EPA SAMPLE NO.

MC0D37

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-01

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	1.1	J	11/18/2024	1252
7439-92-1	Lead	350		11/18/2024	1252

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

Comments:

EPA SAMPLE NO.

MC0D43

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-02

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	24		11/18/2024	1257
7439-92-1	Lead	200		11/18/2024	1257

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

Comments:

EPA SAMPLE NO.

MC0D49

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-03

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	38		11/18/2024	1301
7439-92-1	Lead	550		11/18/2024	1301

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

Comments:

EPA SAMPLE NO.

MC0D55

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-04

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	2.8	J	11/18/2024	1306
7439-92-1	Lead	470		11/18/2024	1306

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

Comments:

EPA SAMPLE NO.

MC0D63

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-05

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	7.3		11/18/2024	1310
7439-92-1	Lead	1500		11/18/2024	1310

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

Comments:

EPA SAMPLE NO.

MC0D65

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-06

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	1.0	J	11/18/2024	1324
7439-92-1	Lead	3100		11/18/2024	1324

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

Comments:

EPA SAMPLE NO.

MC0D67

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-07

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	96		11/18/2024	1328
7439-92-1	Lead	280		11/18/2024	1328

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

Comments:

EPA SAMPLE NO.

MC0D73

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-12

% Solids: Date Received: 11/08/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	3.1	J	11/18/2024	1351
7439-92-1	Lead	260		11/18/2024	1351

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

Comments:

EPA SAMPLE NO.

MC0D79

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-13

% Solids: Date Received: 11/08/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	11		11/18/2024	1355
7439-92-1	Lead	370		11/18/2024	1355

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

Comments:

EPA SAMPLE NO.

MC0D88

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-14

% Solids: Date Received: 11/08/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	5.3		11/18/2024	1359
7439-92-1	Lead	1700		11/18/2024	1359

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

Comments:

EPA SAMPLE NO.

MC0D94

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-09

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	21		11/18/2024	1337
7439-92-1	Lead	400		11/18/2024	1337

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

Comments:

EPA SAMPLE NO.

MC0DA0

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-10

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	3.4	J	11/18/2024	1342
7439-92-1	Lead	760		11/18/2024	1342

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

Comments:

EPA SAMPLE NO.

MC0DA6

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-11

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	0.75	J	11/18/2024	1346
7439-92-1	Lead	2800		11/18/2024	1346

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

Comments:

EPA SAMPLE NO.

MC0DA7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-08

% Solids: Date Received: 11/07/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	96		11/18/2024	1333
7439-92-1	Lead	270		11/18/2024	1333

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

Comments:

EPA SAMPLE NO.

MC0DA9

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51863 MA No. : SDG No.: MC0D37

Matrix: WATER Lab Sample ID: P4755-15

% Solids: Date Received: 11/08/2024

Analytical Method: ICP_AES

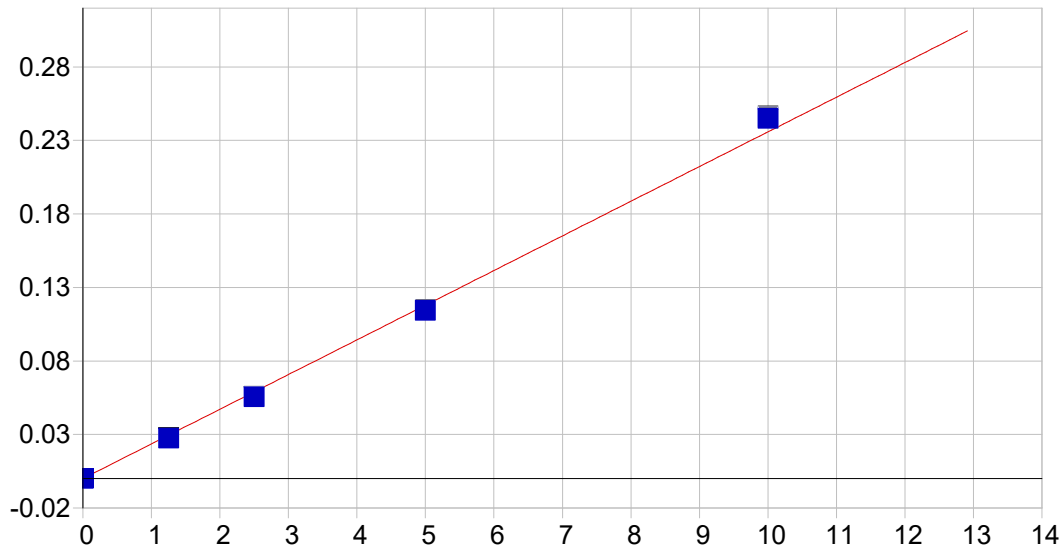
Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-43-9	Cadmium	1.8	J	11/18/2024	0943
7439-92-1	Lead	990		11/18/2024	0943

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

Comments:

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



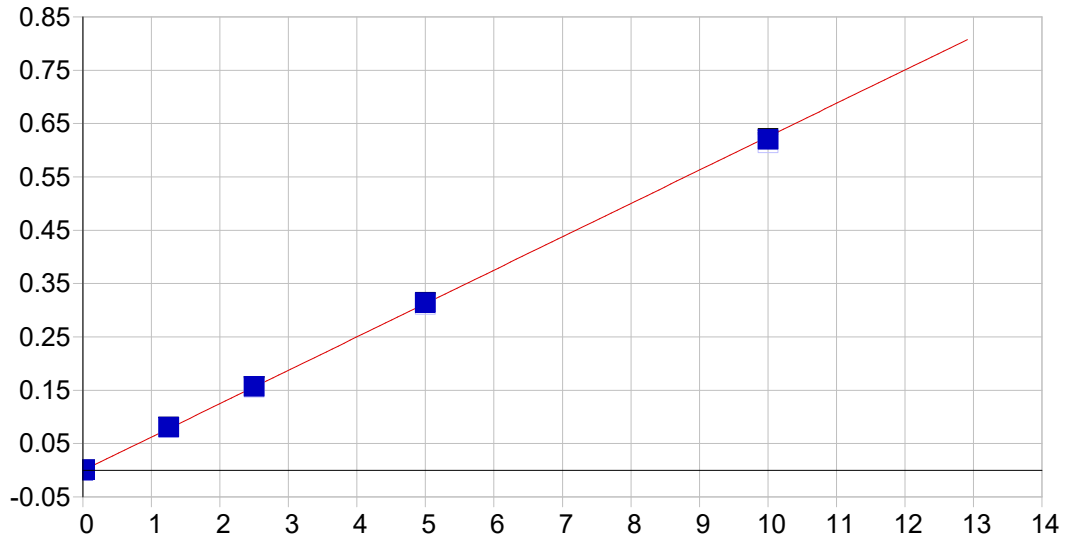
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A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
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Std Error of Est:	0.000017		
Predicted MDL:	0.008468		
Predicted MQL:	0.028226		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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S1	.01000	.00826	-.002	-17.4	.00020	.000	1
S2	1.2500	1.1628	-.087	-6.97	.02755	.000	1
S3	2.5000	2.3562	-.144	-5.75	.05582	.000	1
S4	5.0000	4.8467	-.153	-3.07	.11480	.000	1
S5	10.000	10.386	.386	3.86	.24593	.001	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



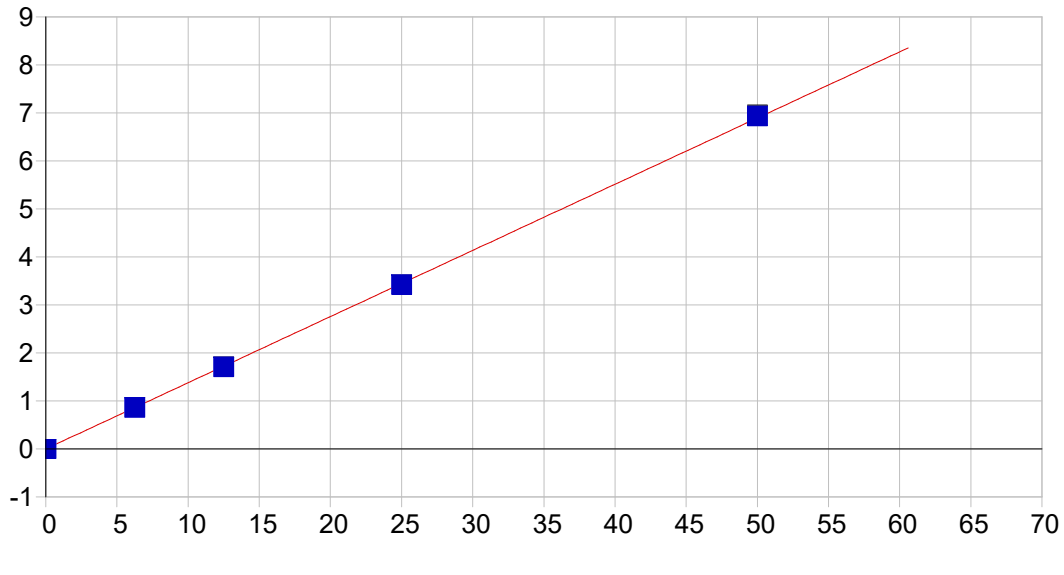
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A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.003559		
Predicted MQL:	0.011862		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00031	.000	1
S1	.02500	.02428	-.001	-2.86	.00118	.000	1
S2	1.2500	1.2931	.043	3.45	.07976	.000	1
S3	2.5000	2.5126	.013	.502	.15521	.000	1
S4	5.0000	5.0277	.028	.554	.31089	.001	1
S5	10.000	9.9173	-.083	-.827	.61345	.002	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



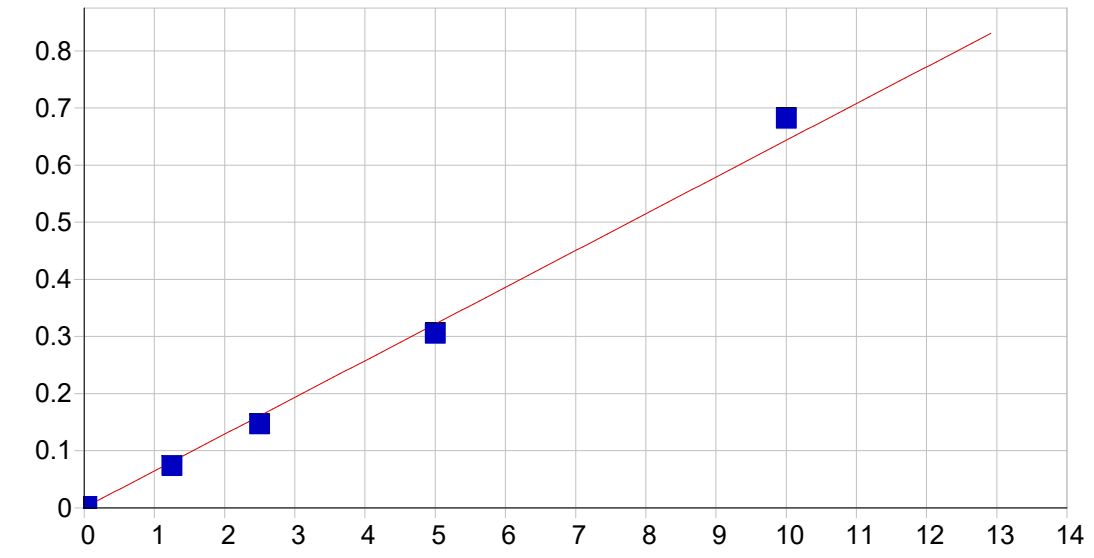
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A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	0.003508		
Predicted MQL:	0.011695		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00060	.000	1
S1	.01000	.00775	-.002	-22.5	.00047	.000	1
S2	6.2500	6.2467	-.003	-.053	.86040	.001	1
S3	12.500	12.372	-.128	-1.02	1.7047	.004	1
S4	25.000	24.828	-.172	-.688	3.4215	.006	1
S5	50.000	50.305	.305	.611	6.9331	.021	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



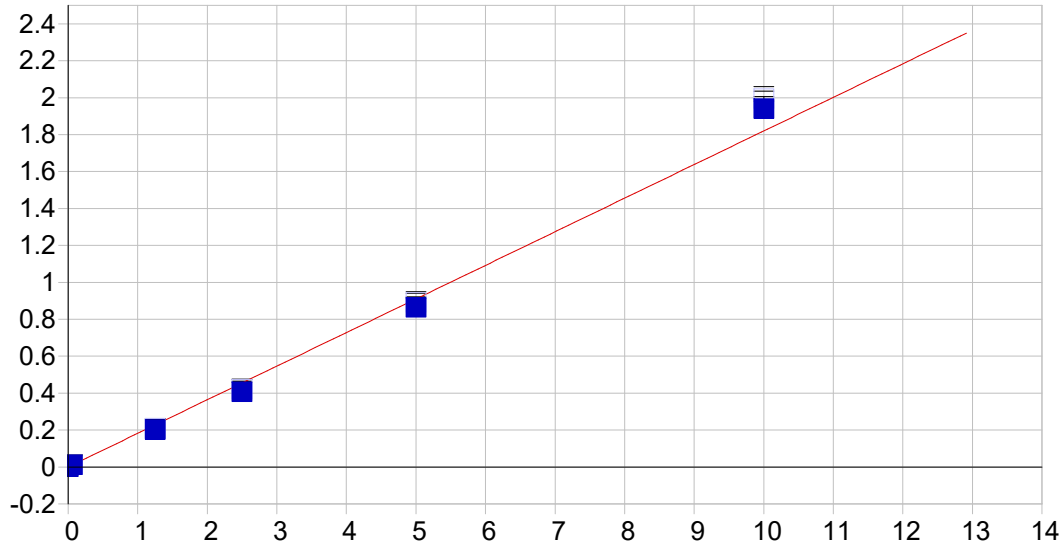
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A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997885	Status:	OK.
Std Error of Est:	0.000131		
Predicted MDL:	0.006218		
Predicted MQL:	0.020727		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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S1	.03500	.03239	-.003	-7.47	.00251	.000	1
S2	1.2500	1.1395	-.110	-8.84	.07355	.000	1
S3	2.5000	2.2729	-.227	-9.09	.14626	.001	1
S4	5.0000	4.7432	-.257	-5.14	.30479	.001	1
S5	10.000	10.597	.597	5.97	.68055	.002	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



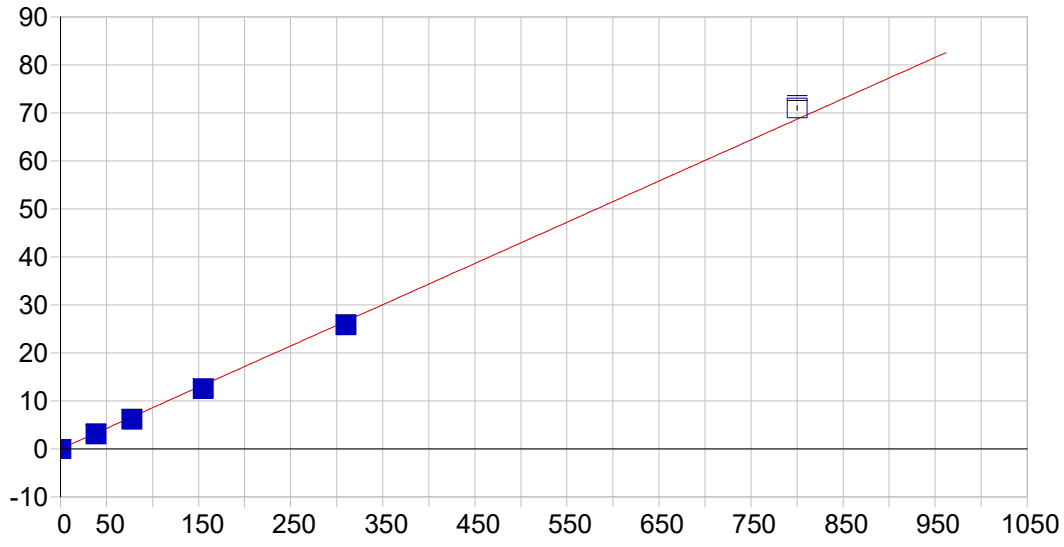
Sb 206.833 {463}

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A1 (Gain):	0.181960	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997488	Status:	OK.
Std Error of Est:	0.000547		
Predicted MDL:	0.002705		
Predicted MQL:	0.009018		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00018	.000	1
S1	.06000	.05779	-.002	-3.69	.01069	.000	1
S2	1.2500	1.1089	-.141	-11.3	.20866	.001	1
S3	2.5000	2.2374	-.263	-10.5	.42072	.002	1
S4	5.0000	4.7440	-.256	-5.12	.89025	.004	1
S5	10.000	10.662	.662	6.62	1.9939	.012	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



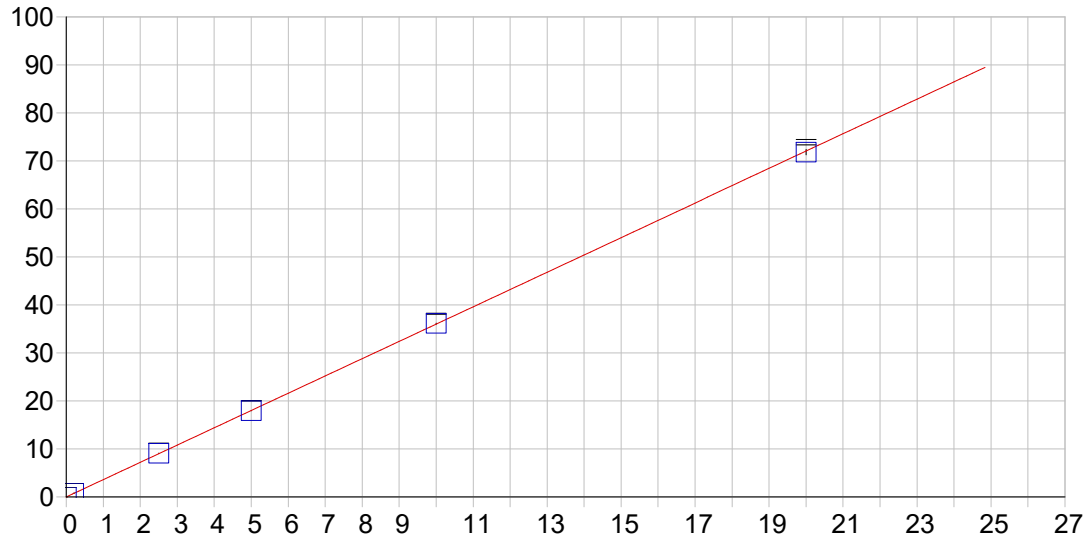
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A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999133	Status:	OK.
Std Error of Est:	0.002225		
Predicted MDL:	0.012412		
Predicted MQL:	0.041374		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00004	.000	.000	-.00229	.001	1
S1	.20000	.20144	.001	.719	.01503	.000	1
S2	38.750	35.810	-2.94	-7.59	3.0763	.008	1
S3	77.500	71.459	-6.04	-7.80	6.1411	.027	1
S4	155.00	146.32	-8.68	-5.60	12.577	.050	1
S5	310.00	300.45	-9.55	-3.08	25.827	.031	1
S6	800.00	827.24	27.2	3.40	71.024	.481	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



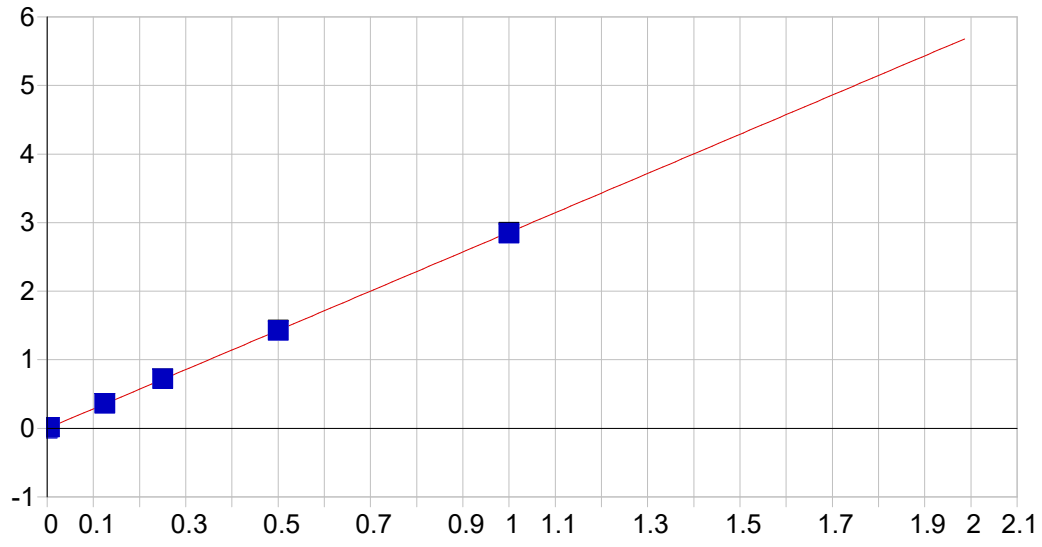
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A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999946	Status:	OK.
Std Error of Est:	0.003961		
Predicted MDL:	0.000662		
Predicted MQL:	0.002208		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	.00344	.002	1
S1	.20000	.22676	.027	13.4	.82025	.001	1
S2	2.5000	2.5189	.019	.757	9.0760	.025	1
S3	5.0000	4.9863	-.014	-.274	17.963	.038	1
S4	10.000	10.029	.029	.292	36.126	.095	1
S5	20.000	19.939	-.061	-.306	71.818	.568	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



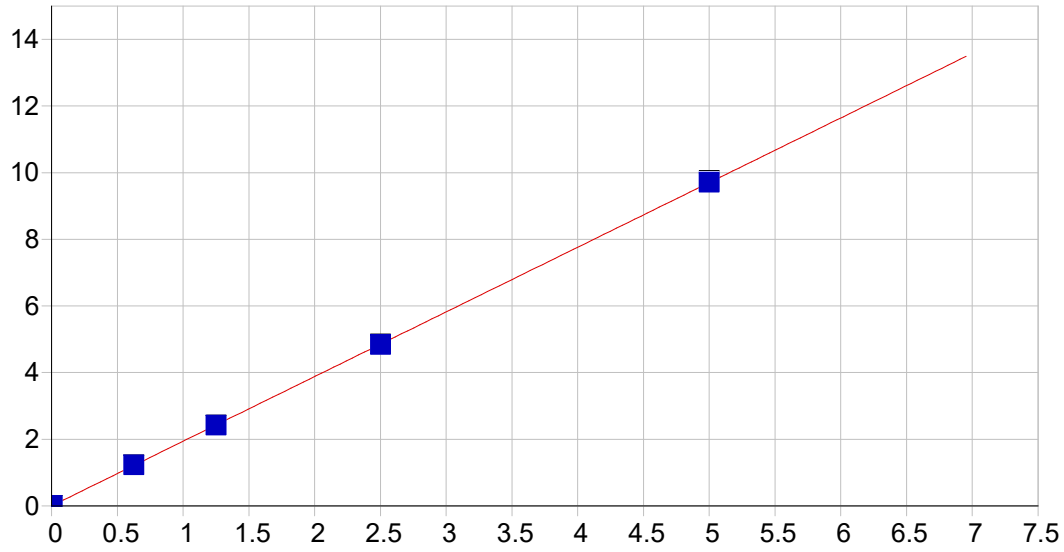
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A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000123		
Predicted MDL:	0.000152		
Predicted MQL:	0.000506		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00127	.000	1
S1	.00500	.00583	.001	16.5	.01539	.000	1
S2	.12500	.12758	.003	2.06	.36301	.001	1
S3	.25000	.25273	.003	1.09	.72036	.002	1
S4	.50000	.49872	-.001	-.256	1.4227	.008	1
S5	1.0000	.99514	-.005	-.486	2.8401	.014	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



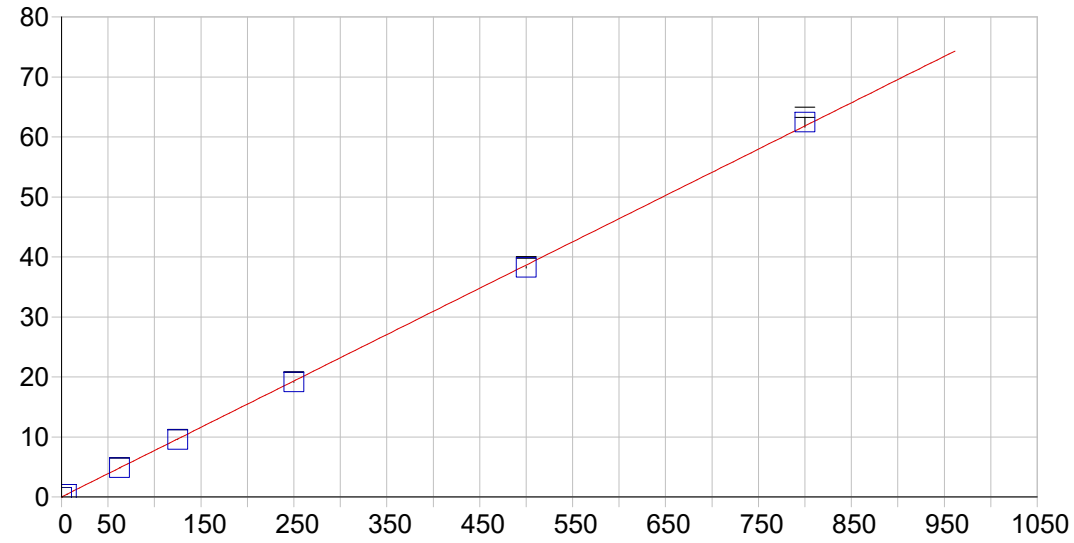
Cd 214.438 {457}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000512	Re-Slope:	1.000000
A1 (Gain):	1.940394	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000060		
Predicted MDL:	0.000151		
Predicted MQL:	0.000505		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00051	.000	1
S1	.00500	.00548	.000	9.58	.01115	.000	1
S2	.62500	.63080	.006	.929	1.2274	.002	1
S3	1.2500	1.2464	-.004	-.285	2.4249	.006	1
S4	2.5000	2.4936	-.006	-.254	4.8508	.009	1
S5	5.0000	5.0036	.004	.073	9.7328	.035	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



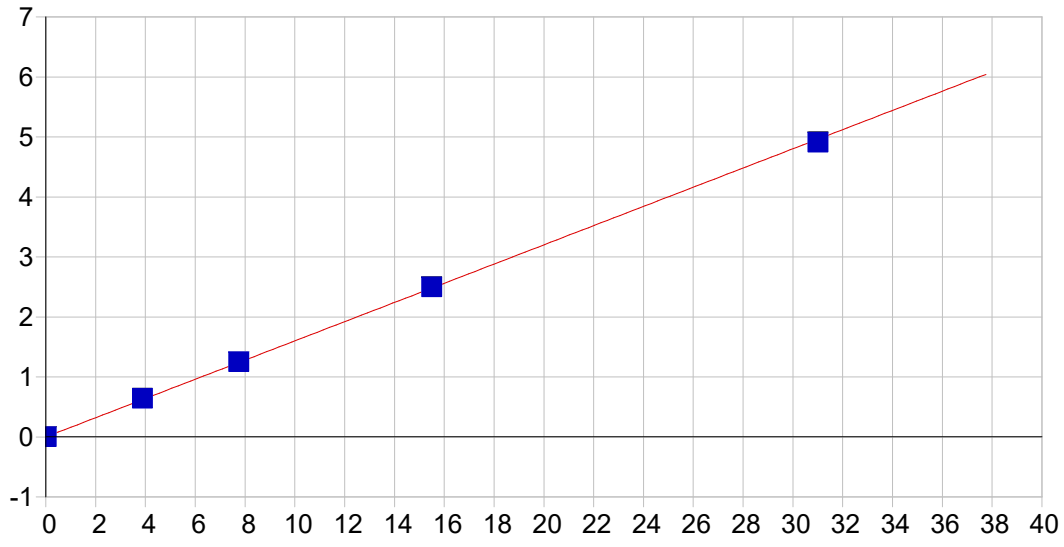
Ca 373.690 { 90}

Date of Fit: 11/18/2024 4:36:35 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.005670	Re-Slope:	1.000000
A1 (Gain):	0.077280	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999930	Status:	OK.
Std Error of Est:	0.003181		
Predicted MDL:	0.012309		
Predicted MQL:	0.041031		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00054	-.001	.000	.00563	.001	1
S1	5.0000	5.6327	.633	12.7	.44096	.001	1
S2	62.500	62.564	.064	.102	4.8406	.012	1
S3	125.00	123.67	-1.33	-1.06	9.5629	.017	1
S4	250.00	247.71	-2.29	-.915	19.149	.042	1
S5	500.00	495.04	-4.96	-.993	38.262	.125	1
S6	800.00	807.89	7.89	.986	62.439	.844	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



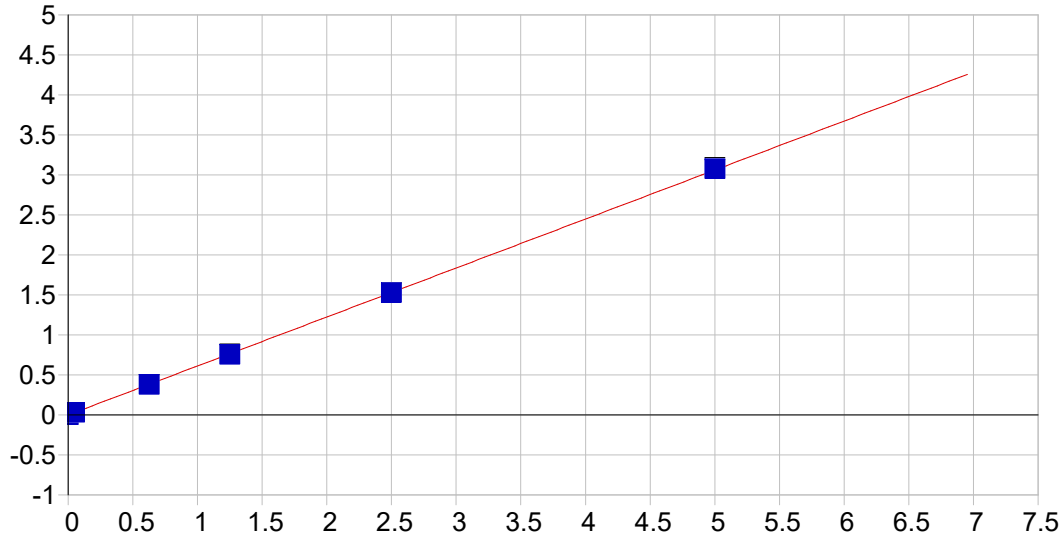
Cr 267.716 {126}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000275	Re-Slope:	1.000000
A1 (Gain):	0.160067	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999918	Status:	OK.
Std Error of Est:	0.000061		
Predicted MDL:	0.001008		
Predicted MQL:	0.003362		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00028	.000	1
S1	.01000	.01243	.002	24.3	.00172	.000	1
S2	3.8750	4.0020	.127	3.28	.64101	.001	1
S3	7.7500	7.8299	.080	1.03	1.2544	.000	1
S4	15.500	15.608	.108	.695	2.5008	.002	1
S5	31.000	30.683	-.317	-1.02	4.9166	.004	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



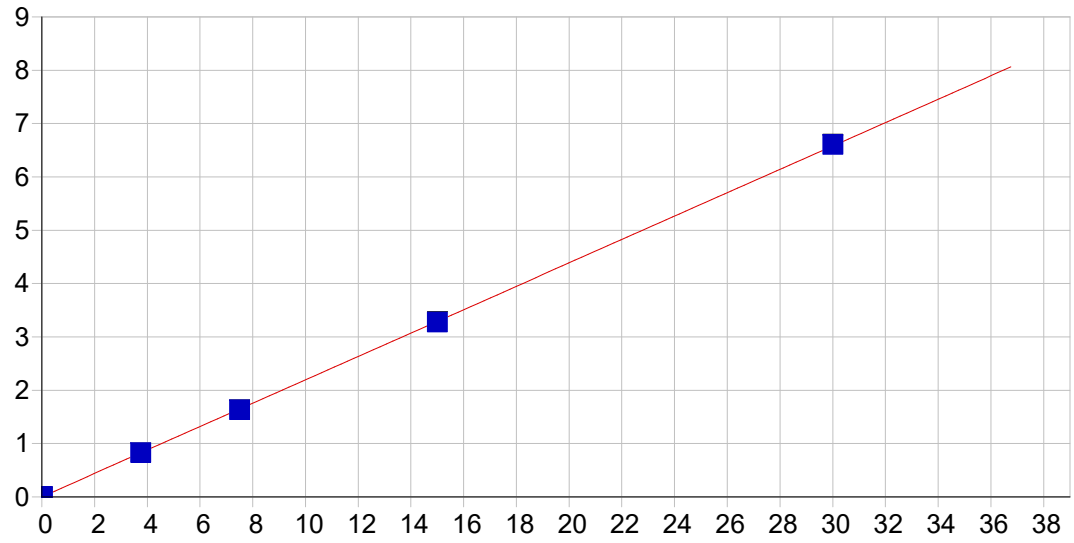
Co 228.616 {448}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000418	Re-Slope:	1.000000
A1 (Gain):	0.612196	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000119		
Predicted MDL:	0.000553		
Predicted MQL:	0.001843		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00042	.000	1
S1	.05000	.05267	.003	5.34	.03193	.000	1
S2	.62500	.61961	-.005	-.863	.37937	.000	1
S3	1.2500	1.2350	-.015	-1.20	.75656	.003	1
S4	2.5000	2.4934	-.007	-.265	1.5279	.001	1
S5	5.0000	5.0244	.024	.487	3.0792	.013	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



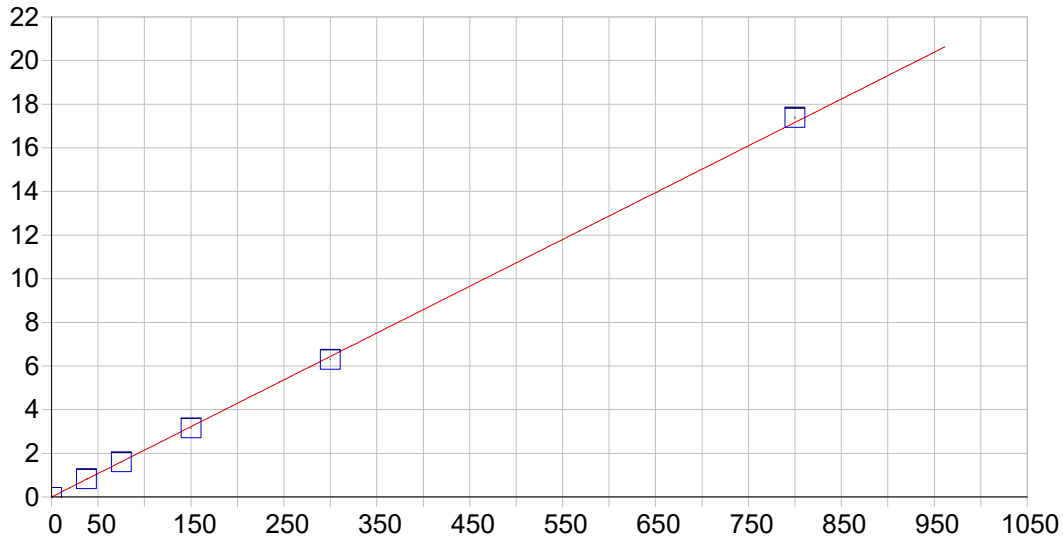
Cu 324.754 {104}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002313	Re-Slope:	1.000000
A1 (Gain):	0.219273	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000060		
Predicted MDL:	0.002864		
Predicted MQL:	0.009546		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00231	.000	1
S1	.02500	.02880	.004	15.2	.00863	.000	1
S2	3.7500	3.7622	.012	.324	.82673	.002	1
S3	7.5000	7.4351	-.065	-.866	1.6316	.004	1
S4	15.000	14.927	-.073	-.485	3.2734	.012	1
S5	30.000	30.122	.122	.406	6.6030	.008	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



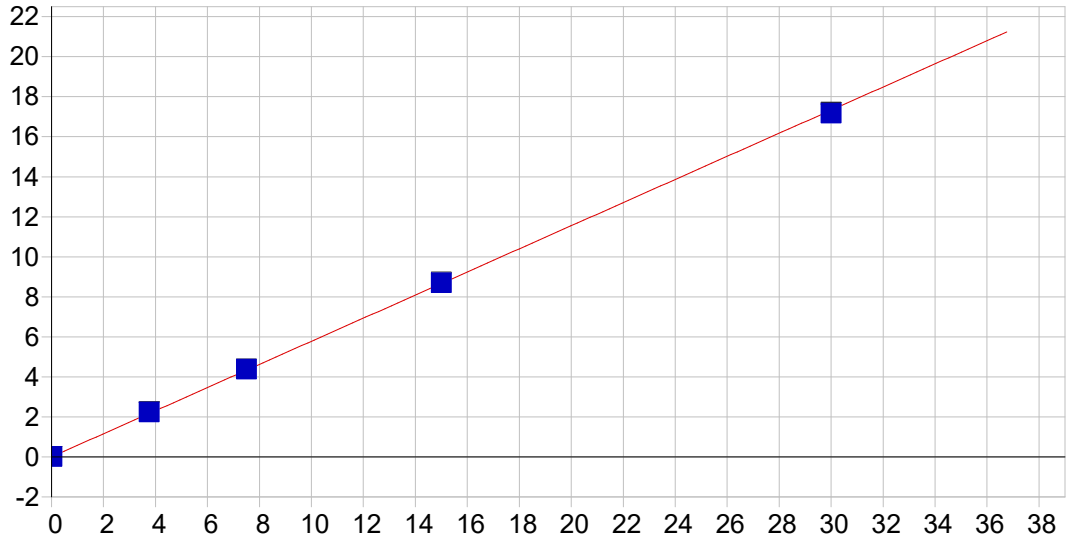
Fe 259.837 {130}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000157	Re-Slope:	1.000000
A1 (Gain):	0.021455	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999868	Status:	OK.
Std Error of Est:	0.000152		
Predicted MDL:	0.012797		
Predicted MQL:	0.042657		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00016	.000	1
S1	.10000	.11305	.013	13.0	.00258	.000	1
S2	37.500	38.025	.525	1.40	.81599	.002	1
S3	75.000	74.180	-.820	-1.09	1.5917	.009	1
S4	150.00	146.83	-3.17	-2.11	3.1505	.010	1
S5	300.00	293.35	-6.65	-2.22	6.2940	.009	1
S6	800.00	810.10	10.1	1.26	17.381	.022	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



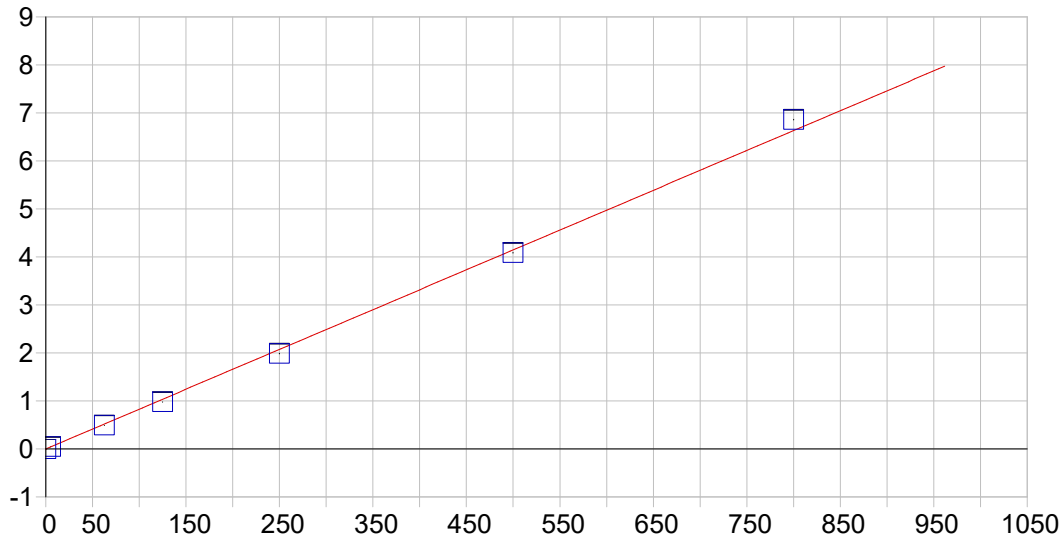
Mn 257.610 {131}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000103	Re-Slope:	1.000000
A1 (Gain):	0.577671	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999924	Status:	OK.
Std Error of Est:	0.000253		
Predicted MDL:	0.000564		
Predicted MQL:	0.001881		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00011	.000	1
S1	.01500	.01758	.003	17.2	.01007	.000	1
S2	3.7500	3.8850	.135	3.60	2.2445	.010	1
S3	7.5000	7.5718	.072	.958	4.3746	.001	1
S4	15.000	15.056	.056	.371	8.6984	.040	1
S5	30.000	29.735	-.265	-.884	17.179	.050	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



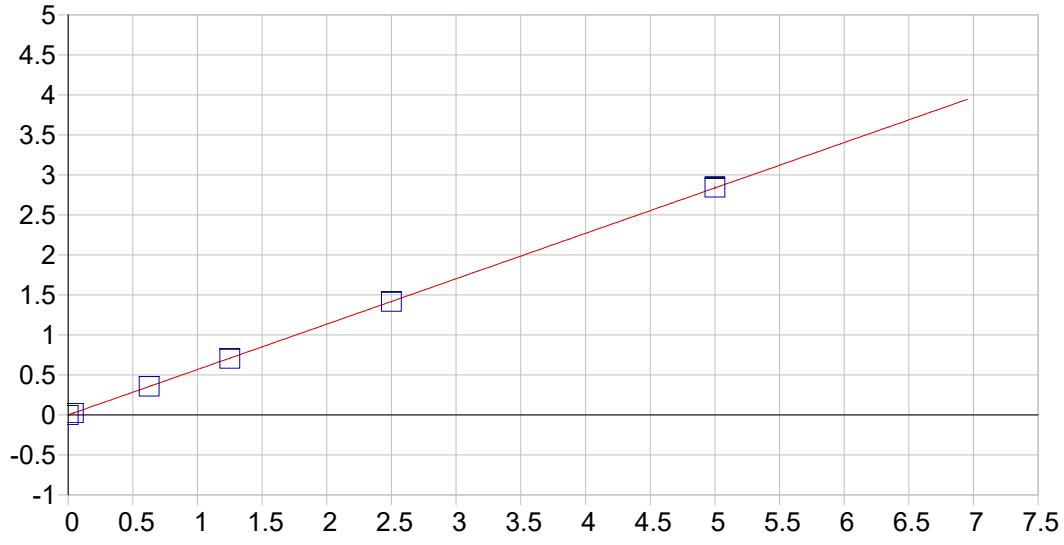
Mg 279.079 {121}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000443	Re-Slope:	1.000000
A1 (Gain):	0.008290	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999407	Status:	OK.
Std Error of Est:	0.000997		
Predicted MDL:	0.039721		
Predicted MQL:	0.132403		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00033	.000	.000	-.00044	.000	1
S1	5.0000	5.3225	.322	6.45	.04368	.000	1
S2	62.500	59.198	-3.30	-5.28	.49032	.002	1
S3	125.00	118.02	-6.98	-5.59	.97795	.004	1
S4	250.00	239.52	-10.5	-4.19	1.9852	.006	1
S5	500.00	492.95	-7.05	-1.41	4.0862	.008	1
S6	800.00	827.49	27.5	3.44	6.8597	.009	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



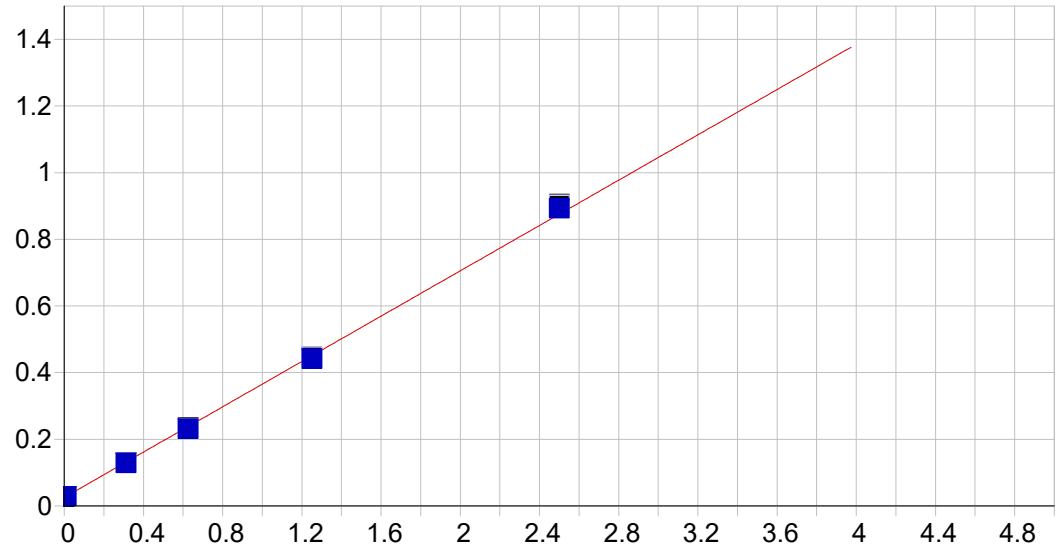
Ni 231.604 {446}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000118	Re-Slope:	1.000000
A1 (Gain):	0.567366	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000110		
Predicted MDL:	0.000633		
Predicted MQL:	0.002110		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00012	.000	1
S1	.04000	.04448	.004	11.2	.02536	.000	1
S2	.62500	.62721	.002	.354	.35598	.001	1
S3	1.2500	1.2395	-.011	-.843	.70335	.002	1
S4	2.5000	2.4944	-.006	-.223	1.4154	.002	1
S5	5.0000	5.0094	.009	.188	2.8423	.009	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



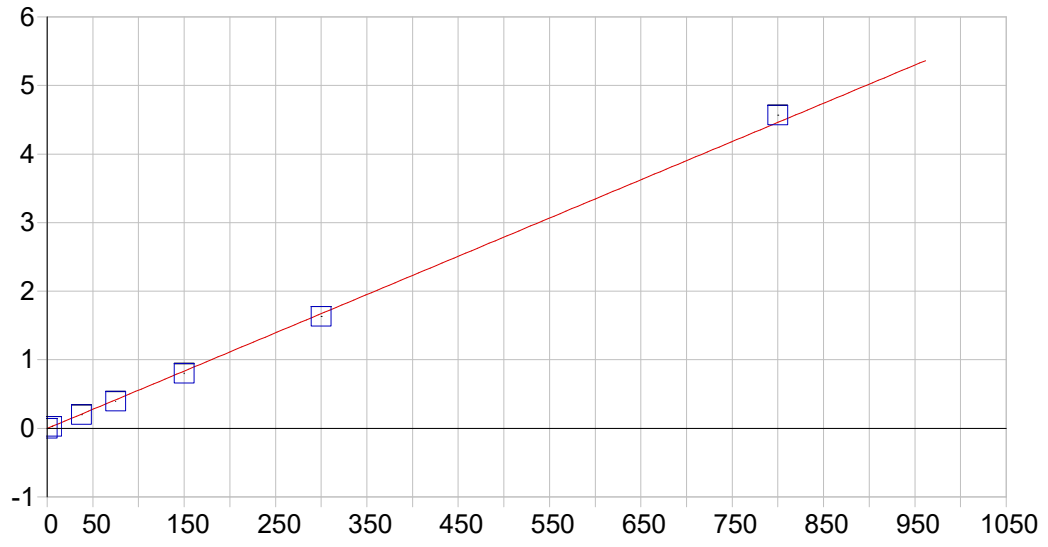
Ag 328.068 {103}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.025496	Re-Slope:	1.000000
A1 (Gain):	0.340031	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999695	Status:	OK.
Std Error of Est:	0.000071		
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	.02550	.000	1
S1	.01000	.01221	.002	22.1	.02964	.000	1
S2	.31250	.30362	-.009	-2.84	.12988	.000	1
S3	.62500	.60577	-.019	-3.08	.23377	.001	1
S4	1.2500	1.2243	-.026	-2.05	.44638	.000	1
S5	2.5000	2.5516	.052	2.06	.90228	.003	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



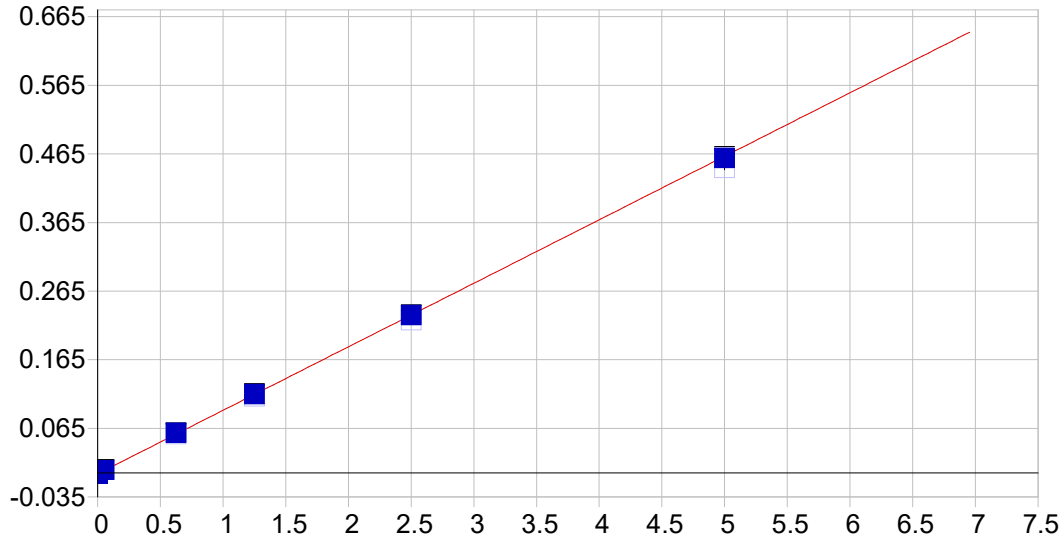
Na 818.326 { 41}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001830	Re-Slope:	1.000000
A1 (Gain):	0.005579	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999588	Status:	OK.
Std Error of Est:	0.000495		
Predicted MDL:	0.353654		
Predicted MQL:	1.178847		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00073	.001	.000	-.00183	.001	1
S1	5.0000	4.9435	-.056	-1.13	.02575	.001	1
S2	37.500	35.965	-1.54	-4.09	.19883	.001	1
S3	75.000	70.978	-4.02	-5.36	.39418	.002	1
S4	150.00	144.08	-5.92	-3.95	.80202	.005	1
S5	300.00	292.77	-7.23	-2.41	1.6316	.001	1
S6	800.00	818.77	18.8	2.35	4.5664	.001	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



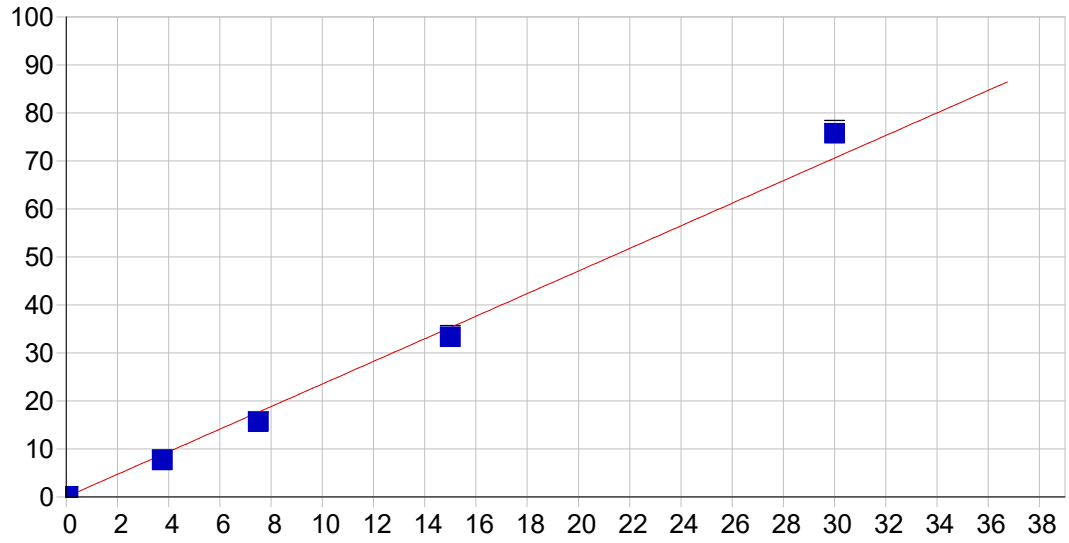
V 292.402 {115}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001375	Re-Slope:	1.000000
A1 (Gain):	0.092591	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999819	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.006585		
Predicted MQL:	0.021951		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00138	.000	1
S1	.05000	.06126	.011	22.5	.00429	.000	1
S2	.62500	.64200	.017	2.72	.05629	.000	1
S3	1.2500	1.2548	.005	.382	.11125	.001	1
S4	2.5000	2.4967	-.003	-.130	.22269	.000	1
S5	5.0000	4.9699	-.030	-.602	.44457	.003	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



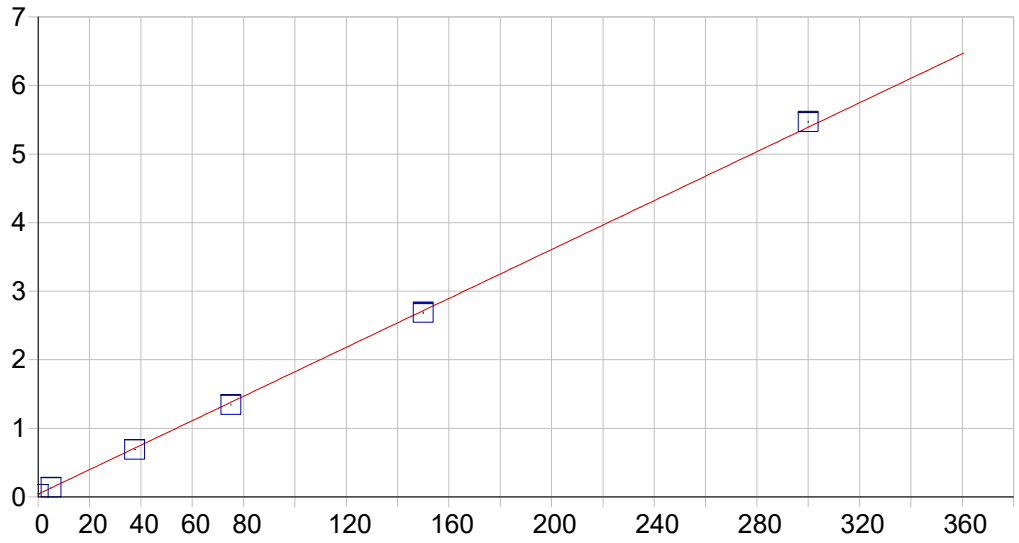
Zn 213.856 {158}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005616	Re-Slope:	1.000000
A1 (Gain):	2.352698	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.996786	Status:	OK.
Std Error of Est:	0.013471		
Predicted MDL:	0.000530		
Predicted MQL:	0.001767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00566	.002	1
S1	.06000	.05702	-.003	-4.97	.14045	.002	1
S2	3.7500	3.2593	-.491	-13.1	7.6844	.046	1
S3	7.5000	6.6595	-.840	-11.2	15.695	.060	1
S4	15.000	14.154	-.846	-5.64	33.349	.288	1
S5	30.000	32.180	2.18	7.27	75.801	.604	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



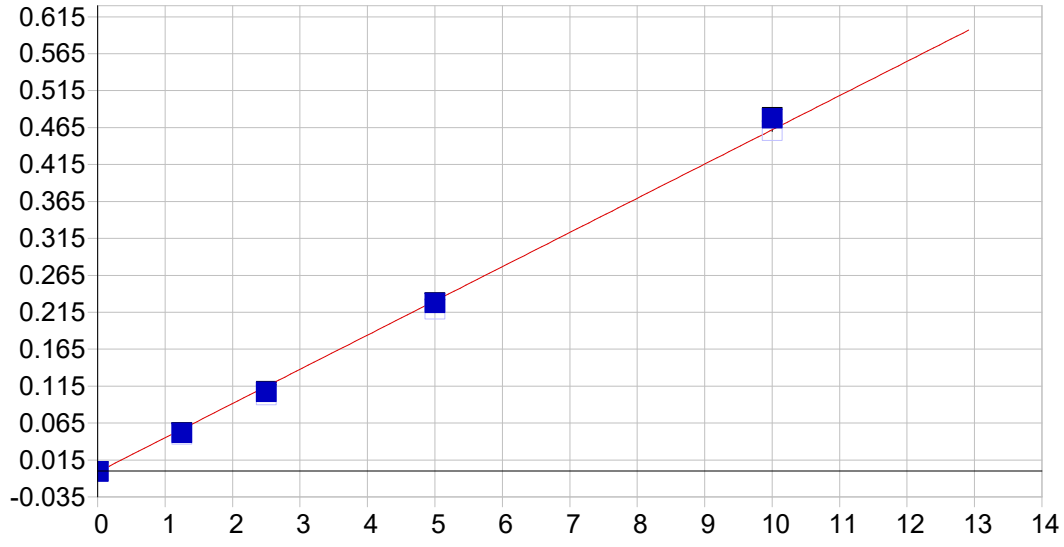
K 769.896 { 44}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.041687	Re-Slope:	1.000000
A1 (Gain):	0.017832	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999821	Status:	OK.
Std Error of Est:	0.000695		
Predicted MDL:	0.138320		
Predicted MQL:	0.461065		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00015	-.000	.000	.04168	.001	1
S1	5.0000	5.4184	.418	8.37	.13831	.001	1
S2	37.500	36.374	-1.13	-3.00	.69032	.001	1
S3	75.000	73.021	-1.98	-2.64	1.3438	.005	1
S4	150.00	148.33	-1.67	-1.11	2.6867	.012	1
S5	300.00	304.36	4.36	1.45	5.4690	.009	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



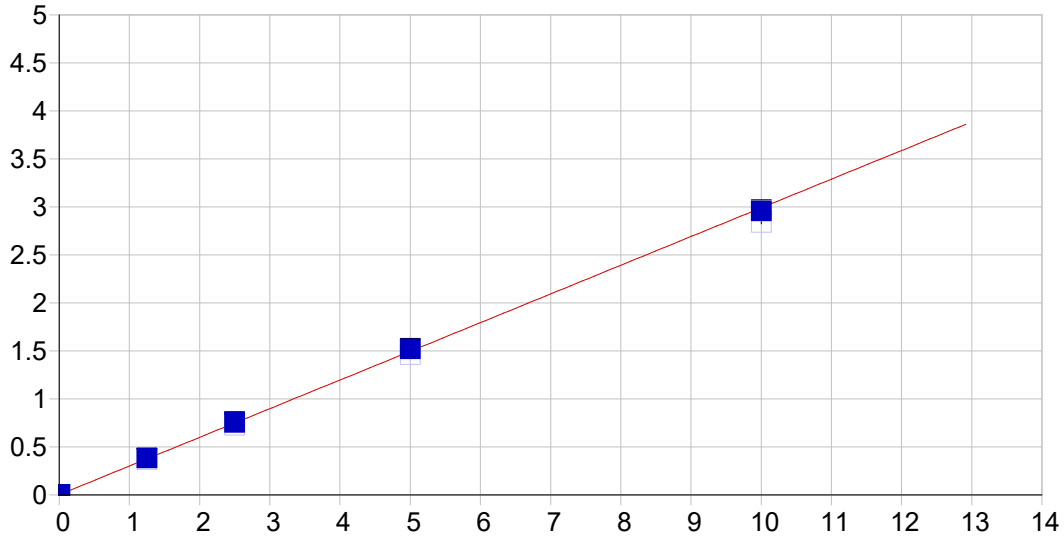
P 177.495 {490}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001223	Re-Slope:	1.000000
A1 (Gain):	0.046319	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999007	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.004154		
Predicted MQL:	0.013847		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00122	.000	1
S1	.01000	.00536	-.005	-46.4	-.00099	.000	1
S2	1.2500	1.1376	-.112	-8.99	.04934	.000	1
S3	2.5000	2.3413	-.159	-6.35	.10297	.001	1
S4	5.0000	4.9367	-.063	-1.27	.21893	.001	1
S5	10.000	10.339	.339	3.39	.46064	.001	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



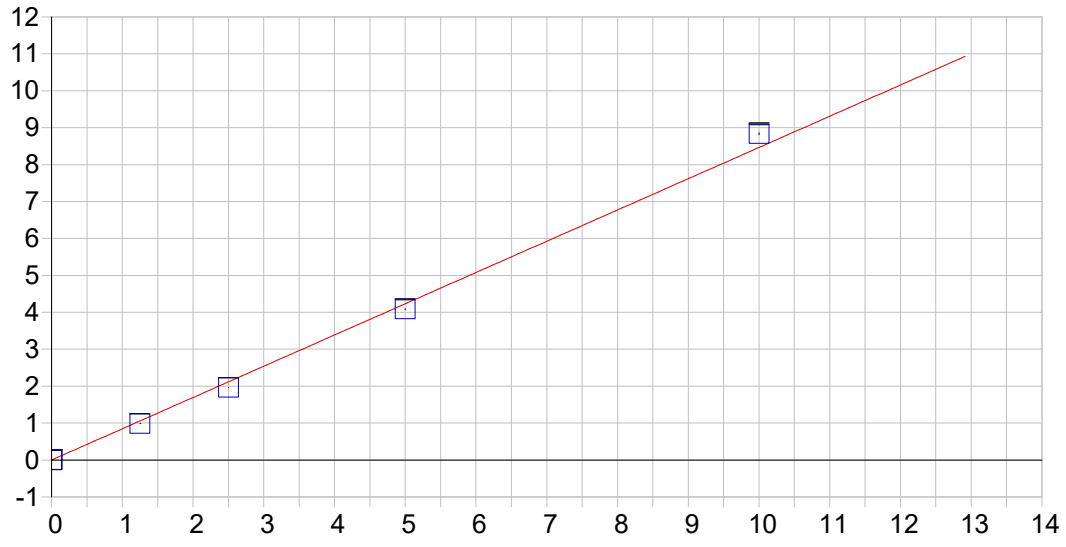
B 249.678 {135}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001962	Re-Slope:	1.000000
A1 (Gain):	0.298794	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999644	Status:	OK.
Std Error of Est:	0.000128		
Predicted MDL:	0.001612		
Predicted MQL:	0.005374		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00196	.000	1
S1	.01000	.00046	-.010	-95.4	.00207	.001	1
S2	1.2500	1.2729	.023	1.83	.36722	.002	1
S3	2.5000	2.5183	.018	.734	.72428	.007	1
S4	5.0000	5.0824	.082	1.65	1.4603	.007	1
S5	10.000	9.8862	-.114	-1.14	2.8353	.012	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



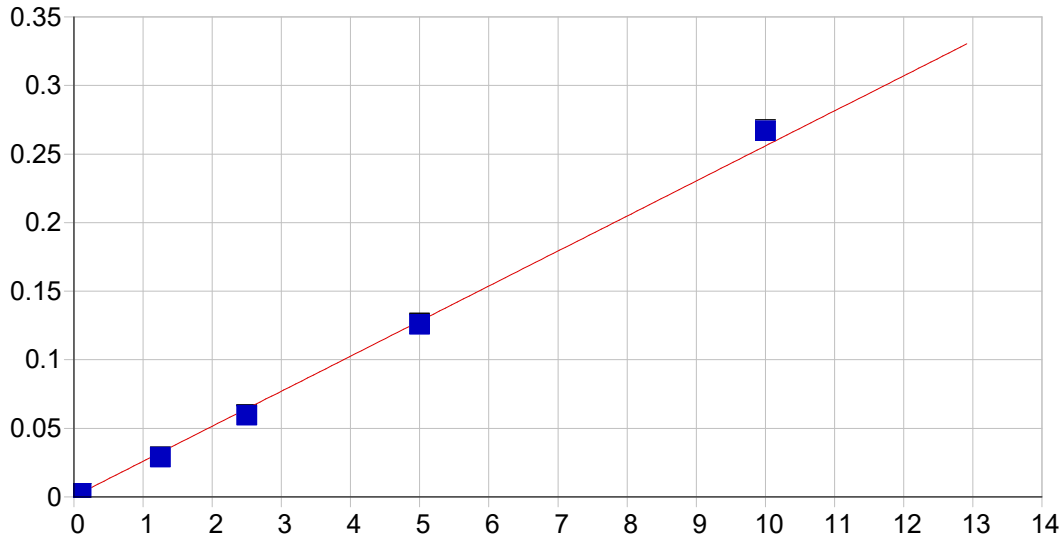
Mo 202.030 {467}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000648	Re-Slope:	1.000000
A1 (Gain):	0.846461	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998805	Status:	OK.
Std Error of Est:	0.000694		
Predicted MDL:	0.000520		
Predicted MQL:	0.001733		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00065	.000	1
S1	.01000	.01080	.001	7.97	.00849	.000	1
S2	1.2500	1.1614	-.089	-7.09	.98245	.002	1
S3	2.5000	2.3193	-.181	-7.23	1.9626	.004	1
S4	5.0000	4.8267	-.173	-3.47	4.0849	.011	1
S5	10.000	10.442	.442	4.42	8.8379	.028	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



