
#3	19.22798	4.920122	.2816163	-.002487	.8495703	7.439964	.0125751

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-14DLX2 Acquired: 11/14/2024 19:28:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE587 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.157106	.0866512	.1663049
Stddev	.009217	.0022071	.0003710
%RSD	.4272986	2.547092	.2230598
#1	2.146541	.0881287	.1664421
#2	2.161276	.0877108	.1658849
#3	2.163501	.0841141	.1665878

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	923.7222	23590.81	2236.413	818.8825	1572.142
Stddev	7.0638	43.94	10.673	4.1722	11.318
%RSD	.7647092	.1862654	.4772453	.5095015	.7199189
#1	925.1847	23540.67	2237.143	821.9055	1575.418
#2	916.0417	23622.59	2246.702	820.6196	1559.547
#3	929.9403	23609.18	2225.394	814.1224	1581.461

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-15DLX2 Acquired: 11/14/2024 19:32:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE588 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3063483	-.048110	.1901099	.0032700	.0063149	136.1303	1.401696
Stddev	.0011024	.004051	.0045350	.0055317	.0033012	.5753	.006015
%RSD	.3598348	8.421112	2.385462	169.1624	52.27678	.4226399	.4291399
#1	.3050947	-.044321	.1888099	.0084542	.0027712	135.4787	1.394826
#2	.3067838	-.052381	.1863668	-.002554	.0068701	136.5683	1.406016
#3	.3071664	-.047628	.1951529	.003909	.0093032	136.3439	1.404246

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038864	.0012657	30.62085	.3995038	.2011867	.4884320	331.8209
Stddev	.0002070	.0002489	.08103	.0011653	.0002887	.0050870	1.2787
%RSD	5.326863	19.66659	.2646144	.2916844	.1434866	1.041505	.3853485
#1	.0039647	.0009911	30.54651	.3997870	.2012044	.4838035	330.4015
#2	.0036516	.0014765	30.70722	.3982230	.2014661	.4876139	332.8828
#3	.0040429	.0013294	30.60881	.4005013	.2008895	.4938785	332.1782

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.45472	69.78130	.3875302	-.025138	1.411067	.6886899	.5784964
Stddev	.04528	.39531	.0011896	.000594	.119120	.0065088	.0023164
%RSD	.4331278	.5664948	.3069743	2.363602	8.441822	.9450980	.4004170
#1	10.41540	69.34012	.3861580	-.024606	1.517625	.6930896	.5766560
#2	10.50423	69.90049	.3882704	-.025779	1.282465	.6812130	.5777358
#3	10.44454	70.10331	.3881621	-.025029	1.433111	.6917670	.5810975

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.87164	5.290644	.3389765	-.002109	.6067037	6.982928	.0155667
Stddev	.02322	.023063	.0014088	.000415	.0090708	.040339	.0010989
%RSD	.0933674	.4359139	.4156047	19.68944	1.495087	.5776844	7.059213
#1	24.85741	5.265739	.3376075	-.002153	.5993404	6.936562	.0161855
#2	24.89844	5.311262	.3404220	-.002500	.6039344	7.009977	.0142979
#3	24.85908	5.294930	.3389001	-.001673	.6168363	7.002243	.0162165

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-15DLX2 Acquired: 11/14/2024 19:32:47 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE588 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.721493	.1064200	.1895770
Stddev	.013005	.0015549	.0007618
%RSD	.4778486	1.461066	.4018260
#1	2.706484	.1051042	.1886974
#2	2.729405	.1081358	.1900236
#3	2.728591	.1060199	.1900099

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	941.6206	23952.26	2273.516	833.5114	1565.324
Stddev	2.1221	51.64	10.132	.8549	2.899
%RSD	.2253696	.2156162	.4456519	.1025668	.1852105
#1	940.1942	23947.13	2280.618	833.3583	1566.270
#2	944.0594	23903.38	2261.913	832.7433	1567.631
#3	940.6084	24006.28	2278.016	834.4325	1562.070

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-16DLX2 Acquired: 11/14/2024 19:37:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE589 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2485599	-.061826	.2099674	-.005079	.0066669	138.0740	1.704508
Stddev	.0147813	.004552	.0054387	.006144	.0031101	.2756	.006953
%RSD	5.946759	7.362783	2.590267	120.9628	46.65016	.1996272	.4079405
#1	.2512138	-.059868	.2153923	-.008607	.0101821	137.9447	1.702691
#2	.2326315	-.067030	.2045150	.002015	.0042730	137.8868	1.698643
#3	.2618345	-.058581	.2099950	-.008645	.0055454	138.3905	1.712189

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021539	.0014099	25.44506	.5100617	.2769832	.5168407	487.5995
Stddev	.0000986	.0000262	.12878	.0094085	.0008245	.0022255	.8572
%RSD	4.578328	1.859315	.5060917	1.844570	.2976821	.4305969	.1758042
#1	.0020475	.0013971	25.33578	.5012180	.2772217	.5148482	487.2717
#2	.0022422	.0014401	25.41235	.5199481	.2760657	.5164315	486.9545
#3	.0021720	.0013926	25.58703	.5090190	.2776622	.5192424	488.5722

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.19885	88.11472	.4025938	-.037837	2.054057	.9884757	.7488422
Stddev	.07325	.16414	.0007472	.001468	.349427	.0179617	.0127186
%RSD	.3299720	.1862755	.1856027	3.878553	17.01157	1.817114	1.698431
#1	22.15462	88.01064	.4020840	-.039072	1.922645	1.006658	.7342453
#2	22.15853	88.30393	.4034515	-.036215	2.450139	.970743	.7575402
#3	22.28340	88.02959	.4022458	-.038225	1.789389	.988026	.7547411

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.89968	5.581371	.4837981	-.002978	.7343153	6.030252	.0173202
Stddev	.07871	.020548	.0015111	.000836	.0001389	.055210	.0004587
%RSD	.3293240	.3681594	.3123347	28.08961	.0189184	.9155561	2.648138
#1	23.82075	5.558778	.4835090	-.003673	.7343658	5.966635	.0168092
#2	23.97817	5.598945	.4824525	-.002049	.7341582	6.058475	.0174555
#3	23.90011	5.586391	.4854328	-.003210	.7344219	6.065645	.0176961

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-16DLX2 Acquired: 11/14/2024 19:37:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE589 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.413002	.1187405	.2136325
Stddev	.005281	.0010884	.0002858
%RSD	.2188493	.9165873	.1337934
#1	2.417969	.1175354	.2133307
#2	2.407456	.1190344	.2138990
#3	2.413582	.1196518	.2136679

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	925.7512	23804.38	2260.540	824.4941	1556.222
Stddev	3.3412	296.13	5.971	8.5684	1.469
%RSD	.3609145	1.244029	.2641241	1.039231	.0943642
#1	922.2451	24085.36	2266.900	834.3881	1554.932
#2	926.1099	23495.13	2259.666	819.5444	1557.820
#3	928.8985	23832.66	2255.055	819.5500	1555.914

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-17DLX2 Acquired: 11/14/2024 19:41:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE590 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3344864	-.053754	.2063793	-.005481	.0105988	125.2412	1.375816
Stddev	.0146598	.007601	.0030516	.005292	.0019032	1.0370	.012065
%RSD	4.382790	14.13976	1.478640	96.55382	17.95708	.8279728	.8769546
#1	.3346803	-.047309	.2028750	-.004657	.0089715	125.2657	1.374875
#2	.3490483	-.062136	.2078115	-.000649	.0101334	124.1923	1.364249
#3	.3197305	-.051819	.2084514	-.011137	.0126916	126.2658	1.388324

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036027	.0019376	36.33184	.3642312	.2133260	.4852995	356.0277
Stddev	.0001852	.0003254	.31036	.0021365	.0003937	.0046163	3.1507
%RSD	5.141331	16.79182	.8542410	.5865769	.1845544	.9512249	.8849671
#1	.0038109	.0015647	36.38715	.3635096	.2130341	.4823222	356.2870
#2	.0034561	.0021640	35.99754	.3666351	.2131702	.4829591	352.7554
#3	.0035412	.0020841	36.61082	.3625490	.2137738	.4906173	359.0408

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.20999	72.19033	.3880691	-.027399	1.536550	.7849618	.5976752
Stddev	.08466	.46617	.0015629	.000290	.239802	.0166923	.0018790
%RSD	.7552552	.6457519	.4027260	1.058404	15.60653	2.126515	.3143848
#1	11.22175	71.97975	.3872893	-.027661	1.420087	.7793742	.5955178
#2	11.12007	71.86660	.3870495	-.027087	1.812341	.7717800	.5985547
#3	11.28817	72.72464	.3898684	-.027450	1.377221	.8037311	.5989532

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.67928	5.735915	.3608446	-.001767	1.075321	7.234995	.0146907
Stddev	.14337	.014563	.0057902	.000633	.006256	.041587	.0034032
%RSD	.5809414	.2538827	1.604630	35.85513	.5817456	.5748093	23.16551
#1	24.67889	5.748667	.3632472	-.002325	1.081464	7.230915	.0123045
#2	24.53610	5.720046	.3542399	-.001079	1.068959	7.195598	.0131798
#3	24.82284	5.739031	.3650468	-.001896	1.075539	7.278472	.0185877

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-17DLX2 Acquired: 11/14/2024 19:41:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE590 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.454073	.1013354	.1734800
Stddev	.014628	.0010804	.0017134
%RSD	.5960615	1.066134	.9876788
#1	2.454415	.1024727	.1734360
#2	2.439277	.1003228	.1717890
#3	2.468527	.1012108	.1752150

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	933.3333	23882.07	2277.241	828.8752	1561.042
Stddev	1.7136	72.96	11.454	2.0336	.744
%RSD	.1836032	.3055044	.5029597	.2453438	.0476823
#1	931.3934	23962.12	2272.399	830.7505	1560.183
#2	934.6411	23864.80	2290.320	826.7136	1561.443
#3	933.9655	23819.29	2269.004	829.1617	1561.499

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-18DLX2 Acquired: 11/14/2024 19:46:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE591 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2391479	-.039664	.2857389	-.006103	.0094877	110.1664	1.815163
Stddev	.0289755	.002215	.0010718	.005632	.0017394	.0858	.005028
%RSD	12.11614	5.585565	.3751117	92.28160	18.33260	.0778672	.2770171
#1	.2483736	-.037182	.2869441	-.012157	.0075132	110.1644	1.818811
#2	.2623872	-.040366	.2853799	-.001019	.0101571	110.2531	1.817252
#3	.2066828	-.041442	.2848926	-.005132	.0107930	110.0816	1.809428

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037486	.0044058	26.72038	.2882091	.1999247	.7115153	307.1389
Stddev	.0001446	.0001211	.13631	.0014650	.0007878	.0046422	.6651
%RSD	3.858748	2.747757	.5101533	.5082959	.3940444	.6524398	.2165468
#1	.0038605	.0042880	26.74977	.2868106	.2008289	.7066388	306.7552
#2	.0035853	.0043996	26.83960	.2897325	.1995581	.7120262	306.7546
#3	.0038001	.0045298	26.57177	.2880840	.1993869	.7158810	307.9069

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.67092	59.21434	.3155252	-.023459	1.126195	.6735736	.7449849
Stddev	.04946	.14544	.0013450	.000261	.203106	.0081326	.0059541
%RSD	.3156041	.2456101	.4262825	1.113471	18.03469	1.207376	.7992292
#1	15.70665	59.34383	.3162912	-.023388	1.239778	.6771795	.7381169
#2	15.61447	59.05699	.3163122	-.023240	1.247100	.6792799	.7481438
#3	15.69163	59.24219	.3139721	-.023748	.891707	.6642616	.7486938

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.16025	6.249476	.3173699	-.002526	1.322746	8.376076	.0143431
Stddev	.07010	.012276	.0001265	.000610	.015390	.039677	.0038814
%RSD	.2901321	.1964388	.0398508	24.14117	1.163465	.4736962	27.06094
#1	24.10104	6.260440	.3174741	-.003173	1.305378	8.401561	.0185943
#2	24.23765	6.251774	.3172292	-.002443	1.328173	8.330361	.0109884
#3	24.14208	6.236213	.3174064	-.001962	1.334687	8.396305	.0134466

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-18DLX2 Acquired: 11/14/2024 19:46:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE591 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.162189	.0948355	.1889832
Stddev	.007499	.0032904	.0006076
%RSD	.3468018	3.469641	.3215241
#1	2.153534	.0943703	.1883185
#2	2.166742	.0983338	.1895100
#3	2.166290	.0918025	.1891213

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	937.6958	23838.25	2286.077	833.5387	1570.755
Stddev	1.4059	96.92	10.899	5.6234	2.278
%RSD	.1499365	.4065908	.4767390	.6746439	.1449989
#1	937.0612	23948.90	2285.215	839.6203	1569.065
#2	939.3071	23797.47	2297.381	832.4686	1569.853
#3	936.7189	23768.38	2275.635	828.5272	1573.345

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-19DLX2 Acquired: 11/14/2024 19:50:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE592 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3262553	-.051662	.3347409	.0079553	.0060758	130.1014	1.833155
Stddev	.0042847	.001805	.0042563	.0112530	.0029660	.3983	.005155
%RSD	1.313309	3.493678	1.271536	141.4536	48.81674	.3061623	.2812023
#1	.3311022	-.053746	.3376545	.0123464	.0051174	130.3734	1.838102
#2	.3246918	-.050648	.3367118	-.004831	.0094025	130.2866	1.833549
#3	.3229719	-.050592	.3298563	.016351	.0037075	129.6442	1.827815

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042423	.0045904	28.36623	.3290622	.2212403	.8165744	350.1958
Stddev	.0001559	.0004173	.02135	.0014818	.0004531	.0120861	1.3473
%RSD	3.675366	9.091055	.0752491	.4503163	.2047932	1.480093	.3847397
#1	.0040629	.0045981	28.35601	.3302900	.2214701	.8275441	351.2944
#2	.0043448	.0050039	28.39076	.3294804	.2215324	.8185609	350.6006
#3	.0043192	.0041693	28.35191	.3274162	.2207184	.8036181	348.6925

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.88487	69.47916	.3559182	-.026134	1.546859	.7629284	.8516134
Stddev	.06922	.39414	.0010066	.000165	.160538	.0144727	.0047740
%RSD	.4650158	.5672720	.2828289	.6324698	10.37832	1.896986	.5605793
#1	14.92498	69.76129	.3567962	-.025960	1.602202	.7750108	.8467954
#2	14.92469	69.64735	.3548195	-.026289	1.672405	.7668856	.8563421
#3	14.80495	69.02883	.3561388	-.026154	1.365971	.7468887	.8517028

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.00019	6.227967	.3596609	-.002104	1.908256	8.438405	.0158462
Stddev	.12506	.002953	.0002361	.000497	.015373	.042504	.0029706
%RSD	.4466380	.0474157	.0656603	23.60996	.8056000	.5036920	18.74615
#1	28.13208	6.227240	.3596618	-.002564	1.916749	8.468300	.0151091
#2	27.98516	6.225445	.3598966	-.002169	1.890510	8.457165	.0191160
#3	27.88332	6.231215	.3594243	-.001577	1.917508	8.389749	.0133137

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-19DLX2 Acquired: 11/14/2024 19:50:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE592 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.459293	.1153037	.1902370
Stddev	.009258	.0024074	.0008502
%RSD	.3764635	2.087899	.4469217
#1	2.464837	.1172355	.1903531
#2	2.464437	.1160690	.1910233
#3	2.448605	.1126067	.1893348

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	939.9663	23872.64	2284.253	830.0106	1565.079
Stddev	1.7640	94.33	14.335	6.0686	1.362
%RSD	.1876673	.3951443	.6275606	.7311444	.0870027
#1	941.4730	23874.88	2272.615	835.1377	1566.169
#2	938.0259	23777.21	2279.878	823.3103	1565.514
#3	940.3999	23965.83	2300.266	831.5837	1563.552

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-20DLX2 Acquired: 11/14/2024 19:54:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE593 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3134566	-.051347	.1881165	-.001391	.0053520	146.3006	1.415706
Stddev	.0081986	.004243	.0062182	.010023	.0016765	.9207	.007750
%RSD	2.615553	8.262580	3.305498	720.2818	31.32474	.6293032	.5474000
#1	.3112955	-.048615	.1952963	-.012290	.0038089	146.2345	1.418950
#2	.3225192	-.056235	.1845861	.000685	.0051112	147.2526	1.421306
#3	.3065549	-.049192	.1844670	.007430	.0071358	145.4148	1.406861

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041254	.0010481	33.95291	.4012110	.2198758	.4738711	379.5615
Stddev	.0002060	.0001522	.22194	.0012386	.0018791	.0013666	2.7631
%RSD	4.992521	14.51682	.6536748	.3087071	.8546372	.2883869	.7279608
#1	.0043197	.0011784	34.16318	.4011777	.2215599	.4754423	379.1343
#2	.0039095	.0010850	33.97465	.4024658	.2202188	.4732118	382.5133
#3	.0041471	.0008809	33.72090	.3999893	.2178489	.4729592	377.0369

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.34097	74.42563	.4037890	-.029139	1.749421	.7732560	.6188579
Stddev	.05988	.41669	.0045125	.000483	.237785	.0211812	.0047472
%RSD	.5790280	.5598745	1.117537	1.656490	13.59219	2.739228	.7670944
#1	10.37174	74.38004	.4050299	-.029099	1.630817	.7895064	.6137839
#2	10.37920	74.86324	.4075513	-.029641	2.023179	.7809608	.6195985
#3	10.27196	74.03361	.3987859	-.028678	1.594267	.7493008	.6231913

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.35334	6.298966	.3915731	-.001502	.9935962	7.141838	.0169897
Stddev	.29042	.041209	.0026077	.000516	.0049887	.075811	.0008826
%RSD	.9893803	.6542227	.6659428	34.37389	.5020865	1.061509	5.194721
#1	29.39810	6.328602	.3909775	-.001991	.9980639	7.105782	.0171271
#2	29.61878	6.316389	.3944271	-.001553	.9882132	7.228948	.0177955
#3	29.04314	6.251907	.3893148	-.000962	.9945114	7.090783	.0160465

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-20DLX2 Acquired: 11/14/2024 19:54:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE593 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.051857	.1148832	.1961483
Stddev	.016883	.0014245	.0017573
%RSD	.5532030	1.239965	.8959114
#1	3.056714	.1146712	.1958686
#2	3.065779	.1164018	.1980287
#3	3.033078	.1135766	.1945476

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	942.1026	23932.79	2282.688	830.2115	1565.982
Stddev	5.2122	49.31	15.534	4.4154	9.465
%RSD	.5532538	.2060323	.6805140	.5318454	.6044262
#1	938.3658	23876.20	2283.885	834.8864	1559.722
#2	939.8852	23966.50	2266.591	829.6363	1561.355
#3	948.0569	23955.66	2297.589	826.1119	1576.871

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-21DLX2 Acquired: 11/14/2024 19:59:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE594 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2478834	-.042306	.1684703	-.011645	.0050442	128.0213	2.064375
Stddev	.0179320	.005971	.0027227	.003819	.0004158	.2276	.001058
%RSD	7.234029	14.11454	1.616161	32.79914	8.242847	.1777799	.0512405
#1	.2493332	-.048960	.1715666	-.014060	.0049282	127.7775	2.064232
#2	.2650465	-.037414	.1673949	-.007242	.0055057	128.0584	2.065497
#3	.2292706	-.040544	.1664495	-.013634	.0046988	128.2281	2.063396

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031456	.0010469	44.44229	.3402381	.1926755	.3857013	319.1501
Stddev	.0001342	.0002646	.02109	.0007171	.0010524	.0037627	.2151
%RSD	4.267070	25.27778	.0474463	.2107567	.5462172	.9755482	.0674016
#1	.0030181	.0012870	44.46504	.3394178	.1932490	.3813651	319.3463
#2	.0032856	.0010906	44.42341	.3407456	.1914609	.3881061	318.9201
#3	.0031332	.0007631	44.43843	.3405510	.1933167	.3876327	319.1838

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.27189	70.63301	.3437061	-.023758	1.333159	.6855482	.5480747
Stddev	.04082	.01069	.0003655	.000493	.015714	.0112454	.0020391
%RSD	.2117954	.0151374	.1063455	2.077128	1.178691	1.640355	.3720506
#1	19.23416	70.62566	.3437265	-.023484	1.329942	.6980204	.5459550
#2	19.31521	70.64527	.3440610	-.023462	1.350233	.6761829	.5500223
#3	19.26628	70.62809	.3433308	-.024327	1.319303	.6824413	.5482467

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.81397	5.200617	.3248897	-.003980	.8175256	8.052672	.0136637
Stddev	.11599	.004702	.0012804	.000163	.0110900	.011084	.0053901
%RSD	.5084203	.0904194	.3941040	4.096281	1.356537	.1376475	39.44865
#1	22.68504	5.195502	.3234132	-.003861	.8210223	8.039960	.0077712
#2	22.84704	5.201596	.3256951	-.003912	.8264459	8.060320	.0183456
#3	22.90984	5.204752	.3255607	-.004166	.8051087	8.057735	.0148743

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-21DLX2 Acquired: 11/14/2024 19:59:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE594 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.438986	.1048940	.1943407
Stddev	.002859	.0005752	.0004133
%RSD	.1172122	.5483376	.2126861
#1	2.440586	.1046346	.1939158
#2	2.435686	.1055532	.1943648
#3	2.440687	.1044942	.1947414

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	930.3542	23652.30	2275.974	821.0949	1553.225
Stddev	.7428	95.68	5.528	2.2156	2.762
%RSD	.0798424	.4045203	.2428977	.2698386	.1778223
#1	930.3650	23637.86	2269.622	821.9304	1552.184
#2	929.6060	23564.66	2278.601	818.5830	1556.356
#3	931.0916	23754.37	2279.699	822.7712	1551.135

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-22DLX2 Acquired: 11/14/2024 20:03:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE595 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004958	-.042446	.0603251	-.001330	.0076353	129.3891	.1186084
Stddev	.010007	.005768	.0043982	.002999	.0026125	.7120	.0011035
%RSD	201.8464	13.58988	7.290879	225.5502	34.21541	.5502996	.9304076
#1	-.005405	-.048466	.0561279	-.001033	.0065902	130.1858	.1198825
#2	.005265	-.036968	.0649000	.001510	.0057072	129.1664	.1179870
#3	-.014733	-.041904	.0599473	-.004466	.0106086	128.8150	.1179557

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001881	-.001133	37.55601	.6621569	.1601536	.5223954	246.5910
Stddev	.0002302	.000159	.20510	.0020366	.0005657	.0072255	1.2390
%RSD	122.4027	14.03707	.5461191	.3075767	.3532311	1.383146	.5024334
#1	.0003274	-.001178	37.74641	.6640667	.1596537	.5303150	247.8395
#2	-.000078	-.000956	37.58280	.6600136	.1600394	.5207087	246.5717
#3	.000315	-.001265	37.33884	.6623906	.1607677	.5161624	245.3618

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.366094	114.5182	.5704824	-.015202	1.625662	.4817709	.2652716
Stddev	.019479	.6481	.0028849	.000244	.384697	.0082572	.0024763
%RSD	.5786722	.5659560	.5056884	1.608105	23.66404	1.713930	.9334882
#1	3.385656	115.1881	.5673736	-.015302	1.930020	.4847906	.2625756
#2	3.365927	114.4724	.5730731	-.015380	1.753691	.4880933	.2657947
#3	3.346699	113.8942	.5710005	-.014923	1.193275	.4724290	.2674446

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.197135	1.642693	.2377408	-.002939	.2252636	7.331749	.0045169
Stddev	.051384	.007935	.0029159	.000416	.0101894	.043295	.0019528
%RSD	4.292243	.4830654	1.226497	14.14313	4.523339	.5905107	43.23412
#1	1.249805	1.640210	.2409108	-.002565	.2303740	7.381647	.0062098
#2	1.147141	1.651573	.2371384	-.002866	.2318866	7.309461	.0023804
#3	1.194457	1.636296	.2351731	-.003387	.2135303	7.304139	.0049605

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-22DLX2 Acquired: 11/14/2024 20:03:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE595 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.322246	.0701086	.0875946
Stddev	.030315	.0023438	.0004084
%RSD	.7013824	3.343142	.4662934
#1	4.355467	.0677294	.0880616
#2	4.315193	.0724154	.0874179
#3	4.296080	.0701809	.0873042

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	889.9931	22674.19	2158.746	786.6811	1558.402
Stddev	2.1665	38.18	9.099	6.9709	2.014
%RSD	.2434278	.1683881	.4214869	.8861145	.1292504
#1	892.4739	22635.40	2149.420	794.3404	1560.533
#2	888.4734	22711.73	2167.600	784.9950	1558.144
#3	889.0319	22675.43	2159.216	780.7079	1556.529

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV089 Acquired: 11/14/2024 20:08:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV089 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.994361	4.856579	24.70193	4.800201	4.806311	404.1221	10.30243
Stddev	.012587	.041223	.14490	.039796	.016546	2.6255	.07287
%RSD	.2520171	.8487995	.5866102	.8290402	.3442471	.6496728	.7072965
#1	5.005701	4.879513	24.76129	4.829635	4.819694	403.5068	10.31363
#2	4.996562	4.881234	24.80773	4.816045	4.811426	407.0006	10.36906
#3	4.980818	4.808989	24.53677	4.754924	4.787812	401.8589	10.22462

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5093435	2.493690	409.3131	15.53541	2.507427	15.17758	413.8309
Stddev	.0027733	.015803	2.3851	.22157	.017614	.06883	2.6906
%RSD	.5444747	.6337231	.5827061	1.426216	.7024907	.4534906	.6501644
#1	.5071593	2.500422	409.1816	15.78354	2.516686	15.13485	414.4249
#2	.5124637	2.505013	411.7613	15.35736	2.518480	15.25698	416.1749
#3	.5084077	2.475636	406.9965	15.46533	2.487114	15.14091	410.8930

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.05235	406.4591	2.504065	1.266886	413.1615	2.523100	14.68653
Stddev	.10784	2.8082	.017200	.012708	3.0364	.017384	.31676
%RSD	.7164596	.6909009	.6868914	1.003109	.7349202	.6889952	2.156794
#1	15.08285	408.2696	2.509775	1.280882	413.2653	2.503092	15.04783
#2	15.14165	407.8835	2.517684	1.256070	416.1446	2.531693	14.45655
#3	14.93254	403.2241	2.484736	1.263706	410.0745	2.534514	14.55521

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	155.4421	5.083067	5.321345	4.770221	5.083827	5.087514	4.998207
Stddev	.9119	.019164	.042103	.022814	.060623	.018777	.031737
%RSD	.5866582	.3770135	.7912188	.4782628	1.192476	.3690717	.6349592
#1	155.1322	5.094101	5.290681	4.783885	5.073319	5.068498	5.004067
#2	156.4686	5.094161	5.369349	4.782894	5.149018	5.106042	5.026605
#3	154.7255	5.060939	5.304004	4.743884	5.029146	5.088002	4.963949

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV089 Acquired: 11/14/2024 20:08:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV089 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.047693	5.125572	5.121227
Stddev	.031492	.034344	.039856
%RSD	.6238812	.6700580	.7782525
#1	5.030714	5.134975	5.110616
#2	5.084031	5.154235	5.165315
#3	5.028335	5.087505	5.087751

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	721.7291	20310.40	2007.914	609.3103	1300.780
Stddev	1.9141	272.73	7.126	12.9998	7.084
%RSD	.2652172	1.342830	.3549130	2.133529	.5445808
#1	720.3034	20005.69	2012.872	594.5244	1298.061
#2	720.9793	20531.64	1999.747	618.9456	1295.459
#3	723.9046	20393.89	2011.121	614.4608	1308.821

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB089 Acquired: 11/14/2024 20:12:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB089 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035643	-.000730	-.001773	.0006331	.0000067	.0463658	-.000096
Stddev	.0071515	.002973	.002536	.0049432	.0009444	.0200199	.000423
%RSD	200.6449	406.9825	142.9937	780.8130	14171.16	43.17821	442.5081
#1	.0041220	-.000397	-.003738	-.004987	-.001084	.0238443	.000192
#2	.0104206	.002062	.001089	.002579	.000564	.0531118	-.000582
#3	-.003850	-.003856	-.002671	.004307	.000539	.0621413	.000102

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000043	.0003886	.0651468	-.000229	.0000773	-.001549	.0529118
Stddev	.0000599	.0002408	.0204606	.001149	.0001239	.007611	.0213807
%RSD	1399.521	61.97259	31.40691	502.0924	160.3006	491.3509	40.40807
#1	.0000294	.0002418	.0468395	-.000509	.0000985	-.002863	.0442397
#2	-.000064	.0002574	.0872336	-.001212	.0001892	-.008417	.0772661
#3	.000048	.0006665	.0613672	.001034	-.000056	.006634	.0372297

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000478	.0513028	.0001312	.0008688	.1831009	-.014103	.0013463
Stddev	.001743	.0217294	.0002547	.0002025	.6267592	.008187	.0003895
%RSD	364.4656	42.35515	194.1035	23.30817	342.3026	58.05031	28.92894
#1	-.001572	.0734595	.0001852	.0006524	-.471245	-.021600	.0017923
#2	-.001395	.0504215	.0003545	.0010537	.242503	-.005367	.0011730
#3	.001532	.0300275	-.000146	.0009005	.778044	-.015344	.0010736

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1503090	-.000449	.0060537	.0006769	-.000772	.0007268	.0054726
Stddev	.0357593	.002295	.0007921	.0006095	.002750	.0002225	.0004119
%RSD	23.79053	511.4090	13.08475	90.04308	356.2540	30.60635	7.526490
#1	.1606082	-.003023	.0068277	.0004061	-.003882	.0006724	.0053230
#2	.1797884	.000295	.0060888	.0013749	.000229	.0005366	.0059384
#3	.1105303	.001382	.0052447	.0002497	.001338	.0009715	.0051564

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB089 Acquired: 11/14/2024 20:12:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB089 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0015792	.0006154	.0004647
Stddev	.0013748	.0013378	.0000734
%RSD	87.05510	217.3737	15.78837
#1	.0031424	-.000852	.0004688
#2	.0010376	.001767	.0005359
#3	.0005577	.000932	.0003893

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	889.6623	22251.26	2081.819	785.8604	1710.507
Stddev	2.8548	60.72	8.972	6.6370	4.379
%RSD	.3208860	.2728680	.4309745	.8445474	.2560067
#1	892.1349	22184.14	2071.496	778.1968	1713.905
#2	890.3142	22267.25	2086.218	789.7194	1712.052
#3	886.5380	22302.38	2087.743	789.6651	1705.565

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-04DLX2 Acquired: 11/14/2024 20:16:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1670904	-.027201	.1189123	.0014610	.0003937	89.60697	1.012093
Stddev	.0049308	.004813	.0028065	.0038215	.0029951	.27419	.002413
%RSD	2.950998	17.69351	2.360165	261.5596	760.7523	.3059889	.2383773
#1	.1618141	-.026366	.1188385	.0023919	.0007726	89.58673	1.010164
#2	.1715816	-.032377	.1217550	.0047311	.0031814	89.34347	1.011318
#3	.1678754	-.022861	.1161434	-.002740	-.002773	89.89072	1.014798

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030754	.0004989	21.23469	.1482279	.0995327	.3134239	178.7425
Stddev	.0000127	.0001928	.13034	.0011196	.0005874	.0055057	.4321
%RSD	.4119963	38.63925	.6138079	.7552879	.5901842	1.756637	.2417506
#1	.0030692	.0007151	21.11736	.1494914	.0996115	.3073338	178.5913
#2	.0030670	.0003449	21.21172	.1478329	.0989098	.3180488	178.4064
#3	.0030899	.0004368	21.37499	.1473594	.1000767	.3148889	179.2299

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.799133	39.84816	.1657393	-.014778	1.053014	.3172683	.4368254
Stddev	.033796	.12465	.0011715	.000983	.186141	.0188195	.0013112
%RSD	.7042117	.3128028	.7068081	6.652775	17.67697	5.931721	.3001579
#1	4.785030	39.91225	.1658965	-.015301	1.017694	.3350925	.4358074
#2	4.774673	39.70451	.1644972	-.013644	.887064	.2975907	.4363640
#3	4.837697	39.92772	.1668242	-.015389	1.254285	.3191219	.4383050

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.54926	4.016787	.1891150	-.001583	.7383733	8.113606	.0075269
Stddev	.06997	.014009	.0011621	.000854	.0057997	.024422	.0014032
%RSD	.4499828	.3487724	.6144690	53.92765	.7854704	.3010021	18.64294
#1	15.60565	4.026958	.1878010	-.002502	.7329993	8.115486	.0069485
#2	15.47096	4.000808	.1895364	-.001431	.7375994	8.088299	.0065053
#3	15.57118	4.022596	.1900075	-.000815	.7445211	8.137035	.0091268

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4591-04DLX2 Acquired: 11/14/2024 20:16:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.268288	.0772450	.1562217
Stddev	.002001	.0012948	.0000678
%RSD	.1577678	1.676179	.0433795
#1	1.266241	.0762416	.1562995
#2	1.268383	.0787066	.1561898
#3	1.270239	.0767869	.1561757

