EPA SAMPLE NO.

MYE4K0

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-01

% Solids: 97.5 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	15000	D	10/31/2024	0107
7440-36-0	Antimony	0.85	JD	10/31/2024	0107
7440-38-2	Arsenic	24	D*	10/31/2024	0107
7440-39-3	Barium	160	D	10/31/2024	0107
7440-41-7	Beryllium	0.88	D	10/31/2024	0107
7440-43-9	Cadmium	1.3	D	10/31/2024	0107
7440-70-2	Calcium	6100	D*	10/31/2024	0107
7440-47-3	Chromium	32	D*	10/31/2024	0107
7440-48-4	Cobalt	19	D	10/31/2024	0107
7440-50-8	Copper	83	D*	10/31/2024	0107
7439-89-6	Iron	32000	D*	10/31/2024	0107
7439-92-1	Lead	24	D*	10/31/2024	0107
7439-95-4	Magnesium	7300	D	10/31/2024	0107
7439-96-5	Manganese	830	D	10/31/2024	0107
7440-02-0	Nickel	30	D*	10/31/2024	0107
7440-09-7	Potassium	4900	D	10/31/2024	0107
7782-49-2	Selenium	5.7	UD	10/31/2024	0107
7440-22-4	Silver	1.6	UD	10/31/2024	0107
7440-23-5	Sodium	220	JD	10/31/2024	0107
7440-28-0	Thallium	4.0	UD	10/31/2024	0107
7440-62-2	Vanadium	62	D*	10/31/2024	0107
7440-66-6	Zinc	91	D	10/31/2024	0107

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

Comments:

EPA SAMPLE NO.

MYE4K1

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-02

% Solids: 97.8 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	11000	D	10/31/2024	0111
7440-36-0	Antimony	1.0	JD	10/31/2024	0111
7440-38-2	Arsenic	14	D*	10/31/2024	0111
7440-39-3	Barium	130	D	10/31/2024	0111
7440-41-7	Beryllium	0.75	JD	10/31/2024	0111
7440-43-9	Cadmium	0.91	D	10/31/2024	0111
7440-70-2	Calcium	7500	D*	10/31/2024	0111
7440-47-3	Chromium	29	D*	10/31/2024	0111
7440-48-4	Cobalt	16	D	10/31/2024	0111
7440-50-8	Copper	33	D*	10/31/2024	0111
7439-89-6	Iron	31000	D*	10/31/2024	0111
7439-92-1	Lead	16	D*	10/31/2024	0111
7439-95-4	Magnesium	5700	D	10/31/2024	0111
7439-96-5	Manganese	610	D	10/31/2024	0111
7440-02-0	Nickel	27	D*	10/31/2024	0111
7440-09-7	Potassium	2400	D	10/31/2024	0111
7782-49-2	Selenium	5.6	UD	10/31/2024	0111
7440-22-4	Silver	1.6	UD	10/31/2024	0111
7440-23-5	Sodium	190	JD	10/31/2024	0111
7440-28-0	Thallium	4.0	UD	10/31/2024	0111
7440-62-2	Vanadium	75	D*	10/31/2024	0111
7440-66-6	Zinc	53	D	10/31/2024	0111

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

Comments:

EPA SAMPLE NO.

MYE4K2

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-03

% Solids: 97.9 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	11000	D	10/31/2024	0115
7440-36-0	Antimony	9.0	UD	10/31/2024	0115
7440-38-2	Arsenic	12	D*	10/31/2024	0115
7440-39-3	Barium	120	D	10/31/2024	0115
7440-41-7	Beryllium	0.62	JD	10/31/2024	0115
7440-43-9	Cadmium	0.78	D	10/31/2024	0115
7440-70-2	Calcium	8700	D*	10/31/2024	0115
7440-47-3	Chromium	22	D*	10/31/2024	0115
7440-48-4	Cobalt	15	D	10/31/2024	0115
7440-50-8	Copper	40	D*	10/31/2024	0115
7439-89-6	Iron	24000	D*	10/31/2024	0115
7439-92-1	Lead	16	D*	10/31/2024	0115
7439-95-4	Magnesium	5700	D	10/31/2024	0115
7439-96-5	Manganese	750	D	10/31/2024	0115
7440-02-0	Nickel	21	D*	10/31/2024	0115
7440-09-7	Potassium	3500	D	10/31/2024	0115
7782-49-2	Selenium	5.2	UD	10/31/2024	0115
7440-22-4	Silver	1.5	UD	10/31/2024	0115
7440-23-5	Sodium	240	JD	10/31/2024	0115
7440-28-0	Thallium	3.7	UD	10/31/2024	0115
7440-62-2	Vanadium	48	D*	10/31/2024	0115
7440-66-6	Zinc	55	D	10/31/2024	0115

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

Comments:

EPA SAMPLE NO.

MYE4K3

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-06

% Solids: 97.5 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	10000	D	10/31/2024	0133
7440-36-0	Antimony	9.5	UD	10/31/2024	0133
7440-38-2	Arsenic	17	D*	10/31/2024	0133
7440-39-3	Barium	120	D	10/31/2024	0133
7440-41-7	Beryllium	0.65	JD	10/31/2024	0133
7440-43-9	Cadmium	0.85	D	10/31/2024	0133
7440-70-2	Calcium	7500	D*	10/31/2024	0133
7440-47-3	Chromium	21	D*	10/31/2024	0133
7440-48-4	Cobalt	14	D	10/31/2024	0133
7440-50-8	Copper	57	D*	10/31/2024	0133
7439-89-6	Iron	24000	D*	10/31/2024	0133
7439-92-1	Lead	20	D*	10/31/2024	0133
7439-95-4	Magnesium	5800	D	10/31/2024	0133
7439-96-5	Manganese	610	D	10/31/2024	0133
7440-02-0	Nickel	24	D*	10/31/2024	0133
7440-09-7	Potassium	3500	D	10/31/2024	0133
7782-49-2	Selenium	5.5	UD	10/31/2024	0133
7440-22-4	Silver	1.6	UD	10/31/2024	0133
7440-23-5	Sodium	320	JD	10/31/2024	0133
7440-28-0	Thallium	3.9	UD	10/31/2024	0133
7440-62-2	Vanadium	47	D*	10/31/2024	0133
7440-66-6	Zinc	65	D	10/31/2024	0133

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

Comments:

EPA SAMPLE NO.

MYE4K4

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-07

% Solids: 97.1 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	14000	D	10/31/2024	0138
7440-36-0	Antimony	11	UD	10/31/2024	0138
7440-38-2	Arsenic	17	D*	10/31/2024	0138
7440-39-3	Barium	150	D	10/31/2024	0138
7440-41-7	Beryllium	0.81	JD	10/31/2024	0138
7440-43-9	Cadmium	1.0	D	10/31/2024	0138
7440-70-2	Calcium	8100	D*	10/31/2024	0138
7440-47-3	Chromium	28	D*	10/31/2024	0138
7440-48-4	Cobalt	18	D	10/31/2024	0138
7440-50-8	Copper	63	D*	10/31/2024	0138
7439-89-6	Iron	29000	D*	10/31/2024	0138
7439-92-1	Lead	21	D*	10/31/2024	0138
7439-95-4	Magnesium	6800	D	10/31/2024	0138
7439-96-5	Manganese	830	D	10/31/2024	0138
7440-02-0	Nickel	26	D*	10/31/2024	0138
7440-09-7	Potassium	4400	D	10/31/2024	0138
7782-49-2	Selenium	6.2	UD	10/31/2024	0138
7440-22-4	Silver	1.8	UD	10/31/2024	0138
7440-23-5	Sodium	220	JD	10/31/2024	0138
7440-28-0	Thallium	4.4	UD	10/31/2024	0138
7440-62-2	Vanadium	57	D*	10/31/2024	0138
7440-66-6	Zinc	75	D	10/31/2024	0138

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

Comments:

EPA SAMPLE NO.

MYE4K5

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-08

% Solids: 97.3 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	12000	D	10/31/2024	0142
7440-36-0	Antimony	1.2	JD	10/31/2024	0142
7440-38-2	Arsenic	20	D*	10/31/2024	0142
7440-39-3	Barium	130	D	10/31/2024	0142
7440-41-7	Beryllium	0.69	JD	10/31/2024	0142
7440-43-9	Cadmium	0.96	D	10/31/2024	0142
7440-70-2	Calcium	7900	D*	10/31/2024	0142
7440-47-3	Chromium	27	D*	10/31/2024	0142
7440-48-4	Cobalt	16	D	10/31/2024	0142
7440-50-8	Copper	58	D*	10/31/2024	0142
7439-89-6	Iron	26000	D*	10/31/2024	0142
7439-92-1	Lead	22	D*	10/31/2024	0142
7439-95-4	Magnesium	6700	D	10/31/2024	0142
7439-96-5	Manganese	650	D	10/31/2024	0142
7440-02-0	Nickel	27	D*	10/31/2024	0142
7440-09-7	Potassium	4600	D	10/31/2024	0142
7782-49-2	Selenium	6.4	UD	10/31/2024	0142
7440-22-4	Silver	1.8	UD	10/31/2024	0142
7440-23-5	Sodium	380	JD	10/31/2024	0142
7440-28-0	Thallium	4.6	UD	10/31/2024	0142
7440-62-2	Vanadium	51	D*	10/31/2024	0142
7440-66-6	Zinc	81	D	10/31/2024	0142

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

Comments:

EPA SAMPLE NO.

MYE4K6

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-09

% Solids: 95.2 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	12000	D	10/31/2024	0146
7440-36-0	Antimony	11	UD	10/31/2024	0146
7440-38-2	Arsenic	14	D*	10/31/2024	0146
7440-39-3	Barium	130	D	10/31/2024	0146
7440-41-7	Beryllium	0.73	JD	10/31/2024	0146
7440-43-9	Cadmium	0.81	JD	10/31/2024	0146
7440-70-2	Calcium	8900	D*	10/31/2024	0146
7440-47-3	Chromium	23	D*	10/31/2024	0146
7440-48-4	Cobalt	15	D	10/31/2024	0146
7440-50-8	Copper	47	D*	10/31/2024	0146
7439-89-6	Iron	25000	D*	10/31/2024	0146
7439-92-1	Lead	17	D*	10/31/2024	0146
7439-95-4	Magnesium	5900	D	10/31/2024	0146
7439-96-5	Manganese	710	D	10/31/2024	0146
7440-02-0	Nickel	23	D*	10/31/2024	0146
7440-09-7	Potassium	4100	D	10/31/2024	0146
7782-49-2	Selenium	6.2	UD	10/31/2024	0146
7440-22-4	Silver	1.8	UD	10/31/2024	0146
7440-23-5	Sodium	180	JD	10/31/2024	0146
7440-28-0	Thallium	4.5	UD	10/31/2024	0146
7440-62-2	Vanadium	48	D*	10/31/2024	0146
7440-66-6	Zinc	65	D	10/31/2024	0146

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

Comments:

EPA SAMPLE NO.

MYE4K7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-10

% Solids: 96.2 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	14000	D	10/31/2024	0151
7440-36-0	Antimony	10	UD	10/31/2024	0151
7440-38-2	Arsenic	29	D*	10/31/2024	0151
7440-39-3	Barium	160	D	10/31/2024	0151
7440-41-7	Beryllium	0.79	JD	10/31/2024	0151
7440-43-9	Cadmium	1.5	D	10/31/2024	0151
7440-70-2	Calcium	6500	D*	10/31/2024	0151
7440-47-3	Chromium	32	D*	10/31/2024	0151
7440-48-4	Cobalt	18	D	10/31/2024	0151
7440-50-8	Copper	110	D*	10/31/2024	0151
7439-89-6	Iron	30000	D*	10/31/2024	0151
7439-92-1	Lead	34	D*	10/31/2024	0151
7439-95-4	Magnesium	6900	D	10/31/2024	0151
7439-96-5	Manganese	860	D	10/31/2024	0151
7440-02-0	Nickel	32	D*	10/31/2024	0151
7440-09-7	Potassium	4900	D	10/31/2024	0151
7782-49-2	Selenium	6.1	UD	10/31/2024	0151
7440-22-4	Silver	1.8	UD	10/31/2024	0151
7440-23-5	Sodium	190	JD	10/31/2024	0151
7440-28-0	Thallium	4.4	UD	10/31/2024	0151
7440-62-2	Vanadium	58	D*	10/31/2024	0151
7440-66-6	Zinc	100	D	10/31/2024	0151

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

Comments:

EPA SAMPLE NO.

MYE4K8

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-11

% Solids: 91.7 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	16000	D	10/31/2024	0155
7440-36-0	Antimony	12	UD	10/31/2024	0155
7440-38-2	Arsenic	28	D*	10/31/2024	0155
7440-39-3	Barium	200	D	10/31/2024	0155
7440-41-7	Beryllium	0.91	JD	10/31/2024	0155
7440-43-9	Cadmium	1.5	D	10/31/2024	0155
7440-70-2	Calcium	7700	D*	10/31/2024	0155
7440-47-3	Chromium	36	D*	10/31/2024	0155
7440-48-4	Cobalt	21	D	10/31/2024	0155
7440-50-8	Copper	110	D*	10/31/2024	0155
7439-89-6	Iron	33000	D*	10/31/2024	0155
7439-92-1	Lead	33	D*	10/31/2024	0155
7439-95-4	Magnesium	8100	D	10/31/2024	0155
7439-96-5	Manganese	1100	D	10/31/2024	0155
7440-02-0	Nickel	36	D*	10/31/2024	0155
7440-09-7	Potassium	5400	D	10/31/2024	0155
7782-49-2	Selenium	7.0	UD	10/31/2024	0155
7440-22-4	Silver	2.0	UD	10/31/2024	0155
7440-23-5	Sodium	270	JD	10/31/2024	0155
7440-28-0	Thallium	5.0	UD	10/31/2024	0155
7440-62-2	Vanadium	63	D*	10/31/2024	0155
7440-66-6	Zinc	120	D	10/31/2024	0155

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

Comments:

EPA SAMPLE NO.

MYE4K9

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-12

% Solids: 91.1 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	15000	D	10/31/2024	0200
7440-36-0	Antimony	10	UD	10/31/2024	0200
7440-38-2	Arsenic	26	D*	10/31/2024	0200
7440-39-3	Barium	170	D	10/31/2024	0200
7440-41-7	Beryllium	0.73	JD	10/31/2024	0200
7440-43-9	Cadmium	1.2	D	10/31/2024	0200
7440-70-2	Calcium	8600	D*	10/31/2024	0200
7440-47-3	Chromium	41	D*	10/31/2024	0200
7440-48-4	Cobalt	21	D	10/31/2024	0200
7440-50-8	Copper	80	D*	10/31/2024	0200
7439-89-6	Iron	32000	D*	10/31/2024	0200
7439-92-1	Lead	22	D*	10/31/2024	0200
7439-95-4	Magnesium	9100	D	10/31/2024	0200
7439-96-5	Manganese	1000	D	10/31/2024	0200
7440-02-0	Nickel	40	D*	10/31/2024	0200
7440-09-7	Potassium	3500	D	10/31/2024	0200
7782-49-2	Selenium	6.0	UD	10/31/2024	0200
7440-22-4	Silver	1.7	UD	10/31/2024	0200
7440-23-5	Sodium	270	JD	10/31/2024	0200
7440-28-0	Thallium	4.3	UD	10/31/2024	0200
7440-62-2	Vanadium	68	D*	10/31/2024	0200
7440-66-6	Zinc	74	D	10/31/2024	0200

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

Comments:

EPA SAMPLE NO.