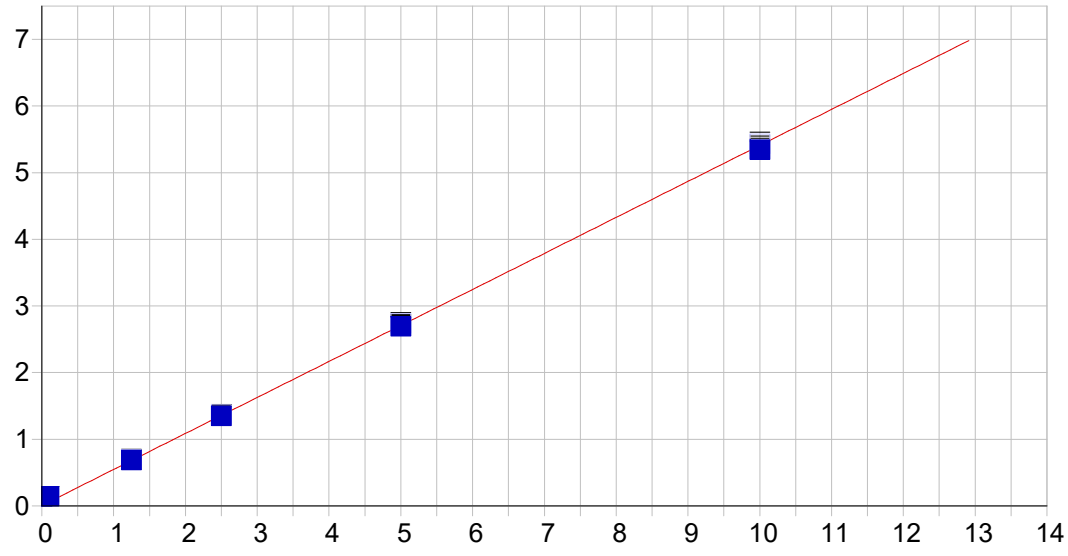
S 182.034 {485}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000430	Re-Slope:	1.000000
A1 (Gain):	0.025549	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998671	Status:	OK.
Std Error of Est:	0.000070		
Predicted MDL:	0.007294		
Predicted MQL:	0.024315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00003	.000	.000	.00043	.000	1
S1	.10000	.08949	-.011	-10.5	.00272	.000	1
S2	1.2500	1.1153	-.135	-10.8	.02893	.000	1
S3	2.5000	2.3103	-.190	-7.59	.05946	.000	1
S4	5.0000	4.9059	-.094	-1.88	.12578	.001	1
S5	10.000	10.429	.429	4.29	.26691	.001	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



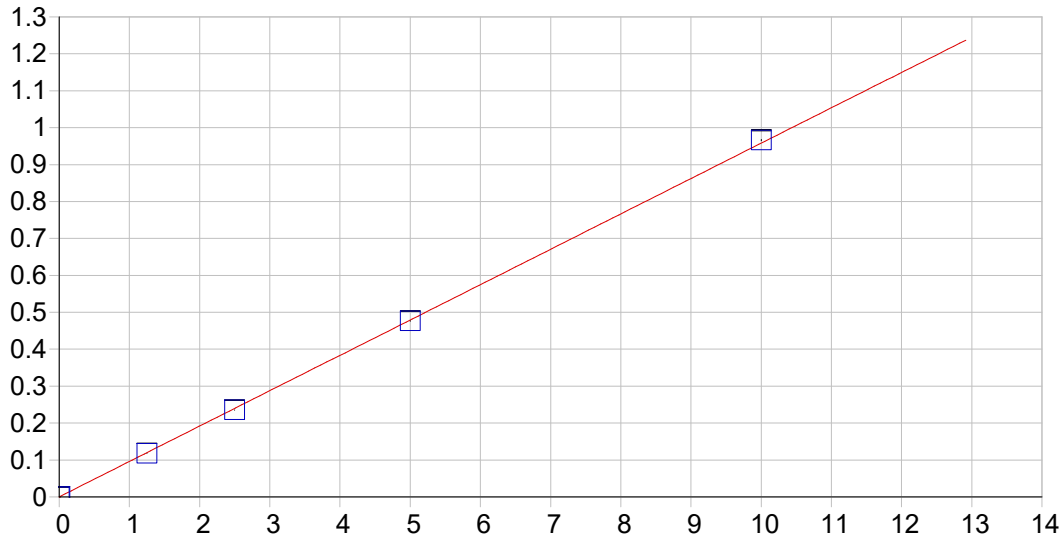
Si 251.611 {134}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005898	Re-Slope:	1.000000
A1 (Gain):	0.540360	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.993690	Status:	OK.
Std Error of Est:	0.003293		
Predicted MDL:	0.000782		
Predicted MQL:	0.002608		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00016	-.000	.000	.00581	.000	1
S1	.10000	.25680	.157	157.	.14502	.000	1
S2	1.2500	1.2603	.010	.822	.69782	.001	1
S3	2.5000	2.4844	-.016	-.622	1.3702	.004	1
S4	5.0000	4.9729	-.027	-.542	2.7368	.013	1
S5	10.000	9.8770	-.123	-1.23	5.4304	.027	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



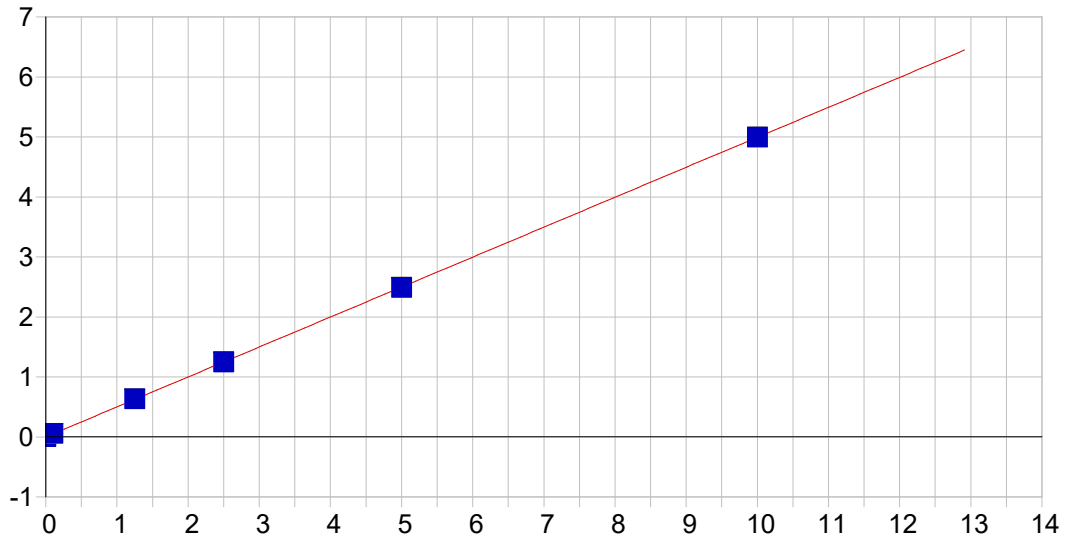
Sn 189.989 {478}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000264	Re-Slope:	1.000000
A1 (Gain):	0.095772	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999948	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.001941		
Predicted MQL:	0.006469		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00026	.000	1
S1	.00700	.00698	-.000	-.244	.00093	.000	1
S2	1.2500	1.2305	-.020	-1.56	.11811	.000	1
S3	2.5000	2.4566	-.043	-1.74	.23554	.001	1
S4	5.0000	4.9747	-.025	-.505	.47671	.001	1
S5	10.000	10.088	.088	.882	.96643	.002	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



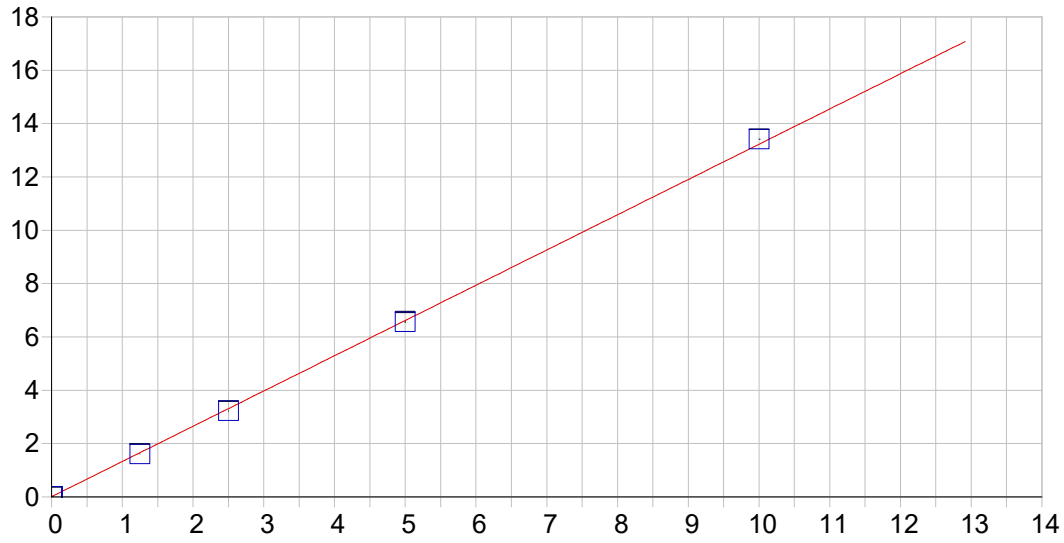
Ti 336.121 {100}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000352	Re-Slope:	1.000000
A1 (Gain):	0.499309	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000216		
Predicted MDL:	0.001373		
Predicted MQL:	0.004576		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00035	.001	1
S1	.10000	.11017	.010	10.2	.05534	.000	1
S2	1.2500	1.2633	.013	1.07	.63083	.002	1
S3	2.5000	2.4922	-.008	-.310	1.2441	.006	1
S4	5.0000	4.9849	-.015	-.302	2.4881	.007	1
S5	10.000	9.9994	-.001	-.006	4.9906	.003	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



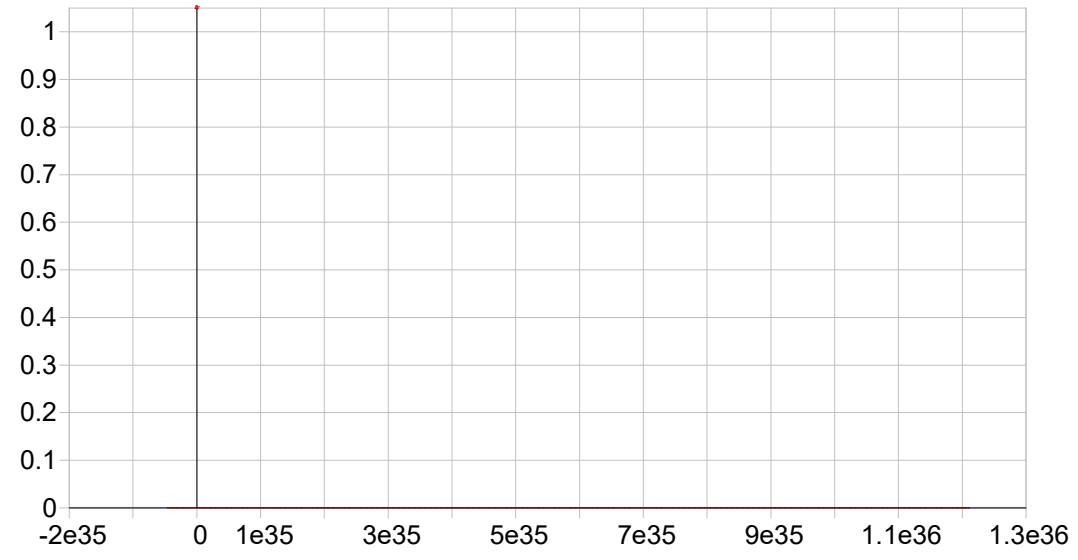
Li 670.784 { 50}

Date of Fit:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006381	Re-Slope:	1.000000
A1 (Gain):	1.321867	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999856	Status:	OK.
Std Error of Est:	0.000460		
Predicted MDL:	0.001483		
Predicted MQL:	0.004944		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00638	.002	1
S5	10.000	10.144	.144	1.44	13.416	.001	1
S4	5.0000	4.9608	-.039	-.784	6.5639	.019	1
S3	2.5000	2.4329	-.067	-2.68	3.2224	.008	1
S2	1.2500	1.2134	-.037	-2.93	1.6103	.005	1
S1	.01500	.01358	-.001	-9.48	.02433	.003	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

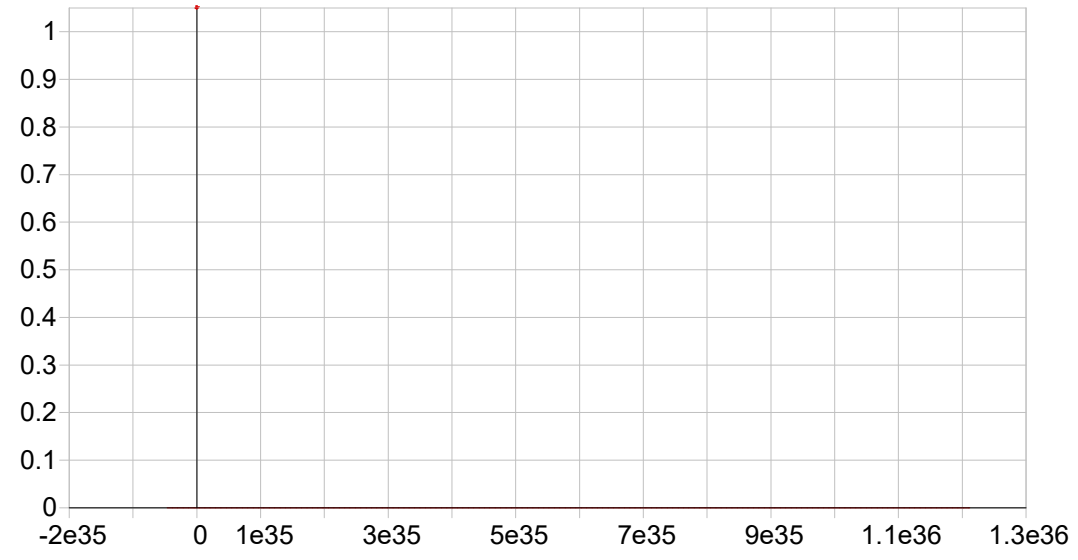


Y 224.306 {450}*

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}*

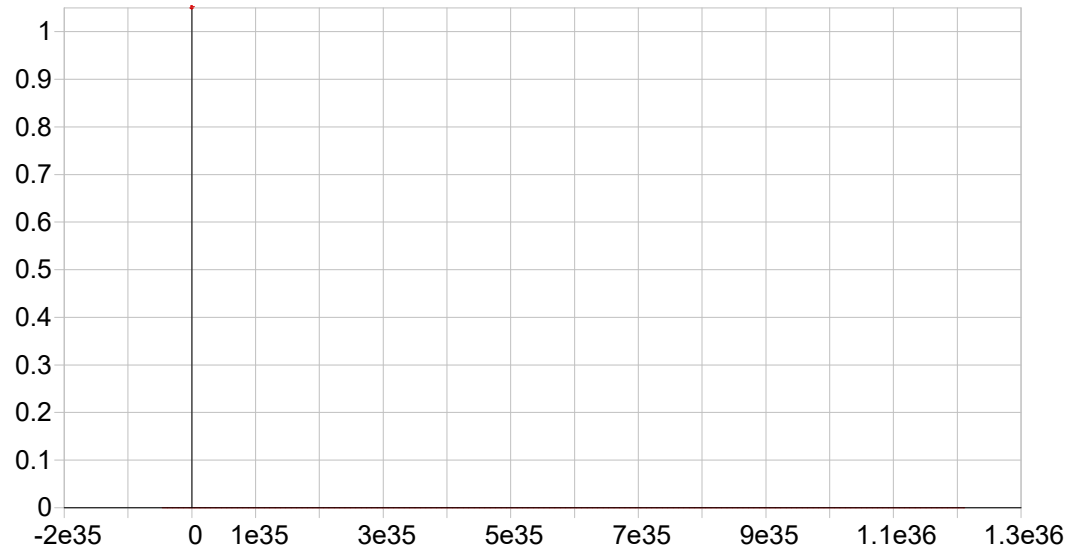
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

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

Reviewed By:kareem
On:11/19/2024 9:24:48 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



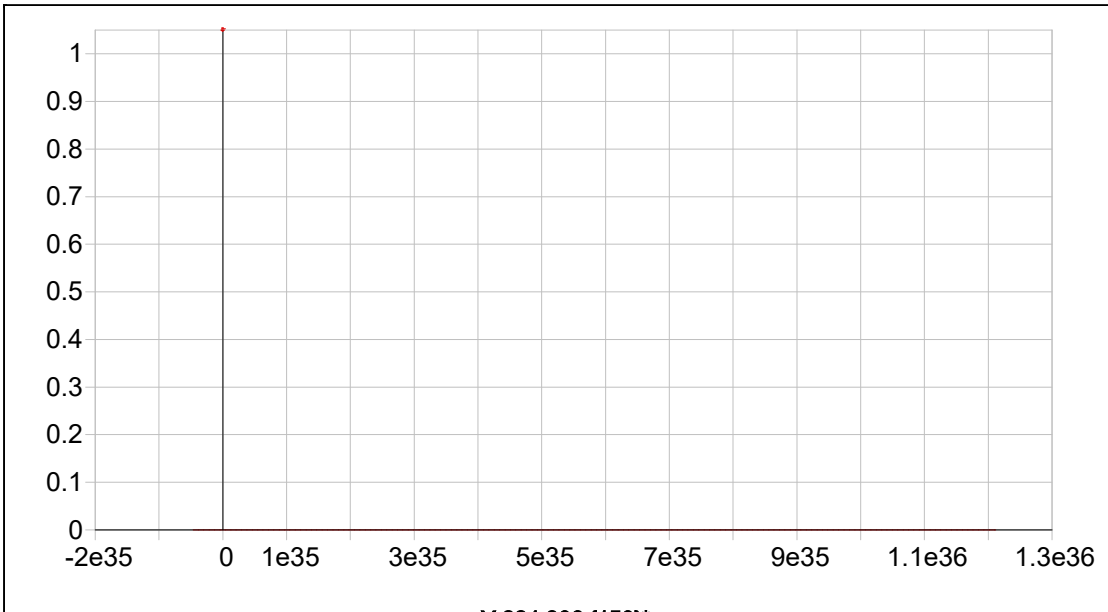
Y 371.030 { 91}*

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

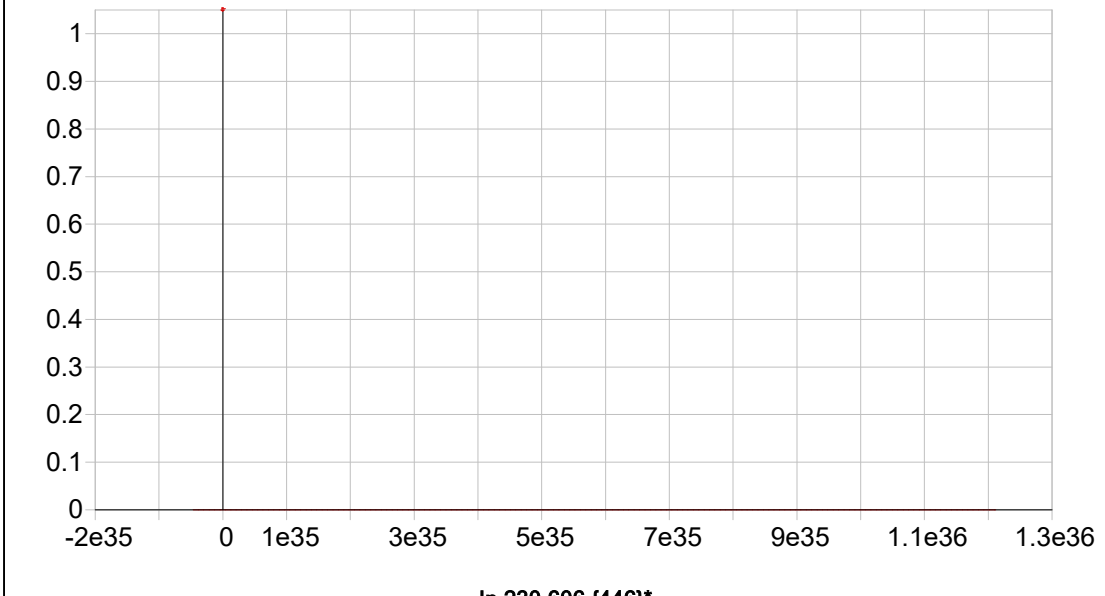
Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5



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



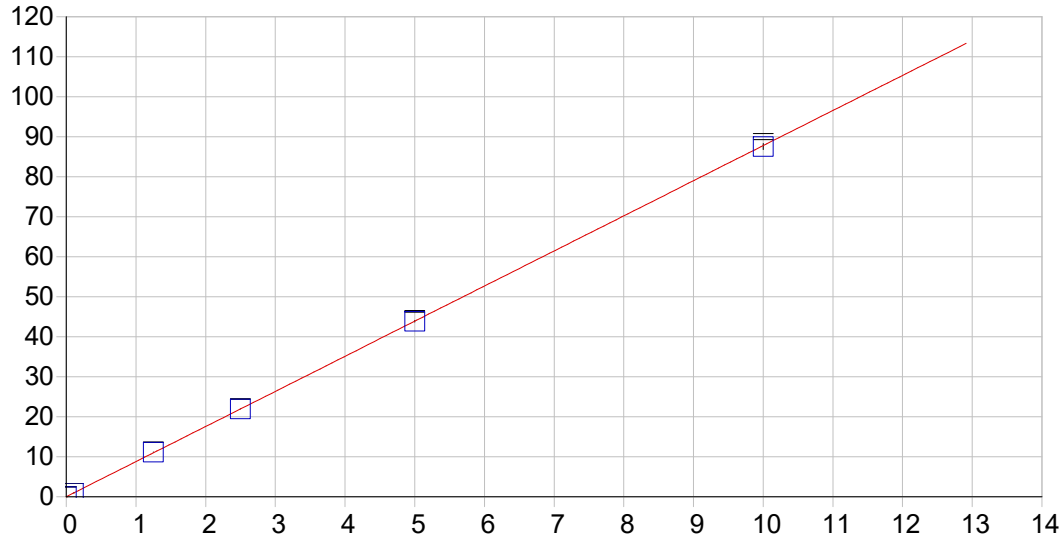
In 230.606 {446}*

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:kareem
On:11/19/2024 9:24:48 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:	11/18/2024 4:36:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004091	Re-Slope:	1.000000
A1 (Gain):	8.777749	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.004696		
Predicted MDL:	0.000110		
Predicted MQL:	0.000365		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00397	.001	1
S1	.10000	.11256	.013	12.6	.99211	.001	1
S2	1.2500	1.2677	.018	1.42	11.132	.035	1
S3	2.5000	2.5005	.000	.018	21.952	.043	1
S4	5.0000	4.9974	-.003	-.052	43.870	.219	1
S5	10.000	9.9719	-.028	-.281	87.535	.759	1

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S0 Acquired: 11/18/2024 6:56:00 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	.00001	-.00031	-.00060	.00043	.00018	-.00229	.00344	-.00127
Stddev	.00008	.00012	.00007	.00025	.00031	.00114	.00152	.00027
%RSD	878.68	37.910	11.089	57.493	172.09	49.695	44.118	21.044
#1	.00002	-.00039	-.00060	.00019	.00052	-.00258	.00264	-.00118
#2	-.00007	-.00017	-.00053	.00069	-.00009	-.00326	.00519	-.00157
#3	.00008	-.00036	-.00066	.00043	.00012	-.00104	.00249	-.00105

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	.00051	.00563	-.00028	-.00042	.00231	.00016	-.00011	-.00044
Stddev	.00037	.00078	.00011	.00022	.00050	.00010	.00014	.00008
%RSD	73.433	13.803	38.239	53.332	21.620	64.597	128.71	18.931
#1	.00039	.00584	-.00028	-.00050	.00183	.00009	-.00018	-.00043
#2	.00093	.00628	-.00038	-.00059	.00227	.00011	.00005	-.00053
#3	.00021	.00477	-.00017	-.00017	.00283	.00027	-.00018	-.00036

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	.00012	.02550	-.00183	-.00138	.00566	.04168	-.00122	.00196
Stddev	.00045	.00008	.00103	.00014	.00172	.00055	.00010	.00012
%RSD	392.43	.29855	56.357	10.013	30.441	1.3299	8.4647	5.9063
#1	-.00015	.02541	-.00071	-.00147	.00706	.04232	-.00116	.00183
#2	-.00014	.02552	-.00202	-.00145	.00617	.04130	-.00134	.00205
#3	.00064	.02556	-.00274	-.00122	.00374	.04143	-.00117	.00201

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	-.00065	.00043	.00581	.00026	.00035	.00638	.00397
Stddev	.00027	.00020	.00029	.00011	.00062	.00187	.00086
%RSD	41.445	46.652	4.9557	41.949	179.41	29.345	21.754
#1	-.00056	.00020	.00607	.00037	.00080	.00475	.00298
#2	-.00044	.00055	.00550	.00027	.00060	.00598	.00439
#3	-.00095	.00055	.00587	.00015	-.00036	.00843	.00455

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S0 Acquired: 11/18/2024 6:56:00 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	980.29	26432.	5302.9	822.60	1824.0
Stddev	2.92	67.	6.4	4.01	4.4
%RSD	.29783	.25301	.12124	.48777	.24310
#1	976.97	26497.	5303.1	823.90	1819.3
#2	982.46	26363.	5309.3	818.09	1828.1
#3	981.44	26436.	5296.4	825.79	1824.6

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S1 Acquired: 11/18/2024 7:00:36 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	.00020	.00118	.00047	.00251	.01069	.01503	.82025	.01539
Stddev	.00009	.00018	.00038	.00020	.00019	.00037	.00116	.00032
%RSD	45.567	15.572	80.865	7.9554	1.7701	2.4302	.14135	2.0665
#1	.00025	.00097	.00004	.00246	.01084	.01507	.82019	.01573
#2	.00010	.00131	.00064	.00234	.01048	.01537	.81912	.01535
#3	.00027	.00125	.00075	.00273	.01076	.01465	.82144	.01509

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	.01115	.44096	.00172	.03193	.00863	.00258	.01007	.04368
Stddev	.00037	.00116	.00013	.00026	.00029	.00028	.00013	.00048
%RSD	3.3150	.26284	7.7581	.81536	3.3796	10.974	1.2810	1.1011
#1	.01141	.44148	.00177	.03175	.00838	.00268	.01013	.04378
#2	.01132	.44178	.00157	.03181	.00895	.00226	.01017	.04410
#3	.01073	.43964	.00182	.03223	.00854	.00280	.00993	.04316

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	.02536	.02964	.02575	.00429	.14045	.13831	-.00099	.00207
Stddev	.00027	.00015	.00130	.00030	.00219	.00104	.00018	.00062
%RSD	1.0664	.49637	5.0640	7.0974	1.5600	.75276	17.773	30.032
#1	.02554	.02967	.02548	.00413	.13955	.13757	-.00080	.00172
#2	.02505	.02948	.02717	.00464	.14295	.13786	-.00102	.00279
#3	.02548	.02977	.02460	.00409	.13885	.13950	-.00114	.00170

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	.00849	.00272	.14502	.00093	.05534	.02433	.99211
Stddev	.00025	.00016	.00034	.00015	.00044	.00316	.00140
%RSD	2.9541	5.7980	.23550	16.200	.79105	12.978	.14128
#1	.00876	.00274	.14481	.00095	.05533	.02460	.99368
#2	.00844	.00286	.14542	.00108	.05579	.02105	.99098
#3	.00827	.00255	.14485	.00078	.05491	.02734	.99169

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S1 Acquired: 11/18/2024 7:00:36 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	976.46	26276.	5325.7	818.83	1781.7
Stddev	2.32	76.	4.8	2.74	3.4
%RSD	.23799	.28838	.09099	.33467	.19175
#1	974.32	26273.	5323.4	821.20	1778.0
#2	978.93	26354.	5331.3	819.46	1782.3
#3	976.15	26202.	5322.5	815.83	1784.8

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S2 Acquired: 11/18/2024 7:05:09 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	.02755	.07976	.86040	.07355	.20866	3.0763	9.0760	.36301
Stddev	.00039	.00025	.00076	.00035	.00065	.0082	.0248	.00086
%RSD	1.4306	.31420	.08835	.47059	.31090	.26576	.27359	.23739
#1	.02714	.08004	.86008	.07341	.20905	3.0700	9.0473	.36300
#2	.02793	.07964	.86127	.07394	.20902	3.0734	9.0888	.36215
#3	.02760	.07959	.85985	.07329	.20791	3.0855	9.0918	.36387

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	1.2274	4.8406	.64101	.37937	.82673	.81599	2.2445	.49032
Stddev	.0016	.0116	.00074	.00033	.00201	.00186	.0102	.00217
%RSD	.13345	.24034	.11489	.08674	.24361	.22792	.45614	.44207
#1	1.2258	4.8273	.64169	.37914	.82547	.81528	2.2328	.49051
#2	1.2291	4.8491	.64023	.37975	.82567	.81459	2.2521	.48807
#3	1.2274	4.8453	.64111	.37922	.82905	.81810	2.2484	.49239

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	.35598	.12988	.19883	.05629	7.6844	.69032	.04934	.36722
Stddev	.00085	.00033	.00136	.00046	.0457	.00134	.00044	.00194
%RSD	.23805	.25508	.68238	.81671	.59462	.19387	.88192	.52801
#1	.35585	.12952	.19951	.05577	7.6823	.68882	.04962	.36874
#2	.35520	.13016	.19971	.05664	7.6399	.69140	.04957	.36504
#3	.35688	.12996	.19727	.05646	7.7312	.69073	.04884	.36789

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	.98245	.02893	.69782	.11811	.63083	1.6103	11.132
Stddev	.00166	.00018	.00130	.00027	.00178	.0049	.035
%RSD	.16858	.62943	.18586	.22709	.28205	.30135	.31213
#1	.98367	.02910	.69872	.11832	.63087	1.6158	11.092
#2	.98312	.02874	.69841	.11820	.62903	1.6069	11.147
#3	.98056	.02895	.69634	.11780	.63259	1.6081	11.156

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S2 Acquired: 11/18/2024 7:05:09 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	924.67	25356.	5310.0	762.88	1589.8
Stddev	1.04	22.	5.5	4.41	.4
%RSD	.11202	.08630	.10418	.57829	.02336
#1	923.54	25370.	5315.3	763.14	1590.0
#2	925.57	25366.	5310.5	767.16	1590.1
#3	924.88	25330.	5304.2	758.35	1589.4

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S3 Acquired: 11/18/2024 7:09:25 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	.05582	.15521	1.7047	.14626	.42072	6.1411	17.963	.72036
Stddev	.00014	.00038	.0035	.00093	.00207	.0269	.038	.00207
%RSD	.25607	.24559	.20768	.63471	.49287	.43769	.21078	.28793
#1	.05598	.15533	1.7087	.14694	.42247	6.1686	17.971	.72036
#2	.05576	.15478	1.7031	.14664	.41843	6.1149	17.921	.72243
#3	.05571	.15552	1.7022	.14520	.42126	6.1399	17.996	.71829

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	2.4249	9.5629	1.2544	.75656	1.6316	1.5917	4.3746	.97795
Stddev	.0055	.0168	.0005	.00293	.0044	.0090	.0013	.00374
%RSD	.22691	.17591	.03925	.38777	.27045	.56459	.03067	.38272
#1	2.4297	9.5727	1.2546	.75953	1.6364	1.6007	4.3759	.98198
#2	2.4261	9.5435	1.2539	.75649	1.6278	1.5827	4.3732	.97459
#3	2.4189	9.5725	1.2548	.75366	1.6305	1.5917	4.3746	.97727

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	.70335	.23377	.39418	.11125	15.695	1.3438	.10297	.72428
Stddev	.00200	.00110	.00203	.00094	.060	.0052	.00065	.00745
%RSD	.28451	.47035	.51532	.84180	.37925	.38611	.63190	1.0279
#1	.70522	.23355	.39584	.11156	15.752	1.3468	.10301	.73187
#2	.70124	.23279	.39479	.11020	15.699	1.3378	.10230	.72397
#3	.70359	.23496	.39191	.11199	15.633	1.3468	.10360	.71699

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	1.9626	.05946	1.3702	.23554	1.2441	3.2224	21.952
Stddev	.0040	.00049	.0043	.00057	.0061	.0084	.043
%RSD	.20299	.82317	.31682	.24006	.49116	.26176	.19436
#1	1.9650	.05998	1.3739	.23600	1.2509	3.2297	21.990
#2	1.9580	.05901	1.3714	.23491	1.2390	3.2132	21.906
#3	1.9647	.05940	1.3654	.23570	1.2426	3.2243	21.961

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S3 Acquired: 11/18/2024 7:09:25 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	883.92	24655.	5211.8	712.66	1508.5
Stddev	1.24	44.	26.6	4.11	3.2
%RSD	.14036	.18031	.50942	.57683	.21469
#1	882.76	24620.	5182.0	707.92	1505.6
#2	885.23	24705.	5220.3	715.05	1507.8
#3	883.76	24641.	5233.0	715.03	1512.0

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S4 Acquired: 11/18/2024 7:13:40 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	.11480	.31089	3.4215	.30479	.89025	12.577	36.126	1.4227
Stddev	.00026	.00071	.0060	.00137	.00431	.050	.095	.0084
%RSD	.22793	.22783	.17434	.45068	.48384	.39643	.26292	.58853
#1	.11451	.31075	3.4150	.30364	.88615	12.596	36.149	1.4164
#2	.11488	.31026	3.4227	.30442	.88987	12.614	36.208	1.4322
#3	.11501	.31166	3.4268	.30631	.89474	12.520	36.022	1.4196

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	4.8508	19.149	2.5008	1.5279	3.2734	3.1505	8.6984	1.9852
Stddev	.0094	.042	.0015	.0014	.0119	.0097	.0399	.0059
%RSD	.19448	.22060	.06027	.09104	.36312	.30616	.45821	.29798
#1	4.8402	19.170	2.5012	1.5263	3.2781	3.1472	8.7283	1.9817
#2	4.8583	19.176	2.4991	1.5284	3.2822	3.1613	8.7138	1.9921
#3	4.8539	19.100	2.5020	1.5289	3.2598	3.1429	8.6532	1.9819

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	1.4154	.44638	.80202	.22269	33.349	2.6867	.21893	1.4603
Stddev	.0016	.00038	.00452	.00049	.288	.0122	.00059	.0067
%RSD	.11502	.08582	.56370	.21834	.86381	.45466	.26766	.45648
#1	1.4139	.44682	.80140	.22282	33.599	2.6910	.21958	1.4626
#2	1.4171	.44621	.80682	.22309	33.415	2.6962	.21844	1.4654
#3	1.4151	.44612	.79784	.22215	33.034	2.6729	.21876	1.4527

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	4.0849	.12578	2.7368	.47671	2.4881	6.5639	43.870
Stddev	.0115	.00088	.0129	.00094	.0065	.0192	.219
%RSD	.28066	.70189	.47254	.19620	.26239	.29313	.49911
#1	4.0792	.12532	2.7354	.47567	2.4910	6.5672	43.620
#2	4.0775	.12523	2.7503	.47749	2.4927	6.5812	43.964
#3	4.0981	.12680	2.7246	.47695	2.4806	6.5432	44.027

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S4 Acquired: 11/18/2024 7:13:40 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	814.13	23662.	5088.6	633.18	1407.7
Stddev	1.49	74.	11.8	5.60	3.9
%RSD	.18258	.31133	.23106	.88407	.27459
#1	815.83	23635.	5075.1	627.07	1411.1
#2	813.45	23745.	5094.8	634.40	1403.5
#3	813.10	23605.	5096.0	638.07	1408.6

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S5 Acquired: 11/18/2024 7:18:01 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	.24593	.61345	6.9331	.68055	1.9939	25.827	71.818	2.8401
Stddev	.00069	.00152	.0206	.00190	.0116	.031	.568	.0136
%RSD	.27866	.24808	.29715	.27989	.57941	.11990	.79113	.47821
#1	.24539	.61217	6.9163	.67862	2.0024	25.804	71.263	2.8274
#2	.24670	.61304	6.9270	.68061	1.9807	25.862	72.399	2.8544
#3	.24568	.61513	6.9561	.68243	1.9986	25.814	71.791	2.8385

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	9.7328	38.262	4.9166	3.0792	6.6030	6.2940	17.179	4.0862
Stddev	.0350	.125	.0037	.0127	.0075	.0086	.050	.0082
%RSD	.35950	.32633	.07453	.41152	.11383	.13670	.28885	.20050
#1	9.7063	38.118	4.9141	3.0691	6.5980	6.2841	17.124	4.0787
#2	9.7196	38.328	4.9149	3.0752	6.6117	6.2990	17.218	4.0950
#3	9.7725	38.340	4.9208	3.0934	6.5995	6.2990	17.197	4.0849

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	2.8423	.90228	1.6316	.44457	75.801	5.4690	.46064	2.8353
Stddev	.0094	.00325	.0013	.00276	.604	.0092	.00097	.0125
%RSD	.33043	.35971	.08083	.62099	.79693	.16756	.20962	.43946
#1	2.8355	.90401	1.6316	.44211	75.227	5.4584	.46044	2.8231
#2	2.8384	.89854	1.6330	.44404	76.431	5.4751	.45980	2.8480
#3	2.8530	.90430	1.6303	.44756	75.744	5.4734	.46169	2.8348

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	8.8379	.26691	5.4304	.96643	4.9906	13.416	87.535
Stddev	.0285	.00078	.0273	.00191	.0027	.001	.759
%RSD	.32246	.29166	.50232	.19743	.05324	.00982	.86765
#1	8.8594	.26666	5.4062	.96488	4.9880	13.414	86.703
#2	8.8056	.26628	5.4600	.96586	4.9933	13.417	88.191
#3	8.8487	.26778	5.4251	.96856	4.9906	13.416	87.710

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S5 Acquired: 11/18/2024 7:18:01 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	704.43	22601.	5028.1	502.32	1288.4
Stddev	1.19	47.	30.4	4.47	3.4
%RSD	.16942	.20696	.60439	.88890	.26284
#1	703.41	22645.	5061.0	506.88	1291.8
#2	705.74	22605.	5001.1	497.95	1288.4
#3	704.13	22552.	5022.3	502.15	1285.0

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: S6 Acquired: 11/18/2024 7:22:28 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) 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	71.024	62.439	17.381	6.8597	4.5664
Stddev	.481	.844	.022	.0090	.0006
%RSD	.67781	1.3524	.12693	.13185	.01303
#1	71.577	63.254	17.376	6.8689	4.5658
#2	70.695	62.496	17.405	6.8593	4.5663
#3	70.802	61.568	17.362	6.8508	4.5670

Int. Std.	Y_3710
Units	Cts/S
Avg	4923.9
Stddev	30.5
%RSD	.61875
#1	4895.1
#2	4920.9
#3	4955.8

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICV004 Acquired: 11/18/2024 7:56:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV004 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.045184	1.066495	.9783975	.9661449	.9488908	2.379661
Stddev	.001994	.002731	.0031944	.0058004	.0027337	.010007
%RSD	.1908265	.2560781	.3264902	.6003698	.2880989	.4205195
#1	1.042906	1.067675	.9801996	.9671823	.9457633	2.390394
#2	1.046025	1.063372	.9747093	.9713566	.9508256	2.378001
#3	1.046619	1.068437	.9802836	.9598957	.9500834	2.370588

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5182353	.5231061	.4949617	9.910348	.5536034	.4953313
Stddev	.0013520	.0027598	.0004406	.055559	.0016709	.0015350
%RSD	.2608807	.5275759	.0890096	.5606200	.3018252	.3098985
#1	.5178000	.5201636	.4947158	9.854817	.5529300	.4942684
#2	.5197512	.5256369	.4946989	9.910293	.5555059	.4946343
#3	.5171545	.5235179	.4954703	9.965935	.5523742	.4970912

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4866379	10.25727	.5269599	5.825449	.5046932	.2345018
Stddev	.0023079	.04436	.0037330	.042841	.0016053	.0008090
%RSD	.4742527	.4324375	.7084094	.7354125	.3180760	.3449964
#1	.4851570	10.21557	.5227659	5.789232	.5062586	.2352410
#2	.4892971	10.30388	.5281949	5.872740	.5030508	.2346268
#3	.4854596	10.25237	.5299189	5.814374	.5047701	.2336375

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.032182	.5429087	.9333217	10.38295	F .0016316	F .0108150
Stddev	.283300	.0019975	.0079127	.05229	.0040107	.0011669
%RSD	3.136560	.3679162	.8478044	.5035922	245.8048	10.78958
#1	8.729844	.5406918	.9400464	10.44291	.0054797	.0096302
#2	9.075173	.5445684	.9353163	10.35909	-.002524	.0119631
#3	9.291530	.5434659	.9246026	10.34685	.001939	.0108516

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICV004 Acquired: 11/18/2024 7:56:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV004 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.000392	F -.001482	F .0009835	F -.000726	F -.000312	F .0026189
Stddev	.000483	.005931	.0003734	.001262	.000364	.0015319
%RSD	123.1941	400.1032	37.96427	173.8822	116.7242	58.49395
#1	-.000385	.004508	.0012366	.000613	-.000534	.0008767
#2	.000087	-.007352	.0011593	-.001894	.000108	.0032249
#3	-.000878	-.001603	.0005547	-.000896	-.000510	.0037551

Elem	Sr4077
Units	ppm
Avg	F .0012820
Stddev	.0000628
%RSD	4.899690
#1	.0012108
#2	.0013293
#3	.0013060

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	978.2927	26393.14	5335.934	819.9940	1770.594
Stddev	1.6481	50.93	18.427	6.1534	3.883
%RSD	.1684696	.1929733	.3453356	.7504145	.2192964
#1	976.8997	26338.77	5357.175	813.3743	1766.621
#2	977.8663	26400.91	5324.230	821.0681	1774.380
#3	980.1122	26439.74	5326.398	825.5396	1770.781

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICB004 Acquired: 11/18/2024 8:00:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB004 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003433	.0008292	-.000737	.0017005	.0008512	-.014782	-.000716
Stddev	.013017	.0023829	.000717	.0030116	.0008869	.010192	.000950
%RSD	379.1869	287.3912	97.26574	177.1026	104.1915	68.94756	132.7560
#1	-.010220	-.000716	-.000426	.0041475	.0001910	-.019411	-.001310
#2	.011575	-.000369	-.001557	.0026167	.0018594	-.021836	-.001217
#3	-.011654	.003573	-.000228	-.001663	.0005033	-.003097	.000380

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000003	-.000001	.0072404	.0008215	-.000329	-.000479	.0027946
Stddev	.000212	.000074	.0085449	.0007510	.000578	.001794	.0121829
%RSD	7685.028	8693.142	118.0175	91.42350	175.5375	374.3121	435.9464
#1	.000065	.000051	-.002082	-.000012	-.000996	.000810	.0124415
#2	.000167	.000032	.009103	.001445	.000020	-.002527	.0068381
#3	-.000240	-.000085	.014700	.001032	-.000011	.000280	-.010896

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005700	.0420136	.0005814	.0000665	-.153798	.0024450	-.000443
Stddev	.0004740	.0395455	.0004073	.0007094	.105126	.0010520	.000330
%RSD	83.16495	94.12546	70.04642	1066.141	68.35320	43.02747	74.41872
#1	.0008605	.0545884	.0009671	.0008616	-.234502	.0014163	-.000446
#2	.0000230	.0737426	.0006215	-.000160	-.191975	.0023998	-.000771
#3	.0008264	-.002290	.0001556	-.000502	-.034918	.0035189	-.000112

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.051053	-.001939	.0012144	.0006565	-.003324	-.000732	.0001929
Stddev	.107127	.001229	.0013738	.0001574	.001719	.000605	.0008707
%RSD	209.8341	63.38154	113.1248	23.96642	51.72328	82.61820	451.3270
#1	-.052349	-.002936	.0027344	.0007782	-.001383	-.000034	.0011870
#2	-.157527	-.000566	.0000615	.0007125	-.004657	-.001070	-.000174
#3	.056716	-.002315	.0008472	.0004789	-.003931	-.001092	-.000434

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICB004 Acquired: 11/18/2024 8:00:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB004 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0014107	.0013874	-.000078
Stddev	.0008975	.0006850	.000014
%RSD	63.62358	49.37688	17.56299
#1	.0010256	.0008124	-.000064
#2	.0007700	.0012043	-.000092
#3	.0024365	.0021453	-.000079

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	983.2272	26440.37	5314.095	823.4928	1833.593
Stddev	2.0846	61.89	16.378	3.5394	2.749
%RSD	.2120201	.2340786	.3081949	.4298068	.1499487
#1	984.3435	26385.20	5301.964	820.0399	1830.421
#2	980.8221	26428.60	5307.596	827.1128	1835.077
#3	984.5159	26507.30	5332.725	823.3257	1835.281

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICSA004 Acquired: 11/18/2024 8:05:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA004 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086230	-.012408	-.006464	-.006940	.0039398	233.5705
Stddev	.0099711	.002840	.001341	.004580	.0049244	.8710
%RSD	115.6343	22.88847	20.73907	65.98893	124.9928	.3728909
#1	.0102272	-.015481	-.007860	-.011103	-.001578	232.7495
#2	-.002053	-.009879	-.005187	-.007683	.007888	233.4780
#3	.017695	-.011865	-.006347	-.002034	.005509	234.4840

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048916	.0009447	.0005763	245.8598	.0531011	-.002007
Stddev	.0001314	.0001344	.0001774	.4984	.0011208	.000512
%RSD	2.685815	14.22506	30.78678	.2027071	2.110762	25.48927
#1	.0049115	.0010175	.0007767	245.2851	.0518195	-.001487
#2	.0050120	.0007896	.0004392	246.1718	.0538982	-.002510
#3	.0047515	.0010268	.0005131	246.1227	.0535856	-.002024

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005453	99.90835	.0127735	237.3065	.0042492	.0063524
Stddev	.002088	.41683	.0006081	1.2212	.0003869	.0003871
%RSD	38.29950	.4172110	4.760676	.5145947	9.104745	6.093335
#1	-.007375	99.45566	.0123601	235.9064	.0038545	.0063979
#2	-.003231	99.99310	.0124885	237.8608	.0046277	.0059446
#3	-.005753	100.2763	.0134717	238.1521	.0042653	.0067147

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5899618	-.000003	.0111981	-.243560	.0015504	F .0761028
Stddev	.3846373	.006836	.0006897	.126044	.0017202	.0031519
%RSD	65.19698	246333.3	6.158820	51.75046	110.9549	4.141620
#1	.2006495	-.007876	.0105171	-.342270	-.000384	.0727692
#2	.9697470	.003441	.0118961	-.101581	.002909	.0765048
#3	.5994888	.004427	.0111812	-.286830	.002126	.0790344

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICSA004 Acquired: 11/18/2024 8:05:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA004 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001571	-.005413	-.000194	F -.008488	-.002142	.0030592
Stddev	.000320	.003332	.000211	.000808	.000730	.0008286
%RSD	20.37887	61.56812	108.8064	9.519109	34.06767	27.08557
#1	-.001877	-.006592	-.000245	-.008986	-.001897	.0035317
#2	-.001238	-.001651	.000038	-.007556	-.001566	.0021025
#3	-.001599	-.007995	-.000375	-.008922	-.002963	.0035435

Elem	Sr4077
Units	ppm
Avg	F .1039259
Stddev	.0004191
%RSD	.4032909
#1	.1036537
#2	.1037155
#3	.1044086

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	906.3644	24170.02	5249.125	760.1866	1470.951
Stddev	1.9549	9.57	25.176	2.9575	2.698
%RSD	.2156854	.0395955	.4796298	.3890516	.1834039
#1	904.1480	24179.45	5274.861	756.8182	1468.338
#2	907.1019	24170.30	5224.548	762.3577	1473.726
#3	907.8432	24160.31	5247.967	761.3841	1470.791

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICSAB004 Acquired: 11/18/2024 8:09:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB004 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0884382	.0992088	.0480680	.0440045	.5519991	233.5475
Stddev	.0013350	.0042125	.0029858	.0098333	.0021867	.7399
%RSD	1.509511	4.246079	6.211545	22.34604	.3961346	.3168019
#1	.0891594	.1036565	.0447412	.0344772	.5496408	232.7052
#2	.0868977	.0986904	.0489477	.0541175	.5523972	233.8449
#3	.0892575	.0952796	.0505151	.0434188	.5539594	234.0924

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5304502	.5386394	1.036892	244.7664	.5952320	.5113057
Stddev	.0003064	.0025283	.002287	.5817	.0031389	.0007519
%RSD	.0577578	.4693914	.2205798	.2376380	.5273456	.1470525
#1	.5301053	.5357567	1.038875	244.0981	.5979275	.5120291
#2	.5305543	.5404807	1.037411	245.1580	.5917858	.5113599
#3	.5306910	.5396808	1.034390	245.0433	.5959828	.5105282

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4800416	99.70496	.5304326	237.2371	1.027227	.1914648
Stddev	.0018847	.44390	.0009237	1.3539	.002594	.0006758
%RSD	.3926223	.4452116	.1741342	.5706886	.2525340	.3529798
#1	.4779189	99.19257	.5296645	235.6834	1.027009	.1918089
#2	.4815187	99.97293	.5301759	238.1639	1.029923	.1918994
#3	.4806872	99.94938	.5314575	237.8640	1.024749	.1906862

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2298382	.5421934	.8719016	-.310800	-.001043	F .0738765
Stddev	.2508568	.0026796	.0036940	.123146	.004795	.0019671
%RSD	109.1449	.4942175	.4236750	39.62224	459.6534	2.662665
#1	.2998888	.5405267	.8721019	-.440992	.002545	.0737705
#2	-.048598	.5407691	.8754913	-.196182	-.006489	.0758945
#3	.438224	.5452844	.8681114	-.295226	.000815	.0719646

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: ICSAB004 Acquired: 11/18/2024 8:09:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB004 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001488	.0040373	-.000402	F -.008410	-.003034	.0026980
Stddev	.000374	.0107555	.000258	.001246	.001694	.0005320
%RSD	25.16034	266.4028	64.12536	14.82065	55.85072	19.71656
#1	-.001073	-.002892	-.000402	-.007568	-.001747	.0021341
#2	-.001594	-.001424	-.000659	-.009842	-.002400	.0027688
#3	-.001799	.016428	-.000144	-.007821	-.004954	.0031909

Elem	Sr4077
Units	ppm
Avg	F .1035402
Stddev	.0005045
%RSD	.4872390
#1	.1030613
#2	.1034925
#3	.1040669

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	904.3050	24301.24	5202.622	758.4980	1476.945
Stddev	1.2399	26.49	35.276	1.5898	2.526
%RSD	.1371131	.1090039	.6780449	.2096041	.1710449
#1	905.6704	24270.96	5241.855	757.8436	1477.167
#2	903.2493	24312.67	5192.491	757.3397	1474.315
#3	903.9951	24320.10	5173.519	760.3106	1479.353

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV020 Acquired: 11/18/2024 8:14:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV020 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.075472	4.912622	24.90474	4.777294	4.855400	389.4205	10.14831
Stddev	.050505	.010597	.06518	.012084	.008933	.8913	.02190
%RSD	.9950794	.2157100	.2617303	.2529494	.1839812	.2288680	.2158141
#1	5.075186	4.900389	24.83622	4.774202	4.861143	388.4308	10.13958
#2	5.126120	4.918979	24.96597	4.767057	4.845108	390.1596	10.17323
#3	5.025111	4.918499	24.91203	4.790624	4.859949	389.6713	10.13211

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5176903	2.510250	397.7227	15.54350	2.510659	15.12085	398.7345
Stddev	.0044912	.002325	1.1512	.02773	.006468	.04913	1.0441
%RSD	.8675466	.0926080	.2894550	.1784244	.2576041	.3249419	.2618409
#1	.5152233	2.507763	396.8544	15.51241	2.503290	15.07771	398.7786
#2	.5149733	2.510621	399.0286	15.56567	2.515390	15.17433	399.7559
#3	.5228743	2.512367	397.2851	15.55244	2.513298	15.11050	397.6692

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.91892	399.9411	2.503596	1.270900	396.6341	2.525329	14.34044
Stddev	.04968	1.5613	.004385	.002577	1.2662	.004848	.08188
%RSD	.3330097	.3903793	.1751625	.2027732	.3192455	.1919554	.5709539
#1	14.87487	399.5533	2.498652	1.271716	395.5341	2.527667	14.38183
#2	14.97277	401.6597	2.507017	1.272971	398.0183	2.528564	14.39336
#3	14.90912	398.6102	2.505118	1.268014	396.3498	2.519756	14.24613

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	153.4763	5.056390	5.250589	4.802774	5.075288	5.165647	5.026706
Stddev	.5758	.022907	.034839	.006904	.026879	.044227	.006908
%RSD	.3751463	.4530275	.6635183	.1437453	.5296116	.8561662	.1374329
#1	153.3087	5.031406	5.233169	4.802219	5.045094	5.131001	5.029012
#2	154.1172	5.061361	5.227896	4.796164	5.096610	5.150478	5.032167
#3	153.0029	5.076403	5.290702	4.809938	5.084158	5.215462	5.018940

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV020 Acquired: 11/18/2024 8:14:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV020 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.042379	5.100909	5.036566
Stddev	.012120	.010236	.030479
%RSD	.2403555	.2006748	.6051543
#1	5.040060	5.094868	5.017105
#2	5.055491	5.112728	5.071692
#3	5.031587	5.095131	5.020901

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	779.3954	22794.36	5002.011	615.3073	1316.545
Stddev	.7600	113.99	16.950	6.6540	2.824
%RSD	.0975163	.5000757	.3388544	1.081408	.2144729
#1	779.8655	22758.58	5019.677	612.7622	1319.441
#2	779.8022	22702.56	4985.883	610.3015	1313.800
#3	778.5186	22921.95	5000.475	622.8581	1316.394

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB020 Acquired: 11/18/2024 8:18:39 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB020 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004876	.0001454	-.000143	-.001500	-.001701	-.023490	.0003078
Stddev	.006216	.0019498	.000771	.002474	.001305	.010998	.0002278
%RSD	127.4722	1341.243	539.3922	164.8746	76.69103	46.81807	74.00099
#1	-.011955	-.002049	-.000395	-.000443	-.001670	-.018082	.0005693
#2	-.000312	.000808	-.000755	-.004327	-.000413	-.036145	.0002010
#3	-.002362	.001677	.000722	.000269	-.003022	-.016244	.0001530

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000001	.0001053	.0012717	.0010010	.0001154	.0039543	.0096617
Stddev	.000140	.0001786	.0018815	.0001536	.0001174	.0005072	.0078309
%RSD	9760.913	169.5470	147.9560	15.34216	101.7448	12.82590	81.05109
#1	.000137	.0001880	.0006948	.0008646	.0002091	.0035842	.0144884
#2	-.000143	.0002276	.0033741	.0009711	.0001535	.0045324	.0138704
#3	.000002	-.000100	-.000254	.0011673	-.000016	.0037462	.0006264

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002832	.0433059	.0000069	.0007118	-.266834	.0041080	-.000728
Stddev	.0003386	.0331972	.0004468	.0002793	.041478	.0056422	.000361
%RSD	119.5896	76.65753	6514.834	39.23414	15.54455	137.3440	49.63890
#1	.0004104	.0780972	-.000509	.0003972	-.259759	.0016876	-.000425
#2	.0005398	.0119737	.000247	.0009303	-.229348	.0105566	-.001127
#3	-.000101	.0398466	.000282	.0008079	-.311394	.0000800	-.000631

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0932559	.0001835	.0093795	.0002994	-.006919	-.000961	-.003304
Stddev	.1087811	.0010617	.0010437	.0005395	.001860	.001018	.000938
%RSD	116.6480	578.5917	11.12703	180.1643	26.88148	105.8581	28.38448
#1	.1120594	.0011373	.0105837	-.000239	-.008317	.000196	-.002959
#2	-.023701	.0003737	.0088171	.000839	-.007632	-.001715	-.004365
#3	.191409	-.000960	.0087376	.000298	-.004808	-.001366	-.002587

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB020 Acquired: 11/18/2024 8:18:39 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB020 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0005542	.0062023	.0001769
Stddev	.0013525	.0020250	.0000438
%RSD	244.0288	32.64906	24.77280
#1	-.000899	.0048334	.0002251
#2	.000784	.0085285	.0001395
#3	.001777	.0052451	.0001661

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	981.1847	26337.95	5212.477	816.2449	1836.032
Stddev	1.1371	33.04	11.153	2.4712	1.560
%RSD	.1158903	.1254431	.2139764	.3027501	.0849759
#1	982.3723	26307.24	5208.821	815.0100	1836.893
#2	980.1060	26372.91	5203.611	819.0901	1834.231
#3	981.0759	26333.70	5225.000	814.6345	1836.971

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164933BL Acquired: 11/18/2024 8:23:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS933 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019287	.0008969	-.001934	.0051334	.0002294	-.025731	.0003925
Stddev	.0056740	.0028490	.003394	.0043628	.0009503	.001211	.0000795
%RSD	294.1858	317.6634	175.5059	84.98867	414.1389	4.705991	20.25823
#1	.0016142	.0004934	.001128	.0001763	-.000796	-.024339	.0003024
#2	.0077535	-.001729	-.005583	.0083896	.001080	-.026309	.0004225
#3	-.003582	.003926	-.001346	.0068344	.000405	-.026545	.0004527

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000054	-.000022	-.008594	.0001440	.0001875	-.002674	.0053215
Stddev	.000110	.000041	.007776	.0000477	.0006332	.002405	.0008812
%RSD	201.2289	184.9924	90.47587	33.15547	337.7856	89.94609	16.55957
#1	-.000145	-.000016	-.009954	.0001986	-.000435	-.003537	.0043338
#2	-.000086	.000015	-.000228	.0001232	.000167	.000044	.0060271
#3	.000067	-.000066	-.015601	.0001102	.000831	-.004529	.0056037

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002705	.0037477	.0002803	.0000039	-.315235	.0048015	-.001186
Stddev	.0004930	.0306551	.0000977	.0001134	.041020	.0025864	.000836
%RSD	182.2433	817.9644	34.84947	2941.511	13.01251	53.86559	70.49074
#1	-.000041	-.026029	.0003231	.0000182	-.354970	.0041535	-.001175
#2	.000839	.035211	.0001686	.0001093	-.317695	.0026008	-.000356
#3	.000014	.002061	.0003494	-.000116	-.273040	.0076503	-.002027

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.089275	.0013441	.0046679	.0003152	-.005225	.0005307	-.002750
Stddev	.091299	.0038096	.0013544	.0004557	.000934	.0009551	.001680
%RSD	102.2677	283.4267	29.01571	144.5656	17.88017	179.9586	61.08018
#1	-.034043	-.002684	.0059595	.0008028	-.004269	-.000248	-.004678
#2	-.039124	.001827	.0032583	.0002428	-.005272	.001596	-.001974
#3	-.194657	.004890	.0047861	-.000100	-.006136	.000244	-.001599

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164933BL Acquired: 11/18/2024 8:23:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS933 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0005876	.0026864	.0000194
Stddev	.0018110	.0016465	.0000372
%RSD	308.1860	61.28992	191.4896
#1	.0023421	.0010414	.0000330
#2	-.001275	.0043345	.0000480
#3	.000696	.0026834	-.000023

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	982.8543	26390.68	5236.952	816.8817	1836.023
Stddev	4.5908	46.36	15.128	1.8425	7.555
%RSD	.4670880	.1756591	.2888769	.2255561	.4114822
#1	979.9212	26342.94	5219.668	817.8963	1835.824
#2	980.4969	26393.58	5243.404	814.7548	1828.570
#3	988.1449	26435.52	5247.786	817.9938	1843.676

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164933BS Acquired: 11/18/2024 8:27:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS933 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0156778	.0498318	.0204386	.0626006	.1079815	.3546900
Stddev	.0052485	.0027352	.0034655	.0071666	.0014423	.0134747
%RSD	33.47703	5.488913	16.95573	11.44814	1.335654	3.799013
#1	.0118478	.0468891	.0165459	.0620034	.1081049	.3530134
#2	.0135253	.0522965	.0231879	.0557513	.1093581	.3689247
#3	.0216603	.0503098	.0215819	.0700472	.1064815	.3421322

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4242490	.0107477	.0106362	10.63475	.0223875	.1000644
Stddev	.0007649	.0001068	.0000301	.02001	.0009351	.0010381
%RSD	.1802876	.9939291	.2827382	.1881637	4.176986	1.037388
#1	.4235703	.0106940	.0106421	10.62842	.0214148	.1011059
#2	.4240990	.0106784	.0106036	10.65716	.0224676	.0990298
#3	.4250778	.0108707	.0106629	10.61867	.0232799	.1000576

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0493433	.2191346	.0332472	10.15680	.0841981	.0234365
Stddev	.0027094	.0071976	.0006959	.07141	.0011222	.0011900
%RSD	5.490922	3.284559	2.093066	.7031160	1.332789	5.077387
#1	.0482732	.2237027	.0330494	10.14900	.0850329	.0248075
#2	.0473324	.2108376	.0340206	10.23179	.0846390	.0226726
#3	.0524243	.2228633	.0326717	10.08961	.0829224	.0228292

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.902873	.1136785	.1049770	10.00926	.0206378	F .0042082
Stddev	.040748	.0051271	.0011785	.11305	.0010878	.0004209
%RSD	.4114791	4.510202	1.122657	1.129499	5.270924	10.00259
#1	9.903377	.1077801	.1058233	9.96977	.0203791	.0037425
#2	9.943367	.1170687	.1054768	10.13677	.0197027	.0045615
#3	9.861876	.1161866	.1036310	9.92125	.0218316	.0043205

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164933BS Acquired: 11/18/2024 8:27:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS933 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0197379	.1705956	F .4915944	.0117007	.2092549	.0317638
Stddev	.0005370	.0108953	.0022919	.0005428	.0010786	.0004215
%RSD	2.720671	6.386622	.4662224	4.639109	.5154386	1.327072
#1	.0203333	.1770316	.4909599	.0117773	.2088412	.0318510
#2	.0192902	.1767392	.4896865	.0122011	.2104791	.0321349
#3	.0195902	.1580159	.4941367	.0111236	.2084444	.0313055

Elem	Sr4077
Units	ppm
Avg	.2116340
Stddev	.0004510
%RSD	.2130856
#1	.2120421
#2	.2117100
#3	.2111499

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	974.8135	26028.44	5257.678	812.3965	1762.259
Stddev	1.0330	354.82	15.461	8.3082	1.793
%RSD	.1059653	1.363197	.2940572	1.022680	.1017571
#1	974.0092	25618.77	5272.672	803.1835	1762.740
#2	975.9784	26228.10	5241.790	814.6862	1763.763
#3	974.4529	26238.44	5258.571	819.3198	1760.275

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164949BL Acquired: 11/18/2024 8:32:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW949 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001773	-.000449	-.000128	-.001517	-.000245	-.015800	-.000535
Stddev	.002118	.002528	.001748	.009033	.001659	.005717	.000268
%RSD	119.4544	562.8705	1361.083	595.2296	677.9999	36.18583	50.06240
#1	-.002963	-.003368	.001193	.008751	-.001312	-.009209	-.000809
#2	-.003028	.000989	.000532	-.008236	-.001088	-.019425	-.000275
#3	.000672	.001032	-.002110	-.005068	.001666	-.018766	-.000520

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000019	.0000629	-.017179	-.000130	-.000107	-.004204	-.000958
Stddev	.0000877	.0000288	.013780	.000562	.000594	.003664	.020298
%RSD	4704.698	45.79526	80.20937	433.4086	554.8812	87.15687	2119.443
#1	-.000088	.0000307	-.018879	-.000710	-.000521	-.001995	-.022125
#2	.000088	.0000719	-.002629	-.000092	.000573	-.002184	.000909
#3	.000005	.0000863	-.030030	.000413	-.000373	-.008434	.018343

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000380	.0245499	.0004945	-.000014	-.329299	.0034746	-.000977
Stddev	.000133	.0375536	.0003385	.000295	.209734	.0032223	.000641
%RSD	34.98874	152.9688	68.45580	2072.371	63.69097	92.73977	65.64424
#1	-.000526	.0609900	.0006751	-.000036	-.089010	.0021709	-.001565
#2	-.000266	-.014026	.0001040	.000291	-.423290	.0071445	-.001071
#3	-.000348	.026686	.0007045	-.000298	-.475598	.0011084	-.000294

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014057	.0005364	.0023350	.0005655	-.000441	-.000481	-.001902
Stddev	.1413536	.0040820	.0016999	.0003698	.003186	.000525	.001668
%RSD	10055.63	761.0574	72.80385	65.39162	721.7460	109.0369	87.72921
#1	-.104569	-.004173	.0021119	.0005227	.001715	-.000878	.000024
#2	.161901	.003069	.0007576	.0009549	.001062	-.000679	-.002808
#3	-.053114	.002712	.0041354	.0002190	-.004101	.000114	-.002921

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164949BL Acquired: 11/18/2024 8:32:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW949 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000485	-.000011	.0000078
Stddev	.000444	.000731	.0000621
%RSD	91.43977	6531.021	790.7058
#1	-.000607	-.000611	-.000051
#2	.000007	-.000225	.000001
#3	-.000856	.000802	.000073

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	980.4118	26477.49	5256.096	823.9333	1821.584
Stddev	2.6954	111.80	7.675	1.4080	4.056
%RSD	.2749212	.4222503	.1460175	.1708883	.2226813
#1	982.9632	26540.80	5257.068	822.7567	1826.252
#2	980.6797	26348.40	5247.982	823.5499	1819.586
#3	977.5925	26543.27	5263.239	825.4933	1818.915