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	938.4584	23757.19	2247.184	829.4656	1608.573
Stddev	2.7138	106.86	5.523	1.5996	4.082
%RSD	.2891783	.4497892	.2457676	.1928475	.2537408
#1	938.2749	23746.96	2248.851	828.7962	1607.737
#2	941.2593	23655.81	2251.682	828.3093	1613.008
#3	935.8409	23868.79	2241.020	831.2911	1604.974

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4571-01ADLX2 Acquired: 11/14/2024 20:21:22 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE543A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3448966	-.024062	.4517601	-.001577	.0062509	69.15125	.7787352
Stddev	.0020134	.002039	.0033916	.006004	.0027230	.03479	.0009863
%RSD	.5837772	8.474454	.7507466	380.7309	43.56178	.0503109	.1266544
#1	.3426148	-.026409	.4482726	.005202	.0033705	69.16733	.7791238
#2	.3464237	-.023039	.4550468	-.006225	.0065993	69.11133	.7794679
#3	.3456512	-.022736	.4519610	-.003708	.0087829	69.17510	.7776137

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022608	.0018281	16.42564	.1438916	.0840802	.4444465	176.0320
Stddev	.0000642	.0002918	.06788	.0002834	.0010351	.0093417	.3104
%RSD	2.839660	15.96083	.4132485	.1969641	1.231077	2.101874	.1763587
#1	.0022352	.0020553	16.37910	.1440795	.0852544	.4445674	176.3889
#2	.0022134	.0019301	16.39429	.1435656	.0832999	.4350449	175.8240
#3	.0023339	.0014991	16.50353	.1440298	.0836863	.4537272	175.8831

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.156399	29.86221	.1328215	-.014062	.7300876	.2836443	.5182157
Stddev	.003530	.06901	.0010322	.000490	.1213716	.0054440	.0003628
%RSD	.0849198	.2310963	.7771125	3.486564	16.62425	1.919306	.0700159
#1	4.156684	29.91470	.1337986	-.013970	.6037811	.2774642	.5179625
#2	4.152735	29.88788	.1329241	-.013624	.8458342	.2877302	.5186314
#3	4.159777	29.78404	.1317419	-.014591	.7406473	.2857386	.5180533

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.22816	4.048355	.1852564	-.000428	.6502963	6.347639	.0077435
Stddev	.01900	.009690	.0024483	.000342	.0081286	.021299	.0029867
%RSD	.1171076	.2393461	1.321555	79.89771	1.249983	.3355434	38.56994
#1	16.23895	4.048719	.1861508	-.000263	.6488914	6.323988	.0088858
#2	16.20621	4.057856	.1824868	-.000821	.6590358	6.365308	.0099905
#3	16.23931	4.038488	.1871318	-.000200	.6429618	6.353619	.0043543

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4571-01ADLX2 Acquired: 11/14/2024 20:21:22 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE543A Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.777948	.0557832	.1297973
Stddev	.003418	.0017511	.0003325
%RSD	.1922245	3.139098	.2562045
#1	1.774183	.0578008	.1295931
#2	1.780856	.0546595	.1296177
#3	1.778803	.0548892	.1301810

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	922.5938	23399.17	2208.318	814.9077	1620.773
Stddev	2.8870	64.41	2.736	1.2816	10.163
%RSD	.3129186	.2752543	.1238793	.1572705	.6270411
#1	922.3561	23342.70	2211.166	814.3100	1614.016
#2	919.8331	23385.50	2205.711	814.0341	1615.843
#3	925.5923	23469.32	2208.076	816.3790	1632.461

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-01DLX2 Acquired: 11/14/2024 20:25:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE596 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2058728	-.077058	.3608754	-.012055	.0161635	109.6706	1.367521
Stddev	.0091804	.004035	.0037964	.009795	.0022021	.7465	.009628
%RSD	4.459248	5.236599	1.051989	81.25026	13.62386	.6806857	.7040782
#1	.2035398	-.080491	.3636682	-.022732	.0141247	109.3120	1.365166
#2	.1980841	-.078069	.3624052	-.009949	.0158670	110.5288	1.378108
#3	.2159946	-.072613	.3565528	-.003485	.0184989	109.1711	1.359288

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032556	.0035087	10.05650	.2984691	.2261962	.5814858	589.3690
Stddev	.0000521	.0002738	.09052	.0024043	.0005463	.0044923	5.4723
%RSD	1.599943	7.803894	.9001165	.8055572	.2415298	.7725562	.9284993
#1	.0031976	.0038225	10.03887	.2986523	.2268270	.5768712	587.0821
#2	.0032984	.0033185	10.15454	.2959784	.2258814	.5858449	595.6137
#3	.0032708	.0033850	9.97609	.3007766	.2258801	.5817414	585.4111

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.26686	52.66573	.2716007	-.045652	2.416697	.8993844	1.007736
Stddev	.14034	.62907	.0016269	.001224	.213518	.0080016	.005618
%RSD	.7682603	1.194459	.5990066	2.680833	8.835108	.8896762	.5575005
#1	18.22930	52.26341	.2710854	-.045540	2.646427	.8934407	1.002562
#2	18.42216	53.39066	.2702939	-.046928	2.379343	.9084824	1.013712
#3	18.14913	52.34313	.2734229	-.044488	2.224321	.8962300	1.006933

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.70920	5.403410	.5758546	-.002345	.8217229	6.446486	.0116943
Stddev	.20324	.017575	.0061266	.001146	.0028493	.064848	.0001807
%RSD	.8225253	.3252513	1.063909	48.86133	.3467432	1.005941	1.545188
#1	24.60222	5.417440	.5755164	-.001146	.8241941	6.394034	.0118088
#2	24.94358	5.383697	.5821432	-.003430	.8186063	6.518992	.0117881
#3	24.58180	5.409092	.5699041	-.002460	.8223685	6.426432	.0114860

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-01DLX2 Acquired: 11/14/2024 20:25:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE596 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.054437	.0828364	.1624172
Stddev	.026012	.0023776	.0010244
%RSD	.8516269	2.870282	.6307234
#1	3.041772	.0807244	.1619701
#2	3.084357	.0823734	.1635892
#3	3.037183	.0854115	.1616924

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	915.6068	23523.37	2221.926	819.4152	1586.968
Stddev	4.0097	60.98	21.111	3.5154	4.525
%RSD	.4379323	.2592433	.9501003	.4290139	.2851176
#1	912.7688	23579.43	2239.033	823.1604	1582.934
#2	920.1940	23532.23	2198.334	816.1868	1591.860
#3	913.8577	23458.44	2228.411	818.8984	1586.110

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-02DLX2 Acquired: 11/14/2024 20:30:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE597 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1854597	-.062403	.2601570	-.004481	.0099835	105.1629	1.582368
Stddev	.0163719	.007127	.0045404	.004245	.0025961	.3186	.004407
%RSD	8.827747	11.42132	1.745262	94.73101	26.00444	.3029710	.2785350
#1	.1710586	-.065133	.2616022	-.008724	.0097002	105.4622	1.581215
#2	.2032667	-.067761	.2550699	-.004486	.0075406	105.1985	1.587238
#3	.1820538	-.054314	.2637990	-.000234	.0127096	104.8279	1.578653

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036068	.0021979	22.48226	.2951948	.1952901	.5023706	461.0932
Stddev	.0003032	.0002676	.07322	.0012867	.0008798	.0084142	1.6040
%RSD	8.407636	12.17511	.3256815	.4358743	.4505097	1.674900	.3478707
#1	.0037956	.0019389	22.45630	.2957813	.1963047	.5092584	460.7841
#2	.0032570	.0021815	22.56492	.2937194	.1948280	.5048612	462.8293
#3	.0037677	.0024734	22.42556	.2960838	.1947376	.4929923	459.6663

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.35130	49.08960	.2745554	-.035380	2.012335	.7576860	.7623434
Stddev	.03020	.18556	.0017916	.000068	.170430	.0060051	.0022246
%RSD	.1740347	.3779990	.6525568	.1928961	8.469254	.7925647	.2918062
#1	17.32596	48.97856	.2760593	-.035432	2.061240	.7511927	.7649120
#2	17.38471	49.30382	.2725731	-.035405	1.822799	.7588258	.7610715
#3	17.34322	48.98643	.2750338	-.035303	2.152966	.7630396	.7610466

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.31956	5.116989	.4686651	-.001399	1.156767	6.770503	.0113781
Stddev	.13243	.018063	.0017138	.000599	.001219	.020616	.0013970
%RSD	.5678788	.3529959	.3656855	42.81063	.1053464	.3044940	12.27761
#1	23.42432	5.097553	.4690472	-.000707	1.157644	6.785684	.0099341
#2	23.36364	5.120152	.4701556	-.001739	1.157280	6.747033	.0114774
#3	23.17071	5.133260	.4667925	-.001751	1.155375	6.778792	.0127228

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-02DLX2 Acquired: 11/14/2024 20:30:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE597 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.844169	.0805590	.1835126
Stddev	.010302	.0023951	.0008442
%RSD	.3622280	2.973073	.4600090
#1	2.856017	.0779092	.1841834
#2	2.839175	.0825696	.1837898
#3	2.837316	.0811983	.1825647

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	918.9513	23606.06	2263.432	822.1771	1583.099
Stddev	2.5673	7.49	2.857	1.3249	4.461
%RSD	.2793747	.0317223	.1262034	.1611401	.2818041
#1	916.1150	23612.27	2260.267	820.6945	1578.731
#2	921.1162	23608.15	2264.210	822.5919	1587.648
#3	919.6226	23597.74	2265.818	823.2449	1582.918

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-03DLX2 Acquired: 11/14/2024 20:34:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE598 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1577345	-.060794	.2680607	-.004662	.0102088	97.99507	1.279176
Stddev	.0169725	.000858	.0016133	.007736	.0045907	.12360	.001641
%RSD	10.76018	1.411380	.6018250	165.9369	44.96850	.1261336	.1283058
#1	.1508142	-.059907	.2673758	-.013036	.0078895	98.13764	1.279405
#2	.1770739	-.060856	.2699034	.002219	.0154964	97.91800	1.280691
#3	.1453156	-.061620	.2669029	-.003169	.0072404	97.92958	1.277433

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031685	.0016749	11.24843	.2979040	.1903713	.5679358	464.8597
Stddev	.0001170	.0002253	.08377	.0027960	.0015604	.0039207	1.0413
%RSD	3.693814	13.45342	.7447593	.9385459	.8196463	.6903515	.2240059
#1	.0032452	.0015405	11.29014	.3006085	.1909231	.5669149	465.8451
#2	.0030338	.0019351	11.30316	.2980788	.1886100	.5646265	463.7703
#3	.0032266	.0015491	11.15199	.2950247	.1915808	.5722660	464.9637

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.32863	47.29973	.2526838	-.036407	1.760145	.7584306	.6674440
Stddev	.03031	.06465	.0005802	.000251	.145872	.0078023	.0029960
%RSD	.1855953	.1366917	.2296276	.6881913	8.287505	1.028740	.4488726
#1	16.34758	47.30733	.2533479	-.036408	1.595659	.7629466	.6689698
#2	16.29368	47.23161	.2524283	-.036156	1.873805	.7494213	.6693698
#3	16.34463	47.36025	.2522752	-.036657	1.810971	.7629239	.6639922

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.33733	4.316641	.4549333	-.001607	.5651262	6.983872	.0094689
Stddev	.02068	.014771	.0017973	.001381	.0128289	.016686	.0022662
%RSD	.0969285	.3421976	.3950672	85.89863	2.270089	.2389260	23.93293
#1	21.35934	4.315625	.4560036	-.001293	.5584113	7.002056	.0069305
#2	21.31831	4.302403	.4528583	-.000411	.5570485	6.980296	.0101874
#3	21.33434	4.331893	.4559381	-.003118	.5799188	6.969264	.0112887

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-03DLX2 Acquired: 11/14/2024 20:34:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE598 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.672542	.0730843	.1500470
Stddev	.004531	.0006915	.0003837
%RSD	.1695513	.9461815	.2556983
#1	2.671690	.0731317	.1503387
#2	2.677439	.0737509	.1496124
#3	2.668497	.0723704	.1501899

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	916.9604	23472.35	2218.351	815.1982	1591.634
Stddev	.9857	90.87	6.628	5.4519	3.235
%RSD	.1074950	.3871199	.2987818	.6687880	.2032448
#1	917.9543	23387.93	2211.863	811.9643	1590.726
#2	916.9439	23460.60	2225.111	812.1376	1595.225
#3	915.9831	23568.52	2218.078	821.4928	1588.949

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-04DLX2 Acquired: 11/14/2024 20:39:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE599 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0234449	-.043534	.0759907	.0032419	.0060042	142.9747	.2174563
Stddev	.0140965	.002542	.0041190	.0066619	.0004968	.4502	.0010767
%RSD	60.12615	5.839671	5.420360	205.4919	8.275017	.3148577	.4951388
#1	.0104033	-.041219	.0719031	.0098300	.0057398	142.8648	.2169151
#2	.0215307	-.046255	.0759288	.0033871	.0065774	143.4697	.2186963
#3	.0384007	-.043127	.0801403	-.003491	.0056955	142.5897	.2167577

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003390	-.001186	35.85030	.8023225	.2431992	.6068795	302.2664
Stddev	.0000809	.000209	.10309	.0038867	.0002664	.0039806	.9912
%RSD	23.87391	17.63697	.2875532	.4844262	.1095244	.6559204	.3279380
#1	.0004156	-.001061	35.84065	.8067532	.2435013	.6027755	302.0312
#2	.0003470	-.001427	35.95787	.8007257	.2430981	.6107242	303.3541
#3	.0002543	-.001068	35.75237	.7994885	.2429981	.6071387	301.4139

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.267993	122.1181	.6205063	-.020480	1.522682	.6605182	.3783730
Stddev	.024393	.0366	.0017431	.000451	.535778	.0068575	.0005637
%RSD	.4630499	.0299625	.2809154	2.202928	35.18646	1.038195	.1489817
#1	5.292695	122.0870	.6220468	-.020130	1.567984	.6680641	.3782955
#2	5.267362	122.1584	.6186142	-.020320	2.034371	.6546669	.3789715
#3	5.243921	122.1089	.6208579	-.020989	.965692	.6588236	.3778521

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.191119	2.534994	.3001372	-.003500	.8941401	6.732318	.0055507
Stddev	.072736	.002655	.0005163	.000623	.0102212	.010640	.0017496
%RSD	.8879817	.1047511	.1720358	17.80249	1.143134	.1580481	31.52066
#1	8.107171	2.532877	.2999539	-.003470	.8875612	6.740589	.0075511
#2	8.235347	2.537974	.2997375	-.002892	.8889437	6.736050	.0043053
#3	8.230839	2.534131	.3007202	-.004137	.9059156	6.720314	.0047958

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-04DLX2 Acquired: 11/14/2024 20:39:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE599 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.815471	.0865586	.1422676
Stddev	.004232	.0010838	.0005768
%RSD	.1503142	1.252060	.4054637
#1	2.819073	.0857477	.1420361
#2	2.816529	.0877895	.1429243
#3	2.810810	.0861385	.1418425

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	887.0309	22651.25	2156.733	782.4166	1550.855
Stddev	2.0244	90.78	7.332	3.0971	4.138
%RSD	.2282179	.4007658	.3399700	.3958340	.2667924
#1	886.4547	22563.62	2150.404	783.5463	1547.523
#2	889.2809	22645.26	2155.027	778.9133	1555.487
#3	885.3572	22744.88	2164.768	784.7902	1549.556

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-05DLX2 Acquired: 11/14/2024 20:43:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1072961	-.044308	.2398715	-.002981	.0067092	114.5713	1.661713
Stddev	.0024090	.001815	.0013993	.005896	.0044689	.5550	.008750
%RSD	2.245156	4.097318	.5833489	197.7459	66.60954	.4844206	.5265349
#1	.1072887	-.042772	.2383762	.003344	.0117560	114.0226	1.653184
#2	.1048909	-.043842	.2411493	-.008323	.0032538	114.5588	1.661288
#3	.1097088	-.046311	.2400890	-.003965	.0051177	115.1324	1.670668

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051902	.0013561	36.11847	.2738118	.1615081	.4136934	361.9844
Stddev	.0001085	.0001992	.21846	.0011673	.0004485	.0104283	1.3263
%RSD	2.091310	14.68781	.6048477	.4263007	.2776924	2.520791	.3663835
#1	.0053127	.0015167	35.95039	.2734614	.1610636	.4059049	360.9120
#2	.0051060	.0011332	36.03961	.2751141	.1615004	.4096344	361.5738
#3	.0051518	.0014183	36.36542	.2728598	.1619604	.4255410	363.4674

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.19791	43.46188	.2446523	-.027619	1.418074	.5690861	.5708629
Stddev	.06012	.32854	.0011607	.000478	.213486	.0059174	.0022037
%RSD	.3711688	.7559231	.4744150	1.731911	15.05466	1.039807	.3860254
#1	16.16576	43.08266	.2434265	-.027795	1.171597	.5759163	.5683189
#2	16.16070	43.64251	.2447958	-.027078	1.537706	.5658328	.5721799
#3	16.26727	43.66048	.2457345	-.027985	1.544920	.5655091	.5720901

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.40909	3.719678	.3716199	-.002189	.5798752	7.198929	.0092246
Stddev	.07712	.021102	.0032386	.000954	.0033142	.040117	.0049105
%RSD	.4429774	.5672978	.8714749	43.56710	.5715318	.5572679	53.23276
#1	17.32242	3.701160	.3681259	-.003291	.5761197	7.204359	.0070290
#2	17.43471	3.742652	.3722128	-.001623	.5823898	7.156373	.0148499
#3	17.47014	3.715224	.3745211	-.001654	.5811163	7.236054	.0057950

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-05DLX2 Acquired: 11/14/2024 20:43:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.594592	.0872638	.1843943
Stddev	.012845	.0013307	.0006217
%RSD	.4950625	1.524866	.3371532
#1	2.582807	.0886645	.1840463
#2	2.592684	.0860164	.1840246
#3	2.608284	.0871104	.1851121

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	930.8694	23606.68	2232.315	820.9684	1587.639
Stddev	2.8828	54.38	8.543	3.0635	1.812
%RSD	.3096865	.2303508	.3827076	.3731600	.1141176
#1	928.7309	23642.57	2232.862	824.4957	1588.613
#2	934.1478	23544.11	2240.572	818.9733	1588.756
#3	929.7294	23633.35	2223.511	819.4361	1585.549

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-06DLX2 Acquired: 11/14/2024 20:47:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1501455	-.056094	.2968981	-.005896	.0125040	98.67568	1.327207
Stddev	.0207756	.009238	.0010241	.003125	.0022608	.24775	.004760
%RSD	13.83698	16.46832	.3449359	52.99704	18.08093	.2510767	.3586635
#1	.1292608	-.046277	.2979482	-.002741	.0150775	98.55706	1.323578
#2	.1708102	-.057389	.2968438	-.008989	.0108376	98.50953	1.325447
#3	.1503653	-.064616	.2959021	-.005958	.0115969	98.96044	1.332597

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027599	.0027075	13.00131	.2880285	.1888673	.5748337	468.9913
Stddev	.0001587	.0002363	.12719	.0011151	.0007500	.0091854	1.5025
%RSD	5.751146	8.727949	.9783177	.3871346	.3970973	1.597919	.3203643
#1	.0028247	.0025746	12.89489	.2867560	.1880134	.5820233	468.2594
#2	.0025790	.0025676	12.96687	.2888347	.1891693	.5644859	467.9950
#3	.0028759	.0029804	13.14218	.2884949	.1894192	.5779920	470.7195

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.20315	47.89601	.2545975	-.035870	1.739909	.7651105	1.042809
Stddev	.07163	.18876	.0007824	.000132	.216567	.0030869	.000822
%RSD	.3545357	.3941005	.3073001	.3680103	12.44703	.4034541	.0788042
#1	20.17668	47.90049	.2537451	-.035785	1.779235	.7620221	1.043022
#2	20.14852	48.08248	.2547643	-.035803	1.934118	.7651135	1.043503
#3	20.28424	47.70504	.2552830	-.036022	1.506373	.7681959	1.041901

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.12360	5.012861	.4660911	-.001789	.9585387	6.287392	.0089739
Stddev	.09342	.016148	.0030267	.000626	.0031115	.036922	.0037370
%RSD	.4040083	.3221391	.6493710	34.96802	.3246113	.5872362	41.64315
#1	23.16391	5.008165	.4627591	-.002303	.9560448	6.285839	.0051354
#2	23.01679	5.030836	.4668441	-.001972	.9620256	6.251271	.0091859
#3	23.19009	4.999580	.4686703	-.001093	.9575459	6.325066	.0126004

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-06DLX2 Acquired: 11/14/2024 20:47:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.933068	.0779122	.1736163
Stddev	.015264	.0017110	.0003385
%RSD	.5204083	2.196008	.1949634
#1	2.915605	.0760345	.1736721
#2	2.943867	.0793830	.1732535
#3	2.939731	.0783191	.1739235

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	911.8387	23374.40	2227.051	810.9692	1589.152
Stddev	1.7013	23.97	8.790	2.0418	4.372
%RSD	.1865816	.1025630	.3946840	.2517730	.2750892
#1	911.8622	23366.01	2224.518	810.5879	1594.197
#2	910.1258	23355.74	2236.829	809.1449	1586.481
#3	913.5282	23401.44	2219.805	813.1747	1586.777

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07REDLX2 Acquired: 11/14/2024 20:52:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1491150	-.049977	.2711151	-.008512	.0088157	92.51071	1.237601
Stddev	.0092580	.002655	.0022982	.008593	.0008305	.21121	.004249
%RSD	6.208606	5.313400	.8476668	100.9439	9.421275	.2283140	.3433479
#1	.1522741	-.047808	.2714246	-.009037	.0080301	92.72509	1.238996
#2	.1386909	-.049185	.2686778	-.016830	.0096849	92.30281	1.232829
#3	.1563799	-.052939	.2732427	.000331	.0087321	92.50422	1.240976

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027010	.0022300	20.25449	.2633332	.1703704	.5298930	405.3367
Stddev	.0003428	.0003732	.05843	.0029783	.0007524	.0129610	.7634
%RSD	12.69152	16.73674	.2884592	1.130995	.4416551	2.445965	.1883300
#1	.0023108	.0024565	20.26157	.2607925	.1707926	.5398081	405.7081
#2	.0029539	.0017992	20.19285	.2625965	.1695016	.5152269	404.4587
#3	.0028383	.0024343	20.30906	.2666108	.1708169	.5346439	405.8433

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.74044	44.75492	.2334741	-.030664	1.952298	.6609382	.6334125
Stddev	.02207	.15177	.0007652	.000331	.333140	.0114625	.0028921
%RSD	.1497302	.3391190	.3277216	1.078520	17.06398	1.734276	.4565968
#1	14.76402	44.83509	.2341771	-.030498	2.258070	.6482916	.6367507
#2	14.72027	44.57987	.2335862	-.030449	2.001551	.6638794	.6318242
#3	14.73704	44.84980	.2326592	-.031044	1.597274	.6706434	.6316625

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.66330	3.931577	.4063791	-.001381	1.071765	7.228654	.0060495
Stddev	.12482	.020999	.0027648	.000518	.015605	.023354	.0022670
%RSD	.6688097	.5341146	.6803474	37.46829	1.455982	.3230766	37.47328
#1	18.74236	3.955220	.4095522	-.000935	1.060826	7.206549	.0067775
#2	18.72814	3.924419	.4044875	-.001949	1.064835	7.253084	.0078631
#3	18.51940	3.915093	.4050977	-.001260	1.089635	7.226329	.0035080

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07REDLX2 Acquired: 11/14/2024 20:52:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.731158	.0717058	.1874392
Stddev	.004992	.0012477	.0004890
%RSD	.1827966	1.739992	.2608701
#1	2.728558	.0707449	.1880038
#2	2.728002	.0731159	.1871659
#3	2.736914	.0712566	.1871480

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	915.1794	23317.62	2221.214	809.0390	1596.879
Stddev	1.8534	83.00	3.842	3.0786	2.443
%RSD	.2025154	.3559749	.1729476	.3805315	.1529721
#1	913.2101	23221.78	2221.451	805.6857	1594.177
#2	915.4384	23366.19	2217.259	811.7377	1598.933
#3	916.8896	23364.89	2224.931	809.6937	1597.525

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-08REDLX2 Acquired: 11/14/2024 20:56:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1055399	-.053817	.2233956	-.008948	.0081113	84.18721	.9213322
Stddev	.0020127	.001682	.0048442	.006655	.0003712	.45784	.0049093
%RSD	1.907051	3.125271	2.168421	74.38067	4.576389	.5438359	.5328477
#1	.1041849	-.053015	.2203178	-.002407	.0080526	84.59910	.9264370
#2	.1078526	-.055750	.2208895	-.015712	.0085083	83.69425	.9166451
#3	.1045823	-.052687	.2289794	-.008723	.0077729	84.26827	.9209144

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026260	.0014345	18.19557	.2355415	.1551727	.4674612	384.6314
Stddev	.0000736	.0002307	.17491	.0003625	.0004112	.0072685	1.9891
%RSD	2.801362	16.08216	.9612727	.1539040	.2649860	1.554896	.5171326
#1	.0025949	.0015431	18.39265	.2353423	.1549745	.4590688	386.8695
#2	.0027101	.0015908	18.05878	.2359599	.1548981	.4717419	383.0657
#3	.0025732	.0011695	18.13527	.2353223	.1556454	.4715729	383.9589

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.44308	39.79092	.2073591	-.029782	1.725346	.6267269	.5848562
Stddev	.07060	.42404	.0007197	.000280	.197836	.0106135	.0022972
%RSD	.6169550	1.065675	.3470934	.9408009	11.46648	1.693473	.3927717
#1	11.51922	40.21602	.2068389	-.029806	1.511800	.6388788	.5873757
#2	11.37979	39.36794	.2070578	-.029490	1.761851	.6220273	.5828781
#3	11.43023	39.78881	.2081805	-.030049	1.902388	.6192746	.5843147

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.81416	3.655115	.3841446	-.002077	.9973332	6.616410	.0093168
Stddev	.09254	.011822	.0043543	.000561	.0010247	.040187	.0012850
%RSD	.5503828	.3234363	1.133496	27.02315	.1027398	.6073810	13.79246
#1	16.89074	3.650363	.3890631	-.002651	.9969160	6.662784	.0088284
#2	16.71132	3.668573	.3807819	-.002050	.9985006	6.594663	.0107745
#3	16.84041	3.646408	.3825888	-.001529	.9965829	6.591784	.0083477

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-08REDLX2 Acquired: 11/14/2024 20:56:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.602512	.0654011	.1674283
Stddev	.013124	.0005847	.0005321
%RSD	.5042831	.8939455	.3178079
#1	2.611223	.0660744	.1678326
#2	2.587417	.0651080	.1668255
#3	2.608895	.0650210	.1676268

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	912.4783	23229.64	2220.023	809.1529	1598.602
Stddev	1.3660	64.04	14.956	2.4503	.879
%RSD	.1497064	.2756742	.6736916	.3028210	.0550110
#1	911.5109	23158.93	2202.814	806.5328	1598.265
#2	911.8832	23283.72	2229.886	809.5381	1599.600
#3	914.0410	23246.26	2227.368	811.3877	1597.941

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07LREDLX10 Acquired: 11/14/2024 21:01:12 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0391732	-.011801	.0519925	.0007413	-.000206	18.96520	.2522079
Stddev	.0081698	.001488	.0033178	.0020773	.000897	.10849	.0011707
%RSD	20.85566	12.61163	6.381310	280.2122	436.4338	.5720285	.4641643
#1	.0428178	-.011837	.0521680	.0030724	.000412	19.08621	.2535582
#2	.0298154	-.010295	.0485904	.0000657	-.001234	18.87665	.2514786
#3	.0448864	-.013271	.0552190	-.000914	.000205	18.93273	.2515869

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005654	.0005854	4.290387	.0546991	.0340490	.1064814	84.50709
Stddev	.0000255	.0002139	.009005	.0006336	.0003042	.0027221	.70039
%RSD	4.516247	36.53254	.2098771	1.158398	.8934173	2.556428	.8287970
#1	.0005810	.0006398	4.299824	.0544409	.0340880	.1066393	85.31548
#2	.0005359	.0003496	4.281888	.0554211	.0337271	.1091211	84.12356
#3	.0005792	.0007668	4.289450	.0542354	.0343318	.1036837	84.08222

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.066270	9.306594	.0467741	-.006653	.2861504	.1256460	.1329281
Stddev	.024766	.205537	.0004490	.000087	.0526979	.0100861	.0005931
%RSD	.8077000	2.208510	.9599677	1.314182	18.41617	8.027390	.4461460
#1	3.094355	9.541535	.0464083	-.006748	.2282578	.1291768	.1324447
#2	3.047559	9.160012	.0466389	-.006634	.3313266	.1334920	.1327499
#3	3.056898	9.218235	.0472752	-.006576	.2988669	.1142692	.1335899

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.792297	.7714816	.0826586	-.001535	.2082751	1.559224	.0008453
Stddev	.026545	.0100865	.0008280	.000409	.0055909	.006655	.0011477
%RSD	.6999659	1.307416	1.001700	26.65532	2.684389	.4268422	135.7694
#1	3.815402	.7778013	.0833859	-.001164	.2053367	1.564686	.0019392
#2	3.763302	.7767944	.0828323	-.001467	.2147225	1.551811	-.000349
#3	3.798189	.7598493	.0817575	-.001974	.2047662	1.561176	.000946

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07LREDLX10 Acquired: 11/14/2024 21:01:12 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5655086	.0139938	.0386406
Stddev	.0031748	.0021694	.0002079
%RSD	.5614084	15.50268	.5379175
#1	.5688039	.0163222	.0388784
#2	.5624698	.0136299	.0385503
#3	.5652522	.0120294	.0384932

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	900.0365	22660.71	2126.368	798.0932	1669.819
Stddev	3.2111	36.35	17.683	3.8327	6.030
%RSD	.3567743	.1604257	.8316050	.4802267	.3611272
#1	897.5403	22640.05	2106.136	793.8899	1663.543
#2	903.6590	22639.39	2138.868	798.9956	1675.569
#3	898.9101	22702.68	2134.100	801.3942	1670.344

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-09REDLX2 Acquired: 11/14/2024 21:05:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2219946	.0434269	.3000170	.1623867	.1722312	92.55874	5.089930
Stddev	.0032345	.0025256	.0006993	.0054518	.0053991	.23978	.015154
%RSD	1.457007	5.815695	.2330785	3.357301	3.134796	.2590560	.2977199
#1	.2194039	.0439371	.2992218	.1602365	.1727521	92.81600	5.107231
#2	.2209602	.0456583	.3005359	.1685857	.1665905	92.34147	5.079014
#3	.2256198	.0406851	.3002934	.1583379	.1773510	92.51876	5.083543

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0993773	.0985111	19.33133	.6711291	1.132425	.9633577	389.1602
Stddev	.0005993	.0002538	.09129	.0026134	.001563	.0058345	1.2969
%RSD	.6030340	.2576813	.4722150	.3893999	.1380488	.6056393	.3332436
#1	.1000370	.0987536	19.40143	.6740499	1.130620	.9593375	390.6558
#2	.0992284	.0982473	19.36444	.6703252	1.133285	.9700497	388.3466
#3	.0988665	.0985325	19.22810	.6690120	1.133369	.9606861	388.4783

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.99358	42.63915	1.194874	.0632283	1.253377	1.623084	1.440020
Stddev	.03460	.18186	.002244	.0002695	.081379	.011773	.006418
%RSD	.2307539	.4265137	.1878318	.4262720	6.492793	.7253576	.4457017
#1	15.02696	42.78733	1.193364	.0632785	1.159602	1.609490	1.447272
#2	14.99590	42.43620	1.197453	.0634693	1.305479	1.629856	1.435073
#3	14.95788	42.69393	1.193805	.0629373	1.295051	1.629906	1.437714

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.05802	3.794395	.3881264	-.001493	1.039645	7.095906	.0051753
Stddev	.02321	.014220	.0027639	.000732	.009799	.039412	.0015040
%RSD	.1285512	.3747527	.7121259	49.06893	.9425691	.5554221	29.06033
#1	18.05756	3.789557	.3912754	-.000918	1.031597	7.137935	.0061700
#2	18.03504	3.783225	.3861021	-.001242	1.050558	7.090005	.0059108
#3	18.08146	3.810402	.3870018	-.002318	1.036780	7.059776	.0034452

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-09REDLX2 Acquired: 11/14/2024 21:05:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.616073	.0666776	.1807421
Stddev	.002790	.0009084	.0006249
%RSD	.1066561	1.362328	.3457623
#1	2.616151	.0669869	.1814322
#2	2.613245	.0656550	.1802145
#3	2.618824	.0673909	.1805795

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	909.5355	23269.40	2202.027	805.1673	1596.732
Stddev	.8592	77.09	8.016	3.5172	1.917
%RSD	.0944660	.3312887	.3640434	.4368272	.1200597
#1	910.4767	23269.83	2192.803	801.2692	1598.943
#2	908.7931	23346.28	2207.312	808.1035	1595.549
#3	909.3369	23192.10	2205.965	806.1291	1595.702