MYE4L0

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-13

% Solids: 95.5 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	14000	D	10/31/2024	0204
7440-36-0	Antimony	11	UD	10/31/2024	0204
7440-38-2	Arsenic	21	D*	10/31/2024	0204
7440-39-3	Barium	180	D	10/31/2024	0204
7440-41-7	Beryllium	0.83	JD	10/31/2024	0204
7440-43-9	Cadmium	0.85	JD	10/31/2024	0204
7440-70-2	Calcium	12000	D*	10/31/2024	0204
7440-47-3	Chromium	29	D*	10/31/2024	0204
7440-48-4	Cobalt	17	D	10/31/2024	0204
7440-50-8	Copper	40	D*	10/31/2024	0204
7439-89-6	Iron	27000	D*	10/31/2024	0204
7439-92-1	Lead	16	D*	10/31/2024	0204
7439-95-4	Magnesium	6900	D	10/31/2024	0204
7439-96-5	Manganese	820	D	10/31/2024	0204
7440-02-0	Nickel	33	D*	10/31/2024	0204
7440-09-7	Potassium	3100	D	10/31/2024	0204
7782-49-2	Selenium	6.2	UD	10/31/2024	0204
7440-22-4	Silver	1.8	UD	10/31/2024	0204
7440-23-5	Sodium	880	UD	10/31/2024	0204
7440-28-0	Thallium	4.4	UD	10/31/2024	0204
7440-62-2	Vanadium	54	D*	10/31/2024	0204
7440-66-6	Zinc	61	D	10/31/2024	0204

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

Comments:

EPA SAMPLE NO.

MYE4L1

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-14

% Solids: 94.1 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	15000	D	10/31/2024	0217
7440-36-0	Antimony	11	UD	10/31/2024	0217
7440-38-2	Arsenic	24	D*	10/31/2024	0217
7440-39-3	Barium	160	D	10/31/2024	0217
7440-41-7	Beryllium	0.92	D	10/31/2024	0217
7440-43-9	Cadmium	1.3	D	10/31/2024	0217
7440-70-2	Calcium	6000	D*	10/31/2024	0217
7440-47-3	Chromium	31	D*	10/31/2024	0217
7440-48-4	Cobalt	19	D	10/31/2024	0217
7440-50-8	Copper	76	D*	10/31/2024	0217
7439-89-6	Iron	33000	D*	10/31/2024	0217
7439-92-1	Lead	24	D*	10/31/2024	0217
7439-95-4	Magnesium	7100	D	10/31/2024	0217
7439-96-5	Manganese	730	D	10/31/2024	0217
7440-02-0	Nickel	29	D*	10/31/2024	0217
7440-09-7	Potassium	4700	D	10/31/2024	0217
7782-49-2	Selenium	6.2	UD	10/31/2024	0217
7440-22-4	Silver	1.8	UD	10/31/2024	0217
7440-23-5	Sodium	200	JD	10/31/2024	0217
7440-28-0	Thallium	4.4	UD	10/31/2024	0217
7440-62-2	Vanadium	62	D*	10/31/2024	0217
7440-66-6	Zinc	82	D	10/31/2024	0217

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

Comments:

EPA SAMPLE NO.

MYE4L2

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-15

% Solids: 94 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	14000	D	10/31/2024	0222
7440-36-0	Antimony	8.7	UD	10/31/2024	0222
7440-38-2	Arsenic	21	D*	10/31/2024	0222
7440-39-3	Barium	150	D	10/31/2024	0222
7440-41-7	Beryllium	0.79	D	10/31/2024	0222
7440-43-9	Cadmium	1.2	D	10/31/2024	0222
7440-70-2	Calcium	5500	D*	10/31/2024	0222
7440-47-3	Chromium	28	D*	10/31/2024	0222
7440-48-4	Cobalt	19	D	10/31/2024	0222
7440-50-8	Copper	71	D*	10/31/2024	0222
7439-89-6	Iron	30000	D*	10/31/2024	0222
7439-92-1	Lead	23	D*	10/31/2024	0222
7439-95-4	Magnesium	6700	D	10/31/2024	0222
7439-96-5	Manganese	690	D	10/31/2024	0222
7440-02-0	Nickel	27	D*	10/31/2024	0222
7440-09-7	Potassium	4500	D	10/31/2024	0222
7782-49-2	Selenium	1.1	JD	10/31/2024	0222
7440-22-4	Silver	1.5	UD	10/31/2024	0222
7440-23-5	Sodium	190	JD	10/31/2024	0222
7440-28-0	Thallium	3.6	UD	10/31/2024	0222
7440-62-2	Vanadium	55	D*	10/31/2024	0222
7440-66-6	Zinc	75	D	10/31/2024	0222

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

Comments:

EPA SAMPLE NO.

MYE4P6

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-16

% Solids: 92.1 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	15000	D	10/31/2024	0226
7440-36-0	Antimony	11	UD	10/31/2024	0226
7440-38-2	Arsenic	30	D*	10/31/2024	0226
7440-39-3	Barium	190	D	10/31/2024	0226
7440-41-7	Beryllium	0.94	D	10/31/2024	0226
7440-43-9	Cadmium	1.1	D	10/31/2024	0226
7440-70-2	Calcium	2900	D*	10/31/2024	0226
7440-47-3	Chromium	27	D*	10/31/2024	0226
7440-48-4	Cobalt	19	D	10/31/2024	0226
7440-50-8	Copper	53	D*	10/31/2024	0226
7439-89-6	Iron	34000	D*	10/31/2024	0226
7439-92-1	Lead	19	D*	10/31/2024	0226
7439-95-4	Magnesium	6400	D	10/31/2024	0226
7439-96-5	Manganese	870	D	10/31/2024	0226
7440-02-0	Nickel	34	D*	10/31/2024	0226
7440-09-7	Potassium	2900	D	10/31/2024	0226
7782-49-2	Selenium	6.2	UD	10/31/2024	0226
7440-22-4	Silver	1.8	UD	10/31/2024	0226
7440-23-5	Sodium	890	UD	10/31/2024	0226
7440-28-0	Thallium	4.5	UD	10/31/2024	0226
7440-62-2	Vanadium	63	D*	10/31/2024	0226
7440-66-6	Zinc	64	D	10/31/2024	0226

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

Comments:

EPA SAMPLE NO.

MYE4P7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-17

% Solids: 97.8 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	24000	D	10/31/2024	0231
7440-36-0	Antimony	1.8	JD	10/31/2024	0231
7440-38-2	Arsenic	76	D*	10/31/2024	0231
7440-39-3	Barium	230	D	10/31/2024	0231
7440-41-7	Beryllium	0.99	D	10/31/2024	0231
7440-43-9	Cadmium	2.5	D	10/31/2024	0231
7440-70-2	Calcium	64000	D*	10/31/2024	0231
7440-47-3	Chromium	350	D*	10/31/2024	0231
7440-48-4	Cobalt	62	D	10/31/2024	0231
7440-50-8	Copper	91	D*	10/31/2024	0231
7439-89-6	Iron	65000	D*	10/31/2024	0231
7439-92-1	Lead	11	D*	10/31/2024	0231
7439-95-4	Magnesium	24000	D	10/31/2024	0231
7439-96-5	Manganese	2800	D	10/31/2024	0231
7440-02-0	Nickel	240	D*	10/31/2024	0231
7440-09-7	Potassium	320	JD	10/31/2024	0231
7782-49-2	Selenium	5.5	UD	10/31/2024	0231
7440-22-4	Silver	1.6	UD	10/31/2024	0231
7440-23-5	Sodium	290	JD	10/31/2024	0231
7440-28-0	Thallium	3.9	UD	10/31/2024	0231
7440-62-2	Vanadium	170	D*	10/31/2024	0231
7440-66-6	Zinc	82	D	10/31/2024	0231

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

Comments:

EPA SAMPLE NO.

MYE4P8

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-18

% Solids: 97.7 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	16000	D	10/31/2024	0235
7440-36-0	Antimony	8.8	UD	10/31/2024	0235
7440-38-2	Arsenic	35	D*	10/31/2024	0235
7440-39-3	Barium	220	D	10/31/2024	0235
7440-41-7	Beryllium	0.96	D	10/31/2024	0235
7440-43-9	Cadmium	1.7	D	10/31/2024	0235
7440-70-2	Calcium	3900	D*	10/31/2024	0235
7440-47-3	Chromium	34	D*	10/31/2024	0235
7440-48-4	Cobalt	22	D	10/31/2024	0235
7440-50-8	Copper	99	D*	10/31/2024	0235
7439-89-6	Iron	34000	D*	10/31/2024	0235
7439-92-1	Lead	40	D*	10/31/2024	0235
7439-95-4	Magnesium	7700	D	10/31/2024	0235
7439-96-5	Manganese	1200	D	10/31/2024	0235
7440-02-0	Nickel	41	D*	10/31/2024	0235
7440-09-7	Potassium	3900	D	10/31/2024	0235
7782-49-2	Selenium	5.1	UD	10/31/2024	0235
7440-22-4	Silver	1.5	UD	10/31/2024	0235
7440-23-5	Sodium	190	JD	10/31/2024	0235
7440-28-0	Thallium	3.7	UD	10/31/2024	0235
7440-62-2	Vanadium	65	D*	10/31/2024	0235
7440-66-6	Zinc	110	D	10/31/2024	0235

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

Comments:

EPA SAMPLE NO.

MYE4P9

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-19

% Solids: 98.7 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	12000	D	10/31/2024	0239
7440-36-0	Antimony	0.91	JD	10/31/2024	0239
7440-38-2	Arsenic	29	D*	10/31/2024	0239
7440-39-3	Barium	160	D	10/31/2024	0239
7440-41-7	Beryllium	0.81	JD	10/31/2024	0239
7440-43-9	Cadmium	1.4	D	10/31/2024	0239
7440-70-2	Calcium	2400	D*	10/31/2024	0239
7440-47-3	Chromium	25	D*	10/31/2024	0239
7440-48-4	Cobalt	16	D	10/31/2024	0239
7440-50-8	Copper	80	D*	10/31/2024	0239
7439-89-6	Iron	28000	D*	10/31/2024	0239
7439-92-1	Lead	35	D*	10/31/2024	0239
7439-95-4	Magnesium	5800	D	10/31/2024	0239
7439-96-5	Manganese	780	D	10/31/2024	0239
7440-02-0	Nickel	29	D*	10/31/2024	0239
7440-09-7	Potassium	2700	D	10/31/2024	0239
7782-49-2	Selenium	6.0	UD	10/31/2024	0239
7440-22-4	Silver	1.7	UD	10/31/2024	0239
7440-23-5	Sodium	860	UD	10/31/2024	0239
7440-28-0	Thallium	4.3	UD	10/31/2024	0239
7440-62-2	Vanadium	54	D*	10/31/2024	0239
7440-66-6	Zinc	100	D	10/31/2024	0239

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

Comments:

EPA SAMPLE NO.

MYE4Q0

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-20

% Solids: 95.5 Date Received: 10/23/2024

Analytical Method: ICP_AES

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

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	24000	D	10/31/2024	0244
7440-36-0	Antimony	1.6	JD	10/31/2024	0244
7440-38-2	Arsenic	50	D*	10/31/2024	0244
7440-39-3	Barium	100	D	10/31/2024	0244
7440-41-7	Beryllium	1.0	D	10/31/2024	0244
7440-43-9	Cadmium	2.6	D	10/31/2024	0244
7440-70-2	Calcium	7100	D*	10/31/2024	0244
7440-47-3	Chromium	17	D*	10/31/2024	0244
7440-48-4	Cobalt	41	D	10/31/2024	0244
7440-50-8	Copper	86	D*	10/31/2024	0244
7439-89-6	Iron	56000	D*	10/31/2024	0244
7439-92-1	Lead	23	D*	10/31/2024	0244
7439-95-4	Magnesium	9800	D	10/31/2024	0244
7439-96-5	Manganese	1500	D	10/31/2024	0244
7440-02-0	Nickel	21	D*	10/31/2024	0244
7440-09-7	Potassium	790	D	10/31/2024	0244
7782-49-2	Selenium	5.5	UD	10/31/2024	0244
7440-22-4	Silver	1.6	UD	10/31/2024	0244
7440-23-5	Sodium	390	JD	10/31/2024	0244
7440-28-0	Thallium	3.9	UD	10/31/2024	0244
7440-62-2	Vanadium	98	D*	10/31/2024	0244
7440-66-6	Zinc	210	D	10/31/2024	0244

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

Comments:

EPA SAMPLE NO.

MYE4Q1

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51817 MA No. : 3226.1 SDG No.: MYE4K0

Matrix: SOIL Lab Sample ID: P4519-21

% Solids: 98.1 Date Received: 10/23/2024

Analytical Method: ICP_AES

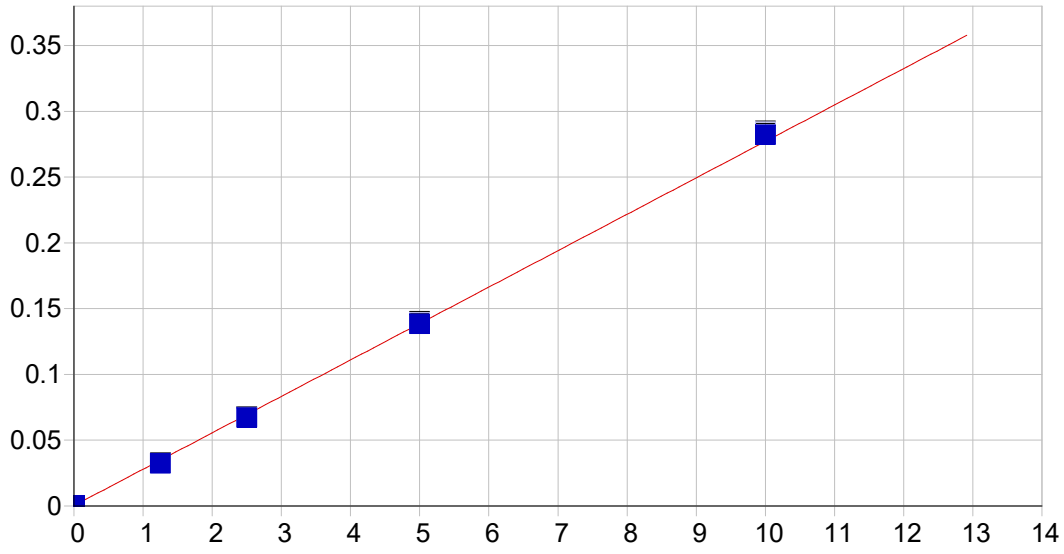
Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	15000	D	10/31/2024	0248
7440-36-0	Antimony	10	UD	10/31/2024	0248
7440-38-2	Arsenic	42	D*	10/31/2024	0248
7440-39-3	Barium	210	D	10/31/2024	0248
7440-41-7	Beryllium	0.93	D	10/31/2024	0248
7440-43-9	Cadmium	1.6	D	10/31/2024	0248
7440-70-2	Calcium	2800	D*	10/31/2024	0248
7440-47-3	Chromium	32	D*	10/31/2024	0248
7440-48-4	Cobalt	22	D	10/31/2024	0248
7440-50-8	Copper	100	D*	10/31/2024	0248
7439-89-6	Iron	35000	D*	10/31/2024	0248
7439-92-1	Lead	38	D*	10/31/2024	0248
7439-95-4	Magnesium	7500	D	10/31/2024	0248
7439-96-5	Manganese	1100	D	10/31/2024	0248
7440-02-0	Nickel	41	D*	10/31/2024	0248
7440-09-7	Potassium	2800	D	10/31/2024	0248
7782-49-2	Selenium	6.0	UD	10/31/2024	0248
7440-22-4	Silver	1.7	UD	10/31/2024	0248
7440-23-5	Sodium	850	UD	10/31/2024	0248
7440-28-0	Thallium	4.3	UD	10/31/2024	0248
7440-62-2	Vanadium	71	D*	10/31/2024	0248
7440-66-6	Zinc	87	D	10/31/2024	0248