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164948BL Acquired: 11/18/2024 8:41:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS948 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043390	-.002452	-.001021	-.001428	.0002787	-.015705	.0011224
Stddev	.0048786	.001966	.002533	.004911	.0031288	.014249	.0002584
%RSD	112.4359	80.18467	248.0586	343.9761	1122.479	90.72728	23.02449
#1	-.000791	-.002355	-.003722	.002393	-.000889	-.003404	.0008734
#2	.008920	-.004464	-.000642	.000291	-.002098	-.012394	.0013893
#3	.004888	-.000536	.001301	-.006967	.003823	-.031319	.0011045

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000139	.0000162	-.026438	.0000422	-.000261	-.001341	-.005594
Stddev	.000044	.0000749	.011367	.0003672	.000427	.000415	.012560
%RSD	32.01795	461.3236	42.99609	871.0455	163.6810	30.97380	224.5247
#1	-.000088	-.000069	-.029149	.0003081	-.000382	-.001783	-.006177
#2	-.000168	.000048	-.013960	.0001952	.000214	-.000960	-.017852
#3	-.000161	.000070	-.036204	-.000377	-.000614	-.001279	.007247

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000088	.0011075	.0002050	.0005103	-.392146	.0005145	-.001221
Stddev	.000552	.0360619	.0002125	.0003212	.019678	.0053705	.000133
%RSD	626.5236	3256.217	103.6573	62.94353	5.017940	1043.770	10.92818
#1	.000509	-.009102	.0002073	.0001472	-.384223	.0036050	-.001102
#2	-.000578	.041173	-.000009	.0006265	-.414550	.0036254	-.001365
#3	-.000195	-.028749	.000416	.0007573	-.377665	-.005687	-.001196

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004109	.0029980	.0003602	.0004226	-.005554	-.000023	-.001291
Stddev	.029706	.0020993	.0014686	.0002346	.003393	.000710	.000834
%RSD	723.0395	70.02312	407.7254	55.50280	61.08497	3098.953	64.60469
#1	-.020803	.0007506	.0020232	.0004696	-.009166	.000045	-.000355
#2	-.021713	.0033350	-.000759	.0001681	-.005063	-.000765	-.001955
#3	.030189	.0049085	-.000184	.0006301	-.002434	.000651	-.001563

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164948BL Acquired: 11/18/2024 8:41:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS948 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0013917	.0018905	.0000216
Stddev	.0005888	.0007578	.0001426
%RSD	42.30777	40.08609	658.7310
#1	.0009879	.0018053	.0001093
#2	.0020672	.0026873	-.000143
#3	.0011198	.0011788	.000099

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	985.6787	26437.81	5185.218	822.1472	1850.566
Stddev	5.2749	60.13	23.900	2.0075	8.709
%RSD	.5351561	.2274211	.4609243	.2441827	.4706049
#1	991.7154	26456.57	5158.375	821.5105	1860.120
#2	983.3632	26370.55	5193.089	820.5352	1843.070
#3	981.9576	26486.33	5204.189	824.3959	1848.509

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164948BS Acquired: 11/18/2024 8:45:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS948 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0205958	.0535653	.0204358	.0666359	.1106916	.3473559
Stddev	.0074468	.0035864	.0060098	.0053724	.0017522	.0066716
%RSD	36.15706	6.695296	29.40824	8.062284	1.582992	1.920691
#1	.0281768	.0501533	.0138874	.0610543	.1105741	.3396743
#2	.0203200	.0573037	.0217210	.0670823	.1090011	.3506910
#3	.0132907	.0532390	.0256990	.0717712	.1124996	.3517024

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4268873	.0106926	.0103307	10.71521	.0235873	.1001582
Stddev	.0011498	.0000823	.0001100	.02542	.0011160	.0003516
%RSD	.2693527	.7699879	1.065184	.2372271	4.731322	.3510689
#1	.4265116	.0106239	.0103702	10.70888	.0239938	.1001337
#2	.4281780	.0106700	.0104156	10.74320	.0223250	.0998195
#3	.4259724	.0107838	.0102064	10.69355	.0244431	.1005214

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0470974	.2242750	.0336801	10.12837	.0850753	.0252675
Stddev	.0022716	.0129132	.0005776	.10059	.0006427	.0027761
%RSD	4.823236	5.757766	1.715118	.9931423	.7554095	10.98667
#1	.0446827	.2144135	.0339455	10.09436	.0856745	.0284470
#2	.0491920	.2195200	.0340774	10.24156	.0843966	.0233243
#3	.0474174	.2388916	.0330175	10.04920	.0851549	.0240313

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.29314	.1135852	.1065759	9.924696	.0177686	F .0030146
Stddev	.20043	.0022785	.0045936	.076987	.0047376	.0018775
%RSD	1.947259	2.005947	4.310208	.7757069	26.66274	62.28028
#1	10.07997	.1129311	.1118759	9.892070	.0217491	.0049614
#2	10.32168	.1161192	.1041103	10.01262	.0125285	.0012150
#3	10.47777	.1117054	.1037415	9.86939	.0190282	.0028676

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164948BS Acquired: 11/18/2024 8:45:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS948 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0202507	.1614369	F .4900096	F .0097558	.2089074	.0312873
Stddev	.0007328	.0039417	.0022035	.0007843	.0004555	.0008180
%RSD	3.618808	2.441618	.4496838	8.039533	.2180550	2.614333
#1	.0208647	.1605134	.4902527	.0098028	.2090310	.0303524
#2	.0204479	.1580390	.4920814	.0089491	.2092883	.0316385
#3	.0194394	.1657583	.4876946	.0105156	.2084028	.0318710

Elem	Sr4077
Units	ppm
Avg	.2126464
Stddev	.0003842
%RSD	.1806606
#1	.2124494
#2	.2130892
#3	.2124008

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	976.6255	25601.27	5261.357	799.2307	1764.430
Stddev	.4715	666.24	35.366	23.8201	4.522
%RSD	.0482754	2.602364	.6721779	2.980385	.2562869
#1	976.9888	24832.88	5271.047	771.7446	1761.192
#2	976.7950	25952.91	5222.157	812.0886	1769.596
#3	976.0927	26018.02	5290.868	813.8590	1762.501

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164934BL Acquired: 11/18/2024 8:50:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS934 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002201	.0012078	-.000923	.0026441	.0024490	-.017516	-.000065
Stddev	.004473	.0020088	.000449	.0063617	.0012397	.011219	.000881
%RSD	203.2451	166.3184	48.64298	240.6015	50.62099	64.05170	1347.149
#1	.001164	.0023501	-.001132	.0098611	.0011372	-.027028	.000217
#2	-.007277	.0023849	-.001229	-.002151	.0026085	-.005144	.000640
#3	-.000490	-.001112	-.000407	.000222	.0036011	-.020375	-.001052

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000096	.0000202	-.010243	.0001886	.0002346	-.003149	.0023535
Stddev	.000068	.0001361	.004582	.0011194	.0001224	.001691	.0036754
%RSD	71.22881	674.7714	44.73626	593.6607	52.16575	53.69259	156.1637
#1	-.000163	.0001695	-.011204	-.000175	.0003755	-.003101	.0040896
#2	-.000027	-.000097	-.014269	.001444	.0001545	-.001483	.0048394
#3	-.000097	-.000012	-.005256	-.000704	.0001739	-.004864	-.001868

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000344	.0190980	.0000631	.0003755	-.396775	.0020381	-.000851
Stddev	.0001901	.0078633	.0008919	.0003310	.100370	.0086015	.000727
%RSD	551.6674	41.17342	1413.231	88.12982	25.29638	422.0245	85.43962
#1	.0002188	.0280429	.0008320	.0006815	-.384870	-.007619	-.000761
#2	-.000161	.0159757	-.000915	.0004209	-.302889	.008877	-.000173
#3	.000046	.0132754	.000272	.0000243	-.502567	.004857	-.001618

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0348918	.0001416	.0011597	.0006653	-.004990	-.000711	-.003225
Stddev	.1626401	.0020067	.0019191	.0000956	.001545	.001105	.001439
%RSD	466.1266	1416.795	165.4775	14.36174	30.97041	155.4139	44.61480
#1	-.083179	.0002576	-.000979	.0006877	-.006261	-.000562	-.004820
#2	-.032549	-.001921	.001727	.0007477	-.005440	-.001884	-.002829
#3	.220403	.002088	.002731	.0005606	-.003270	.000312	-.002025

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164934BL Acquired: 11/18/2024 8:50:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS934 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0008952	.0013421	-.000083
Stddev	.0016868	.0012665	.000050
%RSD	188.4146	94.37125	59.92294
#1	.0028182	.0027693	-.000043
#2	-.000334	.0003522	-.000139
#3	.000202	.0009047	-.000067

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	980.3099	26417.36	5271.525	819.1453	1828.299
Stddev	2.9854	52.14	5.920	5.7819	5.710
%RSD	.3045341	.1973548	.1122954	.7058409	.3123051
#1	976.8650	26357.27	5273.107	819.3057	1821.842
#2	982.1409	26444.23	5276.493	824.8452	1832.681
#3	981.9238	26450.57	5264.975	813.2848	1830.374

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164934BS Acquired: 11/18/2024 8:54:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS934 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0153759	.0522526	.0203977	.0715959	.1119620	.3575302
Stddev	.0055367	.0031110	.0028440	.0025255	.0012595	.0051714
%RSD	36.00902	5.953764	13.94291	3.527451	1.124978	1.446425
#1	.0186895	.0502493	.0197609	.0743479	.1110596	.3623271
#2	.0089841	.0506720	.0235062	.0693845	.1114255	.3582116
#3	.0184540	.0558366	.0179261	.0710552	.1134010	.3520519

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4292685	.0109822	.0107678	10.81386	.0231530	.1011502
Stddev	.0024209	.0002371	.0001727	.03309	.0001776	.0007899
%RSD	.5639526	2.158955	1.604150	.3060090	.7672642	.7809047
#1	.4319858	.0107116	.0107279	10.84403	.0230839	.1011945
#2	.4284779	.0111538	.0106184	10.77847	.0230202	.1003391
#3	.4273418	.0110811	.0109569	10.81909	.0233548	.1019170

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0492811	.2117149	.0344998	10.19969	.0846522	.0227882
Stddev	.0023281	.0095936	.0002214	.06505	.0003691	.0001736
%RSD	4.724098	4.531370	.6417881	.6377787	.4360011	.7616094
#1	.0515156	.2077043	.0345148	10.12925	.0849848	.0228815
#2	.0468695	.2226630	.0342713	10.25751	.0847167	.0228951
#3	.0494583	.2047775	.0347134	10.21231	.0842551	.0225880

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.794364	.1169999	.1059205	10.23845	.0163786	F .0020534
Stddev	.269354	.0025076	.0005383	.10342	.0033223	.0004757
%RSD	2.750095	2.143227	.5082086	1.010139	20.28437	23.16847
#1	9.562539	.1183777	.1058119	10.33299	.0201063	.0020172
#2	10.08984	.1185165	.1054448	10.12799	.0137301	.0015969
#3	9.73071	.1141055	.1065048	10.25436	.0152995	.0025463

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164934BS Acquired: 11/18/2024 8:54:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS934 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0204367	.1626267	F .4951757	.0133077	.2120096	.0298597
Stddev	.0004294	.0112254	.0049212	.0006545	.0023622	.0001655
%RSD	2.100911	6.902573	.9938183	4.917824	1.114201	.5540956
#1	.0207600	.1556075	.4935964	.0135008	.2125605	.0298980
#2	.0199496	.1566993	.5006926	.0125784	.2140477	.0300027
#3	.0206006	.1755734	.4912381	.0138439	.2094206	.0296785

Elem	Sr4077
Units	ppm
Avg	.2148600
Stddev	.0004550
%RSD	.2117829
#1	.2153827
#2	.2145524
#3	.2146449

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	984.0882	26229.06	5320.525	819.4666	1773.844
Stddev	8.1169	27.89	22.553	3.0524	13.415
%RSD	.8248140	.1063277	.4238908	.3724868	.7562699
#1	979.7403	26197.32	5324.266	821.5318	1770.354
#2	993.4528	26249.63	5296.335	815.9604	1788.659
#3	979.0714	26240.25	5340.974	820.9075	1762.518

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164949BS Acquired: 11/18/2024 9:03:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS949 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0158541	.0492686	.0176277	.0628333	.1031026	.3786263
Stddev	.0103915	.0046701	.0018117	.0018168	.0021072	.0074449
%RSD	65.54447	9.478819	10.27772	2.891403	2.043761	1.966303
#1	.0259768	.0456513	.0165995	.0648477	.1054354	.3771027
#2	.0163722	.0545407	.0197196	.0623335	.1013373	.3720611
#3	.0052133	.0476136	.0165640	.0613188	.1025352	.3867152

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4043381	.0104434	.0099194	10.10706	.0207158	.0955475
Stddev	.0005627	.0000585	.0000999	.00473	.0001749	.0004418
%RSD	.1391709	.5602059	1.007263	.0467925	.8441087	.4623875
#1	.4047791	.0104914	.0100116	10.10167	.0207896	.0960486
#2	.4037043	.0104604	.0099332	10.11052	.0208416	.0952145
#3	.4045309	.0103782	.0098132	10.10900	.0205161	.0953793

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0481136	.1932370	.0314889	9.718061	.0792935	.0213281
Stddev	.0018148	.0144942	.0008631	.009360	.0006063	.0008350
%RSD	3.771845	7.500742	2.740895	.0963178	.7646021	3.915048
#1	.0473234	.2008590	.0312819	9.708258	.0799177	.0210990
#2	.0501895	.1765221	.0324366	9.719019	.0787069	.0222537
#3	.0468280	.2023298	.0307481	9.726905	.0792558	.0206315

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.152304	.1060808	.0995114	9.802034	.0159413	F .0024047
Stddev	.387118	.0075767	.0005461	.217857	.0002388	.0015987
%RSD	4.229730	7.142378	.5487556	2.222570	1.498125	66.48213
#1	9.563478	.1132006	.0990302	10.01790	.0162171	.0006138
#2	8.794855	.0981177	.1001049	9.80596	.0158055	.0029126
#3	9.098578	.1069242	.0993991	9.58224	.0158014	.0036878

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164949BS Acquired: 11/18/2024 9:03:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS949 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0193253	.1572470	F .4679487	.0114747	.1968070	.0301229
Stddev	.0004025	.0027642	.0035712	.0012070	.0005868	.0001366
%RSD	2.082753	1.757869	.7631551	10.51893	.2981767	.4536508
#1	.0192807	.1583103	.4720245	.0128443	.1974718	.0299969
#2	.0189470	.1541090	.4664530	.0110137	.1963612	.0301036
#3	.0197483	.1593217	.4653685	.0105661	.1965880	.0302682

Elem	Sr4077
Units	ppm
Avg	.2013955
Stddev	.0004453
%RSD	.2211053
#1	.2012741
#2	.2010235
#3	.2018889

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	971.1691	26220.50	5232.675	822.3502	1760.316
Stddev	2.5332	157.60	15.691	5.0932	4.762
%RSD	.2608373	.6010684	.2998566	.6193494	.2705026
#1	973.7283	26225.21	5223.841	825.0200	1758.179
#2	968.6627	26060.60	5223.392	816.4772	1756.996
#3	971.1162	26375.70	5250.791	825.5536	1765.771

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4607-12DLX2 Acquired: 11/18/2024 9:17:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MCC0P6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0166317	-.002669	36.12065	-.038995	.1511159	25.90267	.5182484
Stddev	.0082603	.001915	.03205	.005029	.0015539	.04804	.0001695
%RSD	49.66583	71.75321	.0887391	12.89713	1.028312	.1854606	.0327121
#1	.0082315	-.002453	36.09935	-.039130	.1510345	25.95708	.5184339
#2	.0247445	-.004682	36.15751	-.033900	.1496042	25.88482	.5181015
#3	.0169190	-.000871	36.10507	-.043955	.1527089	25.86611	.5182098

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045928	.0090665	20.09960	.1177310	.0223574	.4347295	262.1400
Stddev	.0001472	.0003166	.04270	.0010022	.0003866	.0014037	.3708
%RSD	3.205076	3.492323	.2124284	.8512784	1.729235	.3228784	.1414641
#1	.0045466	.0089398	20.13485	.1170241	.0221177	.4340237	262.1903
#2	.0044743	.0094268	20.11184	.1172909	.0221510	.4363459	261.7466
#3	.0047576	.0088328	20.05213	.1188779	.0228034	.4338188	262.4831

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.537302	4.018530	.0861436	-.019109	1.048672	.0832738	2.248080
Stddev	.004888	.084537	.0003086	.000367	.335925	.0059146	.011377
%RSD	.3179770	2.103691	.3582181	1.921989	32.03337	7.102614	.5060815
#1	1.532870	3.938046	.0858197	-.018858	.715353	.0825036	2.237911
#2	1.536490	4.010935	.0864341	-.018938	1.387144	.0895358	2.260368
#3	1.542545	4.106608	.0861770	-.019531	1.043518	.0777820	2.245963

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.899441	2.779828	.2529916	.0054029	.6517915	6.332152	.0447754
Stddev	.114296	.000320	.0016890	.0008169	.0042636	.027123	.0003312
%RSD	6.017342	.0115121	.6676151	15.11917	.6541343	.4283408	.7396282
#1	1.779936	2.779775	.2540322	.0053653	.6535288	6.340501	.0451168
#2	2.007696	2.780172	.2510428	.0046054	.6469335	6.301836	.0447537
#3	1.910691	2.779538	.2538997	.0062379	.6549121	6.354119	.0444556

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4607-12DLX2 Acquired: 11/18/2024 9:17:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MCC0P6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7304245	.0120907	.0856587
Stddev	.0025934	.0004928	.0001991
%RSD	.3550514	4.075433	.2323890
#1	.7278493	.0119677	.0858132
#2	.7330357	.0116712	.0854340
#3	.7303885	.0126333	.0857288

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	986.8653	26813.42	5460.249	827.4366	1705.246
Stddev	1.9038	38.27	14.068	4.4964	3.508
%RSD	.1929147	.1427139	.2576484	.5434082	.2057191
#1	988.9849	26786.34	5457.770	829.9840	1708.011
#2	985.3005	26796.72	5475.392	822.2450	1701.300
#3	986.3104	26857.19	5447.585	830.0808	1706.428

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4607-15DLX2 Acquired: 11/18/2024 9:21:25 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MCC0P9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0232993	-.007140	5.311964	-.078205	.0710789	40.44183	.9484911
Stddev	.0074462	.003019	.012069	.007609	.0025049	.11191	.0021164
%RSD	31.95886	42.28055	.2271983	9.729225	3.524066	.2767162	.2231299
#1	.0200764	-.010375	5.310453	-.086353	.0732614	40.40795	.9494849
#2	.0180075	-.006647	5.300722	-.071284	.0716313	40.35078	.9460608
#3	.0318141	-.004398	5.324717	-.076978	.0683439	40.56677	.9499277

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072824	.0889556	103.5200	.2307953	.0704222	.6030046	579.8330
Stddev	.0004222	.0002210	.0986	.0014805	.0014806	.0040322	.9062
%RSD	5.798237	.2484664	.0952192	.6414920	2.102519	.6686853	.1562804
#1	.0077194	.0889836	103.6192	.2320749	.0707317	.6066523	579.4259
#2	.0072511	.0891613	103.4220	.2291737	.0688113	.6036867	579.2018
#3	.0068767	.0887219	103.5188	.2311373	.0717236	.5986749	580.8714

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.105475	6.610239	.3184110	-.040240	3.765955	.1068348	9.429218
Stddev	.006524	.014655	.0021759	.000773	.226069	.0064286	.045326
%RSD	.1589136	.2216983	.6833709	1.919835	6.002975	6.017322	.4806933
#1	4.110447	6.626066	.3163301	-.039988	3.814246	.1112181	9.410804
#2	4.098088	6.607509	.3182320	-.039626	3.519642	.0994550	9.480853
#3	4.107891	6.597141	.3206709	-.041108	3.963976	.1098313	9.395998

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.409426	5.904569	.5476759	.0158665	2.761187	6.163037	.5861869
Stddev	.105983	.012213	.0015731	.0003471	.017495	.003313	.0045213
%RSD	3.108527	.2068449	.2872246	2.187692	.6335947	.0537487	.7713005
#1	3.469300	5.890502	.5491540	.0154848	2.758541	6.160172	.5866119
#2	3.471922	5.910731	.5460225	.0159514	2.745166	6.162273	.5814681
#3	3.287057	5.912473	.5478511	.0161633	2.779854	6.166664	.5904806

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4607-15DLX2 Acquired: 11/18/2024 9:21:25 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MCC0P9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.9399802	.0229247	.2363201
Stddev	.0012090	.0021938	.0005951
%RSD	.1286190	9.569446	.2518227
#1	.9412766	.0254085	.2366473
#2	.9388835	.0221136	.2356332
#3	.9397806	.0212520	.2366799

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	961.3816	26345.47	5435.166	812.4645	1616.047
Stddev	1.9091	62.52	8.693	4.6417	2.852
%RSD	.1985745	.2372916	.1599454	.5713152	.1764698
#1	963.4226	26276.19	5430.972	813.8239	1619.181
#2	961.0825	26362.55	5429.365	807.2948	1615.355
#3	959.6398	26397.67	5445.161	816.2747	1613.605

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-20 Acquired: 11/18/2024 9:25:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1496832	-.006390	7.743495	-.035669	.0125870	86.46060	1.093399
Stddev	.0039317	.009312	.018949	.004882	.0017244	.24555	.001159
%RSD	2.626671	145.7342	.2447135	13.68766	13.69978	.2840001	.1060126
#1	.1505813	.000952	7.738930	-.031750	.0115378	86.19116	1.094462
#2	.1453802	-.016865	7.727245	-.034119	.0116460	86.67177	1.092163
#3	.1530882	-.003257	7.764310	-.041138	.0145771	86.51887	1.093571

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0083047	.0181604	33.04029	.2377543	.1068604	.9925199	270.9114
Stddev	.0001327	.0002668	.04920	.0008713	.0006208	.0026672	.9858
%RSD	1.598224	1.469189	.1489023	.3664607	.5809378	.2687269	.3638664
#1	.0081618	.0184647	32.98353	.2386554	.1067317	.9933684	269.9184
#2	.0084242	.0180502	33.07081	.2376911	.1063141	.9895317	271.8898
#3	.0083280	.0179663	33.06652	.2369163	.1075355	.9946597	270.9261

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.470370	28.03028	.3075478	-.021477	2.000100	.2140616	3.094626
Stddev	.004091	.07989	.0019622	.000321	.151979	.0004495	.010410
%RSD	.0915178	.2850112	.6380123	1.492932	7.598579	.2099899	.3364021
#1	4.466193	27.93900	.3063942	-.021703	2.065166	.2135692	3.106490
#2	4.470548	28.06436	.3064357	-.021110	2.108713	.2141657	3.090368
#3	4.474369	28.08747	.3098134	-.021619	1.826419	.2144500	3.087018

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.323483	8.692693	.2480344	.0169681	2.743590	10.54276	.0502434
Stddev	.097457	.020685	.0017389	.0006576	.016412	.04575	.0002729
%RSD	1.330746	.2379603	.7010730	3.875623	.5981926	.4339265	.5432459
#1	7.355892	8.680605	.2481559	.0163361	2.742862	10.49932	.0503216
#2	7.213950	8.680897	.2497094	.0169195	2.727555	10.59051	.0499399
#3	7.400606	8.716578	.2462379	.0176487	2.760355	10.53844	.0504688

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-20 Acquired: 11/18/2024 9:25:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.383677	.1624319	.1425435
Stddev	.004836	.0009327	.0005601
%RSD	.3494879	.5741955	.3929233
#1	1.378152	.1626377	.1420611
#2	1.387139	.1632445	.1424117
#3	1.385740	.1614135	.1431577

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1032.933	28180.08	5718.461	869.3930	1632.256
Stddev	2.252	34.89	27.544	1.3966	4.307
%RSD	.2180682	.1238188	.4816722	.1606380	.2638717
#1	1034.515	28198.84	5742.496	867.7808	1632.233
#2	1033.928	28139.83	5688.404	870.1664	1636.574
#3	1030.354	28201.59	5724.482	870.2317	1627.960

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-21 Acquired: 11/18/2024 9:30:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1494683	-.004846	10.04319	-.038332	.0110192	81.27498	1.079412
Stddev	.0062260	.004527	.02511	.003420	.0011723	.10985	.003074
%RSD	4.165442	93.42793	.2499794	8.921806	10.63860	.1351557	.2847590
#1	.1423018	-.009739	10.03932	-.034385	.0104857	81.14815	1.075916
#2	.1525573	-.003991	10.02024	-.040416	.0123634	81.34004	1.080628
#3	.1535459	-.000807	10.07000	-.040194	.0102086	81.33674	1.081691

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0079092	.0200382	32.39764	.2442029	.1009790	.8769150	254.2587
Stddev	.0002436	.0001689	.10664	.0074584	.0007485	.0017121	.5493
%RSD	3.079838	.8429241	.3291703	3.054188	.7412837	.1952440	.2160477
#1	.0079834	.0199844	32.27585	.2360570	.1001562	.8756381	253.6249
#2	.0076371	.0202275	32.44281	.2506968	.1011614	.8788605	254.5967
#3	.0081071	.0199028	32.47427	.2458550	.1016196	.8762463	254.5546

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.312605	25.89291	.2956351	-.020101	1.735483	.2050482	3.378363
Stddev	.009077	.07263	.0008133	.001326	.249943	.0017257	.073835
%RSD	.2104781	.2805183	.2750914	6.594546	14.40192	.8416271	2.185515
#1	4.304346	25.89115	.2961960	-.021575	1.569005	.2047770	3.297220
#2	4.311145	25.82117	.2947024	-.019008	2.022891	.2034741	3.441594
#3	4.322323	25.96641	.2960068	-.019719	1.614552	.2068935	3.396274

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.657524	9.628161	.2342462	.0164648	2.634067	11.23491	.0494167
Stddev	.038033	.052077	.0018070	.0003758	.021324	.05574	.0018763
%RSD	.5712752	.5408783	.7714239	2.282381	.8095518	.4961609	3.796962
#1	6.673230	9.579101	.2361364	.0168639	2.653902	11.17810	.0492367
#2	6.614154	9.622578	.2325358	.0161178	2.636784	11.23712	.0513765
#3	6.685188	9.682804	.2340665	.0164125	2.611514	11.28952	.0476368

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-21 Acquired: 11/18/2024 9:30:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.363372	.1531277	.1430096
Stddev	.004838	.0006372	.0001790
%RSD	.3548666	.4161125	.1252020
#1	1.357806	.1525133	.1428128
#2	1.365741	.1537855	.1431628
#3	1.366570	.1530844	.1430533

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1031.518	28099.79	5737.656	863.0425	1633.355
Stddev	.281	499.53	21.149	15.6829	1.765
%RSD	.0272841	1.777700	.3685934	1.817163	.1080689
#1	1031.414	28652.30	5747.416	880.6205	1631.352
#2	1031.304	27680.07	5752.163	850.4834	1634.682
#3	1031.837	27967.00	5713.390	858.0238	1634.031

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-20LX5 Acquired: 11/18/2024 9:34:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0390237	.0013082	1.615913	-.010082	.0033394	18.42331	.2371831
Stddev	.0016874	.0065716	.007467	.002230	.0020094	.01574	.0004460
%RSD	4.323924	502.3252	.4620807	22.11738	60.17302	.0854422	.1880252
#1	.0374036	.0081401	1.624261	-.008120	.0056466	18.40838	.2376126
#2	.0407711	-.004968	1.609870	-.009619	.0023990	18.42181	.2367223
#3	.0388963	.000752	1.613608	-.012507	.0019726	18.43975	.2372144

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019129	.0034986	7.257862	.0526536	.0210366	.2154059	58.64249
Stddev	.0000487	.0001640	.008782	.0003320	.0004783	.0015079	.15827
%RSD	2.548708	4.688288	.1210016	.6305750	2.273425	.7000164	.2698828
#1	.0019305	.0035990	7.251703	.0523484	.0215803	.2164352	58.66097
#2	.0019504	.0033094	7.267918	.0526052	.0208484	.2161073	58.79070
#3	.0018577	.0035876	7.253965	.0530071	.0206810	.2136750	58.47579

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9849530	6.108772	.0618799	-.005297	.0031481	.0479040	.6936593
Stddev	.0023971	.064239	.0004751	.000652	.1472218	.0031115	.0046440
%RSD	.2433754	1.051584	.7678314	12.31126	4676.472	6.495310	.6694971
#1	.9822133	6.067044	.0619496	-.005782	.1233030	.0444378	.6954139
#2	.9866647	6.182747	.0623163	-.005553	.0472166	.0504561	.6971704
#3	.9859809	6.076526	.0613737	-.004556	-.161075	.0488180	.6883936

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.543568	1.759724	.0545617	.0036839	.5521163	2.374868	.0099110
Stddev	.077671	.009440	.0005472	.0007209	.0004586	.010284	.0028249
%RSD	5.031926	.5364262	1.002920	19.56871	.0830604	.4330462	28.50257
#1	1.487388	1.754040	.0551867	.0037484	.5517515	2.375681	.0131448
#2	1.632203	1.770620	.0543296	.0029329	.5526311	2.384721	.0086638
#3	1.511112	1.754511	.0541688	.0043704	.5519662	2.364201	.0079243

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-20LX5 Acquired: 11/18/2024 9:34:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3006703	.0354679	.0309074
Stddev	.0004269	.0004146	.0001769
%RSD	.1419968	1.168815	.5723191
#1	.3008946	.0359353	.0309437
#2	.3001780	.0353239	.0310633
#3	.3009384	.0351446	.0307151

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1006.855	27133.19	5473.575	847.6286	1772.684
Stddev	1.498	26.14	17.130	4.1308	3.265
%RSD	.1487628	.0963272	.3129493	.4873396	.1842024
#1	1005.911	27137.23	5474.284	847.6485	1769.550
#2	1008.582	27157.08	5456.102	843.4878	1776.067
#3	1006.071	27105.27	5490.339	851.7494	1772.435

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-22 Acquired: 11/18/2024 9:38:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2380897	.0915059	7.894648	.1286189	.1746325	89.70041	4.932544
Stddev	.0050200	.0040064	.026002	.0080131	.0007520	.18824	.005617
%RSD	2.108450	4.378329	.3293635	6.230140	.4306294	.2098586	.1138725
#1	.2354079	.0961281	7.869385	.1255253	.1750185	89.91775	4.926081
#2	.2349802	.0890282	7.893227	.1226138	.1751131	89.58893	4.935311
#3	.2438810	.0893614	7.921331	.1377177	.1737659	89.59456	4.936241

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1005859	.1193745	33.01254	.6414867	1.129182	1.442532	273.2094
Stddev	.0003686	.0006535	.01262	.0092224	.005312	.006484	.8924
%RSD	.3664588	.5474297	.0382353	1.437662	.4703928	.4494765	.3266267
#1	.1009609	.1186668	33.02707	.6420997	1.124912	1.448813	274.1910
#2	.1005727	.1195015	33.00621	.6319731	1.127505	1.442919	272.4472
#3	.1002241	.1199551	33.00433	.6503873	1.135130	1.435863	272.9900

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.413890	27.87187	1.336392	.0647708	1.591588	1.214555	3.841515
Stddev	.015578	.20359	.005384	.0014484	.124231	.007463	.047641
%RSD	.2877461	.7304531	.4028714	2.236126	7.805450	.6144305	1.240165
#1	5.412704	27.98376	1.333442	.0651015	1.660113	1.221712	3.852148
#2	5.430027	27.63687	1.333129	.0631857	1.448186	1.215132	3.789456
#3	5.398939	27.99497	1.342607	.0660252	1.666467	1.206821	3.882942

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.300840	8.855251	.2476707	.0170377	2.830253	10.44248	.0503753
Stddev	.128229	.029068	.0043250	.0000395	.019341	.03551	.0012042
%RSD	1.756355	.3282526	1.746268	.2317326	.6833774	.3400187	2.390498
#1	7.445309	8.827265	.2498119	.0170436	2.811681	10.48203	.0515384
#2	7.256697	8.853195	.2426928	.0170739	2.828797	10.43208	.0491338
#3	7.200514	8.885291	.2505074	.0169956	2.850281	10.41334	.0504539

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-22 Acquired: 11/18/2024 9:38:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH7S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.390627	.1608598	.1428871
Stddev	.004335	.0024158	.0000174
%RSD	.3117184	1.501814	.0122086
#1	1.395632	.1616768	.1429069
#2	1.388036	.1581414	.1428739
#3	1.388214	.1627612	.1428806

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1028.553	28260.25	5815.957	868.2656	1617.261
Stddev	1.736	284.72	25.940	7.2940	3.925
%RSD	.1687572	1.007497	.4460069	.8400616	.2426907
#1	1027.477	28212.76	5801.162	866.4524	1617.067
#2	1030.556	28565.73	5800.801	876.2951	1621.279
#3	1027.628	28002.26	5845.909	862.0492	1613.437

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-15 Acquired: 11/18/2024 9:43:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040979	-.006991	.9895869	.0104708	-.002053	.7239167
Stddev	.0025884	.003519	.0023351	.0012300	.002240	.0098232
%RSD	63.16501	50.33838	.2359656	11.74702	109.1423	1.356947
#1	.0025859	-.009869	.9922823	.0116535	.000241	.7144698
#2	.0070866	-.008036	.9883015	.0091984	-.004236	.7232032
#3	.0026211	-.003068	.9881769	.0105605	-.002162	.7340772

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.084597	.0004207	.0017600	5.940212	.0093291	.0050339
Stddev	.011607	.0001260	.0000852	.055240	.0000129	.0001829
%RSD	1.070133	29.95694	4.841584	.9299313	.1379547	3.633074
#1	1.076359	.0005657	.0017074	5.893631	.0093366	.0048577
#2	1.097871	.0003578	.0018583	6.001240	.0093364	.0052228
#3	1.079560	.0003384	.0017143	5.925767	.0093142	.0050214

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068207	.5342780	.2772567	1.881523	.0096900	.0049237
Stddev	.0012293	.0131728	.0029228	.034719	.0006974	.0015994
%RSD	18.02370	2.465531	1.054172	1.845237	7.196642	32.48412
#1	.0070409	.5201382	.2770653	1.858407	.0095730	.0052735
#2	.0079250	.5462030	.2802704	1.864716	.0090586	.0063193
#3	.0054961	.5364927	.2744343	1.921447	.0104385	.0031784

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1358.674	.0101745	.5785038	2.647219	.0022615	.3333910
Stddev	15.818	.0053530	.0126193	.170435	.0051705	.0049460
%RSD	1.164201	52.61137	2.181362	6.438255	228.6273	1.483544
#1	1349.079	.0075110	.5871384	2.455739	.0063262	.3297375
#2	1376.931	.0066758	.5843515	2.782324	.0040164	.3390193
#3	1350.012	.0163367	.5640214	2.703594	-.003558	.3314162

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-15 Acquired: 11/18/2024 9:43:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006455	9.009031	.6575600	-.000030	.0130677	-.000215
Stddev	.0004180	.011985	.0100215	.003173	.0015807	.000927
%RSD	64.74920	.1330316	1.524045	10710.53	12.09645	431.1807
#1	.0007044	9.015806	.6566762	-.002828	.0143458	-.001197
#2	.0002013	9.016093	.6679941	.003417	.0135571	.000644
#3	.0010310	8.995193	.6480096	-.000677	.0113001	-.000092

Elem	Sr4077
Units	ppm
Avg	.0501295
Stddev	.0002867
%RSD	.5718744
#1	.0500044
#2	.0504575
#3	.0499266

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	997.4640	25911.50	5730.852	856.1262	1481.725
Stddev	1.0323	433.54	59.190	14.1561	2.327
%RSD	.1034920	1.673149	1.032831	1.653511	.1570681
#1	997.2761	25699.24	5772.455	848.5803	1482.029
#2	998.5773	25624.99	5663.089	847.3416	1483.886
#3	996.5386	26410.27	5757.011	872.4566	1479.261

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-16 Acquired: 11/18/2024 9:47:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068814	-.004174	1.071030	.0065656	-.000303	.4718246
Stddev	.0065556	.003270	.005851	.0061464	.000629	.0061472
%RSD	95.26576	78.33129	.5462530	93.61477	207.6901	1.302864
#1	.0000471	-.001728	1.069907	.0025255	-.000515	.4647267
#2	.0074798	-.007888	1.065822	.0035324	.000405	.4753198
#3	.0131174	-.002907	1.077360	.0136390	-.000798	.4754274

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.048650	.0003510	.0018262	6.056906	.0043039	.0051686
Stddev	.003820	.0000819	.0000600	.017306	.0007933	.0002975
%RSD	.3642679	23.34383	3.283616	.2857315	18.43301	5.756736
#1	1.050225	.0003820	.0017577	6.061163	.0051873	.0048384
#2	1.051432	.0002581	.0018692	6.071687	.0040723	.0054159
#3	1.044295	.0004129	.0018518	6.037868	.0036521	.0052514

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0085077	.0310045	.2797787	1.817089	.0067330	.0055765
Stddev	.0009783	.0178891	.0000995	.025128	.0004046	.0006974
%RSD	11.49932	57.69820	.0355584	1.382890	6.008906	12.50571
#1	.0090306	.0159473	.2798650	1.829667	.0071855	.0053886
#2	.0073790	.0507797	.2796699	1.788155	.0064063	.0049923
#3	.0091135	.0262866	.2798013	1.833444	.0066070	.0063485

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1376.833	.0064573	.5875807	2.680112	.0020245	.3365529
Stddev	.778	.0041280	.0022096	.199193	.0010537	.0042348
%RSD	.0564923	63.92855	.3760434	7.432270	52.04810	1.258292
#1	1376.775	.0112098	.5862551	2.450300	.0008578	.3333644
#2	1376.086	.0043980	.5863556	2.803251	.0029070	.3413579
#3	1377.638	.0037640	.5901315	2.786786	.0023088	.3349364

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-16 Acquired: 11/18/2024 9:47:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9D Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007478	9.496151	.6052513	.0005253	.0006598	-.000920
Stddev	.0002978	.034020	.0051852	.0018670	.0011552	.002160
%RSD	39.81529	.3582504	.8566957	355.4334	175.0724	234.6514
#1	.0007983	9.466584	.6008692	.0025789	.0019810	.001569
#2	.0004281	9.488537	.6109756	.0000663	.0001578	-.002298
#3	.0010172	9.533333	.6039090	-.001069	-.000159	-.002031

Elem	Sr4077
Units	ppm
Avg	.0497659
Stddev	.0000586
%RSD	.1177552
#1	.0497615
#2	.0498265
#3	.0497095

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	998.1388	25577.01	5669.934	840.1029	1488.599
Stddev	3.3527	95.01	12.973	5.1955	3.500
%RSD	.3358924	.3714717	.2288052	.6184420	.2351198
#1	1001.209	25548.80	5672.069	841.3241	1492.056
#2	998.645	25682.93	5656.026	844.5791	1488.683
#3	994.562	25499.30	5681.707	834.4056	1485.057

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-15LX5 Acquired: 11/18/2024 9:52:12 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005148	-.002411	.1843929	.0005877	.0014644	.1338437	.2263912
Stddev	.005492	.001749	.0020424	.0077153	.0013348	.0051321	.0003592
%RSD	106.6874	72.54518	1.107660	1312.765	91.14579	3.834397	.1586524
#1	-.001663	-.001015	.1835788	-.007576	.0010477	.1291873	.2267580
#2	-.002301	-.004374	.1828829	.001581	.0029579	.1393463	.2260402
#3	-.011479	-.001845	.1867168	.007758	.0003878	.1329976	.2263753

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001030	.0003428	1.247493	.0013700	.0004909	.0001655	.1115452
Stddev	.0001228	.0000216	.005288	.0010951	.0004317	.0027280	.0089477
%RSD	119.1492	6.291358	.4238683	79.94012	87.94294	1648.334	8.021613
#1	.0001396	.0003676	1.241474	.0022922	.0000026	-.001425	.1179767
#2	-.000034	.0003284	1.251392	.0016581	.0006482	.003315	.1153321
#3	.000203	.0003325	1.249613	.0001595	.0008219	-.001394	.1013267

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0579738	.3567662	.0021426	.0047433	276.5192	.0065109	.1202982
Stddev	.0006671	.0502716	.0009978	.0005011	.2281	.0067151	.0007531
%RSD	1.150665	14.09090	46.56931	10.56375	.0825007	103.1364	.6260423
#1	.0582759	.4113943	.0032188	.0052508	276.5175	.0018253	.1194557
#2	.0584364	.3464539	.0019607	.0047302	276.7482	.0142040	.1209062
#3	.0572092	.3124504	.0012482	.0042490	276.2920	.0035034	.1205327

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7505773	.0002352	.0752118	.0004361	1.626481	.1400927	-.000125
Stddev	.0084282	.0034820	.0021548	.0003724	.010052	.0008386	.002351
%RSD	1.122893	1480.640	2.865009	85.39597	.6180000	.5986122	1878.002
#1	.7443161	.0035366	.0764076	.0006048	1.619479	.1407571	.002543
#2	.7601602	.0005718	.0727242	.0000092	1.621964	.1403707	-.001030
#3	.7472556	-.003403	.0765035	.0006944	1.637998	.1391505	-.001889

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-15LX5 Acquired: 11/18/2024 9:52:12 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0025147	.0065943	.0102936
Stddev	.0018067	.0005625	.0000674
%RSD	71.84795	8.530465	.6549763
#1	.0013288	.0069859	.0103486
#2	.0016211	.0059497	.0103139
#3	.0045941	.0068473	.0102184

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	961.0352	25267.07	5345.215	803.5719	1613.440
Stddev	2.5892	46.69	14.228	3.0955	2.216
%RSD	.2694133	.1847982	.2661731	.3852226	.1373515
#1	958.0675	25253.41	5329.737	802.3476	1612.110
#2	962.2055	25228.74	5357.724	801.2757	1615.998
#3	962.8326	25319.07	5348.184	807.0923	1612.211

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-17 Acquired: 11/18/2024 9:56:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0515706	.0441519	1.092046	.1089771	.0862999	2.242999
Stddev	.0061321	.0024096	.006644	.0047362	.0028487	.001736
%RSD	11.89063	5.457511	.6083947	4.346045	3.300921	.0774024
#1	.0464842	.0445794	1.089189	.1054288	.0836906	2.243185
#2	.0498480	.0415571	1.099641	.1143553	.0893391	2.241178
#3	.0583798	.0463191	1.087309	.1071473	.0858700	2.244635

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.984749	.0498507	.0598287	5.800591	.2391123	.5532287
Stddev	.004628	.0004568	.0001043	.029406	.0018284	.0022254
%RSD	.1550665	.9162801	.1742578	.5069411	.7646647	.4022507
#1	2.988642	.0502380	.0599255	5.823355	.2385270	.5511349
#2	2.979632	.0499670	.0598423	5.811026	.2411618	.5555657
#3	2.985974	.0493470	.0597184	5.767391	.2376483	.5529855

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2401158	1.057077	.7567876	1.741613	.5639118	.0544292
Stddev	.0031332	.010392	.0007178	.035472	.0036410	.0002112
%RSD	1.304883	.9831099	.0948530	2.036711	.6456591	.3880329
#1	.2365699	1.062246	.7565071	1.757431	.5615488	.0541854
#2	.2425108	1.045114	.7562524	1.766423	.5681047	.0545452
#3	.2412668	1.063871	.7576034	1.700984	.5620817	.0545569

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1354.833	.5394656	.9542337	2.512182	.0033838	.3099987
Stddev	2.793	.0131264	.0037090	.068727	.0026815	.0029827
%RSD	.2061569	2.433229	.3886842	2.735740	79.24675	.9621605
#1	1356.407	.5545810	.9517838	2.590036	.0017926	.3110860
#2	1351.608	.5328810	.9524166	2.486576	.0018790	.3122852
#3	1356.484	.5309348	.9585008	2.459934	.0064797	.3066249

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-17 Acquired: 11/18/2024 9:56:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA9S Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001158	9.782751	.6046943	.0007105	-.000406	.0002222
Stddev	.0004877	.035401	.0042247	.0014822	.000383	.0010815
%RSD	421.2617	.3618707	.6986458	208.6142	94.31383	486.8464
#1	.0006037	9.744954	.6072524	.0012502	-.000095	.0009009
#2	-.000372	9.815131	.6070124	.0018472	-.000834	-.001025
#3	.000116	9.788168	.5998180	-.000966	-.000290	.000791

Elem	Sr4077
Units	ppm
Avg	.0478833
Stddev	.0001506
%RSD	.3145867
#1	.0480148
#2	.0477190
#3	.0479162

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	991.8730	25611.38	5783.098	839.9805	1467.902
Stddev	6.1458	69.27	25.170	2.7672	8.673
%RSD	.6196133	.2704479	.4352375	.3294380	.5908343
#1	997.6122	25683.84	5764.086	842.4227	1475.637
#2	985.3886	25545.82	5773.566	840.5439	1458.526
#3	992.6181	25604.50	5811.642	836.9750	1469.544

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV021 Acquired: 11/18/2024 10:01:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV021 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.240305	4.955013	25.30699	4.924426	4.922000	393.6077	10.30808
Stddev	.077770	.093786	.41965	.078800	.094840	1.7449	.01482
%RSD	1.484082	1.892752	1.658248	1.600179	1.926850	.4432977	.1437923
#1	5.288662	5.001280	25.47889	4.943050	4.949431	391.8491	10.29730
#2	5.150594	4.847083	24.82868	4.837982	4.816468	395.3385	10.30197
#3	5.281659	5.016675	25.61340	4.992245	5.000100	393.6356	10.32498

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5236542	2.557712	403.8327	15.77783	2.550054	15.37347	406.0156
Stddev	.0030362	.043323	.1756	.05171	.043949	.02143	.5839
%RSD	.5798119	1.693829	.0434908	.3277694	1.723452	.1394117	.1438043
#1	.5202398	2.578896	403.6351	15.83621	2.571653	15.38643	405.3479
#2	.5246725	2.507873	403.8918	15.73778	2.499485	15.34873	406.2682
#3	.5260504	2.586367	403.9711	15.75949	2.579024	15.38524	406.4306

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.09774	403.5771	2.536001	1.280903	401.1535	2.571803	14.76183
Stddev	.00735	.6994	.044232	.003725	.6100	.013288	.06029
%RSD	.0486716	.1732995	1.744163	.2908212	.1520538	.5166815	.4084329
#1	15.10186	402.8085	2.561660	1.283685	400.4953	2.556847	14.72412
#2	15.08925	403.7468	2.484926	1.276671	401.2655	2.576312	14.73000
#3	15.10210	404.1760	2.561415	1.282353	401.6997	2.582249	14.83136

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	155.6875	5.133127	5.279741	4.845683	5.158105	5.193001	5.108087
Stddev	.1058	.081152	.024649	.086821	.105083	.024875	.092357
%RSD	.0679856	1.580939	.4668604	1.791719	2.037241	.4790114	1.808050
#1	155.5835	5.175167	5.251990	4.866575	5.181567	5.164786	5.152766
#2	155.6840	5.039580	5.299092	4.750322	5.043274	5.211766	5.001887
#3	155.7951	5.184632	5.288141	4.920152	5.249474	5.202451	5.169608

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV021 Acquired: 11/18/2024 10:01:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV021 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.133807	5.149604	5.147187
Stddev	.013625	.007620	.017428
%RSD	.2653901	.1479694	.3385944
#1	5.130432	5.145663	5.154959
#2	5.122186	5.144762	5.159376
#3	5.148801	5.158387	5.127225

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	776.1222	22703.63	5038.406	605.3822	1306.081
Stddev	11.8145	77.10	10.135	1.5249	18.748
%RSD	1.522250	.3395873	.2011510	.2518943	1.435419
#1	774.2907	22627.06	5048.522	606.4186	1297.939
#2	788.7455	22702.60	5028.252	606.0968	1327.523
#3	765.3303	22781.25	5038.444	603.6312	1292.781

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB021 Acquired: 11/18/2024 10:05:39 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB021 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005008	-.001371	-.000029	-.000167	.0015104	-.002221	.0006844
Stddev	.006141	.001905	.002301	.001919	.0025305	.005719	.0006712
%RSD	122.6245	138.9530	7902.742	1147.707	167.5451	257.5514	98.06756
#1	-.011229	-.003570	.002626	.000774	.0027928	.004366	-.000065
#2	.001050	-.000232	-.001429	.001099	-.001405	-.005922	.000887
#3	-.004845	-.000310	-.001285	-.002375	.003143	-.005106	.001231

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000059	-.000006	.0097357	.0013919	-.000064	-.001580	.0230010
Stddev	.000096	.000078	.0077123	.0002448	.000169	.002655	.0123524
%RSD	162.7788	1295.926	79.21731	17.58834	263.4697	168.0157	53.70388
#1	.000044	.000077	.0011493	.0011093	-.000099	.001354	.0350240
#2	-.000074	-.000017	.0119830	.0015286	.000119	-.003815	.0236354
#3	-.000146	-.000078	.0160748	.0015378	-.000212	-.002279	.0103436

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004283	.0219826	.0001845	.0022648	-.289478	.0035337	-.000258
Stddev	.0004865	.0201454	.0004040	.0022218	.365831	.0042429	.000090
%RSD	113.5792	91.64239	219.0119	98.10294	126.3759	120.0707	34.77348
#1	.0000207	.0028433	.0002543	.0008593	-.137605	-.000495	-.000233
#2	.0002974	.0430023	-.000250	.0011088	-.024046	.003133	-.000184
#3	.0009669	.0201022	.000549	.0048263	-.706785	.007963	-.000358

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3258819	.0032516	.0080635	.0010068	-.007837	.0004830	-.000228
Stddev	.0481492	.0020117	.0014960	.0005404	.002717	.0009197	.000262
%RSD	14.77504	61.86913	18.55288	53.67775	34.66756	190.4252	114.7403
#1	.3073722	.0010961	.0083904	.0013679	-.008373	-.000135	-.000371
#2	.2897343	.0050793	.0064311	.0012670	-.004892	.001540	-.000387
#3	.3805393	.0035794	.0093691	.0003855	-.010246	.000045	.000074

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB021 Acquired: 11/18/2024 10:05:39 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB021 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0009461	.0085222	.0001753
Stddev	.0010081	.0006380	.0000740
%RSD	106.5628	7.486352	42.17956
#1	-.000180	.0084752	.0002093
#2	.001252	.0079090	.0002262
#3	.001766	.0091824	.0000905

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	972.4805	25969.82	5175.638	811.7645	1828.963
Stddev	1.5038	668.16	27.114	18.3406	3.201
%RSD	.1546347	2.572837	.5238863	2.259354	.1750210
#1	970.7639	26372.91	5167.132	822.2278	1825.798
#2	973.1122	26337.99	5153.796	822.4786	1832.198
#3	973.5654	25198.56	5205.986	790.5870	1828.892

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-10 Acquired: 11/18/2024 10:10:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1888594	-.002636	2.246505	-.035125	.0157495	96.52342	1.021223
Stddev	.0105090	.009848	.005004	.005809	.0028576	.08362	.000313
%RSD	5.564445	373.6471	.2227270	16.53692	18.14436	.0866332	.0306653
#1	.1984279	-.002984	2.241021	-.031061	.0165864	96.58868	1.021554
#2	.1776120	-.012305	2.247672	-.032536	.0125668	96.42915	1.020931
#3	.1905382	.007382	2.250822	-.041778	.0180953	96.55241	1.021183

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0081840	.0112479	26.24644	.2372671	.1023520	.7081539	288.4555
Stddev	.0001784	.0002478	.00876	.0017373	.0007829	.0011514	.2885
%RSD	2.180218	2.202777	.0333582	.7322260	.7648822	.1625901	.1000100
#1	.0083859	.0109713	26.23901	.2360912	.1022771	.7080335	288.2853
#2	.0081187	.0114495	26.25609	.2392626	.1016092	.7093608	288.2926
#3	.0080475	.0113228	26.24421	.2364474	.1031696	.7070675	288.7886

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.422949	27.07365	.3785903	-.023589	1.757383	.2101602	1.811684
Stddev	.005512	.07714	.0017008	.000266	.276424	.0021620	.012099
%RSD	.1610305	.2849225	.4492517	1.128667	15.72928	1.028755	.6678552
#1	3.418020	26.98663	.3767280	-.023490	1.484458	.2086060	1.798458
#2	3.421928	27.13361	.3789814	-.023891	2.037177	.2092453	1.822196
#3	3.428901	27.10072	.3800615	-.023387	1.750513	.2126293	1.814397

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.417487	7.951751	.2559412	.0301613	1.639276	7.564985	.0390728
Stddev	.068567	.008225	.0023275	.0003126	.013756	.021228	.0023618
%RSD	1.068446	.1034333	.9094066	1.036458	.8391578	.2806130	6.044714
#1	6.464441	7.960174	.2533086	.0298859	1.628584	7.573646	.0378093
#2	6.338802	7.951339	.2577258	.0305011	1.654795	7.580512	.0376115
#3	6.449219	7.943740	.2567893	.0300970	1.634449	7.540795	.0417976

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-10 Acquired: 11/18/2024 10:10:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.424117	.1596922	.2754856
Stddev	.004486	.0009030	.0000800
%RSD	.3149983	.5654816	.0290479
#1	1.425848	.1594296	.2755683
#2	1.419024	.1589496	.2754085
#3	1.427480	.1606975	.2754801

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1033.846	27959.77	5705.305	861.8523	1632.124
Stddev	1.486	66.29	5.715	6.3079	2.674
%RSD	.1437519	.2370839	.1001679	.7319058	.1638341
#1	1033.635	27985.50	5710.178	869.0512	1634.037
#2	1032.478	28009.33	5706.721	859.2129	1629.068
#3	1035.427	27884.47	5699.015	857.2927	1633.266

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-11 Acquired: 11/18/2024 10:14:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1935785	-.009576	2.270490	-.032818	.0172546	96.69247	1.031093
Stddev	.0032782	.000315	.012328	.003484	.0023423	.14269	.000974
%RSD	1.693464	3.292102	.5429696	10.61502	13.57492	.1475666	.0944153
#1	.1962770	-.009374	2.265975	-.033724	.0171574	96.53531	1.030696
#2	.1899304	-.009414	2.261055	-.028971	.0149624	96.81389	1.030380
#3	.1945282	-.009939	2.284439	-.035759	.0196440	96.72820	1.032202

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0080117	.0117315	26.36784	.2369007	.1026072	.7103681	289.3249
Stddev	.0002970	.0002992	.04250	.0027925	.0007476	.0018177	.5021
%RSD	3.707211	2.550428	.1611872	1.178757	.7285539	.2558890	.1735386
#1	.0080792	.0120591	26.33302	.2343574	.1018630	.7112225	288.7582
#2	.0076868	.0114726	26.35531	.2398889	.1026006	.7116012	289.7142
#3	.0082693	.0116629	26.41520	.2364559	.1033580	.7082806	289.5023

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.427204	27.18539	.3808418	-.024224	1.630380	.2090865	1.809957
Stddev	.004724	.11027	.0011612	.000533	.453029	.0043458	.005747
%RSD	.1378492	.4056084	.3048994	2.198600	27.78668	2.078476	.3175091
#1	3.429706	27.08073	.3807917	-.024699	1.376006	.2052646	1.816466
#2	3.430151	27.17491	.3797065	-.023648	2.153427	.2081813	1.805582
#3	3.421755	27.30052	.3820273	-.024324	1.361707	.2138136	1.807824

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.374154	7.995203	.2568561	.0311406	1.656807	7.579881	.0399381
Stddev	.035575	.040898	.0016765	.0003569	.002074	.010034	.0033109
%RSD	.5581112	.5115354	.6526857	1.146134	.1251665	.1323815	8.290052
#1	6.407772	8.038767	.2560597	.0313042	1.654438	7.586450	.0419898
#2	6.377789	7.957631	.2587823	.0313863	1.657691	7.568331	.0417059
#3	6.336901	7.989213	.2557262	.0307312	1.658293	7.584863	.0361185

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-11 Acquired: 11/18/2024 10:14:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.431513	.1605554	.2767811
Stddev	.001016	.0001056	.0003334
%RSD	.0709854	.0657606	.1204404
#1	1.430378	.1606634	.2770188
#2	1.432337	.1604524	.2769244
#3	1.431825	.1605505	.2764000

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1033.093	28114.79	5775.848	866.7857	1627.761
Stddev	2.247	108.37	7.471	1.3181	7.740
%RSD	.2174827	.3854698	.1293512	.1520713	.4755219
#1	1033.787	28151.88	5784.084	866.0732	1626.547
#2	1034.911	27992.74	5769.507	865.9771	1636.037
#3	1030.581	28199.75	5773.952	868.3067	1620.700

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-10LX5 Acquired: 11/18/2024 10:18:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0410449	.0019864	.4545465	-.000650	.0035601	20.56986	.2189563
Stddev	.0139723	.0011890	.0022237	.009492	.0025768	.06042	.0012378
%RSD	34.04136	59.85735	.4892225	1460.095	72.38014	.2937174	.5653012
#1	.0452977	.0027030	.4543005	-.011191	.0056932	20.50185	.2184399
#2	.0523967	.0006139	.4524560	.002020	.0042900	20.59037	.2180603
#3	.0254405	.0026423	.4568831	.007221	.0006971	20.61734	.2203686

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017877	.0018757	5.721131	.0511281	.0199300	.1524430	62.50378
Stddev	.0001552	.0002770	.020825	.0006197	.0005042	.0021700	.19148
%RSD	8.680641	14.76747	.3640094	1.212092	2.529690	1.423512	.3063438
#1	.0016489	.0019155	5.740676	.0515035	.0197111	.1499921	62.38714
#2	.0017588	.0021306	5.699226	.0504128	.0205066	.1541200	62.39944
#3	.0019552	.0015809	5.723490	.0514679	.0195723	.1532169	62.72477

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7407626	5.922761	.0740221	-.006245	.3467605	.0440502	.3949398
Stddev	.0031819	.019459	.0010446	.000246	.2578103	.0002817	.0022031
%RSD	.4295403	.3285502	1.411130	3.946182	74.34823	.6394602	.5578210
#1	.7434408	5.910817	.0733783	-.006460	.0579794	.0440176	.3950038
#2	.7372453	5.945215	.0734606	-.005976	.5537629	.0443468	.3971101
#3	.7416019	5.912251	.0752273	-.006300	.4285391	.0437862	.3927054

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.291114	1.547408	.0569460	.0063709	.3256151	1.731899	.0090476
Stddev	.144450	.018143	.0012741	.0004114	.0081768	.009837	.0012557
%RSD	11.18803	1.172498	2.237420	6.457803	2.511180	.5679703	13.87914
#1	1.369760	1.526927	.0571129	.0059204	.3242919	1.723619	.0080389
#2	1.379176	1.553828	.0581284	.0064657	.3181806	1.729306	.0104541
#3	1.124405	1.561468	.0555966	.0067267	.3343728	1.742773	.0086499

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-10LX5 Acquired: 11/18/2024 10:18:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3104854	.0362650	.0591793
Stddev	.0011991	.0008174	.0001089
%RSD	.3862115	2.253990	.1839989
#1	.3115028	.0361091	.0590536
#2	.3107901	.0355368	.0592398
#3	.3091633	.0371492	.0592446

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1006.297	27146.14	5435.069	846.0868	1774.480
Stddev	7.840	54.64	25.239	3.5412	11.031
%RSD	.7791355	.2012633	.4643724	.4185410	.6216306
#1	1015.344	27186.36	5455.090	847.5719	1786.775
#2	1001.485	27083.94	5443.398	842.0448	1771.214
#3	1002.061	27168.13	5406.718	848.6435	1765.451

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-12 Acquired: 11/18/2024 10:23:23 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2602108	.0868252	2.278957	.1263618	.1722389	99.58678	4.730803
Stddev	.0097611	.0013186	.019082	.0097857	.0035426	.18628	.013917
%RSD	3.751231	1.518693	.8373313	7.744187	2.056803	.1870525	.2941723
#1	.2678933	.0866406	2.282770	.1321935	.1705123	99.49330	4.725822
#2	.2492272	.0856086	2.258256	.1318276	.1698906	99.80129	4.746525
#3	.2635119	.0882263	2.295846	.1150642	.1763137	99.46575	4.720062

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0978487	.1075025	26.16642	.6268830	1.078385	1.134923	291.6160
Stddev	.0006829	.0008255	.12043	.0017718	.005085	.006613	.6310
%RSD	.6978948	.7678732	.4602292	.2826434	.4715265	.5826432	.2163762
#1	.0974456	.1078291	26.13210	.6283644	1.077842	1.132930	291.0745
#2	.0986371	.1065637	26.30028	.6273643	1.073594	1.142303	292.3089
#3	.0974633	.1081147	26.06688	.6249202	1.083720	1.129536	291.4646

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.290147	27.18460	1.354551	.0594264	1.741877	1.185521	2.530536
Stddev	.012004	.05944	.004799	.0005712	.151114	.008816	.025001
%RSD	.2798090	.2186584	.3542894	.9612310	8.675376	.7436191	.9879581
#1	4.286364	27.22350	1.353485	.0600750	1.912841	1.195639	2.502362
#2	4.303587	27.21413	1.350374	.0589984	1.686626	1.181434	2.539171
#3	4.280490	27.11618	1.359793	.0592058	1.626163	1.179491	2.550074

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.311843	7.816223	.2521753	.0301335	1.630000	7.514334	.0359044
Stddev	.078407	.043211	.0009785	.0004154	.024633	.055131	.0032341
%RSD	1.242215	.5528350	.3880066	1.378585	1.511251	.7336808	9.007521
#1	6.281783	7.781131	.2519648	.0304681	1.657007	7.456923	.0384003
#2	6.400832	7.803051	.2532418	.0296686	1.608765	7.566860	.0322508
#3	6.252915	7.864487	.2513192	.0302640	1.624229	7.519219	.0370620

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-12 Acquired: 11/18/2024 10:23:23 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.422821	.1567954	.2739155
Stddev	.000747	.0001866	.0007704
%RSD	.0524915	.1189919	.2812556
#1	1.423262	.1569735	.2732592
#2	1.421959	.1566013	.2747637
#3	1.423242	.1568113	.2737235

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1027.594	28178.34	5762.294	865.8018	1631.769
Stddev	3.486	79.34	18.937	4.4794	5.353
%RSD	.3392333	.2815528	.3286385	.5173756	.3280508
#1	1028.068	28086.78	5771.479	870.6044	1630.380
#2	1030.819	28226.55	5740.516	865.0639	1637.680
#3	1023.895	28221.71	5774.887	861.7371	1627.247

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-03 Acquired: 11/18/2024 10:27:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2531975	-.003661	3.146201	-.030865	.0195289	99.86818	1.529796
Stddev	.0073227	.001603	.001635	.004278	.0028681	1.58260	.025210
%RSD	2.892104	43.79442	.0519645	13.85884	14.68641	1.584691	1.647902
#1	.2579477	-.005513	3.146845	-.025931	.0168771	100.9389	1.544335
#2	.2568804	-.002718	3.147415	-.033136	.0191368	100.6153	1.544366
#3	.2447644	-.002753	3.144342	-.033528	.0225729	98.0503	1.500686

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084556	.0179942	31.62234	.2608563	.1042193	1.051656	290.8212
Stddev	.0001989	.0003059	.40492	.0017751	.0009250	.017101	4.6813
%RSD	2.352375	1.699855	1.280474	.6805062	.8875185	1.626061	1.609684
#1	.0086372	.0180203	31.78740	.2628825	.1048722	1.060761	293.8374
#2	.0084866	.0176762	31.91866	.2601119	.1031608	1.062278	293.1980
#3	.0082430	.0182862	31.16096	.2595746	.1046248	1.031930	285.4284

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.705053	26.05213	.3625864	-.022978	1.501063	.2162867	2.545879
Stddev	.053080	.41281	.0010542	.000217	.392847	.0040599	.013436
%RSD	1.432639	1.584545	.2907487	.9449253	26.17124	1.877083	.5277679
#1	3.736547	26.36722	.3623114	-.022785	1.516590	.2181877	2.560778
#2	3.734842	26.20434	.3637509	-.023213	1.885916	.2190474	2.542177
#3	3.643769	25.58483	.3616969	-.022935	1.100683	.2116252	2.534682

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.141795	9.516989	.2670806	.0241507	1.878206	8.977618	.0661591
Stddev	.145134	.015715	.0031205	.0003446	.011540	.077720	.0005949
%RSD	2.032176	.1651290	1.168386	1.426960	.6144137	.8657109	.8991826
#1	7.062068	9.505455	.2687059	.0237781	1.887667	9.015526	.0657454
#2	7.309317	9.534888	.2690530	.0242161	1.865349	9.029110	.0668409
#3	7.054001	9.510623	.2634829	.0244580	1.881602	8.888218	.0658911

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-03 Acquired: 11/18/2024 10:27:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.434953	.1557127	.3474265
Stddev	.026332	.0022790	.0052989
%RSD	1.835070	1.463604	1.525187
#1	1.455093	.1565103	.3509115
#2	1.444611	.1574857	.3500395
#3	1.405155	.1531421	.3413286

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1031.048	28016.05	5782.487	866.6858	1630.582
Stddev	.487	140.92	50.822	5.3054	.993
%RSD	.0472412	.5030121	.8788985	.6121434	.0609183
#1	1030.562	27854.60	5745.924	860.5875	1629.721
#2	1031.047	28114.38	5761.016	870.2393	1630.355
#3	1031.536	28079.17	5840.521	869.2308	1631.669