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-10DLX2 Acquired: 11/14/2024 21:10:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1704043	-.052800	.3184772	-.004266	.0065593	99.14835	1.285898
Stddev	.0178348	.006117	.0022454	.007711	.0001669	.36701	.007381
%RSD	10.46617	11.58463	.7050457	180.7507	2.545307	.3701657	.5739982
#1	.1893907	-.051130	.3197292	-.008952	.0063668	98.90079	1.278575
#2	.1678190	-.047693	.3158849	-.008479	.0066646	99.57001	1.293336
#3	.1540033	-.059579	.3198175	.004633	.0066465	98.97425	1.285783

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033877	.0031955	8.470191	.2833656	.1857248	.7371514	408.2231
Stddev	.0000744	.0002572	.026983	.0020288	.0008612	.0053881	2.1765
%RSD	2.197670	8.049957	.3185584	.7159630	.4636970	.7309340	.5331614
#1	.0033547	.0034467	8.494803	.2814791	.1855290	.7430620	406.1075
#2	.0034730	.0029326	8.474431	.2855117	.1866671	.7325137	410.4558
#3	.0033355	.0032071	8.441340	.2831060	.1849784	.7358786	408.1059

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.95599	47.05811	.2520580	-.031543	1.353510	.7273447	.7145184
Stddev	.10644	.31003	.0013487	.000242	.177185	.0185133	.0036694
%RSD	.6670572	.6588333	.5350964	.7680047	13.09076	2.545330	.5135442
#1	15.83917	46.70097	.2536149	-.031396	1.365596	.7060819	.7138199
#2	16.04747	47.25813	.2513131	-.031823	1.170592	.7398894	.7184869
#3	15.98131	47.21524	.2512459	-.031411	1.524342	.7360630	.7112485

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.88389	3.989540	.4032829	-.001820	.4677800	7.383288	.0090690
Stddev	.09667	.008806	.0026922	.000560	.0071343	.049170	.0040397
%RSD	.4417630	.2207230	.6675659	30.77125	1.525130	.6659627	44.54385
#1	21.83113	3.983344	.4004107	-.002466	.4732053	7.333551	.0135750
#2	21.99546	3.999620	.4057489	-.001500	.4596987	7.431871	.0078604
#3	21.82507	3.985655	.4036891	-.001492	.4704359	7.384442	.0057715

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-10DLX2 Acquired: 11/14/2024 21:10:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.990862	.0775614	.1276599
Stddev	.017358	.0007515	.0009899
%RSD	.5803568	.9689490	.7754354
#1	2.972591	.0773405	.1271856
#2	3.007134	.0769451	.1287978
#3	2.992861	.0783986	.1269964

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	922.4046	23580.90	2220.575	817.7458	1599.305
Stddev	2.1067	42.53	11.694	3.0538	4.774
%RSD	.2283928	.1803442	.5266378	.3734420	.2985354
#1	920.5349	23589.87	2233.879	818.0935	1595.895
#2	921.9918	23618.23	2211.919	814.5330	1597.260
#3	924.6872	23534.60	2215.927	820.6109	1604.762

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-11DLX2 Acquired: 11/14/2024 21:14:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1435702	-.041214	.1666988	-.003598	.0062758	94.60584	1.057422
Stddev	.0042514	.001472	.0043866	.006971	.0008144	.22028	.004145
%RSD	2.961202	3.571646	2.631426	193.7488	12.97740	.2328403	.3920108
#1	.1476548	-.042521	.1674451	-.010466	.0057391	94.57206	1.055619
#2	.1438862	-.041501	.1619870	-.003801	.0058753	94.40440	1.054484
#3	.1391696	-.039619	.1706644	.003473	.0072129	94.84106	1.062164

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028540	.0007904	34.04468	.2253969	.1459163	.3984427	316.2234
Stddev	.0000581	.0004012	.13619	.0014460	.0009208	.0059218	1.4530
%RSD	2.034172	50.75871	.4000331	.6415553	.6310793	1.486247	.4594874
#1	.0028122	.0005946	34.01177	.2239442	.1469795	.3966846	315.6020
#2	.0028295	.0005247	33.92796	.2268362	.1453719	.3935990	315.1844
#3	.0029203	.0012519	34.19431	.2254101	.1453975	.4050445	317.8838

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.16418	49.74279	.2118288	-.024659	1.254180	.5961344	.6869139
Stddev	.05048	.21148	.0008286	.000680	.181865	.0108475	.0024944
%RSD	.4521867	.4251421	.3911573	2.756803	14.50070	1.819639	.3631329
#1	11.15774	49.91967	.2115439	-.025328	1.107390	.5986474	.6861086
#2	11.11723	49.50855	.2111802	-.023969	1.457631	.6055048	.6897115
#3	11.21758	49.80015	.2127622	-.024680	1.197520	.5842510	.6849216

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.16504	7.510275	.3334931	-.000629	1.931232	7.154124	.0068323
Stddev	.05451	.012808	.0008717	.000820	.011971	.032971	.0037582
%RSD	.2575668	.1705398	.2613732	130.4527	.6198444	.4608731	55.00634
#1	21.10325	7.509222	.3325269	-.001449	1.925954	7.158678	.0059163
#2	21.18554	7.498026	.3342204	.000191	1.944935	7.119112	.0109639
#3	21.20633	7.523577	.3337321	-.000628	1.922808	7.184582	.0036169

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-11DLX2 Acquired: 11/14/2024 21:14:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.094194	.0819681	.2873753
Stddev	.005745	.0010178	.0005074
%RSD	.2743456	1.241738	.1765615
#1	2.099097	.0810923	.2873267
#2	2.087872	.0817272	.2868940
#3	2.095612	.0830847	.2879053

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	921.8407	23503.71	2244.594	818.5133	1585.659
Stddev	.9441	45.14	5.939	1.3827	.792
%RSD	.1024154	.1920704	.2645769	.1689327	.0499462
#1	922.7570	23545.67	2244.074	820.0769	1584.753
#2	921.8942	23509.50	2250.776	817.4516	1586.222
#3	920.8710	23455.95	2238.932	818.0114	1586.001

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-12DLX2 Acquired: 11/14/2024 21:18:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1464398	-.039372	.1716266	.0005575	.0062852	98.66207	1.261453
Stddev	.0087307	.001955	.0057129	.0046124	.0046158	.18220	.005017
%RSD	5.961947	4.965542	3.328666	827.2690	73.43885	.1846661	.3976996
#1	.1435202	-.041423	.1691310	-.003206	.0111279	98.69913	1.264125
#2	.1395430	-.039162	.1781627	-.000824	.0019359	98.82289	1.264568
#3	.1562561	-.037530	.1675862	.005703	.0057919	98.46420	1.255666

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028702	.0009377	31.45813	.2393015	.1475067	.4192954	308.0906
Stddev	.0001293	.0001135	.13060	.0015236	.0011193	.0062362	.7371
%RSD	4.503826	12.10483	.4151609	.6366837	.7587998	1.487305	.2392521
#1	.0029670	.0008119	31.51489	.2384691	.1464403	.4171413	307.9587
#2	.0027234	.0010325	31.55075	.2410600	.1486723	.4263230	308.8848
#3	.0029203	.0009688	31.30875	.2383754	.1474077	.4144217	307.4284

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.89524	49.92870	.2200834	-.024109	1.506739	.5956141	.6866633
Stddev	.03391	.08616	.0009911	.000459	.214426	.0048114	.0016887
%RSD	.2629665	.1725752	.4503464	1.901893	14.23115	.8077999	.2459268
#1	12.92033	49.94439	.2203722	-.024633	1.413332	.5954227	.6885518
#2	12.90874	50.00594	.2189800	-.023782	1.752024	.6005184	.6852986
#3	12.85666	49.83577	.2208981	-.023911	1.354859	.5909013	.6861394

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.41205	7.882282	.3303022	-.000052	1.999412	7.086834	.0093653
Stddev	.11811	.016837	.0031776	.001126	.003354	.043029	.0017147
%RSD	.5515926	.2136049	.9620292	2157.037	.1677364	.6071674	18.30936
#1	21.46685	7.880394	.3272754	-.001118	2.002580	7.120865	.0086051
#2	21.49282	7.899983	.3336117	-.000164	1.995899	7.101171	.0081621
#3	21.27650	7.866468	.3300195	.001125	1.999755	7.038467	.0113287

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-12DLX2 Acquired: 11/14/2024 21:18:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.190157	.0858678	.2975826
Stddev	.005244	.0005522	.0002150
%RSD	.2394249	.6430847	.0722407
#1	2.185769	.0863773	.2977437
#2	2.188739	.0852810	.2976656
#3	2.195964	.0859451	.2973385

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	926.9823	23592.39	2256.577	820.3992	1586.933
Stddev	2.3576	97.74	11.150	1.8671	1.923
%RSD	.2543359	.4142684	.4940991	.2275847	.1211812
#1	924.8672	23623.80	2250.538	818.9655	1586.988
#2	926.5555	23482.81	2249.750	819.7216	1584.983
#3	929.5242	23670.56	2269.444	822.5105	1588.828

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-13DLX2 Acquired: 11/14/2024 21:23:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0450331	-.054109	.0989517	-.012631	.0132100	150.5040	.3408339
Stddev	.0079363	.004705	.0015926	.003443	.0000121	.3858	.0008180
%RSD	17.62331	8.696241	1.609518	27.25784	.0914415	.2563291	.2400057
#1	.0538375	-.048950	.0977964	-.009106	.0131963	150.0931	.3411688
#2	.0428324	-.055211	.1007685	-.015986	.0132143	150.8584	.3414313
#3	.0384293	-.058165	.0982901	-.012802	.0132193	150.5605	.3399016

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006953	-.000562	33.66797	.7960403	.2542327	.6753317	333.6053
Stddev	.0001304	.000267	.14142	.0016909	.0006889	.0035220	1.2268
%RSD	18.76110	47.45206	.4200293	.2124074	.2709865	.5215183	.3677447
#1	.0007079	-.000569	33.53671	.7979310	.2550227	.6757911	333.1070
#2	.0005590	-.000292	33.81772	.7955166	.2537566	.6716026	335.0028
#3	.0008190	-.000825	33.64946	.7946732	.2539188	.6786015	332.7060

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.856734	123.4056	.6456257	-.022822	1.872986	.6764854	.4295321
Stddev	.025365	.1345	.0027775	.000337	.041314	.0209070	.0010721
%RSD	.3699300	.1090112	.4302092	1.477173	2.205770	3.090537	.2495990
#1	6.842077	123.3919	.6431249	-.022457	1.851604	.6988471	.4307523
#2	6.886023	123.5465	.6451370	-.023122	1.846745	.6731832	.4287414
#3	6.842102	123.2785	.6486151	-.022887	1.920608	.6574260	.4291024

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.536597	2.919970	.3304380	-.002158	.8736037	5.576949	.0054324
Stddev	.081007	.003758	.0012136	.000426	.0091192	.027021	.0021594
%RSD	.8494320	.1287135	.3672633	19.72317	1.043860	.4845057	39.75094
#1	9.459269	2.921707	.3318107	-.002648	.8654981	5.549473	.0057038
#2	9.529683	2.922546	.3299957	-.001947	.8834775	5.603490	.0074433
#3	9.620839	2.915658	.3295076	-.001880	.8718355	5.577885	.0031501

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-13DLX2 Acquired: 11/14/2024 21:23:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.439799	.0902168	.1692279
Stddev	.008070	.0020802	.0001979
%RSD	.2345994	2.305732	.1169436
#1	3.433230	.0880458	.1690113
#2	3.448807	.0904123	.1693993
#3	3.437361	.0921923	.1692730

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	892.4023	22799.70	2199.094	788.2638	1543.384
Stddev	1.4767	90.98	9.677	3.6119	3.166
%RSD	.1654768	.3990456	.4400372	.4582101	.2051473
#1	892.4943	22697.77	2208.775	786.0702	1546.614
#2	893.8308	22828.63	2189.422	786.2887	1543.251
#3	890.8817	22872.70	2199.084	792.4326	1540.286

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-14DLX2 Acquired: 11/14/2024 21:27:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0822097	-.047191	.1738146	.0038796	.0096969	133.4176	.7421097
Stddev	.0074724	.001832	.0029601	.0091653	.0035411	.1719	.0013296
%RSD	9.089463	3.883091	1.703035	236.2413	36.51788	.1288496	.1791595
#1	.0907480	-.047441	.1726496	.0056920	.0133389	133.3884	.7408817
#2	.0790180	-.045247	.1771799	.0120034	.0094855	133.6022	.7435216
#3	.0768632	-.048886	.1716141	-.006056	.0062662	133.2621	.7419257

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016008	.0010124	34.68907	.6149389	.2025257	.6096646	347.9339
Stddev	.0000621	.0001832	.16913	.0009999	.0003046	.0122214	.6124
%RSD	3.881665	18.09895	.4875629	.1626008	.1503853	2.004618	.1760227
#1	.0015292	.0011653	34.60437	.6139872	.2027752	.6115072	348.1004
#2	.0016330	.0008093	34.88382	.6159809	.2021863	.6208601	348.4458
#3	.0016403	.0010626	34.57902	.6148487	.2026157	.5966264	347.2554

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.753426	100.7651	.5068331	-.024436	1.896403	.6941816	.4764411
Stddev	.033555	.3847	.0008921	.000225	.106295	.0019543	.0028026
%RSD	.3440374	.3817363	.1760104	.9199064	5.605074	.2815314	.5882319
#1	9.760422	100.7359	.5060451	-.024256	1.941693	.6921799	.4735597
#2	9.782931	101.1635	.5078017	-.024364	1.972551	.6942800	.4766061
#3	9.716924	100.3959	.5066526	-.024688	1.774964	.6960849	.4791576

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.412851	2.982940	.3383077	-.002481	.5888811	6.672644	.0059418
Stddev	.064641	.014747	.0012662	.000166	.0031456	.015510	.0020427
%RSD	.6867330	.4943734	.3742683	6.674029	.5341679	.2324489	34.37856
#1	9.339870	2.997846	.3372484	-.002520	.5869296	6.671177	.0081759
#2	9.462899	2.968358	.3397100	-.002623	.5872039	6.657920	.0054801
#3	9.435785	2.982617	.3379647	-.002299	.5925099	6.688837	.0041695

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-14DLX2 Acquired: 11/14/2024 21:27:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.403672	.0851020	.1507638
Stddev	.011706	.0014973	.0001878
%RSD	.3439324	1.759371	.1245490
#1	3.410644	.0867750	.1507330
#2	3.410216	.0838880	.1509650
#3	3.390157	.0846428	.1505933

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	895.2622	22956.03	2206.759	793.8864	1549.533
Stddev	.2307	30.81	3.313	3.9099	1.197
%RSD	.0257677	.1342150	.1501454	.4924985	.0772429
#1	895.2640	22953.27	2202.940	798.4008	1550.686
#2	895.4920	22926.70	2208.475	791.5753	1549.617
#3	895.0307	22988.13	2208.862	791.6833	1548.296

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-15DLX2 Acquired: 11/14/2024 21:32:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1235884	-.061649	.2274230	-.007072	.0118264	104.0907	1.405032
Stddev	.0014626	.002398	.0008083	.008415	.0035481	.1833	.003528
%RSD	1.183424	3.890375	.3554010	118.9819	30.00141	.1761388	.2510934
#1	.1237199	-.060886	.2264905	.000491	.0138466	104.2481	1.408398
#2	.1220645	-.059725	.2278552	-.005572	.0139031	103.8894	1.405337
#3	.1249808	-.064336	.2279232	-.016136	.0077296	104.1346	1.401362

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027168	.0013354	16.62951	.2703014	.1875274	.4811513	458.5983
Stddev	.0001103	.0002163	.12873	.0018314	.0003177	.0122627	.6395
%RSD	4.060346	16.20003	.7741178	.6775361	.1694026	2.548623	.1394363
#1	.0026373	.0010964	16.77786	.2715371	.1877756	.4670141	459.2328
#2	.0028428	.0013920	16.56358	.2711697	.1871694	.4889123	458.6080
#3	.0026705	.0015178	16.54711	.2681973	.1876371	.4875276	457.9540

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.88669	50.17449	.2440124	-.034901	1.798738	.7706781	.8207538
Stddev	.03361	.32054	.0016847	.000383	.105865	.0058805	.0018599
%RSD	.1878859	.6388515	.6904233	1.096806	5.885486	.7630318	.2266113
#1	17.90739	50.51191	.2448135	-.034684	1.879681	.7749785	.8186530
#2	17.90476	50.13753	.2420766	-.035342	1.837598	.7639771	.8214179
#3	17.84791	49.87404	.2451471	-.034675	1.678936	.7730788	.8221906

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.03930	5.812065	.4615639	-.002435	1.158933	6.459042	.0070962
Stddev	.04939	.006948	.0020266	.001232	.012418	.010280	.0016954
%RSD	.1826652	.1195448	.4390784	50.58646	1.071541	.1591495	23.89098
#1	27.01042	5.818600	.4604215	-.001099	1.146305	6.470910	.0052913
#2	27.09633	5.804767	.4603662	-.002682	1.171131	6.453258	.0086552
#3	27.01115	5.812828	.4639038	-.003525	1.159364	6.452957	.0073420

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-15DLX2 Acquired: 11/14/2024 21:32:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.583837	.0814683	.2591034
Stddev	.004655	.0002072	.0004919
%RSD	.1801539	.2542900	.1898426
#1	2.588516	.0815498	.2596178
#2	2.583790	.0816222	.2590545
#3	2.579206	.0812327	.2586377

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	911.1695	23291.88	2213.107	804.3580	1584.622
Stddev	.6799	46.37	7.375	1.4504	.669
%RSD	.0746213	.1991002	.3332401	.1803220	.0421968
#1	911.9513	23242.00	2204.645	806.0018	1584.532
#2	910.8409	23299.95	2216.510	803.2583	1585.331
#3	910.7162	23333.68	2218.166	803.8139	1584.002

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-16DLX2 Acquired: 11/14/2024 21:36:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1840065	-.055098	.2324954	-.000159	.0084184	139.2761	1.583021
Stddev	.0065769	.004670	.0009259	.005540	.0033525	.1999	.004953
%RSD	3.574261	8.476083	.3982367	3487.206	39.82330	.1435183	.3128516
#1	.1822223	-.051932	.2329998	-.004161	.0100812	139.0740	1.577315
#2	.1785058	-.052901	.2330596	-.002480	.0045596	139.4737	1.585539
#3	.1912914	-.060462	.2314268	.006164	.0106145	139.2806	1.586208

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050110	-.000123	21.27050	.3197411	.1935651	.4162647	429.1076
Stddev	.0001199	.000112	.03880	.0008574	.0008933	.0036162	1.2931
%RSD	2.391634	91.01645	.1823947	.2681646	.4614786	.8687197	.3013555
#1	.0051403	-.000003	21.31484	.3189433	.1934489	.4123420	427.6152
#2	.0049037	-.000141	21.24280	.3196322	.1927356	.4169867	429.8956
#3	.0049891	-.000225	21.25387	.3206477	.1945107	.4194654	429.8119

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.71370	52.98608	.2683701	-.034145	2.045307	.7772984	.5504756
Stddev	.06373	.17373	.0010748	.000269	.171168	.0154202	.0010633
%RSD	.3405611	.3278704	.4004824	.7868630	8.368830	1.983824	.1931584
#1	18.64173	53.05430	.2678591	-.033985	2.067343	.7668310	.5517021
#2	18.76297	52.78860	.2676461	-.034455	1.864188	.7700578	.5498149
#3	18.73641	53.11534	.2696050	-.033995	2.204390	.7950065	.5499097

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.10404	2.872629	.4291749	-.002927	.6079161	6.950086	.0089671
Stddev	.13832	.014619	.0034755	.001189	.0057039	.004949	.0030656
%RSD	1.055587	.5089179	.8097984	40.61131	.9382664	.0712100	34.18682
#1	12.95084	2.883024	.4255655	-.002657	.6111657	6.950269	.0079518
#2	13.14151	2.855913	.4324988	-.004227	.6013300	6.945048	.0124115
#3	13.21977	2.878950	.4294602	-.001896	.6112525	6.954941	.0065380

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-16DLX2 Acquired: 11/14/2024 21:36:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.342216	.0951118	.2000973
Stddev	.005083	.0012634	.0005784
%RSD	.2170137	1.328353	.2890336
#1	2.336568	.0960828	.2007147
#2	2.346421	.0955693	.2000090
#3	2.343660	.0936834	.1995681

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	930.1491	23818.92	2257.886	825.3415	1572.729
Stddev	.6889	39.01	1.840	1.3558	2.844
%RSD	.0740624	.1637857	.0814748	.1642745	.1808030
#1	930.4221	23829.44	2256.203	824.1961	1570.569
#2	930.6597	23851.59	2257.605	826.8385	1575.951
#3	929.3656	23775.72	2259.850	824.9900	1571.667

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-17DLX2 Acquired: 11/14/2024 21:41:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5B0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1544206	-.055418	.2008609	-.004966	.0069511	140.7855	1.510517
Stddev	.0158715	.001017	.0017343	.012313	.0028948	.3050	.006925
%RSD	10.27809	1.835672	.8634387	247.9612	41.64579	.2166246	.4584399
#1	.1370800	-.055127	.2028623	-.010156	.0040462	141.1250	1.518001
#2	.1579549	-.054579	.1998018	-.013833	.0069713	140.6971	1.509213
#3	.1682271	-.056550	.1999184	.009093	.0098358	140.5346	1.504337

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044305	-.000479	19.46681	.3034143	.1841907	.3872269	442.9005
Stddev	.0000558	.000470	.09302	.0023041	.0011720	.0096852	2.1575
%RSD	1.258446	98.12473	.4778398	.7593937	.6363197	2.501162	.4871322
#1	.0043767	-.000982	19.57371	.3009174	.1850557	.3923085	445.3654
#2	.0044880	-.000051	19.40433	.3038674	.1828568	.3933136	441.3549
#3	.0044269	-.000405	19.42238	.3054583	.1846597	.3760584	441.9812

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.18887	51.03020	.2485584	-.034982	1.971992	.7698267	.4989396
Stddev	.10388	.40817	.0012149	.000773	.167588	.0106569	.0023783
%RSD	.6043677	.7998683	.4887931	2.209728	8.498405	1.384320	.4766795
#1	17.30343	51.49991	.2481094	-.035449	1.780038	.7820048	.4971556
#2	17.10079	50.82902	.2499339	-.034089	2.046734	.7652670	.5016398
#3	17.16239	50.76166	.2476319	-.035406	2.089204	.7622082	.4980233

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.22524	2.641790	.4437004	-.003305	.5638243	6.841425	.0108969
Stddev	.03471	.002726	.0057192	.000892	.0105582	.036218	.0029369
%RSD	.2839467	.1031879	1.288966	26.99366	1.872598	.5293945	26.95178
#1	12.21525	2.638671	.4501896	-.003709	.5759834	6.866081	.0140393
#2	12.19662	2.642980	.4393945	-.002283	.5569754	6.799843	.0104298
#3	12.26385	2.643718	.4415172	-.003924	.5585142	6.858351	.0082215

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-17DLX2 Acquired: 11/14/2024 21:41:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5B0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.504460	.0912318	.1754464
Stddev	.006268	.0018191	.0005425
%RSD	.2502715	1.993903	.3091873
#1	2.507077	.0932062	.1759676
#2	2.497307	.0896238	.1754866
#3	2.508995	.0908654	.1748849

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	928.7073	23738.97	2239.936	821.0792	1580.637
Stddev	.8108	73.15	12.479	2.7951	.683
%RSD	.0873071	.3081297	.5570961	.3404157	.0432045
#1	928.0996	23743.46	2225.878	819.7523	1581.395
#2	929.6279	23663.68	2249.704	819.1946	1580.069
#3	928.3943	23809.76	2244.225	824.2906	1580.446

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV090 Acquired: 11/14/2024 21:45:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV090 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.950001	4.809094	24.64543	4.832059	4.838590	405.7025	10.34591
Stddev	.035446	.021318	.06822	.023300	.034881	.5393	.02794
%RSD	.7160736	.4432805	.2768045	.4821970	.7208947	.1329183	.2700645
#1	4.932901	4.822696	24.61973	4.820016	4.820698	405.5978	10.36510
#2	4.926348	4.784525	24.59380	4.817246	4.816286	405.2232	10.31385
#3	4.990755	4.820061	24.72277	4.858917	4.878787	406.2864	10.35877

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5110204	2.483784	408.3591	15.48057	2.509653	15.17989	414.2174
Stddev	.0007117	.004995	.8974	.00879	.001580	.01479	1.2911
%RSD	.1392679	.2011078	.2197524	.0568012	.0629623	.0974039	.3117022
#1	.5106148	2.478619	408.0290	15.47127	2.509212	15.19145	413.4883
#2	.5118422	2.484142	407.6735	15.48875	2.508340	15.16323	413.4558
#3	.5106043	2.488590	409.3748	15.48169	2.511406	15.18499	415.7082

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.03395	406.1273	2.500279	1.272653	416.4959	2.537692	14.65988
Stddev	.03990	.9782	.009178	.004737	1.0157	.009283	.03620
%RSD	.2653998	.2408551	.3670945	.3721861	.2438714	.3658113	.2469424
#1	15.02361	405.0091	2.494585	1.269152	417.1922	2.548328	14.63562
#2	15.00023	406.8246	2.495384	1.270765	415.3304	2.533531	14.70149
#3	15.07800	406.5483	2.510867	1.278043	416.9651	2.531218	14.64254

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	155.8666	5.121685	5.390160	4.798974	5.101971	5.119159	5.009878
Stddev	.2763	.010155	.022718	.016790	.010852	.018855	.021751
%RSD	.1772443	.1982821	.4214645	.3498753	.2126959	.3683247	.4341547
#1	155.8016	5.113405	5.365636	4.793220	5.090875	5.097855	4.986885
#2	155.6287	5.133016	5.394358	4.785817	5.102478	5.133699	5.012621
#3	156.1696	5.118633	5.410486	4.817885	5.112560	5.125924	5.030126

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV090 Acquired: 11/14/2024 21:45:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV090 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.053952	5.166538	5.123197
Stddev	.005692	.019965	.011277
%RSD	.1126294	.3864356	.2201180
#1	5.050533	5.173155	5.118483
#2	5.050798	5.144105	5.115042
#3	5.060522	5.182355	5.136067

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	714.1343	20188.99	1983.314	605.1827	1295.011
Stddev	1.6067	25.74	4.292	1.4729	.896
%RSD	.2249908	.1274837	.2163912	.2433791	.0692007
#1	714.7402	20170.83	1988.257	606.4769	1295.903
#2	715.3501	20218.44	1981.156	603.5800	1294.111
#3	712.3128	20177.70	1980.530	605.4913	1295.021

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB090 Acquired: 11/14/2024 21:49:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB090 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003007	-.001247	.0002352	.0014163	-.000936	.0309544	-.000708
Stddev	.011761	.001898	.0018185	.0040657	.000519	.0053446	.000831
%RSD	391.0756	152.2089	773.2987	287.0704	55.49305	17.26592	117.2587
#1	.003614	-.000180	.0023196	.0059847	-.001530	.0251761	-.000941
#2	-.016587	-.003438	-.000587	.0000687	-.000569	.0319666	-.001397
#3	.003950	-.000123	-.001027	-.001805	-.000709	.0357205	.000214

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000060	.0004422	.0410128	-.000815	-.000133	.0015935	.0358825
Stddev	.000087	.0000923	.0199543	.000513	.000530	.0048185	.0168673
%RSD	143.9153	20.88013	48.65382	62.99948	398.5529	302.3848	47.00697
#1	.000025	.0005479	.0244050	-.000837	-.000069	.0057119	.0512653
#2	-.000057	.0004014	.0631482	-.001316	.000362	-.003706	.0385368
#3	-.000149	.0003773	.0354853	-.000290	-.000692	.002774	.0178455

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007035	.0696281	.0002337	.0002857	.0523798	-.012644	.0010578
Stddev	.0009673	.1259754	.0004934	.0000090	.1871423	.006349	.0001718
%RSD	137.4953	180.9262	211.1356	3.159585	357.2792	50.21406	16.24491
#1	.0006871	-.072642	.0000177	.0002760	-.155391	-.019774	.0010335
#2	.0016789	.167016	.0007982	.0002939	.104827	-.010554	.0012405
#3	-.000255	.114510	-.000115	.0002874	.207703	-.007603	.0008994

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1911235	-.004850	.0056576	.0007467	.0084490	.0010799	.0060417
Stddev	.1085586	.002887	.0002877	.0006656	.0054244	.0006324	.0007707
%RSD	56.80022	59.53716	5.084973	89.12963	64.20188	58.56109	12.75704
#1	.2442924	-.002326	.0054008	.0002058	.0146701	.0018078	.0068846
#2	.2628485	-.004225	.0056036	.0014900	.0059684	.0006657	.0058675
#3	.0662295	-.007999	.0059685	.0005444	.0047084	.0007661	.0053730

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB090 Acquired: 11/14/2024 21:49:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB090 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002929	-.000431	.0000593
Stddev	.0011337	.000645	.0001181
%RSD	387.0324	149.7824	199.3208
#1	-.000486	-.000293	.0000101
#2	.001593	-.001133	-.000026
#3	-.000228	.000134	.000194

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	886.3242	22165.88	2077.786	779.7615	1702.615
Stddev	2.1506	28.04	8.747	2.8773	2.270
%RSD	.2426376	.1265095	.4209958	.3689918	.1333437
#1	884.1602	22195.43	2067.729	782.3427	1700.148
#2	888.4611	22139.63	2083.625	776.6594	1704.617
#3	886.3513	22162.59	2082.004	780.2826	1703.078

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-18DLX2 Acquired: 11/14/2024 21:54:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5B1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1044225	-.034773	.2032245	-.007091	.0076717	91.74864	2.184090
Stddev	.0182683	.002923	.0046739	.005389	.0058527	.61353	.016646
%RSD	17.49459	8.405779	2.299869	76.00029	76.28942	.6687079	.7621546
#1	.1073578	-.032416	.1978337	-.011207	.0135517	91.31531	2.170390
#2	.0848643	-.033859	.2061432	-.000991	.0018468	92.45068	2.202616
#3	.1210454	-.038044	.2056966	-.009077	.0076166	91.47992	2.179264

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030819	.0016781	20.88805	.2300541	.1723544	.3828788	351.4248
Stddev	.0000584	.0003947	.13498	.0021415	.0009149	.0066135	2.8059
%RSD	1.896099	23.51946	.6462085	.9308809	.5308208	1.727312	.7984459
#1	.0031202	.0015355	20.78621	.2315707	.1734107	.3802512	349.9995
#2	.0031109	.0013746	21.04115	.2309872	.1718100	.3904023	354.6574
#3	.0030147	.0021243	20.83677	.2276043	.1718425	.3779828	349.6177

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.92554	40.98971	.2214245	-.027351	1.627020	.5690116	.5676634
Stddev	.15434	.24340	.0013420	.001079	.130936	.0114362	.0040182
%RSD	.5953378	.5937985	.6060855	3.946518	8.047579	2.009833	.7078476
#1	25.80636	40.87530	.2198781	-.026624	1.481743	.5567951	.5701360
#2	26.09989	41.26923	.2221119	-.026837	1.663397	.5794620	.5698272
#3	25.87038	40.82459	.2222836	-.028591	1.735922	.5707775	.5630270

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.38698	3.386014	.3612254	-.002225	.9820370	7.022107	.0069718
Stddev	.05057	.005102	.0045808	.000202	.0078883	.054684	.0018627
%RSD	.3086172	.1506756	1.268130	9.082550	.8032593	.7787339	26.71786
#1	16.34499	3.391784	.3596876	-.002248	.9752446	6.981472	.0080397
#2	16.37282	3.382099	.3663773	-.002414	.9906890	7.084280	.0048209
#3	16.44312	3.384159	.3576114	-.002012	.9801775	7.000568	.0080547

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-18DLX2 Acquired: 11/14/2024 21:54:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5B1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.278003	.0801807	.1687773
Stddev	.014344	.0008181	.0009904
%RSD	.6296789	1.020281	.5868137
#1	2.274383	.0793779	.1679292
#2	2.293810	.0810132	.1698658
#3	2.265815	.0801509	.1685371

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	914.9828	23382.81	2231.741	812.1285	1587.042
Stddev	.7689	140.25	14.234	6.4453	1.707
%RSD	.0840336	.5998197	.6377943	.7936324	.1075524
#1	914.4490	23297.31	2236.271	806.6075	1585.086
#2	915.8641	23306.44	2215.793	810.5667	1587.814
#3	914.6352	23544.67	2243.158	819.2112	1588.227

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-19DLX2 Acquired: 11/14/2024 22:07:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5B2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1661202	-.048572	.2686517	-.008019	.0111879	97.66326	1.713374
Stddev	.0056522	.003002	.0023917	.009279	.0033685	.34103	.012140
%RSD	3.402462	6.180245	.8902702	115.7130	30.10880	.3491929	.7085539
#1	.1717742	-.045560	.2658901	-.001321	.0106725	97.92286	1.718658
#2	.1604699	-.048592	.2700060	-.004126	.0081068	97.78990	1.721977
#3	.1661166	-.051564	.2700590	-.018609	.0147844	97.27703	1.699488