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

Comments:

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



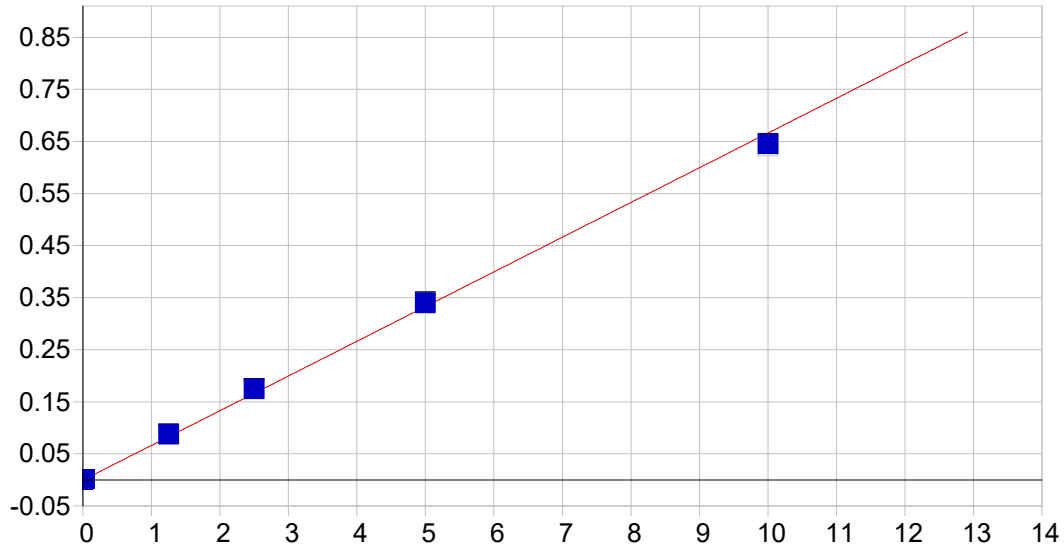
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A0 (Offset):	0.000258	Re-Slope:	1.000000
A1 (Gain):	0.027689	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999674	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	0.005765		
Predicted MQL:	0.019218		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00026	.000	1
S1	.01000	.00854	-.001	-14.6	.00050	.000	1
S2	1.2500	1.1625	-.087	-7.00	.03271	.000	1
S3	2.5000	2.4176	-.082	-3.30	.06772	.000	1
S4	5.0000	4.9889	-.011	-.221	.13943	.001	1
S5	10.000	10.182	.182	1.82	.28427	.001	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



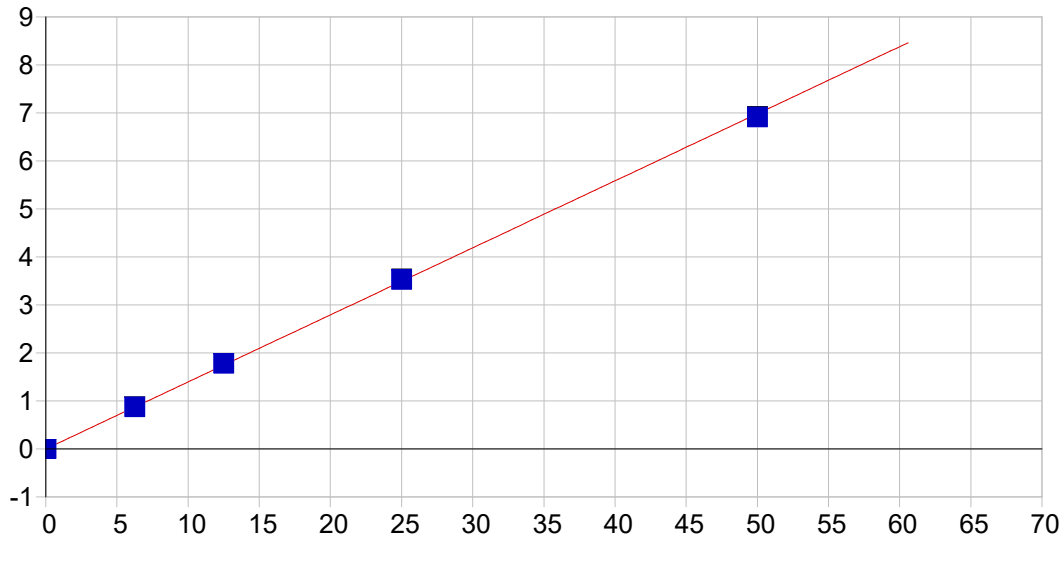
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A1 (Gain):	0.066659	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999362	Status:	OK.
Std Error of Est:	0.000063		
Predicted MDL:	0.003230		
Predicted MQL:	0.010767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00044	.000	1
S1	.02500	.02987	.005	19.5	.00152	.000	1
S2	1.2500	1.3223	.072	5.79	.08714	.001	1
S3	2.5000	2.6270	.127	5.08	.17353	.001	1
S4	5.0000	5.1079	.108	2.16	.33776	.002	1
S5	10.000	9.6880	-.312	-3.12	.64077	.001	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



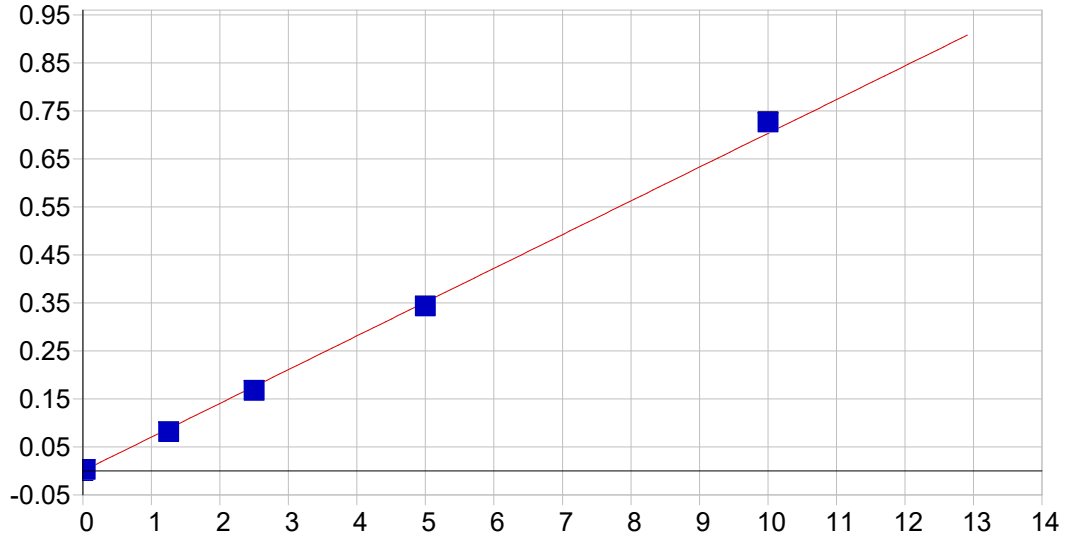
Pb 220.353 {453}

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A1 (Gain):	0.139660	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000060		
Predicted MDL:	0.003452		
Predicted MQL:	0.011505		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00073	.000	1
S1	.01000	.01047	.000	4.73	.00074	.001	1
S2	6.2500	6.2739	.024	.383	.87527	.004	1
S3	12.500	12.735	.235	1.88	1.7775	.001	1
S4	25.000	25.254	.254	1.02	3.5254	.011	1
S5	50.000	49.486	-.514	-1.03	6.9087	.010	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



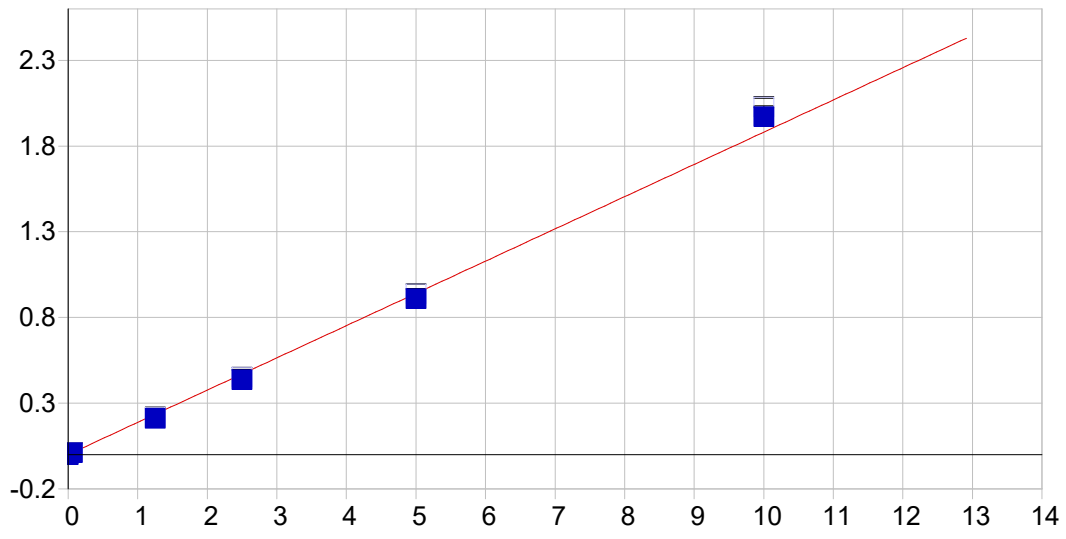
Se 196.090 {472}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000074	Re-Slope:	1.000000
A1 (Gain):	0.070309	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999278	Status:	OK.
Std Error of Est:	0.000084		
Predicted MDL:	0.005855		
Predicted MQL:	0.019517		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00007	.000	1
S1	.03500	.03532	.000	.912	.00255	.000	1
S2	1.2500	1.1569	-.093	-7.45	.08125	.001	1
S3	2.5000	2.3785	-.121	-4.86	.16697	.001	1
S4	5.0000	4.8786	-.121	-2.43	.34241	.000	1
S5	10.000	10.336	.336	3.36	.72542	.001	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



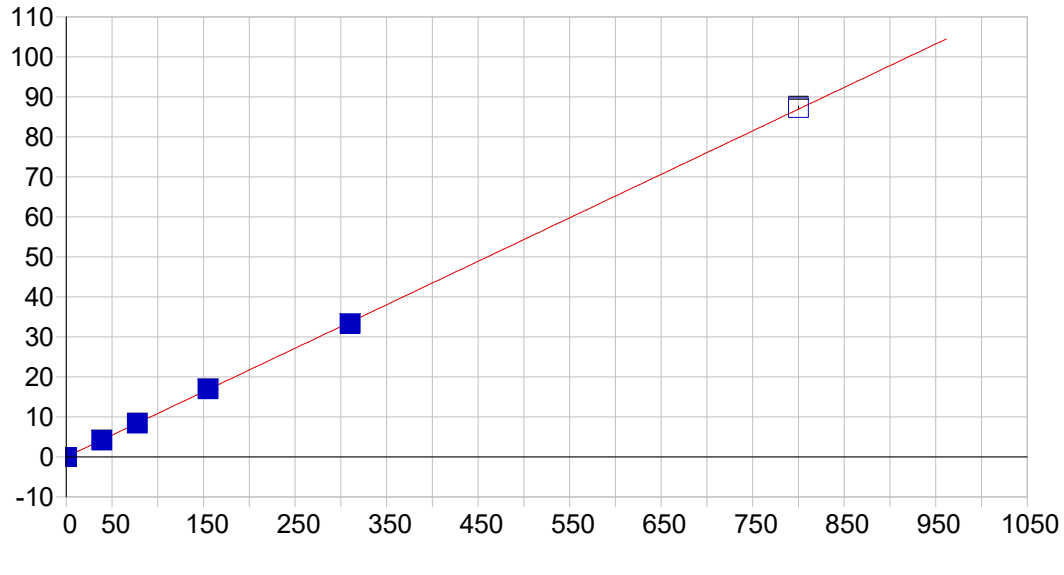
Sb 206.833 {463}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000152	Re-Slope:	1.000000
A1 (Gain):	0.188074	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998624	Status:	OK.
Std Error of Est:	0.000418		
Predicted MDL:	0.002641		
Predicted MQL:	0.008802		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00016	.000	1
S1	.06000	.05281	-.007	-12.0	.01008	.000	1
S2	1.2500	1.1218	-.128	-10.3	.21807	.002	1
S3	2.5000	2.3238	-.176	-7.05	.45108	.001	1
S4	5.0000	4.8327	-.167	-3.35	.93681	.001	1
S5	10.000	10.479	.479	4.79	2.0264	.005	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



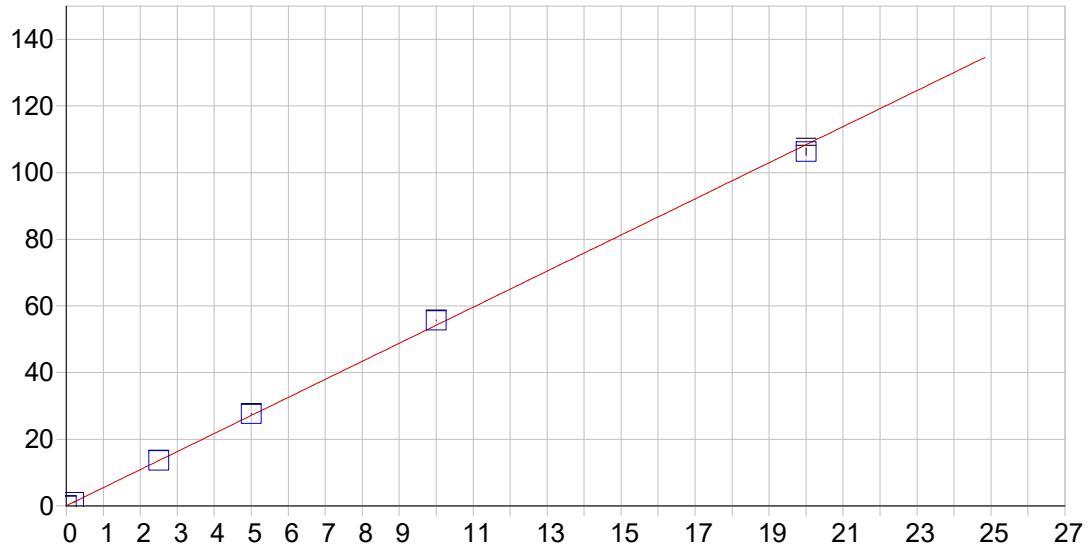
Al 396.152 { 85}

Date of Fit:	10/30/2024 21:18:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001806	Re-Slope:	1.000000
A1 (Gain):	0.108679	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000522		
Predicted MDL:	0.015601		
Predicted MQL:	0.052004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00180	.001	1
S1	.20000	.19130	-.009	-4.35	.01902	.001	1
S2	38.750	38.007	-.743	-1.92	4.1338	.010	1
S3	77.500	77.177	-.323	-.416	8.3958	.034	1
S4	155.00	156.28	1.28	.823	17.002	.036	1
S5	310.00	306.41	-3.59	-1.16	33.339	.024	1
S6	800.00	803.39	3.39	.424	87.310	.336	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