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-04 Acquired: 11/18/2024 10:32:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2492408	-.006166	2.993021	-.038117	.0144888	103.1766	1.503914
Stddev	.0083849	.004678	.004751	.001945	.0020497	.2517	.008063
%RSD	3.364182	75.86170	.1587438	5.102080	14.14672	.2439702	.5361534
#1	.2577920	-.006862	2.998489	-.038430	.0160616	103.4469	1.509843
#2	.2410327	-.010458	2.990673	-.036035	.0121708	102.9489	1.494732
#3	.2488977	-.001180	2.989901	-.039887	.0152340	103.1341	1.507165

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0085473	.0169505	31.27439	.2567231	.1100813	1.023073	296.5052
Stddev	.0000878	.0001504	.17760	.0014600	.0006918	.001016	.8532
%RSD	1.027672	.8870464	.5678681	.5686850	.6284449	.0993043	.2877461
#1	.0084679	.0169642	31.33566	.2552886	.1106100	1.022199	297.4695
#2	.0085322	.0167937	31.07427	.2566735	.1092984	1.024188	296.1976
#3	.0086417	.0170935	31.41324	.2582072	.1103357	1.022831	295.8485

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.736778	27.17826	.3679887	-.023431	2.068860	.2204394	2.458166
Stddev	.020455	.12668	.0014810	.000631	.202656	.0027472	.009766
%RSD	.5474061	.4660968	.4024583	2.692613	9.795541	1.246232	.3972813
#1	3.747074	27.16505	.3684270	-.023932	2.205216	.2236094	2.457937
#2	3.713220	27.31102	.3663380	-.022723	1.835986	.2187526	2.448516
#3	3.750039	27.05870	.3692010	-.023639	2.165378	.2189562	2.468044

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.582323	9.293310	.2719550	.0254756	1.803885	9.184073	.0616388
Stddev	.155210	.054602	.0030517	.0003050	.005175	.090769	.0004675
%RSD	2.046993	.5875407	1.122138	1.197102	.2868997	.9883320	.7584506
#1	7.733778	9.341369	.2711286	.0257476	1.805901	9.227165	.0620633
#2	7.423613	9.233937	.2753348	.0255332	1.798005	9.079784	.0611377
#3	7.589578	9.304623	.2694016	.0251459	1.807749	9.245270	.0617154

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-04 Acquired: 11/18/2024 10:32:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.467739	.1624571	.3430127
Stddev	.003446	.0021661	.0011816
%RSD	.2347623	1.333326	.3444882
#1	1.471616	.1621323	.3441143
#2	1.465025	.1604718	.3417646
#3	1.466577	.1647673	.3431591

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1030.149	27904.97	5729.126	858.2013	1622.842
Stddev	2.201	105.93	38.186	1.1096	4.853
%RSD	.2136647	.3796137	.6665163	.1292935	.2990514
#1	1027.700	27905.41	5699.450	857.0965	1617.275
#2	1030.786	27798.82	5772.207	858.1918	1626.177
#3	1031.962	28010.68	5715.721	859.3157	1625.075

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-03LX5 Acquired: 11/18/2024 10:36:25 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0616167	-.001762	.6328249	-.005185	.0047957	21.32568	.3302598
Stddev	.0055254	.003366	.0034559	.003541	.0020646	.08017	.0009245
%RSD	8.967348	191.0598	.5461041	68.29879	43.05180	.3759326	.2799197
#1	.0659655	-.005622	.6319672	-.004448	.0054583	21.23310	.3291924
#2	.0634853	.000557	.6298787	-.009036	.0024811	21.37240	.3307800
#3	.0553993	-.000220	.6366289	-.002070	.0064477	21.37153	.3308069

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020363	.0033480	6.935938	.0564336	.0206652	.2283986	63.17524
Stddev	.0001113	.0001354	.015338	.0009429	.0006598	.0029370	.28141
%RSD	5.467317	4.042692	.2211321	1.670782	3.192692	1.285907	.4454512
#1	.0019297	.0031937	6.922187	.0555766	.0201883	.2261810	62.86010
#2	.0021518	.0034037	6.952479	.0562807	.0203891	.2272853	63.26417
#3	.0020273	.0034466	6.933147	.0574436	.0214181	.2317294	63.40144

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8178570	5.725269	.0716500	-.005490	.2351347	.0511552	.5556989
Stddev	.0044586	.021358	.0001176	.000184	.2960041	.0019042	.0013675
%RSD	.5451606	.3730544	.1641047	3.353432	125.8870	3.722468	.2460945
#1	.8136547	5.711775	.0716489	-.005317	-.058249	.0490883	.5571284
#2	.8225340	5.714139	.0715330	-.005684	.533691	.0528383	.5544031
#3	.8173825	5.749894	.0717681	-.005470	.229962	.0515390	.5555653

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.485462	1.869861	.0578608	.0050479	.3669658	2.016773	.0139910
Stddev	.086571	.003268	.0002834	.0001068	.0053669	.012331	.0018205
%RSD	5.827905	.1747786	.4898367	2.115684	1.462505	.6114391	13.01209
#1	1.447402	1.866243	.0581767	.0049689	.3639561	2.006540	.0131500
#2	1.584544	1.870741	.0576287	.0050054	.3637792	2.013315	.0127429
#3	1.424442	1.872599	.0577771	.0051694	.3731621	2.030464	.0160799

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-03LX5 Acquired: 11/18/2024 10:36:25 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3111319	.0350564	.0756703
Stddev	.0008900	.0005188	.0002003
%RSD	.2860363	1.480049	.2647198
#1	.3105912	.0347696	.0755095
#2	.3121590	.0347441	.0756066
#3	.3106455	.0356553	.0758947

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1007.198	27064.60	5408.599	844.4683	1771.867
Stddev	.193	116.19	11.532	3.4349	2.918
%RSD	.0192102	.4293162	.2132241	.4067489	.1646962
#1	1006.977	26950.72	5395.313	841.4701	1768.972
#2	1007.335	27060.09	5416.029	843.7188	1774.808
#3	1007.283	27182.98	5414.454	848.2161	1771.823

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-05 Acquired: 11/18/2024 10:40:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3224462	.0898721	3.186806	.1265836	.1743491	103.8289	5.289990
Stddev	.0035640	.0080139	.013024	.0072593	.0018636	.1157	.011796
%RSD	1.105308	8.916957	.4086764	5.734766	1.068912	.1114293	.2229810
#1	.3193777	.0881981	3.201084	.1323018	.1724736	103.9496	5.292883
#2	.3216056	.0985908	3.183755	.1184167	.1762007	103.7190	5.277017
#3	.3263554	.0828275	3.175579	.1290324	.1743729	103.8181	5.300071

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0981673	.1158443	32.04232	.6514848	1.090808	1.485129	294.7595
Stddev	.0003360	.0006141	.07635	.0006905	.003500	.006496	.3810
%RSD	.3422942	.5301338	.2382688	.1059917	.3208661	.4374188	.1292519
#1	.0977843	.1164719	32.02397	.6518449	1.094256	1.478907	295.0688
#2	.0984126	.1152446	31.97682	.6506887	1.087258	1.484613	294.8758
#3	.0983051	.1158164	32.12617	.6519209	1.090911	1.491868	294.3339

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.651290	26.00495	1.349952	.0605867	1.939477	1.195332	3.271351
Stddev	.021615	.05133	.002915	.0004527	.438143	.004065	.017251
%RSD	.4647152	.1973789	.2159619	.7472568	22.59076	.3400556	.5273455
#1	4.639773	26.06259	1.351716	.0611095	1.712814	1.198820	3.265214
#2	4.637872	25.98807	1.346587	.0603264	1.661098	1.190868	3.290832
#3	4.676225	25.96419	1.351554	.0603242	2.444518	1.196307	3.258008

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.132459	9.439485	.2663894	.0239996	1.909517	8.924450	.0639426
Stddev	.045098	.018144	.0027378	.0008360	.007852	.030522	.0018676
%RSD	.6322885	.1922147	1.027744	3.483274	.4112197	.3419990	2.920812
#1	7.175483	9.457605	.2691241	.0244280	1.918466	8.890583	.0655068
#2	7.136355	9.421317	.2636485	.0230363	1.903779	8.932937	.0618748
#3	7.085540	9.439533	.2663955	.0245346	1.906306	8.949829	.0644462

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4656-05 Acquired: 11/18/2024 10:40:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM0S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.440620	.1550324	.3506354
Stddev	.002639	.0007419	.0004424
%RSD	.1831792	.4785375	.1261843
#1	1.438079	.1556828	.3507540
#2	1.440435	.1551900	.3501458
#3	1.443347	.1542243	.3510066

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1026.108	28153.93	5807.342	864.9517	1618.699
Stddev	2.084	50.78	14.298	4.0480	3.878
%RSD	.2031169	.1803631	.2462140	.4680061	.2395924
#1	1027.487	28102.60	5821.935	867.4975	1616.183
#2	1027.127	28204.14	5806.733	860.2839	1623.165
#3	1023.711	28155.05	5793.358	867.0738	1616.749

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-01 Acquired: 11/18/2024 10:45:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1158134	.0004190	.7566733	-.025025	.0118460	64.62730	2.209576
Stddev	.0113186	.0059274	.0060945	.001013	.0027074	.09242	.002757
%RSD	9.773170	1414.682	.8054319	4.046575	22.85522	.1430004	.1247903
#1	.1028489	.0050064	.7497616	-.025918	.0139016	64.52187	2.212343
#2	.1237284	-.006274	.7612757	-.023925	.0087784	64.66572	2.209556
#3	.1208628	.002524	.7589825	-.025233	.0128581	64.69431	2.206828

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057647	.0116688	382.9931	.3481492	.0942377	.2476947	178.5837
Stddev	.0003354	.0000913	.3465	.0038475	.0008117	.0027922	.3326
%RSD	5.818741	.7825461	.0904795	1.105143	.8613606	1.127270	.1862573
#1	.0056062	.0116491	383.3599	.3493418	.0951714	.2446416	178.2785
#2	.0061500	.0117683	382.9480	.3512592	.0936994	.2501186	178.9383
#3	.0055379	.0115889	382.6713	.3438465	.0938424	.2483239	178.5344

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.09359	105.6857	.1400983	.0000978	2.293360	.1970406	1.436721
Stddev	.02503	.3102	.0005528	.0004785	.473180	.0037218	.001938
%RSD	.0997635	.2935570	.3946009	489.2062	20.63263	1.888851	.1349128
#1	25.09265	105.3646	.1401709	.0000738	2.144941	.1939178	1.438270
#2	25.11907	105.9838	.1406112	.0005879	2.822958	.2011589	1.437346
#3	25.06903	105.7088	.1395128	-.000368	1.912181	.1960450	1.434547

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.074135	9.404245	.2210091	.0021923	5.342145	11.51060	.0213616
Stddev	.034324	.016656	.0037003	.0005858	.024903	.02827	.0029664
%RSD	.4251120	.1771066	1.674250	26.72272	.4661637	.2456375	13.88659
#1	8.097172	9.423360	.2204606	.0015367	5.320683	11.52564	.0179474
#2	8.090548	9.396524	.2249530	.0023756	5.369450	11.47799	.0228309
#3	8.034686	9.392851	.2176138	.0026646	5.336303	11.52818	.0233067

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-01 Acquired: 11/18/2024 10:45:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.517940	.0892999	.7079337
Stddev	.005768	.0015288	.0012090
%RSD	.3799822	1.711973	.1707739
#1	1.512062	.0910552	.7065394
#2	1.523591	.0885844	.7085714
#3	1.518167	.0882600	.7086903

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	994.1292	27286.08	5728.535	846.5749	1457.368
Stddev	1.6480	44.60	8.734	2.4591	2.515
%RSD	.1657755	.1634561	.1524658	.2904752	.1725507
#1	992.6067	27305.73	5723.791	845.3928	1454.812
#2	993.9018	27235.02	5738.615	844.9301	1457.454
#3	995.8791	27317.47	5723.200	849.4018	1459.839

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-02 Acquired: 11/18/2024 10:49:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1160962	-.004430	.7433338	-.017915	.0101182	64.93555	2.300397
Stddev	.0112605	.003168	.0077845	.002256	.0013329	.77780	.032275
%RSD	9.699258	71.50371	1.047239	12.59466	13.17377	1.197798	1.403002
#1	.1105810	-.001967	.7465079	-.019517	.0112678	65.50092	2.321942
#2	.1086565	-.003320	.7490297	-.015335	.0086571	65.25722	2.315958
#3	.1290511	-.008004	.7344637	-.018894	.0104296	64.04852	2.263290

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057077	.0115691	387.4463	.3467313	.0962782	.2456235	180.5180
Stddev	.0004959	.0000752	5.3542	.0052997	.0005498	.0023661	2.1849
%RSD	8.687605	.6497776	1.381929	1.528477	.5710312	.9633188	1.210360
#1	.0054028	.0114910	390.4818	.3413566	.0969101	.2458905	182.0333
#2	.0062799	.0115753	390.5930	.3468847	.0960147	.2478448	181.5073
#3	.0054404	.0116410	381.2641	.3519527	.0959098	.2431351	178.0134

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.43771	106.5010	.1394727	.0005649	2.258104	.1981445	1.457288
Stddev	.35913	1.1852	.0006090	.0004611	.333642	.0100234	.007520
%RSD	1.358409	1.112869	.4366364	81.63243	14.77532	5.058636	.5160476
#1	26.63488	107.1698	.1398478	.0001592	2.264360	.2011270	1.449913
#2	26.65507	107.2006	.1387700	.0004691	2.588574	.2063382	1.457006
#3	26.02319	105.1325	.1398002	.0010663	1.921378	.1869684	1.464945

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.173640	9.518977	.2248352	.0025690	5.343048	11.46665	.0234442
Stddev	.021725	.034014	.0052193	.0007833	.028114	.11325	.0012748
%RSD	.2657906	.3573314	2.321388	30.48822	.5261805	.9876115	5.437467
#1	8.197915	9.558232	.2258898	.0024495	5.374407	11.51291	.0220777
#2	8.166984	9.500476	.2294467	.0034052	5.334640	11.54944	.0246012
#3	8.156023	9.498224	.2191691	.0018524	5.320097	11.33760	.0236537

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-02 Acquired: 11/18/2024 10:49:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.531394	.0898136	.7173503
Stddev	.018671	.0019373	.0082573
%RSD	1.219194	2.157021	1.151086
#1	1.540994	.0895114	.7222658
#2	1.543312	.0918842	.7219681
#3	1.509877	.0880451	.7078172

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1000.231	27161.25	5705.777	836.7785	1469.779
Stddev	3.182	141.45	70.807	3.9533	4.648
%RSD	.3181041	.5207720	1.240975	.4724383	.3162153
#1	996.577	27271.84	5657.880	838.5219	1464.823
#2	1001.723	27210.05	5672.341	839.5604	1470.475
#3	1002.392	27001.87	5787.111	832.2532	1474.040

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-01LX5 Acquired: 11/18/2024 10:53:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0287161	-.003008	.1486706	-.000955	.0021758	13.86698	.4886873
Stddev	.0069479	.002907	.0048630	.001000	.0020245	.04361	.0019678
%RSD	24.19525	96.63757	3.270988	104.6735	93.04671	.3144830	.4026798
#1	.0206937	-.006309	.1524397	-.000820	.0041723	13.90184	.4875042
#2	.0326554	-.000832	.1503909	-.000030	.0001244	13.81808	.4909589
#3	.0327991	-.001883	.1431813	-.002016	.0022306	13.88101	.4875987

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013779	.0020207	85.60325	.0768935	.0175246	.0555754	40.13042
Stddev	.0001222	.0000895	.26909	.0035128	.0002499	.0021759	.07511
%RSD	8.866115	4.427109	.3143460	4.568341	1.426225	3.915139	.1871686
#1	.0015098	.0021184	85.36516	.0795838	.0174642	.0532125	40.20599
#2	.0012686	.0020006	85.89520	.0781774	.0177992	.0560176	40.12950
#3	.0013552	.0019429	85.54939	.0729195	.0173104	.0574962	40.05578

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.780757	23.18657	.0286648	.0007598	.3445754	.0415099	.3130572
Stddev	.013717	.15973	.0006160	.0021640	.4805731	.0016773	.0117328
%RSD	.2372922	.6888883	2.148992	284.8258	139.4682	4.040770	3.747816
#1	5.768086	23.37101	.0290080	.0029081	.1384879	.0412425	.3256387
#2	5.795323	23.09488	.0279536	.0007908	.0014167	.0399824	.3111185
#3	5.778863	23.09382	.0290327	-.001420	.8938214	.0433049	.3024146

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.687881	1.829640	.0506100	-.000467	1.010422	2.595082	.0021926
Stddev	.176150	.009811	.0006279	.000344	.008915	.027232	.0016645
%RSD	10.43615	.5362506	1.240738	73.63390	.8822789	1.049376	75.91505
#1	1.703910	1.830138	.0501504	-.000522	1.019199	2.624495	.0040669
#2	1.504264	1.839193	.0503542	-.000099	1.001376	2.590005	.0008870
#3	1.855468	1.819589	.0513255	-.000779	1.010691	2.570745	.0016238

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-01LX5 Acquired: 11/18/2024 10:53:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3364145	.0204933	.1564674
Stddev	.0012778	.0005106	.0003157
%RSD	.3798260	2.491468	.2017696
#1	.3368985	.0202297	.1564308
#2	.3373796	.0201683	.1567998
#3	.3349654	.0210818	.1561715

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	985.9985	27284.29	5381.108	848.0028	1684.385
Stddev	1.4252	728.57	16.129	23.7863	1.940
%RSD	.1445425	2.670274	.2997262	2.804983	.1152034
#1	986.1052	26545.26	5378.442	823.8262	1682.523
#2	984.5230	27305.69	5366.478	848.8036	1686.395
#3	987.3674	28001.92	5398.403	871.3786	1684.238

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-03 Acquired: 11/18/2024 10:58:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1913395	.0954947	.7537097	.1448913	.1765216	66.70844
Stddev	.0046558	.0074375	.0130681	.0044607	.0011661	.07165
%RSD	2.433251	7.788391	1.733839	3.078641	.6605945	.1074097
#1	.1868303	.1038710	.7498459	.1399915	.1772854	66.78174
#2	.1961291	.0896651	.7682740	.1487167	.1771000	66.70502
#3	.1910591	.0929480	.7430091	.1459655	.1751794	66.63856

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.723328	.0978134	.1160339	402.8950	.7282607	1.159084
Stddev	.013592	.0004244	.0014769	1.0377	.0074078	.014840
%RSD	.2021566	.4339128	1.272841	.2575528	1.017187	1.280307
#1	6.732428	.0976773	.1150851	403.3062	.7252738	1.146733
#2	6.707704	.0974737	.1177356	401.7147	.7228126	1.175546
#3	6.729851	.0982892	.1152811	403.6640	.7366956	1.154972

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6840304	188.4566	F 35.76337	105.7182	1.184959	.0899799
Stddev	.0012533	.1139	.07485	.2563	.013971	.0016990
%RSD	.1832151	.0604242	.2092947	.2424521	1.178990	1.888244
#1	.6826604	188.5034	35.80840	105.7908	1.174376	.0892281
#2	.6843117	188.5395	35.67696	105.4334	1.200794	.0887864
#3	.6851191	188.3267	35.80474	105.9304	1.179705	.0919251

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.332765	1.194232	2.310331	8.096610	9.806989	.2281462
Stddev	.256067	.001162	.016613	.066867	.131070	.0009749
%RSD	10.97697	.0973350	.7190544	.8258601	1.336498	.4273138
#1	2.524594	1.193471	2.295789	8.030600	9.748806	.2280323
#2	2.041987	1.195570	2.306768	8.094929	9.957079	.2272332
#3	2.431712	1.193655	2.328436	8.164302	9.715084	.2291730

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4728-03 Acquired: 11/18/2024 10:58:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9B8S Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024438	5.364710	10.90338	.0183079	1.518639	.0869559
Stddev	.0004259	.044532	.03321	.0013879	.003586	.0007840
%RSD	17.42921	.8300892	.3045676	7.580837	.2361255	.9016215
#1	.0024683	5.336411	10.92192	.0172434	1.516880	.0878367
#2	.0020062	5.416041	10.86504	.0198776	1.516273	.0866964
#3	.0028570	5.341678	10.92318	.0178027	1.522765	.0863345

Elem	Sr4077
Units	ppm
Avg	.7479374
Stddev	.0006830
%RSD	.0913139
#1	.7486889
#2	.7477691
#3	.7473544

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	991.2445	26874.96	5766.349	825.1024	1453.815
Stddev	10.4857	180.04	8.167	5.2496	16.552
%RSD	1.057831	.6699146	.1416269	.6362307	1.138508
#1	1000.156	26978.79	5757.280	831.0817	1467.904
#2	979.690	26979.03	5773.120	822.9750	1435.586
#3	993.887	26667.07	5768.648	821.2505	1457.954

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-13 Acquired: 11/18/2024 11:02:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0796664	-.007966	1.926211	-.020524	.0065455	65.25495	.6854214
Stddev	.0145094	.004815	.007235	.004513	.0004346	.09805	.0006295
%RSD	18.21263	60.44358	.3755879	21.98778	6.638974	.1502556	.0918401
#1	.0788535	-.013361	1.918691	-.015340	.0067149	65.34642	.6849545
#2	.0655806	-.004104	1.933122	-.023571	.0068698	65.26700	.6861373
#3	.0945652	-.006433	1.926821	-.022662	.0060517	65.15144	.6851725

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057232	.0047539	314.9138	.1144907	.0562578	.3232847	152.1717
Stddev	.0003320	.0000979	.3081	.0011717	.0000841	.0007983	.1867
%RSD	5.801516	2.058581	.0978212	1.023413	.1494827	.2469510	.1226927
#1	.0057053	.0048463	314.5636	.1147922	.0562321	.3241210	152.2440
#2	.0054005	.0047641	315.1429	.1154822	.0561896	.3232025	152.3115
#3	.0060638	.0046514	315.0349	.1131977	.0563517	.3225306	151.9597

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.457373	93.43758	.1354053	-.004996	1.783833	.1720929	.9040449
Stddev	.005785	.26931	.0005871	.000684	.418333	.0031759	.0050193
%RSD	.1673311	.2882287	.4336095	13.68625	23.45134	1.845484	.5552071
#1	3.450693	93.48354	.1350629	-.005521	2.180299	.1741739	.9096797
#2	3.460701	93.14824	.1350697	-.005245	1.824583	.1736675	.9000526
#3	3.460726	93.68095	.1360832	-.004223	1.346616	.1684373	.9024023

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.451639	6.282226	.1767800	.0025003	3.277006	7.045161	.0632380
Stddev	.017499	.007391	.0010908	.0004031	.015597	.032228	.0025385
%RSD	.2348318	.1176468	.6170458	16.12335	.4759565	.4574542	4.014182
#1	7.471765	6.290104	.1755843	.0029656	3.260364	7.013701	.0603657
#2	7.440024	6.275445	.1770350	.0022564	3.291290	7.043676	.0651805
#3	7.443127	6.281128	.1777208	.0022788	3.279363	7.078106	.0641677

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-13 Acquired: 11/18/2024 11:02:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.265454	.0955076	.4382175
Stddev	.007862	.0001361	.0008018
%RSD	.6212414	.1424495	.1829572
#1	1.273911	.0956646	.4390238
#2	1.264083	.0954335	.4382083
#3	1.258368	.0954247	.4374204

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1007.981	27533.01	5763.792	851.5892	1490.629
Stddev	.597	63.83	22.037	6.4129	1.189
%RSD	.0592014	.2318413	.3823313	.7530486	.0797981
#1	1008.598	27484.98	5775.401	844.2492	1489.283
#2	1007.939	27508.60	5777.597	854.4118	1491.062
#3	1007.407	27605.44	5738.377	856.1067	1491.541

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-14 Acquired: 11/18/2024 11:07:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0754711	-.010808	1.941836	-.020683	.0081365	65.64719	.6900416
Stddev	.0081024	.007984	.018862	.004311	.0031268	.24476	.0002175
%RSD	10.73582	73.87036	.9713458	20.84452	38.42950	.3728492	.0315124
#1	.0663015	-.015707	1.959346	-.019151	.0116828	65.64252	.6898193
#2	.0816649	-.015124	1.944297	-.017347	.0057762	65.40479	.6902538
#3	.0784467	-.001595	1.921864	-.025551	.0069505	65.89426	.6900518

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055351	.0044531	314.4170	.1172178	.0566055	.3273825	154.3258
Stddev	.0002561	.0001417	.1802	.0006992	.0010730	.0020945	.5005
%RSD	4.627149	3.182129	.0573012	.5965169	1.895518	.6397665	.3243296
#1	.0058252	.0045902	314.4302	.1169763	.0571965	.3250612	154.2013
#2	.0053403	.0044619	314.2306	.1166714	.0553670	.3279555	153.8992
#3	.0054398	.0043072	314.5902	.1180058	.0572530	.3291309	154.8768

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.453232	92.93491	.1364702	-.004731	1.342909	.1692362	.9135872
Stddev	.003740	.54125	.0012967	.000732	.157671	.0042554	.0040498
%RSD	.1083146	.5824005	.9502083	15.46756	11.74097	2.514485	.4432877
#1	3.450314	92.60367	.1362700	-.005116	1.161152	.1644211	.9181965
#2	3.451933	92.64156	.1378554	-.003887	1.424666	.1724922	.9119656
#3	3.457449	93.55952	.1352851	-.005189	1.442910	.1707953	.9105994

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.403475	6.291533	.1798869	.0018977	3.217861	7.132187	.0650445
Stddev	.145238	.018948	.0037154	.0004872	.041919	.041729	.0054529
%RSD	1.961754	.3011629	2.065392	25.67399	1.302699	.5850798	8.383397
#1	7.480691	6.303008	.1820706	.0020888	3.262650	7.140457	.0707818
#2	7.235939	6.301928	.1755970	.0022604	3.211362	7.086942	.0599293
#3	7.493793	6.269663	.1819932	.0013439	3.179571	7.169161	.0644225

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-14 Acquired: 11/18/2024 11:07:05 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.272669	.0973132	.4400207
Stddev	.004415	.0006826	.0010075
%RSD	.3468803	.7014590	.2289559
#1	1.275747	.0968850	.4398584
#2	1.267611	.0969542	.4391043
#3	1.274650	.0981004	.4410995

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1010.021	27433.24	5733.598	848.7174	1499.898
Stddev	6.347	94.50	29.810	1.2160	13.078
%RSD	.6283671	.3444546	.5199149	.1432736	.8719132
#1	1003.542	27508.33	5752.964	848.8691	1489.893
#2	1010.293	27327.13	5748.560	847.4327	1495.104
#3	1016.227	27464.24	5699.271	849.8505	1514.696

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-13LX5 Acquired: 11/18/2024 11:11:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0217771	-.002431	.4057359	.0015432	.0015406	14.71880	.1570043
Stddev	.0021990	.004457	.0025965	.0064655	.0005380	.07462	.0004629
%RSD	10.09782	183.3310	.6399520	418.9684	34.91903	.5069628	.2948580
#1	.0202073	.002665	.4048329	-.002993	.0020941	14.79089	.1575244
#2	.0208335	-.005604	.4037114	-.001324	.0015081	14.64188	.1566372
#3	.0242904	-.004355	.4086633	.008946	.0010196	14.72364	.1568513

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012307	.0007263	72.41301	.0289293	.0105621	.0715907	35.69869
Stddev	.0000757	.0000801	.04726	.0005970	.0009628	.0040674	.11834
%RSD	6.148250	11.03448	.0652671	2.063676	9.115875	5.681411	.3315014
#1	.0011438	.0007464	72.46597	.0282587	.0098987	.0744258	35.78412
#2	.0012813	.0006380	72.39797	.0294031	.0116664	.0669305	35.56361
#3	.0012671	.0007944	72.37510	.0291260	.0101211	.0734159	35.74834

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8109531	21.20271	.0279816	.0018318	.2044457	.0407015	.2121665
Stddev	.0025690	.25751	.0006732	.0003263	.0770321	.0059620	.0027559
%RSD	.3167884	1.214528	2.405808	17.81209	37.67850	14.64818	1.298947
#1	.8086948	21.37658	.0277469	.0018415	.1553326	.0427739	.2093600
#2	.8104165	20.90687	.0274572	.0021532	.1647772	.0339798	.2148689
#3	.8137480	21.32467	.0287407	.0015008	.2932274	.0453507	.2122705

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.555910	1.267003	.0426972	.0001791	.6355794	1.781969	.0133617
Stddev	.075583	.008817	.0016707	.0004607	.0123820	.010944	.0004813
%RSD	4.857799	.6959235	3.912861	257.2719	1.948142	.6141739	3.601991
#1	1.629146	1.264905	.0419311	.0006426	.6497137	1.788483	.0133942
#2	1.560402	1.259424	.0446135	.0001734	.6303782	1.769333	.0128650
#3	1.478181	1.276680	.0415469	-.000279	.6266464	1.788090	.0138259

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-13LX5 Acquired: 11/18/2024 11:11:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2968443	.0226281	.1004889
Stddev	.0017368	.0011842	.0001872
%RSD	.5850875	5.233133	.1862712
#1	.2978525	.0230405	.1006691
#2	.2948389	.0212929	.1002954
#3	.2978417	.0235510	.1005022

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	992.1809	26471.80	5358.953	822.9492	1710.673
Stddev	1.9856	86.66	9.305	6.0339	1.267
%RSD	.2001224	.3273588	.1736416	.7332005	.0740584
#1	990.2242	26424.18	5356.675	828.7120	1711.036
#2	992.1244	26419.39	5369.186	816.6766	1711.719
#3	994.1941	26571.83	5350.998	823.4590	1709.265

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-15 Acquired: 11/18/2024 11:15:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1657108	.0872748	2.591723	.1251413	.1715252	71.84588	4.539049
Stddev	.0154895	.0058267	.009651	.0049636	.0029021	.15659	.010949
%RSD	9.347290	6.676227	.3723791	3.966372	1.691932	.2179567	.2412203
#1	.1541180	.0812698	2.582700	.1306943	.1712348	72.00717	4.551051
#2	.1597120	.0929050	2.590570	.1211360	.1745615	71.69445	4.529607
#3	.1833025	.0876497	2.601899	.1235935	.1687792	71.83601	4.536489

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0939116	.1071725	297.6317	.5090728	1.091077	.8035497	207.6348
Stddev	.0001290	.0001798	.3681	.0007450	.004781	.0016572	.2935
%RSD	.1374175	.1677729	.1236745	.1463519	.4381583	.2062363	.1413340
#1	.0937957	.1069800	298.0340	.5095926	1.085562	.8017619	207.8847
#2	.0940507	.1072013	297.3117	.5094065	1.093619	.8050345	207.3117
#3	.0938884	.1073361	297.5494	.5082192	1.094049	.8038528	207.7082

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.933273	79.42176	1.189924	.0748927	1.930880	1.163468	1.943497
Stddev	.006709	.21928	.007285	.0009939	.488856	.001592	.009108
%RSD	.1360035	.2760999	.6122608	1.327144	25.31778	.1368480	.4686509
#1	4.941003	79.58743	1.183422	.0756985	2.098069	1.162407	1.942987
#2	4.928962	79.17309	1.188552	.0737821	1.380363	1.162699	1.952849
#3	4.929855	79.50474	1.197798	.0751976	2.314207	1.165299	1.934654

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.469084	7.221030	.2309766	.0031488	2.964945	7.980804	.0894889
Stddev	.133849	.026746	.0060106	.0007659	.039623	.044912	.0027105
%RSD	1.792040	.3703958	2.602265	24.32258	1.336394	.5627456	3.028846
#1	7.536769	7.192718	.2376232	.0029823	2.920357	7.952117	.0922662
#2	7.314910	7.224499	.2293835	.0039842	2.978353	8.032562	.0868505
#3	7.555572	7.245872	.2259230	.0024799	2.996124	7.957734	.0893502

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4750-15 Acquired: 11/18/2024 11:15:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBH9E6S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.380719	.1095739	.4528028
Stddev	.004169	.0004882	.0014090
%RSD	.3019667	.4455849	.3111733
#1	1.383140	.1097407	.4542965
#2	1.375905	.1090241	.4514974
#3	1.383112	.1099568	.4526144

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1024.998	27925.85	5871.302	857.9830	1499.001
Stddev	1.211	137.79	2.054	3.1721	1.937
%RSD	.1181777	.4934147	.0349778	.3697191	.1291955
#1	1025.011	27770.89	5871.877	854.3456	1501.196
#2	1023.781	28034.57	5873.008	859.4279	1497.534
#3	1026.203	27972.08	5869.023	860.1754	1498.274

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-01 Acquired: 11/18/2024 11:20:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VD3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1372595	-.004755	5.127550	-.019536	.0116902	74.98713
Stddev	.0068539	.004657	.007657	.006619	.0029694	.12670
%RSD	4.993372	97.93737	.1493347	33.88089	25.40050	.1689685
#1	.1310523	-.009704	5.128321	-.014431	.0148945	74.90022
#2	.1361111	-.000459	5.119536	-.027015	.0111447	74.92866
#3	.1446150	-.004103	5.134793	-.017163	.0090314	75.13251

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.493857	.0065826	.0092493	17.53405	.1510922	.0567823
Stddev	.003642	.0001442	.0000861	.07333	.0057009	.0019311
%RSD	.2438028	2.189997	.9311314	.4182276	3.773092	3.400835
#1	1.489678	.0065109	.0092710	17.45701	.1504278	.0589303
#2	1.495535	.0064884	.0093225	17.54214	.1457526	.0551901
#3	1.496357	.0067486	.0091544	17.60301	.1570961	.0562265

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.048146	190.2788	2.509661	12.04606	.1548737	-.012954
Stddev	.000712	.3206	.006855	.05393	.0003393	.001899
%RSD	.0678815	.1685112	.2731333	.4477183	.2191033	14.66095
#1	1.047409	190.5411	2.502257	12.07168	.1546681	-.012442
#2	1.048829	189.9213	2.515786	11.98410	.1552653	-.015056
#3	1.048199	190.3738	2.510940	12.08242	.1546875	-.011363

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.242364	.1862887	1.725414	4.043688	F 25.46736	.1700194
Stddev	.370296	.0038514	.065208	.129534	.01774	.0058020
%RSD	29.80573	2.067443	3.779247	3.203353	.0696675	3.412544
#1	1.593620	.1855944	1.724988	4.089451	25.45933	.1745705
#2	.855589	.1904400	1.660420	3.897485	25.45506	.1720017
#3	1.277883	.1828316	1.790833	4.144128	25.48770	.1634861

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-01 Acquired: 11/18/2024 11:20:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VD3 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0167084	2.395067	10.18138	.1645306	1.152008	.0957349
Stddev	.0001681	.006273	.03466	.0007505	.000513	.0014901
%RSD	1.006378	.2619060	.3404212	.4561220	.0445139	1.556501
#1	.0169022	2.395531	10.19644	.1653661	1.151633	.0946666
#2	.0166218	2.388575	10.14174	.1639138	1.151798	.0974372
#3	.0166012	2.401095	10.20596	.1643118	1.152592	.0951010

Elem	Sr4077
Units	ppm
Avg	.1181129
Stddev	.0003852
%RSD	.3261433
#1	.1181286
#2	.1184901
#3	.1177202

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1001.535	27315.09	5550.960	847.1715	1677.374
Stddev	1.633	731.39	13.031	26.6382	1.420
%RSD	.1630451	2.677596	.2347608	3.144368	.0846517
#1	1000.453	27283.23	5557.424	849.6051	1675.934
#2	1000.739	28061.89	5535.961	872.5095	1677.414
#3	1003.413	26600.15	5559.496	819.4001	1678.773

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-02 Acquired: 11/18/2024 11:24:39 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1219927	.0006533	2.098596	-.029393	.0093682	89.93887	1.022877
Stddev	.0026353	.0064664	.005277	.001933	.0039117	.01672	.002107
%RSD	2.160239	989.7603	.2514414	6.577415	41.75439	.0185904	.2060261
#1	.1207242	.0072974	2.102617	-.031574	.0131877	89.92857	1.020607
#2	.1250224	-.005619	2.092621	-.028715	.0095466	89.92988	1.023251
#3	.1202315	.000282	2.100550	-.027890	.0053705	89.95816	1.024772

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0073836	.0062521	6.336046	.1378399	.0755635	.3549548	229.0674
Stddev	.0003578	.0001656	.031423	.0002482	.0002403	.0026000	.1675
%RSD	4.846138	2.649518	.4959428	.1800930	.3180565	.7324800	.0731057
#1	.0077296	.0061391	6.341034	.1377068	.0756419	.3549174	228.9567
#2	.0070151	.0061749	6.302427	.1376865	.0752937	.3575733	229.2600
#3	.0074062	.0064423	6.364677	.1381263	.0757548	.3523738	228.9854

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.411631	15.09106	.1781754	-.019658	1.126027	.2042882	1.222613
Stddev	.003251	.05460	.0006933	.000738	.095461	.0029531	.004445
%RSD	.0736871	.3618144	.3891054	3.752002	8.477696	1.445530	.3635401
#1	4.413176	15.14969	.1778043	-.020482	1.068859	.2049263	1.218618
#2	4.413820	15.04166	.1777466	-.019060	1.072991	.2068701	1.227401
#3	4.407895	15.08183	.1789752	-.019431	1.236230	.2010683	1.221819

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.225289	8.397206	.1944589	.0174959	1.465574	9.575502	.1362547
Stddev	.048867	.012046	.0034554	.0002924	.010756	.057320	.0029801
%RSD	1.515126	.1434483	1.776947	1.671116	.7339090	.5986141	2.187172
#1	3.184802	8.410785	.1919389	.0175091	1.470607	9.616978	.1362371
#2	3.279571	8.387810	.1983979	.0171972	1.453224	9.510094	.1332833
#3	3.211495	8.393023	.1930398	.0177815	1.472891	9.599434	.1392435

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-02 Acquired: 11/18/2024 11:24:39 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.222170	.1151971	.0770004
Stddev	.002922	.0013371	.0002498
%RSD	.2390510	1.160670	.3243852
#1	1.218802	.1158627	.0768039
#2	1.223688	.1136578	.0772815
#3	1.224021	.1160706	.0769159

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1005.099	27276.50	5490.799	843.7487	1681.593
Stddev	3.493	118.93	20.655	4.9622	5.391
%RSD	.3475384	.4359999	.3761663	.5881088	.3205817
#1	1001.908	27296.77	5467.930	844.4848	1678.117
#2	1008.831	27148.74	5508.096	838.4596	1687.803
#3	1004.557	27383.99	5496.370	848.3017	1678.860

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-03 Acquired: 11/18/2024 11:29:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1335232	-.002706	3.574947	-.061456	.0108570	73.54582	1.911801
Stddev	.0115605	.004162	.022974	.002080	.0028894	1.22303	.030236
%RSD	8.658019	153.8176	.6426504	3.384802	26.61344	1.662948	1.581544
#1	.1215429	.000524	3.579280	-.063612	.0080660	73.77971	1.914186
#2	.1446122	-.007404	3.595446	-.059461	.0138357	72.22274	1.880443
#3	.1344143	-.001238	3.550115	-.061294	.0106692	74.63502	1.940774

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089834	.0146614	32.44817	.1570342	.0973195	.5397092	407.9201
Stddev	.0004450	.0002049	.47350	.0010306	.0003016	.0080481	6.6192
%RSD	4.953626	1.397645	1.459257	.6562779	.3099178	1.491188	1.622665
#1	.0091858	.0147920	32.60699	.1565374	.0974893	.5452919	409.5816
#2	.0084731	.0147670	31.91568	.1582191	.0974979	.5304838	400.6285
#3	.0092911	.0144253	32.82185	.1563462	.0969713	.5433518	413.5503

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.957754	24.87144	.2804277	-.032035	2.301911	.1978451	3.230813
Stddev	.070920	.28972	.0005185	.000970	.285619	.0098314	.016236
%RSD	1.190383	1.164869	.1848967	3.028649	12.40789	4.969217	.5025257
#1	5.973868	25.01198	.2805517	-.032380	2.564580	.2068573	3.220658
#2	5.880163	24.53825	.2808730	-.030940	2.343295	.1873606	3.249538
#3	6.019230	25.06407	.2798585	-.032787	1.997858	.1993173	3.222244

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.839610	5.648254	.3614463	.0147324	4.902406	11.12224	.7995603
Stddev	.068546	.011213	.0101469	.0007523	.036758	.15523	.0043400
%RSD	1.173820	.1985282	2.807304	5.106362	.7498044	1.395629	.5428030
#1	5.918177	5.654043	.3657172	.0143457	4.930608	11.15676	.8003879
#2	5.792016	5.655389	.3498621	.0155994	4.915775	10.95267	.8034270
#3	5.808638	5.635329	.3687596	.0142521	4.860834	11.25730	.7948661

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-03 Acquired: 11/18/2024 11:29:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.353984	.1377792	.1599895
Stddev	.022345	.0019431	.0027502
%RSD	1.650321	1.410330	1.719006
#1	1.355292	.1376116	.1606810
#2	1.331014	.1359253	.1569595
#3	1.375647	.1398007	.1623280

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1001.742	27160.03	5515.941	836.3242	1651.693
Stddev	3.174	108.88	55.366	5.4053	8.380
%RSD	.3168639	.4008953	1.003752	.6463125	.5073673
#1	998.267	27181.42	5504.624	839.3356	1643.988
#2	1002.468	27042.04	5576.092	830.0840	1650.477
#3	1004.489	27256.63	5467.108	839.5530	1660.615

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-04 Acquired: 11/18/2024 11:33:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0914575	-.005218	.6842337	-.037487	.0103520	107.5987	.7231083
Stddev	.0124413	.003277	.0174254	.001653	.0038137	.5847	.0046795
%RSD	13.60339	62.80821	2.546709	4.409201	36.84015	.5433905	.6471373
#1	.0965050	-.004470	.6915477	-.038023	.0137705	108.1718	.7285087
#2	.1005819	-.002380	.6643433	-.038806	.0062387	107.6213	.7202533
#3	.0772857	-.008805	.6968102	-.035633	.0110467	107.0031	.7205627

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0082427	.0141348	19.78560	.2016271	.1359620	.3627882	319.7184
Stddev	.0003052	.0009483	.15240	.0031801	.0021449	.0004851	2.2384
%RSD	3.702437	6.709131	.7702665	1.577220	1.577563	.1337121	.7001303
#1	.0085944	.0146777	19.94795	.1993003	.1372298	.3627046	321.4867
#2	.0080488	.0130398	19.76324	.2003302	.1334855	.3633097	320.4670
#3	.0080848	.0146869	19.64562	.2052507	.1371706	.3623504	317.2017

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.513193	40.57220	.4823294	-.027523	1.772453	.2433818	1.101868
Stddev	.026596	.21035	.0113566	.001135	.186852	.0012753	.017964
%RSD	.7570286	.5184588	2.354532	4.123681	10.54203	.5239927	1.630331
#1	3.539482	40.77341	.4882185	-.028355	1.814708	.2444764	1.099924
#2	3.513797	40.58943	.4692379	-.027984	1.934559	.2436878	1.084956
#3	3.486300	40.35377	.4895319	-.026230	1.568091	.2419814	1.120726

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.478549	5.091636	.2832750	.0133673	.8223238	9.821978	.0230936
Stddev	.152117	.105290	.0012469	.0001247	.0182886	.087054	.0027718
%RSD	1.794143	2.067893	.4401715	.9328534	2.224009	.8863201	12.00261
#1	8.651756	5.122450	.2829675	.0133220	.8429764	9.895834	.0255894
#2	8.417227	4.974377	.2822106	.0135082	.8081800	9.844103	.0201104
#3	8.366663	5.178081	.2846469	.0132715	.8158148	9.725996	.0235810

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-04 Acquired: 11/18/2024 11:33:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.545117	.2137743	.1596913
Stddev	.011916	.0017732	.0008934
%RSD	.7712080	.8294776	.5594725
#1	1.552927	.2158090	.1605048
#2	1.551022	.2125589	.1598342
#3	1.531402	.2129550	.1587351

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1067.912	28492.30	5880.124	882.7543	1650.888
Stddev	15.979	377.42	63.083	15.3157	32.861
%RSD	1.496253	1.324622	1.072818	1.734992	1.990505
#1	1059.222	28732.10	5832.470	886.7812	1632.716
#2	1086.352	28687.54	5856.242	895.6544	1688.822
#3	1058.161	28057.26	5951.662	865.8275	1631.127

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV022 Acquired: 11/18/2024 11:37:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV022 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.025812	5.106859	25.24935	4.885309	4.973121	400.3542
Stddev	.032631	.012999	.02681	.017514	.012553	2.8411
%RSD	.6492763	.2545388	.1061887	.3584931	.2524075	.7096505
#1	4.991066	5.097219	25.22570	4.866462	4.971315	403.5203
#2	5.030563	5.121643	25.24386	4.901082	4.961569	399.5156
#3	5.055808	5.101716	25.27848	4.888382	4.986479	398.0268

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.33469	.5082544	2.537482	405.9447	15.83782	2.539059
Stddev	.04810	.0063104	.002316	2.4956	.48877	.002631
%RSD	.4653961	1.241593	.0912836	.6147516	3.086066	.1036247
#1	10.39011	.5150593	2.536977	408.7951	16.09350	2.536123
#2	10.31014	.5025954	2.535460	404.1531	16.14572	2.539852
#3	10.30382	.5071085	2.540010	404.8860	15.27425	2.541203

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.60950	410.8843	15.21954	412.1848	2.535652	1.230580
Stddev	.09630	2.9359	.10209	2.6092	.004239	.039624
%RSD	.6169090	.7145410	.6708009	.6330291	.1671601	3.219986
#1	15.72012	414.0770	15.33722	414.9974	2.535420	1.251691
#2	15.54442	408.3007	15.15459	409.8430	2.540002	1.255179
#3	15.56396	410.2753	15.16682	411.7139	2.531534	1.184870

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	409.1156	2.613329	14.44881	155.9422	5.321605	F 5.585172
Stddev	2.0188	.019839	.44286	.6952	.032069	.067060
%RSD	.4934582	.7591646	3.065030	.4457946	.6026176	1.200675
#1	411.2890	2.633461	14.70253	156.7404	5.349456	5.662493
#2	407.2989	2.593796	14.70645	155.4696	5.328812	5.550128
#3	408.7589	2.612729	13.93744	155.6166	5.286545	5.542894

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV022 Acquired: 11/18/2024 11:37:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV022 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.917691	5.223983	5.324789	5.119934	5.221264	5.212336
Stddev	.012466	.019264	.059959	.016766	.030775	.029367
%RSD	.2534848	.3687670	1.126032	.3274656	.5894179	.5634062
#1	4.924622	5.246219	5.394010	5.101877	5.256799	5.246236
#2	4.925151	5.213394	5.291359	5.122918	5.203279	5.196049
#3	4.903300	5.212336	5.288999	5.135009	5.203714	5.194721

Elem	Sr4077
Units	ppm
Avg	5.204680
Stddev	.053094
%RSD	1.020122
#1	5.252914
#2	5.147790
#3	5.213335

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	780.0945	23170.61	4995.734	626.8578	1326.520
Stddev	.7583	582.16	39.483	15.8335	.678
%RSD	.0972038	2.512511	.7903270	2.525845	.0511141
#1	779.5832	22895.25	4959.114	619.4000	1327.061
#2	779.7345	22777.22	5037.563	616.1303	1326.740
#3	780.9657	23839.38	4990.525	645.0429	1325.759

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB022 Acquired: 11/18/2024 11:42:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB022 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001802	.0000731	-.001393	.0046567	.0002758	-.007010	.0009337
Stddev	.0050766	.0028271	.003184	.0045938	.0015645	.009998	.0004177
%RSD	2816.863	3866.525	228.5974	98.64869	567.3380	142.6201	44.73575
#1	-.003683	-.003178	.000848	.0057548	-.001372	.004092	.0008680
#2	-.001707	.001955	.000011	.0086020	.000458	-.009819	.0005528
#3	.005930	.001442	-.005037	-.000387	.001741	-.015304	.0013804

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000612	.0001464	.0016019	.0008945	-.000105	.0004697	.0039766
Stddev	.0001612	.0001056	.0097547	.0010415	.000338	.0019874	.0078651
%RSD	263.1167	72.09947	608.9651	116.4331	322.6982	423.0956	197.7821
#1	.0000378	.0002517	-.006320	.0020180	.000124	.0020228	-.004941
#2	.0002328	.0000405	.012497	-.000039	.000055	.0011564	.006949
#3	-.000087	.0001471	-.001371	.000704	-.000493	-.001770	.009922

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003370	.0476430	-.000228	.0002904	-.214618	.0020257	-.000606
Stddev	.0001362	.0172368	.000296	.0001328	.395272	.0015024	.000210
%RSD	40.42353	36.17920	129.6727	45.71798	184.1745	74.16838	34.63031
#1	.0004846	.0515486	-.000397	.0003060	-.052155	.0011760	-.000845
#2	.0003100	.0625918	-.000401	.0001505	-.665234	.0037604	-.000517
#3	.0002163	.0287884	.000114	.0004146	.073533	.0011407	-.000454

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0385456	.0013449	.0087153	.0002947	-.007293	.0001389	-.001294
Stddev	.0752151	.0021545	.0007721	.0000817	.005849	.0004754	.000907
%RSD	195.1326	160.1973	8.859523	27.70591	80.20040	342.3500	70.11666
#1	-.028711	-.000533	.0083064	.0002519	-.004834	.0003469	-.000441
#2	.119763	.000871	.0096058	.0003889	-.013970	.0004748	-.002246
#3	.024585	.003697	.0082335	.0002434	-.003075	-.000405	-.001194

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB022 Acquired: 11/18/2024 11:42:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB022 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0013350	.0032670	.0000322
Stddev	.0009143	.0014062	.0000362
%RSD	68.48522	43.04278	112.5561
#1	.0019395	.0017326	.0000009
#2	.0017823	.0044943	.0000718
#3	.0002832	.0035740	.0000238

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	986.3998	26509.12	5238.468	829.8412	1859.354
Stddev	4.8969	62.46	33.807	2.6501	11.420
%RSD	.4964435	.2355987	.6453691	.3193448	.6141832
#1	991.9939	26531.07	5208.829	832.7268	1871.718
#2	984.3159	26557.64	5231.286	829.2804	1857.143
#3	982.8894	26438.66	5275.289	827.5165	1849.201

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-05 Acquired: 11/18/2024 11:46:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1046708	-.005288	1.675644	-.036838	.0092454	106.5338	1.057710
Stddev	.0073374	.003847	.001313	.004914	.0045004	.1482	.003440
%RSD	7.009999	72.74249	.0783714	13.33946	48.67703	.1390869	.3251987
#1	.1033136	-.002599	1.677030	-.037480	.0059290	106.3675	1.058764
#2	.0981067	-.009694	1.675483	-.031635	.0143684	106.6516	1.060498
#3	.1125920	-.003571	1.674418	-.041400	.0074388	106.5825	1.053866

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0078911	.0162601	17.61825	.2270835	.1062228	.3911801	288.7328
Stddev	.0000813	.0004117	.11764	.0037126	.0001345	.0022265	.3527
%RSD	1.030020	2.532003	.6677129	1.634906	.1266018	.5691854	.1221484
#1	.0079455	.0165249	17.62150	.2313607	.1062047	.3923342	288.3499
#2	.0077977	.0164697	17.73423	.2246950	.1060983	.3886135	288.8042
#3	.0079302	.0157858	17.49902	.2251948	.1063655	.3925926	289.0444

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.840608	38.05339	.4160887	-.024012	2.631447	.2318637	1.943968
Stddev	.011390	.02977	.0012394	.001532	.144788	.0022453	.037134
%RSD	.4009761	.0782295	.2978712	6.381400	5.502211	.9683652	1.910232
#1	2.850504	38.03211	.4146943	-.022244	2.496552	.2304982	1.986582
#2	2.843161	38.04066	.4165071	-.024948	2.784428	.2344550	1.918542
#3	2.828157	38.08741	.4170648	-.024844	2.613360	.2306378	1.926779

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.555371	4.314564	.2585865	.0147902	.6589158	10.25657	.0235360
Stddev	.042217	.013428	.0019651	.0006512	.0129812	.01648	.0001495
%RSD	.4934562	.3112162	.7599301	4.403061	1.970085	.1606663	.6353075
#1	8.599769	4.299313	.2563314	.0142036	.6727281	10.24323	.0235195
#2	8.515740	4.319773	.2599316	.0146761	.6469670	10.27499	.0233953
#3	8.550603	4.324607	.2594966	.0154910	.6570525	10.25148	.0236930

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-05 Acquired: 11/18/2024 11:46:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.803949	.2016121	.1096842
Stddev	.005387	.0003597	.0001149
%RSD	.2986145	.1784146	.1047259
#1	1.800931	.2020274	.1095640
#2	1.810169	.2014037	.1097929
#3	1.800749	.2014051	.1096957

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1051.505	28223.57	5771.982	874.7495	1634.590
Stddev	1.410	372.11	14.098	14.5545	1.370
%RSD	.1341387	1.318429	.2442520	1.663847	.0838184
#1	1053.133	27794.31	5783.822	857.9942	1634.943
#2	1050.730	28454.54	5756.386	881.9958	1633.077
#3	1050.651	28421.86	5775.739	884.2583	1635.748

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-06 Acquired: 11/18/2024 11:51:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1872515	-.006565	1.268801	-.044044	.0125790	103.5333	.7828903
Stddev	.0073927	.000237	.014092	.006683	.0010898	.3813	.0031743
%RSD	3.948007	3.609034	1.110684	15.17269	8.663484	.3682833	.4054625
#1	.1795674	-.006483	1.258598	-.036368	.0138253	103.3770	.7829573
#2	.1943135	-.006379	1.262923	-.048570	.0118055	103.9680	.7860305
#3	.1878735	-.006832	1.284880	-.047194	.0121061	103.2551	.7796829

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0100921	.0043917	11.66697	.1742848	.1336230	.3497410	339.9707
Stddev	.0003516	.0001875	.06478	.0003275	.0007380	.0019446	1.5345
%RSD	3.483763	4.270012	.5552851	.1878986	.5523157	.5560209	.4513599
#1	.0097106	.0041754	11.61227	.1741218	.1331132	.3519753	338.6920
#2	.0101627	.0045090	11.73851	.1740708	.1332864	.3484296	341.6723
#3	.0104030	.0044906	11.65013	.1746618	.1344693	.3488182	339.5478

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.195677	31.99599	.4510424	-.032102	2.045015	.2486735	1.247184
Stddev	.017740	.22659	.0033890	.000117	.203731	.0013451	.001372
%RSD	.4228159	.7081954	.7513724	.3634474	9.962338	.5409158	.1100374
#1	4.187041	31.81708	.4484450	-.032170	2.010083	.2476015	1.247607
#2	4.216082	32.25079	.4498063	-.031967	2.263954	.2501828	1.248294
#3	4.183909	31.92010	.4548760	-.032169	1.861009	.2482360	1.245649

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.782493	5.352854	.2965059	.0226663	1.473869	9.911310	.0327449
Stddev	.135959	.062528	.0026606	.0003429	.023335	.048142	.0022746
%RSD	2.842848	1.168130	.8973201	1.512637	1.583249	.4857239	6.946548
#1	4.727843	5.319052	.2959971	.0229256	1.462518	9.868889	.0348851
#2	4.937273	5.314501	.2993842	.0222775	1.458380	9.963632	.0303562
#3	4.682362	5.425007	.2941365	.0227957	1.500707	9.901408	.0329936

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-06 Acquired: 11/18/2024 11:51:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VE9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.397949	.1929928	.1180966
Stddev	.002671	.0011126	.0003735
%RSD	.1910766	.5765194	.3162537
#1	1.397762	.1922588	.1179301
#2	1.400710	.1942730	.1185244
#3	1.395377	.1924466	.1178353

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1076.484	29123.40	5985.998	897.2608	1635.719
Stddev	5.803	76.18	45.929	2.9055	10.429
%RSD	.5390322	.2615863	.7672727	.3238216	.6375963
#1	1081.143	29205.71	6027.017	898.4874	1641.582
#2	1078.325	29055.36	5936.376	893.9432	1641.897
#3	1069.985	29109.13	5994.601	899.3519	1623.678

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-07 Acquired: 11/18/2024 11:55:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1840508	-.003964	4.017907	-.049601	.0122144	94.56225	1.613049
Stddev	.0071238	.005942	.011893	.001161	.0015497	1.46290	.025854
%RSD	3.870540	149.8934	.2959889	2.341020	12.68737	1.547025	1.602825
#1	.1764767	.000626	4.026489	-.050455	.0136893	95.31111	1.627827
#2	.1850587	-.001843	4.022900	-.050070	.0105994	95.49910	1.628124
#3	.1906169	-.010676	4.004332	-.048279	.0123543	92.87653	1.583195

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0082779	.0191721	19.57566	.1709441	.1086802	1.283001	313.5396
Stddev	.0000622	.0001115	.28708	.0002270	.0007099	.021878	4.9132
%RSD	.7519159	.5813644	1.466490	.1327889	.6531530	1.705239	1.567017
#1	.0083489	.0190977	19.72514	.1707127	.1090204	1.291718	315.6509
#2	.0082327	.0191183	19.75714	.1709532	.1091559	1.299177	317.0443
#3	.0082522	.0193003	19.24469	.1711664	.1078643	1.258108	307.9237

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.698047	22.83989	.3295798	-.025321	1.671247	.2151062	2.252254
Stddev	.079946	.39927	.0007407	.000689	.571216	.0068716	.009946
%RSD	1.701677	1.748131	.2247508	2.720017	34.17900	3.194502	.4415935
#1	4.749451	23.01338	.3300957	-.025350	1.060502	.2184848	2.262532
#2	4.738749	23.12306	.3299126	-.025995	1.760910	.2196344	2.251552
#3	4.605941	22.38322	.3287310	-.024619	2.192329	.2071994	2.242678

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.406353	6.076042	.2745456	.0294173	1.974484	9.804726	.2105094
Stddev	.126545	.013581	.0106943	.0002226	.013911	.142820	.0041302
%RSD	2.340674	.2235124	3.895268	.7566441	.7045445	1.456640	1.962010
#1	5.491489	6.076156	.2779533	.0295778	1.958998	9.879471	.2146224
#2	5.466633	6.089566	.2831209	.0291632	1.985924	9.894661	.2105435
#3	5.260938	6.062405	.2625628	.0295109	1.978530	9.640045	.2063622

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-07 Acquired: 11/18/2024 11:55:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.171626	.1524652	.1140511
Stddev	.019977	.0044402	.0020496
%RSD	1.705047	2.912241	1.797068
#1	1.183311	.1544023	.1149887
#2	1.183008	.1556077	.1154642
#3	1.148560	.1473857	.1117004

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1041.243	28088.35	5811.161	867.5778	1657.964
Stddev	3.084	132.99	82.919	5.7645	1.988
%RSD	.2961466	.4734591	1.426895	.6644359	.1198831
#1	1040.964	27937.16	5760.149	861.3800	1657.589
#2	1038.309	28140.67	5766.497	868.5744	1656.190
#3	1044.457	28187.22	5906.838	872.7790	1660.112

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-08 Acquired: 11/18/2024 12:00:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1231330	-.008914	.3120304	-.052290	.0102488	123.1982	.6653438
Stddev	.0077039	.006550	.0054654	.005499	.0004691	.0958	.0025811
%RSD	6.256602	73.47682	1.751554	10.51713	4.577164	.0777836	.3879340
#1	.1177663	-.003384	.3111824	-.046970	.0097108	123.1572	.6658147
#2	.1319604	-.016148	.3178702	-.051949	.0104634	123.1296	.6625597
#3	.1196722	-.007212	.3070385	-.057953	.0105721	123.3077	.6676570

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0093345	.0031452	12.78423	.1656002	.1394352	.3251111	370.9105
Stddev	.0002433	.0000813	.01702	.0021323	.0010635	.0020459	.3517
%RSD	2.606776	2.584700	.1331264	1.287624	.7627430	.6293093	.0948314
#1	.0094792	.0030680	12.76654	.1658567	.1390024	.3228304	371.1669
#2	.0090536	.0032300	12.78566	.1675926	.1386562	.3257174	371.0551
#3	.0094707	.0031377	12.80049	.1633512	.1406468	.3267853	370.5095

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.626421	36.10417	.3327662	-.034704	1.980783	.2654392	.8549296
Stddev	.008090	.03546	.0004125	.000258	.544462	.0029629	.0170204
%RSD	.2230783	.0982242	.1239704	.7432229	27.48720	1.116211	1.990860
#1	3.618600	36.06851	.3328807	-.034427	2.364198	.2686464	.8611250
#2	3.625908	36.13944	.3331094	-.034748	2.220566	.2628041	.8679846
#3	3.634755	36.10455	.3323085	-.034937	1.357586	.2648670	.8356793

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.557436	3.657174	.3185403	.0226467	.3865114	8.444752	.0126841
Stddev	.066920	.014649	.0014864	.0004451	.0120226	.052549	.0018641
%RSD	.8854907	.4005669	.4666402	1.965570	3.110551	.6222646	14.69627
#1	7.538075	3.653403	.3201392	.0221494	.4003939	8.468342	.0105704
#2	7.631902	3.644779	.3172004	.0227828	.3796129	8.481373	.0133892
#3	7.502331	3.673341	.3182813	.0230079	.3795276	8.384543	.0140929

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-08 Acquired: 11/18/2024 12:00:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.438520	.2169063	.1075457
Stddev	.004769	.0005294	.0002440
%RSD	.3315039	.2440521	.2268643
#1	1.441856	.2163723	.1073986
#2	1.433058	.2169158	.1074111
#3	1.440646	.2174309	.1078273

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1055.183	28802.83	5880.125	891.9857	1632.661
Stddev	1.921	253.78	10.522	13.5658	2.039
%RSD	.1820415	.8810900	.1789483	1.520851	.1248971
#1	1052.975	28668.01	5874.267	885.2381	1631.909
#2	1056.473	28644.92	5873.836	883.1169	1631.105
#3	1056.101	29095.57	5892.273	907.6022	1634.969

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-09 Acquired: 11/18/2024 12:04:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1520819	-.004609	2.748430	-.038474	.0106248	81.46504	.8923785
Stddev	.0039604	.002395	.017749	.008901	.0018563	.96728	.0089689
%RSD	2.604115	51.95779	.6457801	23.13521	17.47102	1.187350	1.005052
#1	.1488369	-.005099	2.763379	-.029801	.0112873	80.36229	.8823486
#2	.1509139	-.002007	2.728814	-.047587	.0085282	81.86284	.8951592
#3	.1564950	-.006721	2.753097	-.038035	.0120590	82.16999	.8996277

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077223	.0133380	26.22834	.1954199	.0904553	.4183524	265.2462
Stddev	.0000537	.0003513	.32644	.0045763	.0006178	.0038579	3.1306
%RSD	.6946864	2.633486	1.244619	2.341762	.6829530	.9221700	1.180258
#1	.0077742	.0137432	25.86475	.2006931	.0911641	.4150063	261.6372
#2	.0077256	.0131517	26.32397	.1924891	.0901699	.4225723	266.8711
#3	.0076671	.0131192	26.49628	.1930773	.0900318	.4174787	267.2302

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.820678	25.65413	.3128684	-.022552	1.694525	.1936771	2.034943
Stddev	.049428	.36090	.0029215	.001270	.287039	.0039468	.027656
%RSD	1.293707	1.406810	.9337795	5.632177	16.93923	2.037845	1.359041
#1	3.765713	25.24361	.3160238	-.021116	1.451164	.1898282	2.066126
#2	3.834846	25.79731	.3102573	-.023008	2.011072	.1977151	2.025316
#3	3.861476	25.92148	.3123242	-.023531	1.621337	.1934880	2.013388

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.458987	6.519414	.2451143	.0180570	1.482017	10.33752	.0447124
Stddev	.096556	.033627	.0006795	.0004516	.002548	.09249	.0022122
%RSD	2.165418	.5158046	.2772215	2.500927	.1719388	.8946767	4.947613
#1	4.350496	6.545608	.2449327	.0176680	1.480603	10.23147	.0435994
#2	4.490978	6.481493	.2445440	.0185522	1.480490	10.37960	.0472600
#3	4.535487	6.531142	.2458661	.0179508	1.484959	10.40148	.0432777

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-09 Acquired: 11/18/2024 12:04:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.407104	.1299428	.1289722
Stddev	.012465	.0022893	.0017275
%RSD	.8858526	1.761778	1.339415
#1	1.393860	.1282256	.1270501
#2	1.408847	.1290609	.1294715
#3	1.418606	.1325419	.1303951

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1048.046	28345.21	5852.374	877.5510	1662.095
Stddev	2.481	420.50	67.180	12.1084	4.812
%RSD	.2367017	1.483488	1.147903	1.379796	.2895095
#1	1045.204	27870.44	5927.345	863.8745	1656.724
#2	1049.154	28494.52	5832.141	881.8739	1666.012
#3	1049.779	28670.68	5797.637	886.9048	1663.551

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-10 Acquired: 11/18/2024 12:08:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1156525	-.000786	1.581344	-.019736	.0136675	73.29091	.9576996
Stddev	.0042862	.005975	.007313	.001724	.0029315	1.61035	.0188280
%RSD	3.706083	759.9488	.4624243	8.735865	21.44868	2.197201	1.965962
#1	.1111554	.006107	1.578615	-.020967	.0114509	75.01925	.9778059
#2	.1161112	-.003967	1.589629	-.020476	.0169914	73.02074	.9548085
#3	.1196909	-.004499	1.575789	-.017766	.0125602	71.83273	.9404843