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030188	.0014875	14.35195	.2677624	.1834349	.6042512	407.2051
Stddev	.0000115	.0000662	.17161	.0030270	.0013466	.0044037	1.8942
%RSD	.3805954	4.450734	1.195693	1.130492	.7341074	.7287877	.4651736
#1	.0030218	.0014273	14.40862	.2709936	.1830792	.6058164	408.3744
#2	.0030284	.0015584	14.48806	.2649924	.1849236	.6076585	408.2212
#3	.0030060	.0014768	14.15918	.2673012	.1823018	.5992787	405.0196

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.64931	46.68516	.2430343	-.031140	6.629491	.7347067	.6607462
Stddev	.12659	.09845	.0013221	.000287	.204900	.0026903	.0060171
%RSD	.6130305	.2108711	.5440145	.9202262	3.090735	.3661706	.9106488
#1	20.73357	46.67493	.2441854	-.031028	6.550499	.7319782	.6625881
#2	20.71061	46.78833	.2415902	-.031466	6.862130	.7373571	.6540235
#3	20.50374	46.59223	.2433271	-.030927	6.475843	.7347848	.6656271

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.85861	4.291294	.4149589	-.002552	.8670784	6.511521	.0092507
Stddev	.03838	.023662	.0045934	.000370	.0033867	.017749	.0011748
%RSD	.2035405	.5513859	1.106951	14.51600	.3905912	.2725776	12.70004
#1	18.90126	4.264031	.4159424	-.002378	.8703340	6.519157	.0100400
#2	18.82682	4.306481	.4189809	-.002977	.8635743	6.524173	.0098115
#3	18.84776	4.303369	.4099534	-.002300	.8673269	6.491231	.0079005

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-19DLX2 Acquired: 11/14/2024 22:07:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5B2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.647334	.0820999	.1678457
Stddev	.009014	.0013410	.0007497
%RSD	.3404880	1.633384	.4466691
#1	2.652563	.0834848	.1686542
#2	2.652514	.0820073	.1677096
#3	2.636926	.0808076	.1671734

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	911.0885	23289.12	2218.995	805.5967	1576.251
Stddev	1.9727	59.65	3.195	5.8221	3.301
%RSD	.2165232	.2561307	.1439955	.7227114	.2093969
#1	909.6382	23234.95	2215.553	805.1874	1579.729
#2	913.3349	23353.05	2219.564	811.6127	1575.860
#3	910.2924	23279.35	2221.867	799.9900	1573.163

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV091 Acquired: 11/14/2024 22:25:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV091 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.911138	4.782047	24.35673	4.730291	4.747129	404.5661	10.25005
Stddev	.078852	.051058	.24036	.061317	.060061	1.0236	.01180
%RSD	1.605565	1.067706	.9868512	1.296270	1.265205	.2530081	.1151385
#1	4.919280	4.791001	24.41882	4.738799	4.772539	403.4622	10.23703
#2	4.828531	4.727104	24.09141	4.665164	4.678540	405.4838	10.26004
#3	4.985602	4.828036	24.55996	4.786910	4.790309	404.7523	10.25308

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5050569	2.453304	407.1874	15.33691	2.477271	15.10075	408.7918
Stddev	.0039134	.028384	.8155	.02385	.031478	.05842	1.4342
%RSD	.7748367	1.156968	.2002727	.1554861	1.270659	.3868706	.3508457
#1	.5018765	2.461450	406.4171	15.36423	2.484002	15.04552	407.8972
#2	.5094270	2.421738	408.0416	15.32620	2.442972	15.16191	410.4460
#3	.5038671	2.476724	407.1036	15.32029	2.504838	15.09482	408.0321

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.81508	403.1737	2.472132	1.251648	412.6495	2.506624	14.59233
Stddev	.03637	1.0860	.026527	.004373	.9806	.004308	.05391
%RSD	.2455032	.2693643	1.073035	.3493801	.2376433	.1718803	.3694599
#1	14.77451	401.9602	2.480215	1.251743	411.6727	2.508493	14.60819
#2	14.84477	404.0541	2.442504	1.247228	413.6339	2.501697	14.63654
#3	14.82594	403.5070	2.493677	1.255973	412.6420	2.509683	14.53227

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	154.9427	5.002326	5.261312	4.723199	5.015181	5.038139	4.946014
Stddev	.5546	.054059	.056581	.048173	.050985	.042007	.076313
%RSD	.3579611	1.080673	1.075418	1.019931	1.016607	.8337768	1.542923
#1	154.3759	5.024012	5.201586	4.731457	5.022975	5.002000	4.980357
#2	155.4843	4.940791	5.314111	4.671430	4.960747	5.084227	4.858563
#3	154.9680	5.042174	5.268240	4.766709	5.061819	5.028189	4.999121

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV091 Acquired: 11/14/2024 22:25:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV091 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.007590	5.096946	5.107852
Stddev	.017084	.006340	.014993
%RSD	.3411582	.1243887	.2935234
#1	4.991886	5.089849	5.097091
#2	5.025781	5.098936	5.124977
#3	5.005103	5.102051	5.101488

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	714.4692	20082.41	1978.649	599.8622	1290.086
Stddev	5.5459	58.29	12.193	1.5094	11.460
%RSD	.7762310	.2902300	.6162237	.2516322	.8882946
#1	713.8154	20023.00	1988.442	598.7460	1288.265
#2	720.3130	20139.51	1964.992	599.2610	1302.347
#3	709.2791	20084.72	1982.513	601.5796	1279.646

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB091 Acquired: 11/14/2024 22:29:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB091 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051404	-.002809	.0001459	.0040531	-.002813	.0441826	-.000471
Stddev	.0072465	.000994	.0010378	.0050039	.002553	.0144183	.000356
%RSD	140.9735	35.38373	711.5157	123.4595	90.75011	32.63344	75.58244
#1	.0090441	-.002658	-.000351	-.000602	-.004595	.0451531	-.000078
#2	-.003221	-.003870	-.000550	.009345	-.003957	.0580912	-.000563
#3	.009598	-.001900	.001339	.003416	.000112	.0293036	-.000773

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000321	.0003113	.0420261	-.000882	-.000147	-.003387	.0534991
Stddev	.0001131	.0000418	.0222704	.000715	.000500	.006072	.0172605
%RSD	352.1846	13.43906	52.99180	81.02643	340.6254	179.2570	32.26324
#1	-.000062	.0003143	.0255548	-.000167	.000212	-.009561	.0650014
#2	.000158	.0003516	.0673641	-.001597	.000065	.002577	.0336519
#3	.000001	.0002681	.0331593	-.000883	-.000718	-.003177	.0618440

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005735	.0905246	.0006764	.0006460	-.088528	-.007067	.0015040
Stddev	.0002852	.0983392	.0000956	.0003618	.184762	.009098	.0003818
%RSD	49.72317	108.6325	14.12507	56.00819	208.7038	128.7356	25.38783
#1	.0008860	.2033674	.0006600	.0003259	.121306	-.012006	.0017775
#2	.0003274	.0450798	.0007791	.0010386	-.226823	-.012628	.0016669
#3	.0005070	.0231268	.0005902	.0005735	-.160068	.003432	.0010678

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2839504	-.001768	.0051177	.0001189	.0065593	.0004535	.0058028
Stddev	.0432763	.002713	.0012983	.0002015	.0126754	.0002727	.0022614
%RSD	15.24081	153.4638	25.36914	169.4810	193.2434	60.12818	38.97049
#1	.2966808	-.004260	.0038281	.0003513	.0077542	.0007172	.0079972
#2	.3194336	.001123	.0051004	-.000006	.0185950	.0001727	.0059313
#3	.2357367	-.002167	.0064246	.000012	-.006671	.0004706	.0034799

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB091 Acquired: 11/14/2024 22:29:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB091 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000956	-.000105	.0002144
Stddev	.001838	.003422	.0000135
%RSD	192.1714	3245.725	6.299822
#1	.000689	.002581	.0002178
#2	-.002939	-.003959	.0002258
#3	-.000618	.001062	.0001995

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	878.4443	22058.15	2044.119	768.3502	1697.475
Stddev	2.9803	47.51	10.930	3.2520	6.810
%RSD	.3392759	.2153817	.5346949	.4232392	.4011846
#1	881.8315	22011.99	2054.586	771.8781	1705.298
#2	877.2778	22106.90	2044.993	765.4724	1694.246
#3	876.2237	22055.57	2032.779	767.7002	1692.879

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-11ADLX2 Acquired: 11/14/2024 23:06:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2782677	-.046824	.1977808	-.003915	.0090582	105.3012	1.586099
Stddev	.0093246	.007803	.0003184	.002694	.0036003	.2379	.005387
%RSD	3.350952	16.66468	.1609615	68.82383	39.74626	.2259020	.3396377
#1	.2866728	-.054617	.1974488	-.005182	.0132121	105.0463	1.579970
#2	.2682372	-.046843	.1980835	-.000821	.0068377	105.3401	1.590084
#3	.2798931	-.039011	.1978102	-.005742	.0071247	105.5173	1.588243

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026212	.0018999	27.66778	.3076069	.1906309	1.317501	332.0043
Stddev	.0000425	.0001483	.02880	.0012788	.0008792	.009556	1.9315
%RSD	1.622103	7.805713	.1041087	.4157161	.4612090	.7253258	.5817645
#1	.0026689	.0020227	27.64524	.3085493	.1915923	1.327350	330.0412
#2	.0026076	.0017351	27.65788	.3081202	.1898678	1.316887	333.9025
#3	.0025872	.0019419	27.70023	.3061512	.1904328	1.308267	332.0694

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.64075	58.72180	.3192992	-.025175	1.514605	.6944217	1.556771
Stddev	.06764	.19383	.0005324	.000417	.139911	.0005605	.003501
%RSD	.4619661	.3300837	.1667494	1.655088	9.237439	.0807112	.2248872
#1	14.56266	58.52997	.3189321	-.024695	1.410853	.6949325	1.560631
#2	14.68045	58.91757	.3199098	-.025444	1.459236	.6945104	1.553800
#3	14.67915	58.71786	.3190556	-.025386	1.673727	.6938221	1.555881

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.95462	5.416839	.3419428	-.001529	1.088968	7.602243	.0079833
Stddev	.28890	.004114	.0005077	.000236	.003463	.011868	.0037541
%RSD	1.315905	.0759502	.1484599	15.46840	.3179655	.1561146	47.02434
#1	21.71625	5.419593	.3414576	-.001270	1.086531	7.615049	.0122944
#2	22.27592	5.412110	.3424703	-.001584	1.087442	7.591614	.0054353
#3	21.87169	5.418815	.3419006	-.001733	1.092932	7.600064	.0062202

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4572-11ADLX2 Acquired: 11/14/2024 23:06:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE586A Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.330529	.0845127	.1904447
Stddev	.011821	.0003568	.0004800
%RSD	.5072311	.4222024	.2520196
#1	2.316978	.0845816	.1899039
#2	2.335889	.0841264	.1906102
#3	2.338721	.0848300	.1908201

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	915.5157	23365.26	2256.008	809.1972	1563.612
Stddev	.7478	37.44	7.136	3.7697	2.603
%RSD	.0816766	.1602543	.3163150	.4658552	.1665011
#1	915.5127	23340.65	2254.174	807.7729	1563.719
#2	914.7695	23346.77	2249.968	806.3472	1560.957
#3	916.2650	23408.35	2263.882	813.4715	1566.160

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07ADLX2 Acquired: 11/14/2024 23:11:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4406459	-.048025	.2710604	-.006410	.0084705	91.66760	1.216601
Stddev	.0016976	.003514	.0028665	.004277	.0028514	.22823	.003145
%RSD	.3852433	7.316790	1.057523	66.72333	33.66282	.2489789	.2585299
#1	.4421959	-.048959	.2740710	-.009617	.0117135	91.41021	1.213480
#2	.4388318	-.044138	.2707463	-.008060	.0063562	91.84531	1.219770
#3	.4409101	-.050977	.2683638	-.001554	.0073418	91.74728	1.216552

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026001	.0015995	19.83232	.2598557	.1682777	.5255466	398.4785
Stddev	.0001093	.0003119	.01817	.0011650	.0007032	.0029771	1.2667
%RSD	4.203019	19.49749	.0916133	.4483206	.4178845	.5664712	.3178738
#1	.0026078	.0019587	19.83272	.2585202	.1675001	.5289455	397.0323
#2	.0024872	.0014428	19.81395	.2606631	.1688690	.5242925	399.3911
#3	.0027054	.0013971	19.85028	.2603839	.1684640	.5234017	399.0120

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.46146	44.09472	.2285891	-.030575	1.790831	.6554395	.6255286
Stddev	.00800	.08226	.0001692	.000101	.448275	.0223021	.0023725
%RSD	.0552884	.1865438	.0740086	.3305974	25.03168	3.402611	.3792742
#1	14.46696	44.00010	.2287841	-.030569	2.199807	.6748191	.6274818
#2	14.46514	44.14924	.2284825	-.030478	1.311562	.6310628	.6262155
#3	14.45229	44.13481	.2285005	-.030679	1.861123	.6604365	.6228885

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.33730	3.894203	.4010130	-.001522	1.064661	7.337094	.0083515
Stddev	.11553	.009340	.0023460	.000942	.008670	.027357	.0006782
%RSD	.6300508	.2398347	.5850170	61.84908	.8143758	.3728641	8.120358
#1	18.43053	3.898450	.3987292	-.001442	1.074660	7.321349	.0076408
#2	18.20804	3.883494	.4034166	-.000624	1.059227	7.368683	.0089916
#3	18.37333	3.900663	.4008932	-.002502	1.060095	7.321249	.0084222

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4573-07ADLX2 Acquired: 11/14/2024 23:11:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5A2A Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.719524	.0678324	.1862519
Stddev	.006787	.0027007	.0004539
%RSD	.2495690	3.981446	.2437064
#1	2.712972	.0652514	.1864080
#2	2.719076	.0676071	.1866072
#3	2.726523	.0706387	.1857405

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	906.8502	23163.95	2221.710	800.5459	1588.216
Stddev	.3134	31.52	4.567	3.4645	1.166
%RSD	.0345590	.1360857	.2055774	.4327642	.0734270
#1	906.9686	23199.82	2226.412	797.4086	1589.275
#2	906.4948	23151.41	2217.291	799.9651	1586.966
#3	907.0871	23140.63	2221.426	804.2641	1588.409

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-01ADLX2 Acquired: 11/14/2024 23:15:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3328867	-.024619	.1488037	-.000066	.0020458	61.21833	.7689992
Stddev	.0029204	.005145	.0019993	.008742	.0025195	.23383	.0028456
%RSD	.8772845	20.89795	1.343570	13231.98	123.1552	.3819624	.3700410
#1	.3341051	-.030405	.1508508	-.005695	.0009298	60.98247	.7657724
#2	.3350006	-.020558	.1468560	.010005	.0049305	61.22244	.7711497
#3	.3295544	-.022895	.1487043	-.004508	.0002770	61.45008	.7700755

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018726	.0014046	19.18052	.1722700	.0881633	.4543995	166.0544
Stddev	.0002880	.0002468	.05148	.0016931	.0005677	.0036357	.5944
%RSD	15.37995	17.57009	.2684193	.9827956	.6439127	.8001080	.3579796
#1	.0020888	.0012350	19.13211	.1721191	.0879831	.4564929	165.3701
#2	.0015456	.0012911	19.23461	.1706575	.0887993	.4565043	166.3495
#3	.0019832	.0016877	19.17486	.1740335	.0877076	.4502014	166.4435

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.591030	32.49491	.1523922	-.013440	.7616062	.2448380	.4936640
Stddev	.008001	.12297	.0006205	.000241	.2563682	.0147941	.0017852
%RSD	.1742778	.3784256	.4071654	1.794552	33.66152	6.042399	.3616255
#1	4.586154	32.36055	.1517188	-.013702	.9264338	.2283280	.4924027
#2	4.600264	32.52232	.1525171	-.013227	.4662404	.2492944	.4928827
#3	4.586672	32.60186	.1529408	-.013392	.8921443	.2568916	.4957067

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.96612	4.329008	.1771897	-.000854	.7637496	6.971837	.0052854
Stddev	.06969	.019369	.0004044	.000335	.0132838	.018278	.0028932
%RSD	.3878759	.4474204	.2282484	39.22168	1.739291	.2621648	54.73992
#1	17.88574	4.307898	.1767227	-.000904	.7679017	6.991567	.0032081
#2	18.00955	4.333167	.1774264	-.000497	.7744614	6.955482	.0085899
#3	18.00306	4.345960	.1774199	-.001161	.7488856	6.968462	.0040581

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: P4590-01ADLX2 Acquired: 11/14/2024 23:15:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE5N3A Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.329479	.0444745	.1110882
Stddev	.007167	.0009359	.0003160
%RSD	.5391198	2.104264	.2844778
#1	1.325771	.0442396	.1114154
#2	1.324926	.0455054	.1107847
#3	1.337741	.0436785	.1110646

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	912.8870	23211.59	2201.413	804.7624	1604.172
Stddev	1.2519	12.95	3.972	2.2850	.755
%RSD	.1371352	.0558104	.1804230	.2839382	.0470517
#1	911.4432	23221.66	2198.353	804.7452	1603.675
#2	913.5468	23216.14	2205.901	807.0560	1605.041
#3	913.6710	23196.98	2199.985	802.4860	1603.802

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV092 Acquired: 11/14/2024 23:20:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV092 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.958980	4.785761	24.38193	4.859566	4.822992	404.0070	10.22404
Stddev	.021708	.012314	.00719	.012901	.005825	1.6446	.03332
%RSD	.4377551	.2573146	.0294878	.2654823	.1207741	.4070744	.3258620
#1	4.984045	4.795856	24.38211	4.847682	4.818569	402.8890	10.21690
#2	4.946721	4.772041	24.38902	4.857728	4.820814	405.8954	10.26035
#3	4.946175	4.789386	24.37465	4.873288	4.829592	403.2366	10.19487

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5071993	2.472951	404.9719	15.45979	2.497239	15.13728	412.2445
Stddev	.0018978	.003151	1.1736	.02136	.004560	.04968	1.6091
%RSD	.3741702	.1274070	.2897935	.1381789	.1826174	.3281864	.3903286
#1	.5060163	2.476165	404.8440	15.46792	2.496784	15.09272	411.6621
#2	.5093883	2.469867	406.2042	15.43555	2.492924	15.19084	414.0637
#3	.5061933	2.472821	403.8675	15.47589	2.502010	15.12828	411.0077

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.88228	402.4606	2.493459	1.257918	413.9321	2.498169	14.55837
Stddev	.05086	1.4962	.003846	.005327	1.6220	.001397	.07638
%RSD	.3417615	.3717579	.1542457	.4234838	.3918420	.0559132	.5246223
#1	14.86410	402.0630	2.495511	1.255916	413.9715	2.496751	14.47121
#2	14.93973	404.1154	2.495844	1.253882	415.5341	2.499544	14.59029
#3	14.84300	401.2034	2.489022	1.263956	412.2909	2.498211	14.61360

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	155.4506	5.142906	5.355063	4.779631	5.113184	5.067924	4.971947
Stddev	.5165	.016878	.021490	.007209	.022628	.021203	.005629
%RSD	.3322409	.3281722	.4013013	.1508316	.4425379	.4183750	.1132230
#1	155.0506	5.123480	5.338847	4.785567	5.090956	5.046118	4.965570
#2	156.0337	5.151274	5.379438	4.771609	5.136192	5.088467	4.974041
#3	155.2676	5.153966	5.346906	4.781716	5.112404	5.069187	4.976229

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCV092 Acquired: 11/14/2024 23:20:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV092 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.029563	5.088328	5.117889
Stddev	.011964	.021035	.019898
%RSD	.2378757	.4133946	.3887902
#1	5.034078	5.090460	5.099769
#2	5.038613	5.108216	5.139183
#3	5.015999	5.066308	5.114713

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	710.3020	20088.12	1982.675	604.2353	1290.787
Stddev	1.0565	21.09	8.654	3.5406	.177
%RSD	.1487345	.1049973	.4365021	.5859670	.0137407
#1	709.1054	20112.44	1991.036	608.3217	1290.582
#2	710.6945	20074.92	1973.754	602.0821	1290.892
#3	711.1059	20076.99	1983.236	602.3022	1290.886

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB092 Acquired: 11/14/2024 23:24:22 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB092 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002385	.0014892	.0022168	-.003490	-.001461	.0575498	.0000084
Stddev	.005244	.0009811	.0009626	.003637	.002525	.0055316	.0002674
%RSD	219.8655	65.87949	43.42160	104.2223	172.8875	9.611783	3175.759
#1	-.002392	.0016252	.0032828	.000045	-.004249	.0633087	.0001540
#2	.002862	.0004472	.0014114	-.007222	.000674	.0522777	-.000300
#3	-.007626	.0023951	.0019562	-.003294	-.000807	.0570630	.000171

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000429	.0004300	.0540610	.0007753	.0003699	-.005255	.0638462
Stddev	.0001388	.0001404	.0340720	.0002296	.0008495	.007740	.0130490
%RSD	323.6035	32.64475	63.02511	29.61206	229.6863	147.2979	20.43823
#1	.0000849	.0005801	.0836856	.0009275	-.000401	.003038	.0550068
#2	.0001557	.0004080	.0168280	.0008872	.001281	-.012288	.0576982
#3	-.000112	.0003020	.0616696	.0005112	.000230	-.006514	.0788336

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032116	-.027009	.0004770	.0002087	-.145326	-.019227	.0024001
Stddev	.0013507	.136117	.0000806	.0006131	.331068	.007823	.0003927
%RSD	42.05587	503.9602	16.88806	293.8194	227.8102	40.69038	16.36377
#1	.0016701	-.082931	.0005699	.0008680	-.067458	-.028126	.0020316
#2	.0037770	-.126259	.0004329	.0001023	.139867	-.013433	.0028133
#3	.0041877	.128161	.0004281	-.000344	-.508388	-.016120	.0023554

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2733687	.0002919	.0070634	.0003910	.0011403	.0015125	.0058455
Stddev	.0802604	.0018988	.0004838	.0006619	.0076728	.0000358	.0022137
%RSD	29.35976	650.5492	6.849699	169.2768	672.9001	2.369078	37.86999
#1	.3507934	.0008135	.0072554	.0008876	.0059090	.0014775	.0082790
#2	.1905452	-.001813	.0074217	-.000360	.0052224	.0015491	.0039514
#3	.2787675	.001875	.0065130	.000646	-.007711	.0015110	.0053060

Reviewed By:Mohan
On:11/15/2024 5:15:22 AM
Inst Id :P5

Sample Name: CCB092 Acquired: 11/14/2024 23:24:22 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v734) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB092 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0000699	-.000015	.0003689
Stddev	.0003169	.002242	.0000847
%RSD	453.1400	14577.03	22.95372
#1	.0004178	-.001484	.0002821
#2	-.000202	-.001128	.0003734
#3	-.000006	.002565	.0004513

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	881.4518	22112.94	2068.527	772.6816	1699.567
Stddev	1.5163	83.61	13.199	2.5358	2.622
%RSD	.1720191	.3780977	.6380783	.3281880	.1542485
#1	881.2020	22016.47	2055.750	775.4736	1701.396
#2	880.0760	22164.39	2067.721	772.0500	1696.564
#3	883.0775	22157.97	2082.111	770.5213	1700.741

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Prep Standard - Chemical Standard Summary

Order ID : P4590

Test : Metals CLP Full

Prepbatch ID : PB164715,

Sequence ID/Qc Batch ID: LB133461,

Standard ID :
MP83105,MP83122,MP83134,MP83136,MP83137,MP83138,MP83139,MP83140,MP83141,MP83142,MP83143,MP831
44,MP83145,MP83146,MP83147,MP83148,MP83149,

Chemical ID :
M5130,M5218,M5223,M5289,M5295,M5296,M5390,M5395,M5429,M5476,M5498,M5513,M5515,M5519,M5634,M5658
,M5698,M5751,M5768,M5798,M5799,M5800,M5801,M5802,M5806,M5815,M5816,M5817,M5818,M5819,M5820,M587
5,M5960,M5962,M5970,M5976,M5978,M5982,M5984,M5985,M5990,M5999,M6021,M6023,M6025,M6028,M6030,M60
33,M6111,M6116,M6117,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP83105	11/07/2024	12/07/2024	Janvi Patel	None	None	Sarabjit Jaswal 11/07/2024

FROM 1000.00000ml of M6111 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
169	1:1HNO3	MP83122	11/07/2024	12/07/2024	Janvi Patel	None	None	Sarabjit Jaswal 11/07/2024

FROM 1000.00000ml of M6116 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP83134	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2480	ICP AES STD 6 ISM01.3	MP83136	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 4.00000ml of M5289 + 4.00000ml of M5498 + 4.00000ml of M5515 + 4.00000ml of M5768 + 4.00000ml of M5806 + 30.00000ml of MP83134 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1004	ICPAES ISM01.2 (S5)	MP83137	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 0.25000ml of M5798 + 0.50000ml of M5429 + 0.50000ml of M5476 + 0.50000ml of M5815 + 0.50000ml of M5817 + 12.50000ml of M5519 + 12.50000ml of M5698 + 12.50000ml of M5806 + 12.50000ml of M5819 + 13.75000ml of M5751 + 14.50000ml of M5515 + 14.50000ml of M5658 + 14.50000ml of M6033 + 2.00000ml of M5513 + 22.50000ml of M5498 + 22.50000ml of M5768 + 5.00000ml of M5296 + 5.00000ml of M5395 + 5.00000ml of M5802 + 5.00000ml of M5818 + 5.00000ml of M5875 + 303.50000ml of MP83134 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1005	ICPAES ISM01.2(S4)	MP83138	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 250.00000ml of MP83134 + 250.00000ml of MP83137 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1007	ICPAES ISM01.2(S3)	MP83139	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 25.00000ml of MP83137 + 75.00000ml of MP83134 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1008	ICPAES ISM01.2(S2)	MP83140	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 12.50000ml of MP83137 + 87.50000ml of MP83134 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
994	ICPAES ISM01.2 S1 (CONC.)	MP83141	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 0.02000ml of M5815 + 0.03000ml of M5429 + 0.10000ml of M5798 + 0.10000ml of M6028 + 0.14000ml of M5799 + 0.20000ml of M5476 + 0.20000ml of M5515 + 0.20000ml of M5658 + 0.20000ml of M5801 + 0.20000ml of M5817 + 0.20000ml of M5976 + 0.20000ml of M6025 + 0.20000ml of M6030 + 0.30000ml of M5698 + 0.40000ml of M6033 + 0.50000ml of M5751 + 0.50000ml of M6023 + 0.70000ml of M5962 + 0.80000ml of M5960 + 1.00000ml of M5800 + 1.00000ml of M6021 + 1.20000ml of M5802 + 1.20000ml of M5819 + 10.00000ml of M5498 + 10.00000ml of M5519 + 10.00000ml of M5768 + 10.00000ml of M5806 + 10.00000ml of M5818 + 2.00000ml of M5978 + 4.00000ml of M5390 + 34.24000ml of MP83134 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1003	ICPAES ISM01.2 S1	MP83142	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 0.50000ml of MP83141 + 99.50000ml of MP83134 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2054	ICV-ICPAES	MP83143	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 0.50000ml of M5218 + 0.50000ml of M5816 + 0.50000ml of M5820 + 0.50000ml of M5970 + 0.50000ml of M5982 + 10.00000ml of M5295 + 87.50000ml of MP83134 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP83144	10/30/2024	11/19/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 25.00000ml of M5130 + 225.00000ml of MP83134 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
905	ICP AES ICSAB SOLN	MP83145	10/30/2024	11/19/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 25.00000ml of M5130 + 25.00000ml of M5223 + 200.00000ml of MP83134 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1119	ICPAES ISM01.2(CCV)	MP83146	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 0.75000ml of M5498 + 0.75000ml of M5768 + 1.22500ml of M6033 + 1.25000ml of M5515 + 1.25000ml of M5806 + 19.77500ml of MP83134 + 25.00000ml of MP83137 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
921	ICPAES SPIKE SOL#6	MP83147	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 2.50000ml of M5962 + 50.00000ml of M5990 + 50.00000ml of M5999 + 147.50000ml of MP83134 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP83148	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

FROM 1.00000ml of M5984 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6117 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP83149	10/30/2024	11/30/2024	Kareem Khairalla	None	None	Mohan Bera 11/08/2024

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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5130

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5223

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Aluminum (Al) 10,000PPM	070622	07/06/2025	09/02/2022 / jaswal	07/12/2022 / jaswal	M5289

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

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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	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.	57138 / Sr, 10000 PPM, 125 ml	082922	08/09/2025	07/29/2024 / jaswal	03/16/2023 / jaswal	M5476

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57182 / Pb, 10000 PPM, 125 ml	061522	06/15/2025	03/19/2023 / bin	03/17/2023 / bin	M5513

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57119 / Potassium (K) 10,000PPM	120822	12/08/2025	01/08/2024 / bin	03/17/2023 / bin	M5519

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1403 / Hydrogen Peroxide, 30% 1 gal	820803	02/03/2025	04/18/2024 / jaswal	08/03/2022 / Al-Terek	M5634

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	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 #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

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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 #
Absolute Standards, Inc.	57028 / Ni, 1000 PPM, 125 ml	041124	04/11/2027	07/03/2024 / kareem	06/11/2024 / kareem	M5960

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGMO1-1 / MOLYBDENUM 125mL 1000ug/mL	T2-MO720876	07/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5976

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	08/05/2024 / kareem	06/14/2024 / Jaswal	M5984

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	U2-IN729349	02/21/2028	10/08/2024 / Jaswal	06/14/2024 / Jaswal	M5985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-5 / CLP Spike Standard 5	V2-MEB742037	03/12/2029	10/04/2024 / Jaswal	02/22/2024 / Jaswal	M5990

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-1 / SOIL/WATER SPIKE SOLN 1, 125mL	T2-MEB721963	07/27/2027	09/04/2024 / Jaswal	02/22/2024 / kareem	M5999

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57082 / Pb, 1000 PPM, 125 ml	061224	06/12/2027	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	01/25/2019 / Jaswal	M6028

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

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

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Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22F0762009	05/09/2027	11/04/2024 / Eman	09/29/2024 / Janvi	M6111

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	05/03/2025	11/04/2024 / Janvi	09/29/2024 / Eman	M6116

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	05/06/2025	11/06/2024 / Janvi	09/29/2024 / Eman	M6117

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

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R: 02/22/24 M5986 M5987, M5988, M5989-M5990

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-SPK-5
Lot Number:	V2-MEB742037
Matrix:	5% (v/v) HNO_3
Value / Analyte(s):	100 µg/mL ea: Antimony,
	50 µg/mL ea: Selenium, Cadmium, Thallium,
	40 µg/mL ea: Arsenic,
	20 µg/mL ea: Lead

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.7 µg/mL	Arsenic, As	40.00 ± 0.26 µg/mL
Cadmium, Cd	49.99 ± 0.22 µg/mL	Lead, Pb	19.99 ± 0.09 µg/mL
Selenium, Se	50.00 ± 0.23 µg/mL	Thallium, Tl	50.00 ± 0.22 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Cd	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 12, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 12, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6028

R 8/5/24

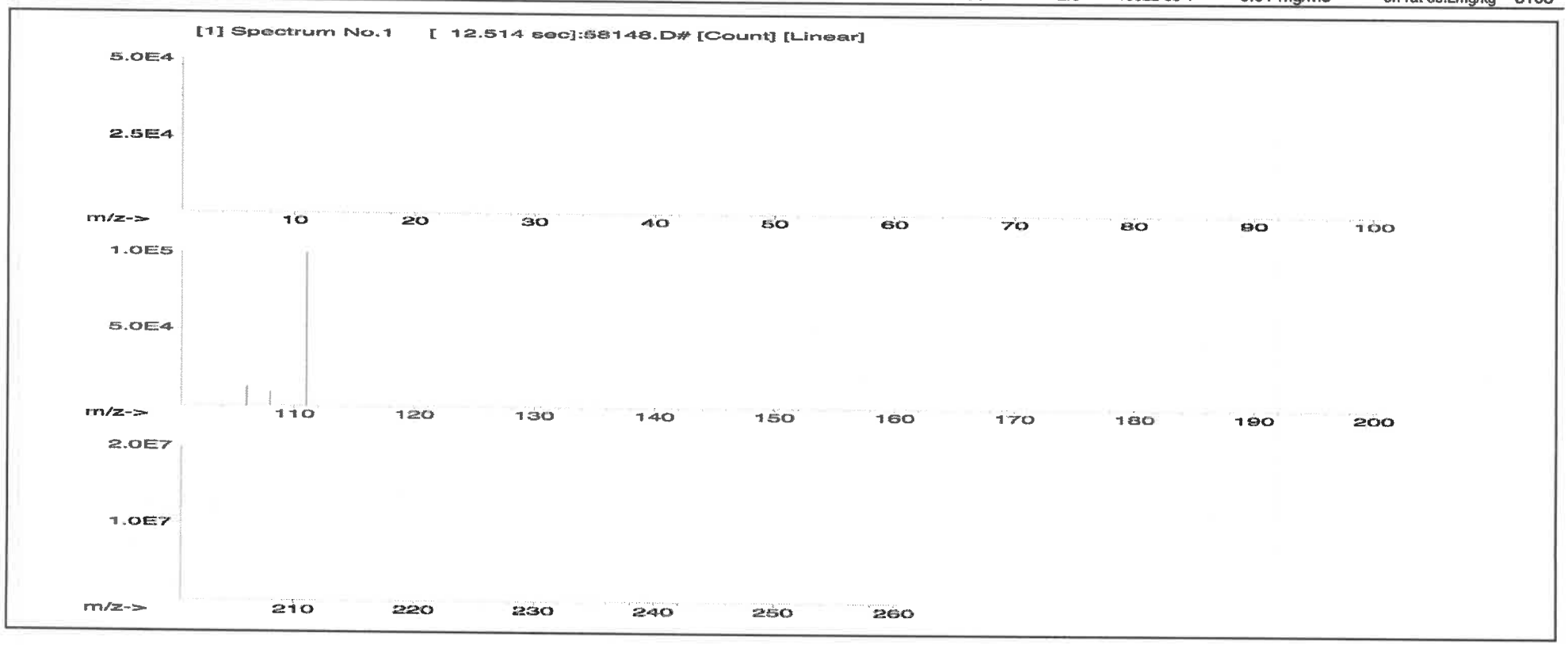
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57048**		**Lot #**		
Lot Number:	**070124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Cadmium (Cd)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	070127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty		