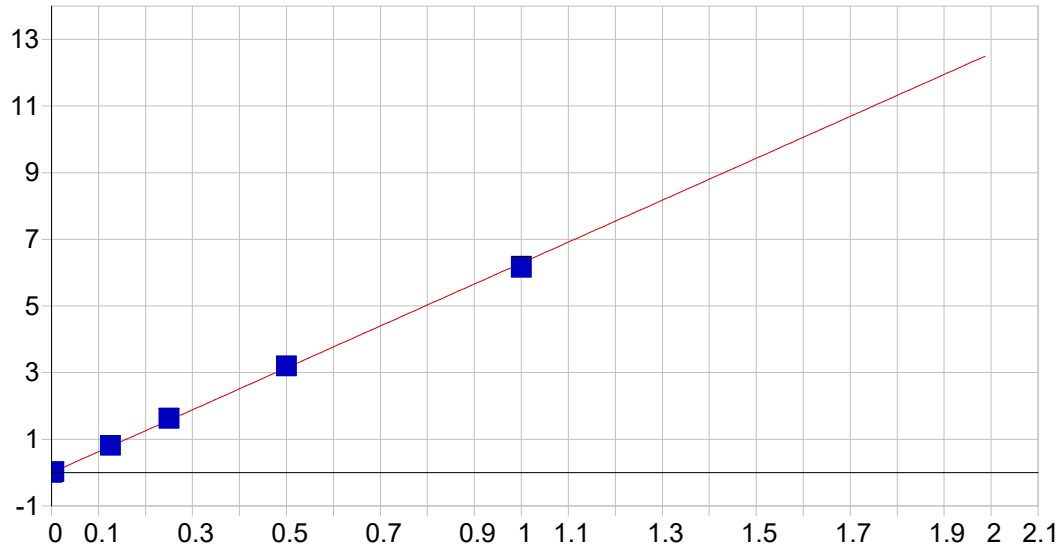
Ba 493.409 { 68}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.050729	Re-Slope:	1.000000
A1 (Gain):	5.417076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999766	Status:	OK.
Std Error of Est:	0.012454		
Predicted MDL:	0.000983		
Predicted MQL:	0.003275		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.05063	.004	1
S1	.20000	.21089	.011	5.44	1.1931	.004	1
S2	2.5000	2.5134	.013	.538	13.666	.018	1
S3	5.0000	5.0951	.095	1.90	27.651	.056	1
S4	10.000	10.273	.273	2.73	55.701	.052	1
S5	20.000	19.607	-.393	-1.96	106.27	1.06	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



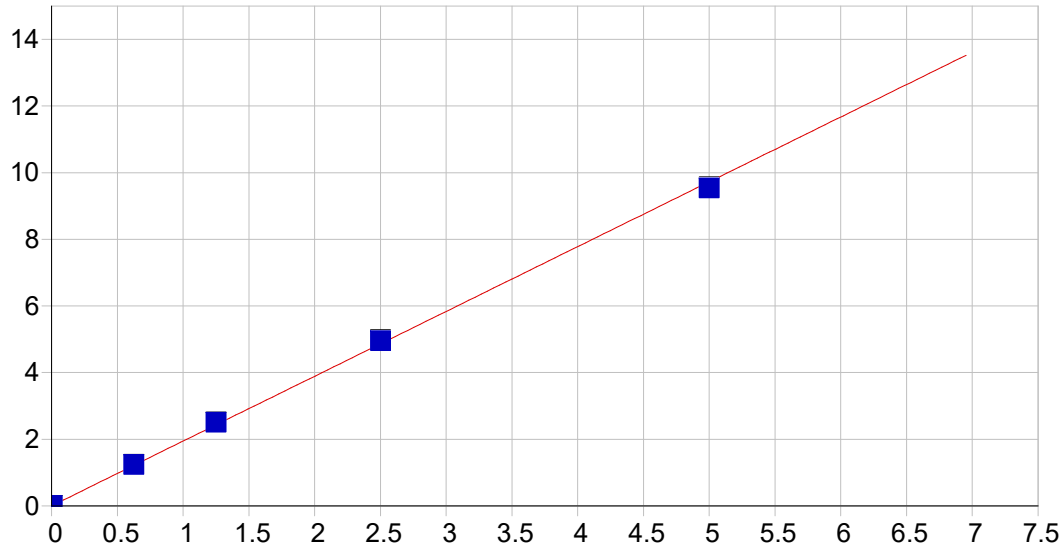
Be 234.861 {144}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.002322	Re-Slope:	1.000000
A1 (Gain):	6.289402	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999720	Status:	OK.
Std Error of Est:	0.000558		
Predicted MDL:	0.000156		
Predicted MQL:	0.000519		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00233	.000	1
S1	.00500	.00541	.000	8.18	.03168	.000	1
S2	.12500	.12937	.004	3.50	.81007	.007	1
S3	.25000	.25855	.009	3.42	1.6212	.006	1
S4	.50000	.50786	.008	1.57	3.1868	.003	1
S5	1.0000	.97881	-.021	-2.12	6.1437	.041	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



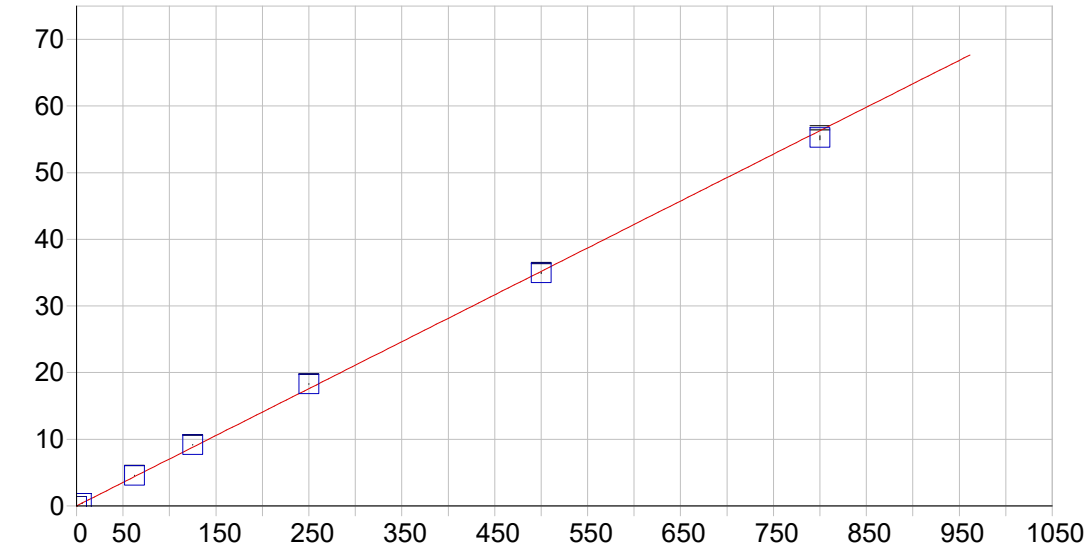
Cd 214.438 {457}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000187	Re-Slope:	1.000000
A1 (Gain):	1.945197	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999768	Status:	OK.
Std Error of Est:	0.000352		
Predicted MDL:	0.000150		
Predicted MQL:	0.000500		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00019	.000	1
S1	.00500	.00534	.000	6.73	.01058	.000	1
S2	.62500	.63702	.012	1.92	1.2422	.003	1
S3	1.2500	1.2902	.040	3.22	2.5157	.005	1
S4	2.5000	2.5464	.046	1.86	4.9651	.018	1
S5	5.0000	4.9010	-.099	-1.98	9.5570	.013	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



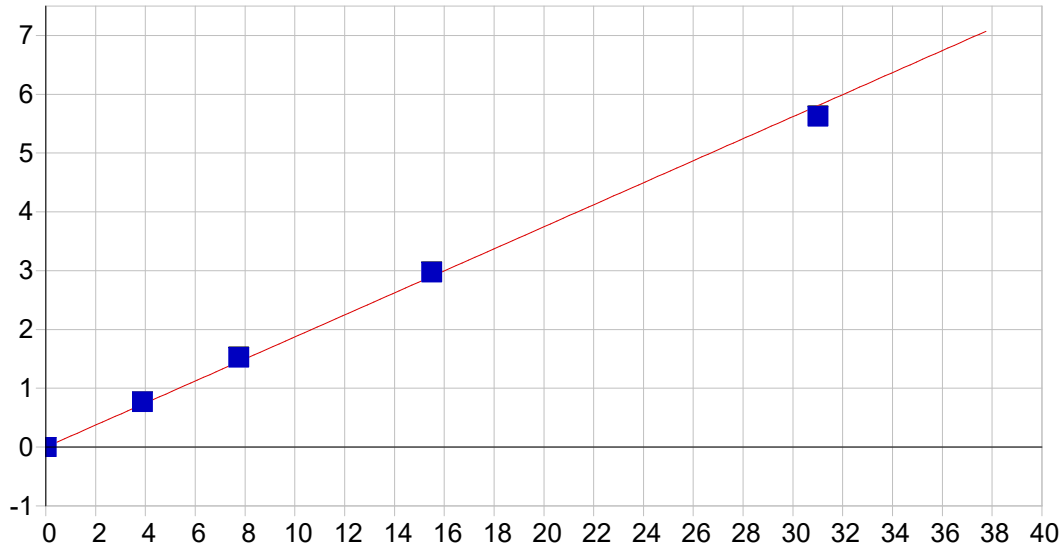
Ca 373.690 { 90}

Date of Fit:	10/30/2024 21:18:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004745	Re-Slope:	1.000000
A1 (Gain):	0.070371	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999695	Status:	OK.
Std Error of Est:	0.006065		
Predicted MDL:	0.019268		
Predicted MQL:	0.064226		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00098	-.001	.000	.00468	.000	1
S1	5.0000	5.4978	.498	9.96	.39163	.002	1
S2	62.500	64.900	2.40	3.84	4.5718	.027	1
S3	125.00	130.39	5.39	4.31	9.1804	.060	1
S4	250.00	259.84	9.84	3.94	18.290	.052	1
S5	500.00	496.87	-3.13	-.626	34.970	.092	1
S6	800.00	785.00	-15.0	-1.87	55.246	.293	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



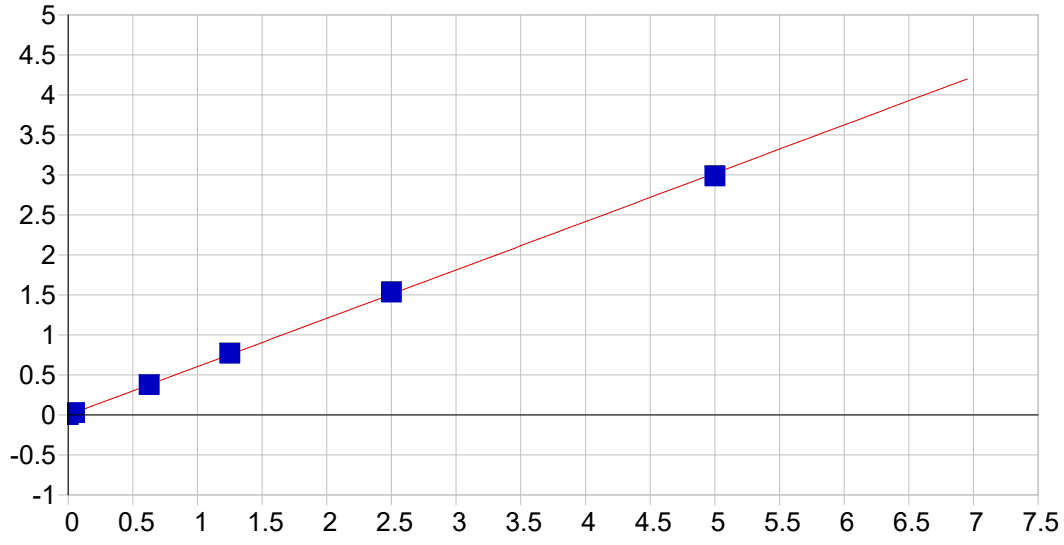
Cr 267.716 {126}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000057	Re-Slope:	1.000000
A1 (Gain):	0.187311	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999380	Status:	OK.
Std Error of Est:	0.000195		
Predicted MDL:	0.001036		
Predicted MQL:	0.003455		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00006	.000	1
S1	.01000	.01018	.000	1.83	.00185	.000	1
S2	3.8750	4.0959	.221	5.70	.76796	.001	1
S3	7.7500	8.1381	.388	5.01	1.5259	.005	1
S4	15.500	15.875	.375	2.42	2.9768	.005	1
S5	31.000	30.016	-.984	-3.18	5.6287	.006	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



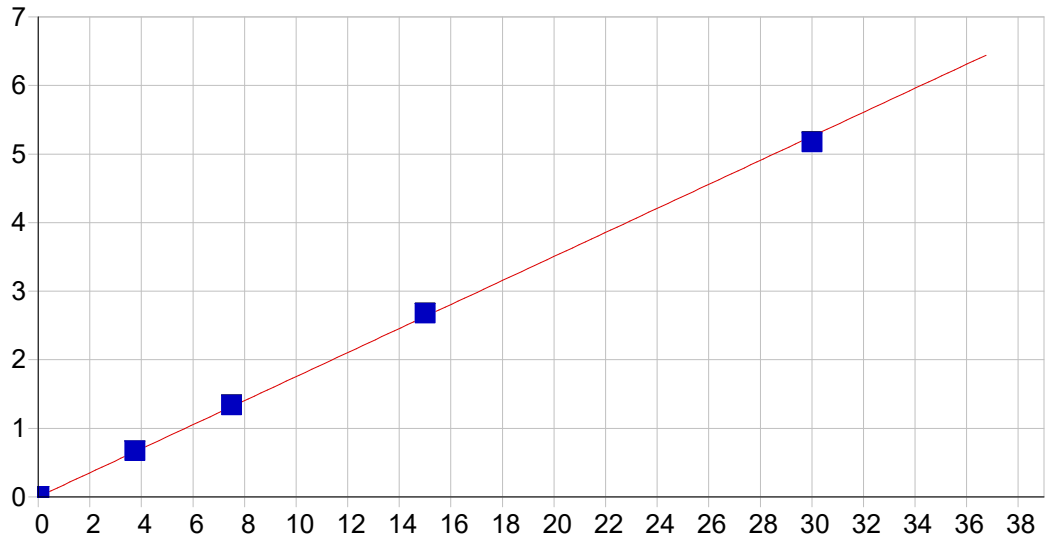
Co 228.616 {448}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000600	Re-Slope:	1.000000
A1 (Gain):	0.604207	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999901	Status:	OK.
Std Error of Est:	0.000227		
Predicted MDL:	0.000558		
Predicted MQL:	0.001861		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00060	.000	1
S1	.05000	.05028	.000	.568	.02989	.000	1
S2	.62500	.62492	-.000	-.013	.37744	.002	1
S3	1.2500	1.2742	.024	1.93	.77018	.001	1
S4	2.5000	2.5390	.039	1.56	1.5353	.005	1
S5	5.0000	4.9367	-.063	-1.27	2.9859	.003	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