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055442	.0119799	17.47838	.1429924	.0606939	.7116578	208.5319
Stddev	.0003959	.0000431	.31031	.0016708	.0002720	.0195736	4.2705
%RSD	7.140478	.3594545	1.775414	1.168424	.4481584	2.750425	2.047888
#1	.0054358	.0119549	17.82792	.1417112	.0605899	.7337893	213.1399
#2	.0052138	.0120296	17.37192	.1423839	.0604892	.7045638	207.7483
#3	.0059830	.0119552	17.23531	.1448822	.0610025	.6966204	204.7074

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.964339	12.33684	.2939195	-.013440	1.060687	.1772887	1.881222
Stddev	.079571	.28455	.0005359	.000620	.193152	.0029144	.017395
%RSD	2.007177	2.306479	.1823300	4.616118	18.21010	1.643843	.9246907
#1	4.049201	12.65282	.2934831	-.014134	1.179656	.1751207	1.871223
#2	3.952411	12.25688	.2945176	-.012938	1.164582	.1806016	1.901309
#3	3.891405	12.10084	.2937577	-.013248	.837824	.1761436	1.871134

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.907398	6.373333	.1844070	.0140800	1.525637	8.633778	.0771219
Stddev	.253841	.006651	.0028598	.0008427	.015992	.182697	.0030097
%RSD	8.730862	.1043549	1.550832	5.985016	1.048200	2.116069	3.902479
#1	3.164703	6.372523	.1828925	.0133576	1.508358	8.844402	.0795478
#2	2.900319	6.367125	.1877057	.0138767	1.528634	8.518160	.0780641
#3	2.657170	6.380352	.1826230	.0150057	1.539918	8.538771	.0737539

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-10 Acquired: 11/18/2024 12:08:50 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VF6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.158887	.0794869	.1056129
Stddev	.024683	.0006479	.0023015
%RSD	2.129891	.8151418	2.179225
#1	1.185524	.0801930	.1079005
#2	1.154349	.0793479	.1056403
#3	1.136788	.0789197	.1032977

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	990.4078	26624.80	5339.129	822.6772	1707.791
Stddev	.5380	263.80	113.053	12.7945	1.302
%RSD	.0543235	.9908044	2.117450	1.555228	.0762260
#1	989.9956	26699.12	5216.177	827.5095	1706.354
#2	990.2113	26331.81	5362.617	808.1703	1708.892
#3	991.0164	26843.46	5438.593	832.3518	1708.129

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-11 Acquired: 11/18/2024 12:13:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2210452	.0090985	1.517120	-.033334	.0185133	41.88959	1.074893
Stddev	.0045919	.0036895	.015529	.004357	.0017955	.08327	.001490
%RSD	2.077342	40.55079	1.023611	13.07108	9.698479	.1987812	.1385980
#1	.2157450	.0127946	1.532034	-.036815	.0204351	41.82722	1.073653
#2	.2238231	.0090851	1.501041	-.034740	.0168787	41.98415	1.076545
#3	.2235675	.0054157	1.518286	-.028448	.0182261	41.85740	1.074480

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059649	.0093816	67.17981	.1568623	.0541717	.6650402	235.8086
Stddev	.0000754	.0003558	.25965	.0003269	.0011082	.0031191	.8833
%RSD	1.264357	3.792710	.3864975	.2083877	2.045706	.4690171	.3745875
#1	.0060264	.0092266	66.88086	.1568438	.0539262	.6683620	234.9273
#2	.0059876	.0091296	67.30957	.1565451	.0532069	.6621738	236.6939
#3	.0058808	.0097886	67.34901	.1571981	.0553821	.6645848	235.8046

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.391757	26.91713	.1991974	-.014915	1.585621	.1109376	1.365927
Stddev	.000609	.17365	.0023712	.000736	.333513	.0066877	.003601
%RSD	.0254744	.6451408	1.190376	4.936630	21.03359	6.028358	.2636666
#1	2.392361	26.75737	.2015198	-.014122	1.556318	.1067501	1.369954
#2	2.391142	27.10195	.1967803	-.015577	1.932818	.1186505	1.363016
#3	2.391769	26.89206	.1992921	-.015046	1.267726	.1074123	1.364810

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.783108	3.876959	.2452498	.0167814	10.21771	7.783871	.0439563
Stddev	.066913	.024442	.0021608	.0007632	.07352	.050271	.0007758
%RSD	1.398947	.6304477	.8810600	4.548152	.7195731	.6458355	1.764967
#1	4.723474	3.897180	.2469210	.0175222	10.29155	7.725952	.0446789
#2	4.855471	3.849797	.2460187	.0159975	10.14450	7.809492	.0440535
#3	4.770379	3.883900	.2428097	.0168244	10.21709	7.816171	.0431365

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-11 Acquired: 11/18/2024 12:13:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.102428	.0927016	.2498749
Stddev	.006448	.0011376	.0005981
%RSD	.5849121	1.227128	.2393816
#1	1.095836	.0928009	.2492218
#2	1.108722	.0937863	.2500068
#3	1.102725	.0915176	.2503961

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	967.6145	26252.24	5358.145	803.9876	1655.439
Stddev	5.4392	153.11	20.535	5.6265	12.053
%RSD	.5621262	.5832125	.3832530	.6998269	.7280678
#1	961.5585	26077.08	5381.838	797.6143	1642.636
#2	972.0842	26319.04	5347.111	806.0818	1666.566
#3	969.2008	26360.60	5345.485	808.2667	1657.114

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-12 Acquired: 11/18/2024 12:17:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1173528	.0005627	3.287905	-.026812	.0090415	87.12678	.6805100
Stddev	.0031116	.0051133	.009136	.007968	.0026651	.21835	.0016112
%RSD	2.651458	908.7606	.2778609	29.71789	29.47640	.2506076	.2367556
#1	.1192191	.0039457	3.294039	-.032956	.0111710	87.29050	.6822176
#2	.1190785	-.005320	3.277406	-.029669	.0099008	86.87888	.6790168
#3	.1137608	.003062	3.292271	-.017809	.0060528	87.21097	.6802957

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069263	.0043157	7.243174	.1263121	.0807426	.2182074	227.8211
Stddev	.0001541	.0000551	.046954	.0001411	.0008883	.0016666	.5743
%RSD	2.225322	1.277733	.6482561	.1116745	1.100121	.7637569	.2520748
#1	.0068334	.0043253	7.297332	.1264748	.0799874	.2163174	228.1165
#2	.0068413	.0042563	7.213879	.1262229	.0805191	.2194658	227.1593
#3	.0071042	.0043653	7.218312	.1262388	.0817212	.2188392	228.1876

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.990094	18.54480	.2614115	-.020150	1.335865	.1786476	1.145657
Stddev	.012543	.07138	.0032931	.000178	.129859	.0047185	.004720
%RSD	.3143647	.3849051	1.259744	.8854801	9.720954	2.641215	.4119629
#1	4.000830	18.60360	.2642281	-.020314	1.187444	.1732013	1.151073
#2	3.976306	18.56541	.2577908	-.019960	1.391589	.1815004	1.143477
#3	3.993147	18.46538	.2622157	-.020176	1.428561	.1812411	1.142422

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.882262	5.025048	.2061284	.0147678	1.351146	9.669359	.0266592
Stddev	.067258	.022633	.0015288	.0008146	.013319	.046005	.0021304
%RSD	2.333512	.4504032	.7416523	5.515713	.9857385	.4757850	7.991149
#1	2.886623	5.045818	.2078257	.0138475	1.363532	9.643991	.0281353
#2	2.812929	5.000926	.2057002	.0153963	1.337058	9.641622	.0242170
#3	2.947233	5.028399	.2048595	.0150595	1.352848	9.722463	.0276255

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-12 Acquired: 11/18/2024 12:17:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.141511	.1242239	.0671407
Stddev	.004890	.0006148	.0003181
%RSD	.4283507	.4948783	.4737512
#1	1.147134	.1248532	.0674005
#2	1.139142	.1241938	.0667860
#3	1.138258	.1236248	.0672358

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1000.849	26957.11	5510.452	829.7674	1697.296
Stddev	6.494	51.98	25.078	5.5545	11.396
%RSD	.6488425	.1928139	.4550926	.6694075	.6714010
#1	996.316	26897.19	5496.319	823.4076	1689.560
#2	1008.288	26989.96	5539.406	833.6663	1710.383
#3	997.943	26984.19	5495.629	832.2283	1691.947

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-13 Acquired: 11/18/2024 12:22:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1353682	-.002645	4.113766	-.038150	.0187103	85.11695	1.147765
Stddev	.0082251	.001961	.018304	.006742	.0017625	.26697	.003557
%RSD	6.076080	74.15015	.4449437	17.67135	9.420134	.3136493	.3099436
#1	.1288888	-.001724	4.107382	-.042492	.0202700	84.99151	1.145362
#2	.1446216	-.004898	4.099508	-.041574	.0190628	84.93580	1.151852
#3	.1325942	-.001314	4.134406	-.030383	.0167982	85.42353	1.146082

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0075117	.0210855	14.44745	.1697095	.0845784	.9516545	254.5574
Stddev	.0000506	.0001624	.01437	.0003412	.0004796	.0029427	.9258
%RSD	.6739746	.7700372	.0994307	.2010615	.5671123	.3092138	.3636931
#1	.0075504	.0209131	14.45077	.1700777	.0843185	.9548898	254.0438
#2	.0074544	.0212355	14.45986	.1696471	.0851319	.9491376	254.0021
#3	.0075302	.0211079	14.43171	.1694038	.0842848	.9509361	255.6261

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.503011	19.19808	.2645719	-.020360	1.551221	.1927913	2.695649
Stddev	.007450	.09194	.0013550	.000223	.012497	.0063600	.007198
%RSD	.2126739	.4788854	.5121595	1.096729	.8056201	3.298885	.2670298
#1	3.501084	19.09840	.2653640	-.020258	1.564978	.1975542	2.698825
#2	3.511234	19.21627	.2630072	-.020207	1.548114	.1952509	2.700713
#3	3.496713	19.27956	.2653444	-.020616	1.540571	.1855689	2.687409

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.627016	4.677466	.2284793	.0158080	1.468912	9.935250	.1658604
Stddev	.174080	.013714	.0023263	.0003526	.003638	.045771	.0011844
%RSD	4.799536	.2931963	1.018160	2.230785	.2476601	.4606931	.7141096
#1	3.765205	4.673734	.2258189	.0161930	1.464823	9.899338	.1651861
#2	3.684341	4.666004	.2294877	.0157305	1.470124	9.919624	.1651671
#3	3.431503	4.692659	.2301312	.0155006	1.471789	9.986787	.1672280

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-13 Acquired: 11/18/2024 12:22:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.420111	.1205829	.1248996
Stddev	.006644	.0005572	.0005323
%RSD	.4678238	.4620837	.4261476
#1	1.416455	.1209351	.1243453
#2	1.416097	.1208730	.1254067
#3	1.427779	.1199405	.1249466

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1015.131	27625.59	5621.220	849.3280	1675.757
Stddev	2.872	66.14	16.101	4.3930	4.178
%RSD	.2829542	.2394288	.2864380	.5172317	.2493499
#1	1016.405	27558.43	5619.850	845.4368	1676.705
#2	1017.145	27627.66	5637.963	848.4553	1679.381
#3	1011.842	27690.67	5605.848	854.0918	1671.187

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-14 Acquired: 11/18/2024 12:26:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1315049	-.000562	2.980703	-.039669	.0148295	77.74680	.8603016
Stddev	.0058945	.003828	.015472	.002686	.0028549	.11249	.0018398
%RSD	4.482344	681.1312	.5190578	6.770371	19.25124	.1446930	.2138549
#1	.1286620	.003439	2.971694	-.036646	.0174538	77.62188	.8607038
#2	.1382820	-.000937	2.971848	-.040581	.0117896	77.84010	.8582939
#3	.1275706	-.004188	2.998568	-.041780	.0152451	77.77841	.8619070

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0071587	.0113578	16.42234	.1824839	.0746970	.3219500	224.7278
Stddev	.0001618	.0001973	.08433	.0011286	.0010651	.0025876	.3985
%RSD	2.260057	1.736686	.5135095	.6184385	1.425903	.8037187	.1773469
#1	.0069832	.0111398	16.46571	.1820832	.0738855	.3226856	224.8129
#2	.0073019	.0114095	16.32515	.1837581	.0743025	.3240902	225.0770
#3	.0071910	.0115240	16.47617	.1816103	.0759031	.3190743	224.2936

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.956718	19.16132	.2388455	-.019332	1.359360	.1825016	1.267096
Stddev	.004026	.09224	.0027426	.000942	.213533	.0065604	.003910
%RSD	.1361618	.4813666	1.148279	4.872740	15.70834	3.594735	.3085998
#1	2.960225	19.21674	.2377635	-.019214	1.250662	.1827751	1.265239
#2	2.952322	19.21238	.2368089	-.018454	1.605372	.1758086	1.271589
#3	2.957607	19.05485	.2419640	-.020327	1.222044	.1889210	1.264460

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.598049	4.254206	.2036081	.0139838	1.439785	10.17135	.0505137
Stddev	.159644	.029734	.0010995	.0004462	.028827	.03245	.0026893
%RSD	4.436960	.6989408	.5400142	3.190733	2.002197	.3190584	5.323947
#1	3.641602	4.243091	.2025895	.0141504	1.415321	10.16271	.0527506
#2	3.421148	4.231630	.2047737	.0134783	1.432469	10.14409	.0475299
#3	3.731396	4.287896	.2034611	.0143227	1.471566	10.20725	.0512606

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-14 Acquired: 11/18/2024 12:26:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VG9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.596713	.1163716	.1302319
Stddev	.005342	.0011621	.0002057
%RSD	.3345377	.9985957	.1579265
#1	1.598152	.1171659	.1300011
#2	1.601188	.1169110	.1303957
#3	1.590800	.1150378	.1302990

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1033.805	28014.72	5692.677	862.5983	1682.523
Stddev	7.202	159.02	14.910	3.6157	10.669
%RSD	.6966728	.5676479	.2619105	.4191669	.6340951
#1	1038.493	28019.38	5679.805	862.0457	1689.539
#2	1037.410	27853.42	5709.014	859.2907	1687.784
#3	1025.512	28171.37	5689.211	866.4585	1670.245

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-15 Acquired: 11/18/2024 12:30:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1177791	-.002383	2.160858	-.031775	.0092706	56.74623	1.242695
Stddev	.0121671	.004217	.040824	.009256	.0039549	.11180	.002298
%RSD	10.33045	176.9457	1.889255	29.12950	42.65997	.1970130	.1849230
#1	.1309206	-.000209	2.165726	-.042443	.0125950	56.68690	1.240623
#2	.1069055	.000303	2.117819	-.025881	.0048969	56.67660	1.242295
#3	.1155112	-.007244	2.199031	-.027001	.0103199	56.87518	1.245166

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0064524	.0120036	65.11319	.1436541	.0727132	.5299895	230.7481
Stddev	.0001642	.0004648	.16979	.0030616	.0022442	.0006077	.7718
%RSD	2.545206	3.872416	.2607655	2.131245	3.086377	.1146553	.3344662
#1	.0066333	.0119979	64.93981	.1448664	.0731635	.5297791	230.1435
#2	.0063129	.0115417	65.27915	.1401719	.0702780	.5295151	230.4834
#3	.0064109	.0124713	65.12062	.1459239	.0746981	.5306744	231.6174

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.989596	33.47099	.2258677	-.015813	1.975620	.1789996	2.527121
Stddev	.004533	.11078	.0040527	.001270	.256532	.0021656	.044458
%RSD	.1136179	.3309684	1.794277	8.030510	12.98487	1.209845	1.759249
#1	3.992948	33.51253	.2275465	-.015386	2.271535	.1790910	2.554529
#2	3.991401	33.34544	.2212454	-.017242	1.816070	.1811180	2.475825
#3	3.984438	33.55499	.2288112	-.014812	1.839255	.1767897	2.551008

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.904509	5.756963	.2394883	.0117912	7.173978	10.47738	.4530103
Stddev	.047542	.102993	.0025357	.0005318	.145493	.01462	.0043057
%RSD	.8051777	1.789020	1.058805	4.510297	2.028065	.1395538	.9504579
#1	5.903515	5.804162	.2384292	.0123842	7.242451	10.46292	.4536520
#2	5.952541	5.638829	.2423818	.0116330	7.006882	10.47707	.4484197
#3	5.857473	5.827899	.2376538	.0113564	7.272603	10.49216	.4569590

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-15 Acquired: 11/18/2024 12:30:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.091522	.1257004	.1800154
Stddev	.004827	.0013748	.0006848
%RSD	.4422533	1.093745	.3804084
#1	1.087082	.1241187	.1802361
#2	1.090825	.1266089	.1792475
#3	1.096660	.1263737	.1805626

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	991.4723	26790.46	5435.743	824.2146	1666.789
Stddev	15.9353	375.47	13.180	12.2512	28.535
%RSD	1.607236	1.401519	.2424665	1.486410	1.711987
#1	981.2754	26609.89	5439.457	816.1868	1653.013
#2	1009.835	27222.10	5421.105	838.3160	1699.598
#3	983.306	26539.38	5446.667	818.1411	1647.755

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-16 Acquired: 11/18/2024 12:35:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VJ1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1368686	-.002468	3.732970	-.043321	.0105855	94.82831	1.307716
Stddev	.0099940	.005513	.007885	.005560	.0016514	3.55046	.046205
%RSD	7.301909	223.3934	.2112202	12.83386	15.60069	3.744095	3.533268
#1	.1336310	-.007361	3.729573	-.038495	.0087822	90.91111	1.258157
#2	.1288948	-.003547	3.727354	-.042068	.0109502	97.83449	1.349608
#3	.1480800	.003505	3.741984	-.049401	.0120240	95.73933	1.315384

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0079442	.0088465	21.11505	.1390068	.0866748	.2808133	290.8944
Stddev	.0004403	.0005638	.81940	.0028474	.0006211	.0150972	11.0487
%RSD	5.542835	6.372755	3.880642	2.048359	.7165890	5.376237	3.798196
#1	.0074492	.0094897	20.22430	.1422520	.0859660	.2640493	278.5113
#2	.0082924	.0084381	21.83673	.1369269	.0869341	.2933366	299.7447
#3	.0080910	.0086117	21.28413	.1378416	.0871242	.2850540	294.4273

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.806741	22.14695	.2312259	-.021981	1.663772	.2160122	2.117335
Stddev	.168254	.87704	.0012000	.001495	.196290	.0145795	.012373
%RSD	3.500380	3.960095	.5189813	6.800291	11.79792	6.749371	.5843715
#1	4.624952	21.15163	.2321636	-.020765	1.691068	.2007336	2.131619
#2	4.956999	22.80650	.2316405	-.023649	1.844985	.2175290	2.110464
#3	4.838273	22.48271	.2298735	-.021527	1.455262	.2297739	2.109922

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.932018	8.100819	.2571530	.0316115	1.496987	9.909494	.0639633
Stddev	.192893	.010630	.0111879	.0003731	.008849	.279218	.0042277
%RSD	4.905709	.1312168	4.350692	1.180275	.5911228	2.817686	6.609616
#1	3.715380	8.109457	.2444860	.0313105	1.486781	9.604420	.0687149
#2	4.085159	8.104052	.2656843	.0320289	1.501656	10.15237	.0606178
#3	3.995514	8.088949	.2612887	.0314950	1.502523	9.97169	.0625572

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-16 Acquired: 11/18/2024 12:35:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VJ1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.285420	.1281657	.1410728
Stddev	.048407	.0047183	.0048684
%RSD	3.765860	3.681377	3.450952
#1	1.232431	.1227935	.1357648
#2	1.327320	.1316372	.1453299
#3	1.296510	.1300664	.1421237

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1001.484	26847.75	5568.621	825.3430	1668.479
Stddev	.518	55.78	159.677	4.2645	3.100
%RSD	.0517536	.2077570	2.867445	.5166998	.1858056
#1	1000.919	26906.99	5745.489	820.5448	1666.438
#2	1001.596	26840.00	5435.074	828.7009	1672.047
#3	1001.937	26796.25	5525.302	826.7832	1666.952

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-17 Acquired: 11/18/2024 12:39:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1739473	-.004323	.4946953	-.048128	.0127782	86.60949	.8085986
Stddev	.0046419	.002981	.0028530	.007836	.0019217	.40071	.0045547
%RSD	2.668552	68.95718	.5767207	16.28160	15.03851	.4626643	.5632899
#1	.1765765	-.002816	.4961602	-.049581	.0113357	86.18964	.8034077
#2	.1685877	-.002397	.4914074	-.039668	.0120393	86.98783	.8119267
#3	.1766778	-.007757	.4965183	-.055137	.0149597	86.65100	.8104614

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0078843	.0051297	14.17946	.1295547	.1182648	.3033332	297.2983
Stddev	.0002216	.0002161	.08870	.0024039	.0005599	.0068381	1.3407
%RSD	2.810530	4.212613	.6255548	1.855491	.4734030	2.254309	.4509528
#1	.0077388	.0053780	14.08672	.1307141	.1181277	.2959187	296.0208
#2	.0081393	.0049843	14.18820	.1267909	.1188805	.3046892	298.6943
#3	.0077747	.0050267	14.26347	.1311592	.1177862	.3093917	297.1800

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.762958	25.16760	.2705102	-.027405	1.627479	.2062734	1.024907
Stddev	.033136	.08067	.0006875	.000748	.226840	.0053756	.011563
%RSD	.6956946	.3205264	.2541528	2.729471	13.93809	2.606076	1.128215
#1	4.726256	25.09692	.2712606	-.026809	1.700613	.2093117	1.033576
#2	4.790673	25.25548	.2703592	-.028245	1.373094	.2000666	1.011778
#3	4.771946	25.15040	.2699107	-.027162	1.808730	.2094419	1.029368

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.548088	3.426533	.2697912	.0237047	1.612339	10.69838	.0221816
Stddev	.228909	.019027	.0034824	.0001416	.011159	.02831	.0012497
%RSD	3.495813	.5552710	1.290791	.5972211	.6921038	.2646223	5.633926
#1	6.320631	3.436395	.2660933	.0235852	1.623454	10.66843	.0226784
#2	6.778422	3.404600	.2730082	.0238611	1.601137	10.70200	.0231065
#3	6.545212	3.438604	.2702722	.0236679	1.612427	10.72470	.0207599

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-17 Acquired: 11/18/2024 12:39:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.295440	.1570363	.1427795
Stddev	.010153	.0012943	.0007405
%RSD	.7837162	.8242017	.5186156
#1	1.284492	.1557494	.1419291
#2	1.304544	.1570218	.1431274
#3	1.297284	.1583379	.1432819

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1032.418	27935.75	5731.903	856.3124	1670.213
Stddev	3.471	239.06	12.798	7.8334	2.803
%RSD	.3362275	.8557356	.2232815	.9147773	.1678426
#1	1029.644	27840.65	5746.680	850.6390	1667.121
#2	1036.311	28207.72	5724.711	865.2500	1672.588
#3	1031.300	27758.87	5724.320	853.0483	1670.929

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-18 Acquired: 11/18/2024 12:44:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1483443	-.006840	.3379435	-.035309	.0091898	103.9968	.4449435
Stddev	.0108417	.003356	.0040134	.009217	.0032385	.0340	.0006281
%RSD	7.308476	49.05749	1.187585	26.10277	35.23970	.0327198	.1411631
#1	.1389267	-.003008	.3400587	-.044773	.0054693	104.0266	.4454225
#2	.1601963	-.009251	.3333150	-.034792	.0113752	104.0043	.4451756
#3	.1459100	-.008261	.3404569	-.026362	.0107250	103.9597	.4442324

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077549	.0062630	9.962235	.1365343	.0902682	.2173727	275.5037
Stddev	.0002750	.0001703	.054623	.0010531	.0009506	.0008589	.5042
%RSD	3.545853	2.718564	.5483037	.7713059	1.053082	.3951150	.1830092
#1	.0079739	.0064341	9.991371	.1358213	.0892761	.2167760	275.9480
#2	.0074463	.0060936	9.899221	.1360377	.0903573	.2169850	275.6073
#3	.0078445	.0062615	9.996113	.1377439	.0911711	.2183571	274.9557

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.247003	22.32588	.2478970	-.025671	1.489207	.2223622	.8606320
Stddev	.008531	.06647	.0021080	.000240	.129277	.0073857	.0081968
%RSD	.2627405	.2977252	.8503418	.9355227	8.680926	3.321492	.9524141
#1	3.256107	22.39804	.2490878	-.025941	1.555072	.2297851	.8696722
#2	3.245710	22.26716	.2454631	-.025591	1.572288	.2222872	.8536844
#3	3.239192	22.31243	.2491400	-.025482	1.340263	.2150142	.8585392

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.077720	4.660870	.2442349	.0171688	1.600766	9.660269	.0210909
Stddev	.038127	.033685	.0006758	.0000961	.012214	.060860	.0029627
%RSD	.9349957	.7227095	.2766852	.5597298	.7629869	.6300039	14.04720
#1	4.097942	4.664499	.2449486	.0172751	1.614110	9.730062	.0198357
#2	4.101475	4.625517	.2441512	.0171435	1.590140	9.632488	.0244746
#3	4.033742	4.692592	.2436049	.0170879	1.598050	9.618256	.0189624

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-18 Acquired: 11/18/2024 12:44:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.345760	.1475233	.0847366
Stddev	.000192	.0015511	.0001869
%RSD	.0142511	1.051440	.2205769
#1	1.345710	.1491735	.0846655
#2	1.345599	.1460953	.0849486
#3	1.345973	.1473011	.0845956

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1038.337	28042.51	5727.596	861.1080	1685.054
Stddev	6.763	66.79	13.870	3.5474	10.307
%RSD	.6513452	.2381748	.2421543	.4119565	.6116877
#1	1033.874	28109.03	5712.696	857.2035	1680.304
#2	1046.119	27975.45	5729.959	861.9880	1696.880
#3	1035.020	28043.04	5740.132	864.1326	1677.978

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-19 Acquired: 11/18/2024 12:48:30 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1142305	-.001099	43.08259	-.033741	.0379424	87.29744
Stddev	.0186532	.004086	.33757	.010532	.0036728	.32354
%RSD	16.32944	371.8004	.7835329	31.21513	9.679924	.3706149
#1	.0938660	-.002569	42.71843	-.024530	.0391895	87.65808
#2	.1183374	.003519	43.14431	-.031470	.0408292	87.03268
#3	.1304880	-.004246	43.38505	-.045224	.0338084	87.20156

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 82.54092	.0078929	.0471482	139.5599	1.041144	.0785665
Stddev	.30382	.0001846	.0006449	.0675	.002216	.0003050
%RSD	.3680894	2.338839	1.367828	.0483816	.2128212	.3882516
#1	82.62490	.0080079	.0464139	139.4819	1.039480	.0783523
#2	82.79392	.0079908	.0474080	139.5987	1.043660	.0789157
#3	82.20394	.0076800	.0476226	139.5991	1.040294	.0784314

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.010000	228.2775	4.816515	22.64779	.2406863	-.007937
Stddev	.000319	1.0494	.003159	.10719	.0024500	.000443
%RSD	.0158905	.4596957	.0655938	.4732909	1.017905	5.582920
#1	2.009912	229.3475	4.816682	22.77062	.2381164	-.008080
#2	2.009733	227.2500	4.813276	22.57323	.2409471	-.007440
#3	2.010354	228.2349	4.819588	22.59950	.2429954	-.008291

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.740249	.1865872	F 42.39677	6.839151	F 12.30078	.2897423
Stddev	.087192	.0093207	.20772	.049959	.14096	.0009416
%RSD	3.181895	4.995385	.4899329	.7304837	1.145926	.3249641
#1	2.723125	.1948316	42.29855	6.783623	12.14632	.2896261
#2	2.662891	.1884565	42.25637	6.853374	12.33360	.2888642
#3	2.834733	.1764734	42.63538	6.880456	12.42244	.2907366

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4655-19 Acquired: 11/18/2024 12:48:30 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VH3 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0210173	19.37384	11.78462	.1648665	1.623667	.1396417
Stddev	.0004905	.17220	.01821	.0033214	.007925	.0009677
%RSD	2.333665	.8888071	.1545655	2.014617	.4881104	.6930261
#1	.0206809	19.17921	11.80559	.1611074	1.632742	.1401668
#2	.0207909	19.43592	11.77553	.1674046	1.618107	.1385249
#3	.0215801	19.50638	11.77274	.1660876	1.620153	.1402333

Elem	Sr4077
Units	ppm
Avg	1.819891
Stddev	.006098
%RSD	.3350935
#1	1.826038
#2	1.813843
#3	1.819793

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	975.6609	26574.82	5497.908	809.0247	1592.798
Stddev	4.0917	20.96	6.262	3.1361	8.367
%RSD	.4193787	.0788842	.1138926	.3876381	.5252744
#1	980.1925	26598.90	5494.127	811.7779	1602.065
#2	974.5529	26560.61	5494.461	809.6851	1590.528
#3	972.2372	26564.95	5505.136	805.6109	1585.801

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-01 Acquired: 11/18/2024 12:52:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D37 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001720	-.006251	.3539275	.0064732	.0007134	.4299875
Stddev	.006516	.003581	.0020169	.0052279	.0040007	.0056791
%RSD	378.7817	57.28686	.5698582	80.76153	560.7650	1.320760
#1	-.002204	-.006925	.3533950	.0123988	.0013939	.4300910
#2	.005024	-.002381	.3522303	.0025126	-.003584	.4356141
#3	-.007980	-.009448	.3561572	.0045082	.004330	.4242573

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.109590	.0003447	.0010947	3.723926	.0032990	.0026069
Stddev	.002854	.0001134	.0000726	.014347	.0001366	.0005152
%RSD	.2572247	32.88950	6.631348	.3852583	4.140652	19.76457
#1	1.106426	.0002311	.0011563	3.708321	.0031414	.0032018
#2	1.110376	.0004578	.0010147	3.726912	.0033718	.0023019
#3	1.111969	.0003452	.0011132	3.736545	.0033837	.0023170

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047751	.0883617	.3366456	.6408077	.0063421	.0108095
Stddev	.0009033	.0034954	.0027254	.0281685	.0006122	.0002443
%RSD	18.91759	3.955827	.8095637	4.395779	9.653001	2.259663
#1	.0047685	.0851256	.3334986	.6728505	.0061688	.0108058
#2	.0038750	.0920688	.3382090	.6199479	.0070222	.0110556
#3	.0056816	.0878908	.3382291	.6296249	.0058352	.0105671

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1483.235	.0049603	.4895020	.7873035	.0038952	.2828545
Stddev	.755	.0056716	.0009784	.0571362	.0029195	.0008385
%RSD	.0508985	114.3392	.1998749	7.257196	74.95171	.2964469
#1	1482.740	-.000865	.4889117	.7977314	.0014310	.2821106
#2	1482.861	.010465	.4906314	.7256717	.0031350	.2837632
#3	1484.104	.005281	.4889629	.8385076	.0071196	.2826898

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-01 Acquired: 11/18/2024 12:52:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D37 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007904	2.721629	.2523050	.0015605	.0010510	-.001546
Stddev	.0001401	.026196	.0009038	.0014831	.0016484	.001579
%RSD	17.72596	.9624954	.3582085	95.03851	156.8347	102.1301
#1	.0007418	2.691911	.2533484	.0026937	.0025727	-.003092
#2	.0006811	2.731603	.2518018	-.000118	.0012803	-.001608
#3	.0009484	2.741372	.2517649	.002106	-.000700	.000063

Elem	Sr4077
Units	ppm
Avg	.0343644
Stddev	.0000961
%RSD	.2796399
#1	.0344576
#2	.0342656
#3	.0343701

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	955.4599	24130.19	5392.856	793.2642	1510.857
Stddev	2.3076	16.39	15.154	3.3350	6.489
%RSD	.2415186	.0679253	.2809952	.4204151	.4294732
#1	958.1237	24126.70	5395.431	794.2557	1517.805
#2	954.0704	24115.83	5376.580	789.5459	1509.813
#3	954.1856	24148.05	5406.557	795.9910	1504.955

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-02 Acquired: 11/18/2024 12:57:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D43 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008628	-.003677	.1971074	.0058202	.0018374	.4242007
Stddev	.004443	.000510	.0062086	.0045622	.0035814	.0114611
%RSD	51.49181	13.85889	3.149874	78.38576	194.9143	2.701811
#1	-.004915	-.003409	.1899410	.0009850	.0034274	.4259215
#2	-.013550	-.004265	.2008634	.0100487	.0043487	.4119764
#3	-.007418	-.003358	.2005177	.0064268	-.002264	.4347041

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.310315	.0003277	.0238573	6.753712	.0083116	.0016165
Stddev	.002337	.0000608	.0002307	.019993	.0008783	.0006120
%RSD	.1783519	18.56549	.9671065	.2960331	10.56762	37.85656
#1	1.308272	.0003577	.0238861	6.762343	.0092544	.0013726
#2	1.312863	.0002577	.0236136	6.767941	.0075165	.0023129
#3	1.309810	.0003676	.0240724	6.730854	.0081639	.0011642

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0143281	.0753359	.2742886	1.458039	.0564094	.0106204
Stddev	.0008506	.0105064	.0012415	.024376	.0004235	.0009468
%RSD	5.936638	13.94604	.4526340	1.671825	.7507659	8.914524
#1	.0140285	.0671597	.2755760	1.461138	.0561944	.0103489
#2	.0152880	.0871859	.2741910	1.432262	.0568973	.0098390
#3	.0136679	.0716622	.2730987	1.480717	.0561365	.0116732

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1500.415	.0056177	1.314770	2.863419	.0065729	.3506251
Stddev	2.521	.0059332	.016688	.009210	.0054763	.0031505
%RSD	.1680482	105.6170	1.269303	.3216365	83.31609	.8985458
#1	1499.247	.0111217	1.317267	2.852795	.0052918	.3515447
#2	1498.689	.0063987	1.296974	2.869127	.0125761	.3532135
#3	1503.308	-.000667	1.330069	2.868337	.0018507	.3471171

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-02 Acquired: 11/18/2024 12:57:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D43 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003851	5.169357	.3553783	.0011506	.0012860	-.000725
Stddev	.0005233	.031159	.0029672	.0012473	.0015403	.001071
%RSD	135.8790	.6027713	.8349295	108.4068	119.7737	147.8489
#1	.0009043	5.142322	.3581132	.0010712	.0007123	-.000744
#2	-.000142	5.162315	.3557979	-.000055	.0001149	-.001786
#3	.000393	5.203435	.3522236	.002436	.0030309	.000356

Elem	Sr4077
Units	ppm
Avg	.0465070
Stddev	.0002687
%RSD	.5777634
#1	.0461969
#2	.0466726
#3	.0466513

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	943.6567	23945.15	5396.325	788.2202	1504.190
Stddev	4.9994	103.80	15.771	8.7275	8.308
%RSD	.5297932	.4334834	.2922462	1.107238	.5523417
#1	949.2258	23990.65	5380.674	786.9926	1513.473
#2	942.1887	24018.43	5412.212	797.4965	1501.643
#3	939.5557	23826.37	5396.089	780.1716	1497.452

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-03 Acquired: 11/18/2024 13:01:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D49 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006227	-.005449	.5458381	.0054854	.0002985	.3027125
Stddev	.0025717	.001741	.0046510	.0068800	.0021301	.0111515
%RSD	412.9940	31.94327	.8520745	125.4249	713.6799	3.683851
#1	.0027313	-.007453	.5510069	.0040059	-.001730	.3134804
#2	-.002242	-.004578	.5419911	-.000535	.000109	.2912134
#3	.001379	-.004316	.5445164	.012985	.002517	.3034436

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.217939	.0002010	.0378711	11.03414	.0025368	.0026003
Stddev	.004217	.0000554	.0001760	.03226	.0003266	.0005266
%RSD	.3462022	27.56773	.4647163	.2923861	12.87260	20.25010
#1	1.221644	.0001491	.0380577	11.05605	.0028120	.0031986
#2	1.213351	.0001945	.0377080	10.99709	.0026225	.0022070
#3	1.218822	.0002594	.0378476	11.04927	.0021760	.0023954

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0347335	.1642148	1.631511	2.839438	.0301718	.0102643
Stddev	.0026954	.0122629	.003066	.048194	.0002058	.0004104
%RSD	7.760156	7.467610	.1879489	1.697309	.6819915	3.998241
#1	.0355405	.1769742	1.634618	2.783984	.0302980	.0102726
#2	.0369332	.1631529	1.628487	2.871196	.0299343	.0106705
#3	.0317268	.1525174	1.631426	2.863136	.0302831	.0098498

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1492.224	.0053619	1.391645	2.707862	.0028648	.3289507
Stddev	3.071	.0048284	.001590	.088248	.0012161	.0057659
%RSD	.2057945	90.04932	.1142713	3.258946	42.45037	1.752825
#1	1495.764	.0107672	1.392338	2.712180	.0041081	.3349528
#2	1490.271	.0038429	1.392771	2.793871	.0028086	.3284450
#3	1490.637	.0014757	1.389826	2.617534	.0016778	.3234542

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-03 Acquired: 11/18/2024 13:01:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D49 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001006	4.058453	.5973554	.0000247	.0013646	-.000511
Stddev	.0002180	.019370	.0030492	.0021148	.0005975	.000254
%RSD	216.6623	.4772830	.5104523	8553.900	43.78755	49.79850
#1	.0000274	4.075748	.6008672	.0018244	.0012217	-.000730
#2	.0003458	4.062089	.5958190	-.002305	.0020206	-.000571
#3	-.000071	4.037522	.5953800	.000554	.0008515	-.000232

Elem	Sr4077
Units	ppm
Avg	.0739471
Stddev	.0000789
%RSD	.1066614
#1	.0739822
#2	.0738567
#3	.0740023

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	939.4751	23961.85	5408.719	785.5376	1496.407
Stddev	1.0250	63.18	5.640	2.3141	.975
%RSD	.1090983	.2636754	.1042716	.2945833	.0651509
#1	939.2052	23973.29	5402.399	787.0629	1496.163
#2	940.6079	24018.52	5410.518	786.6750	1495.577
#3	938.6120	23893.72	5413.240	782.8750	1497.480

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-04 Acquired: 11/18/2024 13:06:24 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D55 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0061627	-.001852	.4735284	.0110050	.0018086	.4976953
Stddev	.0055146	.002570	.0058233	.0041747	.0014130	.0136699
%RSD	89.48269	138.7488	1.229761	37.93431	78.12754	2.746634
#1	.0117615	.000775	.4777838	.0101350	.0020023	.4922810
#2	.0059902	-.001970	.4668919	.0073339	.0031148	.5132430
#3	.0007364	-.004360	.4759095	.0155461	.0003087	.4875619

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.208912	.0001461	.0027512	8.360754	.0107144	.0640956
Stddev	.005937	.0000931	.0001010	.012592	.0005629	.0004344
%RSD	.4911415	63.76742	3.670875	.1506087	5.253189	.6776739
#1	1.215545	.0000519	.0026818	8.374157	.0113508	.0636385
#2	1.204095	.0002381	.0028671	8.358935	.0102818	.0641452
#3	1.207095	.0001481	.0027048	8.349170	.0105107	.0645030

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0226027	6.586761	5.113659	1.322684	.0237292	.0086510
Stddev	.0023606	.044188	.016121	.057452	.0006866	.0002884
%RSD	10.44370	.6708611	.3152549	4.343596	2.893644	3.334324
#1	.0251048	6.636244	5.127840	1.389021	.0234759	.0084253
#2	.0204153	6.551240	5.096126	1.290024	.0232052	.0089760
#3	.0222880	6.572799	5.117012	1.289007	.0245065	.0085516

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1449.533	.0011174	.5352248	2.171480	.0047614	.2802436
Stddev	6.419	.0068975	.0027085	.123289	.0010397	.0025474
%RSD	.4428601	617.2835	.5060434	5.677631	21.83502	.9090053
#1	1456.645	.0076556	.5375475	2.142335	.0042496	.2831664
#2	1447.786	.0017870	.5322497	2.065376	.0059577	.2784953
#3	1444.167	-.006090	.5358770	2.306731	.0040768	.2790689

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-04 Acquired: 11/18/2024 13:06:24 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D55 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000110	3.751428	.3743296	-.001180	.0004175	-.001118
Stddev	.000139	.022869	.0031686	.000729	.0013398	.000803
%RSD	126.6835	.6096209	.8464830	61.83031	320.9285	71.79088
#1	-.000174	3.769759	.3779758	-.001790	-.000883	-.001924
#2	-.000205	3.725801	.3727698	-.000372	.001793	-.001112
#3	.000050	3.758725	.3722433	-.001377	.000342	-.000319

Elem	Sr4077
Units	ppm
Avg	.0619374
Stddev	.0001816
%RSD	.2932305
#1	.0619715
#2	.0620996
#3	.0617411

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	961.7115	24407.00	5423.983	803.6541	1497.424
Stddev	2.4080	50.15	16.701	.7749	5.414
%RSD	.2503856	.2054715	.3079095	.0964167	.3615218
#1	962.5288	24453.93	5404.714	803.5500	1494.330
#2	963.6044	24354.16	5434.309	804.4757	1503.675
#3	959.0012	24412.92	5432.924	802.9365	1494.267

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-05 Acquired: 11/18/2024 13:10:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D63 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002340	-.008983	1.491407	.0092022	.0005085	.6771448
Stddev	.006243	.004276	.005952	.0025217	.0018447	.0072106
%RSD	266.7645	47.60797	.3990644	27.40334	362.8057	1.064852
#1	.004292	-.013428	1.490992	.0110404	.0014822	.6848312
#2	-.008103	-.008622	1.497555	.0102387	.0016623	.6760732
#3	-.003211	-.004898	1.485674	.0063274	-.001619	.6705299

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.449561	.0003938	.0073445	13.98413	.0065738	.0254454
Stddev	.001995	.0000427	.0001751	.04755	.0005631	.0003578
%RSD	.1376537	10.82961	2.384723	.3400174	8.565272	1.405944
#1	1.450818	.0003928	.0072857	14.03767	.0062019	.0256897
#2	1.450606	.0004370	.0075414	13.96787	.0072216	.0256117
#3	1.447261	.0003517	.0072062	13.94683	.0062979	.0250347

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0143028	.4751284	2.860878	3.277114	.0100329	.0089465
Stddev	.0005767	.0069572	.006746	.043660	.0006811	.0004220
%RSD	4.032171	1.464276	.2358134	1.332260	6.788766	4.716870
#1	.0149585	.4722721	2.861767	3.243862	.0105322	.0091281
#2	.0138741	.4700539	2.853732	3.260925	.0103095	.0084641
#3	.0140760	.4830591	2.867137	3.326556	.0092570	.0092472

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1399.561	.0019272	.8159788	4.898491	.0038283	.3636496
Stddev	3.332	.0019239	.0029193	.008970	.0004928	.0014024
%RSD	.2381059	99.82977	.3577714	.1831079	12.87266	.3856407
#1	1400.579	.0016724	.8169200	4.896802	.0032634	.3623877
#2	1395.838	.0001434	.8127050	4.908185	.0040518	.3634017
#3	1402.265	.0039657	.8183115	4.890486	.0041698	.3651594

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-05 Acquired: 11/18/2024 13:10:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D63 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001156	7.859503	1.031040	-.003329	.0122030	.0001174
Stddev	.0002151	.017858	.002123	.000741	.0009530	.0023263
%RSD	185.9548	.2272190	.2058741	22.26603	7.809572	1982.461
#1	.0002082	7.864303	1.028682	-.003015	.0127868	-.002074
#2	-.000130	7.874471	1.032798	-.004176	.0111033	.002558
#3	.000269	7.839735	1.031639	-.002797	.0127189	-.000132

Elem	Sr4077
Units	ppm
Avg	.0846287
Stddev	.0001840
%RSD	.2174520
#1	.0847741
#2	.0844218
#3	.0846901

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	989.1613	24984.25	5546.457	821.2202	1487.604
Stddev	.7530	40.69	9.546	1.0310	2.502
%RSD	.0761267	.1628784	.1721091	.1255391	.1681905
#1	989.5419	24988.67	5542.240	822.3027	1487.289
#2	988.2939	25022.55	5557.385	821.1078	1485.275
#3	989.6481	24941.52	5539.745	820.2500	1490.249

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV023 Acquired: 11/18/2024 13:15:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV023 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.720636	5.195290	24.68323	4.717134	4.898746	399.6492
Stddev	.030681	.012948	.04679	.012646	.021086	1.2685
%RSD	.6499331	.2492351	.1895787	.2680894	.4304280	.3174095
#1	4.685222	5.183126	24.63007	4.702546	4.897829	398.6145
#2	4.737503	5.208902	24.71820	4.723864	4.878134	399.2686
#3	4.739184	5.193843	24.70141	4.724993	4.920275	401.0644

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.28033	.4731548	2.476952	402.9278	16.16249	2.486050
Stddev	.01795	.0019479	.003369	.5110	.29787	.000370
%RSD	.1746384	.4116758	.1359986	.1268278	1.842958	.0148808
#1	10.28764	.4752748	2.473807	402.8903	16.31821	2.485906
#2	10.25987	.4727455	2.480507	402.4365	16.35022	2.485774
#3	10.29346	.4714441	2.476542	403.4565	15.81904	2.486470

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.57381	404.2676	15.15567	403.3619	2.495652	1.218834
Stddev	.03621	1.6754	.04479	2.0730	.004882	.022524
%RSD	.2324981	.4144179	.2955292	.5139421	.1956268	1.847979
#1	15.55473	402.6301	15.20594	401.2140	2.490076	1.235244
#2	15.55114	404.1943	15.14108	403.5207	2.497725	1.228103
#3	15.61557	405.9784	15.11999	405.3509	2.499156	1.193154

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	405.5752	2.595728	14.53358	152.3859	5.331531	F 5.681707
Stddev	1.3889	.003058	.26901	.4405	.017464	.012185
%RSD	.3424415	.1177926	1.850982	.2890591	.3275645	.2144548
#1	403.9754	2.595045	14.72994	152.0703	5.313747	5.695562
#2	406.2783	2.599070	14.64386	152.1984	5.348657	5.676898
#3	406.4719	2.593070	14.22696	152.8892	5.332188	5.672660

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV023 Acquired: 11/18/2024 13:15:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV023 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.933467	5.101903	5.302718	5.045297	5.147268	5.197483
Stddev	.007088	.011095	.021892	.012081	.014314	.005291
%RSD	.1436618	.2174691	.4128524	.2394598	.2780835	.1017917
#1	4.927735	5.101449	5.325549	5.031857	5.137414	5.193533
#2	4.931275	5.091042	5.300702	5.055256	5.140704	5.195423
#3	4.941392	5.113218	5.281904	5.048777	5.163687	5.203494

Elem	Sr4077
Units	ppm
Avg	5.110458
Stddev	.040304
%RSD	.7886634
#1	5.086594
#2	5.087787
#3	5.156992

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	761.0795	22065.77	4829.260	595.1443	1312.495
Stddev	.6910	335.29	8.131	8.7357	2.030
%RSD	.0907906	1.519485	.1683667	1.467825	.1547008
#1	761.5714	21899.94	4821.753	588.7266	1313.906
#2	761.3776	21845.71	4837.897	591.6135	1310.167
#3	760.2895	22451.66	4828.130	605.0927	1313.411

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB023 Acquired: 11/18/2024 13:19:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB023 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028224	.0003906	.0015474	.0013958	.0006646	-.011098	.0011529
Stddev	.0089140	.0052578	.0040978	.0023095	.0025904	.011419	.0003356
%RSD	315.8327	1346.014	264.8288	165.4598	389.7758	102.8950	29.11141
#1	-.006910	.0064486	.0062152	.0019261	.0007147	-.000260	.0008032
#2	.010590	-.002291	-.000116	.0033939	-.001950	-.023020	.0014724
#3	.004787	-.002986	-.001458	-.001133	.003230	-.010012	.0011829

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000031	.0000241	-.008728	.0005049	.0002086	-.002482	.0078002
Stddev	.000100	.0000184	.002883	.0003692	.0003107	.000885	.0093274
%RSD	325.6535	76.27887	33.03540	73.11119	148.9427	35.66635	119.5802
#1	-.000065	.0000140	-.008128	.0006251	.0001607	-.001762	.0172131
#2	.000082	.0000453	-.006191	.0007989	.0005404	-.003470	-.001439
#3	-.000109	.0000130	-.011863	.0000906	-.000075	-.002213	.007627

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004043	.0040824	.0002903	.0025128	.0634626	.0055477	.0001816
Stddev	.0004674	.0121663	.0004309	.0000689	.0318020	.0075240	.0004255
%RSD	115.6141	298.0207	148.4369	2.739866	50.11136	135.6241	234.2850
#1	.0002513	-.000677	-.000138	.0025501	.0465744	-.001046	-.000184
#2	.0000325	.017909	.000286	.0024333	.1001460	.013744	.000648
#3	.0009290	-.004985	.000724	.0025549	.0436674	.003945	.000081

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.051618	-.000025	.0089748	.0008397	-.004361	.0010904	.0007858
Stddev	.053891	.006655	.0001232	.0002714	.006246	.0009143	.0002744
%RSD	104.4033	26398.49	1.372982	32.32733	143.2272	83.85002	34.92467
#1	.004420	.002268	.0089270	.0008871	-.005563	.0006324	.0009278
#2	-.056206	-.007523	.0091147	.0005476	-.009919	.0004957	.0004694
#3	-.103069	.005180	.0088825	.0010843	.002399	.0021433	.0009601

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB023 Acquired: 11/18/2024 13:19:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB023 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000269	.0087944	.0001111
Stddev	.001428	.0015420	.0000300
%RSD	531.4919	17.53435	26.97559
#1	.001302	.0079852	.0001370
#2	-.001489	.0105726	.0000783
#3	-.000619	.0078253	.0001180

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	967.5089	25737.70	5099.471	805.2556	1833.916
Stddev	3.9800	52.12	23.901	5.4808	3.664
%RSD	.4113696	.2025142	.4686913	.6806232	.1998085
#1	966.7978	25689.53	5125.571	809.8901	1835.042
#2	971.7966	25730.53	5078.654	799.2061	1836.886
#3	963.9324	25793.03	5094.189	806.6707	1829.821

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-06 Acquired: 11/18/2024 13:24:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D65 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006221	-.008763	3.109521	.0073544	.0021962	.4452160
Stddev	.018464	.005178	.018111	.0036604	.0020855	.0108741
%RSD	296.8141	59.08589	.5824237	49.77097	94.95548	2.442423
#1	-.012560	-.014083	3.105975	.0046284	.0012139	.4533031
#2	-.020680	-.003741	3.093446	.0115148	.0007834	.4328542
#3	.014578	-.008464	3.129142	.0059201	.0045915	.4494908

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.216968	.0003832	.0009946	7.587301	.0019161	.0064167
Stddev	.001619	.0001560	.0001807	.009471	.0005364	.0000445
%RSD	.1329992	40.71338	18.16550	.1248256	27.99644	.6936500
#1	1.218388	.0005366	.0007950	7.580279	.0020007	.0063781
#2	1.215206	.0002247	.0011470	7.583551	.0024051	.0064067
#3	1.217310	.0003884	.0010417	7.598072	.0013424	.0064654

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0078218	.0033524	.2231372	3.482169	.0042248	.0110226
Stddev	.0027626	.0049817	.0015709	.045102	.0004242	.0001864
%RSD	35.31958	148.5983	.7040214	1.295225	10.04196	1.691024
#1	.0104478	.0054709	.2246229	3.440141	.0047134	.0110947
#2	.0049403	-.002338	.2232958	3.529818	.0040114	.0111621
#3	.0080774	.006925	.2214930	3.476549	.0039497	.0108109

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1423.530	.0028732	.5875332	3.945476	.0032892	.3770392
Stddev	3.151	.0034526	.0024785	.103561	.0007543	.0017938
%RSD	.2213760	120.1638	.4218493	2.624804	22.93262	.4757460
#1	1420.182	.0061268	.5846785	3.849761	.0024331	.3756050
#2	1423.969	-.000749	.5887845	3.931255	.0035785	.3764621
#3	1426.439	.003242	.5891367	4.055413	.0038561	.3790505

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-06 Acquired: 11/18/2024 13:24:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D65 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005774	7.042657	.5785003	.0005758	.0002913	-.000594
Stddev	.0006251	.023738	.0048924	.0041214	.0007930	.000686
%RSD	108.2645	.3370649	.8457025	715.7238	272.2635	115.4520
#1	.0003023	7.042990	.5732252	.0033137	.0010244	-.001217
#2	.0012929	7.018754	.5793871	.0025779	.0003998	.000140
#3	.0001370	7.066227	.5828887	-.004164	-.000550	-.000704

Elem	Sr4077
Units	ppm
Avg	.0632218
Stddev	.0003023
%RSD	.4781375
#1	.0628861
#2	.0633069
#3	.0634724

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	951.0545	24277.60	5420.374	803.6333	1465.857
Stddev	3.8897	53.35	25.870	5.5483	5.206
%RSD	.4089906	.2197336	.4772818	.6904005	.3551292
#1	954.1737	24300.85	5449.879	809.7380	1467.612
#2	952.2935	24216.58	5409.664	798.8979	1469.958
#3	946.6961	24315.38	5401.577	802.2641	1460.000

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-07 Acquired: 11/18/2024 13:28:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D67 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003043	-.002414	.2759822	.0162317	.0007964	.5986872
Stddev	.013310	.003642	.0064249	.0099495	.0007408	.0072707
%RSD	437.3685	150.9080	2.328014	61.29667	93.02803	1.214444
#1	-.009803	-.000149	.2798830	.0187950	.0014069	.6061448
#2	-.011616	-.000477	.2685667	.0246487	.0010101	.5982978
#3	.012290	-.006615	.2794968	.0052514	-.000028	.5916190

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.506614	.0001013	.0954778	16.25464	.0057130	.0109368
Stddev	.004535	.0001030	.0001954	.04461	.0006614	.0003007
%RSD	.3010001	101.6444	.2046900	.2744733	11.57741	2.749484
#1	1.511539	.0001150	.0952956	16.30587	.0051806	.0109381
#2	1.502610	.0001968	.0954537	16.23375	.0064534	.0106355
#3	1.505692	-.000008	.0956842	16.22430	.0055051	.0112369

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0491969	.5262889	3.794859	3.094152	.0619591	.0156088
Stddev	.0030725	.0148686	.008548	.059216	.0004039	.0002637
%RSD	6.245268	2.825183	.2252479	1.913817	.6519367	1.689671
#1	.0480639	.5408287	3.804658	3.153739	.0624249	.0155619
#2	.0526750	.5269261	3.788936	3.035314	.0617479	.0153717
#3	.0468519	.5111119	3.790982	3.093403	.0617047	.0158929

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1535.110	.0044309	2.096080	3.861972	.0342927	.3633936
Stddev	2.273	.0013850	.010689	.220015	.0034305	.0022783
%RSD	.1480700	31.25739	.5099620	5.696948	10.00371	.6269568
#1	1537.639	.0036298	2.085842	3.851395	.0382374	.3655353
#2	1533.238	.0060301	2.095228	3.647437	.0326338	.3636457
#3	1534.451	.0036328	2.107169	4.087085	.0320069	.3609997

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-07 Acquired: 11/18/2024 13:28:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D67 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003518	2.359135	.5045123	.0022562	.0074452	-.000614
Stddev	.0004534	.025191	.0018371	.0018769	.0016154	.001173
%RSD	128.8839	1.067821	.3641374	83.18744	21.69762	190.9468
#1	-.000143	2.350169	.5058736	.0042794	.0059746	.000059
#2	.000748	2.339652	.5052407	.0019175	.0091743	-.001969
#3	.000450	2.387582	.5024227	.0005717	.0071867	.000067

Elem	Sr4077
Units	ppm
Avg	.0885002
Stddev	.0000927
%RSD	.1047256
#1	.0884111
#2	.0884936
#3	.0885961

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	907.2160	22995.26	5131.070	754.5699	1451.695
Stddev	4.2800	62.95	8.509	3.9284	3.335
%RSD	.4717741	.2737736	.1658424	.5206188	.2297397
#1	910.2777	23062.57	5125.712	758.3683	1453.651
#2	909.0450	22985.36	5126.617	754.8183	1453.590
#3	902.3254	22937.83	5140.883	750.5232	1447.844

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-08 Acquired: 11/18/2024 13:33:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.011923	-.003257	.2684886	.0114410	.0018243	.6196452
Stddev	.010034	.000456	.0031073	.0058553	.0029726	.0207535
%RSD	84.15724	14.00981	1.157328	51.17817	162.9405	3.349255
#1	-.020574	-.002759	.2665909	.0081535	.0021424	.6351881
#2	-.000923	-.003655	.2720746	.0079682	-.001294	.6276701
#3	-.014272	-.003358	.2668004	.0182012	.004625	.5960775

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.345779	.0000763	.0955014	15.34336	.0040469	.0099313
Stddev	.002101	.0000245	.0001473	.00708	.0003274	.0010299
%RSD	.1560856	32.17689	.1541889	.0461315	8.090339	10.37060
#1	1.346029	.0000841	.0956617	15.35097	.0038803	.0111074
#2	1.343564	.0000488	.0954702	15.33698	.0038362	.0091903
#3	1.347743	.0000959	.0953722	15.34214	.0044241	.0094963

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0913636	.5679800	3.621953	3.007945	.0574575	.0151864
Stddev	.0006241	.0203963	.001705	.025684	.0005640	.0007083
%RSD	.6831284	3.591027	.0470859	.8538629	.9815567	4.663787
#1	.0912214	.5553071	3.620781	2.994541	.0573333	.0159257
#2	.0908229	.5571247	3.621169	2.991737	.0569659	.0151195
#3	.0920466	.5915082	3.623909	3.037558	.0580732	.0145139

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1472.513	.0021382	2.015735	3.964683	.0317582	.3505794
Stddev	6.046	.0060090	.006758	.096985	.0033475	.0019811
%RSD	.4106123	281.0255	.3352506	2.446234	10.54045	.5650886
#1	1474.363	.0072511	2.017297	3.902288	.0332570	.3492682
#2	1465.757	.0036441	2.021576	4.076418	.0340943	.3496116
#3	1477.418	-.004480	2.008334	3.915344	.0279232	.3528583

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-08 Acquired: 11/18/2024 13:33:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA7 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000750	2.254870	.4789754	-.000606	.0086659	.0011977
Stddev	.0008041	.016633	.0023571	.001416	.0012854	.0005505
%RSD	1071.624	.7376400	.4921156	233.7282	14.83327	45.96652
#1	-.000681	2.265287	.4778023	.000095	.0099715	.0012842
#2	.000920	2.235688	.4774351	.000323	.0074016	.0006090
#3	-.000013	2.263635	.4816889	-.002235	.0086246	.0016998

Elem	Sr4077
Units	ppm
Avg	.0830366
Stddev	.0003278
%RSD	.3948219
#1	.0828786
#2	.0828177
#3	.0834135

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	913.4795	22997.52	5141.721	752.7469	1460.923
Stddev	1.0404	74.25	15.991	6.1414	.833
%RSD	.1138915	.3228582	.3110072	.8158655	.0570222
#1	914.5633	22934.50	5145.417	752.7483	1459.967
#2	913.3863	22978.70	5155.541	746.6048	1461.305
#3	912.4888	23079.37	5124.206	758.8876	1461.496

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-09 Acquired: 11/18/2024 13:37:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D94 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000771	-.005210	.4044883	.0094947	-.000187	.3376226
Stddev	.007950	.004842	.0055103	.0022695	.002264	.0112350
%RSD	1031.580	92.92851	1.362278	23.90333	1210.346	3.327690
#1	.006058	-.010613	.4017537	.0119741	.002053	.3505884
#2	.001128	-.003753	.4108310	.0089899	-.000140	.3307641
#3	-.009499	-.001264	.4008803	.0075200	-.002474	.3315152

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9912230	.0003308	.0205706	5.405221	.0038511	-.000586
Stddev	.0079977	.0000247	.0001906	.083445	.0010522	.000955
%RSD	.8068521	7.483621	.9266032	1.543787	27.32136	162.8060
#1	1.000120	.0003554	.0206554	5.500261	.0050597	-.000869
#2	.988917	.0003059	.0203523	5.371435	.0031396	-.001368
#3	.984631	.0003310	.0207040	5.343967	.0033540	.000478

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0356245	.0329655	.4134584	.9379788	.0197066	.0090271
Stddev	.0010646	.0056865	.0043980	.0466236	.0007495	.0003028
%RSD	2.988382	17.24992	1.063704	4.970641	3.803011	3.353938
#1	.0355568	.0266358	.4180846	.9901553	.0188430	.0093254
#2	.0345955	.0376429	.4129593	.9233783	.0201854	.0090359
#3	.0367214	.0346177	.4093312	.9004028	.0200916	.0087200

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1415.626	-.003779	1.233045	.8896616	.0053122	.2593316
Stddev	9.030	.002766	.004502	.1223381	.0009441	.0031943
%RSD	.6379042	73.19490	.3650761	13.75108	17.77273	1.231727
#1	1425.904	-.001513	1.230407	.9974918	.0056835	.2626453
#2	1408.965	-.006861	1.230486	.7567143	.0042389	.2562719
#3	1412.008	-.002962	1.238243	.9147787	.0060142	.2590775

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-09 Acquired: 11/18/2024 13:37:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D94 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007301	2.667111	.3106620	.0001227	.0001281	-.000533
Stddev	.0004004	.016311	.0041763	.0029054	.0013453	.001382
%RSD	54.83673	.6115623	1.344326	2367.005	1050.448	259.2214
#1	.0009593	2.648616	.3146189	-.000657	-.000627	.000665
#2	.0009633	2.679442	.3062964	.003338	.001681	-.002045
#3	.0002678	2.673274	.3110707	-.002313	-.000670	-.000219

Elem	Sr4077
Units	ppm
Avg	.0362598
Stddev	.0002352
%RSD	.6487418
#1	.0365205
#2	.0361953
#3	.0360635

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	954.0215	24314.17	5447.523	797.3795	1462.980
Stddev	8.0519	56.01	50.826	1.6117	12.407
%RSD	.8439942	.2303611	.9330067	.2021287	.8480877
#1	962.5855	24268.45	5389.321	799.2364	1474.259
#2	946.6047	24297.40	5483.152	796.5598	1449.690
#3	952.8744	24376.65	5470.097	796.3424	1464.991

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-10 Acquired: 11/18/2024 13:42:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033027	-.002625	.7603026	.0119416	.0005840	.4039906
Stddev	.0085071	.004019	.0064509	.0021632	.0014475	.0069234
%RSD	257.5793	153.1164	.8484630	18.11512	247.8644	1.713761
#1	-.006307	-.006238	.7596456	.0127352	.0000754	.4067523
#2	.009870	-.003341	.7670569	.0135959	.0022171	.4091070
#3	.006346	.001704	.7542054	.0094936	-.000541	.3961126

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.155026	.0002880	.0034202	8.023690	.0072080	.0051776
Stddev	.014925	.0001121	.0000907	.125326	.0008252	.0003784
%RSD	1.292176	38.92816	2.652563	1.561945	11.44886	7.308602
#1	1.165216	.0002510	.0033303	8.101098	.0067324	.0054426
#2	1.161967	.0004140	.0034187	8.090875	.0067307	.0053461
#3	1.137894	.0001991	.0035117	7.879097	.0081609	.0047443

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0197154	.1191335	.8919278	1.702360	.0189758	.0124987
Stddev	.0013163	.0044220	.0117968	.036144	.0003526	.0001062
%RSD	6.676664	3.711781	1.322615	2.123162	1.858418	.8497617
#1	.0186147	.1176255	.8993023	1.712953	.0186630	.0126033
#2	.0193580	.1241122	.8981591	1.732023	.0193580	.0125017
#3	.0211735	.1156627	.8783221	1.662103	.0189065	.0123910

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1476.551	.0076334	.9693773	2.448128	.0041459	.3479529
Stddev	20.560	.0009849	.0038420	.056754	.0035397	.0046087
%RSD	1.392421	12.90274	.3963383	2.318262	85.38038	1.324520
#1	1492.369	.0076943	.9729682	2.432224	.0004634	.3529341
#2	1483.973	.0066195	.9653257	2.511137	.0075231	.3470841
#3	1453.311	.0085865	.9698380	2.401022	.0044510	.3438404

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-10 Acquired: 11/18/2024 13:42:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA0 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003230	5.004612	.3832181	.0008764	.0015478	-.000281
Stddev	.0004191	.021121	.0040146	.0012962	.0015109	.001374
%RSD	129.7658	.4220340	1.047596	147.9102	97.61581	489.4300
#1	.0002660	4.980226	.3852970	-.000431	.0004826	.000849
#2	.0007677	5.016488	.3857670	.002161	.0008839	-.001811
#3	-.000065	5.017122	.3785904	.000900	.0032771	.000120

Elem	Sr4077
Units	ppm
Avg	.0548670
Stddev	.0008551
%RSD	1.558538
#1	.0554480
#2	.0552679
#3	.0538851

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	910.9677	23276.33	5287.396	765.4161	1456.196
Stddev	1.8787	42.43	63.349	1.0204	2.023
%RSD	.2062328	.1822822	1.198105	.1333191	.1389362
#1	908.9550	23240.29	5245.963	764.9172	1453.869
#2	911.2733	23323.09	5255.907	766.5901	1457.183
#3	912.6750	23265.60	5360.319	764.7412	1457.536

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-11 Acquired: 11/18/2024 13:46:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0175210	-.002295	2.766462	.0082922	-.000765	.4808718
Stddev	.0013019	.002539	.010599	.0024450	.000367	.0069941
%RSD	7.430386	110.6055	.3831247	29.48618	47.96500	1.454471
#1	.0167709	-.000411	2.772775	.0063979	-.000954	.4884345
#2	.0167678	-.005182	2.754225	.0110523	-.000342	.4795448
#3	.0190243	-.001293	2.772386	.0074262	-.000998	.4746363