Aleah O'Brady		
Formulated By:	Aleah O'Brady	070124
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	070124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	T	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

M5296 OP: 09/19/2022 BH

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	S2-MEB711673
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 6 µg/mL**	**Molybdenum, Mo**	**1 000 ± 6 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 6 µg/mL**
Titanium, Ti	**1 000 ± 7 µg/mL**		

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

Assay Information:

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 02, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**2 000 ± 7 µg/mL**	**Barium, Ba**	**2 000 ± 9 µg/mL**
Beryllium, Be	**50.00 ± 0.26 µg/mL**	**Calcium, Ca**	**5 000 ± 22 µg/mL**
Chromium, Cr	**200.0 ± 1.0 µg/mL**	**Cobalt, Co**	**500.0 ± 2.4 µg/mL**
Copper, Cu	**250.0 ± 1.0 µg/mL**	**Iron, Fe**	**1 000 ± 4 µg/mL**
Magnesium, Mg	**5 000 ± 20 µg/mL**	**Manganese, Mn**	**500.0 ± 2.0 µg/mL**
Nickel, Ni	**500.0 ± 2.2 µg/mL**	**Potassium, K**	**5 000 ± 19 µg/mL**
Silver, Ag	**250.0 ± 1.1 µg/mL**	**Sodium, Na**	**5 000 ± 18 µg/mL**
Vanadium, V	**499.7 ± 2.2 µg/mL**	**Zinc, Zn**	**500.0 ± 2.2 µg/mL**

Density: 1.118 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

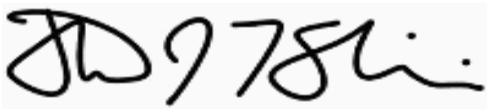
- Sealed TCT Bag Open Date: _____

- 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

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-3
Lot Number:	T2-MEB714159
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 500 µg/mL ea: Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**1 000 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 13, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

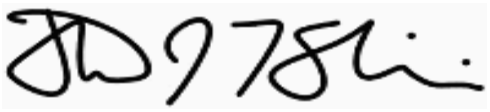
- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

R: 8/5/24

CERTIFIED WEIGHT REPORT:

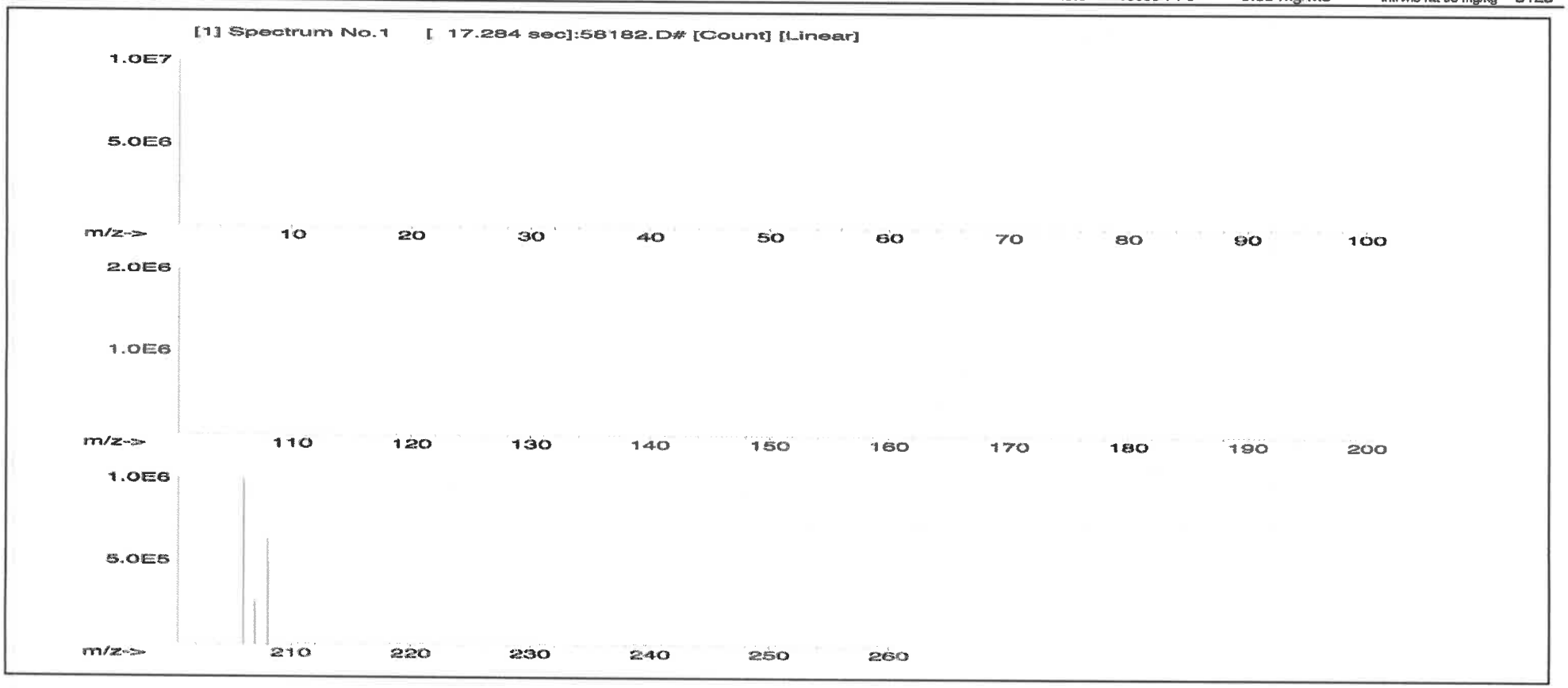
Part Number: 57182
Lot Number: 110923
Description: Lead (Pb)

Expiration Date: 110926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawence Barry	110923
Reviewed By:	Pedro L. Rentas	110923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	10000	99.999	0.10	62.5	32.0006	32.0040	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

INORGANIC VENTURES™
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Certificate of Analysis

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Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-QC-4
Lot Number:	S2-MEB711674
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 7 µg/mL**	**Molybdenum, Mo**	**1 000 ± 5 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 5 µg/mL**
Titanium, Ti	**1 001 ± 6 µg/mL**		

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 02, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

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M5289 R: 07/12/22 BH

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

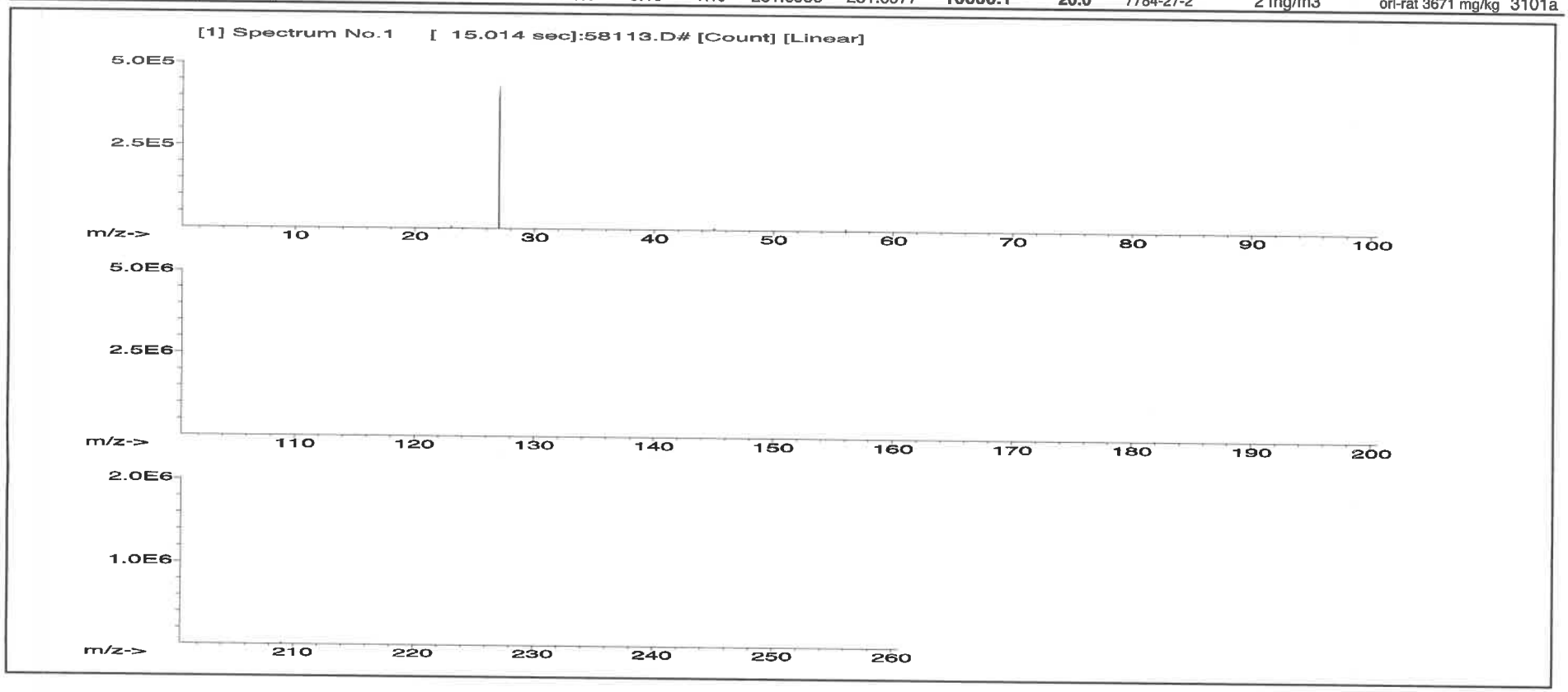
Part Number: 58113
Lot Number: 070622
Description: Aluminum (Al)

Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	20370011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALD012021A1	10000	99.999	0.10	7.10	281.6956	281.6977	**10000.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	T	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

M5291
M5292
M5293
M5294
M5295

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

R: 09/08/22 (BH)

Certified Reference Material CRM

M5387 . M5389 . M5390 . M5391 . M5392

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

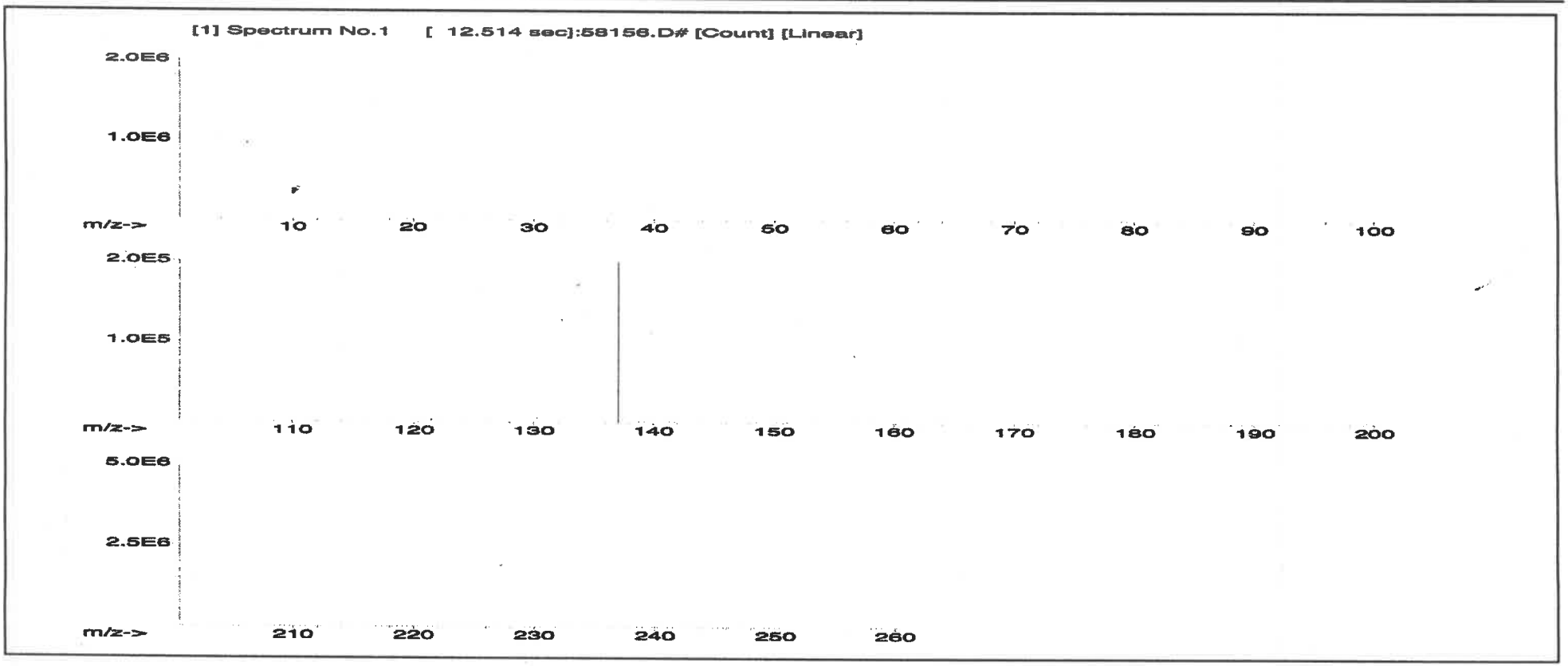
CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**072122**	**Solvent:**	20510011	Nitric Acid	
Description:	**Barium (Ba)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	072125				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	072122
Reviewed By:	Pedro L. Rentas	072122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82426	**1000.0**	2.0	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5429 R1 01/26/23 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12 | 0.058 Flask Uncertainty

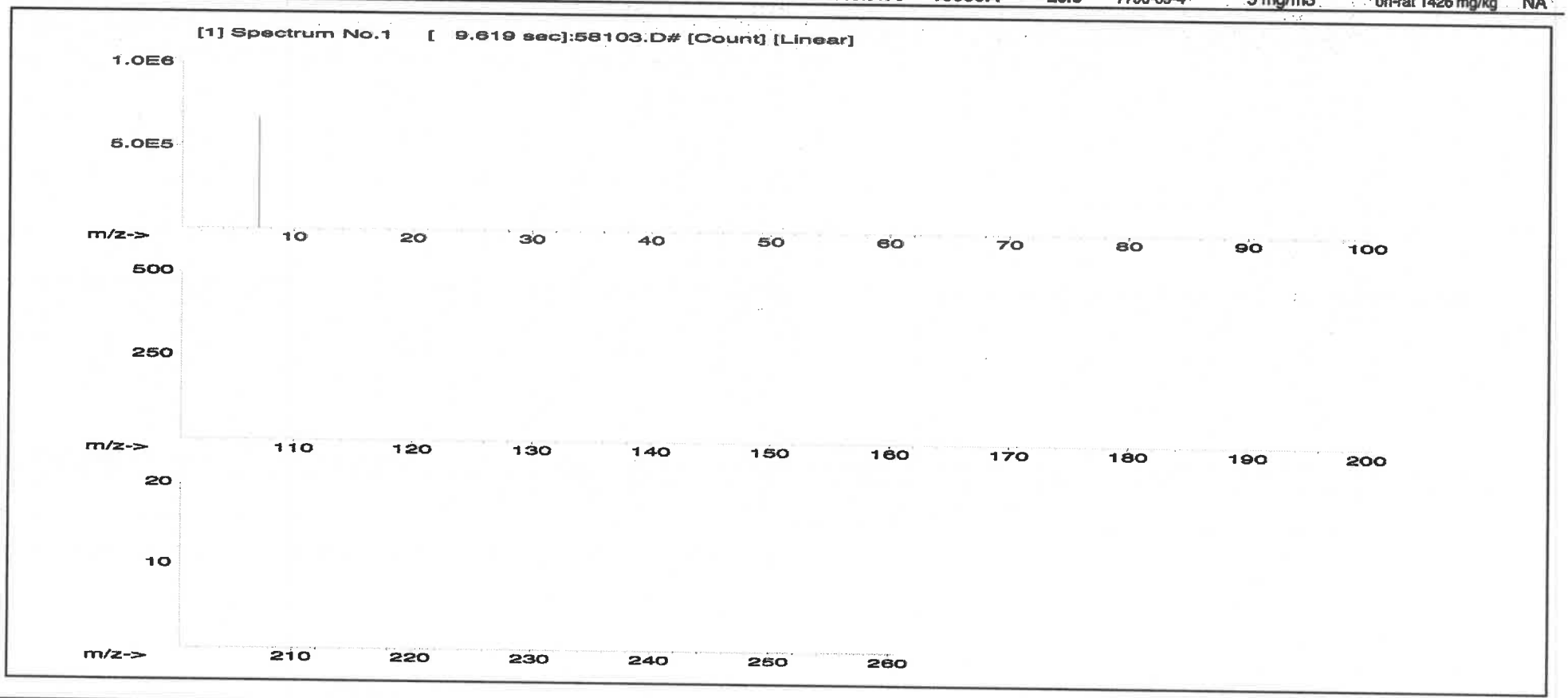
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By: Lawrence Barry 070622

Reviewed By: Pedro L. Rentas 070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

IN5497 - IN5498 R: 03/17/23 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 ± 0.058 Flask Uncertainty

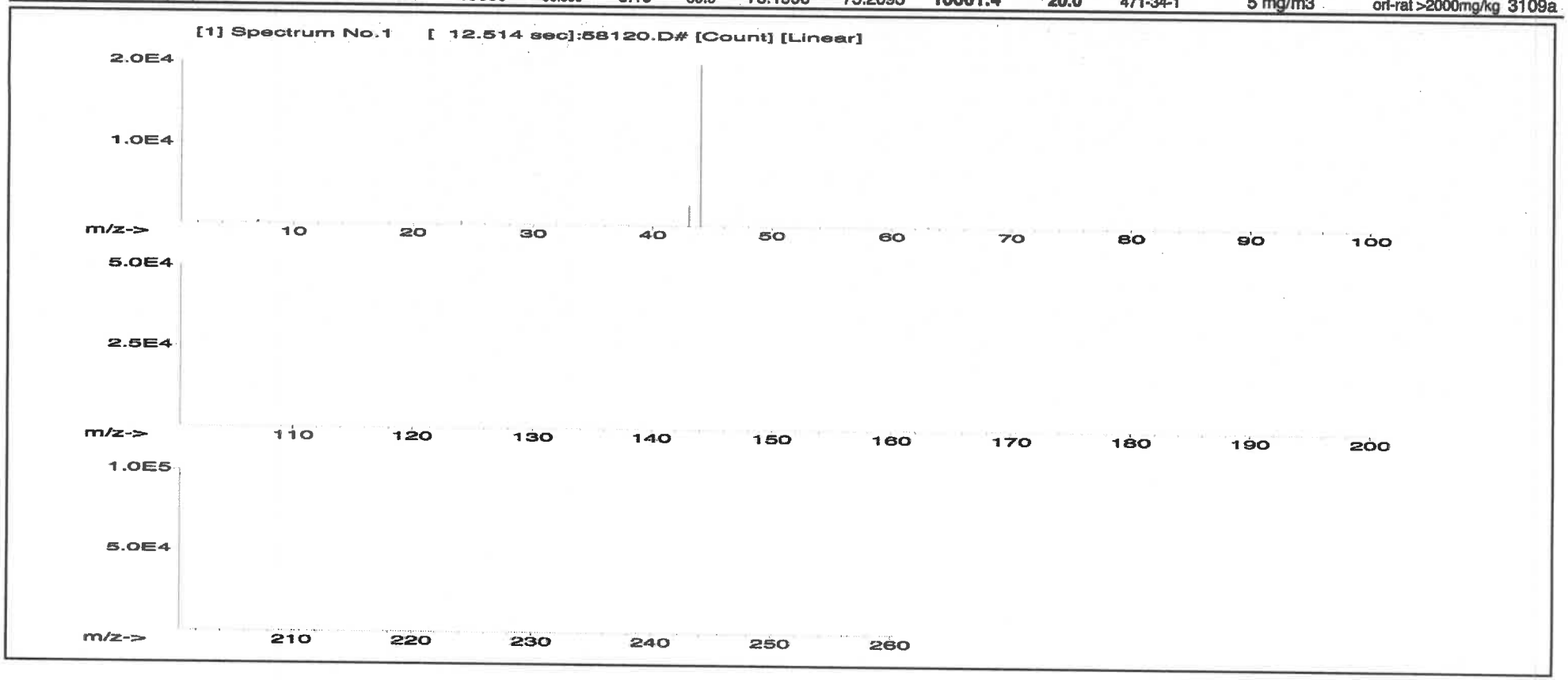
		Lot #	
Solvent:	21110221		Nitric Acid
	2%	60.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
Reviewed By:	Pedro L. Rentas	031523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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Certified Reference Material CRM

M 5513 R: 03/17/23

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57182
Lot Number: 061522
Description: Lead (Pb)

Expiration Date: 061525
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

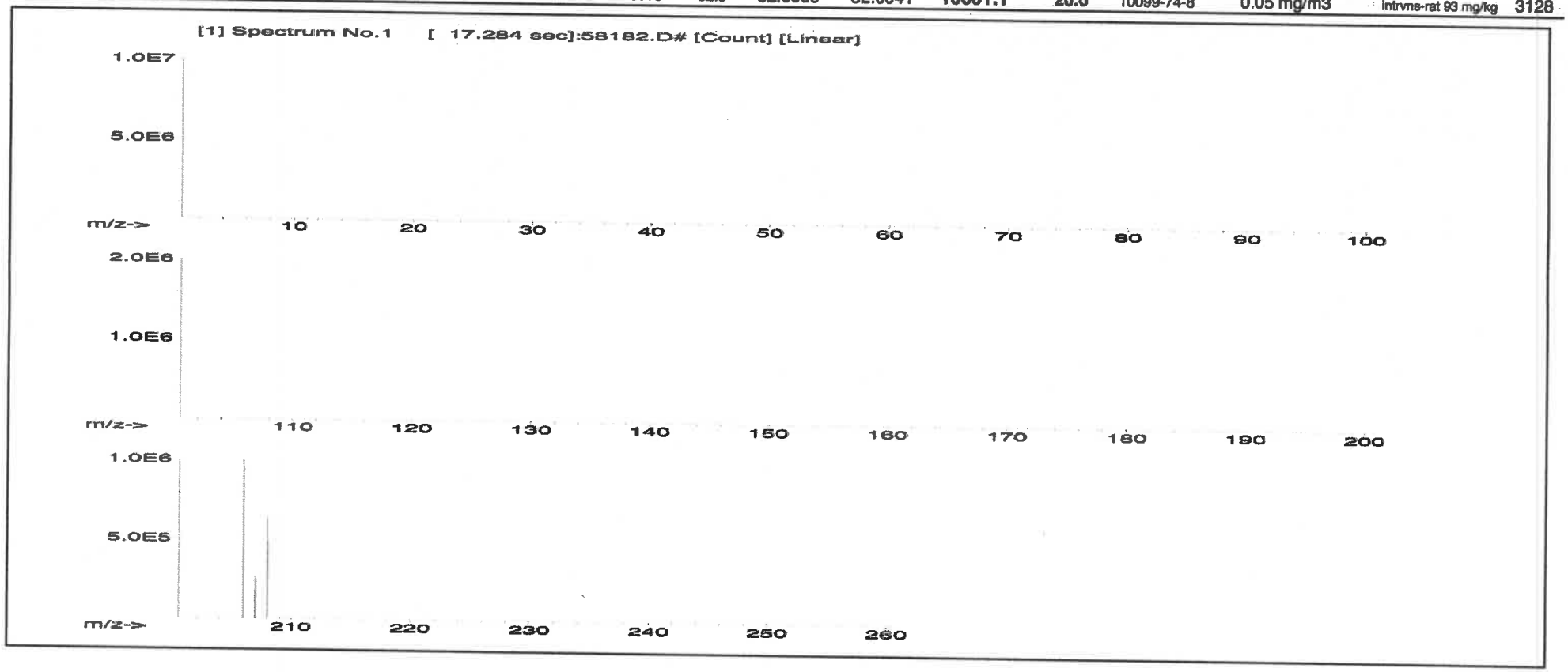
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	061522
Reviewed By:	Pedro L. Rentas	061522

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	10000	99.999	0.10	62.5	32.0006	32.0041	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	Intrvns-rat 93 mg/kg	3128



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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Certified Reference Material CRM

M5514 - M5515 R: 03/17/22

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 092122
Description: Iron (Fe)

Expiration Date: 092125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1 ± 0.12 Flask Uncertainty

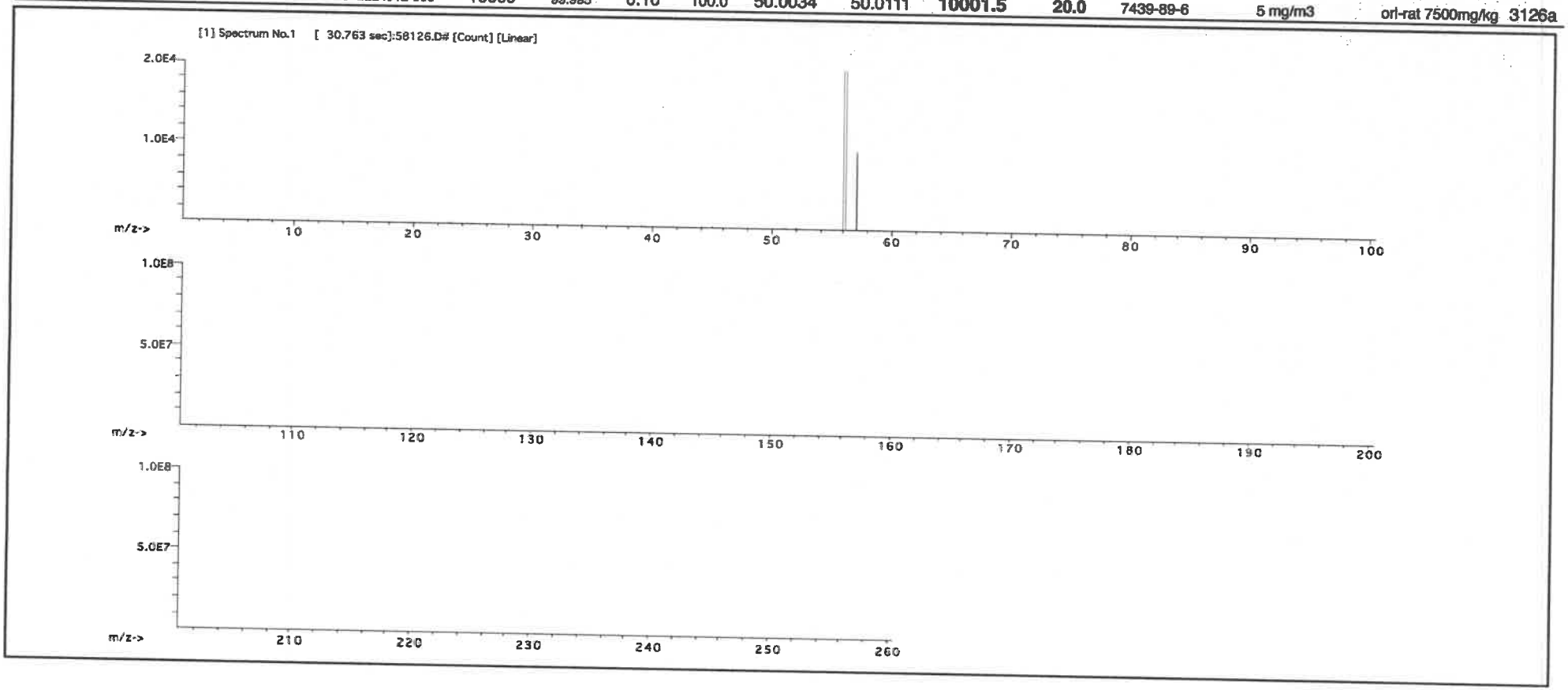
	Lot #		
Solvent:	20510011	Nitric Acid	
7.0%	350.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	092122
Reviewed By:	Pedro L. Rentas	092122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2224912-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.05
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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Certified Reference Material CRM

M5519. M5520 (BH) R:03/17/23

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 120822
Description: Potassium (K)

Expiration Date: 120825
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.4

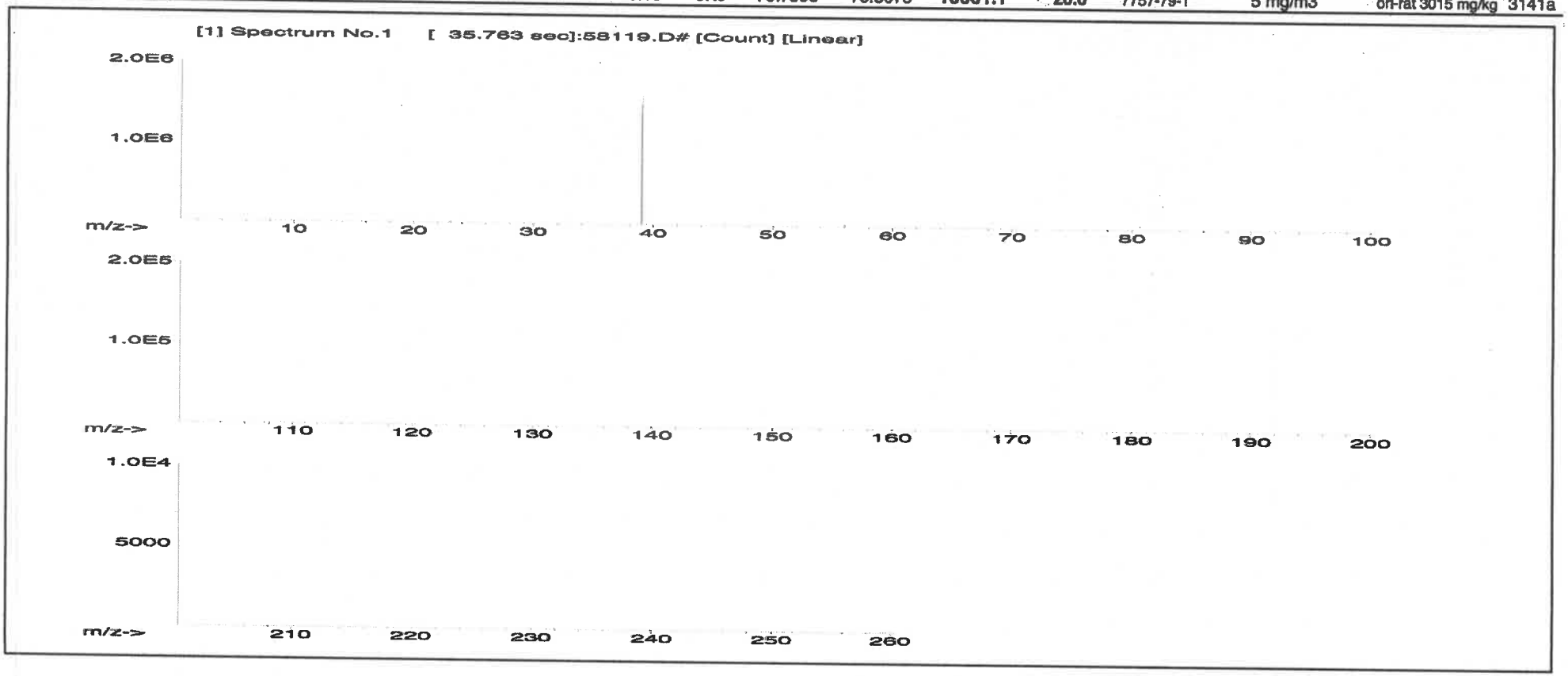
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	120822
Reviewed By:	Pedro L. Rentas	120822

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	79.7990	79.8075	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

CERTIFICATE OF ANALYSIS

Date: 8/3/2022 MS631 MS632 MS633 MS634 **Lot No 820803**

Hydrogen Peroxide, ACS
Reagent Grade

TEST	MAXIMUM LIMITS	RESULT
Appearance	Colorless and free from suspended matter or sediment	Pass
Assay	29-32%	31.4%
Color (APHA)	10	5
Residue after Evaporation	0.002%	.0001%
Titratable Acid	0.0006 meq/g	< .0006 meq/g
Chloride (Cl)	2 ppm	< 1 ppm
Nitrate (NO_3)	2 ppm	< 1 ppm
Phosphate	2 ppm	< 1 ppm
Sulfate (SO_4)	5 ppm	< .5 ppm
Ammonium (NH_4)	5 ppm	< 1 ppm
Heavy Metals (as Pb)	1 ppm	< .1 ppm
Iron (Fe)	0.5 ppm	< .1 ppm
Sodium Stannate	200 – 300 ppb	Pass

***Our Hydrogen Peroxide is considered un-stabilized because it is very slightly stabilized with Sodium Stannate, 500 ppb maximum, just for safety purposes.