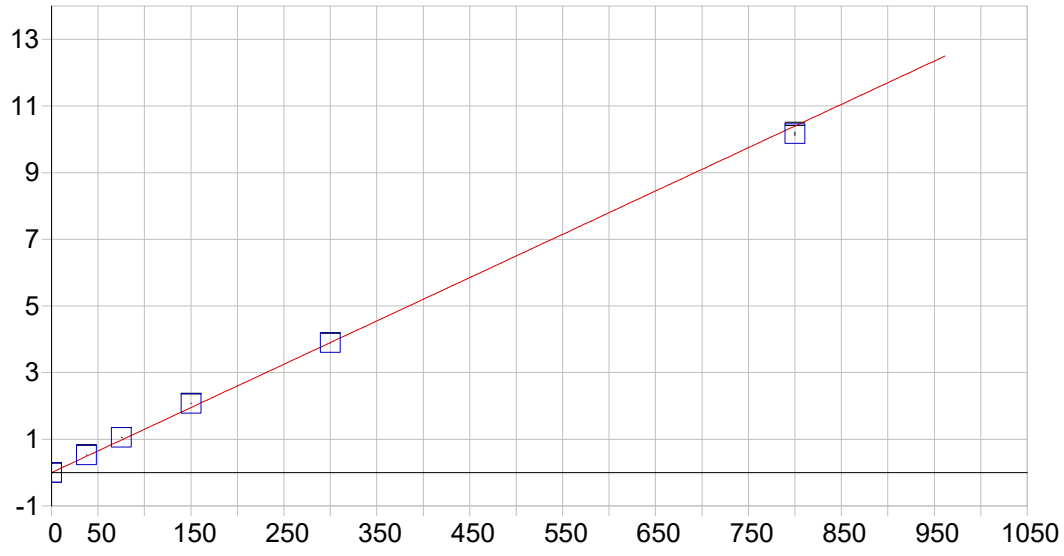
Cu 324.754 {104}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001525	Re-Slope:	1.000000
A1 (Gain):	0.175241	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000141		
Predicted MDL:	0.004679		
Predicted MQL:	0.015598		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00152	.000	1
S1	.02500	.02676	.002	7.05	.00621	.001	1
S2	3.7500	3.8171	.067	1.79	.67002	.004	1
S3	7.5000	7.6384	.138	1.85	1.3393	.006	1
S4	15.000	15.282	.282	1.88	2.6779	.001	1
S5	30.000	29.511	-.489	-1.63	5.1696	.007	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



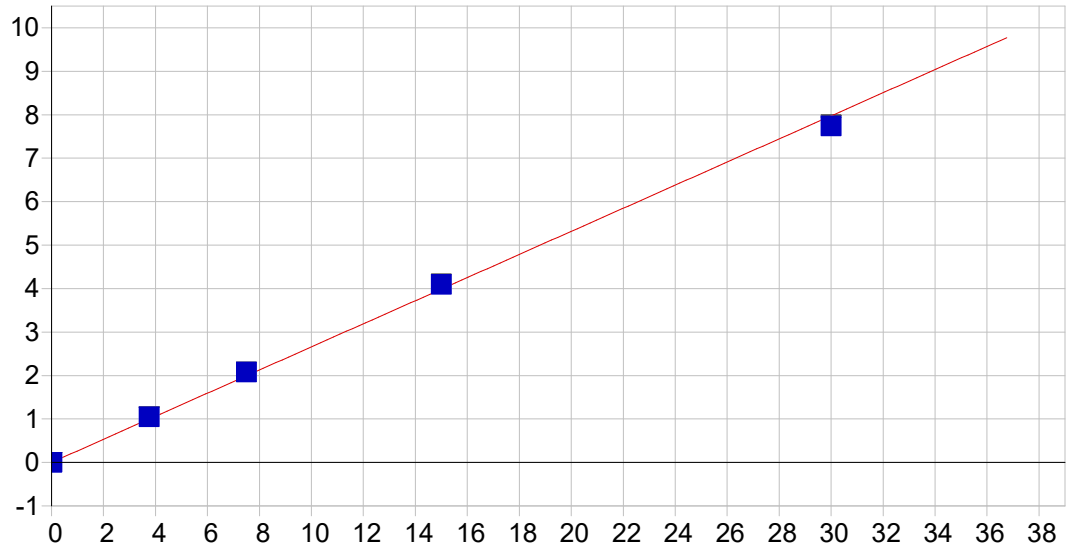
Fe 259.837 {130}

Date of Fit:	10/30/2024 21:18:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000550	Re-Slope:	1.000000
A1 (Gain):	0.013000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999355	Status:	OK.
Std Error of Est:	0.000204		
Predicted MDL:	0.029084		
Predicted MQL:	0.096946		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00055	.001	1
S1	.10000	.08927	-.011	-10.7	.00171	.000	1
S2	37.500	40.722	3.22	8.59	.52993	.003	1
S3	75.000	81.095	6.10	8.13	1.0548	.004	1
S4	150.00	159.31	9.31	6.21	2.0716	.007	1
S5	300.00	299.42	-.584	-.195	3.8929	.007	1
S6	800.00	781.96	-18.0	-2.25	10.166	.049	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



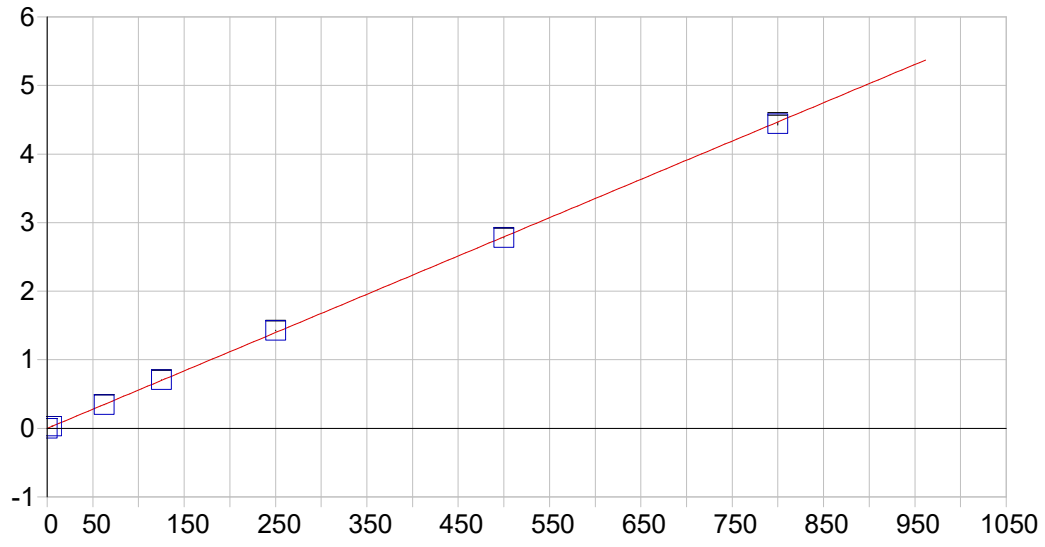
Mn 257.610 {131}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000047	Re-Slope:	1.000000
A1 (Gain):	0.265838	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999476	Status:	OK.
Std Error of Est:	0.000306		
Predicted MDL:	0.001498		
Predicted MQL:	0.004992		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00005	.000	1
S1	.01500	.01738	.002	15.9	.00458	.000	1
S2	3.7500	3.9281	.178	4.75	1.0443	.001	1
S3	7.5000	7.8037	.304	4.05	2.0748	.005	1
S4	15.000	15.410	.410	2.74	4.0972	.002	1
S5	30.000	29.105	-.895	-2.98	7.7385	.024	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



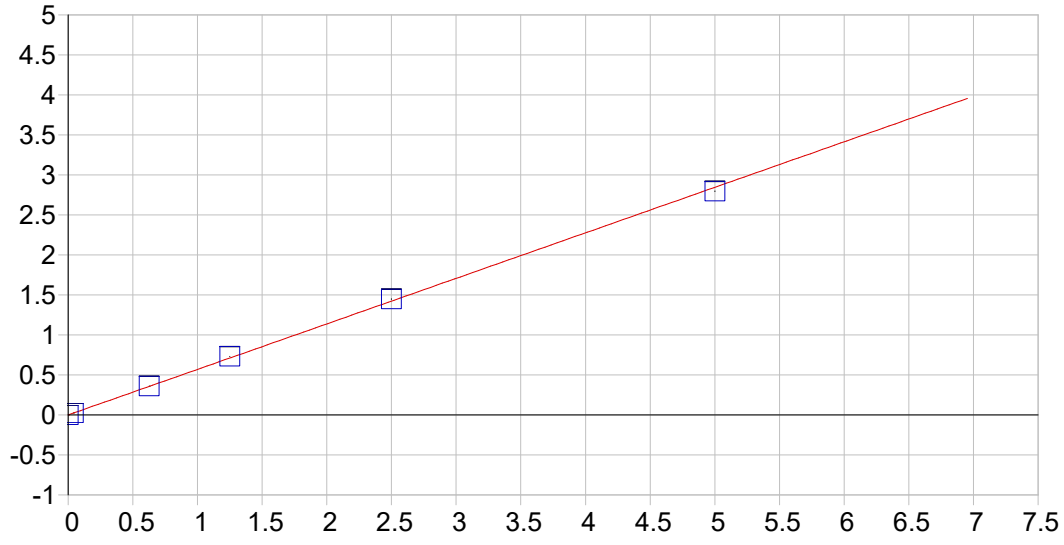
Mg 279.079 {121}

Date of Fit:	10/30/2024 21:18:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000197	Re-Slope:	1.000000
A1 (Gain):	0.005586	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999929	Status:	OK.
Std Error of Est:	0.000232		
Predicted MDL:	0.080500		
Predicted MQL:	0.268335		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00058	-.001	.000	-.00020	.000	1
S1	5.0000	5.5055	.505	10.1	.03056	.001	1
S2	62.500	61.988	-.512	-.820	.34607	.001	1
S3	125.00	126.41	1.41	1.13	.70593	.001	1
S4	250.00	255.81	5.81	2.33	1.4288	.005	1
S5	500.00	497.74	-2.26	-.452	2.7802	.007	1
S6	800.00	795.05	-4.95	-.619	4.4409	.019	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



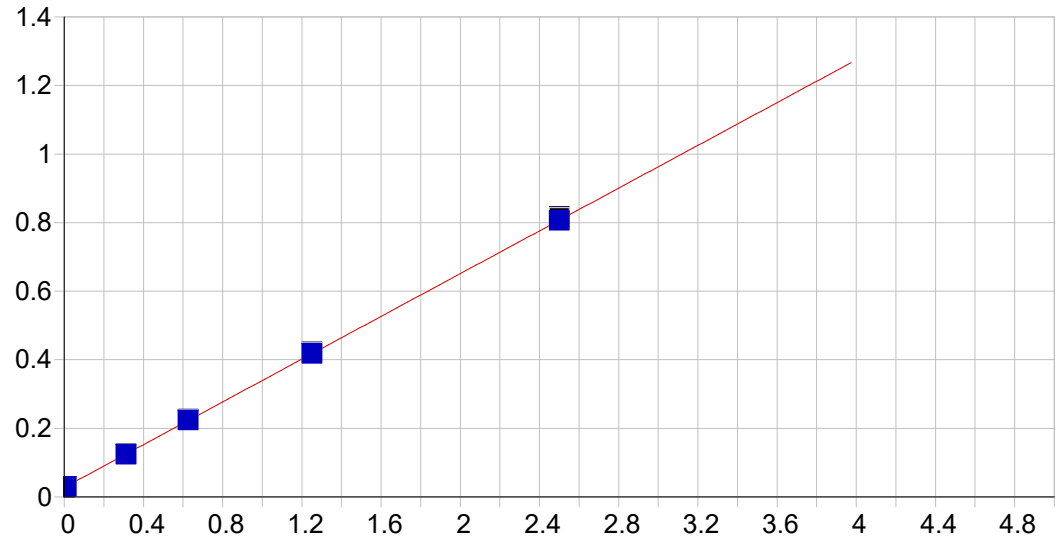
Ni 231.604 {446}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000129	Re-Slope:	1.000000
A1 (Gain):	0.568997	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999818	Status:	OK.
Std Error of Est:	0.000258		
Predicted MDL:	0.000629		
Predicted MQL:	0.002095		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00013	.000	1
S1	.04000	.04203	.002	5.08	.02379	.000	1
S2	.62500	.63309	.008	1.29	.36010	.002	1
S3	1.2500	1.2833	.033	2.67	.73008	.000	1
S4	2.5000	2.5444	.044	1.78	1.4476	.003	1
S5	5.0000	4.9121	-.088	-1.76	2.7949	.004	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



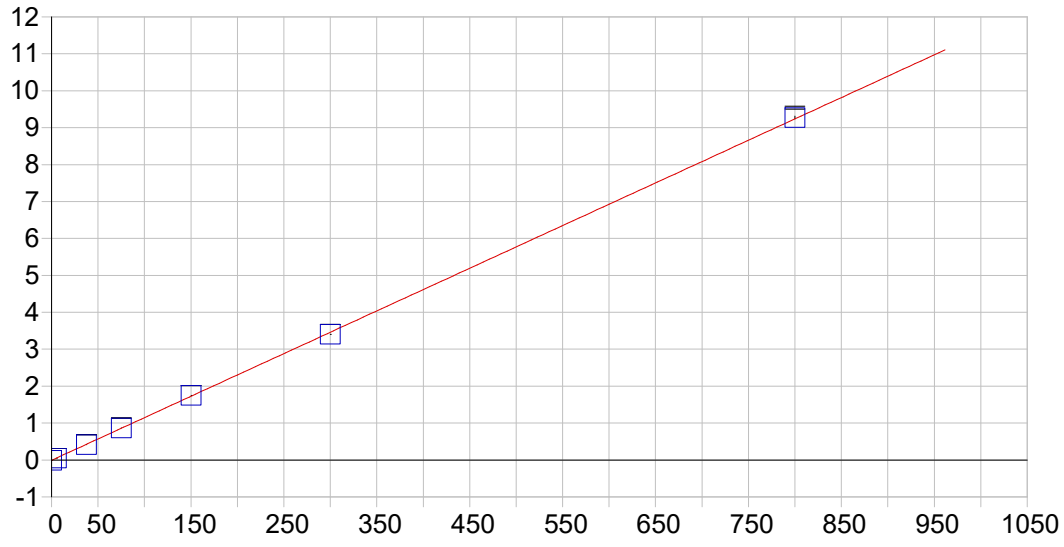
Ag 328.068 {103}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.027832	Re-Slope:	1.000000
A1 (Gain):	0.311724	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000011		
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	.02783	.000	1
S1	.01000	.01042	.000	4.16	.03107	.000	1
S2	.31250	.30860	-.004	-1.25	.12508	.000	1
S3	.62500	.62789	.003	.462	.22566	.001	1
S4	1.2500	1.2520	.002	.158	.42230	.001	1
S5	2.5000	2.4986	-.001	-.055	.81511	.003	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