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.330813	.0003331	.0007539	2.647126	.0017270	.0151751
Stddev	.001716	.0000610	.0000747	.010482	.0008689	.0005546
%RSD	.1289246	18.30308	9.913357	.3959792	50.31170	3.654391
#1	1.329584	.0002633	.0006678	2.645106	.0008373	.0154687
#2	1.332773	.0003762	.0007916	2.637801	.0017702	.0155212
#3	1.330081	.0003597	.0008023	2.658471	.0025734	.0145355

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040477	.0208986	.2750167	1.946612	.0045778	-.003001
Stddev	.0014990	.0166784	.0012506	.008465	.0003089	.000546
%RSD	37.03224	79.80631	.4547245	.4348769	6.748426	18.19420
#1	.0036928	.0387209	.2762514	1.951816	.0046704	-.002405
#2	.0056922	.0056673	.2750480	1.951177	.0042332	-.003477
#3	.0027581	.0183077	.2737508	1.936844	.0048299	-.003120

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1186.110	.0004690	.4541269	2.272646	-.005778	.2652475
Stddev	1.752	.0016578	.0017534	.136328	.000805	.0015799
%RSD	.1477459	353.4356	.3861130	5.998639	13.92975	.5956405
#1	1184.579	-.000790	.4560741	2.266678	-.006642	.2635270
#2	1185.730	.002347	.4526728	2.411860	-.005643	.2655823
#3	1188.021	-.000151	.4536338	2.139400	-.005050	.2666331

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-11 Acquired: 11/18/2024 13:46:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0DA6 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007869	8.044670	.7285540	-.001334	.0008998	-.000108
Stddev	.0002596	.008235	.0027299	.002472	.0014932	.000442
%RSD	32.98467	.1023696	.3747017	185.2477	165.9429	408.3934
#1	.0006310	8.051040	.7280889	-.001405	.0000145	.000091
#2	.0006432	8.047600	.7260866	.001172	.0026238	-.000615
#3	.0010865	8.035371	.7314866	-.003770	.0000612	.000199

Elem	Sr4077
Units	ppm
Avg	.0278332
Stddev	.0000705
%RSD	.2532578
#1	.0279077
#2	.0277676
#3	.0278244

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1115.757	28482.84	6369.066	931.6999	1469.084
Stddev	1.653	52.67	4.579	3.6933	3.374
%RSD	.1481447	.1849132	.0718996	.3964007	.2296378
#1	1116.270	28431.95	6370.413	927.5645	1470.693
#2	1117.092	28537.12	6363.964	934.6699	1471.351
#3	1113.908	28479.45	6372.821	932.8653	1465.207

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-12 Acquired: 11/18/2024 13:51:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D73 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000122	-.001086	.2583477	.0090147	-.000214	.3586879
Stddev	.004670	.005954	.0029607	.0069441	.002987	.0100095
%RSD	3834.178	548.3440	1.146016	77.03097	1394.442	2.790597
#1	-.005427	.002947	.2550664	.0033269	-.000248	.3537385
#2	.001692	.001720	.2608192	.0167533	-.003184	.3521173
#3	.003369	-.007924	.2591577	.0069641	.002789	.3702080

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.097648	.0002389	.0031364	7.198473	.0019326	.0025960
Stddev	.001950	.0001718	.0000598	.016099	.0005474	.0000470
%RSD	.1776072	71.90202	1.906224	.2236508	28.32342	1.808970
#1	1.095498	.0003588	.0031290	7.180461	.0025294	.0025505
#2	1.098146	.0000421	.0031995	7.211464	.0014541	.0025932
#3	1.099301	.0003157	.0030806	7.203493	.0018142	.0026443

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0168125	.0535930	2.111359	1.827534	.0063650	.0106448
Stddev	.0025973	.0055247	.004861	.015606	.0004364	.0005895
%RSD	15.44872	10.30868	.2302344	.8539548	6.856265	5.538009
#1	.0166636	.0580793	2.110969	1.822765	.0067966	.0103372
#2	.0142928	.0552776	2.116403	1.814869	.0063743	.0102727
#3	.0194810	.0474221	2.106705	1.844969	.0059239	.0113245

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1463.650	.0030829	1.042911	2.699163	.0041191	.2936956
Stddev	2.974	.0046297	.004076	.055753	.0018201	.0019662
%RSD	.2031795	150.1729	.3907877	2.065561	44.18700	.6694636
#1	1461.358	.0082288	1.042377	2.715153	.0047650	.2922109
#2	1467.011	.0017644	1.047228	2.637163	.0020641	.2929504
#3	1462.582	-.000745	1.039129	2.745174	.0055281	.2959254

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-12 Acquired: 11/18/2024 13:51:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D73 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003525	4.545305	.5633437	.0017788	.0018338	.0000023
Stddev	.0004395	.007173	.0018391	.0015356	.0012621	.0013017
%RSD	124.6784	.1578015	.3264556	86.32927	68.82433	57373.66
#1	.0008599	4.537921	.5646343	.0007970	.0015053	-.000914
#2	.0001097	4.552246	.5641588	.0009909	.0007684	-.000572
#3	.0000880	4.545749	.5612379	.0035485	.0032276	.001492

Elem	Sr4077
Units	ppm
Avg	.0530376
Stddev	.0001133
%RSD	.2135749
#1	.0529262
#2	.0531527
#3	.0530339

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	940.8088	23922.08	5342.324	784.0849	1465.612
Stddev	2.5095	104.38	12.238	3.9477	5.285
%RSD	.2667372	.4363275	.2290771	.5034795	.3606119
#1	942.8948	24020.20	5356.220	787.6175	1471.710
#2	941.5078	23933.63	5337.601	779.8236	1462.761
#3	938.0240	23812.40	5333.152	784.8136	1462.364

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-13 Acquired: 11/18/2024 13:55:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D79 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002153	-.001603	.3713406	.0086284	.0014092	.4060683
Stddev	.002901	.001758	.0032833	.0051010	.0008769	.0108590
%RSD	134.7225	109.6601	.8841664	59.11936	62.22683	2.674182
#1	.001000	-.001140	.3717163	.0133406	.0018131	.4017009
#2	-.004709	-.003547	.3678857	.0032117	.0004031	.3980730
#3	-.002751	-.000123	.3744199	.0093328	.0020114	.4184310

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.346330	.0004081	.0111699	6.014944	.0027102	.0037862
Stddev	.030292	.0001210	.0002372	.144361	.0004154	.0004086
%RSD	2.249947	29.64267	2.123546	2.400047	15.32817	10.79278
#1	1.327497	.0003435	.0112545	5.939095	.0023102	.0041588
#2	1.330220	.0003332	.0109019	5.924316	.0026810	.0038507
#3	1.381272	.0005477	.0113531	6.181419	.0031395	.0033492

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0154010	.1209313	.6624096	1.348256	.0094637	.0100570
Stddev	.0010052	.0110222	.0151336	.036619	.0001832	.0002681
%RSD	6.526732	9.114414	2.284623	2.716047	1.935770	2.666229
#1	.0150677	.1169282	.6539646	1.352302	.0094159	.0100710
#2	.0146049	.1333957	.6533831	1.309782	.0096660	.0097822
#3	.0165305	.1124701	.6798811	1.382684	.0093091	.0103179

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1458.755	.0039964	.6951158	1.667187	.0059198	.2910914
Stddev	29.899	.0017110	.0005934	.054144	.0029296	.0067841
%RSD	2.049655	42.81459	.0853704	3.247651	49.48872	2.330569
#1	1438.363	.0047789	.6955736	1.611171	.0047249	.2862265
#2	1444.824	.0020340	.6953285	1.671147	.0037764	.2882066
#3	1493.078	.0051763	.6944454	1.719243	.0092580	.2988412

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-13 Acquired: 11/18/2024 13:55:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D79 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009053	2.809140	.3635405	-.001493	.0012496	-.001960
Stddev	.0008033	.005399	.0081496	.000262	.0004781	.000818
%RSD	88.72928	.1922010	2.241733	17.53590	38.26241	41.74478
#1	.0000504	2.815326	.3563456	-.001684	.0011330	-.002312
#2	.0010211	2.805372	.3618852	-.001602	.0017752	-.001025
#3	.0016444	2.806723	.3723907	-.001195	.0008405	-.002543

Elem	Sr4077
Units	ppm
Avg	.0497336
Stddev	.0011965
%RSD	2.405834
#1	.0489052
#2	.0491902
#3	.0511053

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	956.2665	24095.34	5334.132	789.9113	1469.431
Stddev	.6067	42.53	116.431	2.3452	1.114
%RSD	.0634441	.1765060	2.182762	.2968966	.0758377
#1	956.8467	24094.28	5415.534	789.3412	1470.644
#2	955.6364	24053.34	5386.094	787.9037	1469.198
#3	956.3163	24138.38	5200.767	792.4890	1468.452

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-14 Acquired: 11/18/2024 13:59:57 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D88 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024333	-.007524	1.670924	.0054254	.0031336	.6899860
Stddev	.0036883	.001989	.004358	.0050876	.0025455	.0086437
%RSD	151.5726	26.43407	.2607915	93.77356	81.23262	1.252739
#1	.0001286	-.006379	1.665919	.0113000	.0001989	.6808788
#2	.0004841	-.009821	1.672988	.0024581	.0044586	.6980763
#3	.0066872	-.006372	1.673867	.0025182	.0047434	.6910028

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.030343	.0003732	.0052765	6.797240	.0048548	.0019872
Stddev	.008192	.0000704	.0001008	.078111	.0000352	.0003456
%RSD	.7950607	18.85139	1.909847	1.149152	.7251237	17.38920
#1	1.039692	.0003635	.0053818	6.887430	.0048234	.0018515
#2	1.024425	.0003082	.0052668	6.751396	.0048929	.0023801
#3	1.026912	.0004479	.0051810	6.752893	.0048480	.0017302

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041213	.2287813	.6478960	2.071007	.0071013	.0122460
Stddev	.0028739	.0168155	.0061583	.029765	.0003244	.0005646
%RSD	69.73166	7.350035	.9505129	1.437231	4.568565	4.610659
#1	.0064555	.2113559	.6545709	2.099746	.0074690	.0117136
#2	.0009115	.2449120	.6424350	2.040312	.0068555	.0121864
#3	.0049970	.2300760	.6466819	2.072964	.0069794	.0128381

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1514.384	.0076438	.5607561	1.689849	.0054161	.2940740
Stddev	15.496	.0053465	.0016645	.069696	.0043637	.0026372
%RSD	1.023240	69.94575	.2968332	4.124382	80.56947	.8967669
#1	1532.217	.0074393	.5589342	1.723300	.0091488	.2958069
#2	1506.738	.0024025	.5611366	1.609734	.0006185	.2953760
#3	1504.198	.0130897	.5621974	1.736514	.0064811	.2910390

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4755-14 Acquired: 11/18/2024 13:59:57 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0D88 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003881	4.784349	.4234543	-.000724	.0025996	.0003284
Stddev	.0004620	.010229	.0051196	.002671	.0008452	.0004668
%RSD	119.0366	.2137986	1.209006	369.0232	32.51348	142.1444
#1	.0000694	4.773813	.4293659	-.003807	.0031426	.0007479
#2	.0001770	4.784995	.4204976	.000869	.0030305	-.000175
#3	.0009179	4.794240	.4204993	.000767	.0016258	.000412

Elem	Sr4077
Units	ppm
Avg	.0636626
Stddev	.0005048
%RSD	.7929445
#1	.0641888
#2	.0636169
#3	.0631822

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	917.8041	23305.83	5245.473	763.5234	1449.317
Stddev	2.1015	62.89	56.127	3.0979	2.804
%RSD	.2289675	.2698346	1.070006	.4057392	.1934564
#1	919.3908	23377.08	5180.735	766.3521	1451.375
#2	915.4208	23258.04	5275.200	760.2127	1446.124
#3	918.6009	23282.38	5280.484	764.0052	1450.453

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164916TB Acquired: 11/18/2024 14:04:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB916 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086690	-.003178	-.003688	.0085534	.0002893	-.025143
Stddev	.0131197	.001698	.002176	.0048514	.0018932	.009581
%RSD	151.3399	53.44931	58.98793	56.71865	654.4454	38.10527
#1	.0210830	-.001297	-.001179	.0046541	.0002762	-.020350
#2	-.005058	-.003635	-.004831	.0139862	-.001597	-.036175
#3	.009982	-.004601	-.005055	.0070199	.002189	-.018906

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001871	.0000035	-.000050	-.010548	.0021380	.0000247
Stddev	.0003052	.0001293	.000210	.005805	.0007041	.0002937
%RSD	163.0724	3690.228	420.2167	55.03205	32.93581	1189.007
#1	.0000133	.0000086	-.000046	-.016028	.0029033	.0000050
#2	.0005395	.0001302	-.000262	-.011151	.0019932	.0003278
#3	.0000086	-.000128	.000158	-.004465	.0015175	-.000259

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000847	.0165691	.0009138	.0184052	.0035672	.0134502
Stddev	.003841	.0076210	.0006821	.0344113	.0006583	.0002739
%RSD	453.3590	45.99532	74.64279	186.9647	18.45487	2.036133
#1	-.001529	.0236556	.0005421	-.019196	.0039570	.0132849
#2	-.004302	.0175442	.0004982	.048329	.0039374	.0137663
#3	.003289	.0085075	.0017009	.026083	.0028071	.0132993

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 1518.247	.0030730	.0003534	-.779252	-.003372	-.001684
Stddev	3.886	.0062521	.0004426	.140370	.005429	.002516
%RSD	.2559698	203.4544	125.2499	18.01347	160.9906	149.3743
#1	1522.631	.0036398	.0006750	-.922544	.000120	-.001543
#2	1516.885	.0090224	-.000151	-.773216	-.009626	.000758
#3	1515.225	-.003443	.000537	-.641998	-.000610	-.004268

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: PB164916TB Acquired: 11/18/2024 14:04:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB916 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006104	.0249776	.0026732	.0013205	.0004201	-.000863
Stddev	.0001305	.0050929	.0005842	.0024310	.0005860	.000398
%RSD	21.37294	20.38980	21.85362	184.1009	139.5014	46.10598
#1	.0004867	.0191862	.0029680	-.001051	-.000164	-.001317
#2	.0005979	.0287579	.0030512	.001206	.001008	-.000695
#3	.0007467	.0269886	.0020003	.003807	.000416	-.000576

Elem	Sr4077
Units	ppm
Avg	.0000937
Stddev	.0001275
%RSD	136.0813
#1	.0001419
#2	-.000051
#3	.000190

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	891.4567	22720.47	5125.741	746.0661	1436.228
Stddev	2.5140	82.18	12.886	2.7848	2.589
%RSD	.2820096	.3617018	.2513959	.3732625	.1802738
#1	888.7020	22812.58	5111.279	748.6763	1434.335
#2	892.0411	22654.64	5129.938	746.3873	1435.171
#3	893.6270	22694.19	5136.004	743.1346	1439.179

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-01 Acquired: 11/18/2024 14:08:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1063639	-.000006	.5504170	-.017671	.0070373	71.84405	.5998648
Stddev	.0085563	.001868	.0015620	.004631	.0034853	.14104	.0014495
%RSD	8.044359	31691.29	.2837883	26.20450	49.52683	.1963114	.2416439
#1	.1058143	.001353	.5504391	-.016259	.0048744	71.79884	.6001614
#2	.0980957	-.002136	.5519679	-.013911	.0110580	72.00215	.6011432
#3	.1151818	.000765	.5488440	-.022844	.0051795	71.73116	.5982900

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059764	.0051206	13.18993	.0930012	.0594047	.1715118	182.2589
Stddev	.0000964	.0001546	.06075	.0003309	.0007923	.0014999	.4775
%RSD	1.612306	3.019643	.4605997	.3558130	1.333709	.8745433	.2619774
#1	.0060868	.0051951	13.11991	.0928643	.0584907	.1719584	181.7908
#2	.0059329	.0052238	13.22125	.0927606	.0598954	.1698392	182.7453
#3	.0059094	.0049428	13.22863	.0933785	.0598281	.1727377	182.2406

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.446229	12.66680	.1674903	-.015162	1.468882	.1577763	.7406228
Stddev	.006262	.05011	.0013612	.000158	.448011	.0043809	.0061464
%RSD	.2559910	.3956141	.8126794	1.039436	30.50015	2.776639	.8299005
#1	2.439101	12.60902	.1660237	-.015325	.961722	.1565293	.7416919
#2	2.448744	12.69853	.1677339	-.015010	1.810812	.1541541	.7461646
#3	2.450843	12.69283	.1687131	-.015150	1.634111	.1626455	.7340120

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.631818	3.574977	.1687028	.0115230	1.194936	9.644497	.0478461
Stddev	.048902	.009650	.0018264	.0006603	.005503	.058339	.0003636
%RSD	1.346477	.2699227	1.082601	5.730695	.4605371	.6048974	.7599728
#1	3.688150	3.578534	.1708074	.0115614	1.200938	9.577232	.0475587
#2	3.607035	3.564053	.1677669	.0121634	1.193742	9.681303	.0477247
#3	3.600271	3.582343	.1675341	.0108443	1.190128	9.674956	.0482549

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-01 Acquired: 11/18/2024 14:08:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.214591	.0846785	.1021228
Stddev	.004227	.0012663	.0002773
%RSD	.3479902	1.495455	.2715361
#1	1.215674	.0851578	.1023314
#2	1.218171	.0832425	.1022289
#3	1.209928	.0856352	.1018081

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	989.6177	26701.83	5409.093	821.4725	1701.781
Stddev	3.6057	48.66	19.680	5.7715	1.305
%RSD	.3643569	.1822200	.3638362	.7025826	.0766557
#1	992.0773	26652.17	5431.212	821.6603	1703.286
#2	985.4786	26703.91	5393.520	815.6094	1701.098
#3	991.2973	26749.41	5402.547	827.1479	1700.961

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-02 Acquired: 11/18/2024 14:13:25 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1720654	-.006858	3.750590	-.030312	.0117557	95.43486	2.490374
Stddev	.0030712	.002228	.040365	.002384	.0013897	.21997	.009696
%RSD	1.784879	32.49213	1.076240	7.863877	11.82128	.2304955	.3893248
#1	.1754016	-.008795	3.706839	-.027858	.0101771	95.50179	2.490916
#2	.1714386	-.004423	3.758546	-.030459	.0127945	95.61359	2.499788
#3	.1693560	-.007355	3.786384	-.032619	.0122955	95.18919	2.480420

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0113047	.0043855	36.13645	.1083682	.0760532	.2545887	181.3357
Stddev	.0001476	.0002142	.09461	.0022060	.0010149	.0025172	.4809
%RSD	1.305686	4.883102	.2618217	2.035636	1.334488	.9887221	.2652044
#1	.0111559	.0041504	36.13641	.1081074	.0753272	.2574702	181.5852
#2	.0113071	.0044370	36.23108	.1063042	.0756194	.2534777	181.6406
#3	.0114511	.0045693	36.04186	.1106930	.0772129	.2528182	180.7813

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.504376	14.90324	.1958995	-.013508	2.540761	.2680735	1.555526
Stddev	.013409	.02381	.0023370	.001557	.341130	.0047176	.031509
%RSD	.3826289	.1597611	1.192976	11.52432	13.42630	1.759797	2.025589
#1	3.504967	14.87678	.1932908	-.014129	2.461379	.2679124	1.566530
#2	3.517479	14.91003	.1966058	-.014658	2.914584	.2634386	1.519991
#3	3.490681	14.92292	.1978020	-.011737	2.246321	.2728696	1.580056

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.180281	5.283499	.2271158	.0150893	1.671813	12.99586	.0469089
Stddev	.143815	.059038	.0003879	.0003070	.016101	.05873	.0016749
%RSD	4.522084	1.117398	.1708033	2.034475	.9630758	.4519269	3.570502
#1	3.223593	5.216223	.2274661	.0154340	1.657441	13.02754	.0460030
#2	3.019787	5.307604	.2266989	.0149885	1.668785	12.92809	.0488416
#3	3.297462	5.326671	.2271824	.0148454	1.689212	13.03195	.0458821

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-02 Acquired: 11/18/2024 14:13:25 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.789144	.1417008	.8579735
Stddev	.005633	.0011035	.0028283
%RSD	.3148583	.7787532	.3296505
#1	1.794757	.1412246	.8583530
#2	1.789182	.1429625	.8605929
#3	1.783491	.1409154	.8549746

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1001.133	27135.99	5509.080	833.3201	1646.303
Stddev	6.213	471.35	2.155	12.1639	12.959
%RSD	.6206098	1.736987	.0391106	1.459693	.7871834
#1	1008.046	27128.46	5511.468	831.2088	1659.751
#2	999.339	27611.06	5507.281	846.4015	1645.263
#3	996.015	26668.45	5508.492	822.3501	1633.894

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-03 Acquired: 11/18/2024 14:17:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1148030	-.002273	2.091601	-.039140	.0121790	84.40445	.4527113
Stddev	.0142887	.001792	.007068	.004567	.0043210	.20962	.0006465
%RSD	12.44624	78.85235	.3379033	11.66778	35.47920	.2483551	.1427963
#1	.1115348	-.000736	2.085069	-.038797	.0110341	84.29210	.4528900
#2	.1304426	-.004241	2.099104	-.043869	.0169571	84.27495	.4519943
#3	.1024315	-.001841	2.090631	-.034755	.0085457	84.64630	.4532496

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066473	.0088135	6.371957	.1349014	.0761460	.2699114	231.8024
Stddev	.0002698	.0002545	.024059	.0010731	.0001954	.0035428	.6160
%RSD	4.058515	2.888027	.3775826	.7954565	.2565619	1.312592	.2657330
#1	.0069093	.0090768	6.386222	.1358375	.0761401	.2672256	231.2750
#2	.0066622	.0087950	6.344179	.1351363	.0763442	.2685820	231.6529
#3	.0063704	.0085688	6.385470	.1337303	.0759536	.2739267	232.4794

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.874767	18.87401	.2659560	-.019837	1.368351	.2008906	1.988615
Stddev	.006306	.03333	.0013825	.000284	.320805	.0077278	.009733
%RSD	.2193636	.1765971	.5198100	1.431204	23.44464	3.846789	.4894486
#1	2.872314	18.84801	.2646086	-.019885	1.277152	.1935269	1.982213
#2	2.881931	18.86243	.2658882	-.019533	1.724881	.2089372	1.983815
#3	2.870055	18.91158	.2673711	-.020095	1.103020	.2002078	1.999815

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.525979	5.810168	.2095672	.0157375	1.406270	9.948380	.0503143
Stddev	.024866	.014606	.0027796	.0004799	.006380	.025654	.0014569
%RSD	.7052293	.2513919	1.326373	3.049371	.4536987	.2578733	2.895499
#1	3.505073	5.825948	.2064059	.0162774	1.413380	9.961334	.0512476
#2	3.519386	5.797121	.2116284	.0153597	1.401043	9.918832	.0486356
#3	3.553477	5.807435	.2106673	.0155752	1.404388	9.964975	.0510597

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-03 Acquired: 11/18/2024 14:17:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.234490	.1348456	.0580461
Stddev	.005780	.0010775	.0002192
%RSD	.4682065	.7990626	.3775656
#1	1.229718	.1360414	.0580910
#2	1.232834	.1339501	.0578080
#3	1.240917	.1345452	.0582394

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1012.547	27163.84	5510.931	832.2477	1672.271
Stddev	1.849	38.61	4.587	1.8410	1.617
%RSD	.1826473	.1421528	.0832372	.2212051	.0966932
#1	1011.063	27182.07	5507.451	831.6837	1673.472
#2	1014.619	27119.48	5516.129	834.3046	1670.432
#3	1011.959	27189.96	5509.212	830.7546	1672.909

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-04 Acquired: 11/18/2024 14:22:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1319047	-.004579	.8008851	-.023461	.0092243	78.06413	.7477128
Stddev	.0070349	.003765	.0092144	.008973	.0032813	.09549	.0018375
%RSD	5.333329	82.23820	1.150530	38.24879	35.57215	.1223181	.2457547
#1	.1271847	-.002959	.8113666	-.033533	.0106832	78.06914	.7460946
#2	.1399902	-.001895	.7972280	-.016320	.0054666	78.15701	.7497104
#3	.1285392	-.008883	.7940606	-.020529	.0115231	77.96624	.7473334

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072353	.0044331	8.611187	.1002756	.0700163	.2528216	213.8008
Stddev	.0002253	.0002649	.079262	.0005910	.0012481	.0021281	.5062
%RSD	3.114138	5.974371	.9204541	.5894095	1.782568	.8417450	.2367657
#1	.0069821	.0045437	8.523843	.0995970	.0713531	.2552231	213.2838
#2	.0073102	.0041308	8.631177	.1005519	.0688816	.2520718	214.2955
#3	.0074137	.0046246	8.678540	.1006778	.0698142	.2511699	213.8230

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.310116	13.21674	.1658164	-.018297	1.283181	.2038159	.8589779
Stddev	.006235	.06073	.0010832	.000504	.326696	.0024486	.0016784
%RSD	.1883681	.4595082	.6532679	2.753576	25.45985	1.201357	.1953964
#1	3.304821	13.18690	.1665318	-.018837	.996035	.2063691	.8606828
#2	3.308538	13.17669	.1663473	-.017839	1.638629	.2014875	.8589235
#3	3.316989	13.28661	.1645701	-.018216	1.214880	.2035911	.8573273

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.900876	4.652688	.1926588	.0183590	2.334969	11.02830	.0423127
Stddev	.082856	.066866	.0018743	.0005857	.032551	.02776	.0019325
%RSD	2.856230	1.437148	.9728721	3.190312	1.394061	.2517232	4.567152
#1	2.845899	4.724458	.1944019	.0187990	2.372257	11.02954	.0434462
#2	2.860554	4.641456	.1928982	.0185837	2.312228	10.99994	.0434107
#3	2.996175	4.592149	.1906763	.0176942	2.320423	11.05542	.0400814

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-04 Acquired: 11/18/2024 14:22:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.429996	.1038025	.1656538
Stddev	.003791	.0007049	.0000656
%RSD	.2650991	.6791141	.0396143
#1	1.425898	.1035496	.1656568
#2	1.433377	.1045990	.1657179
#3	1.430712	.1032589	.1655867

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	993.1917	26863.18	5458.295	828.1526	1684.075
Stddev	9.8960	65.55	12.770	1.8901	17.961
%RSD	.9963856	.2440078	.2339645	.2282253	1.066497
#1	983.3927	26889.17	5469.816	829.3231	1664.657
#2	993.0005	26788.63	5444.563	825.9721	1687.474
#3	1003.182	26911.75	5460.505	829.1625	1700.092

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-05 Acquired: 11/18/2024 14:26:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1597518	-.003160	4.029894	-.037930	.0147521	77.14034	1.239773
Stddev	.0078115	.001855	.023575	.008604	.0016905	.07574	.001079
%RSD	4.889747	58.70343	.5849950	22.68312	11.45933	.0981879	.0869948
#1	.1579723	-.001354	4.038177	-.028014	.0160719	77.12129	1.239711
#2	.1529836	-.005060	4.003295	-.042368	.0153379	77.22379	1.238727
#3	.1682994	-.003066	4.048209	-.043409	.0128467	77.07595	1.240881

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089607	.0343639	14.21173	.2813700	.0960933	.5639391	253.2464
Stddev	.0004446	.0002534	.04020	.0016902	.0004628	.0052915	.6172
%RSD	4.961689	.7373876	.2828498	.6006987	.4815730	.9383179	.2437287
#1	.0092141	.0341769	14.22481	.2828864	.0966275	.5579014	253.8357
#2	.0092207	.0342624	14.16663	.2816758	.0958351	.5677701	253.2988
#3	.0084473	.0346523	14.24377	.2795478	.0958172	.5661460	252.6046

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.241277	26.72992	.4726961	-.015887	1.292333	.1996793	2.792971
Stddev	.009383	.07535	.0031832	.000336	.313770	.0066008	.010817
%RSD	.2212327	.2818984	.6734203	2.118075	24.27937	3.305723	.3872767
#1	4.246858	26.81693	.4744158	-.015665	1.535115	.1981094	2.795884
#2	4.246529	26.68627	.4690229	-.015722	1.403845	.2069235	2.780997
#3	4.230444	26.68656	.4746497	-.016274	.938038	.1940049	2.802034

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.219631	7.954086	.2211631	.0165748	1.909307	10.01363	.1077834
Stddev	.127616	.049484	.0022489	.0006283	.018784	.03362	.0032193
%RSD	3.963694	.6221186	1.016860	3.790714	.9837947	.3357046	2.986850
#1	3.301294	7.979511	.2234795	.0171786	1.926796	10.01226	.1057285
#2	3.285027	7.897058	.2210214	.0159245	1.889453	10.04790	.1061282
#3	3.072572	7.985688	.2189883	.0166215	1.911672	9.98071	.1114936

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-05 Acquired: 11/18/2024 14:26:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.397984	.1354946	.1292272
Stddev	.004189	.0003477	.0002058
%RSD	.2996245	.2566033	.1592715
#1	1.401637	.1351030	.1293236
#2	1.393412	.1356137	.1293672
#3	1.398903	.1357670	.1289909

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1024.510	27773.74	5633.051	855.9125	1678.069
Stddev	5.048	49.76	16.826	4.8159	8.057
%RSD	.4927285	.1791486	.2987066	.5626583	.4801613
#1	1024.096	27719.70	5622.440	852.9926	1675.956
#2	1029.753	27783.84	5624.262	861.4710	1686.972
#3	1019.682	27817.67	5652.452	853.2739	1671.278

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-06 Acquired: 11/18/2024 14:30:59 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1258948	-.003393	2.305937	-.044127	.0133159	114.1102	1.009029
Stddev	.0068181	.003184	.010464	.006633	.0016558	2.0631	.018579
%RSD	5.415683	93.84390	.4537795	15.03228	12.43490	1.807996	1.841318
#1	.1337675	-.005699	2.309277	-.045363	.0117258	112.2733	.992359
#2	.1219757	-.004720	2.294211	-.050055	.0131916	116.3424	1.029059
#3	.1219410	.000240	2.314324	-.036963	.0150304	113.7151	1.005670

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0073524	.0156283	13.45570	.1380210	.0748141	4.177532	282.4817
Stddev	.0002119	.0004754	.25458	.0012088	.0004465	.073899	5.5662
%RSD	2.881426	3.041977	1.892000	.8757891	.5968859	1.768966	1.970482
#1	.0072311	.0161728	13.19014	.1392531	.0753242	4.111797	277.6363
#2	.0075971	.0152956	13.69766	.1379729	.0746242	4.257519	288.5615
#3	.0072291	.0154166	13.47932	.1368370	.0744939	4.163281	281.2474

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.393355	15.70459	1.011713	.0202111	1.291439	.2287243	3.083509
Stddev	.058933	.32841	.004530	.0007905	.266978	.0105073	.010687
%RSD	1.736724	2.091159	.4477952	3.911279	20.67295	4.593855	.3465939
#1	3.334240	15.38754	1.013841	.0194978	1.530600	.2195705	3.075272
#2	3.452104	16.04328	1.006510	.0200745	1.003398	.2401975	3.095586
#3	3.393721	15.68296	1.014787	.0210610	1.340319	.2264051	3.079671

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.652054	6.470872	.2503524	.0199005	2.073422	11.86811	.1168606
Stddev	.209601	.035913	.0070578	.0004335	.013707	.18323	.0013593
%RSD	5.739267	.5549963	2.819153	2.178351	.6610660	1.543851	1.163193
#1	3.431698	6.488645	.2428972	.0203966	2.081823	11.73472	.1170415
#2	3.848921	6.429538	.2569310	.0197103	2.057605	12.07703	.1154199
#3	3.675543	6.494434	.2512290	.0195947	2.080837	11.79259	.1181204

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-06 Acquired: 11/18/2024 14:30:59 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.276624	.1218229	.1066643
Stddev	.018449	.0054664	.0019766
%RSD	1.445171	4.487141	1.853105
#1	1.260302	.1165567	.1048651
#2	1.296641	.1274696	.1087801
#3	1.272928	.1214425	.1063476

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	982.7686	26387.18	5325.808	813.3406	1674.908
Stddev	5.4686	86.86	95.039	6.5449	6.335
%RSD	.5564465	.3291804	1.784499	.8046975	.3782140
#1	981.8922	26479.94	5417.068	819.2837	1671.056
#2	988.6225	26307.76	5227.394	806.3261	1682.220
#3	977.7912	26373.85	5332.963	814.4121	1671.449

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-07 Acquired: 11/18/2024 14:35:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1199789	-.003795	2.604127	-.036756	.0082670	91.01493	.9840575
Stddev	.0157798	.001722	.008776	.006421	.0047177	.26570	.0071063
%RSD	13.15212	45.39411	.3369923	17.46887	57.06682	.2919285	.7221412
#1	.1024793	-.002314	2.602428	-.042162	.0136940	91.29073	.9922587
#2	.1243330	-.005685	2.613627	-.038448	.0059626	90.76064	.9797242
#3	.1331245	-.003384	2.596324	-.029659	.0051444	90.99344	.9801896

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0073515	.0070547	12.00370	.1480475	.0765529	.2995194	226.2655
Stddev	.0002072	.0006698	.08127	.0014048	.0005109	.0046101	.6223
%RSD	2.819038	9.494162	.6770643	.9488977	.6673599	1.539181	.2750117
#1	.0074947	.0074046	12.09265	.1495062	.0769225	.3001732	226.9529
#2	.0074460	.0062825	11.93333	.1479329	.0767664	.2946172	225.7407
#3	.0071139	.0074771	11.98510	.1467035	.0759699	.3037676	226.1027

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.549559	19.77018	.2026708	-.018135	1.332929	.1981491	1.597636
Stddev	.018625	.06662	.0011835	.000811	.337895	.0044574	.008216
%RSD	.7305096	.3369735	.5839509	4.474724	25.34981	2.249515	.5142461
#1	2.570813	19.81992	.2038822	-.017350	.971575	.1938592	1.605172
#2	2.536091	19.69449	.2015174	-.018082	1.386167	.2027570	1.598858
#3	2.541772	19.79614	.2026128	-.018971	1.641045	.1978312	1.588878

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.201140	4.002665	.2001718	.0168724	1.482418	13.14493	.0382670
Stddev	.088522	.017420	.0010960	.0007160	.006869	.06505	.0012131
%RSD	2.765325	.4352131	.5475166	4.243506	.4633584	.4948338	3.170160
#1	3.212212	4.020395	.1989398	.0166277	1.475806	13.21973	.0370542
#2	3.107603	3.985572	.2005373	.0163108	1.489518	13.11346	.0394805
#3	3.283605	4.002027	.2010384	.0176786	1.481930	13.10161	.0382664

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-07 Acquired: 11/18/2024 14:35:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.198128	.1450723	.0704111
Stddev	.003196	.0004149	.0003808
%RSD	.2667813	.2859923	.5408162
#1	1.201009	.1455090	.0708360
#2	1.198687	.1446833	.0701007
#3	1.194690	.1450244	.0702966

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1011.037	27042.53	5461.547	833.0563	1679.312
Stddev	2.540	122.93	25.265	2.0452	2.369
%RSD	.2512175	.4545722	.4625975	.2455044	.1410859
#1	1008.309	26901.94	5433.366	831.1964	1676.681
#2	1013.334	27095.86	5482.171	832.7261	1681.278
#3	1011.466	27129.78	5469.104	835.2466	1679.976

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-08 Acquired: 11/18/2024 14:39:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1416761	.0006428	10.36572	-.045919	.0783179	50.29633	2.636283
Stddev	.0011156	.0032566	.04742	.004212	.0040145	1.58357	.084136
%RSD	.7874047	506.6606	.4574688	9.172908	5.125909	3.148474	3.191473
#1	.1429157	-.000249	10.31167	-.043335	.0751987	48.50110	2.543466
#2	.1413596	.004252	10.40035	-.050779	.0769079	51.49485	2.707544
#3	.1407530	-.002075	10.38513	-.043643	.0828472	50.89303	2.657838

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0085630	.1013599	52.45673	.2487382	.0764078	3.466851	262.7146
Stddev	.0004285	.0006783	1.72924	.0010127	.0003362	.104877	8.0333
%RSD	5.003832	.6692208	3.296516	.4071222	.4399717	3.025144	3.057796
#1	.0082524	.1009084	50.52160	.2499049	.0760197	3.350417	253.5846
#2	.0090518	.1021400	53.85059	.2482227	.0766061	3.553904	268.6994
#3	.0083847	.1010314	52.99801	.2480871	.0765977	3.496233	265.8597

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.635187	11.86446	.5538296	-.015385	2.683863	.2043124	5.703903
Stddev	.084161	.39054	.0024294	.000964	.237601	.0073881	.023610
%RSD	3.193744	3.291701	.4386495	6.263900	8.852946	3.616074	.4139290
#1	2.544283	11.43713	.5511685	-.014277	2.589691	.1999593	5.716176
#2	2.710396	12.20289	.5543914	-.016031	2.954115	.2128429	5.718850
#3	2.650881	11.95335	.5559288	-.015847	2.507783	.2001352	5.676684

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.125867	4.981973	.2823358	.0312814	7.541116	12.25563	.7065447
Stddev	.227030	.015595	.0080339	.0005289	.041593	.34404	.0066994
%RSD	4.429107	.3130198	2.845525	1.690715	.5515512	2.807206	.9481882
#1	4.892095	4.965473	.2730591	.0314022	7.499262	11.86407	.6991535
#2	5.140012	4.996469	.2870044	.0307026	7.582444	12.50948	.7122174
#3	5.345494	4.983976	.2869439	.0317395	7.541641	12.39335	.7082633

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-08 Acquired: 11/18/2024 14:39:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.279496	.0819840	.4510330
Stddev	.042451	.0017278	.0142227
%RSD	3.317771	2.107486	3.153371
#1	1.231304	.0799889	.4352536
#2	1.311352	.0829856	.4628655
#3	1.295831	.0829774	.4549799

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	992.6561	26834.93	5469.113	823.6666	1669.053
Stddev	2.8186	54.20	144.686	4.9840	4.760
%RSD	.2839404	.2019840	2.645511	.6051007	.2851639
#1	995.9093	26797.53	5630.578	820.1816	1673.677
#2	990.9472	26810.17	5351.223	821.4428	1664.169
#3	991.1119	26897.09	5425.537	829.3754	1669.313

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-09 Acquired: 11/18/2024 14:44:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1514039	-.005541	14.14373	-.047649	.1233256	50.57073	2.920134
Stddev	.0015454	.007037	.12294	.002630	.0017142	.01454	.003207
%RSD	1.020715	127.0060	.8692103	5.518597	1.389967	.0287613	.1098080
#1	.1513463	.001609	14.04665	-.044689	.1213515	50.57371	2.918590
#2	.1529773	-.012461	14.28197	-.048542	.1244374	50.55492	2.923821
#3	.1498881	-.005771	14.10257	-.049716	.1241880	50.58355	2.917993

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0092240	.1503953	50.01945	.2426980	.0879689	4.033990	313.6218
Stddev	.0000938	.0016071	.11367	.0015007	.0012472	.007736	.2099
%RSD	1.017111	1.068607	.2272598	.6183330	1.417719	.1917660	.0669259
#1	.0093250	.1489351	50.14721	.2442484	.0869307	4.035374	313.8354
#2	.0092074	.1521172	49.98162	.2425930	.0893523	4.040941	313.4158
#3	.0091395	.1501337	49.92951	.2412525	.0876237	4.025656	313.6143

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.011329	14.66242	.4031138	-.016944	2.949279	.2398875	7.147103
Stddev	.002500	.03086	.0042843	.000185	.382177	.0038577	.020798
%RSD	.0830330	.2104865	1.062809	1.092059	12.95833	1.608111	.2909970
#1	3.011603	14.69737	.3982407	-.017155	2.715264	.2421751	7.163241
#2	3.013680	14.65099	.4062890	-.016807	3.390304	.2354336	7.154436
#3	3.008702	14.63891	.4048116	-.016871	2.742270	.2420539	7.123632

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.392340	6.075925	.3181991	.0343106	8.128550	9.660668	1.156251
Stddev	.043223	.058172	.0024548	.0006147	.103483	.068545	.010987
%RSD	.8015543	.9574173	.7714664	1.791731	1.273075	.7095260	.9502488
#1	5.342614	6.027722	.3198719	.0338771	8.050761	9.739437	1.146553
#2	5.420894	6.140540	.3193446	.0350142	8.245996	9.614579	1.168184
#3	5.413514	6.059514	.3153810	.0340406	8.088894	9.627987	1.154015

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-09 Acquired: 11/18/2024 14:44:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VL9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.454831	.0859609	.4783132
Stddev	.003174	.0001409	.0006635
%RSD	.2181570	.1639616	.1387109
#1	1.451171	.0861225	.4780030
#2	1.456496	.0858969	.4790749
#3	1.456825	.0858634	.4778616

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	999.5839	27294.60	5549.996	836.7519	1663.242
Stddev	4.4957	52.72	26.876	3.1547	12.223
%RSD	.4497543	.1931540	.4842496	.3770143	.7348875
#1	1003.042	27334.98	5519.002	836.3655	1670.762
#2	994.502	27234.96	5564.147	833.8082	1649.139
#3	1001.208	27313.87	5566.840	840.0820	1669.826

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-13 Acquired: 11/18/2024 14:48:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0958006	-.003414	1.036759	-.020821	.0082916	78.15988	.7608162
Stddev	.0034561	.004388	.001000	.008426	.0016035	.14025	.0028610
%RSD	3.607588	128.5216	.0964867	40.46966	19.33864	.1794342	.3760426
#1	.0918099	-.006397	1.036116	-.012741	.0065007	78.26536	.7604618
#2	.0978226	-.005470	1.037911	-.029556	.0095939	78.21356	.7638379
#3	.0977691	.001624	1.036249	-.020167	.0087803	78.00072	.7581489

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0058265	.0069492	22.22792	.0865791	.0440718	.1686138	200.8386
Stddev	.0001616	.0000952	.11739	.0016517	.0009611	.0018713	.3022
%RSD	2.773141	1.370709	.5281077	1.907696	2.180686	1.109786	.1504569
#1	.0060127	.0070283	22.16989	.0879831	.0430571	.1681434	201.0071
#2	.0057438	.0068435	22.36303	.0847592	.0441900	.1670226	201.0189
#3	.0057230	.0069759	22.15086	.0869949	.0449683	.1706754	200.4897

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.694253	11.07416	.2243861	-.016121	1.145210	.1964264	.7721365
Stddev	.029082	.03122	.0010889	.000403	.230351	.0043228	.0048781
%RSD	.3779755	.2818821	.4852763	2.500900	20.11433	2.200702	.6317637
#1	7.681206	11.10922	.2240318	-.015753	1.372934	.2013984	.7777574
#2	7.727574	11.06388	.2235185	-.016552	.912318	.1943219	.7690109
#3	7.673979	11.04938	.2256081	-.016058	1.150380	.1935588	.7696412

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.520562	4.037675	.1916224	.0151809	2.038771	9.181825	.0346646
Stddev	.091858	.010398	.0011778	.0003524	.016360	.042178	.0032129
%RSD	2.609172	.2575248	.6146250	2.321174	.8024451	.4593653	9.268617
#1	3.430068	4.047357	.1928798	.0154541	2.049450	9.186552	.0373844
#2	3.517892	4.026685	.1914423	.0147831	2.019936	9.221440	.0354899
#3	3.613725	4.038982	.1905450	.0153054	2.046926	9.137482	.0311195

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: P4688-13 Acquired: 11/18/2024 14:48:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MC0VM1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.145119	.0839186	.1751734
Stddev	.003036	.0008769	.0003567
%RSD	.2650968	1.044904	.2036264
#1	1.148624	.0846712	.1751159
#2	1.143438	.0841289	.1755553
#3	1.143296	.0829557	.1748488

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	985.8935	26607.31	5369.938	823.3996	1694.140
Stddev	3.2824	242.56	17.148	9.8019	3.598
%RSD	.3329318	.9116285	.3193383	1.190420	.2124015
#1	982.4157	26327.28	5369.104	812.1755	1691.956
#2	988.9372	26742.76	5353.221	827.7500	1698.294
#3	986.3275	26751.90	5387.488	830.2734	1692.172

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV024 Acquired: 11/18/2024 14:52:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV024 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.701567	5.162392	24.73402	4.693379	4.901597	403.6239
Stddev	.026510	.011472	.04943	.027492	.015666	2.6257
%RSD	.5638522	.2222270	.1998423	.5857608	.3196146	.6505238
#1	4.689396	5.153441	24.71766	4.670705	4.885980	400.5923
#2	4.683329	5.158410	24.69484	4.685475	4.901499	405.1050
#3	4.731977	5.175324	24.78955	4.723957	4.917312	405.1744

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.28686	.4853084	2.478878	404.4668	16.34783	2.486962
Stddev	.05722	.0031453	.004726	2.6215	.06010	.004980
%RSD	.5562666	.6481048	.1906594	.6481275	.3676273	.2002587
#1	10.22089	.4822071	2.476333	401.4406	16.27950	2.485653
#2	10.32300	.4852223	2.475970	406.0414	16.37153	2.482766
#3	10.31669	.4884959	2.484331	405.9183	16.39247	2.492466

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.62408	407.5866	15.12435	408.6686	2.492291	1.230623
Stddev	.10327	2.6836	.09740	2.7186	.003701	.001237
%RSD	.6609771	.6584090	.6439857	.6652218	.1484929	.1005523
#1	15.50566	404.4898	15.01191	405.5700	2.493239	1.229487
#2	15.67116	409.0404	15.18262	409.7826	2.488209	1.230442
#3	15.69542	409.2296	15.17853	410.6533	2.495426	1.231941

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	411.2912	2.597428	14.83243	153.9399	5.293110	F 5.750681
Stddev	2.8288	.014053	.00912	1.3600	.010717	.040811
%RSD	.6877802	.5410485	.0614784	.8834304	.2024685	.7096753
#1	408.0269	2.581512	14.82326	152.3803	5.296984	5.704647
#2	412.8239	2.608124	14.83253	154.8783	5.280995	5.764969
#3	413.0229	2.602649	14.84150	154.5611	5.301351	5.782428

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCV024 Acquired: 11/18/2024 14:52:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV024 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.941565	5.118303	5.396048	5.055822	5.203202	5.215053
Stddev	.008465	.008539	.039011	.008785	.040073	.031313
%RSD	.1713031	.1668266	.7229629	.1737603	.7701539	.6004405
#1	4.932994	5.120690	5.352410	5.049131	5.157920	5.179160
#2	4.941780	5.108824	5.408188	5.052564	5.217599	5.229222
#3	4.949920	5.125393	5.427546	5.065770	5.234088	5.236778

Elem	Sr4077
Units	ppm
Avg	5.139595
Stddev	.045363
%RSD	.8826180
#1	5.094140
#2	5.139779
#3	5.184866

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	765.9943	22102.33	4836.878	592.8680	1319.826
Stddev	1.1033	62.81	35.079	.6919	.680
%RSD	.1440409	.2841641	.7252386	.1167022	.0515140
#1	766.4234	22174.78	4875.994	593.0755	1319.041
#2	764.7408	22068.89	4826.430	593.4323	1320.231
#3	766.8186	22063.32	4808.210	592.0961	1320.205

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB024 Acquired: 11/18/2024 14:57:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB024 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001193	-.003441	.0006744	-.003333	-.001827	.0142603	.0025004
Stddev	.003136	.000767	.0024822	.002155	.000847	.0153560	.0000853
%RSD	262.7621	22.28704	368.0771	64.66534	46.34197	107.6833	3.410561
#1	.001603	-.002561	.0023623	-.004283	-.002163	.0317870	.0025755
#2	-.004583	-.003799	-.002176	-.000866	-.002453	.0031698	.0025180
#3	-.000600	-.003963	.001836	-.004851	-.000864	.0078241	.0024077

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000549	.0001218	.0198573	.0012238	-.000150	-.000135	.0500138
Stddev	.0001343	.0000909	.0157534	.0008304	.000342	.002012	.0133599
%RSD	244.5264	74.61762	79.33326	67.85747	227.9666	1488.249	26.71235
#1	-.000043	.0000604	.0350226	.0020304	-.000328	-.000334	.0364787
#2	.000208	.0002262	.0035752	.0012695	-.000366	.001969	.0503714
#3	-.000000	.0000788	.0209742	.0003714	.000244	-.002040	.0631913

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007187	.0621508	.0002007	.0030058	-.149325	.0078353	-.000347
Stddev	.0007693	.0289161	.0003646	.0002799	.298360	.0073889	.000722
%RSD	107.0411	46.52568	181.6367	9.312810	199.8060	94.30276	207.8458
#1	.0006671	.0454792	.0005443	.0026859	.158675	-.000282	-.000096
#2	-.000024	.0955402	.0002394	.0032057	-.437006	.014170	.000215
#3	.001512	.0454330	-.000182	.0031258	-.169643	.009617	-.001162

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0303496	.0040027	.0095002	.0007407	-.010092	.0017125	-.000631
Stddev	.1414271	.0024280	.0021033	.0005109	.006225	.0008576	.001821
%RSD	465.9932	60.65989	22.13946	68.97600	61.68190	50.07810	288.3800
#1	-.087754	.0013565	.0100102	.0011467	-.011108	.0026971	-.001029
#2	.187076	.0045234	.0113015	.0009083	-.003421	.0011288	.001355
#3	-.008273	.0061280	.0071887	.0001670	-.015746	.0013115	-.002221

Reviewed By:kareem
On:11/19/2024 9:24:48 AM
Inst Id :P5

Sample Name: CCB024 Acquired: 11/18/2024 14:57:15 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v749) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB024 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001400	.0021643	.0004156
Stddev	.000271	.0003972	.0001569
%RSD	19.37266	18.35287	37.75830
#1	-.001436	.0024518	.0005273
#2	-.001113	.0017111	.0004833
#3	-.001652	.0023301	.0002362

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	966.1926	25708.60	5044.245	796.8215	1842.833
Stddev	1.4241	86.96	16.168	2.3424	1.176
%RSD	.1473975	.3382580	.3205262	.2939742	.0637979
#1	967.3815	25789.42	5025.868	796.7348	1841.761
#2	964.6142	25616.58	5056.282	794.5236	1844.090
#3	966.5821	25719.81	5050.586	799.2061	1842.648

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

Prep Standard - Chemical Standard Summary

Order ID : P4755

Test : TCLPMetals Group1

Prepbatch ID : PB164949,

Sequence ID/Qc Batch ID: LB133486,

Standard ID :
MP83105,MP83122,MP83134,MP83136,MP83137,MP83138,MP83139,MP83140,MP83141,MP83142,MP83143,MP831
44,MP83145,MP83146,MP83147,MP83148,MP83149,WP108584,WP108622,

Chemical ID :
E3657,M5130,M5218,M5223,M5289,M5295,M5296,M5390,M5395,M5429,M5476,M5498,M5513,M5515,M5519,M5658,
M5698,M5751,M5768,M5798,M5799,M5800,M5801,M5802,M5806,M5815,M5816,M5817,M5818,M5819,M5820,M5875
,M5943,M5960,M5962,M5970,M5976,M5978,M5982,M5984,M5985,M5990,M5999,M6021,M6023,M6025,M6028,M603
0,M6033,M6111,M6116,M6117,W2606,W3038,W3112,

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

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	12/06/2024	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	12/06/2024	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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1789	HCL for TCLP, 1N	WP108584	07/02/2024	10/24/2024	Jignesh Parikh	None	None	Iwona Zarych 07/02/2024

FROM 83.00000ml of M5943 + 917.00000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
83	TCLP Fluid#1	WP108622	07/03/2024	01/03/2025	Jignesh Parikh	WETCHEM_SCALE_4 (WCSC-4)	None	Iwona Zarych 07/03/2024

FROM 114.00000ml of W3038 + 19834.00000ml of W3112 + 52.00000gram of E3657 = Final Quantity: 20000.000 ml

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-5 / Sodium Hydroxide Pellets 2.5 Kg, Pk of 4	23B1556310	12/31/2025	12/04/2023 / Rajesh	12/01/2023 / Rajesh	E3657

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 /bin	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 /bin	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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	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

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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.	57182 / Pb, 10000 PPM, 125 ml	061522	06/15/2025	03/19/2023 / bin	03/17/2023 / bin	M5513

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57119 / Potassium (K) 10,000PPM	120822	12/08/2025	01/08/2024 / bin	03/17/2023 / bin	M5519

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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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 #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	12/24/2024	06/24/2024 / Al-Terek	06/21/2024 / Al-Terek	M5943

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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGMO1-1 / MOLYBDENUM 125mL 1000ug/mL	T2-MO720876	07/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5976

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	08/05/2024 / kareem	06/14/2024 / Jaswal	M5984

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-1 / SOIL/WATER SPIKE SOLN 1, 125mL	T2-MEB721963	07/27/2027	09/04/2024 / Jaswal	02/22/2024 / kareem	M5999

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57082 / Pb, 1000 PPM, 125 ml	061224	06/12/2027	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	01/25/2019 / Jaswal	M6028

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

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.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	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	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC01050-3 / ACETIC ACID, GLACIAL, ACS, 2.5L	511115	06/19/2028	06/20/2023 / jignesh	06/19/2023 / jignesh	W3038

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 #
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) HNO3
Value / Analyte(s):	100 µg/mL ea: Antimony,
	50 µg/mL ea: Selenium, Cadmium, Thallium,
	40 µg/mL ea: Arsenic,
	20 µg/mL ea: Lead

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.7 µg/mL	Arsenic, As	40.00 ± 0.26 µg/mL
Cadmium, Cd	49.99 ± 0.22 µg/mL	Lead, Pb	19.99 ± 0.09 µg/mL
Selenium, Se	50.00 ± 0.23 µg/mL	Thallium, Tl	50.00 ± 0.22 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Cd	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 12, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 12, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R 8/5/24

M6028

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

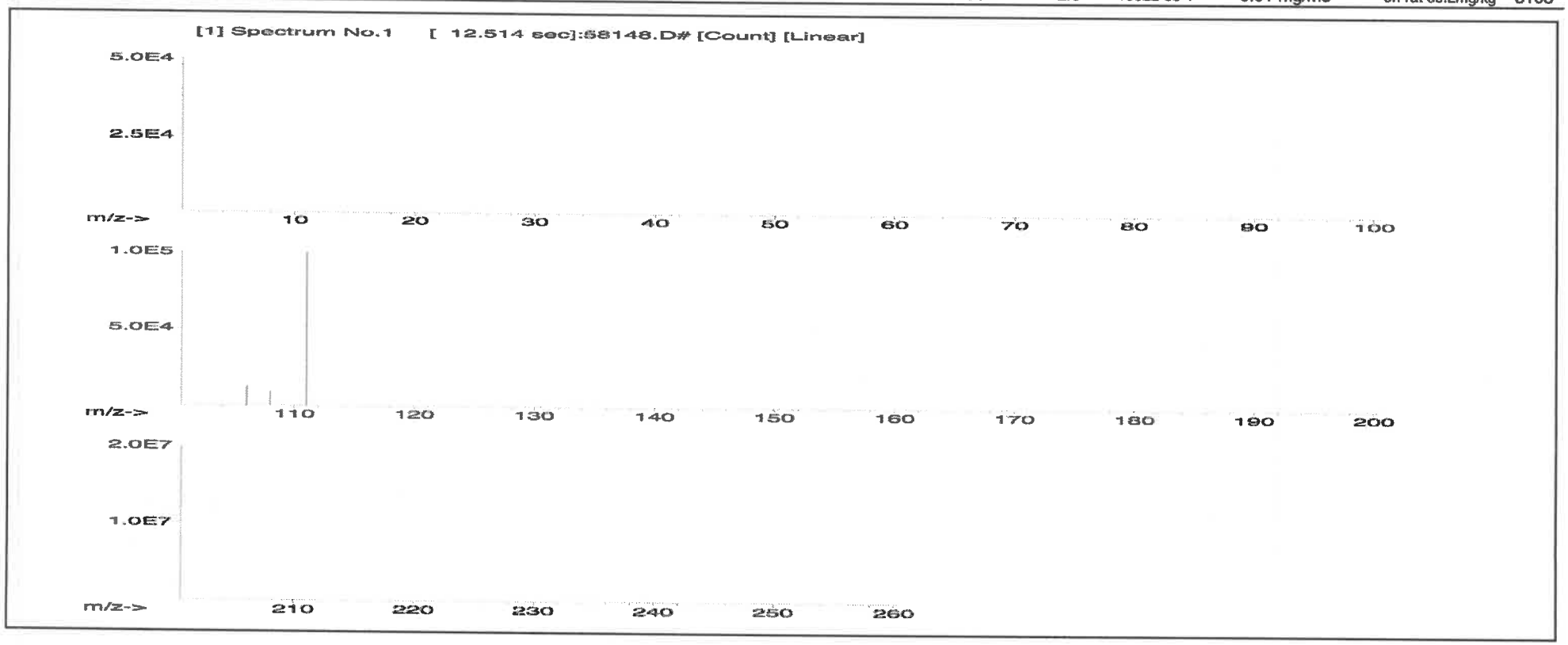
CERTIFIED WEIGHT REPORT:

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
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

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**2 000 ± 7 µg/mL**	**Barium, Ba**	**2 000 ± 9 µg/mL**
Beryllium, Be	**50.00 ± 0.26 µg/mL**	**Calcium, Ca**	**5 000 ± 22 µg/mL**
Chromium, Cr	**200.0 ± 1.0 µg/mL**	**Cobalt, Co**	**500.0 ± 2.4 µg/mL**
Copper, Cu	**250.0 ± 1.0 µg/mL**	**Iron, Fe**	**1 000 ± 4 µg/mL**
Magnesium, Mg	**5 000 ± 20 µg/mL**	**Manganese, Mn**	**500.0 ± 2.0 µg/mL**
Nickel, Ni	**500.0 ± 2.2 µg/mL**	**Potassium, K**	**5 000 ± 19 µg/mL**
Silver, Ag	**250.0 ± 1.1 µg/mL**	**Sodium, Na**	**5 000 ± 18 µg/mL**
Vanadium, V	**499.7 ± 2.2 µg/mL**	**Zinc, Zn**	**500.0 ± 2.2 µg/mL**

Density: 1.118 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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

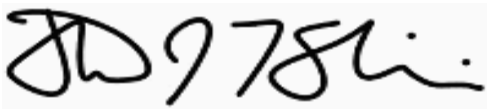
- Sealed TCT Bag Open Date: _____

- 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

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 13, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

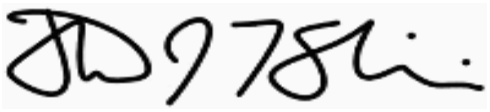
- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



VWR®

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: 0583
Grade: ACS GRADE
Batch Number: 23B1556310

Chemical Formula: NaOH
Molecular Weight: 40
CAS #: 1310-73-2
Appearance:

Pellets

Manufacture Date: 12/14/2022
Expiration Date: 12/31/2025

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	<= 0.005 %	<0.005 %	PASS
Chloride	<= 0.005 %	0.002 %	PASS
Heavy Metals	<= 0.002 %	<0.002 %	PASS
Iron	<= 0.001 %	<0.001 %	PASS
Magnesium	<= 0.002 %	<0.002 %	PASS
Mercury	<= 0.1 ppm	<0.1 ppm	PASS
Nickel	<= 0.001 %	<0.001 %	PASS
Nitrogen Compounds	<= 0.001 %	<0.001 %	PASS
Phosphate	<= 0.001 %	<0.001 %	PASS
Potassium	<= 0.02 %	<0.02 %	PASS
Purity	>= 97.0 %	99.2 %	PASS
Sodium Carbonate	<= 1.0 %	0.5 %	PASS
Sulfate	<= 0.003 %	<0.003 %	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

E 3657	E 3659
E 3654	E 3660

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

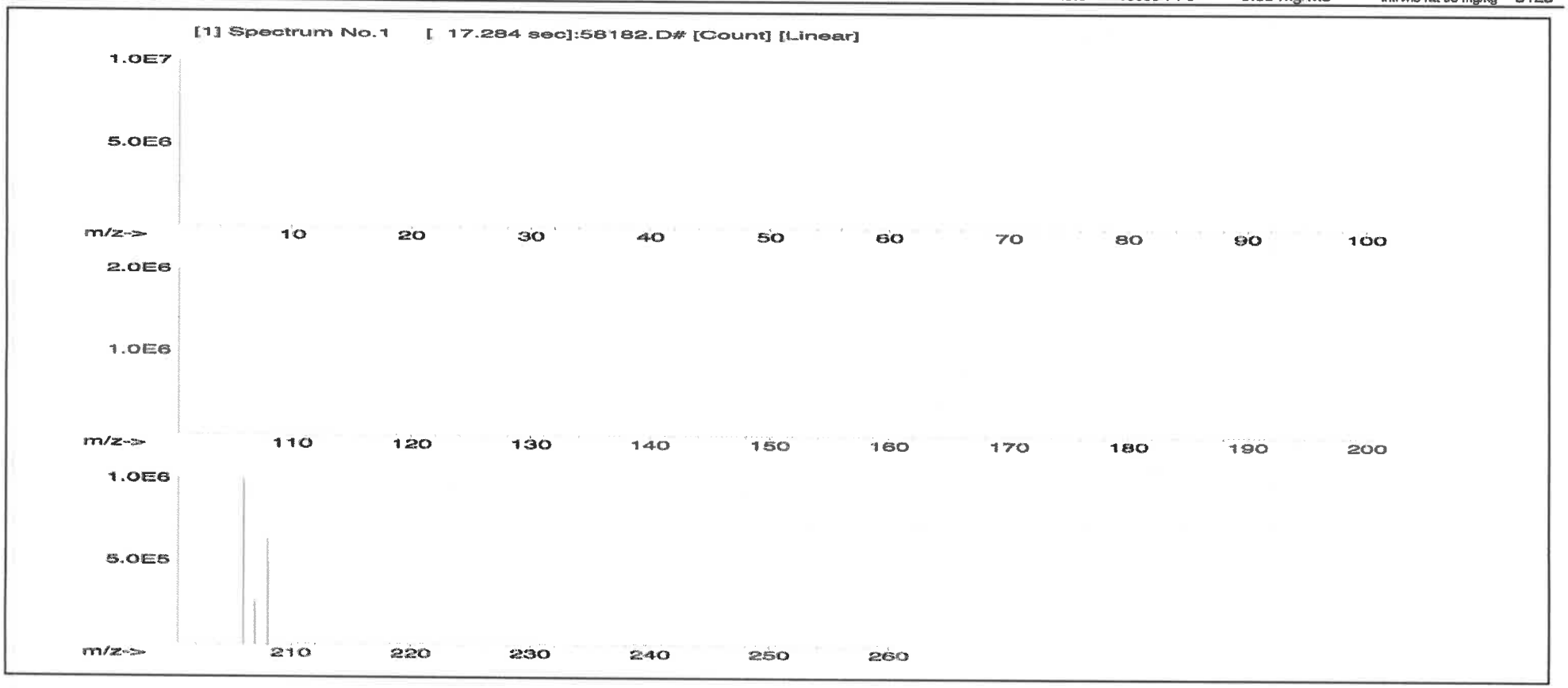
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

		Lot #	
Solvent:	24002546		Nitric Acid
	2%	40.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

Formulated By:	Lawence Barry	110923
Reviewed By:	Pedro L. Rentas	110923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	10000	99.999	0.10	62.5	32.0006	32.0040	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-QC-4
Lot Number:	S2-MEB711674
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 7 µg/mL**	**Molybdenum, Mo**	**1 000 ± 5 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 5 µg/mL**
Titanium, Ti	**1 001 ± 6 µg/mL**		

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 02, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

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

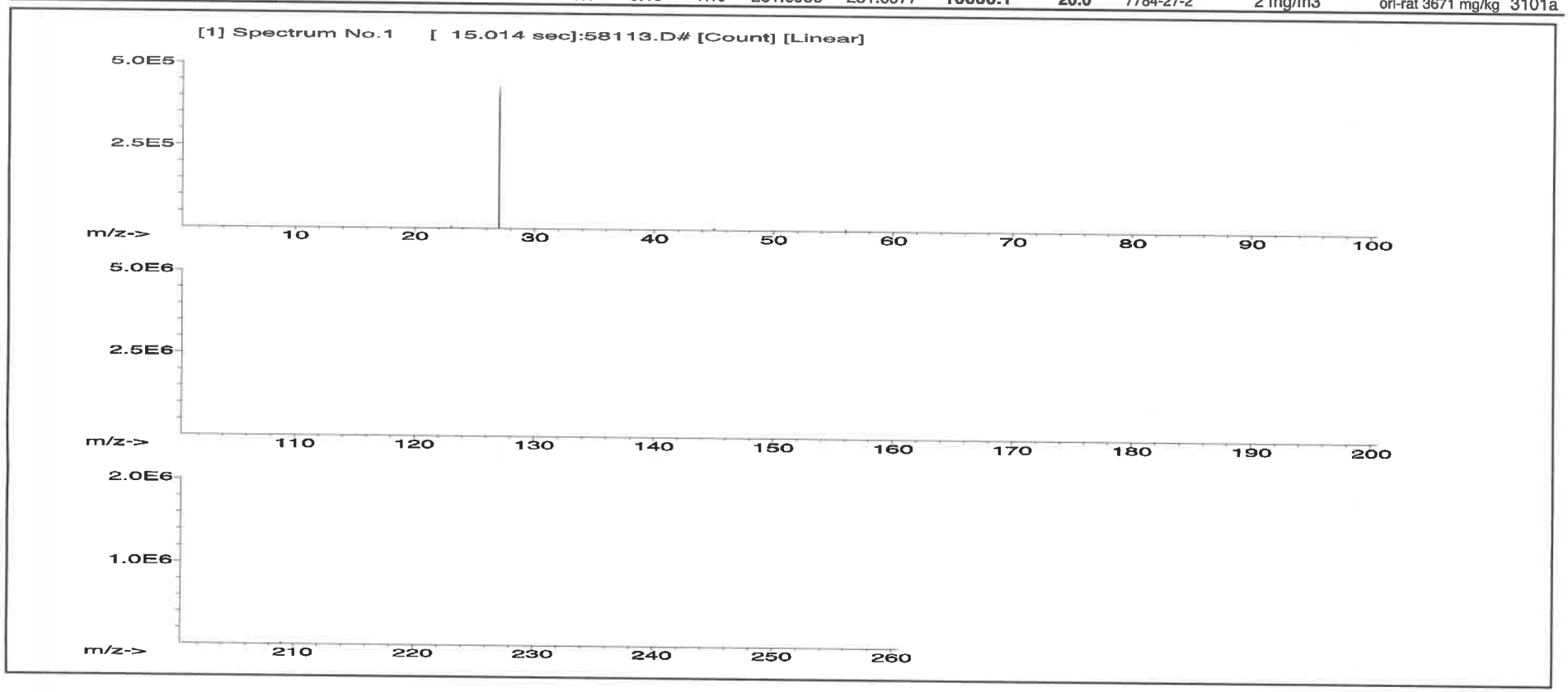
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**58113**			**Lot #**	
Lot Number:	**070622**		**Solvent:**	20370011	Nitric Acid
Description:	**Aluminum (Al)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	070625				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