Date of MFG: 8/2022
Retest date: 8/2024

Gina M. Rambo
Office Manager

CORCO CHEMICAL CORPORATION. 299 CEDAR LANE. FAIRLESS HILLS, PA 19030. 215-295-5006. FAX 215-295-0781

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Certified Reference Material CRM

M5658 R! 8/25/23

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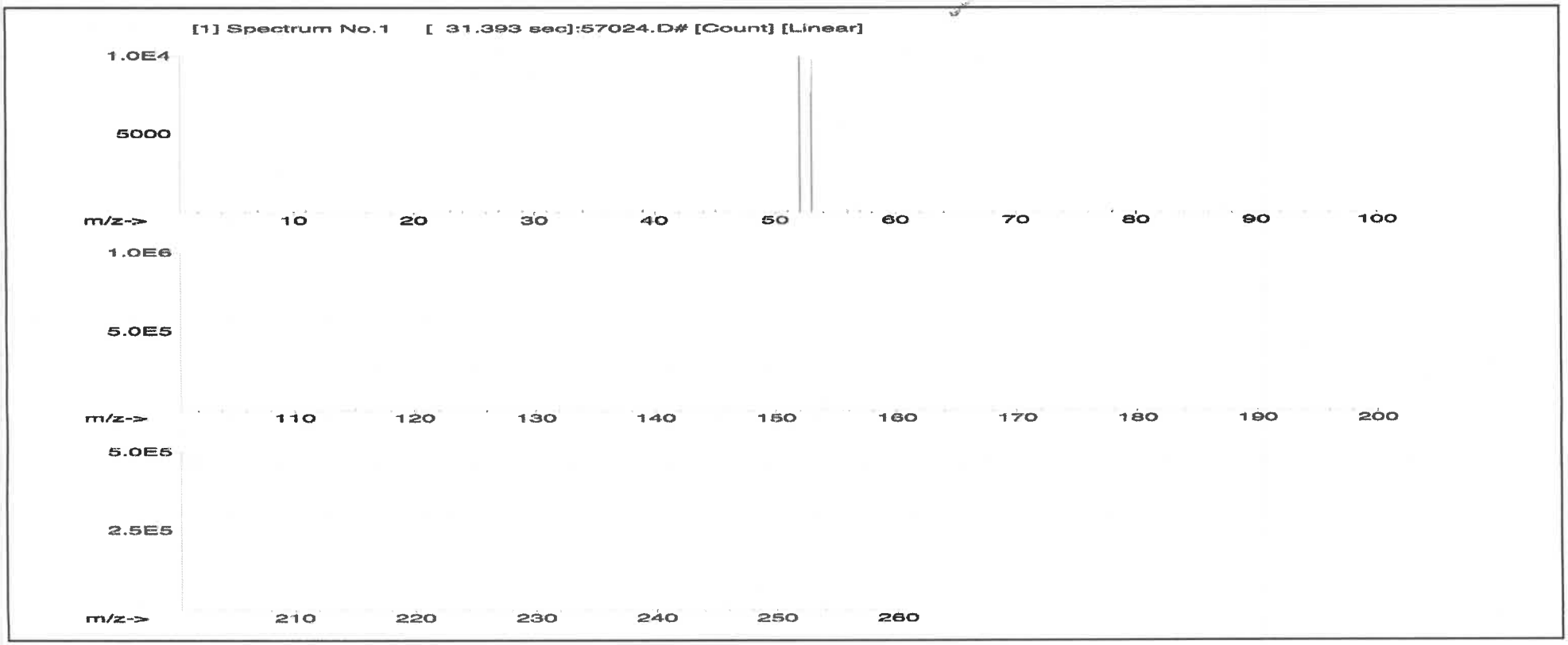
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Rentas	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M5648 R: 10/27/23

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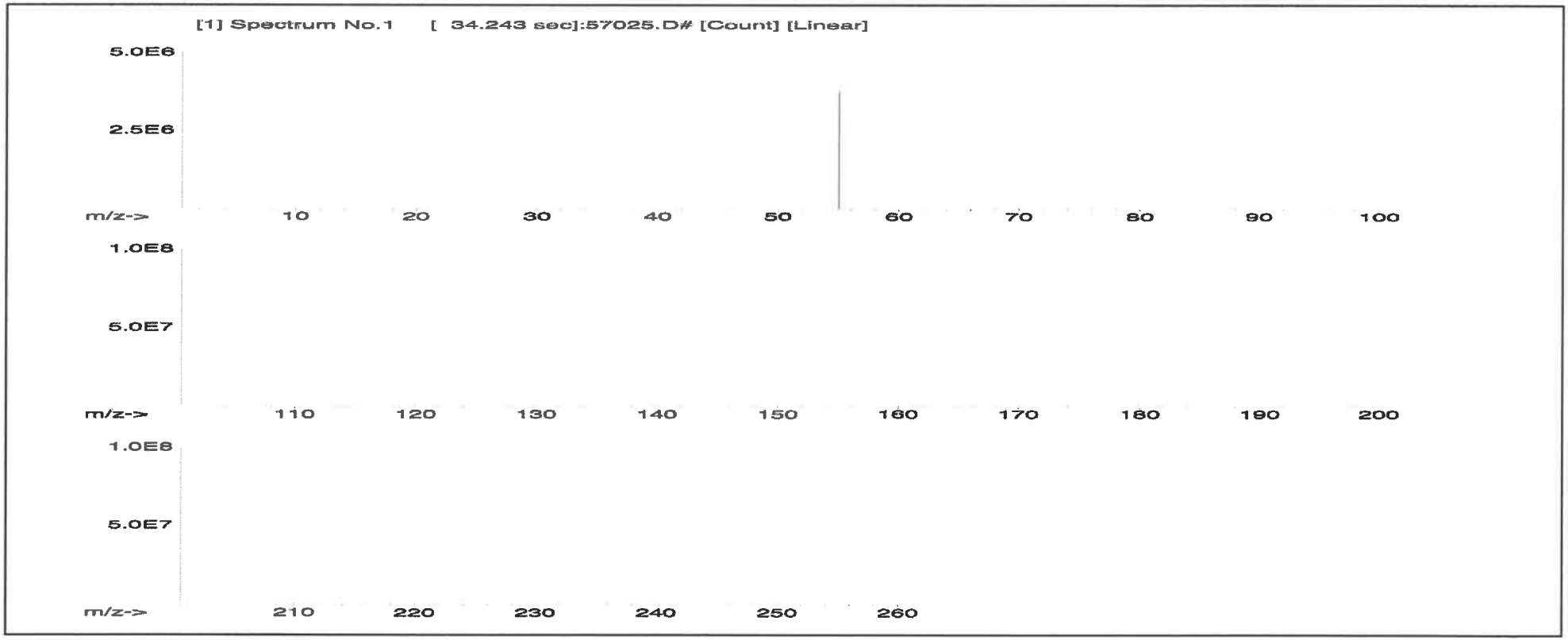
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58025**	24002546	Nitric Acid	
Lot Number:	**102623**			
Description:	**Manganese (Mn)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	102626			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102623
Reviewed By:	Pedro L. Rentas	102623

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese(II) nitrate tetrahydrate (Mn)	58125	071123	0.1000	300.0	0.084	1000	10000.1	**1000.0**	**2.1**	20694-39-7	5 mg/m3	orl-rat >300mg/kg	3132



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 balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 8/25/23 M5751

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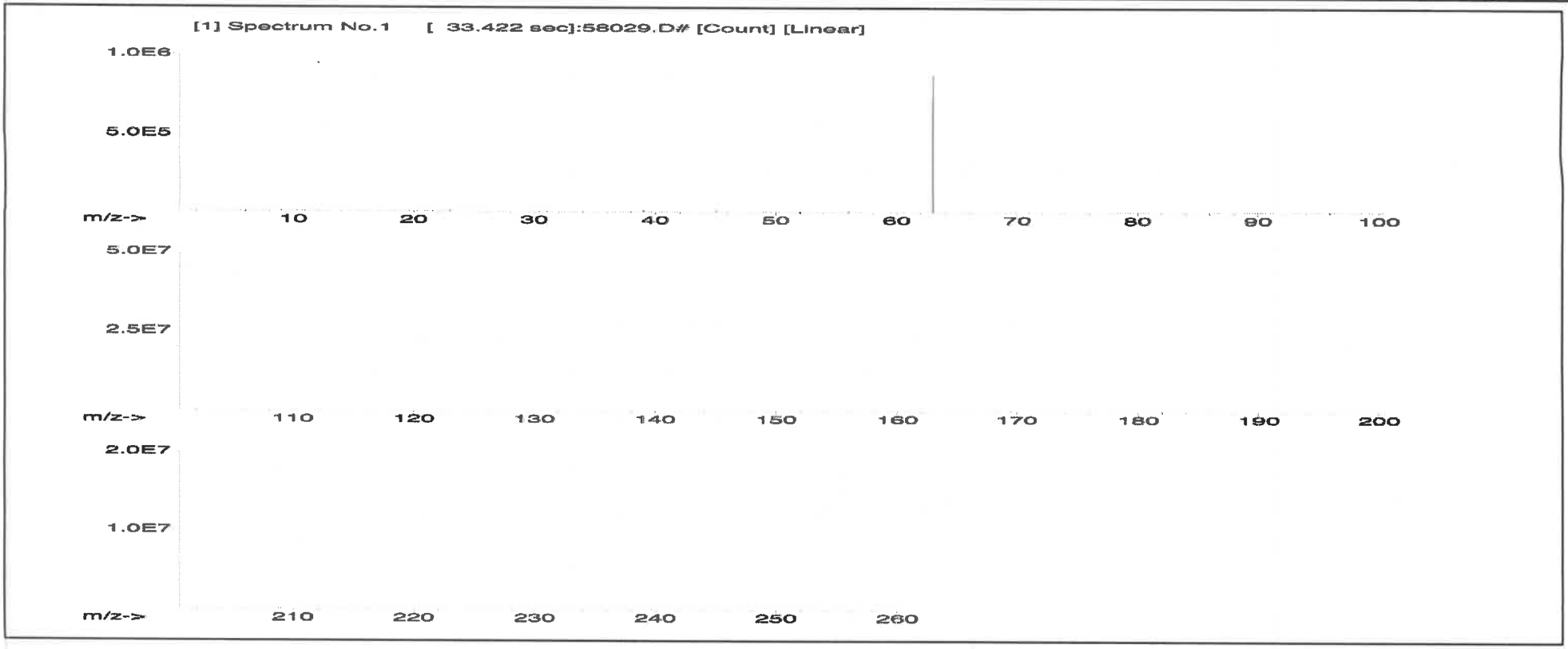
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	21110221	Nitric Acid	
Lot Number:	**071723**			
Description:	**Copper (Cu)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	071723
Reviewed By:	Pedro L. Rentas	071723

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	022723	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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M5768 M5769 (BP) R:1/3/24

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CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Expiration Date: 091826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

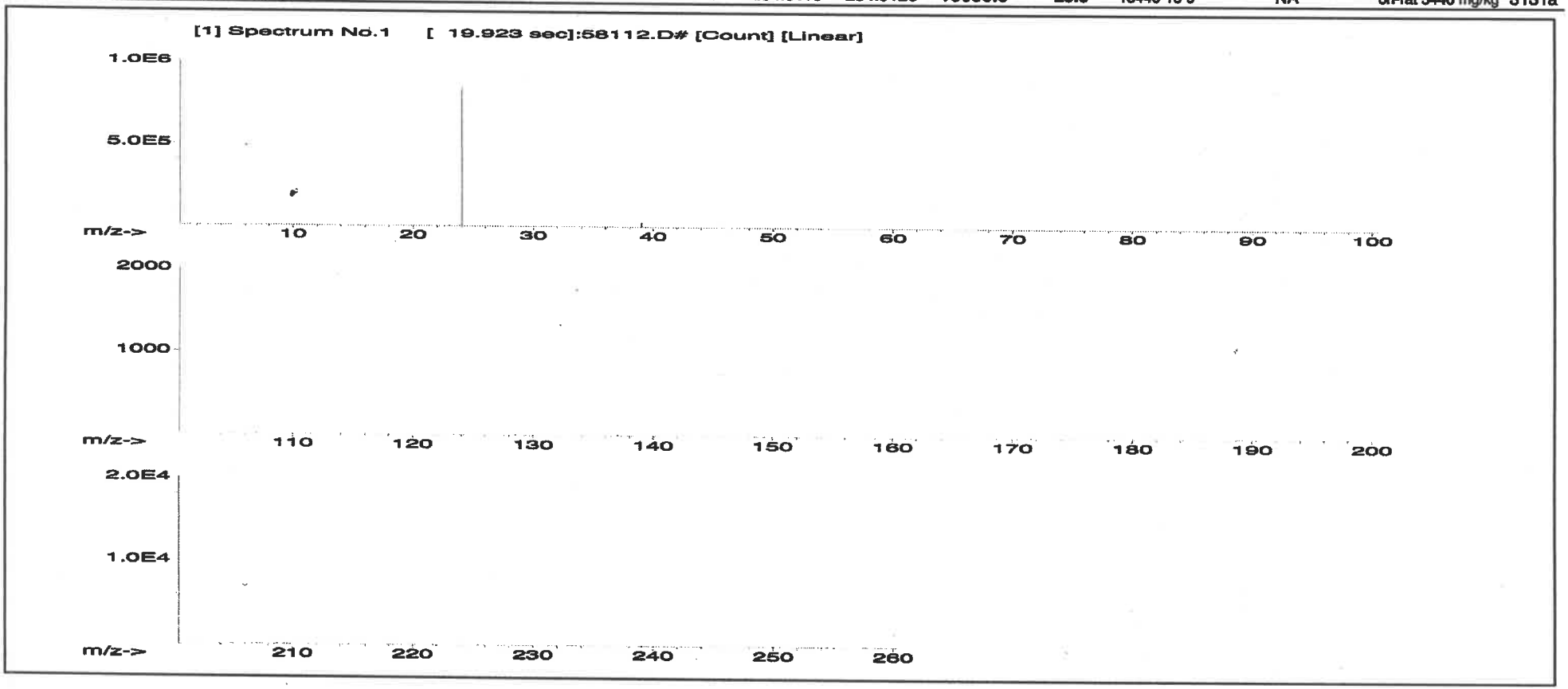
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

M5768, M5769 (BP) R: 1/3/24

Formulated By:	Lawrence Barry	091823
Reviewed By:	Pedro L. Rentas	091823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9118	234.9126	**10000.0**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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R: 02/09/24 M5798

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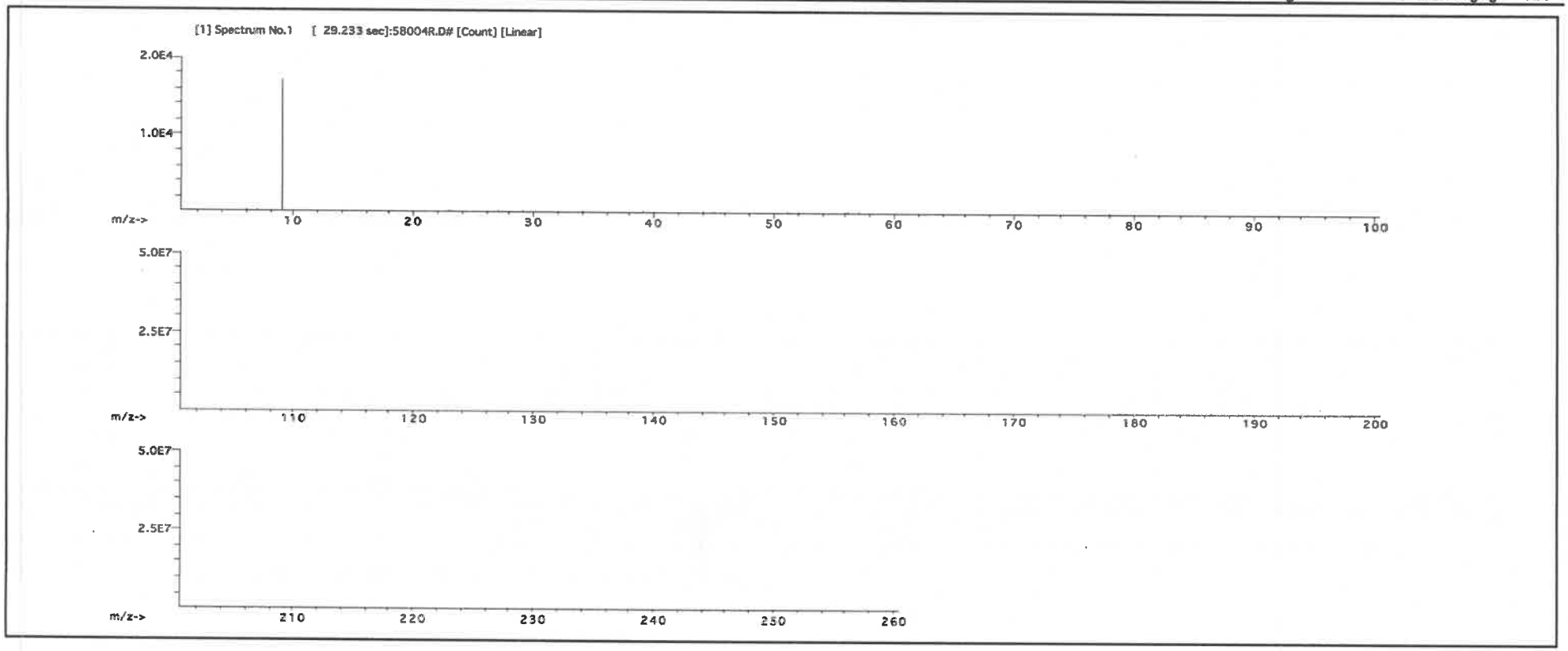
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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R? 02/09/24 IV15799

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

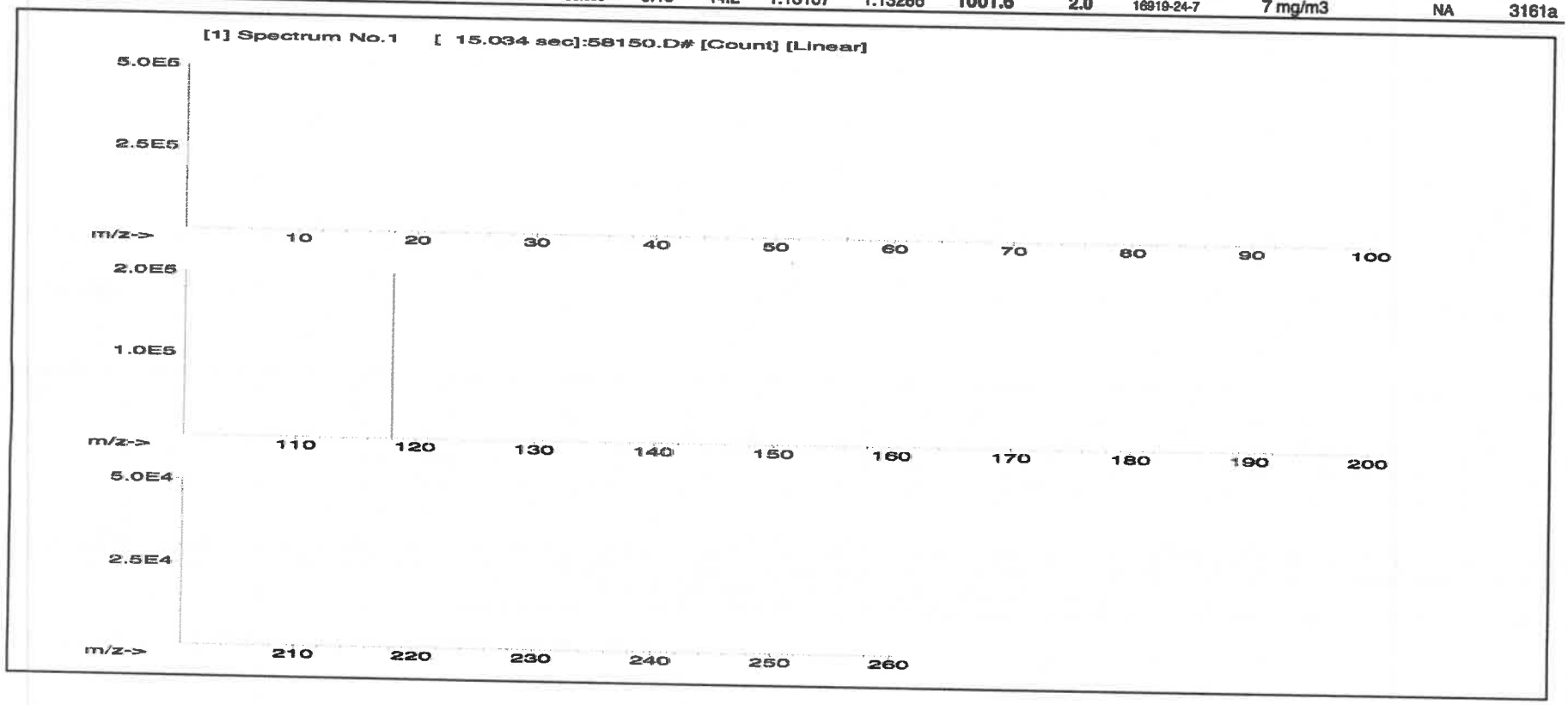
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 02/09/24 IM5800 BH

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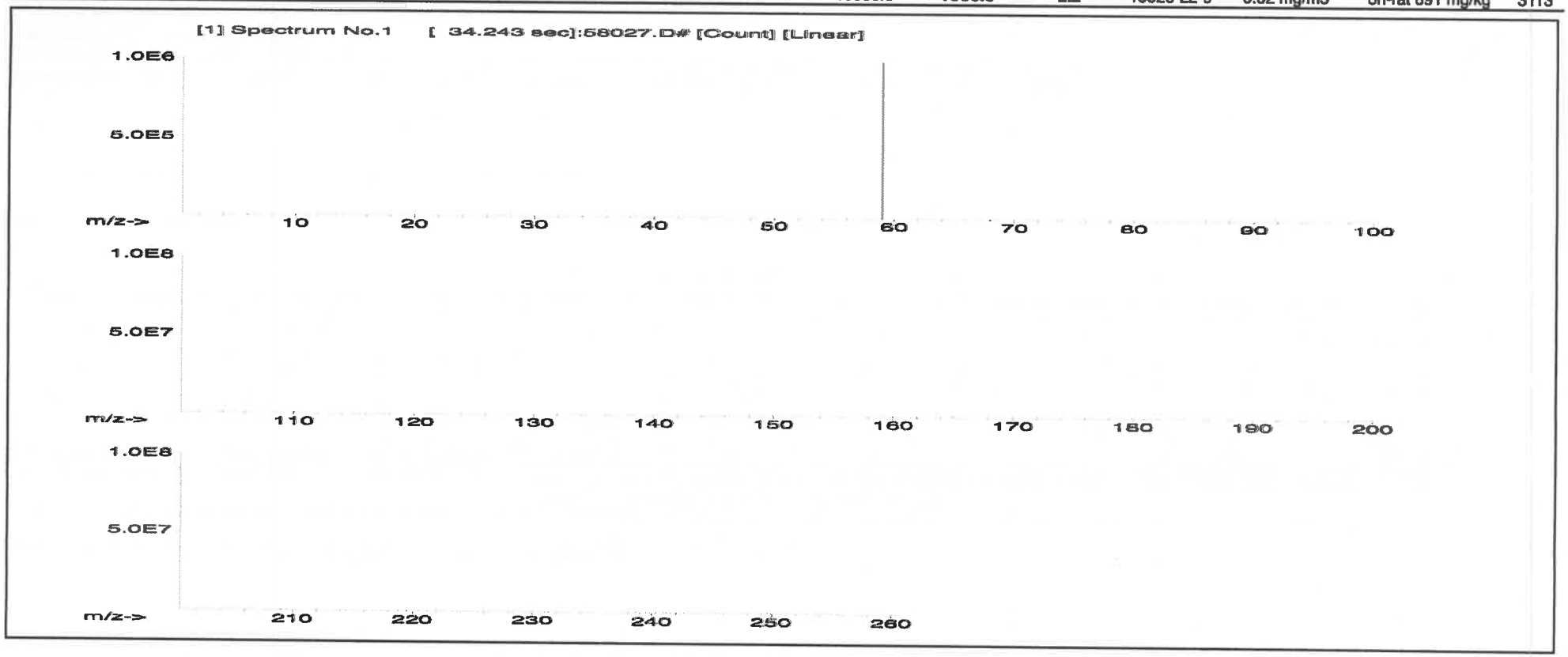
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**				
		2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091923
Reviewed By:	Pedro L. Rentas	091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	**2.2**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Gé	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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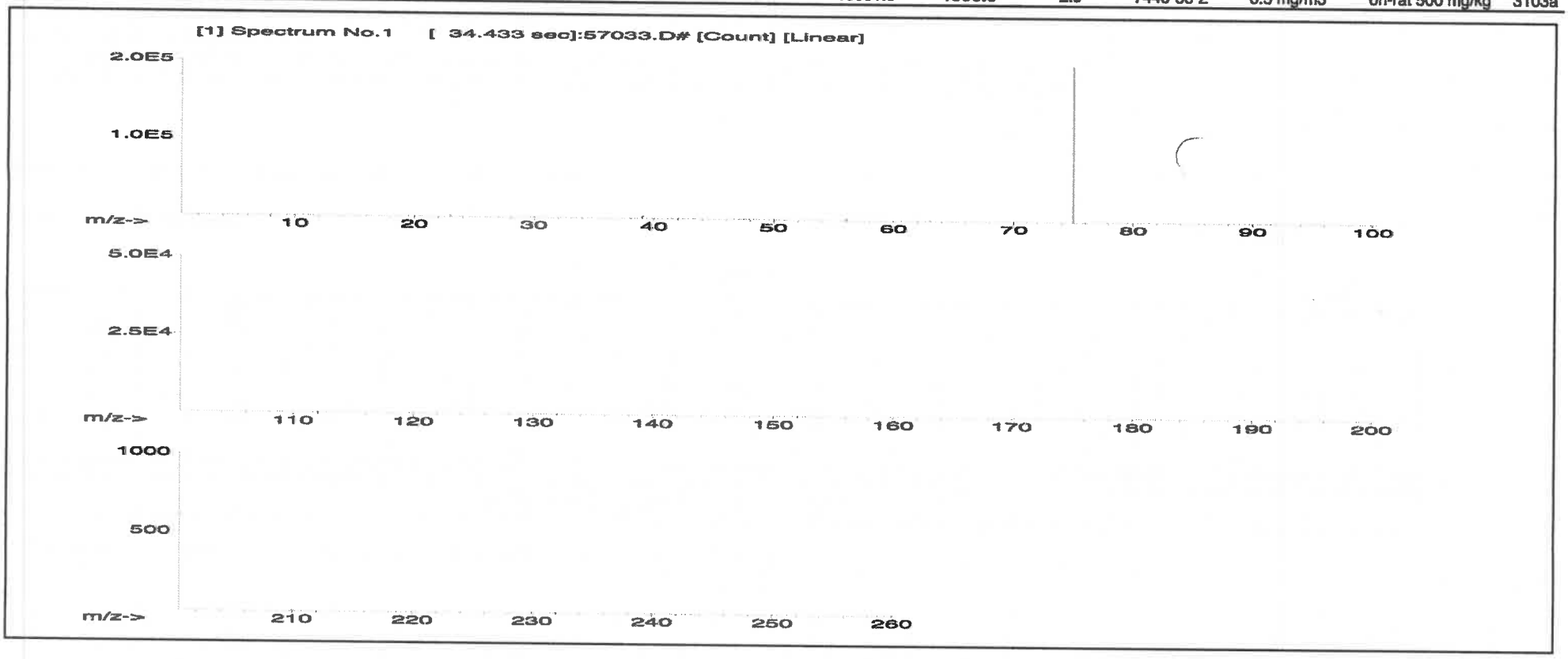
CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**	24002546	Nitric Acid		
Lot Number:	**111323**				
Description:	**Arsenic (As)**	2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rentas	111323

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	**1000.0**	**2.0**	7440-38-2	0.5 mg/m3	orl-rat 500 mg/kg	3103a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge*	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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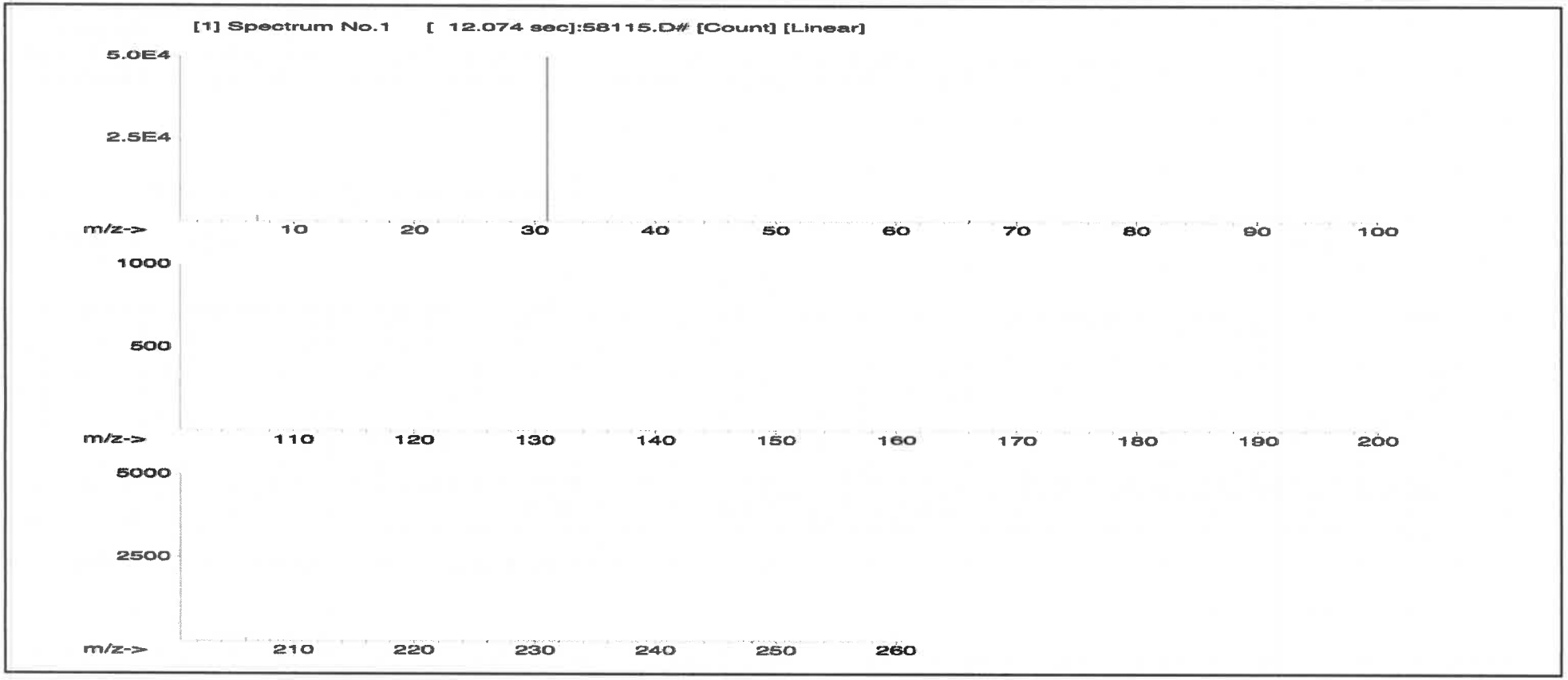
CERTIFIED WEIGHT REPORT:

			Lot #	
Part Number:	**57115**	**Solvent:**	21110221	Nitric Acid
Lot Number:	**041723**			
Description:	**Phosphorous (P)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	041726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	041723
Reviewed By:	Pedro L. Rentas	041723

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	10000	99.999	0.10	27.5	72.7287	72.7289	**10000.0**	**20.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/kg	3186