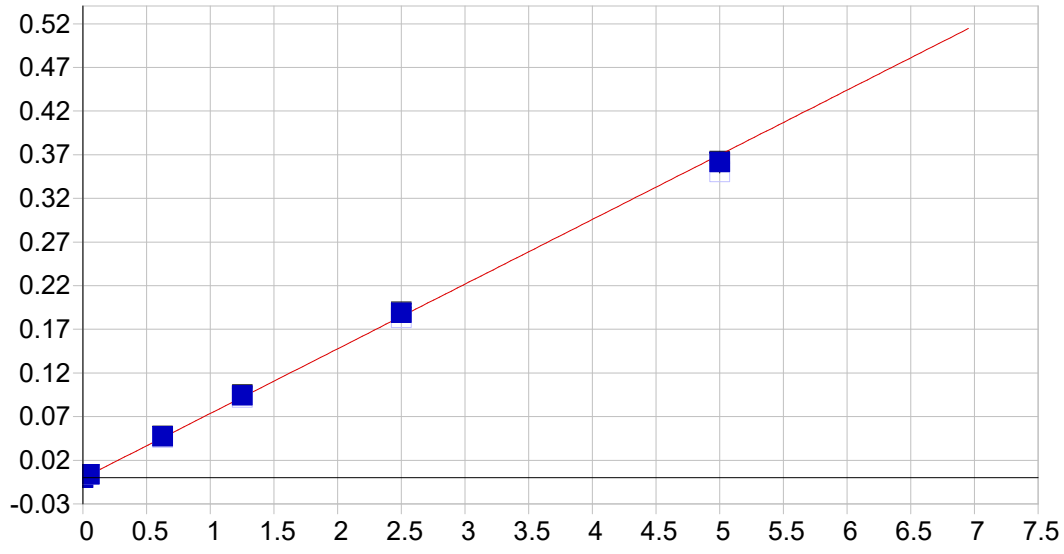
Na 818.326 { 41}

Date of Fit:	10/30/2024 21:18:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.008595	Re-Slope:	1.000000
A1 (Gain):	0.011558	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999948	Status:	OK.
Std Error of Est:	0.000366		
Predicted MDL:	0.328471		
Predicted MQL:	1.094904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	-.00860	.002	1
S1	5.0000	5.0828	.083	1.66	.05015	.000	1
S2	37.500	36.791	-.709	-1.89	.41665	.005	1
S3	75.000	75.478	.478	.637	.86380	.005	1
S4	150.00	152.10	2.10	1.40	1.7494	.001	1
S5	300.00	294.98	-5.02	-1.67	3.4008	.002	1
S6	800.00	803.07	3.07	.384	9.2735	.042	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



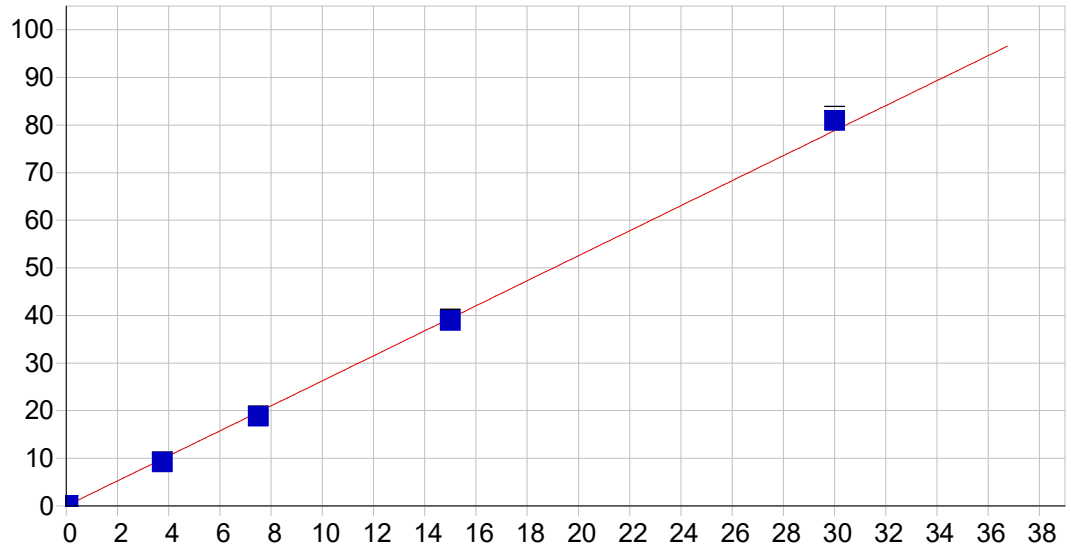
V 292.402 {115}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000470	Re-Slope:	1.000000
A1 (Gain):	0.074080	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999636	Status:	OK.
Std Error of Est:	0.000052		
Predicted MDL:	0.010990		
Predicted MQL:	0.036632		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00047	.000	1
S1	.05000	.05800	.008	16.0	.00382	.000	1
S2	.62500	.64538	.020	3.26	.04592	.000	1
S3	1.2500	1.2803	.030	2.42	.09153	.001	1
S4	2.5000	2.5547	.055	2.19	.18309	.001	1
S5	5.0000	4.8865	-.114	-2.27	.35014	.001	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



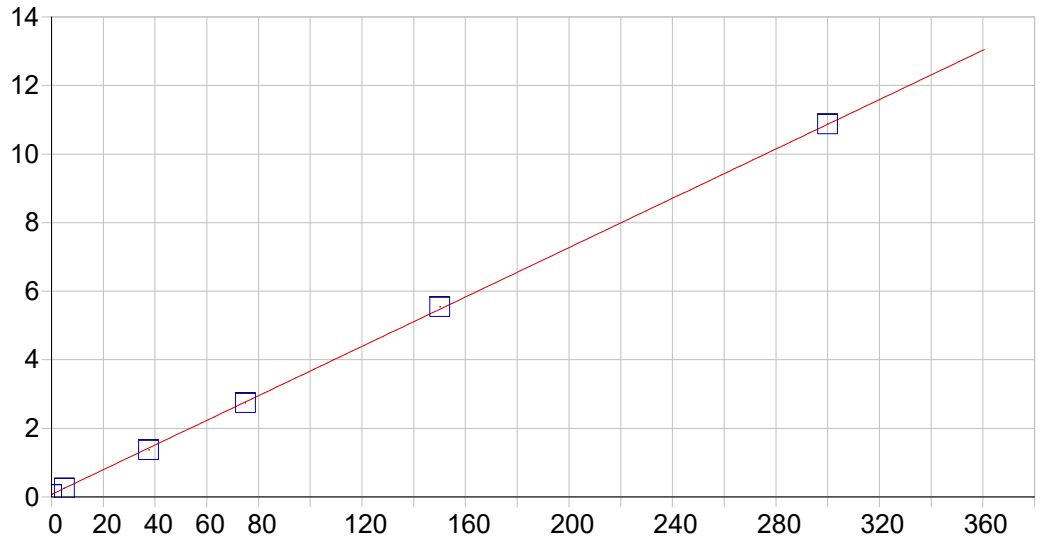
Zn 213.856 {158}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003495	Re-Slope:	1.000000
A1 (Gain):	2.627456	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999498	Status:	OK.
Std Error of Est:	0.005930		
Predicted MDL:	0.000498		
Predicted MQL:	0.001661		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00352	.000	1
S1	.06000	.05708	-.003	-4.86	.15425	.000	1
S2	3.7500	3.4931	-.257	-6.85	9.1935	.004	1
S3	7.5000	7.1599	-.340	-4.53	18.840	.067	1
S4	15.000	14.806	-.194	-1.29	38.954	.309	1
S5	30.000	30.794	.794	2.65	81.008	.868	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



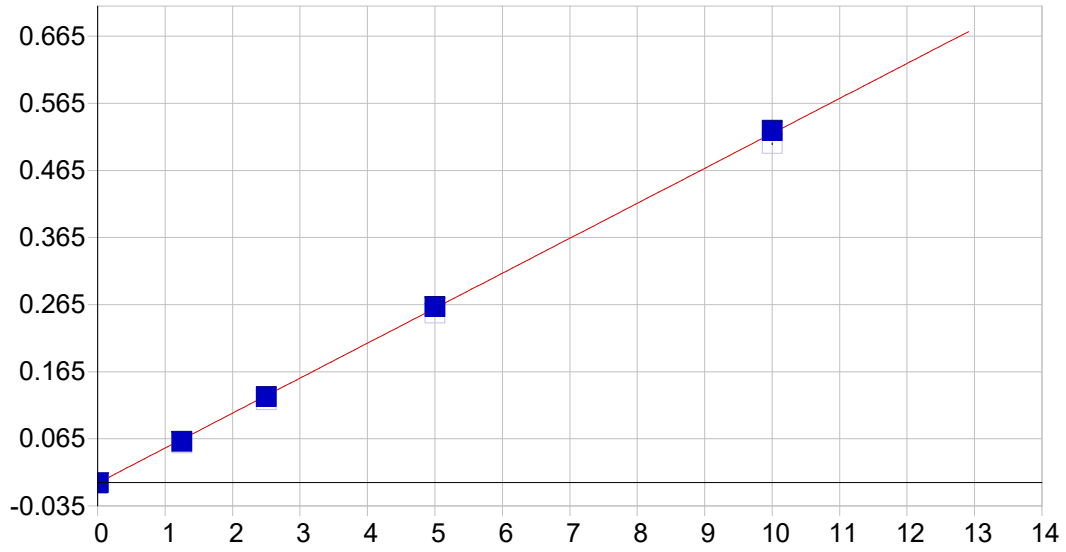
K 769.896 { 44}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.073961	Re-Slope:	1.000000
A1 (Gain):	0.035980	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999919	Status:	OK.
Std Error of Est:	0.000944		
Predicted MDL:	0.137458		
Predicted MQL:	0.458194		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00017	.000	.000	.07397	.005	1
S1	5.0000	5.0020	.002	.041	.25393	.006	1
S2	37.500	36.044	-1.46	-3.88	1.3708	.003	1
S3	75.000	74.208	-.792	-1.06	2.7440	.010	1
S4	150.00	152.01	2.01	1.34	5.5431	.004	1
S5	300.00	300.24	.241	.080	10.877	.005	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



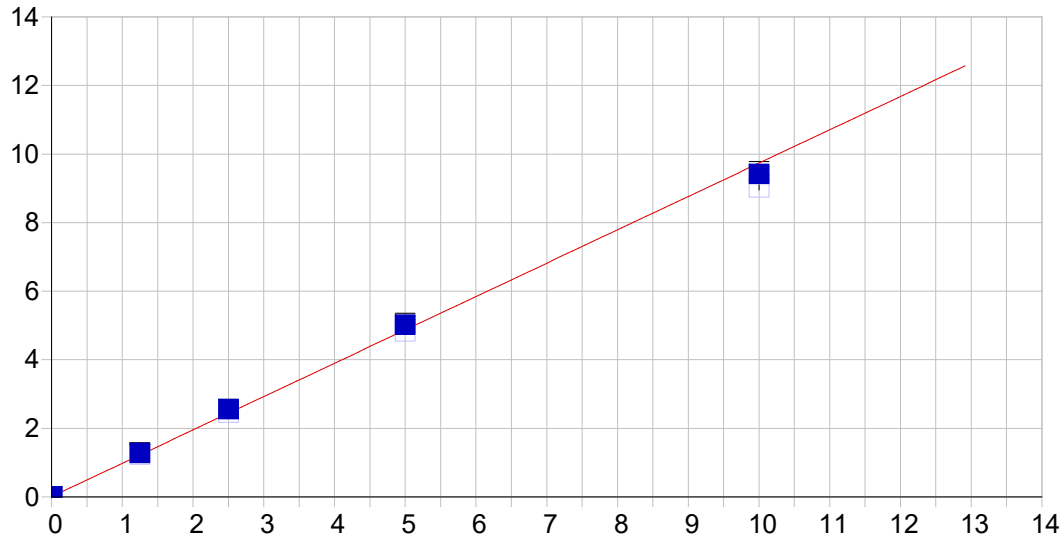
P 177.495 {490}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000900	Re-Slope:	1.000000
A1 (Gain):	0.052112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999789	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.003513		
Predicted MQL:	0.011712		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00090	.000	1
S1	.01000	.00509	-.005	-49.1	-.00065	.000	1
S2	1.2500	1.1830	-.067	-5.36	.05835	.001	1
S3	2.5000	2.4633	-.037	-1.47	.12268	.000	1
S4	5.0000	5.0372	.037	.745	.25202	.000	1
S5	10.000	10.071	.071	.715	.50478	.001	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



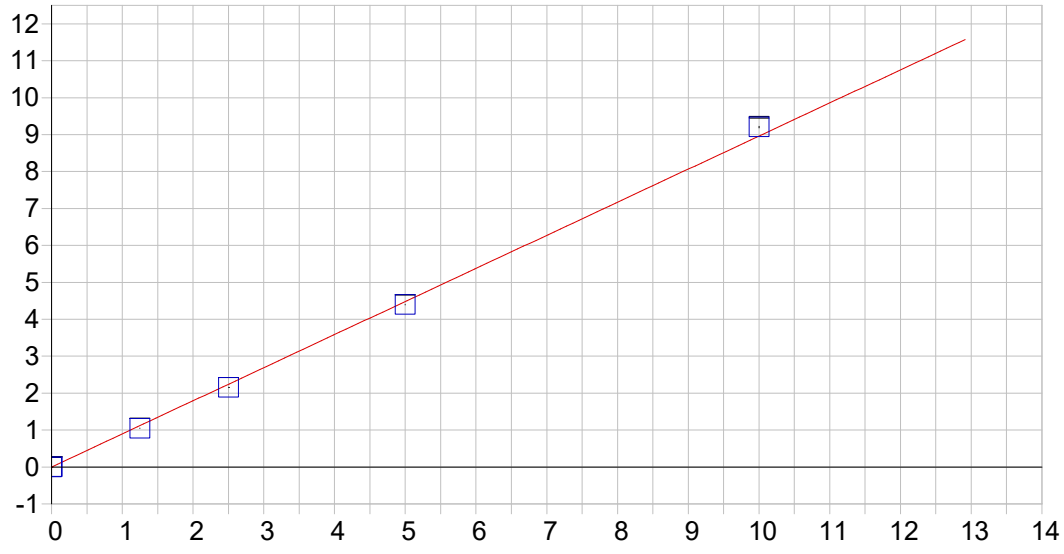
B 249.678 {135}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.008092	Re-Slope:	1.000000
A1 (Gain):	0.972721	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999008	Status:	OK.
Std Error of Est:	0.000698		
Predicted MDL:	0.001180		
Predicted MQL:	0.003935		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00810	.001	1
S1	.01000	-.00023	-.010	-102.	.00778	.001	1
S2	1.2500	1.3097	.060	4.77	1.2330	.004	1
S3	2.5000	2.6188	.119	4.75	2.4573	.006	1
S4	5.0000	5.1560	.156	3.12	4.8271	.042	1
S5	10.000	9.6761	-.324	-3.24	9.0276	.072	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