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

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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

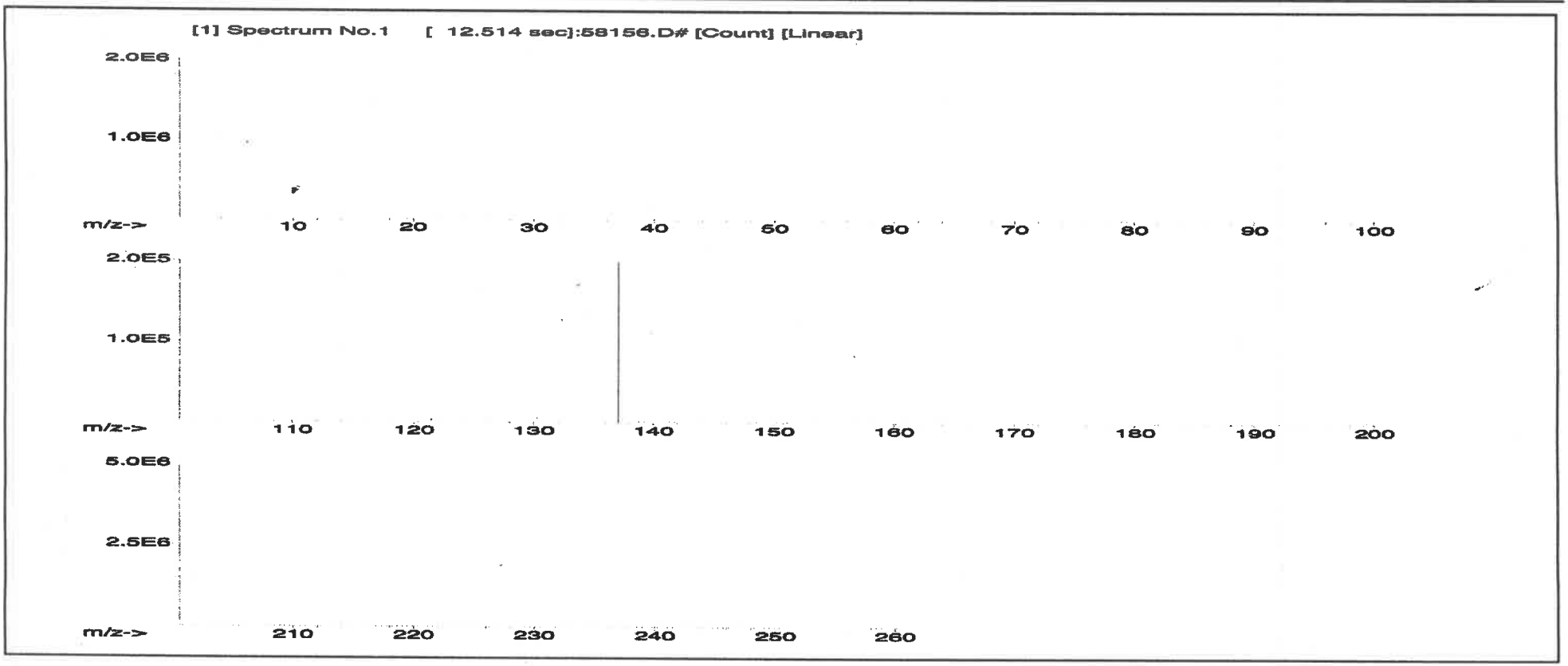
CERTIFIED WEIGHT REPORT:

		Lot #		
Part Number:	**57056**	**Solvent:**	20510011	Nitric Acid
Lot Number:	**072122**			
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)

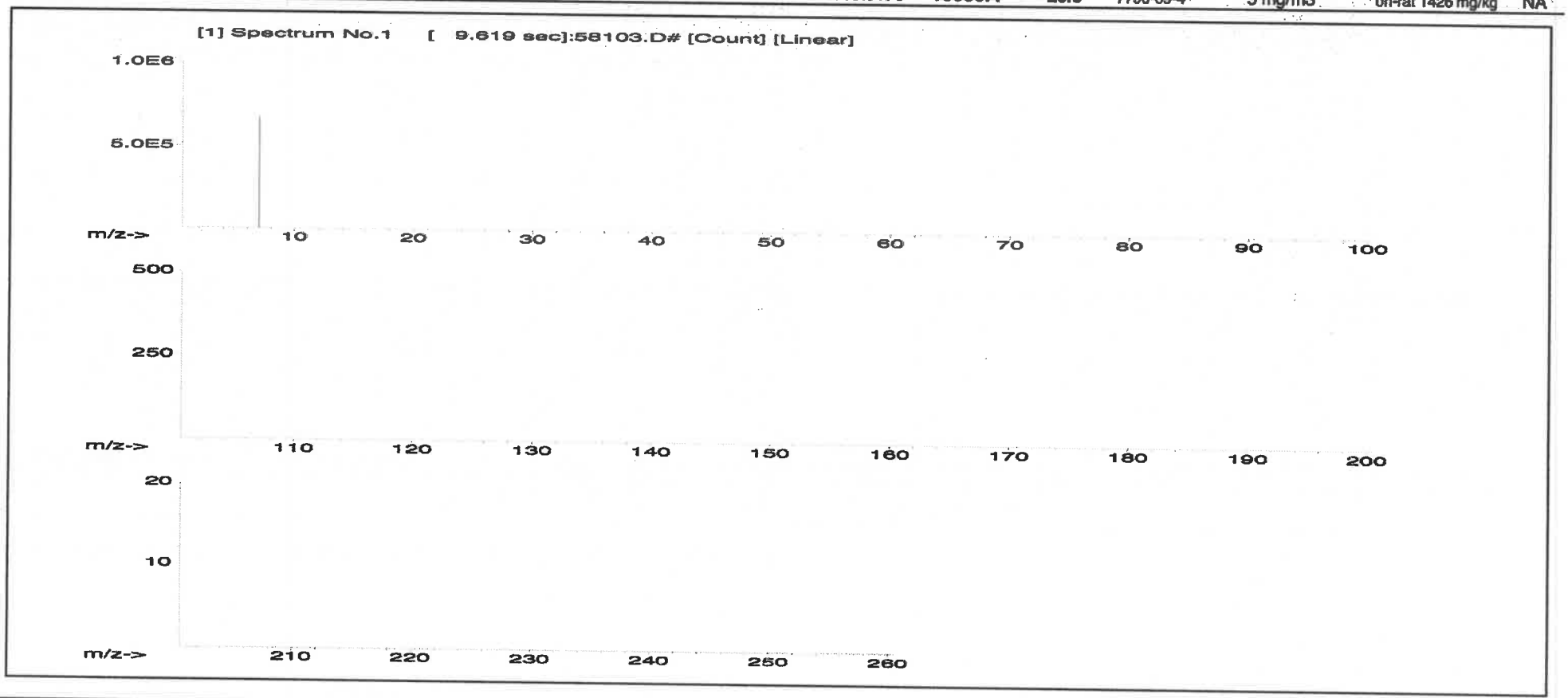
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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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* 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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IN5497 - IN5498 R: 03/17/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

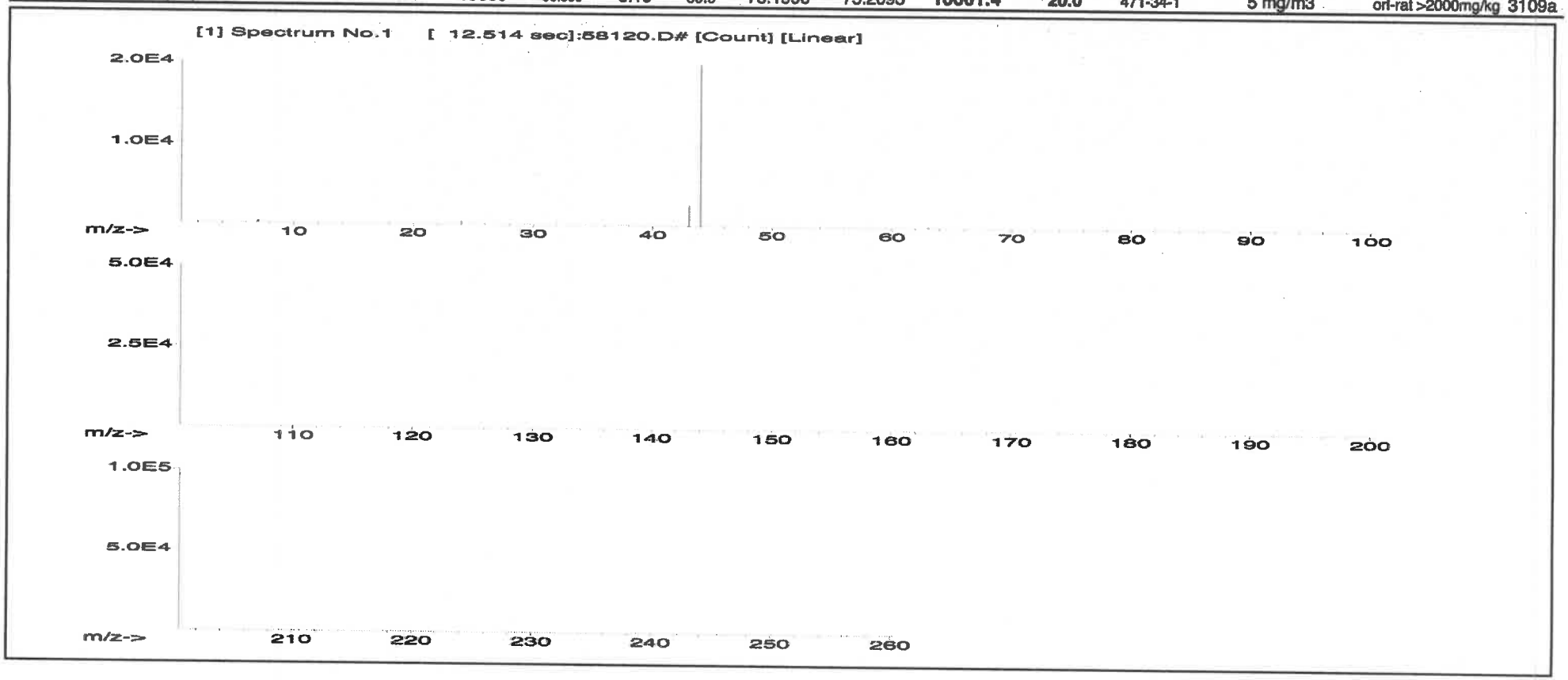
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 ± 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
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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* 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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MS513 R:03/17/23 BE

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CERTIFIED WEIGHT REPORT:

Part Number: 57182
Lot Number: 061522
Description: Lead (Pb)

Expiration Date: 061525
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

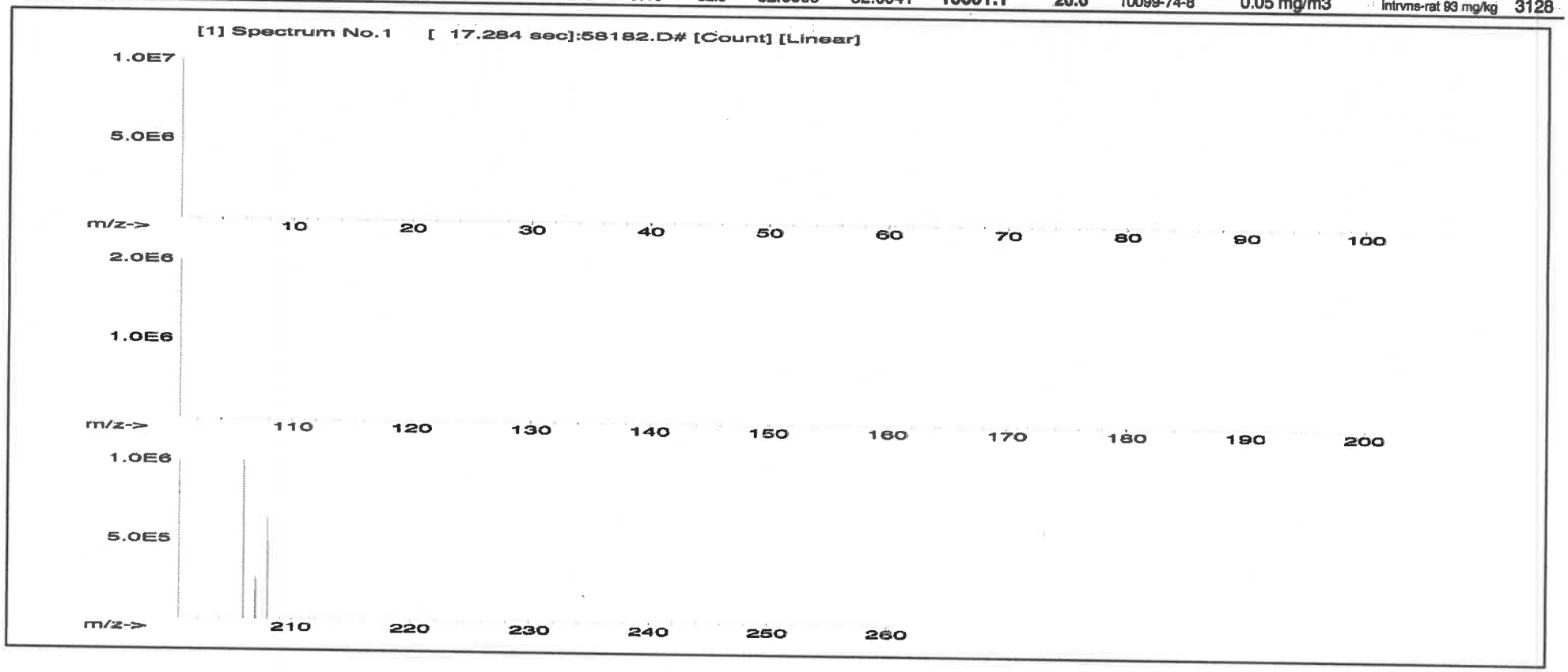
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	061522
Reviewed By:	Pedro L. Rentas	061522

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	10000	99.999	0.10	62.5	32.0006	32.0041	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	Intrvns-rat 93 mg/kg	3128



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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M5514 - M5515 R: 03/17/22

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CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 092122
Description: Iron (Fe)

Expiration Date: 092125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1 ± 0.12 Flask Uncertainty

	Lot #		
Solvent:	20510011	Nitric Acid	
7.0%	350.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

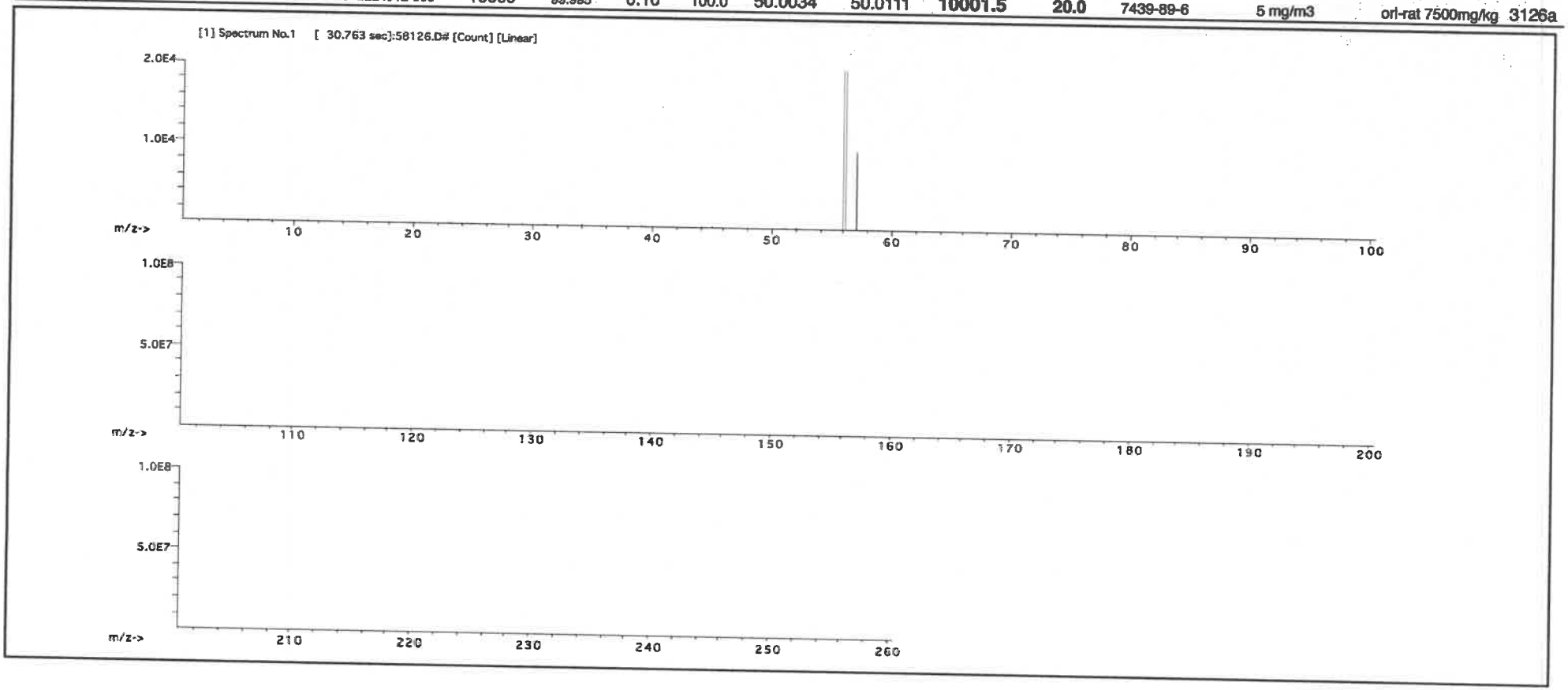
Giovanni Esposito

Formulated By: Giovanni Esposito 092122

Pedro Rentas

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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M519. M520 (BH) R:03/17/23

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CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 120822
Description: Potassium (K)

Expiration Date: 120825
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.4

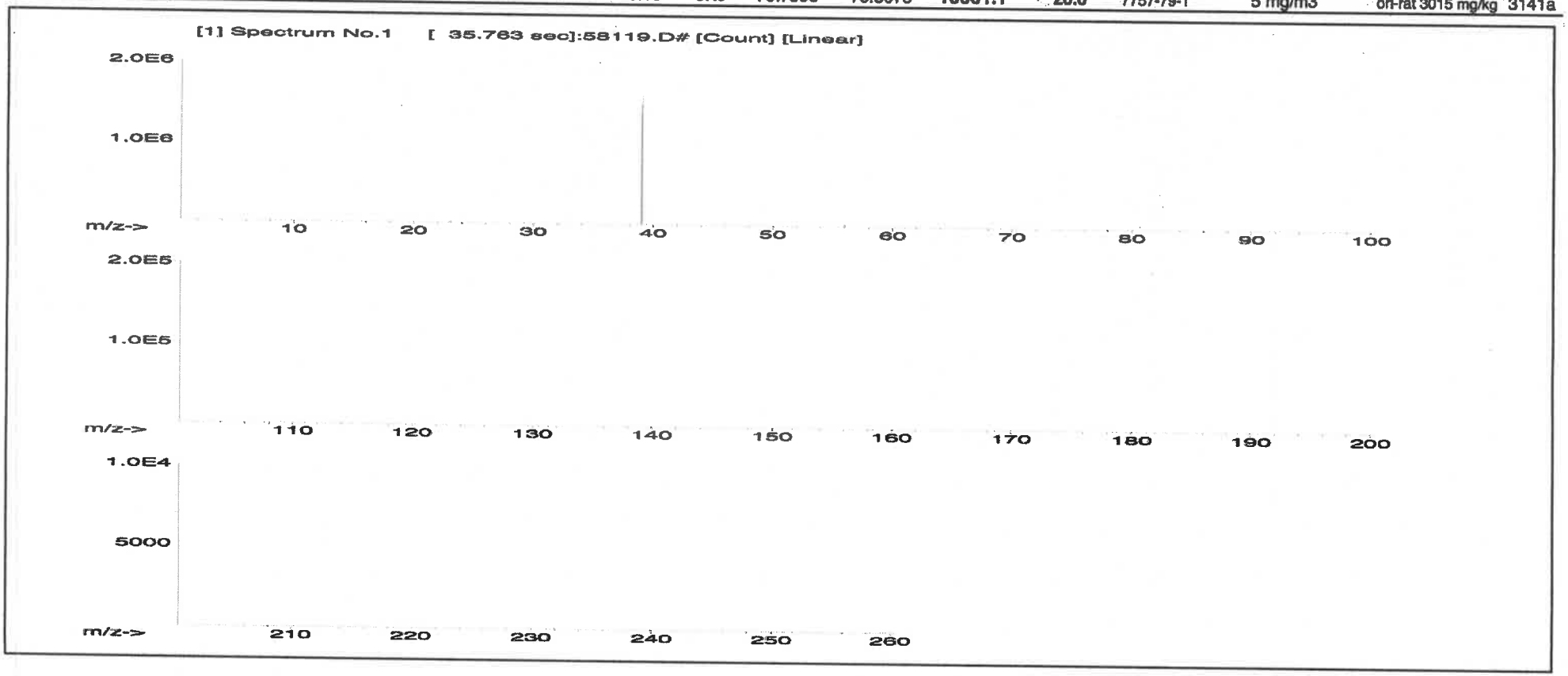
Lot #		
Solvent: 20510011		Nitric Acid
2%	60.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	120822
Reviewed By:	Pedro L. Rentas	120822

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	79.7990	79.8075	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



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:

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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M5658 R ! 8/25/23

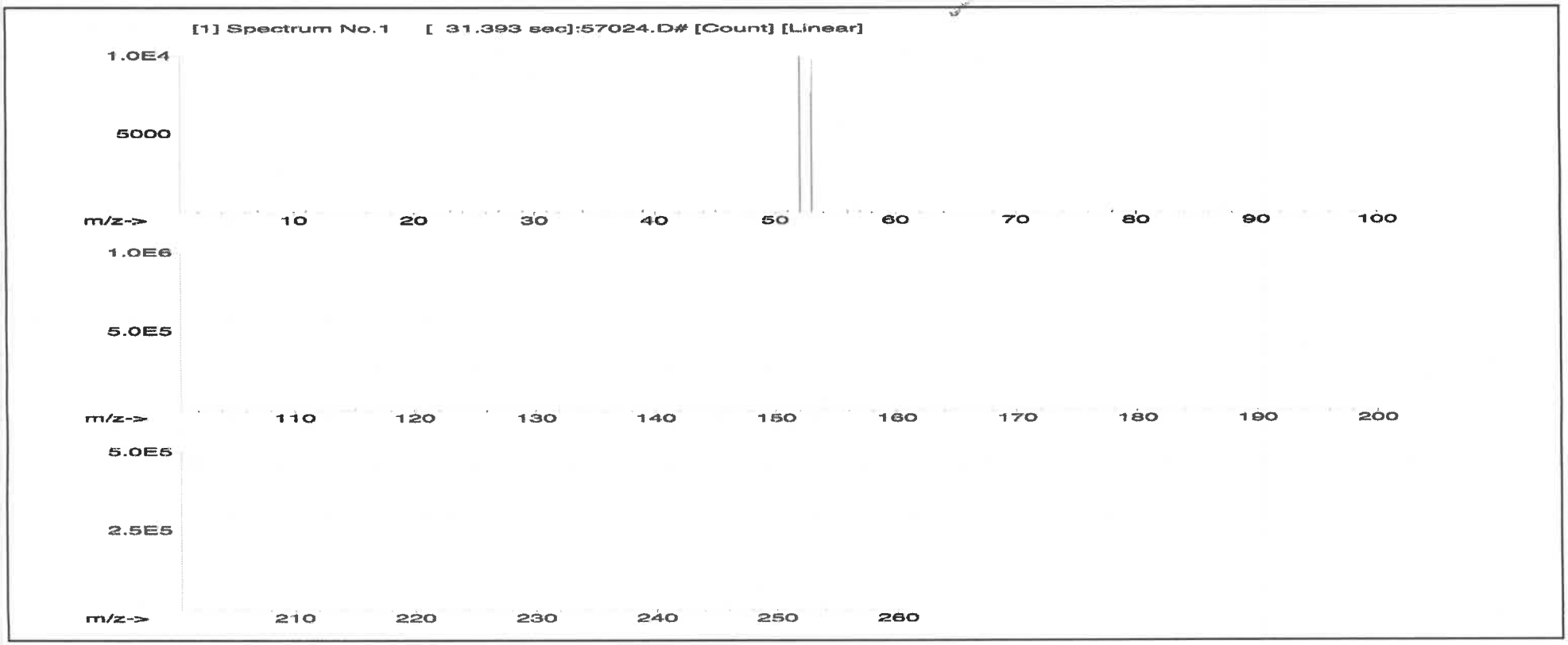
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CERTIFIED WEIGHT REPORT:

		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

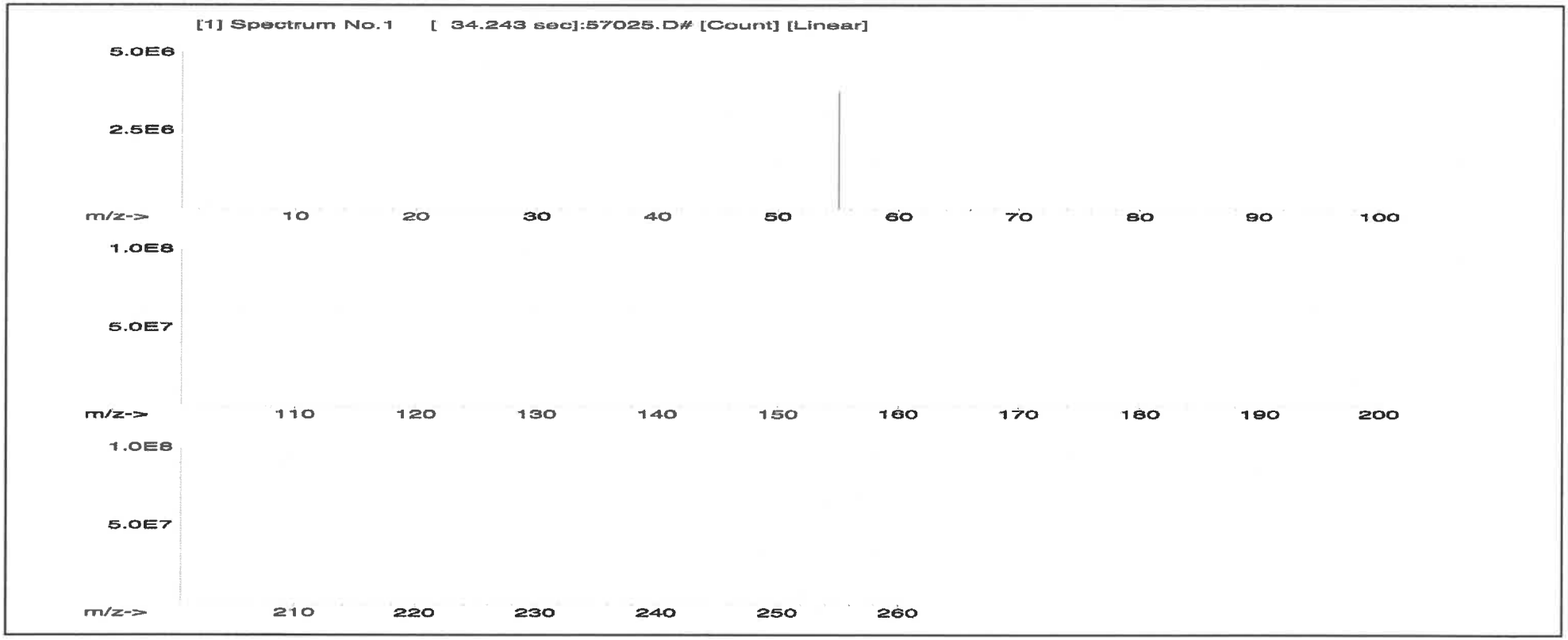
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CERTIFIED WEIGHT REPORT:

		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

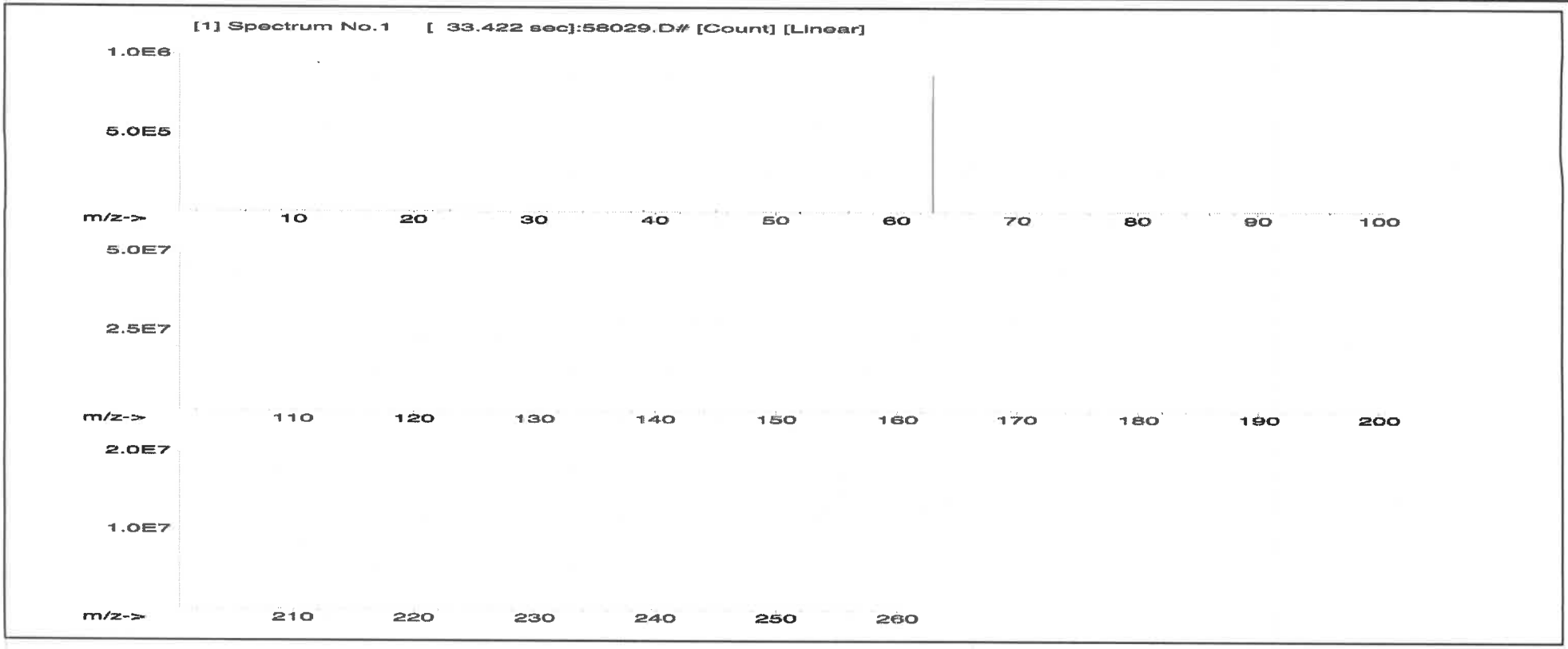
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CERTIFIED WEIGHT REPORT:

		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.

* 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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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

M5768, M5769 (BP) R: 1/3/24

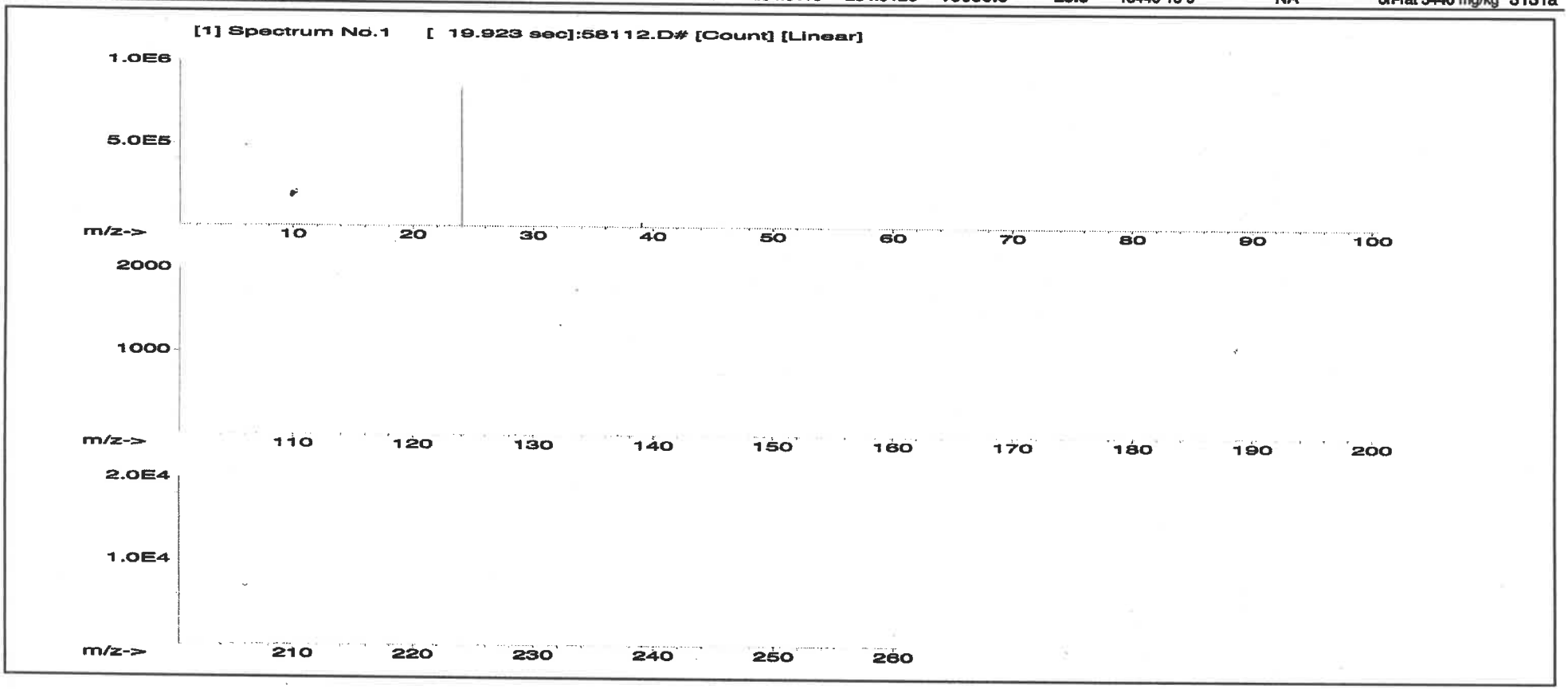
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
	2%	40.0 (mL)	Nitric Acid
		5E-05	Balance Uncertainty

Formulated By: 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	ori-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:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
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R: 02/09/24 M5798

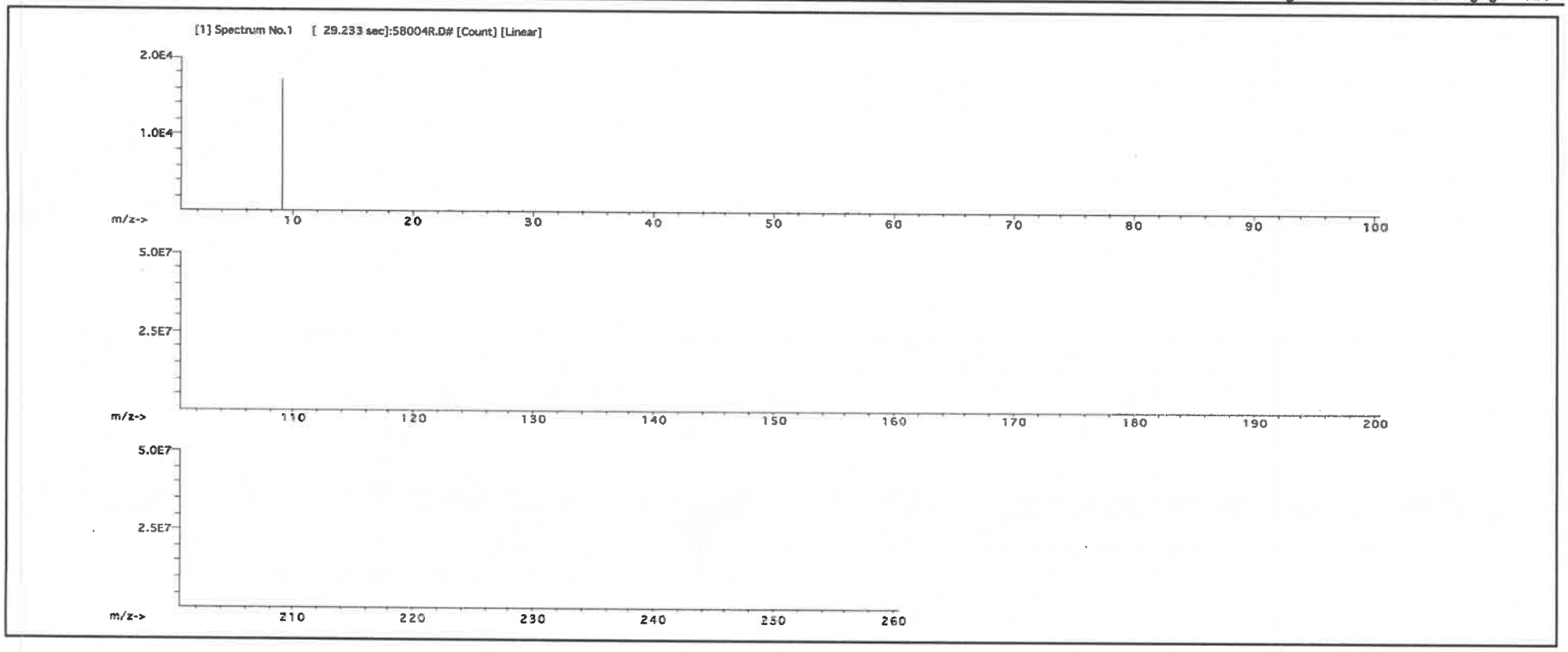
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

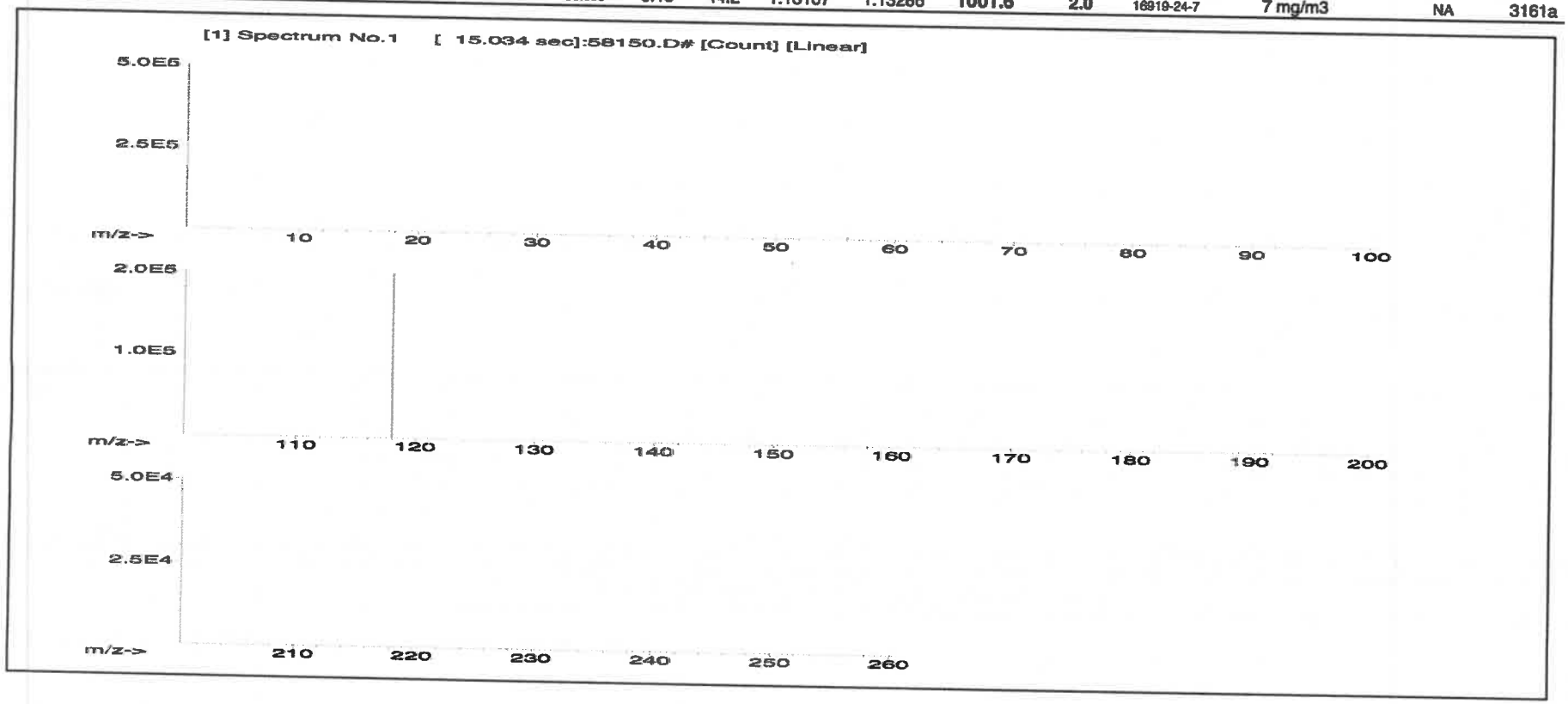
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* 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: 02/09/24 IM5800 BH

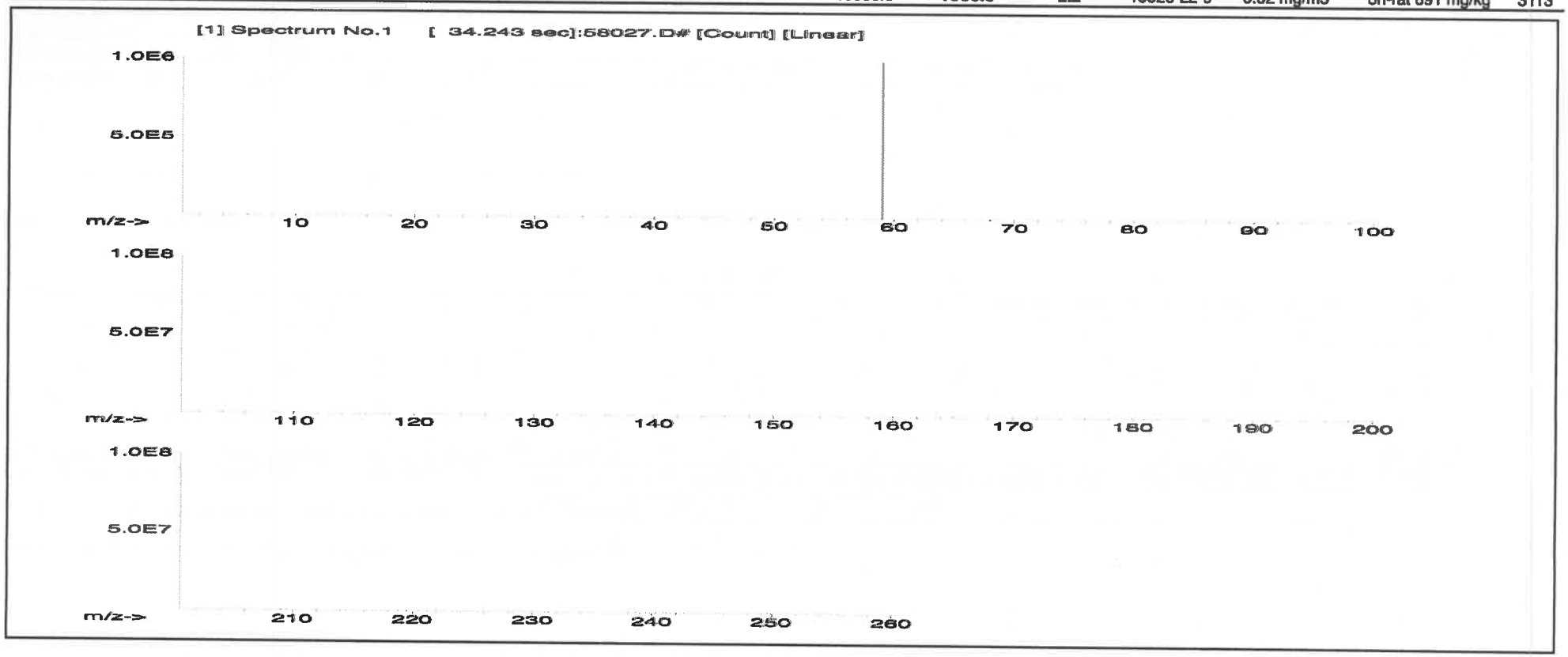
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CERTIFIED WEIGHT REPORT:

		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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* 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: 02/09/24 IM5801 BH

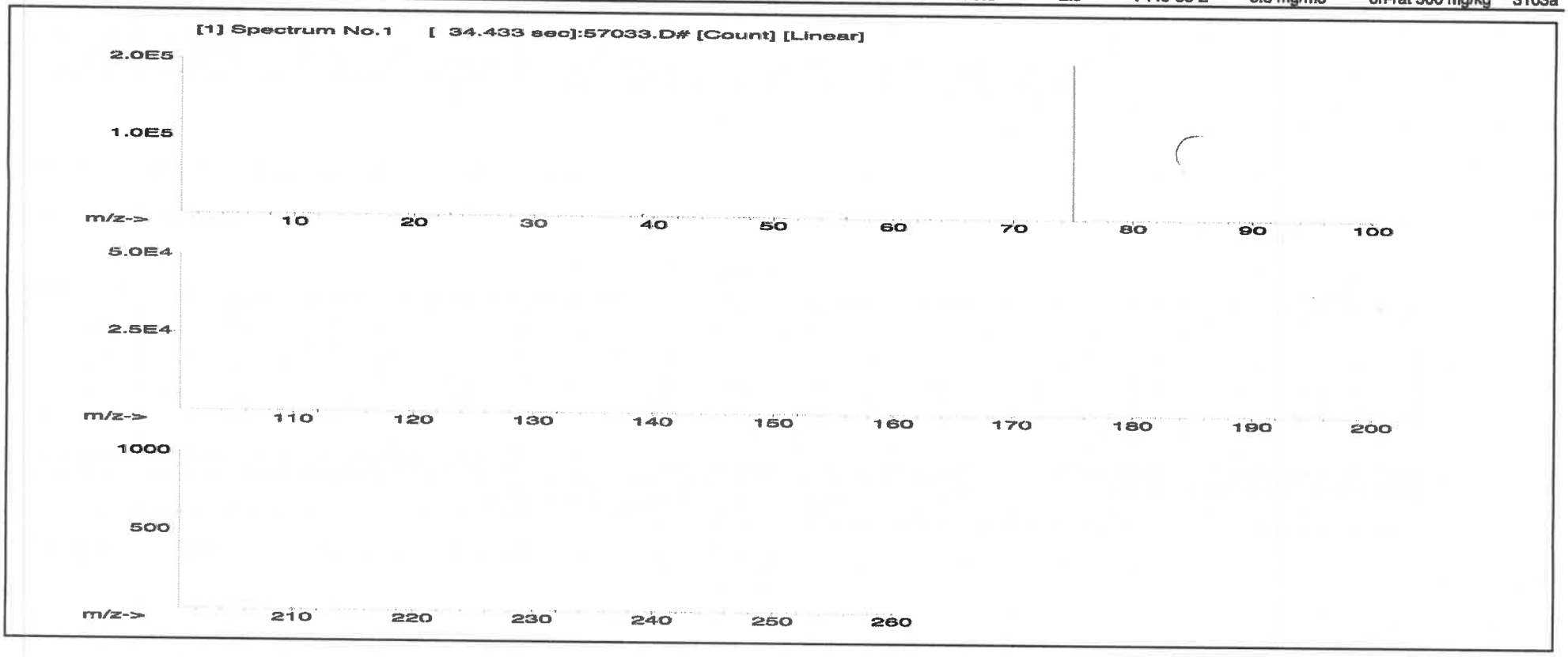
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CERTIFIED **WEIGHT** REPORT:

		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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* 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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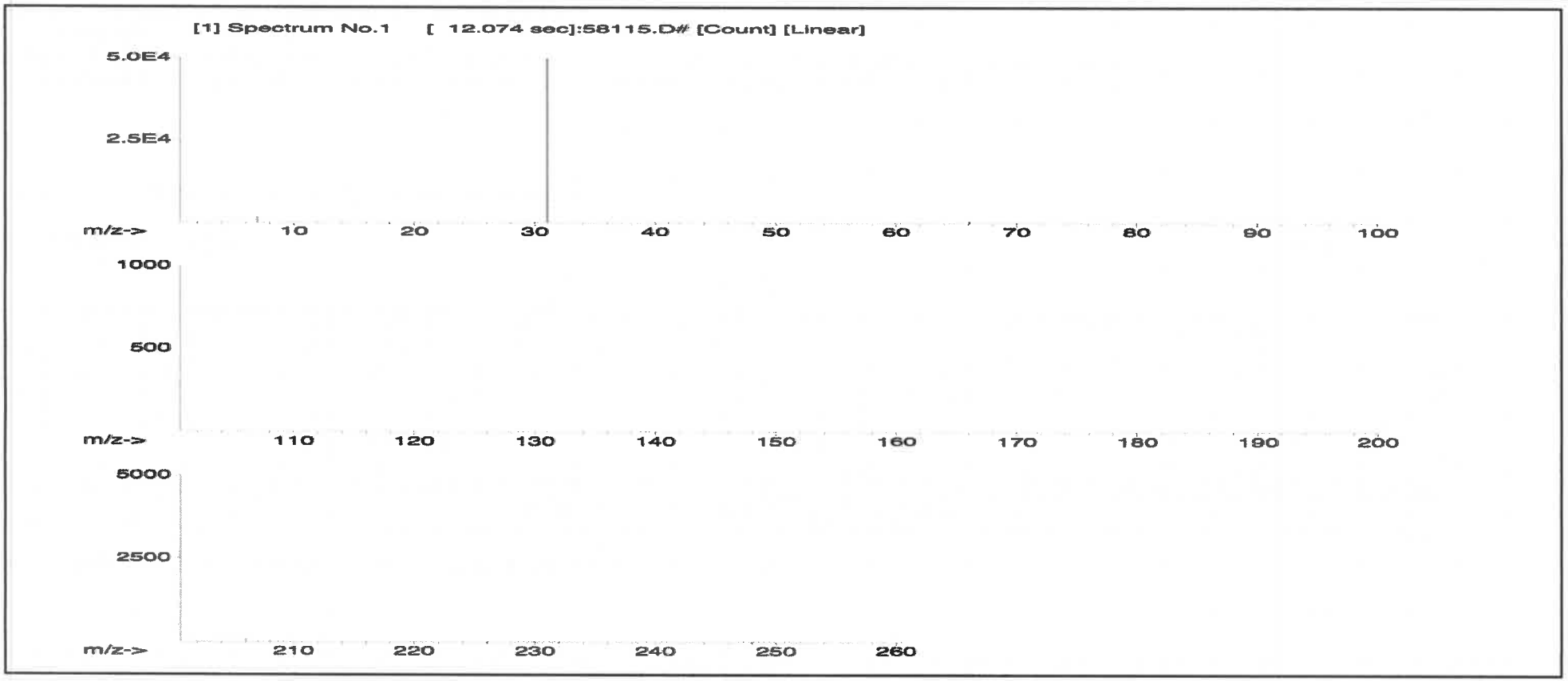
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CERTIFIED WEIGHT REPORT:

			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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 02/09/24 M5816

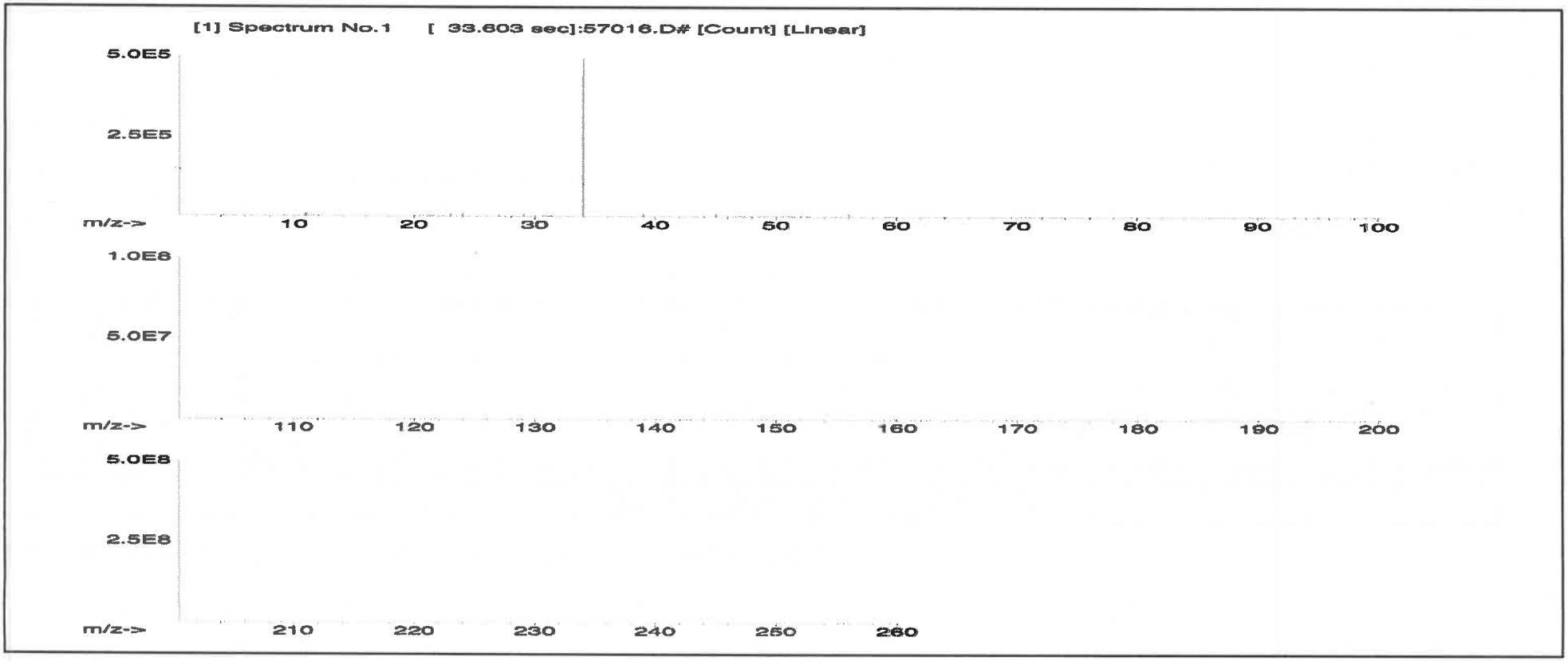
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CERTIFIED WEIGHT REPORT:

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:



* 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:

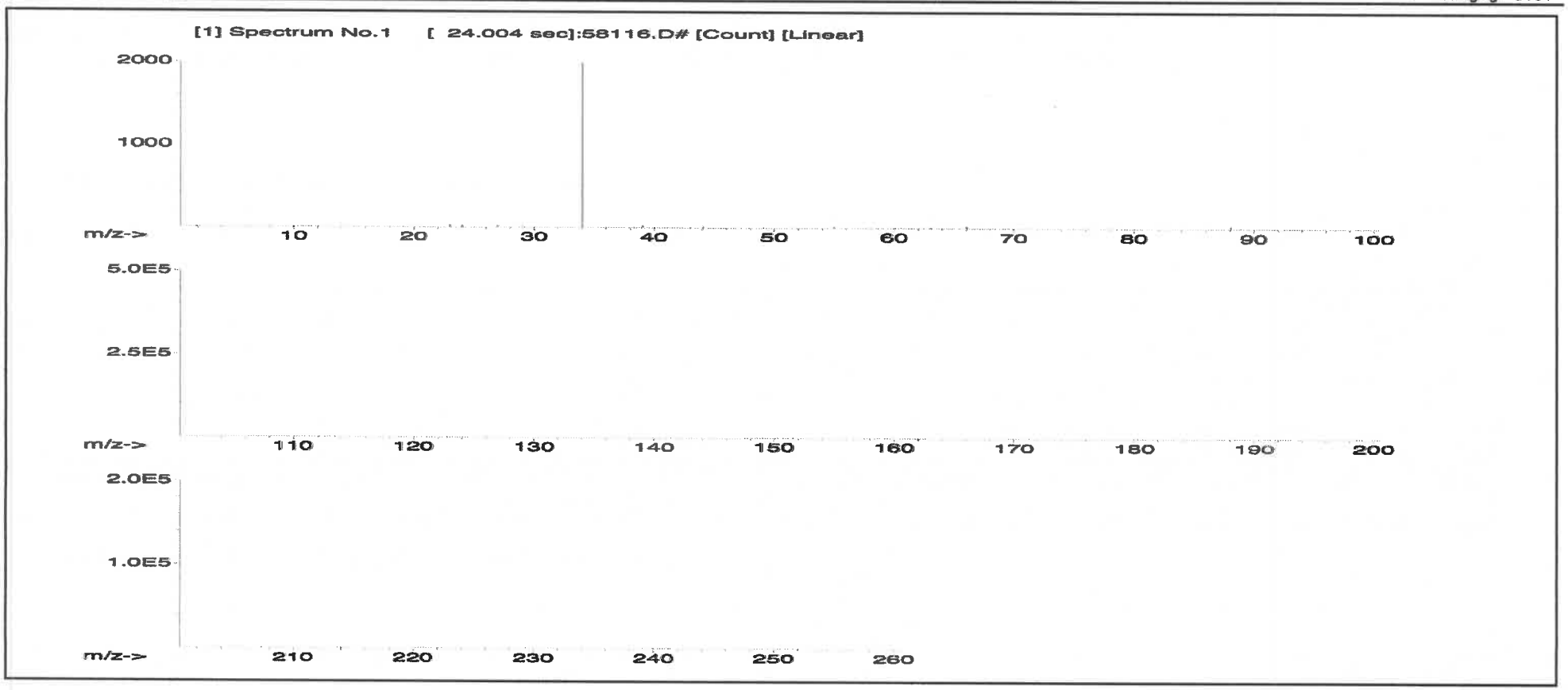
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 1999.48 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 02/09/24 M.5818

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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

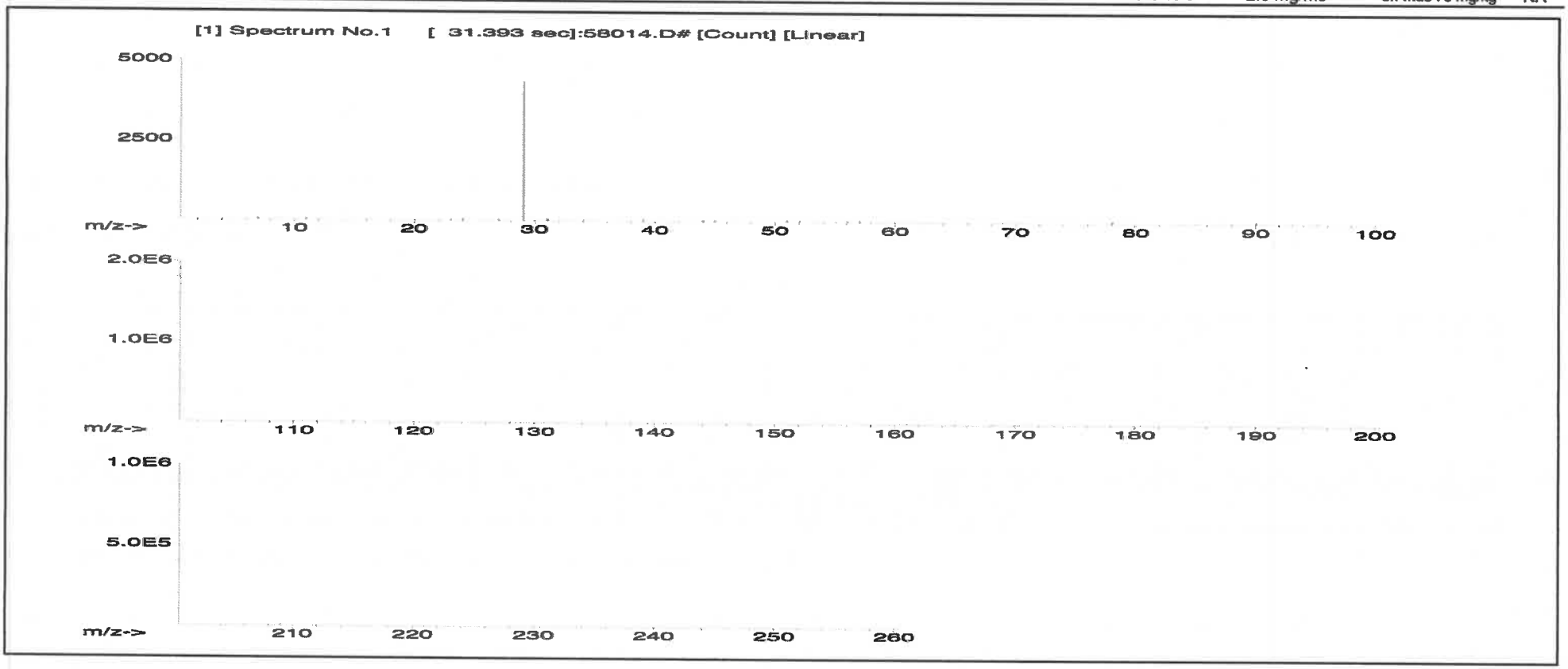
Aleah O'Brady

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:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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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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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

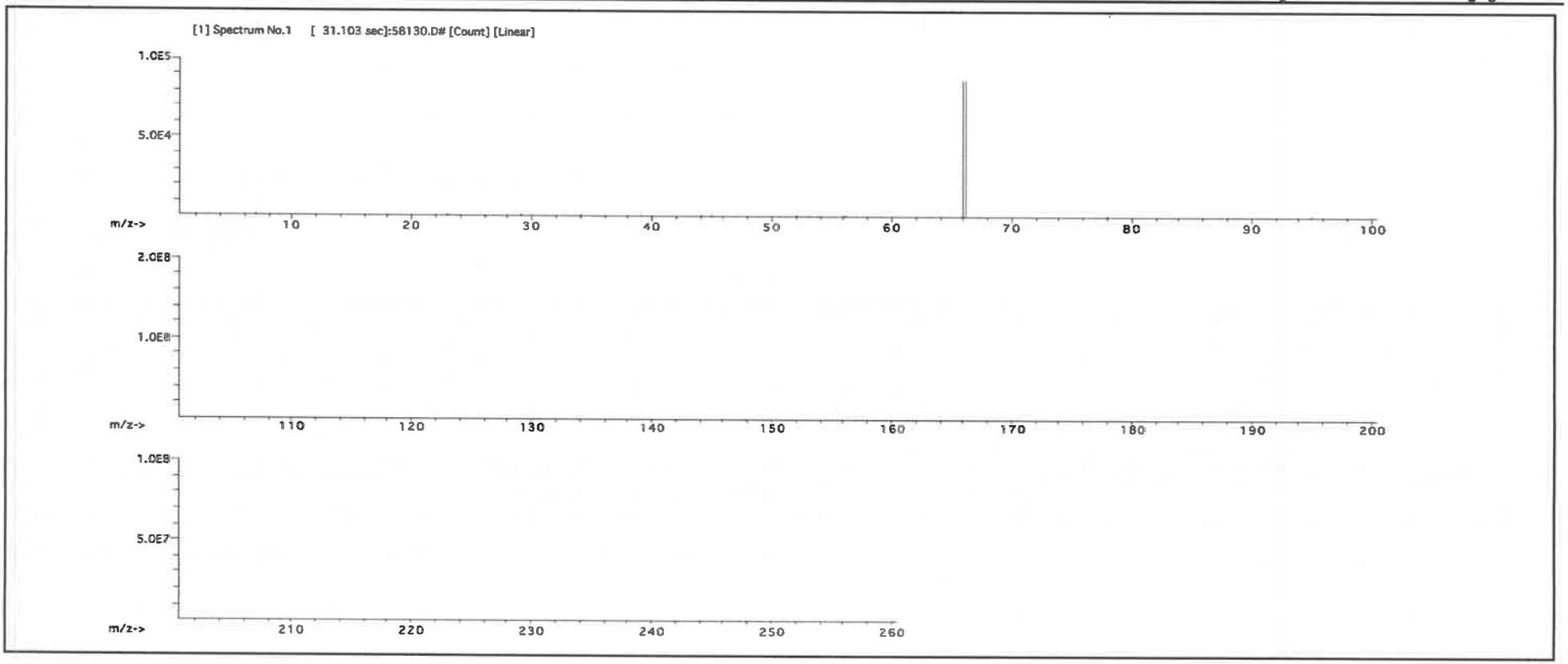
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

		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).