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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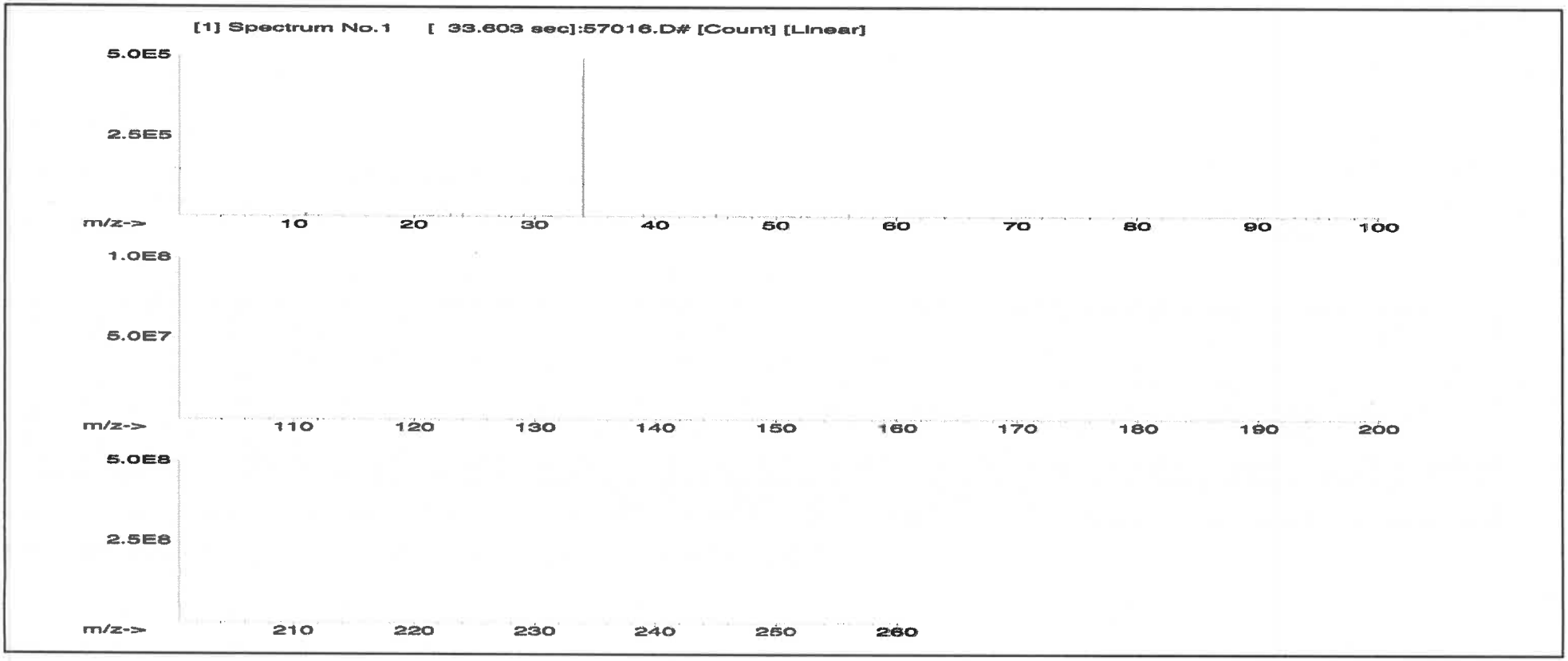
CERTIFIED WEIGHT REPORT:

Part Number:	**57016**	**Solvent:**	**Lot #** 122923	ASTM Type 1 Water
Lot Number:	**122923**			
Description:	**Sulfur (S)**			
Expiration Date:	122926			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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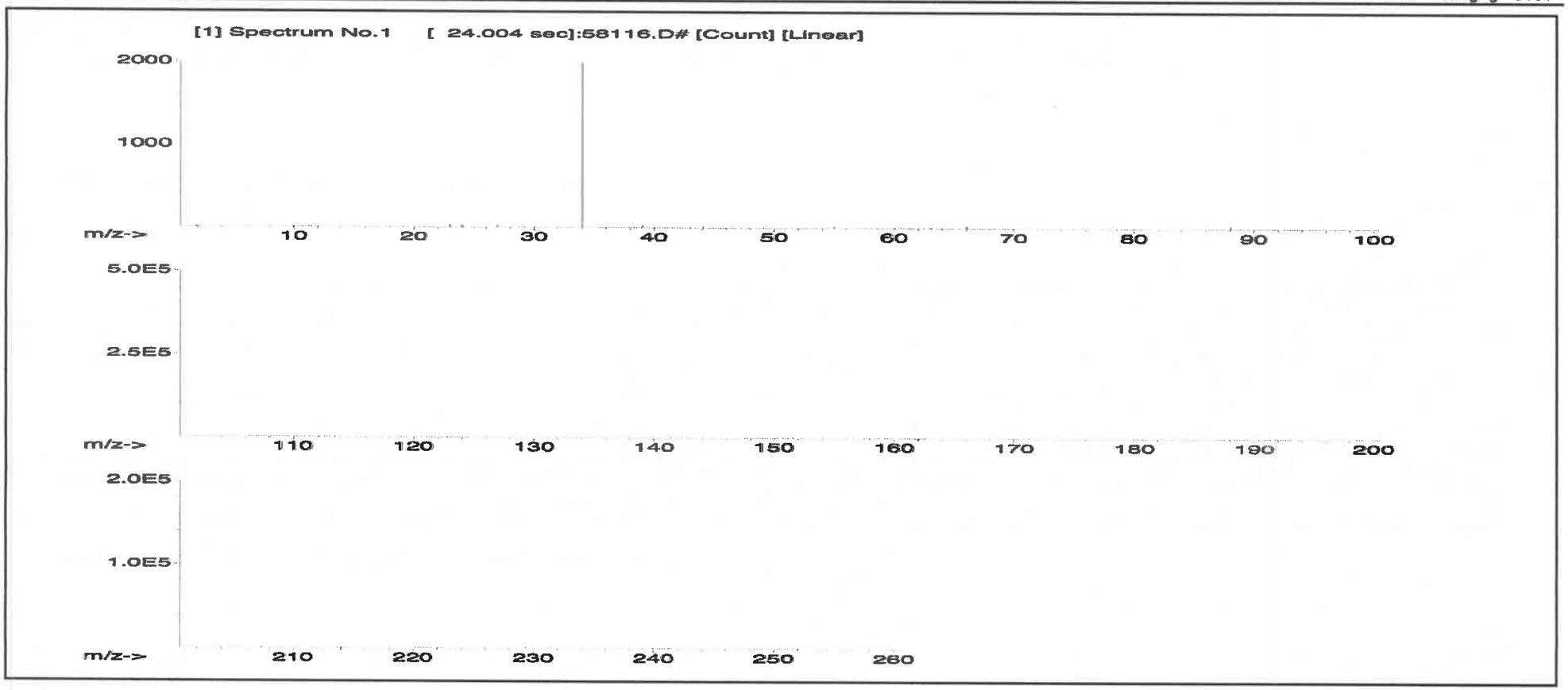
CERTIFIED WEIGHT REPORT:

Part Number:	**57116**			
Lot Number:	**071123**	**Solvent:**	071123	ASTM Type 1 Water
Description:	**Sulfur (S)**			
Expiration Date:	071126			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	1999.48	0.058	Flask Uncertainty	

Lot #

Formulated By:	Lawrence Barry	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 02/09/24 M.5818

Lot #

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CERTIFIED WEIGHT REPORT:

Part Number: 57014
Lot Number: 122023
Description: Silicon (Si)

Expiration Date: 122026
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48 ± 0.058 Flask Uncertainty

Solvent: 24002546 Nitric Acid

2% 40.0 (mL) Nitric Acid

5E-05 Balance Uncertainty

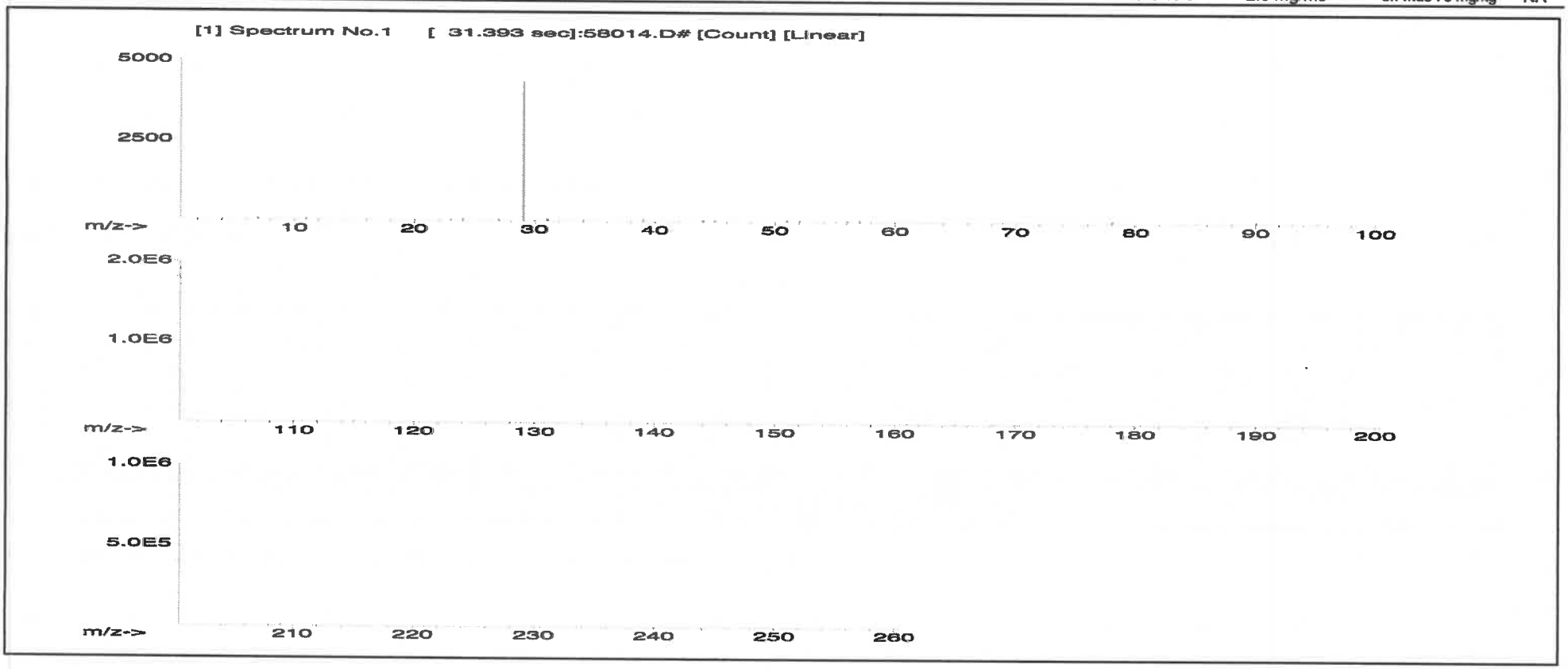
Aleah O'Brady

Formulated By: Aleah O'Brady 122023

Pedro Rentas

Reviewed By: Pedro L. Rentas 122023

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorosilicate (Si)	IN009	SID082022A1	1000	99.999	0.10	14.4	13.8854	13.8855	**1000.0**	**2.0**	16919-19-0	2.5 mg/m3	orl-mus 70 mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	T	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 02/09/24 M5819

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CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

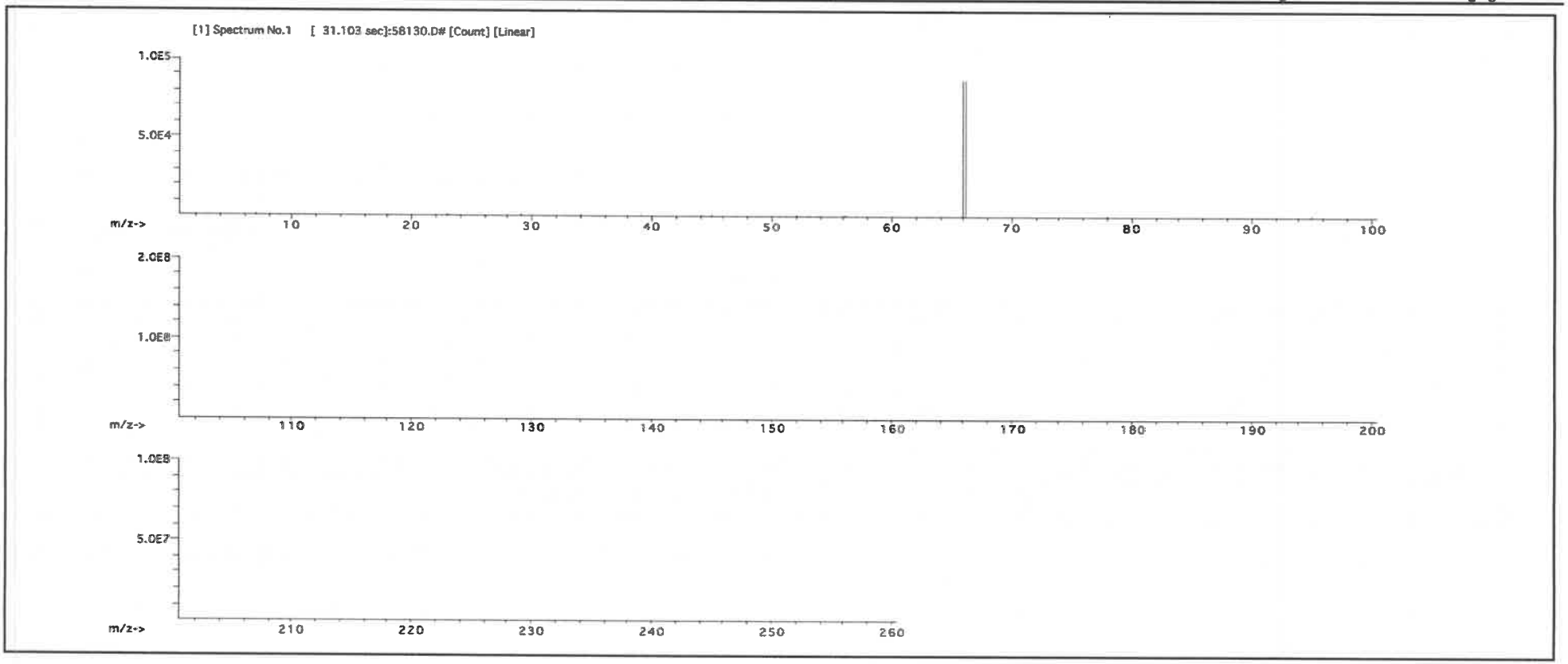
Expiration Date: 111626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

		Lot #		
Solvent:	24002546	Nitric Acid		
2%	60.0 (mL)	Nitric Acid		
			5E-05	Balance Uncertainty

Formulated By:	Benson Chan	111623
Reviewed By:	Pedro L. Rentas	111623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	12.3475	12.3502	**1000.2**	**2.0**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
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www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5820

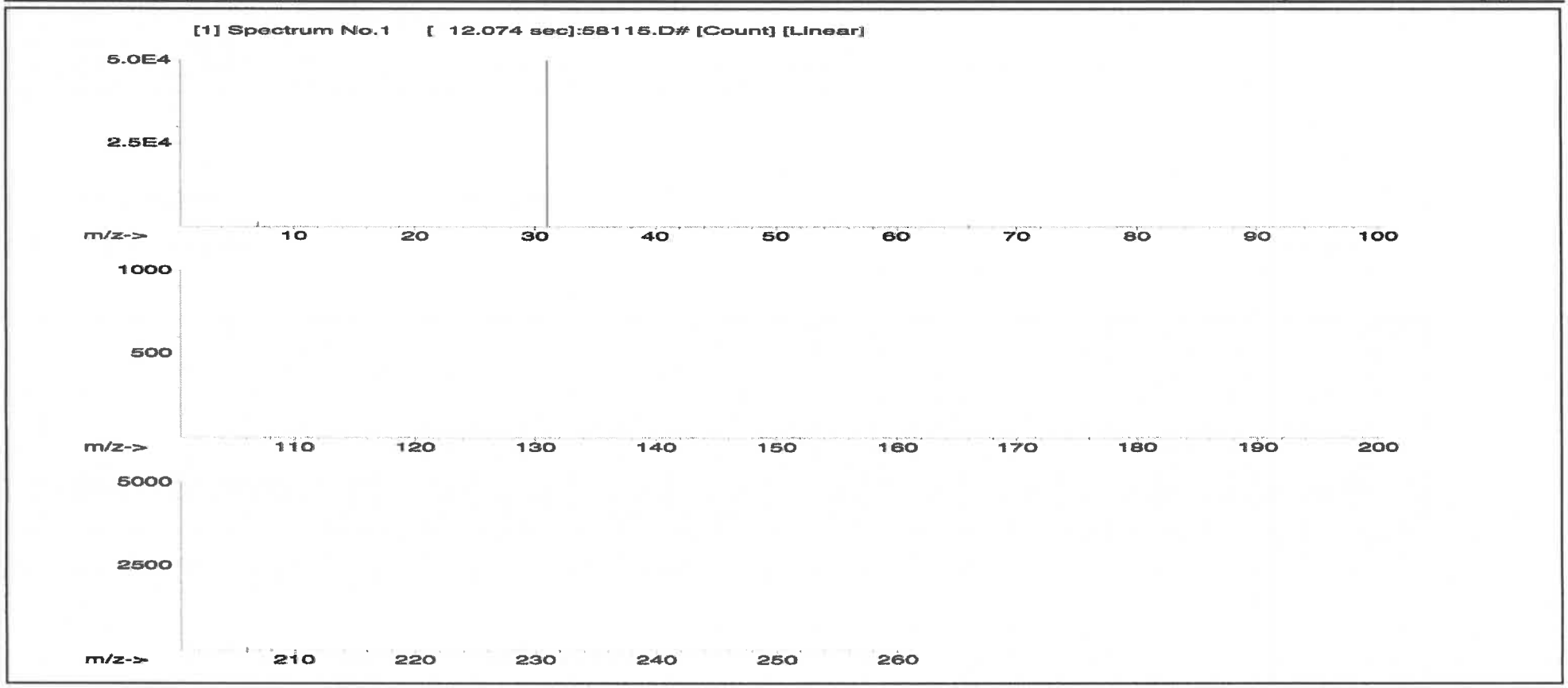
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Lot #**		
Lot Number:	**091123**	**Solvent:**	24002546	Nitric Acid	
Description:	**Phosphorous (P)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	091126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091123
Reviewed By:	Pedro L. Rentas	091123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/k	3186



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5962 R! 06/14/24.

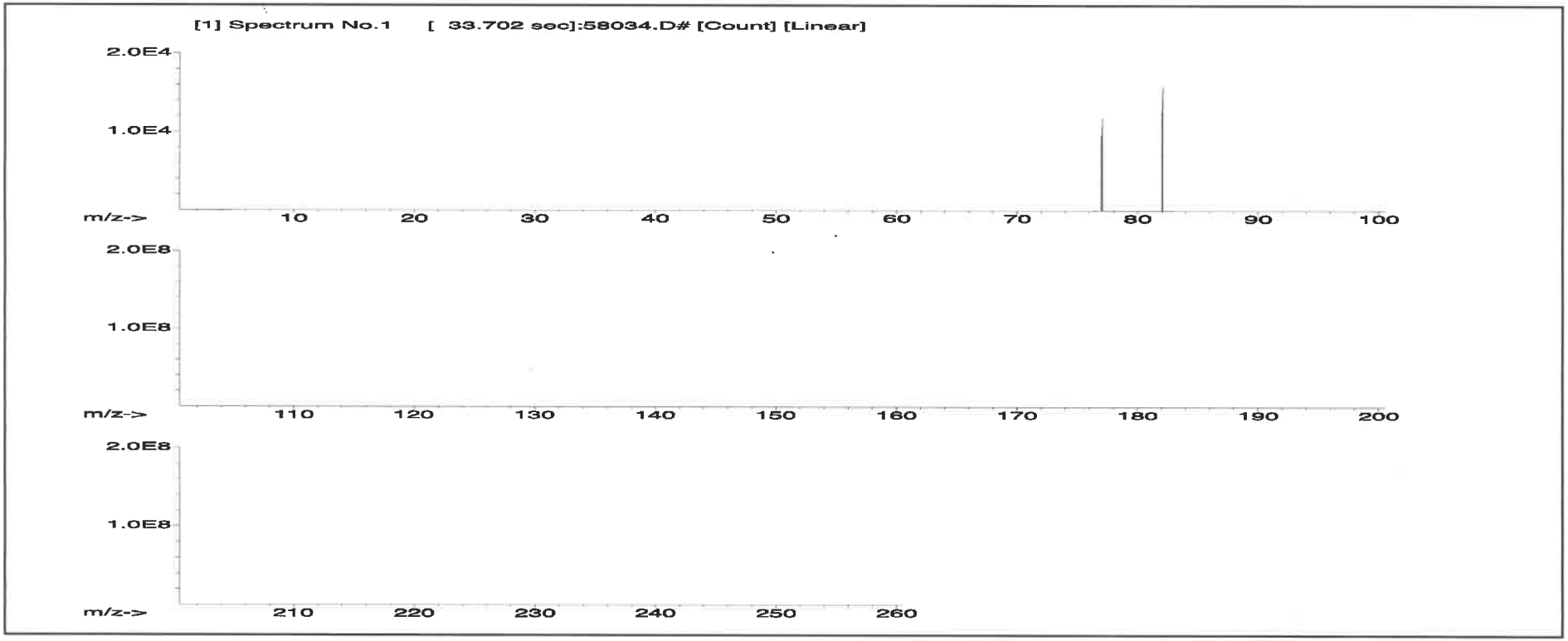
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rentas	060624

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

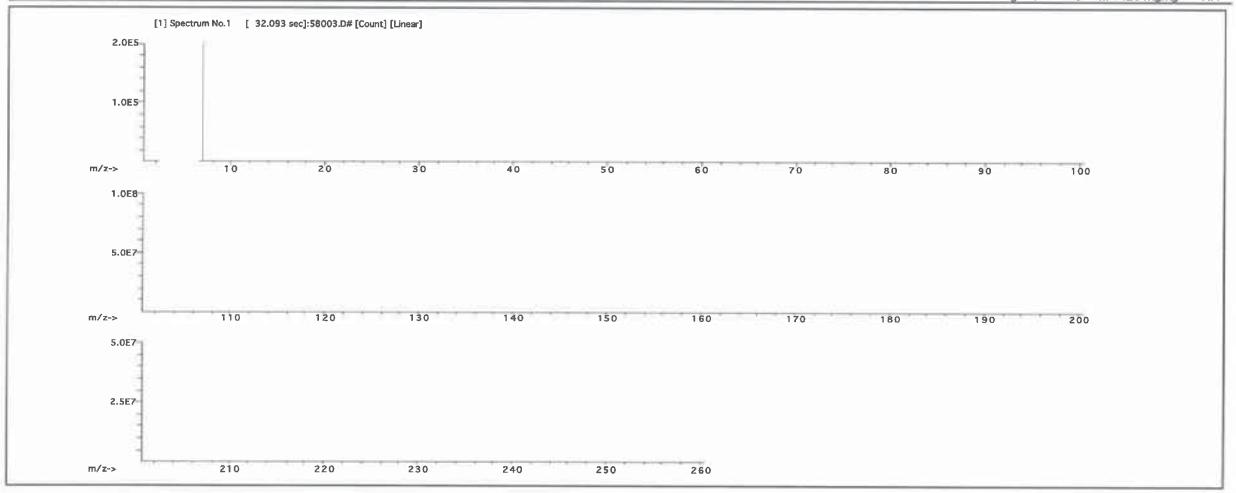
		Lot #	Solvent:
Part Number:	**57003**	24002546	Nitric Acid
Lot Number:	**062124**		
Description:	**Lithium (Li)**		
		2.0%	5.0 (mL) Nitric Acid
Expiration Date:	062127		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05 Balance Uncertainty	
Volume shown below was diluted to (mL):	250.11	0.016 Flask Uncertainty	

Giovanni Esposito

Formulated By: Giovanni Esposito 062124

Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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Certified by:

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INORGANIC VENTURES
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Certificate of Analysis

M5976, M5977
R: 02/22/24

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO1
Lot Number:	T2-MO720876
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	1 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 7 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.000879	M	Se	<	0.008000	M	Zn		0.000598
M	Al		0.000563	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.000175				
M	Ba		0.001689	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.006334	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Tl	<	0.032000				
M	Ce	<	0.008300	M	K		0.130213	M	Rb		0.004575	M	Tl		0.001266				
M	Co		0.000598	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.000527	O	Li		0.000059	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.000527	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.002252	M	Mg		0.000563	i	S	<		M	W		0.087982				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.001513	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br1 6O,190Os2+,190Pt 2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

M5978, M5979

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Refine your results. Redefine your industry.

Certificate of Analysis

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

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO_3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

$X_{CRM/RM} = \Sigma(w_i)(\bar{x}_i)$

$\bar{x}_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = (\Sigma(w_i)^2\,(u_{char\ i})^2)^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

$X_{CRM/RM} = (\bar{x}_a)\ (u_{char\ a})$

$\bar{x}_a$ = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

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

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

45982 R: 6/11/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

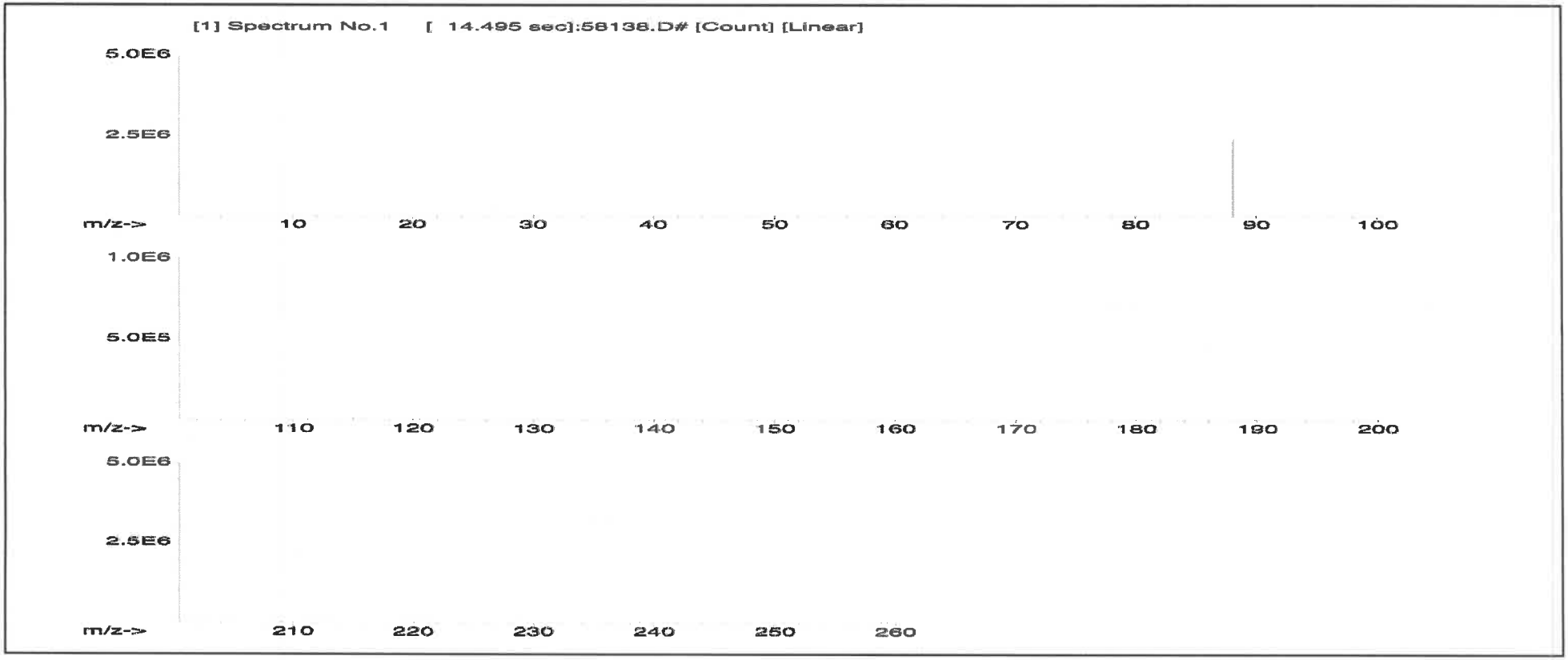
Part Number: 57038
Lot Number: 031524
Description: Strontium (Sr)

Expiration Date: 031527
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.07

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.100	Flask Uncertainty		

Formulated By:	Benson Chan	031524
Reviewed By:	Pedro L. Rentas	031524

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Strontium nitrate (Sr)	IN017	SRZ022018A1	1000	99.997	0.10	41.2	4.85470	4.85502	**1000.1**	**2.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	T	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H2O)x+2

Chemical Compatibility -Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

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Certificate of Analysis

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info@inorganicventures.com

MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-SPK-1
Lot Number:	T2-MEB721963
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Manganese, Nickel, Vanadium, Zinc, Cobalt, 250 µg/mL ea: Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium, Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Chromium, Cr	200.0 ± 1.1 µg/mL
Cobalt, Co	500.0 ± 2.4 µg/mL	Copper, Cu	250.0 ± 1.0 µg/mL
Iron, Fe	1 000 ± 4 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Silver, Ag	50.00 ± 0.22 µg/mL
Vanadium, V	500.0 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.070 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 27, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M6033

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

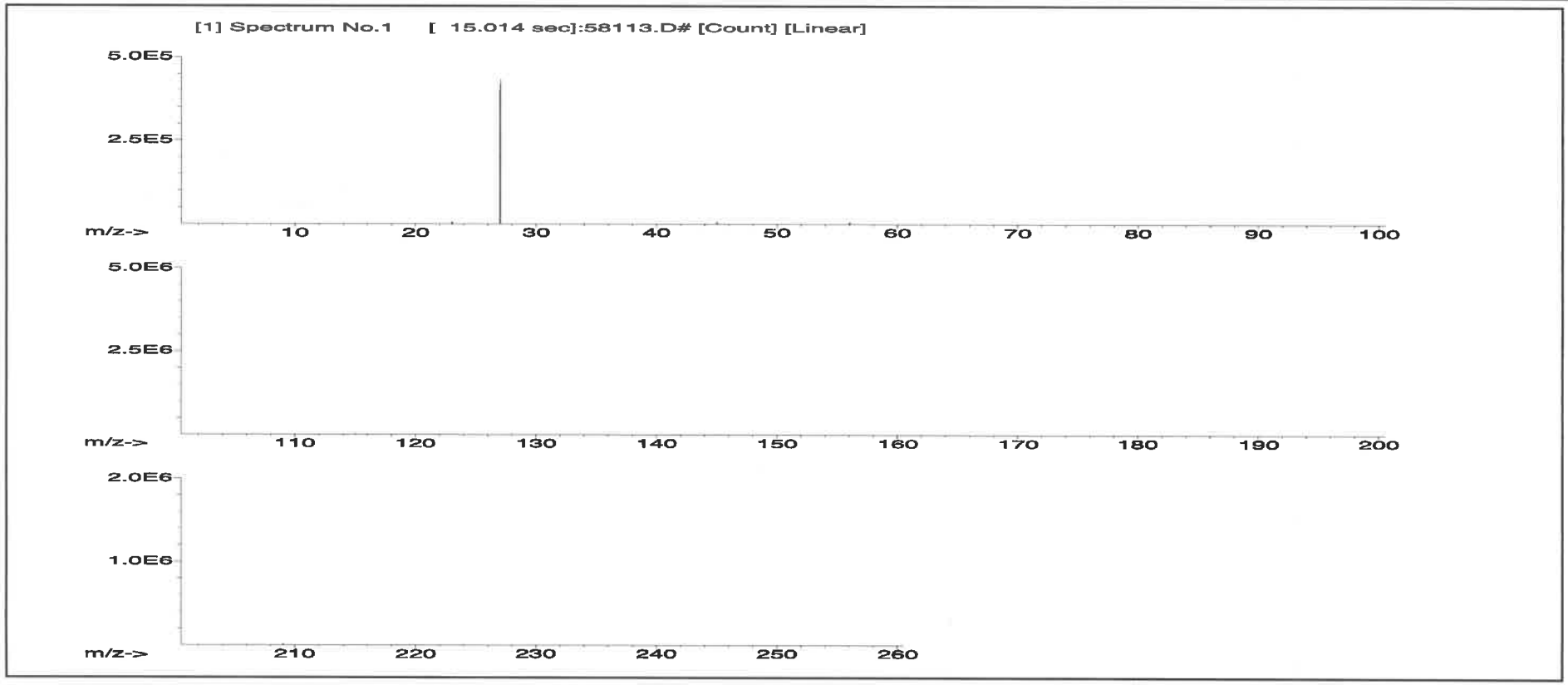
Part Number:	**58113**		**Solvent:**	20510011	Nitric Acid
Lot Number:	**011623**				
Description:	**Aluminum (Al)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	011626				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05 Balance Uncertainty			
Weight shown below was diluted to (mL):	2000.02	0.058 Flask Uncertainty			

Lot #

Giovanni Esposito

Formulated By:	Giovanni Esposito	011623
Reviewed By:	Pedro L. Rentas	011623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	**10001.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

M6109
M6110
M6111

Received date 9/29/24 Met dig.