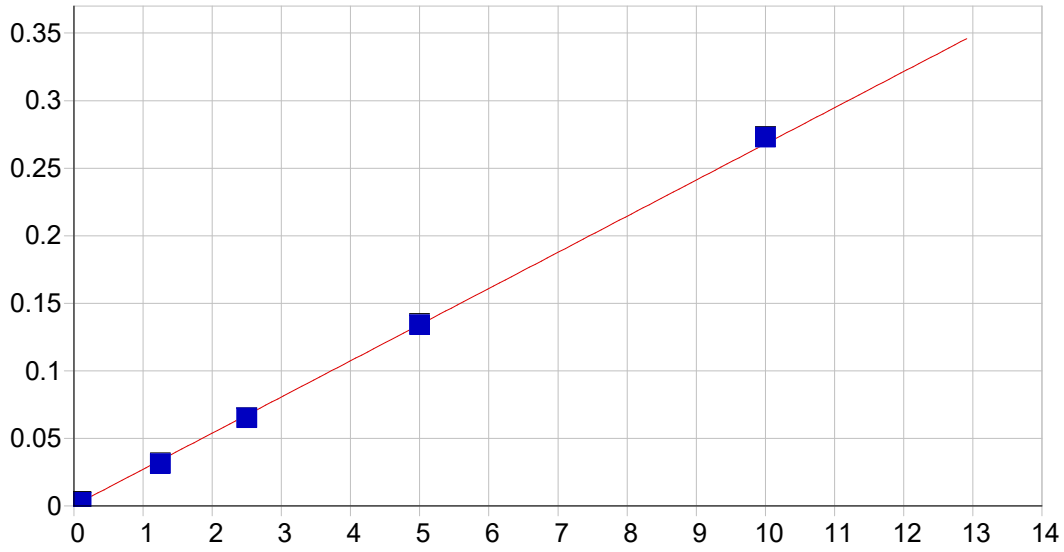
Mo 202.030 {467}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000272	Re-Slope:	1.000000
A1 (Gain):	0.896054	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999522	Status:	OK.
Std Error of Est:	0.000465		
Predicted MDL:	0.000496		
Predicted MQL:	0.001655		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00027	.000	1
S1	.01000	.00964	-.000	-3.58	.00891	.000	1
S2	1.2500	1.1701	-.080	-6.39	1.0487	.005	1
S3	2.5000	2.4043	-.096	-3.83	2.1547	.004	1
S4	5.0000	4.9048	-.095	-1.90	4.3952	.007	1
S5	10.000	10.271	.271	2.71	9.2038	.021	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



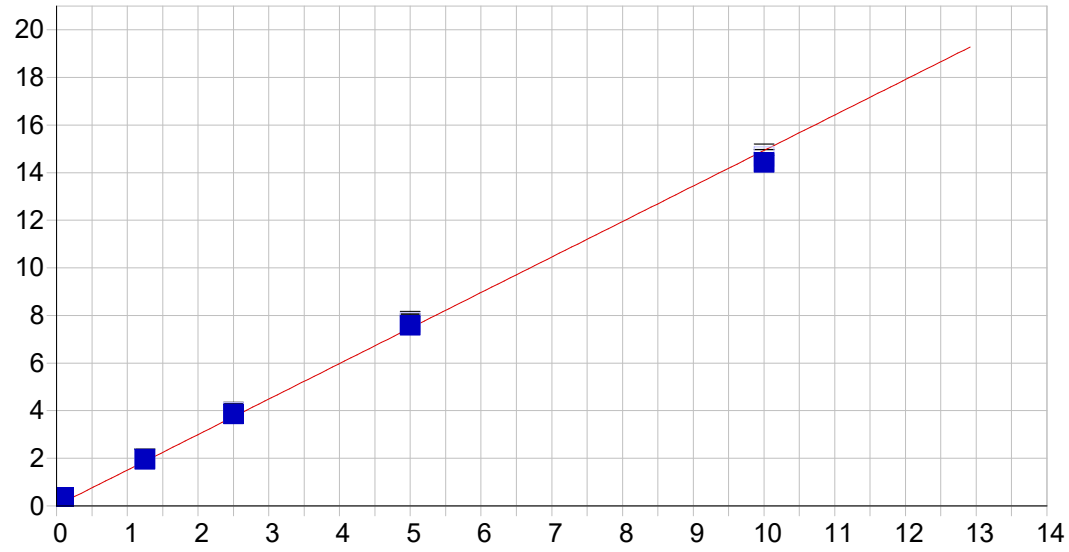
S 182.034 {485}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000353	Re-Slope:	1.000000
A1 (Gain):	0.026762	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999644	Status:	OK.
Std Error of Est:	0.000038		
Predicted MDL:	0.006709		
Predicted MQL:	0.022363		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00035	.000	1
S1	.10000	.09117	-.009	-8.83	.00279	.000	1
S2	1.2500	1.1589	-.091	-7.29	.03137	.000	1
S3	2.5000	2.4186	-.081	-3.26	.06509	.000	1
S4	5.0000	4.9978	-.002	-.044	.13412	.001	1
S5	10.000	10.184	.184	1.84	.27292	.000	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



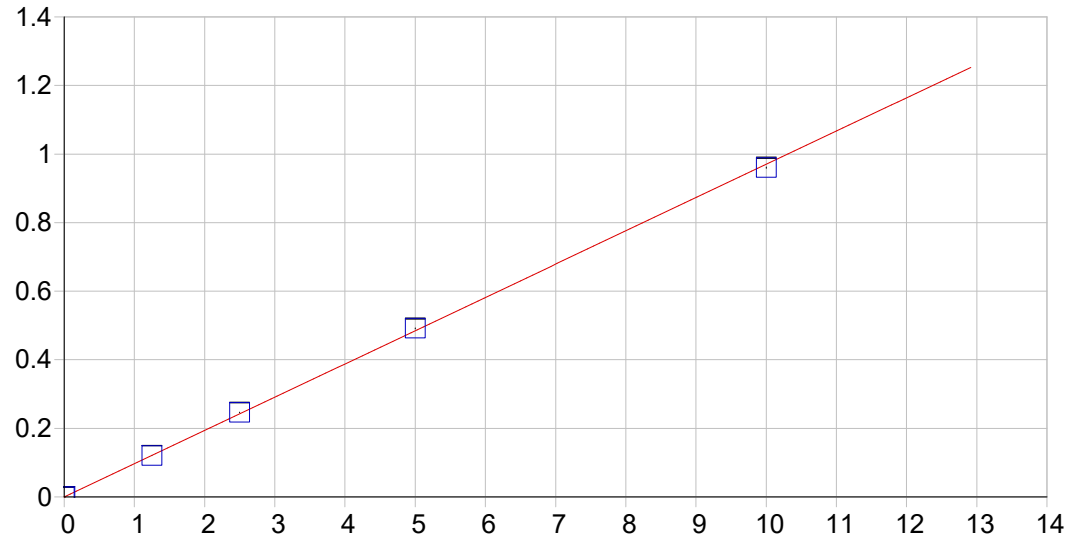
Si 251.611 {134}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.012695	Re-Slope:	1.000000
A1 (Gain):	1.491878	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995169	Status:	OK.
Std Error of Est:	0.007947		
Predicted MDL:	0.000649		
Predicted MQL:	0.002162		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00014	-.000	.000	.01249	.001	1
S1	.10000	.23126	.131	131.	.35870	.001	1
S2	1.2500	1.3000	.050	4.00	1.9822	.005	1
S3	2.5000	2.5815	.081	3.26	3.9243	.009	1
S4	5.0000	5.0731	.073	1.46	7.7018	.049	1
S5	10.000	9.6654	-.335	-3.35	14.674	.111	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



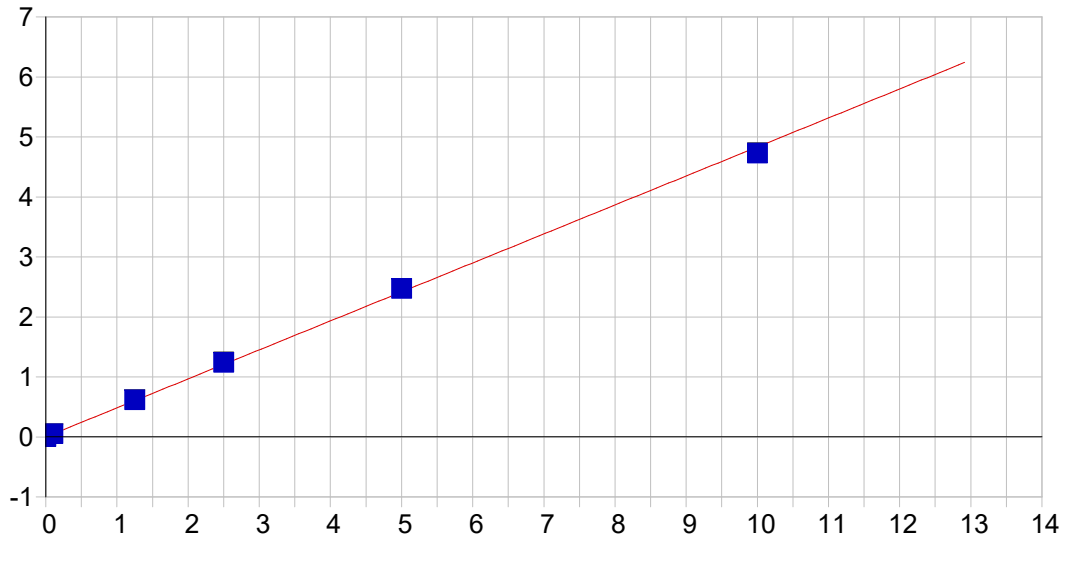
Sn 189.989 {478}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000091	Re-Slope:	1.000000
A1 (Gain):	0.096977	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.001871		
Predicted MQL:	0.006236		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00009	.000	1
S1	.00700	.00733	.000	4.65	.00080	.000	1
S2	1.2500	1.2449	-.005	-.404	.12082	.001	1
S3	2.5000	2.5361	.036	1.45	.24604	.001	1
S4	5.0000	5.0683	.068	1.37	.49160	.002	1
S5	10.000	9.9002	-.100	-.998	.96018	.002	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



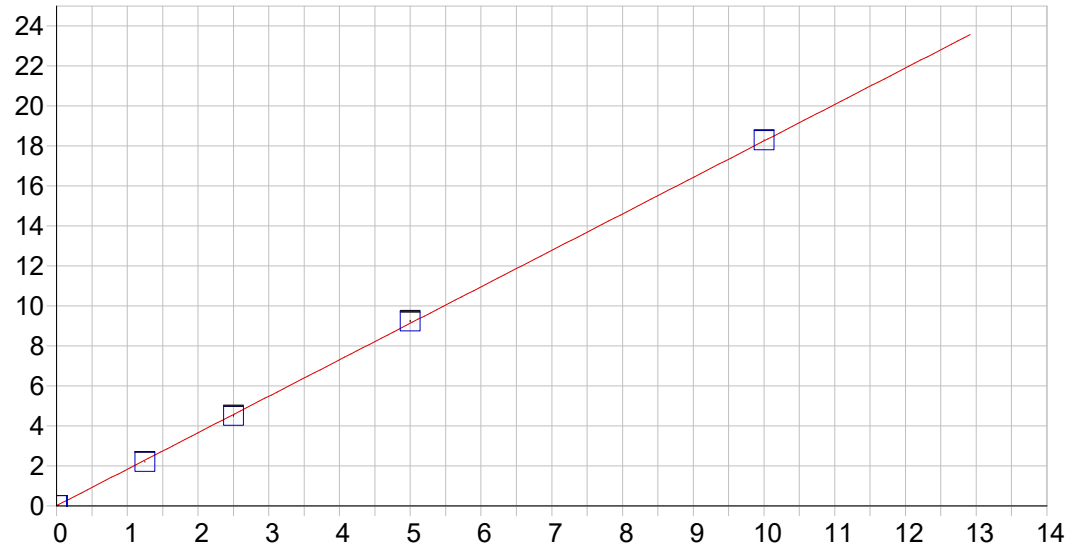
Ti 336.121 {100}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000387	Re-Slope:	1.000000
A1 (Gain):	0.483196	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999739	Status:	OK.
Std Error of Est:	0.000587		
Predicted MDL:	0.001975		
Predicted MQL:	0.006582		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00038	.001	1
S1	.10000	.10579	.006	5.79	.05148	.000	1
S2	1.2500	1.2767	.027	2.13	.61697	.002	1
S3	2.5000	2.5673	.067	2.69	1.2403	.005	1
S4	5.0000	5.1136	.114	2.27	2.4701	.003	1
S5	10.000	9.7867	-.213	-2.13	4.7268	.003	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



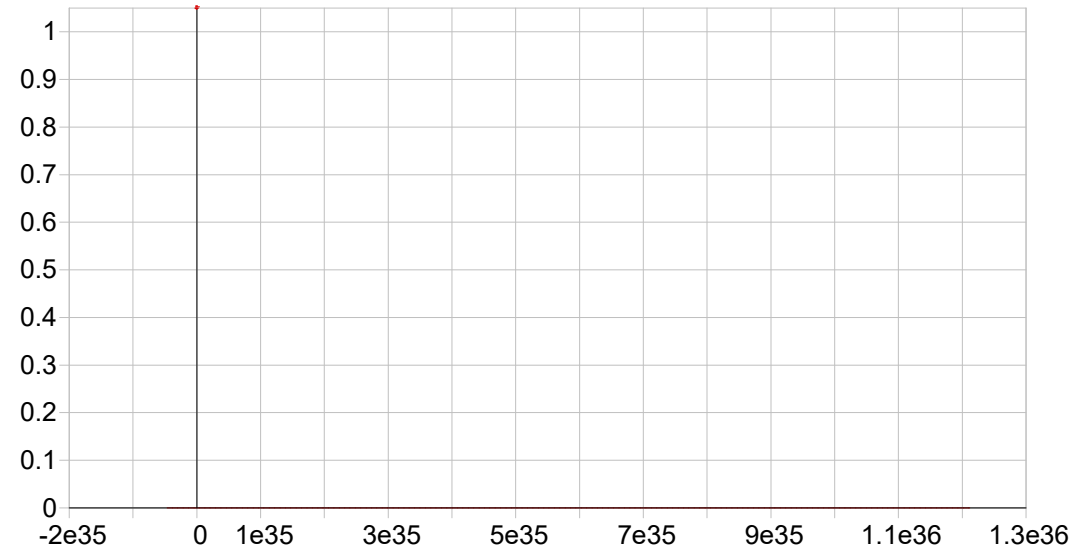
Li 670.784 { 50}

Date of Fit:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010990	Re-Slope:	1.000000
A1 (Gain):	1.824280	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999925	Status:	OK.
Std Error of Est:	0.000460		
Predicted MDL:	0.002057		
Predicted MQL:	0.006855		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.01099	.002	1
S5	10.000	10.019	.019	.194	18.289	.019	1
S4	5.0000	5.0583	.058	1.17	9.2387	.042	1
S3	2.5000	2.4687	-.031	-1.25	4.5146	.038	1
S2	1.2500	1.2048	-.045	-3.62	2.2088	.018	1
S1	.01500	.01391	-.001	-7.25	.03637	.002	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