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Certified Reference Material CRM

R: 02/09/24 M5820

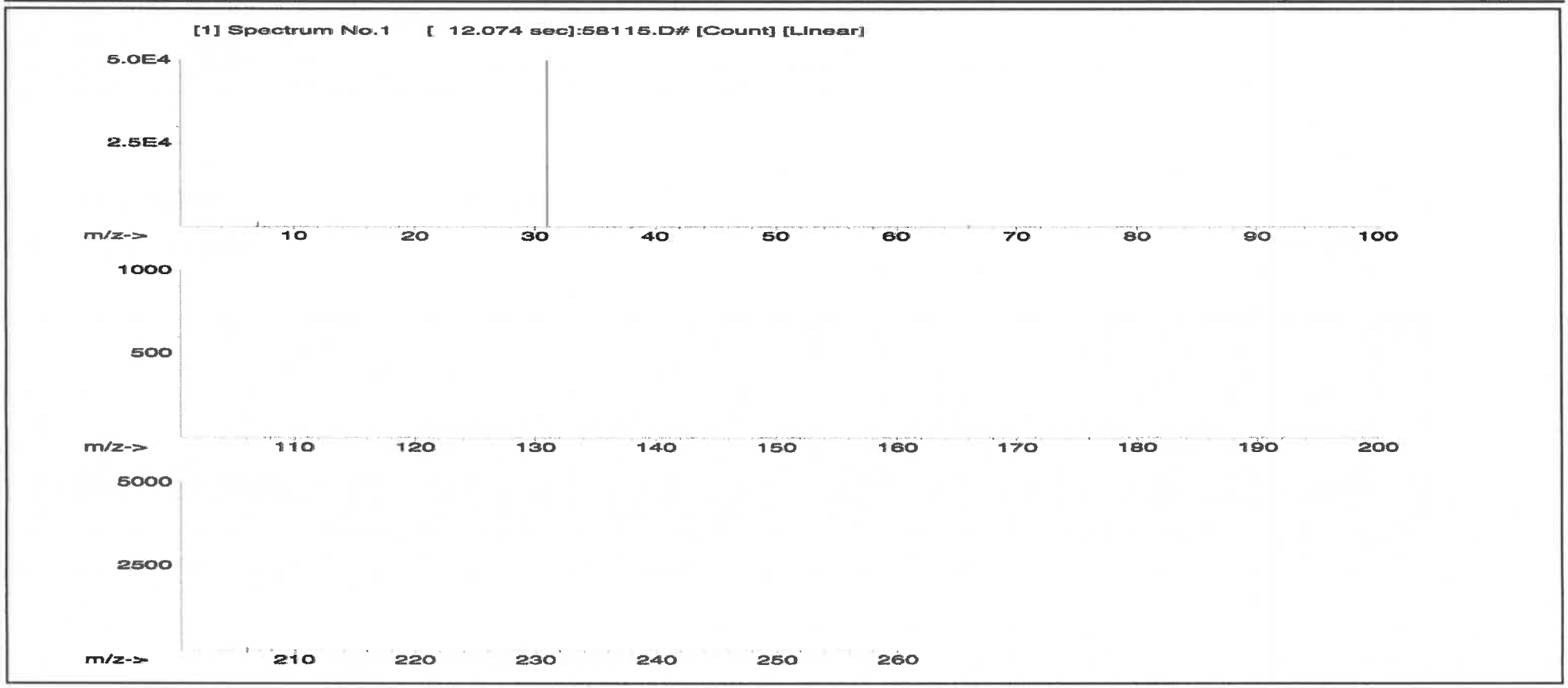
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CERTIFIED WEIGHT REPORT:

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.
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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).

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

MS943 MS944
MS945 MS946

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities - Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities - Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities - Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities - Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

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Certified Reference Material CRM

M5962 R! 06/14/24.

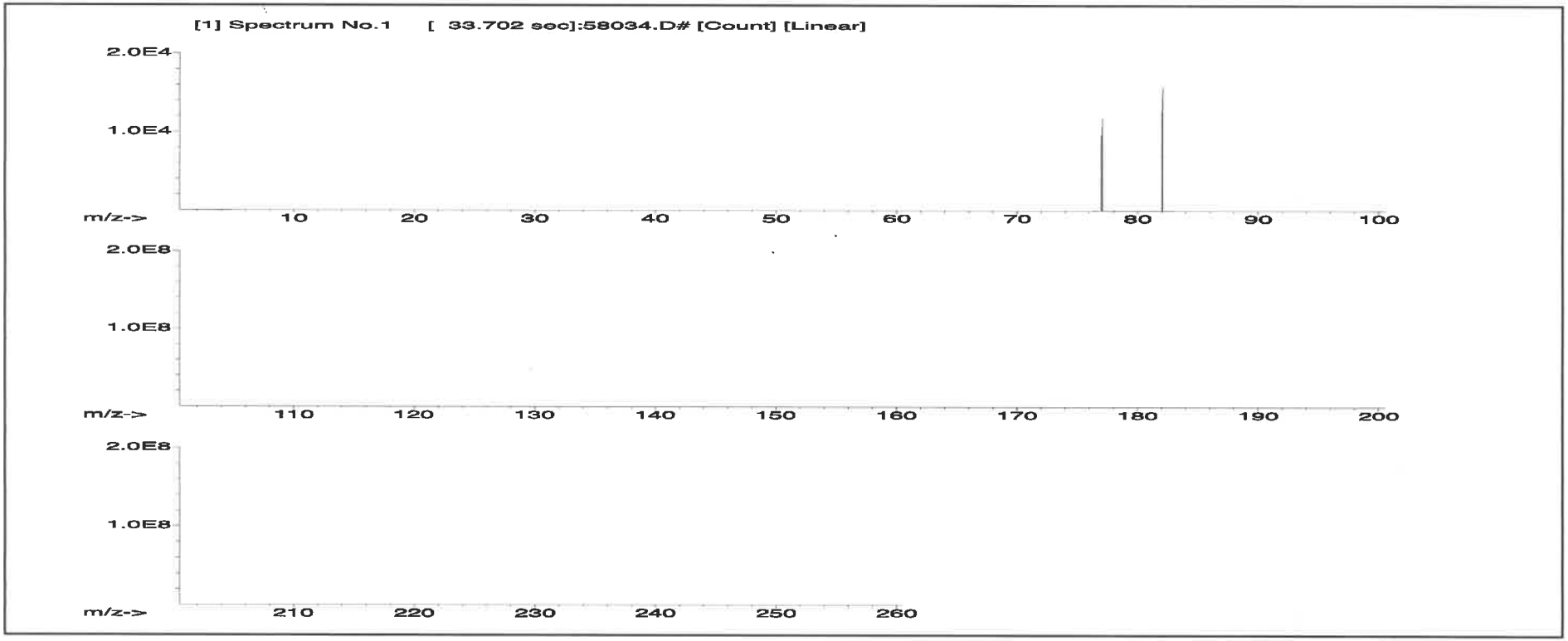
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rentas	060624

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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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.
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M5970, M5971 R: 7/01/24

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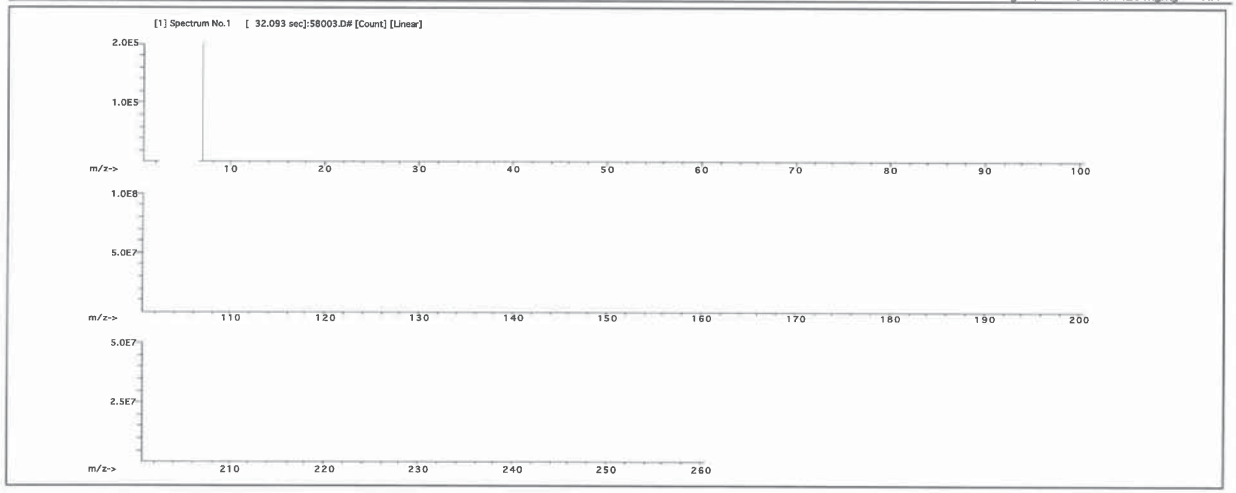
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	**57003**	24002546	Nitric Acid
Lot Number:	**062124**		
Description:	**Lithium (Li)**		
		2.0%	5.0 (mL) Nitric Acid
Expiration Date:	062127		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05 Balance Uncertainty	
Volume shown below was diluted to (mL):	250.11	0.016 Flask Uncertainty	

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certificate of Analysis

M5976, M5977
R: 02/22/24

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Christiansburg, VA 24073 USA
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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:	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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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO_3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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	<	0.000536	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

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

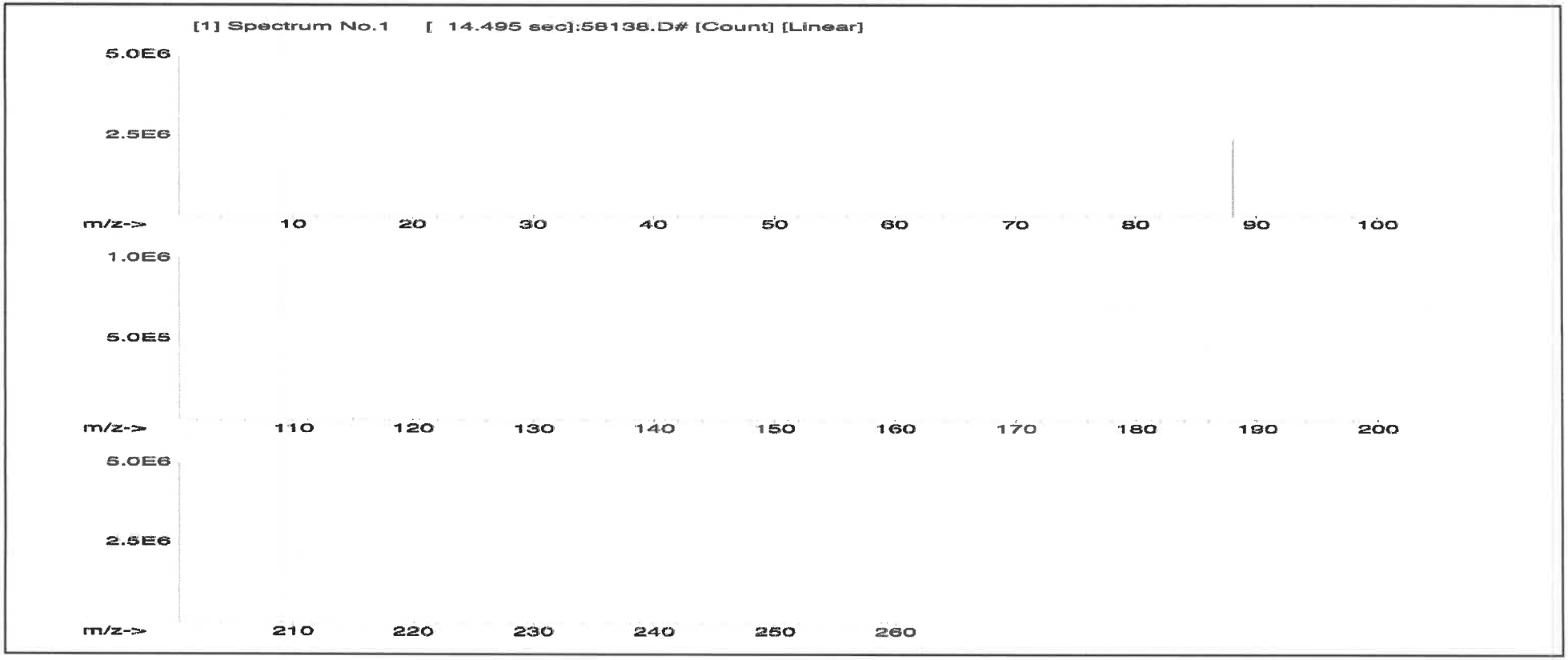
45982 R: 6/11/24

CERTIFIED WEIGHT REPORT:

Part Number:	**57038**		**Lot #**		
Lot Number:	**031524**	**Solvent:**	24002546	Nitric Acid	
Description:	**Strontium (Sr)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	031527				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty		

Formulated By:	Benson Chan	031524
Reviewed By:	Pedro L. Rentas	031524

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Strontium nitrate (Sr)	IN017	SRZ022018A1	1000	99.997	0.10	41.2	4.85470	4.85502	**1000.1**	**2.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



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

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H2O)x+2

Chemical Compatibility -Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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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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:

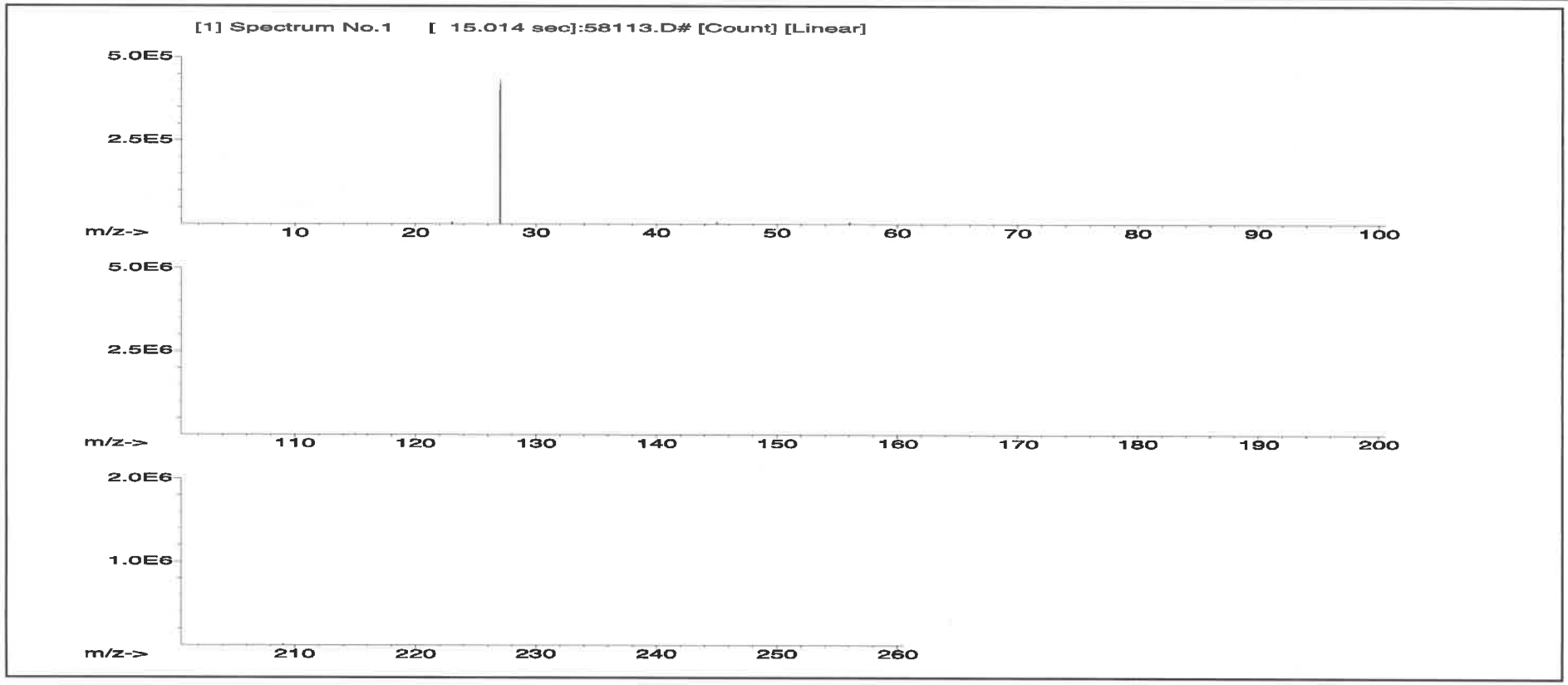
Part Number:	**58113**		**Solvent:**	20510011	Nitric Acid
Lot Number:	**011623**				
Description:	**Aluminum (Al)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	011626				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
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

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

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M5806, M5807

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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

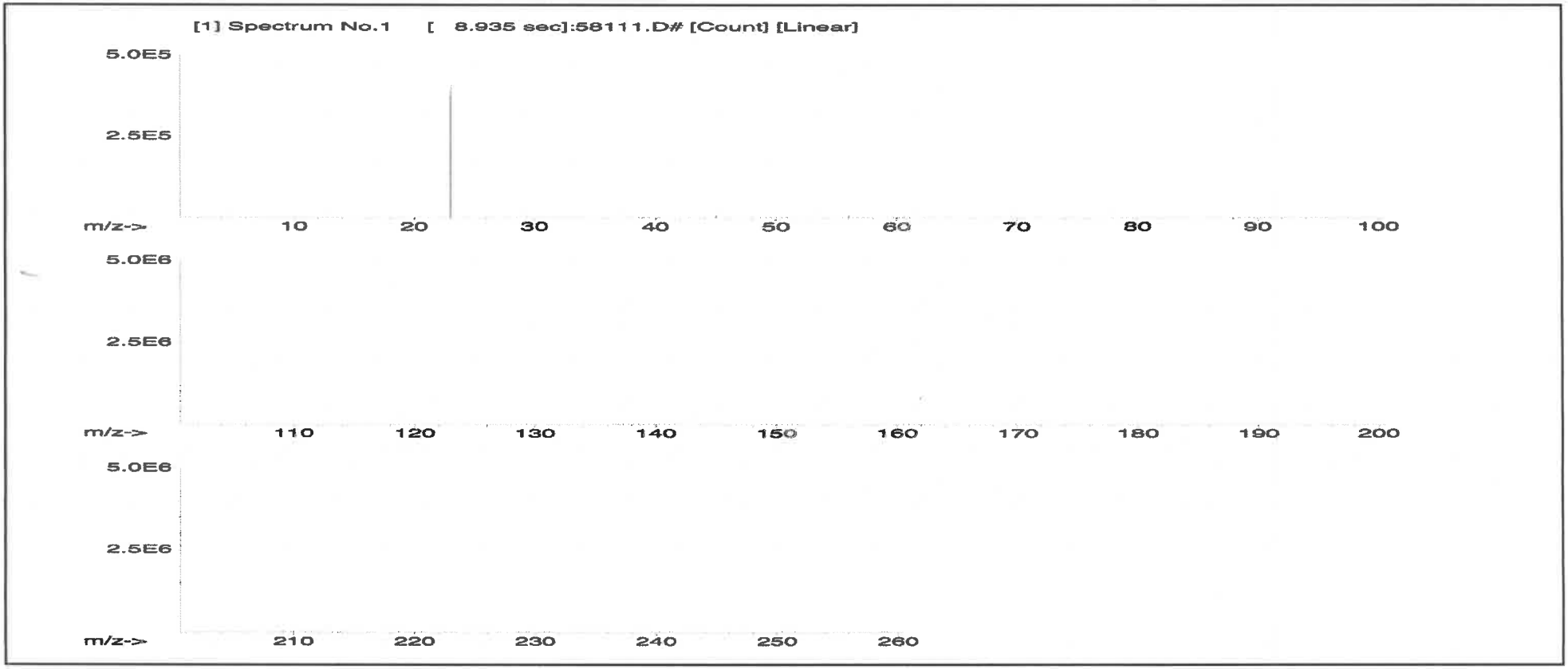
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

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).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

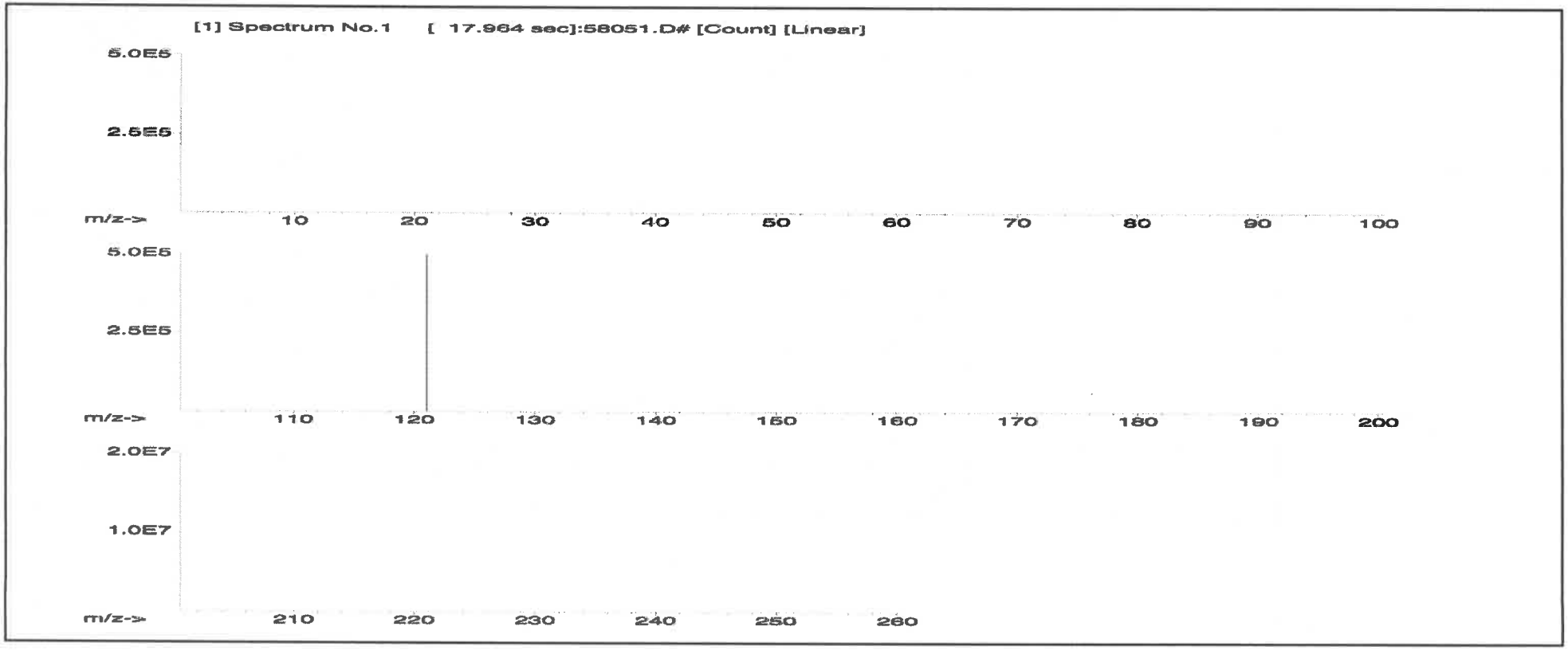
R: 01/03/24 M5802, M5803

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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Certified Reference Material CRM

M6030

R: 8/5/24

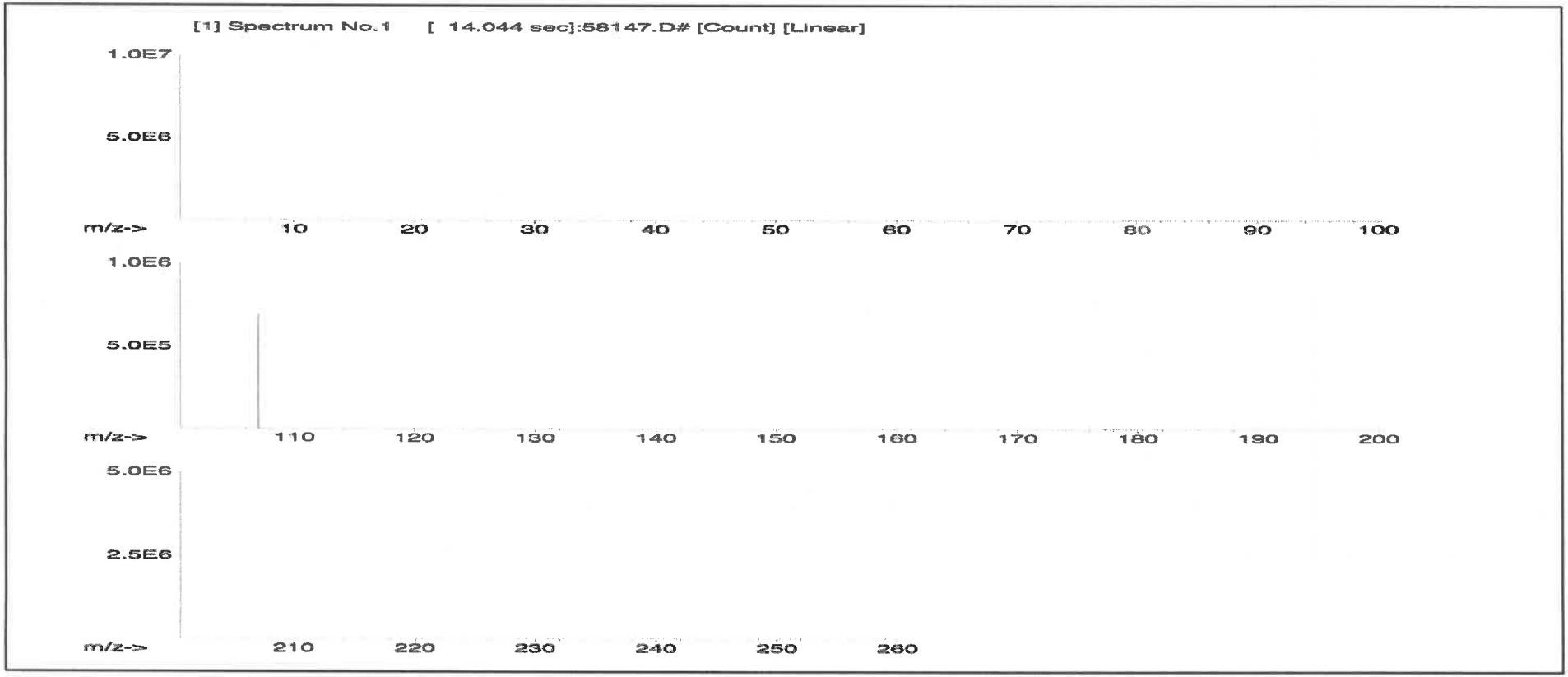
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CERTIFIED WEIGHT REPORT:

Part Number:	**57047**		**Lot #**		
Lot Number:	**122823**	**Solvent:**	24002546	Nitric Acid	
Description:	**Silver (Ag)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	122826				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.30	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



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:

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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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R: 03/16/23 M5473, M5474, M5475, M5476

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CERTIFIED WEIGHT REPORT:

Part Number: 56138
Lot Number: 082922
Description: Strontium (Sr)

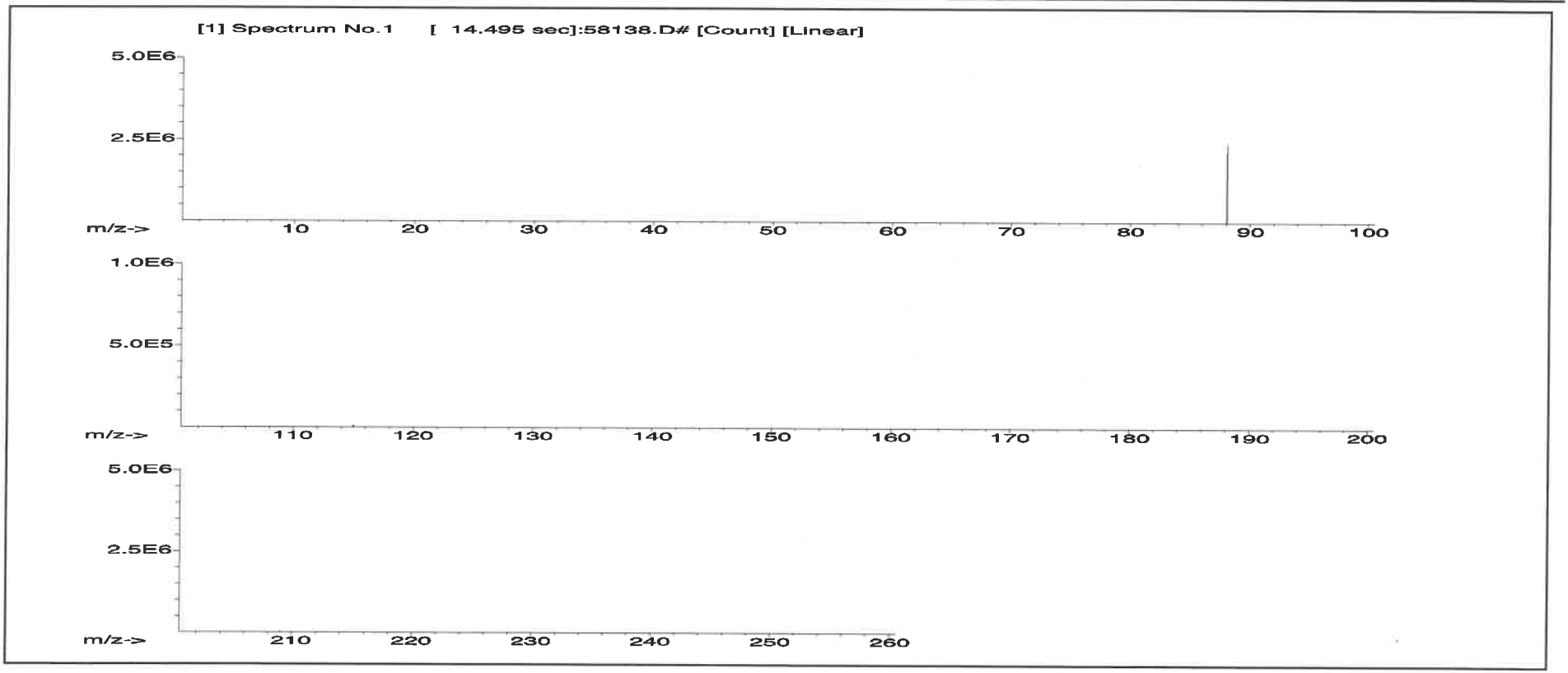
Expiration Date: 082925
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	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.

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R ! 8/5/24

M6023

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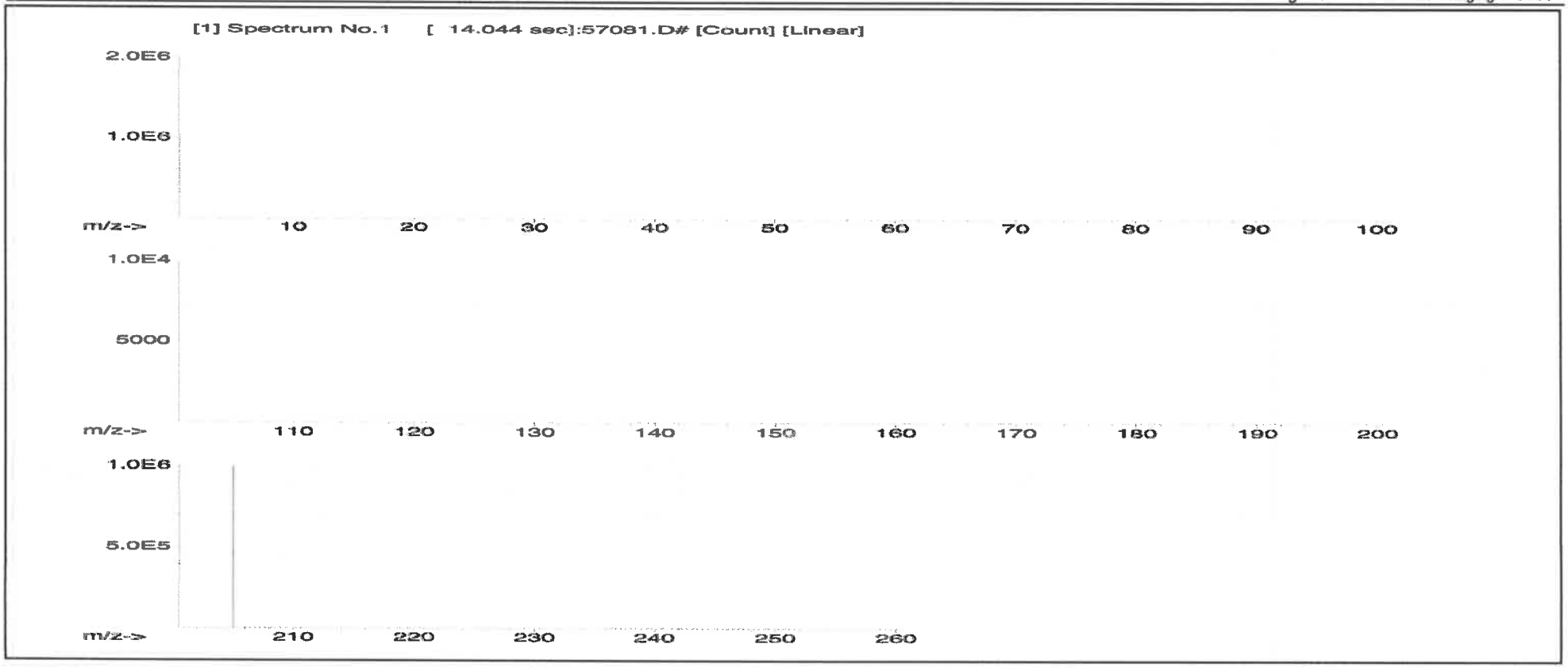
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	062724
Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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Bc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**	24002546	Nitric Acid	
Description:	**Vanadium (V)**			
		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	

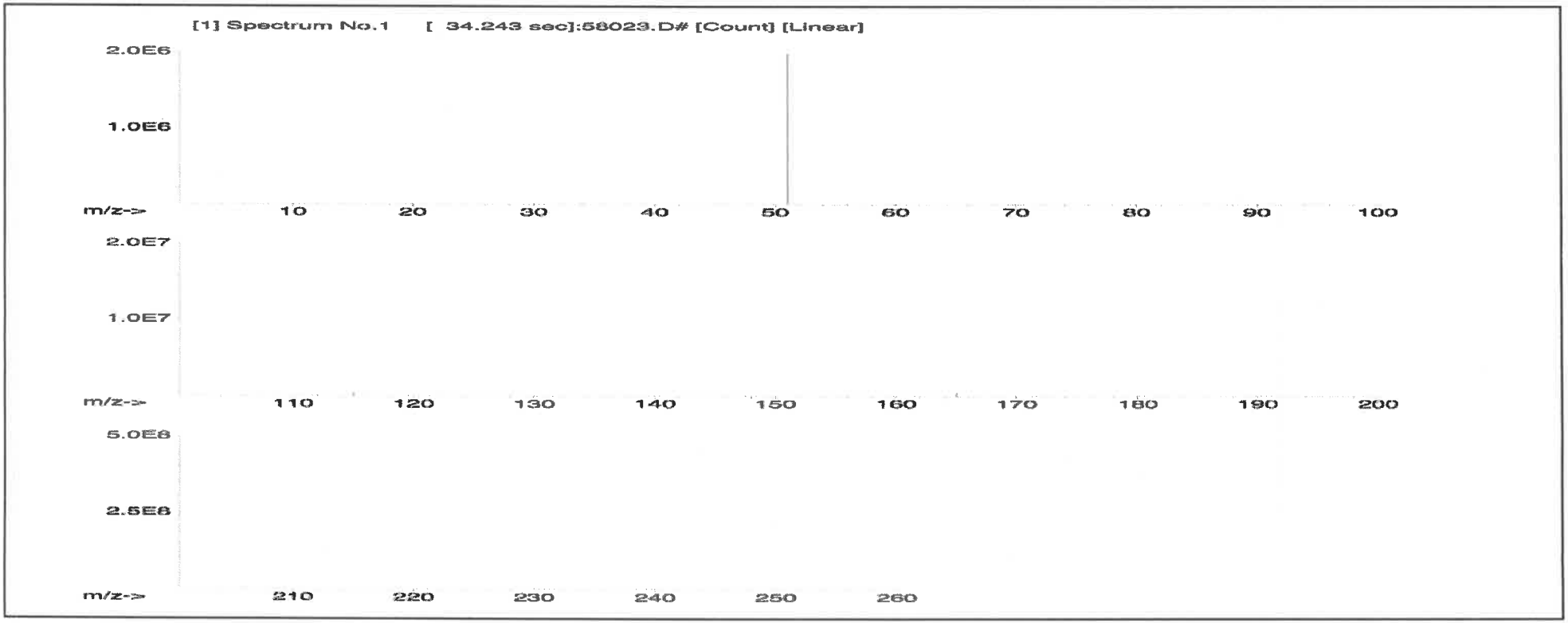
Aleah O'Brady

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

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CORCO CHEMICAL CORPORATION

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299 Cedar Lane
Fairless Hills, PA 19030

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Acetic Acid, Glacial, ACS

Reagent Grade

SPECIFICATION	MAXIMUM LIMITS
Appearance	Colorless and free from suspended matter or sediment
Assay	99.7 min.
Color (APHA)	10
Dilution Test	Passes Test
Residue after evaporation	0.001%
Acetic Anhydride	0.01%
Chloride (cl)	1 ppm
Sulfate (SO_4)	1 ppm
Heavy Metals (as Pb)	0.5 ppm
Iron (Fe)	0.2 ppm
Sub. Red. Dichromate	Passes Test
Sub. Red. Permanganate	Passes Test
Titratable Base	0.0004meq/g

06/20/2023

JP 11/19/24

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB164949

200.7-Trace Elements-22

SOP ID : ~~M3050B Digestion-20~~, MSFAM01.1-Trace Metals-2

SDG No : MC0D37

Matrix : WATER

Pippete ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

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

Start Digest Date: 11/13/2024 **Time :** 11:30 **Temp :** 96 °C

End Digest Date: 11/13/2024 **Time :** 13:40 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: JGP

Supervisor Signature: SJ

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	0.50	MP83141
Spike Sol 6	0.25	MP83147
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	1.00	MP83122
1:1 HCL	0.50	MP83105
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 CELL #50 : 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/13/24 14:00	JGP Met dig	SJ (Metals lab)
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB164949

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
P4755-01	MC0D37	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	1
P4755-02	MC0D43	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	2
P4755-03	MC0D49	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	3
P4755-04	MC0D55	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	4
P4755-05	MC0D63	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	5
P4755-06	MC0D65	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	6
P4755-07	MC0D67	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	7
P4755-08	MC0DA7	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	8
P4755-09	MC0D94	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	9
P4755-10	MC0DA0	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	10
P4755-11	MC0DA6	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	11
P4755-12	MC0D73	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	12
P4755-13	MC0D79	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	13
P4755-14	MC0D88	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	14
P4755-15	MC0DA9	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	15
P4755-16	MC0DA9D	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	16
P4755-17	MC0DA9S	<2	50	50	Colorless	Colorless	Clear	Clear	MP83147	17
PB164916TB	LEB916	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	18
PB164949BL	PBW949	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	19
PB164949BS	LCS949	<2	50	50	Colorless	Colorless	Clear	Clear	MP83141	20

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 # LB133486

Review By	Sarabjit Jaswal	Review On	11/19/2024 6:43:34 AM
Supervise By	Kareem Khairalla	Supervise On	11/19/2024 9:24:48 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	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/18/24 06:56		Kareem	OK
2	S1	S01	CAL2	11/18/24 07:00		Kareem	OK
3	S2	S02	CAL3	11/18/24 07:05		Kareem	OK
4	S3	S03	CAL4	11/18/24 07:09		Kareem	OK
5	S4	S04	CAL5	11/18/24 07:13		Kareem	OK
6	S5	S05	CAL6	11/18/24 07:18		Kareem	OK
7	S6	S06	CAL7	11/18/24 07:22		Kareem	OK
8	ICV004	ICV004	ICV	11/18/24 07:56	Inst. paused for calibration review	Kareem	OK
9	ICB004	ICB004	ICB	11/18/24 08:00		Kareem	OK
10	ICSA004	ICSA004	ICSA	11/18/24 08:05		Kareem	OK
11	ICSAB004	ICSAB004	ICSAB	11/18/24 08:09		Kareem	OK
12	CCV020	CCV020	CCV	11/18/24 08:14		Kareem	OK
13	CCB020	CCB020	CCB	11/18/24 08:18		Kareem	OK
14	PB164933BL	PBS933	MB	11/18/24 08:23		Kareem	OK
15	PB164933BS	LCS933	LCS	11/18/24 08:27		Kareem	OK
16	PB164949BL	PBW949	MB	11/18/24 08:32		Kareem	OK
17	PB164948BL	PBS948	MB	11/18/24 08:41		Kareem	OK
18	PB164948BS	LCS948	LCS	11/18/24 08:45		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 # LB133486

Review By	Sarabjit Jaswal	Review On	11/19/2024 6:43:34 AM
Supervise By	Kareem Khairalla	Supervise On	11/19/2024 9:24:48 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	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

19	PB164934BL	PBS934	MB	11/18/24 08:50		Kareem	OK
20	PB164934BS	LCS934	LCS	11/18/24 08:54		Kareem	OK
21	PB164949BS	LCS949	LCS	11/18/24 09:03		Kareem	OK
22	P4607-12DL	MCC0P6	SAM	11/18/24 09:17	2x for Pb	Kareem	Confirms
23	P4607-15DL	MCC0P9	SAM	11/18/24 09:21	2x for Fe	Kareem	Confirms
24	P4655-20	MC0VH7	SAM	11/18/24 09:25		Kareem	OK
25	P4655-21	MC0VH7D	DUP	11/18/24 09:30		Kareem	OK
26	P4655-20L	MC0VH7L	SD	11/18/24 09:34		Kareem	OK
27	P4655-22	MC0VH7S	MS	11/18/24 09:38	MS fail for As(149.68ppb),Cu(992.51ppb),Mn(4470.37ppb),Zn(3094.62ppb) & Se,Ag (Below RL)	Kareem	OK
28	P4755-15	MC0DA9	SAM	11/18/24 09:43		Kareem	OK
29	P4755-16	MC0DA9D	DUP	11/18/24 09:47		Kareem	OK
30	P4755-15L	MC0DA9L	SD	11/18/24 09:52		Kareem	OK
31	P4755-17	MC0DA9S	MS	11/18/24 09:56		Kareem	OK
32	CCV021	CCV021	CCV	11/18/24 10:01		Kareem	OK
33	CCB021	CCB021	CCB	11/18/24 10:05		Kareem	OK
34	P4688-10	MC0VM0	SAM	11/18/24 10:10		Kareem	OK
35	P4688-11	MC0VM0D	DUP	11/18/24 10:14		Kareem	OK
36	P4688-10L	MC0VM0L	SD	11/18/24 10:18		Kareem	OK

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Supervise By	Kareem Khairalla	Supervise On	11/19/2024 9:24:48 AM

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ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

37	P4688-12	MC0VM0S	MS	11/18/24 10:23	MS fail for Zn(1811.68ppb) & Se,Ag (Below RL)	Kareem	OK
38	P4656-03	MC0VM0	SAM	11/18/24 10:27		Kareem	OK
39	P4656-04	MC0VM0D	DUP	11/18/24 10:32		Kareem	OK
40	P4656-03L	MC0VM0L	SD	11/18/24 10:36		Kareem	OK
41	P4656-05	MC0VM0S	MS	11/18/24 10:40	MS fail for As(253.19ppb),Zn(2545.87 ppb) & Se,Ag (Below RL)	Kareem	OK
42	P4728-01	MBH9B8	SAM	11/18/24 10:45	Mn high	Kareem	Dilution
43	P4728-02	MBH9B8D	DUP	11/18/24 10:49	Mn high	Kareem	Dilution
44	P4728-01L	MBH9B8L	SD	11/18/24 10:53	Mn high	Kareem	Dilution
45	P4728-03	MBH9B8S	MS	11/18/24 10:58	Mn high, MS fail for Se (Below RL)	Kareem	Dilution
46	P4750-13	MBH9E6	SAM	11/18/24 11:02		Kareem	OK
47	P4750-14	MBH9E6D	DUP	11/18/24 11:07		Kareem	OK
48	P4750-13L	MBH9E6L	SD	11/18/24 11:11		Kareem	OK
49	P4750-15	MBH9E6S	MS	11/18/24 11:15	MS fail for Se (Below RL)	Kareem	OK
50	P4655-01	MC0VD3	SAM	11/18/24 11:20		Kareem	OK
51	P4655-02	MC0VE1	SAM	11/18/24 11:24		Kareem	OK
52	P4655-03	MC0VE2	SAM	11/18/24 11:29		Kareem	OK
53	P4655-04	MC0VE7	SAM	11/18/24 11:33		Kareem	OK
54	CCV022	CCV022	CCV	11/18/24 11:37		Kareem	OK

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CRI Standard	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

55	CCB022	CCB022	CCB	11/18/24 11:42		Kareem	OK
56	P4655-05	MC0VE8	SAM	11/18/24 11:46		Kareem	OK
57	P4655-06	MC0VE9	SAM	11/18/24 11:51		Kareem	OK
58	P4655-07	MC0VF0	SAM	11/18/24 11:55		Kareem	OK
59	P4655-08	MC0VF1	SAM	11/18/24 12:00		Kareem	OK
60	P4655-09	MC0VF5	SAM	11/18/24 12:04		Kareem	OK
61	P4655-10	MC0VF6	SAM	11/18/24 12:08		Kareem	OK
62	P4655-11	MC0VG6	SAM	11/18/24 12:13		Kareem	OK
63	P4655-12	MC0VG7	SAM	11/18/24 12:17		Kareem	OK
64	P4655-13	MC0VG8	SAM	11/18/24 12:22		Kareem	OK
65	P4655-14	MC0VG9	SAM	11/18/24 12:26		Kareem	OK
66	P4655-15	MC0VH0	SAM	11/18/24 12:30		Kareem	OK
67	P4655-16	MC0VJ1	SAM	11/18/24 12:35		Kareem	OK
68	P4655-17	MC0VH1	SAM	11/18/24 12:39		Kareem	OK
69	P4655-18	MC0VH2	SAM	11/18/24 12:44		Kareem	OK
70	P4655-19	MC0VH3	SAM	11/18/24 12:48	Ba,Zn high	Kareem	Dilution
71	P4755-01	MC0D37	SAM	11/18/24 12:52		Kareem	OK
72	P4755-02	MC0D43	SAM	11/18/24 12:57		Kareem	OK
73	P4755-03	MC0D49	SAM	11/18/24 13:01		Kareem	OK
74	P4755-04	MC0D55	SAM	11/18/24 13:06		Kareem	OK

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CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

75	P4755-05	MC0D63	SAM	11/18/24 13:10		Kareem	OK
76	CCV023	CCV023	CCV	11/18/24 13:15		Kareem	OK
77	CCB023	CCB023	CCB	11/18/24 13:19		Kareem	OK
78	P4755-06	MC0D65	SAM	11/18/24 13:24		Kareem	OK
79	P4755-07	MC0D67	SAM	11/18/24 13:28		Kareem	OK
80	P4755-08	MC0DA7	SAM	11/18/24 13:33		Kareem	OK
81	P4755-09	MC0D94	SAM	11/18/24 13:37		Kareem	OK
82	P4755-10	MC0DA0	SAM	11/18/24 13:42		Kareem	OK
83	P4755-11	MC0DA6	SAM	11/18/24 13:46		Kareem	OK
84	P4755-12	MC0D73	SAM	11/18/24 13:51		Kareem	OK
85	P4755-13	MC0D79	SAM	11/18/24 13:55		Kareem	OK
86	P4755-14	MC0D88	SAM	11/18/24 13:59		Kareem	OK
87	PB164916TB	LEB916	MB	11/18/24 14:04		Kareem	OK
88	P4688-01	MC0VL1	SAM	11/18/24 14:08		Kareem	OK
89	P4688-02	MC0VL2	SAM	11/18/24 14:13		Kareem	OK
90	P4688-03	MC0VL3	SAM	11/18/24 14:17		Kareem	OK
91	P4688-04	MC0VL4	SAM	11/18/24 14:22		Kareem	OK
92	P4688-05	MC0VL5	SAM	11/18/24 14:26		Kareem	OK
93	P4688-06	MC0VL6	SAM	11/18/24 14:30		Kareem	OK
94	P4688-07	MC0VL7	SAM	11/18/24 14:35		Kareem	OK

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CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

95	P4688-08	MC0VL8	SAM	11/18/24 14:39		Kareem	OK
96	P4688-09	MC0VL9	SAM	11/18/24 14:44		Kareem	OK
97	P4688-13	MC0VM1	SAM	11/18/24 14:48		Kareem	OK
98	CCV024	CCV024	CCV	11/18/24 14:52		Kareem	OK
99	CCB024	CCB024	CCB	11/18/24 14:57		Kareem	OK
100	P4688-14	MC0VM2	SAM	11/18/24 15:01		Kareem	OK
101	P4688-15	MC0VM3	SAM	11/18/24 15:06		Kareem	OK
102	P4688-16	MC0VM4	SAM	11/18/24 15:10		Kareem	OK
103	P4688-17	MC0VM5	SAM	11/18/24 15:14		Kareem	OK
104	P4656-01	MC0VH4	SAM	11/18/24 15:19		Kareem	OK
105	P4656-02	MC0VJ0	SAM	11/18/24 15:23		Kareem	OK
106	P4656-06	MC0VM6	SAM	11/18/24 15:28		Kareem	OK
107	P4656-07	MC0VM7	SAM	11/18/24 15:32		Kareem	OK
108	P4657-01	MC0VD6	SAM	11/18/24 15:36		Kareem	OK
109	P4657-02	MC0VH5	SAM	11/18/24 15:41		Kareem	OK
110	P4657-03	MC0VM8	SAM	11/18/24 15:46		Kareem	OK
111	P4728-04	MBH9B9	SAM	11/18/24 15:50	Ca high	Kareem	Dilution
112	P4728-05	MBH9C0	SAM	11/18/24 15:55	Ca high	Kareem	Dilution
113	P4728-06	MBH9C2	SAM	11/18/24 15:59		Kareem	OK
114	P4728-07	MBH9C3	SAM	11/18/24 16:04	Ca high	Kareem	Dilution

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Supervise By	Kareem Khairalla	Supervise On	11/19/2024 9:24:48 AM

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ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

115	P4728-08	MBH9C4	SAM	11/18/24 16:08	Ca high	Kareem	Dilution
116	P4728-09	MBH9D4	SAM	11/18/24 16:13		Kareem	OK
117	P4728-10	MBH9D5	SAM	11/18/24 16:17	Ca high	Kareem	Dilution
118	P4728-11	MBH9D6	SAM	11/18/24 16:22	Ca high	Kareem	Dilution
119	P4728-12	MBH9F0	SAM	11/18/24 16:26		Kareem	OK
120	CCV025	CCV025	CCV	11/18/24 16:31		Kareem	OK
121	CCB025	CCB025	CCB	11/18/24 16:35		Kareem	OK
122	P4728-13	MBH9F1	SAM	11/18/24 16:40	Ca high	Kareem	Dilution
123	P4728-14	MBH9F2	SAM	11/18/24 16:44	Ca high	Kareem	Dilution
124	P4728-15	MBH9G6	SAM	11/18/24 16:49		Kareem	OK
125	P4728-17	MBH9F4	SAM	11/18/24 16:53		Kareem	OK
126	P4728-18	MBH9F5	SAM	11/18/24 16:58		Kareem	OK
127	P4728-19	MBH9F6	SAM	11/18/24 17:02	Ca high	Kareem	Dilution
128	P4728-20	MBH9F8	SAM	11/18/24 17:07		Kareem	OK
129	P4728-21	MBH9F9	SAM	11/18/24 17:11		Kareem	OK
130	P4728-22	MBH9G0	SAM	11/18/24 17:16	Ca high	Kareem	Dilution
131	P4750-01	MBH9C6	SAM	11/18/24 17:20		Kareem	OK
132	P4750-02	MBH9C7	SAM	11/18/24 17:25	Ca high	Kareem	Dilution
133	P4750-03	MBH9C8	SAM	11/18/24 17:29	Ca high	Kareem	Dilution
134	P4750-04	MBH9D0	SAM	11/18/24 17:34		Kareem	OK

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Instrument ID: P5

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ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	WP108622,WP108584,MP83122
LCS Standard	MP83141
Chk Standard	MP83148,MP83149

135	P4750-05	MBH9D1	SAM	11/18/24 17:38	Ca high	Kareem	Dilution
136	P4750-06	MBH9D2	SAM	11/18/24 17:43	Ca high	Kareem	Dilution
137	P4750-07	MBH9D8	SAM	11/18/24 17:47		Kareem	OK
138	P4750-08	MBH9D9	SAM	11/18/24 17:52	Ca high	Kareem	Dilution
139	P4750-09	MBH9E0	SAM	11/18/24 17:56	Ca high	Kareem	Dilution
140	P4750-10	MBH9E2	SAM	11/18/24 18:01		Kareem	OK
141	P4750-11	MBH9E3	SAM	11/18/24 18:05		Kareem	OK
142	CCV026	CCV026	CCV	11/18/24 18:10		Kareem	OK
143	CCB026	CCB026	CCB	11/18/24 18:14		Kareem	OK
144	P4750-12	MBH9E4	SAM	11/18/24 18:18	Ca high	Kareem	Dilution
145	P4750-16	MBH9E7	SAM	11/18/24 18:23		Kareem	OK
146	P4750-17	MBH9E8	SAM	11/18/24 18:27		Kareem	OK
147	P4750-18	MBH9G2	SAM	11/18/24 18:32		Kareem	OK
148	P4750-19	MBH9G3	SAM	11/18/24 18:36	Ca high	Kareem	Dilution
149	P4750-20	MBH9G4	SAM	11/18/24 18:41	Ca high	Kareem	Dilution
150	P4750-21	MBH9G7	SAM	11/18/24 18:45		Kareem	OK
151	PB165006BL	PBS006	MB	11/18/24 19:32		Kareem	OK
152	PB165006BS	LCS006	LCS	11/18/24 19:43		Kareem	OK
153	PB164914BL	PBW914	MB	11/18/24 19:48		Kareem	OK
154	PB164914BS	LCS914	LCS	11/18/24 19:52		Kareem	OK

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LCS Standard	MP83141
Chk Standard	MP83148,MP83149

155	PB165007BL	PBS007	MB	11/18/24 19:57		Kareem	OK
156	CCV027	CCV027	CCV	11/18/24 20:01		Kareem	OK
157	CCB027	CCB027	CCB	11/18/24 20:06		Kareem	OK
158	PB165007BS	LCS007	LCS	11/18/24 20:10		Kareem	OK
159	P4728-01DL	MBH9B8	SAM	11/18/24 20:26	2x for Mn	Kareem	Confirms
160	P4728-02DL	MBH9B8D	DUP	11/18/24 20:31	2x for Mn	Kareem	Confirms
161	P4728-01LDL	MBH9B8L	SD	11/18/24 20:35	10x for Mn	Kareem	Confirms
162	P4728-03DL	MBH9B8S	MS	11/18/24 20:40	2x for Mn	Kareem	Confirms
163	P4655-19DL	MC0VH3	SAM	11/18/24 20:44	5x for Ba,Zn	Kareem	Confirms
164	P4728-04DL	MBH9B9	SAM	11/18/24 20:49	5x for Ca	Kareem	Confirms
165	P4728-05DL	MBH9C0	SAM	11/18/24 20:53	5x for Ca	Kareem	Confirms
166	P4728-07DL	MBH9C3	SAM	11/18/24 20:58	5x for Ca	Kareem	Confirms
167	P4728-08DL	MBH9C4	SAM	11/18/24 21:02	5x for Ca	Kareem	Confirms
168	P4728-10DL	MBH9D5	SAM	11/18/24 21:06	5x for Ca	Kareem	Confirms
169	P4728-11DL	MBH9D6	SAM	11/18/24 21:11	5x for Ca	Kareem	Confirms
170	P4728-13DL	MBH9F1	SAM	11/18/24 21:15	5x for Ca	Kareem	Confirms
171	P4728-14DL	MBH9F2	SAM	11/18/24 21:20	5x for Ca	Kareem	Confirms
172	P4728-19DL	MBH9F6	SAM	11/18/24 21:24	NOT USE	Kareem	Not Ok
173	CCV028	CCV028	CCV	11/18/24 21:29		Kareem	OK
174	CCB028	CCB028	CCB	11/18/24 21:33		Kareem	OK

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LCS Standard	MP83141
Chk Standard	MP83148,MP83149

175	P4728-22DL	MBH9G0	SAM	11/18/24 21:38	5x for Ca	Kareem	Confirms
176	P4750-02DL	MBH9C7	SAM	11/18/24 21:42	5x for Ca	Kareem	Confirms
177	P4750-03DL	MBH9C8	SAM	11/18/24 21:47	5x for Ca	Kareem	Confirms
178	P4750-05DL	MBH9D1	SAM	11/18/24 21:51	5x for Ca	Kareem	Confirms
179	P4750-06DL	MBH9D2	SAM	11/18/24 21:56	5x for Ca	Kareem	Confirms
180	P4750-08DL	MBH9D9	SAM	11/18/24 22:00	2x for Ca	Kareem	Confirms
181	P4750-09DL	MBH9E0	SAM	11/18/24 22:04	2x for Ca	Kareem	Confirms
182	P4750-12DL	MBH9E4	SAM	11/18/24 22:09	5x for Ca	Kareem	Confirms
183	P4750-19DL	MBH9G3	SAM	11/18/24 22:13	5x for Ca	Kareem	Confirms
184	P4750-20DL	MBH9G4	SAM	11/18/24 22:18	5x for Ca	Kareem	Confirms
185	CCV029	CCV029	CCV	11/18/24 22:22		Kareem	OK
186	CCB029	CCB029	CCB	11/18/24 22:27		Kareem	OK

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB164916

SOP ID : M1311-TCLP-15

SDG No : MC0D37

Weigh By : JP

Balance ID : WC SC-4

pH Meter ID : WC PH METER-1

Extraction By : JP

Filter By : JP

Pippete ID : WC

Tumbler ID : T-1 / T-2

TCLP Filter ID : 114771

Start Prep Date : 11/12/2024 **Time :** 14:00

End Prep Date : 11/13/2024 **Time :** 07:15

Combination Ratio : 20

ZHE Cleaning Batch : N/A

Initial Room Temperature: 24 °C

Final Room Temperature: 23 °C

TCLP Technician Signature : JP

Supervisor By : IZ

Standared Name	MLS USED	STD REF. # FROM LOG
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE U	Lot Number
TCLP-FLUID-1	N/A	WP108622
HCL-TCLP,1N	N/A	WP108584
HNO3-TCLP,1N	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
120ml Plastic bottle	N/A	21029
1:1 HNO3	N/A	MP83122

Extraction Conformance/Non-Conformance Comments:

Matrix spikes are added after fiftration and before preservation. TUMBLER T-1 / T-2 checked,30 rpm. Particle size reduction is not required.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/13/24 09:30	JP / Extraction	MB / Det Dig
	Preparation Group	Analysis Group

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TCLP EXTRACTION LOGPAGE

PB164916

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
P4755-01	MC0D37	01	100.03	2000	N/A	N/A	N/A	3.24	1.35	T-1
P4755-02	MC0D43	02	100.02	2000	N/A	N/A	N/A	3.14	1.27	T-1
P4755-03	MC0D49	03	100.03	2000	N/A	N/A	N/A	2.89	1.33	T-1
P4755-04	MC0D55	04	100.02	2000	N/A	N/A	N/A	2.81	1.17	T-1
P4755-05	MC0D63	05	100.03	2000	N/A	N/A	N/A	2.74	1.06	T-1
P4755-06	MC0D65	06	100.02	2000	N/A	N/A	N/A	2.66	1.10	T-1
P4755-07	MC0D67	07	100.03	2000	N/A	N/A	N/A	2.71	1.41	T-1
P4755-08	MC0DA7	08	100.04	2000	N/A	N/A	N/A	2.66	1.31	T-1
P4755-09	MC0D94	09	100.02	2000	N/A	N/A	N/A	2.18	1.25	T-1
P4755-10	MC0DA0	10	100.03	2000	N/A	N/A	N/A	2.29	1.40	T-1
P4755-11	MC0DA6	11	100.04	2000	N/A	N/A	N/A	2.47	1.37	T-2
P4755-12	MC0D73	12	100.02	2000	N/A	N/A	N/A	2.53	1.17	T-2
P4755-13	MC0D79	13	100.03	2000	N/A	N/A	N/A	2.89	1.25	T-2
P4755-14	MC0D88	14	100.04	2000	N/A	N/A	N/A	3.04	1.57	T-2
P4755-15	MC0DA9	15	100.05	2000	N/A	N/A	N/A	2.81	1.64	T-2
P4755-16	MC0DA9D	16	100.05	2000	N/A	N/A	N/A	2.81	1.64	T-2
P4755-17	MC0DA9S	17	100.05	2000	N/A	N/A	N/A	2.81	1.64	T-2
PB164916TB	LEB916	18	N/A	2000	N/A	N/A	N/A	4.93	1.06	T-2

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
P4755-01	MC0D37	N/A	N/A	N/A	N/A	100	N/A
P4755-02	MC0D43	N/A	N/A	N/A	N/A	100	N/A
P4755-03	MC0D49	N/A	N/A	N/A	N/A	100	N/A
P4755-04	MC0D55	N/A	N/A	N/A	N/A	100	N/A
P4755-05	MC0D63	N/A	N/A	N/A	N/A	100	N/A
P4755-06	MC0D65	N/A	N/A	N/A	N/A	100	N/A
P4755-07	MC0D67	N/A	N/A	N/A	N/A	100	N/A
P4755-08	MC0DA7	N/A	N/A	N/A	N/A	100	N/A
P4755-09	MC0D94	N/A	N/A	N/A	N/A	100	N/A
P4755-10	MC0DA0	N/A	N/A	N/A	N/A	100	N/A
P4755-11	MC0DA6	N/A	N/A	N/A	N/A	100	N/A
P4755-12	MC0D73	N/A	N/A	N/A	N/A	100	N/A
P4755-13	MC0D79	N/A	N/A	N/A	N/A	100	N/A
P4755-14	MC0D88	N/A	N/A	N/A	N/A	100	N/A
P4755-15	MC0DA9	N/A	N/A	N/A	N/A	100	N/A
P4755-16	MC0DA9D	N/A	N/A	N/A	N/A	100	N/A
P4755-17	MC0DA9S	N/A	N/A	N/A	N/A	100	N/A
PB164916TB	LEB916	N/A	N/A	N/A	N/A	N/A	N/A

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TCLP Fluid Determination

PB164916

Hot Block ID : WC S-1 /WC S-2

Thermometer ID : FLASHPOINT

SampleID	ClientID	Sample Weight (g)	Volume DI Water (mL)	PH after 5 min stir	PH after 10 min stir	Extraction Fluid 1 or 2	pH Extraction Fluid
P4755-01	MC0D37	5.02	96.5	5.08	1.39	#1	4.93
P4755-02	MC0D43	5.01	96.5	5.11	1.31	#1	4.93
P4755-03	MC0D49	5.03	96.5	5.37	1.47	#1	4.93
P4755-04	MC0D55	5.04	96.5	5.20	1.41	#1	4.93
P4755-05	MC0D63	5.02	96.5	5.33	1.47	#1	4.93
P4755-06	MC0D65	5.01	96.5	5.29	1.51	#1	4.93
P4755-07	MC0D67	5.02	96.5	5.87	2.36	#1	4.93
P4755-08	MC0DA7	5.03	96.5	5.82	2.40	#1	4.93
P4755-09	MC0D94	5.02	96.5	5.39	2.37	#1	4.93
P4755-10	MC0DA0	5.03	96.5	5.37	2.42	#1	4.93
P4755-11	MC0DA6	5.04	96.5	5.16	2.33	#1	4.93
P4755-12	MC0D73	5.05	96.5	5.24	2.30	#1	4.93
P4755-13	MC0D79	5.02	96.5	5.03	1.69	#1	4.93
P4755-14	MC0D88	5.03	96.5	5.75	1.57	#1	4.93
P4755-15	MC0DA9	5.01	96.5	5.60	1.89	#1	4.93
P4755-16	MC0DA9D	5.01	96.5	5.60	1.89	#1	4.93
P4755-17	MC0DA9S	5.01	96.5	5.60	1.89	#1	4.93
PB164916TB	LEB916	N/A	N/A	N/A	N/A	#1	4.93