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22F0762009
Manufactured Date: 2022-05-10
Retest Date: 2027-05-09
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.190
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	0.8 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	14.9 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22F0762009

Test	Specification	Result
Trace Impurities - Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities - Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Magnesium (Mg)	≤ 10.0 ppb	0.8 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	1.0 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	0.7 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities - Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22F0762009

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

M6112
M6113
M6114
M6115
M6116
M6117

Receive:
9/29/24
Met dig

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.6 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	< 0.2 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

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Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Ken Koehnlein
Sr. Manager, Quality Assurance

Nitric Acid 69%
CMOS

M6112
M6113
M6114
M6115
M6116
M6117

Receive:
9/29/24
Met dig

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.6 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	< 0.2 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Ken Koehnlein
Sr. Manager, Quality Assurance

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Certified Reference Material CRM

R: 01/03/24 M5806, M5807

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CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Expiration Date: 122226
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

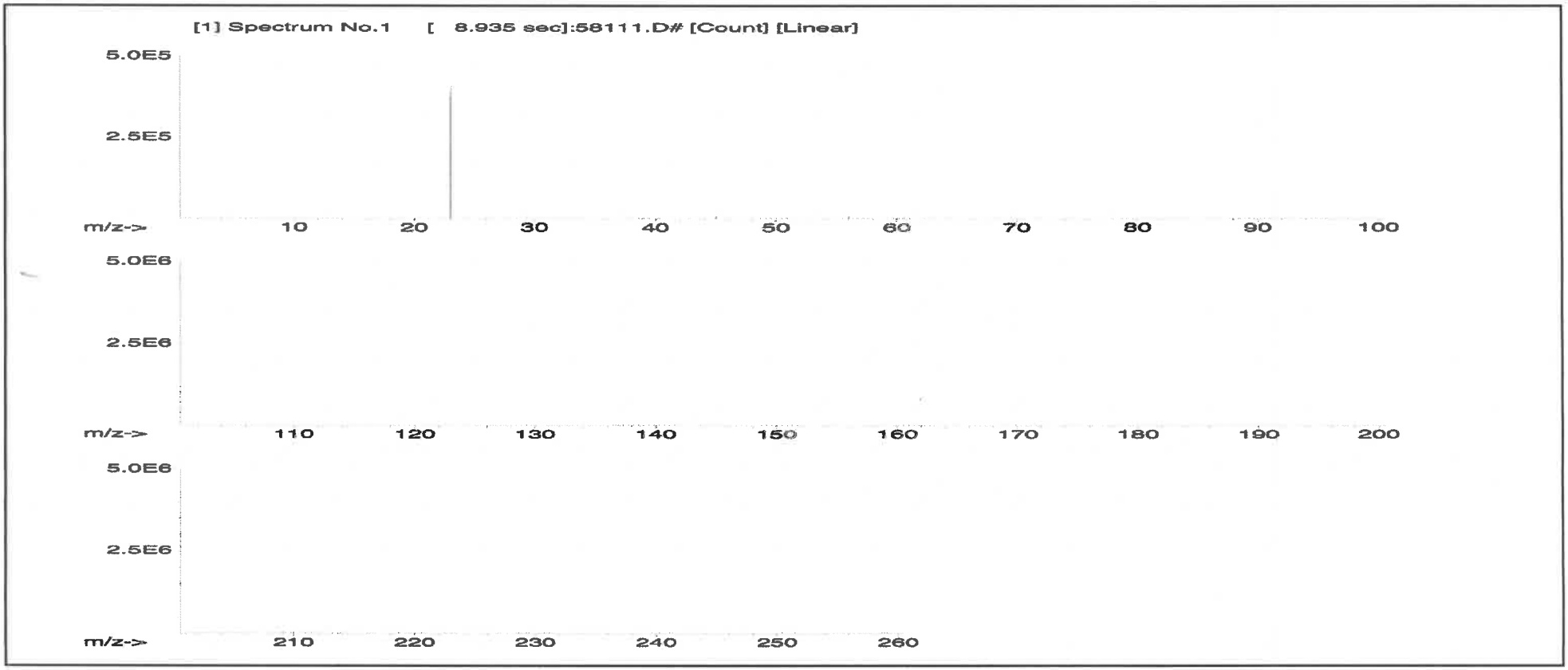
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Aleah O'Brady

Formulated By:	Aleah O'Brady	122223
Reviewed By:	Pedro L. Rentas	122223

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	111.5406	111.5479	**10000.7**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 01/03/24 M5802, M5803

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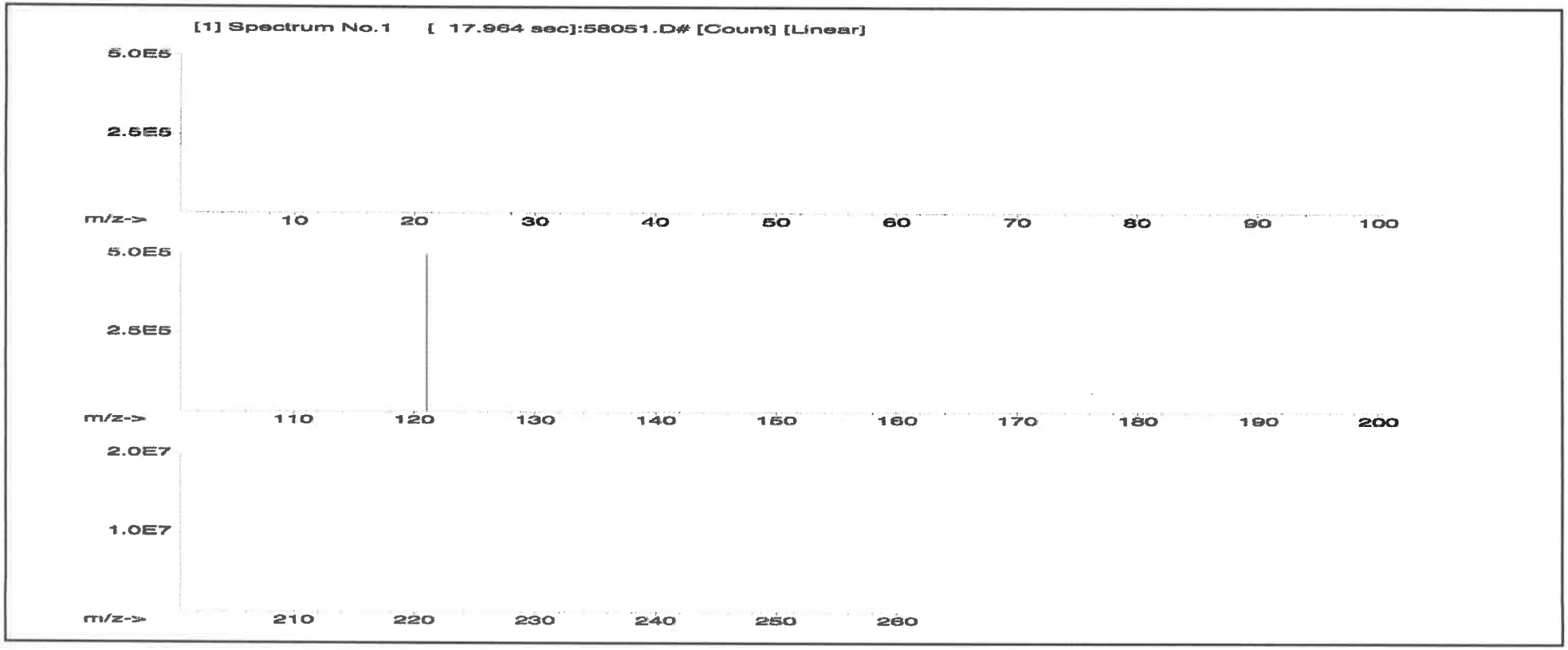
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57051**	24002546	Nitric Acid	
Lot Number:	**120523**			
Description:	**Antimony (Sb)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	120526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rentas	120523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	100923	0.1000	300.0	0.084	1000	10001.4	**1000.0**	2.1	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	T	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M6030

R: 8/5/24

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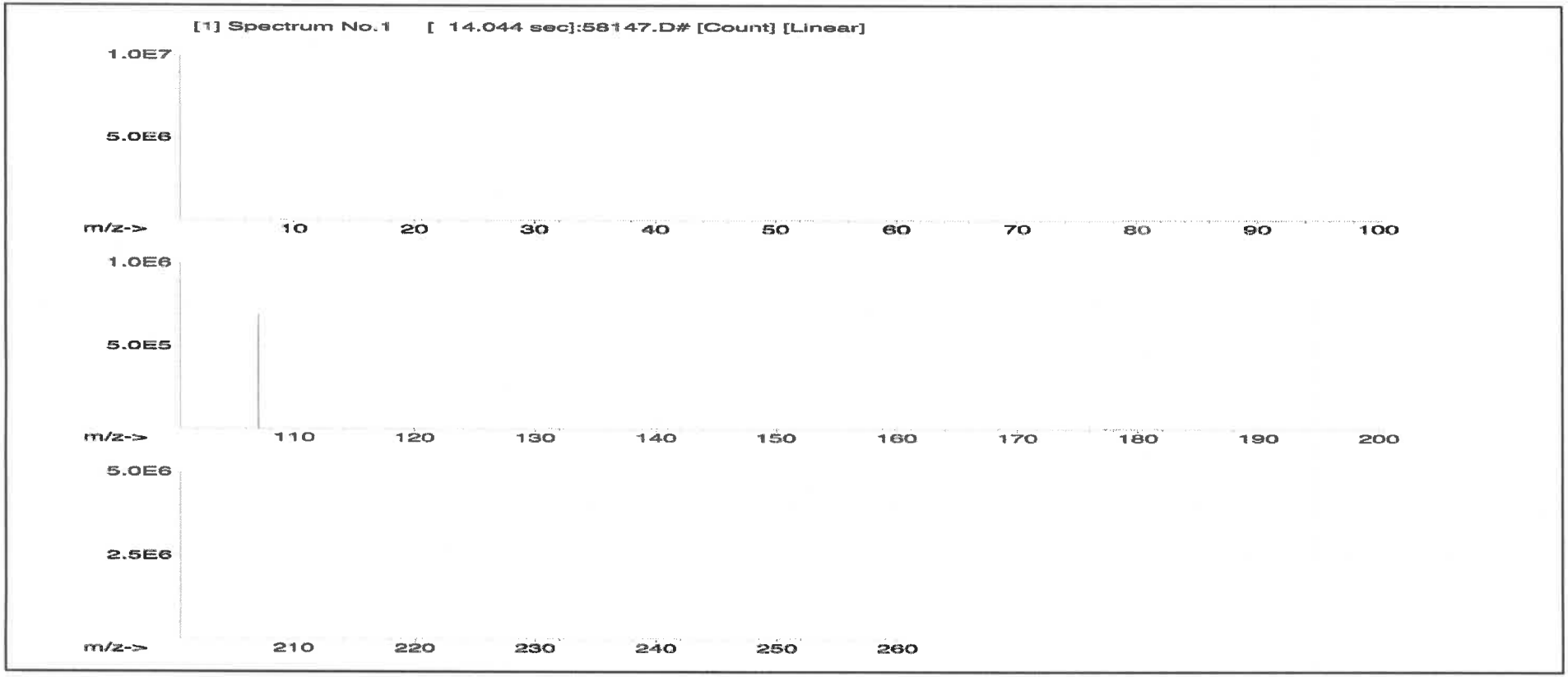
CERTIFIED WEIGHT REPORT:

Part Number:	**57047**			**Lot #**	
Lot Number:	**122823**	**Solvent:**	24002546	Nitric Acid	
Description:	**Silver (Ag)**				
		2%	80.0 (mL)	Nitric Acid	
Expiration Date:	122826				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.30	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	T	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

R: 03/16/23 M5473, M5474, M5475, M5476

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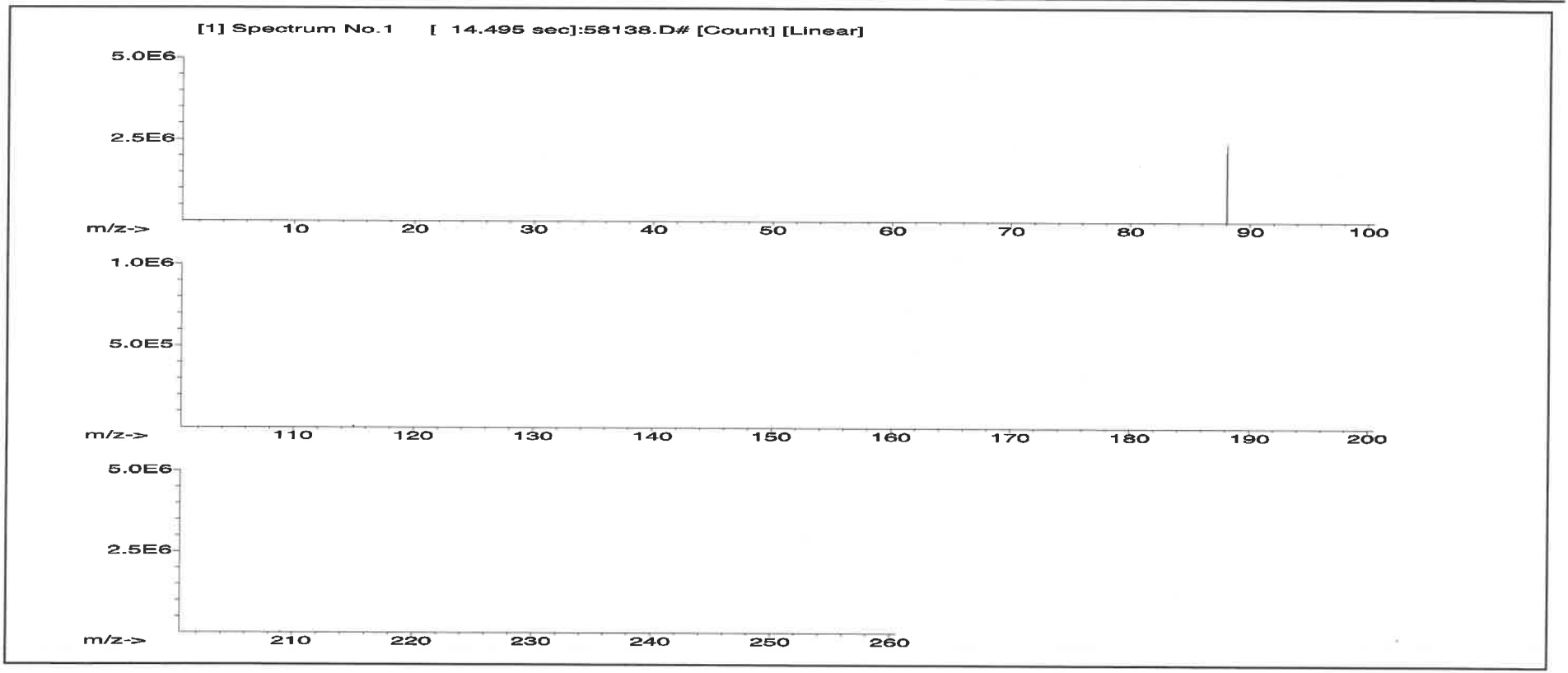
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**56138**		**Lot #**		
Lot Number:	**082922**	**Solvent:**	20510011	Nitric Acid	
Description:	**Strontium (Sr)**				
		2%	20.0 (mL)	Nitric Acid	
Expiration Date:	082925				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	1000.12	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	082922
Reviewed By:	Pedro L. Rentas	082922

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	**Actual Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Strontium nitrate (Sr)	IN017	SRZ022018A1	10000	99.997	0.10	41.2	24.2756	24.2758	**10000.1**	**20.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	T	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M6023

R ! 8/5/24

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CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

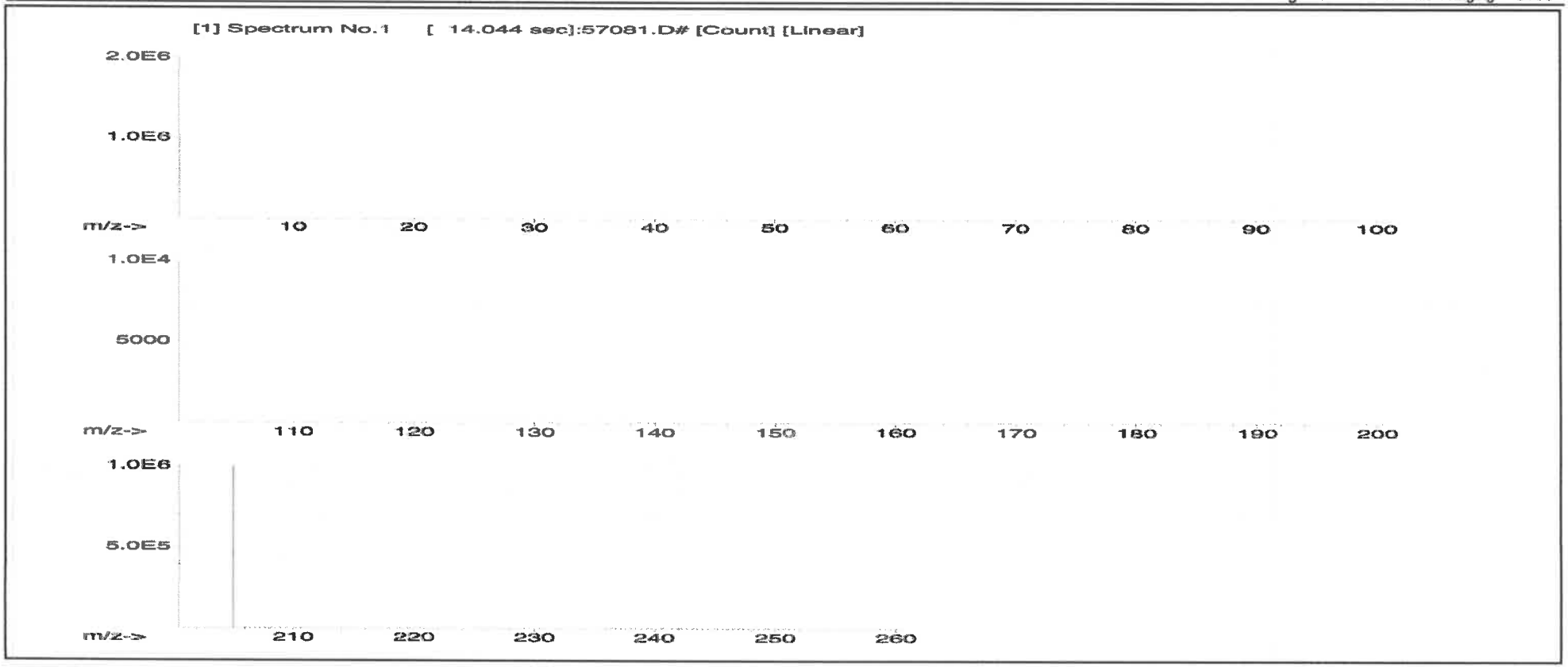
Aleah O'Brady

Formulated By:	Aleah O'Brady	062724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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Certified Reference Material CRM

M6021

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**			
Description:	**Vanadium (V)**	24002546	Nitric Acid	
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

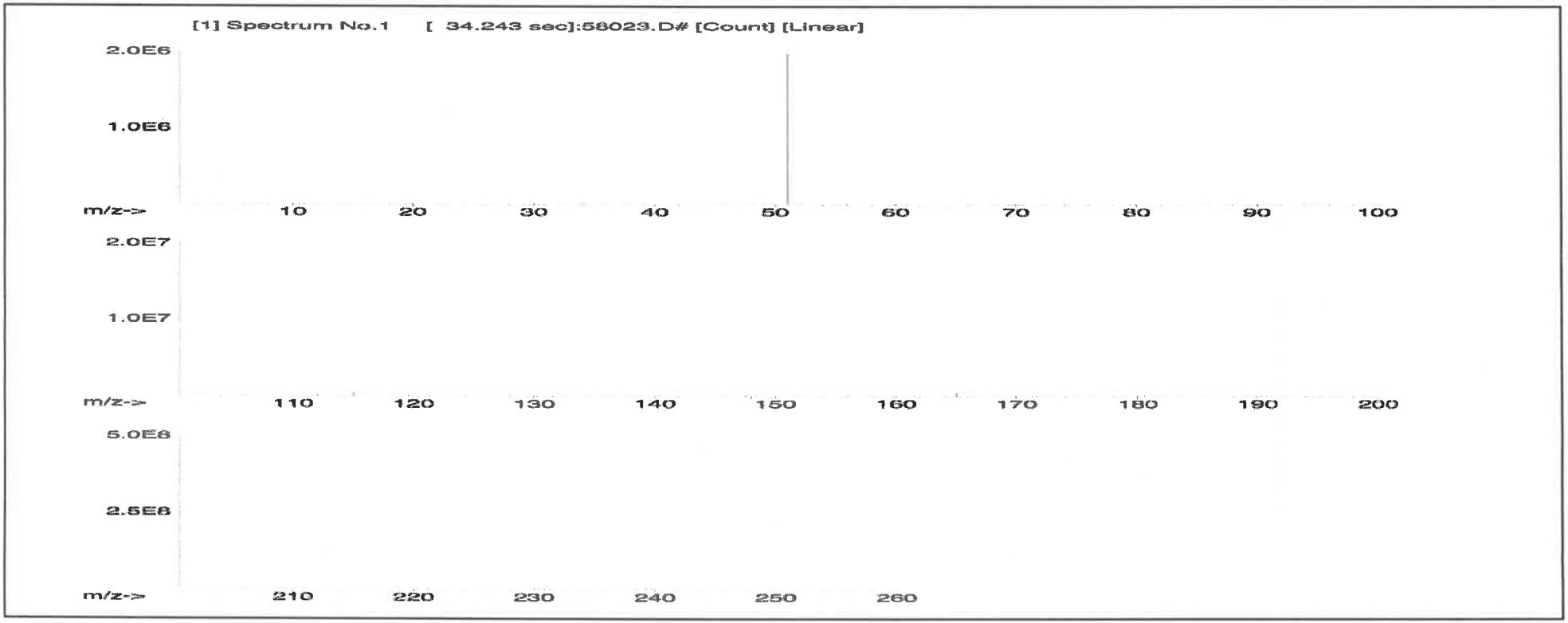
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	T
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB164715

SOP ID : M3050B-Digestion-20, MSFAM01.1-Trace Metals-2

SDG No : MYE5N3

Matrix : SOIL

Pippete ID: ICP A

Balance ID : M SC-2

Filter paper ID : N/A

pH Strip ID : N/A

Hood ID : #3

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

Start Digest Date: 11/06/2024 **Time :** 14:45 **Temp :** 95 °C

End Digest Date: 11/06/2024 **Time :** 17:55 **Temp :** 95 °C

Digestion tube ID: M6054

Block thermometer ID: MET-DIG. #2

Dig Technician Signature: jgp

Supervisor Signature: SJ

Temp : 1. 95°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1.00	MP83141
LCSSD	0.50	MP83141
Spike Sol 6	2.00	MP83147
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	10.00	MP83122
1:1 HCL	5.00	MP83105
CONC: HNO3	5.00	M6116
30% H2O2	3.00	M5634
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #2 CELL #34 : 95 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/6/24 18:10	jgp / Met dig	SJ / MB Tube Cab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB164715

Lab Sample ID	Client Sample ID	pH	Initial Weight (g)	Final Vol (ml)	Color Before	Color After	Texture	Artifact	Comment	Prep Pos
P4590-01	MYE5N3	N/A	1.26	100	Brown	Yellow	Medium	N/A	N/A	1
P4590-02	MYE5N3D	N/A	1.22	100	Brown	Yellow	Medium	N/A	N/A	3
P4590-03	MYE5N3S	N/A	1.21	100	Brown	Yellow	Medium	N/A	MP83147	15
P4591-01	MYE5N4	N/A	1.44	100	Brown	Yellow	Medium	N/A	N/A	5
P4591-02	MYE5N4D	N/A	1.45	100	Brown	Yellow	Medium	N/A	N/A	7
P4591-03	MYE5N4S	N/A	1.39	100	Brown	Yellow	Medium	N/A	MP83147	16
P4591-04	MYE5N5	N/A	1.46	100	Brown	Yellow	Medium	N/A	N/A	9
PB164715BL	PBS715	N/A	1.00	100	Brown	Yellow	Medium	N/A	N/A	10
PB164715BS	LCS715	N/A	1.00	100	Brown	Yellow	Medium	N/A	MP83141	13
PB164715BSD	LCSD715	N/A	1.00	100	Brown	Yellow	Medium	N/A	MP83141	14

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133461

Review By	Sarabjit Jaswal	Review On	11/15/2024 4:33:08 AM
Supervise By	Mohan Bera	Supervise On	11/15/2024 5:15:22 AM

STD. NAME	STD REF.#
ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/14/24 15:50		Kareem	OK
2	S1	S01	CAL2	11/14/24 15:54		Kareem	OK
3	S2	S02	CAL3	11/14/24 15:59		Kareem	OK
4	S3	S03	CAL4	11/14/24 16:03		Kareem	OK
5	S4	S04	CAL5	11/14/24 16:08		Kareem	OK
6	S5	S05	CAL6	11/14/24 16:12		Kareem	OK
7	S6	S06	CAL7	11/14/24 16:17		Kareem	OK
8	ICV012	ICV012	ICV	11/14/24 16:21		Kareem	OK
9	ICB012	ICB012	ICB	11/14/24 16:38	Inst. paused for review	Kareem	OK
10	ICSA012	ICSA012	ICSA	11/14/24 16:43		Kareem	OK
11	ICSAB012	ICSAB012	ICSAB	11/14/24 16:47		Kareem	OK
12	CCV087	CCV087	CCV	11/14/24 16:52		Kareem	OK
13	CCB087	CCB087	CCB	11/14/24 16:56		Kareem	OK
14	PB164636BL	PBS636	MB	11/14/24 17:00		Kareem	OK
15	PB164636BS	LCS636	LCS	11/14/24 17:05		Kareem	OK
16	PB164636BSD	LCSD636	LCSD	11/14/24 17:09		Kareem	OK
17	PB164656BL	PBS656	MB	11/14/24 17:14		Kareem	OK
18	PB164656BS	LCS656	LCS	11/14/24 17:19		Kareem	OK

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133461

Review By	Sarabjit Jaswal	Review On	11/15/2024 4:33:08 AM
Supervise By	Mohan Bera	Supervise On	11/15/2024 5:15:22 AM

STD. NAME	STD REF.#
ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

19	PB164656BSD	LCSD656	LCSD	11/14/24 17:23		Kareem	OK
20	PB164658BL	PBS658	MB	11/14/24 17:28		Kareem	OK
21	PB164658BS	LCS658	LCS	11/14/24 17:32		Kareem	OK
22	PB164658BSD	LCSD658	LCSD	11/14/24 17:37		Kareem	OK
23	PB164655BL	PBS655	MB	11/14/24 17:41	NOT USE	Kareem	Not Ok
24	PB164655BS	LCS655	LCS	11/14/24 17:46	NOT USE	Kareem	Not Ok
25	PB164655BSD	LCSD655	LCSD	11/14/24 17:50	NOT USE	Kareem	Not Ok
26	PB164715BL	PBS715	MB	11/14/24 17:55		Kareem	OK
27	PB164715BS	LCS715	LCS	11/14/24 17:59		Kareem	OK
28	PB164715BSD	LCSD715	LCSD	11/14/24 18:04		Kareem	OK
29	P4572-11DL	MYE586	SAM	11/14/24 18:08		Kareem	OK
30	P4572-12DL	MYE586D	DUP	11/14/24 18:13		Kareem	OK
31	P4572-11LDL	MYE586L	SD	11/14/24 18:17		Kareem	OK
32	P4572-13DL	MYE586S	MS	11/14/24 18:22	MS fail for Cu,Zn	Kareem	OK
33	P4573-07DL	MYE5A2	SAM	11/14/24 18:26		Kareem	OK
34	CCV088	CCV088	CCV	11/14/24 18:30		Kareem	OK
35	CCB088	CCB088	CCB	11/14/24 18:35		Kareem	OK
36	P4573-08DL	MYE5A2D	DUP	11/14/24 18:39		Kareem	OK
37	P4573-07LDL	MYE5A2L	SD	11/14/24 18:44		Kareem	OK
38	P4573-09DL	MYE5A2S	MS	11/14/24 18:48	MS fail for As	Kareem	OK

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133461

Review By	Sarabjit Jaswal	Review On	11/15/2024 4:33:08 AM
Supervise By	Mohan Bera	Supervise On	11/15/2024 5:15:22 AM

STD. NAME	STD REF.#
ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

39	P4590-01DL	MYE5N3	SAM	11/14/24 18:52		Kareem	OK
40	P4590-02DL	MYE5N3D	DUP	11/14/24 18:57		Kareem	OK
41	P4590-01LDL	MYE5N3L	SD	11/14/24 19:01		Kareem	OK
42	P4590-03DL	MYE5N3S	MS	11/14/24 19:06	MS fail for As	Kareem	OK
43	P4591-01DL	MYE5N4	SAM	11/14/24 19:10		Kareem	OK
44	P4591-02DL	MYE5N4D	DUP	11/14/24 19:15		Kareem	OK
45	P4591-01LDL	MYE5N4L	SD	11/14/24 19:19		Kareem	OK
46	P4591-03DL	MYE5N4S	MS	11/14/24 19:23		Kareem	OK
47	P4572-14DL	MYE587	SAM	11/14/24 19:28		Kareem	OK
48	P4572-15DL	MYE588	SAM	11/14/24 19:32		Kareem	OK
49	P4572-16DL	MYE589	SAM	11/14/24 19:37		Kareem	OK
50	P4572-17DL	MYE590	SAM	11/14/24 19:41		Kareem	OK
51	P4572-18DL	MYE591	SAM	11/14/24 19:46		Kareem	OK
52	P4572-19DL	MYE592	SAM	11/14/24 19:50		Kareem	OK
53	P4572-20DL	MYE593	SAM	11/14/24 19:54		Kareem	OK
54	P4572-21DL	MYE594	SAM	11/14/24 19:59		Kareem	OK
55	P4572-22DL	MYE595	SAM	11/14/24 20:03		Kareem	OK
56	CCV089	CCV089	CCV	11/14/24 20:08		Kareem	OK
57	CCB089	CCB089	CCB	11/14/24 20:12		Kareem	OK
58	P4591-04DL	MYE5N5	SAM	11/14/24 20:16		Kareem	OK

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133461

Review By	Sarabjit Jaswal	Review On	11/15/2024 4:33:08 AM
Supervise By	Mohan Bera	Supervise On	11/15/2024 5:15:22 AM

STD. NAME	STD REF.#
ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

59	P4571-01ADL	MYE543A	PS	11/14/24 20:21	PS for As,Pb	Kareem	OK
60	P4573-01DL	MYE596	SAM	11/14/24 20:25		Kareem	OK
61	P4573-02DL	MYE597	SAM	11/14/24 20:30		Kareem	OK
62	P4573-03DL	MYE598	SAM	11/14/24 20:34		Kareem	OK
63	P4573-04DL	MYE599	SAM	11/14/24 20:39		Kareem	OK
64	P4573-05DL	MYE5A0	SAM	11/14/24 20:43		Kareem	OK
65	P4573-06DL	MYE5A1	SAM	11/14/24 20:47		Kareem	OK
66	P4573-07REDL	MYE5A2	SAM	11/14/24 20:52	NOT USE	Kareem	Not Ok
67	P4573-08REDL	MYE5A2D	DUP	11/14/24 20:56	NOT USE	Kareem	Not Ok
68	P4573-07LREDL	MYE5A2L	SD	11/14/24 21:01	NOT USE	Kareem	Not Ok
69	P4573-09REDL	MYE5A2S	MS	11/14/24 21:05	NOT USE	Kareem	Not Ok
70	P4573-10DL	MYE5A3	SAM	11/14/24 21:10		Kareem	OK
71	P4573-11DL	MYE5A4	SAM	11/14/24 21:14		Kareem	OK
72	P4573-12DL	MYE5A5	SAM	11/14/24 21:18		Kareem	OK
73	P4573-13DL	MYE5A6	SAM	11/14/24 21:23		Kareem	OK
74	P4573-14DL	MYE5A7	SAM	11/14/24 21:27		Kareem	OK
75	P4573-15DL	MYE5A8	SAM	11/14/24 21:32		Kareem	OK
76	P4573-16DL	MYE5A9	SAM	11/14/24 21:36		Kareem	OK
77	P4573-17DL	MYE5B0	SAM	11/14/24 21:41		Kareem	OK
78	CCV090	CCV090	CCV	11/14/24 21:45		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133461

Review By	Sarabjit Jaswal	Review On	11/15/2024 4:33:08 AM
Supervise By	Mohan Bera	Supervise On	11/15/2024 5:15:22 AM

STD. NAME	STD REF.#
ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

79	CCB090	CCB090	CCB	11/14/24 21:49		Kareem	OK
80	P4573-18DL	MYE5B1	SAM	11/14/24 21:54		Kareem	OK
81	P4573-19DL	MYE5B2	SAM	11/14/24 22:07		Kareem	OK
82	CCV091	CCV091	CCV	11/14/24 22:25		Kareem	OK
83	CCB091	CCB091	CCB	11/14/24 22:29		Kareem	OK
84	P4572-11ADL	MYE586A	PS	11/14/24 23:06	PS for Cu-0.009ml (M5751), Zn-0.0012ml (M5819) - 10 ml sample	Kareem	OK
85	P4573-07ADL	MYE5A2A	PS	11/14/24 23:11	PS for As-0.003ml (M5801) - 10 ml sample	Kareem	OK
86	P4590-01ADL	MYE5N3A	PS	11/14/24 23:15	PS for As-0.0023ml (M5801) - 10 ml sample	Kareem	OK
87	CCV092	CCV092	CCV	11/14/24 23:20		Kareem	OK
88	CCB092	CCB092	CCB	11/14/24 23:24		Kareem	OK