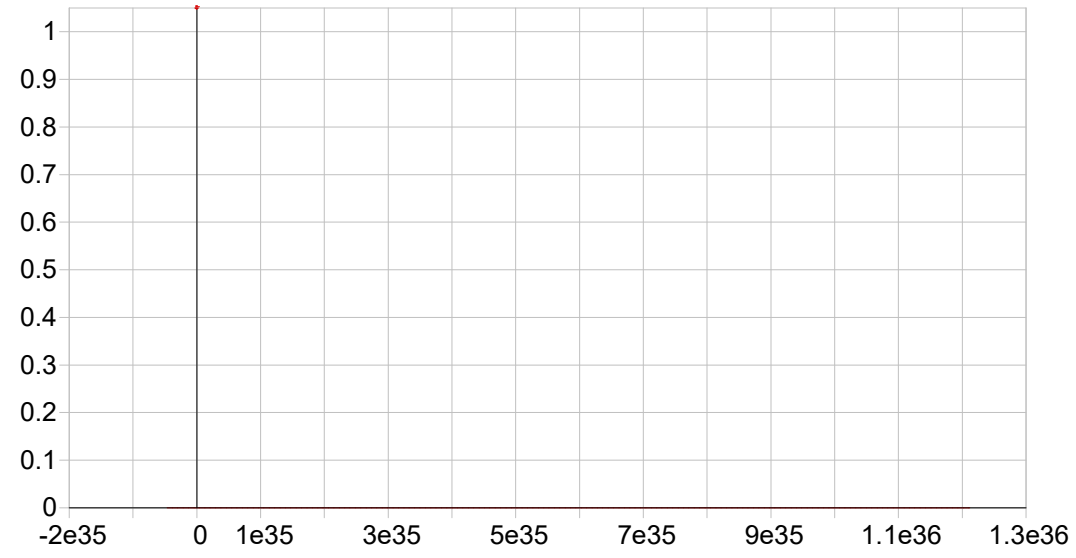


Y 224.306 {450}*

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

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

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



Y 360.073 { 94}*

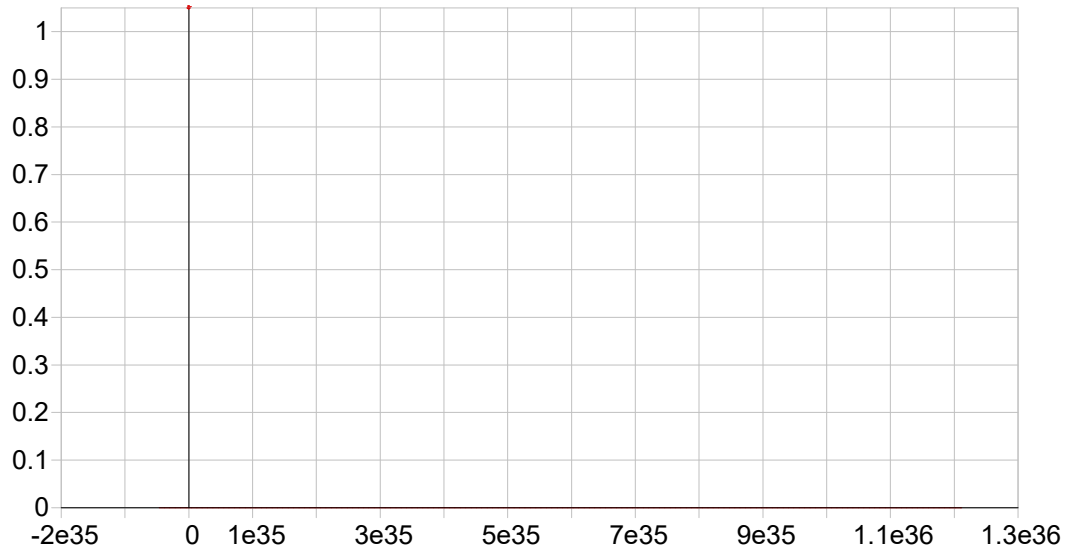
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

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

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

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

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

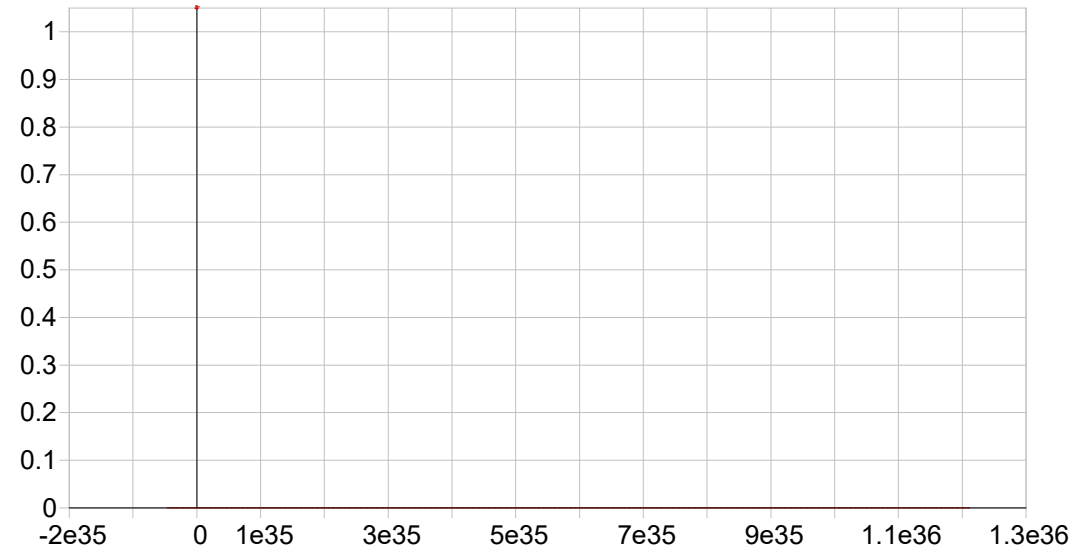


Y 371.030 { 91}*

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

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

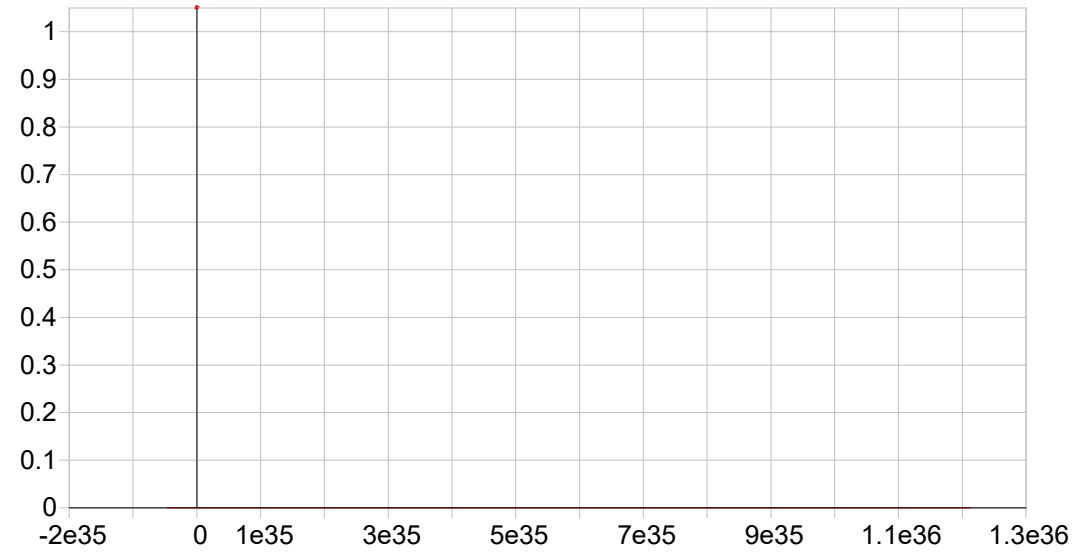
Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5



Y 224.306 {150}*

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

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



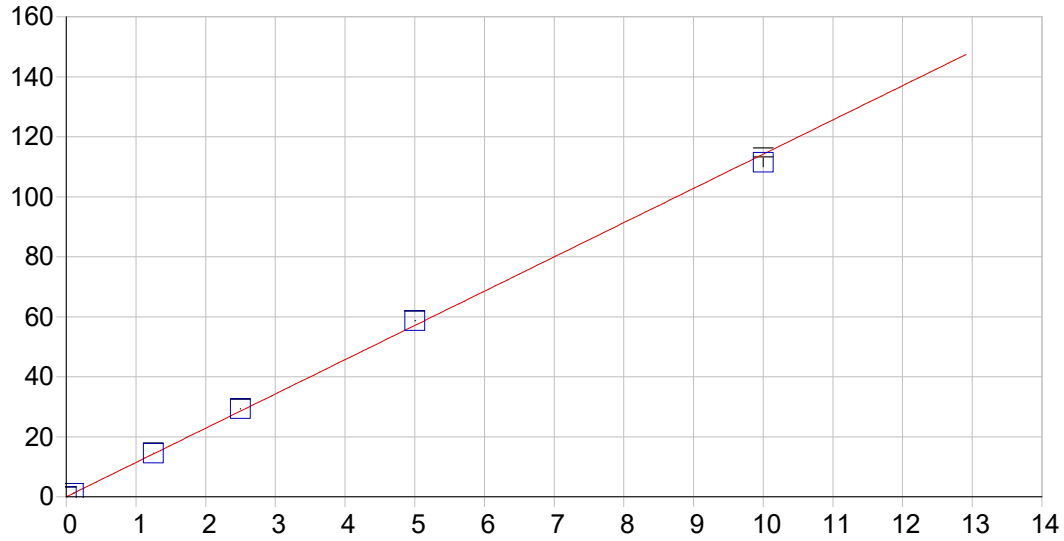
In 230.606 {446}*

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

Reviewed By:Mohan
On:11/7/2024 4:26:12 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:	10/30/2024 21:14:20	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.002184		Re-Slope:	1.000000	
A1 (Gain):	11.418538		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999674	Status:	OK.		
Std Error of Est:	0.015508				
Predicted MDL:	0.000135				
Predicted MQL:	0.000450				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00207	.002	1
S1	.10000	.10499	.005	4.99	1.2010	.004	1
S2	1.2500	1.2744	.024	1.95	14.554	.041	1
S3	2.5000	2.5683	.068	2.73	29.328	.074	1
S4	5.0000	5.1415	.141	2.83	58.710	.003	1
S5	10.000	9.7609	-.239	-2.39	111.46	1.49	1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S0 Acquired: 10/30/2024 20:47:58 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00026	-.00044	-.00073	.00007	.00016	-.00180	.05063	-.00233
Stddev	.00019	.00015	.00027	.00038	.00034	.00069	.00351	.00045
%RSD	71.818	33.950	37.412	520.20	220.22	38.457	6.9291	19.245
#1	.00039	-.00030	-.00050	.00050	.00005	-.00217	.05257	-.00284
#2	.00005	-.00042	-.00103	-.00005	.00054	-.00100	.05275	-.00201
#3	.00034	-.00059	-.00065	-.00024	-.00012	-.00224	.04659	-.00213

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	.00019	.00468	-.00006	-.00060	.00152	.00055	-.00005	-.00020
Stddev	.00014	.00027	.00016	.00021	.00044	.00056	.00022	.00035
%RSD	77.558	5.8357	280.99	35.466	29.105	102.27	455.75	176.73
#1	.00029	.00490	-.00009	-.00081	.00102	.00038	.00020	-.00050
#2	.00002	.00437	-.00020	-.00061	.00170	.00009	-.00015	.00019
#3	.00024	.00476	.00012	-.00038	.00186	.00118	-.00020	-.00029

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	-.00013	.02783	-.00860	-.00047	.00352	.07397	-.00090	.00810
Stddev	.00022	.00012	.00164	.00048	.00046	.00461	.00006	.00057
%RSD	168.59	.44544	19.043	102.69	13.198	6.2385	6.9627	7.0428
#1	-.00025	.02794	-.00860	-.00092	.00307	.06869	-.00084	.00855
#2	.00012	.02770	-.01023	-.00053	.00400	.07724	-.00096	.00829
#3	-.00026	.02786	-.00696	.00004	.00349	.07597	-.00090	.00746

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	.00027	.00035	.01249	.00009	.00038	.01099	.00207
Stddev	.00048	.00022	.00098	.00004	.00088	.00244	.00173
%RSD	174.01	61.586	7.8826	39.819	230.47	22.220	83.660
#1	-.00015	.00054	.01228	.00013	-.00063	.01112	.00389
#2	.00079	.00040	.01356	.00006	.00098	.01337	.00186
#3	.00018	.00012	.01163	.00008	.00079	.00849	.00045

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S0 Acquired: 10/30/2024 20:47:58 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S0 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	986.26	22909.	2601.3	836.55	1913.1
Stddev	.19	63.	5.1	2.27	4.4
%RSD	.01927	.27527	.19559	.27164	.22752
#1	986.29	22944.	2599.0	835.82	1915.6
#2	986.44	22948.	2607.1	839.10	1915.7
#3	986.06	22837.	2597.7	834.74	1908.1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S1 Acquired: 10/30/2024 20:52:35 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00050	.00152	.00074	.00255	.01008	.01902	1.1931	.03168
Stddev	.00014	.00005	.00066	.00034	.00036	.00108	.0044	.00026
%RSD	27.884	3.4629	88.870	13.364	3.6165	5.6856	.36951	.82846
#1	.00041	.00158	.00131	.00295	.00979	.01794	1.1938	.03182
#2	.00065	.00149	.00088	.00233	.01049	.01903	1.1972	.03184
#3	.00042	.00148	.00002	.00239	.00997	.02010	1.1884	.03138

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	.01058	.39163	.00185	.02989	.00621	.00171	.00458	.03056
Stddev	.00030	.00183	.00002	.00036	.00096	.00017	.00021	.00055
%RSD	2.8681	.46855	1.2316	1.2118	15.391	9.8866	4.5104	1.8146
#1	.01093	.39247	.00183	.03026	.00527	.00172	.00460	.03014
#2	.01039	.39289	.00187	.02985	.00718	.00154	.00478	.03119
#3	.01041	.38953	.00187	.02954	.00618	.00188	.00437	.03034

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	.02379	.03107	.05015	.00382	.15425	.25393	-.00065	.00778
Stddev	.00011	.00021	.00044	.00043	.00040	.00649	.00011	.00053
%RSD	.44578	.67498	.87051	11.323	.25851	2.5559	16.561	6.8654
#1	.02389	.03086	.05017	.00357	.15445	.25698	-.00053	.00823
#2	.02380	.03106	.05058	.00357	.15379	.25835	-.00073	.00719
#3	.02368	.03128	.04971	.00432	.15451	.24648	-.00069	.00792

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	.00891	.00279	.35870	.00080	.05148	.03637	1.2010
Stddev	.00024	.00019	.00073	.00011	.00042	.00195	.0039
%RSD	2.7484	6.9556	.20293	13.742	.82070	5.3707	.32637
#1	.00879	.00288	.35907	.00069	.05101	.03469	1.1966
#2	.00875	.00257	.35787	.00080	.05161	.03591	1.2038
#3	.00919	.00293	.35918	.00091	.05183	.03851	1.2028

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S1 Acquired: 10/30/2024 20:52:35 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S01 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	984.43	23005.	2584.1	840.12	1893.2
Stddev	3.41	51.	8.4	3.64	4.2
%RSD	.34635	.22299	.32680	.43323	.22126
#1	985.15	23061.	2593.2	843.56	1890.1
#2	980.71	22995.	2576.6	840.50	1891.5
#3	987.41	22960.	2582.4	836.31	1898.0

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S2 Acquired: 10/30/2024 20:57:10 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.03271	.08714	.87527	.08125	.21807	4.1338	13.666	.81007
Stddev	.00003	.00058	.00410	.00083	.00200	.0102	.018	.00731
%RSD	.09955	.66176	.46857	1.0247	.91602	.24746	.13518	.90241
#1	.03274	.08650	.87114	.08049	.21634	4.1456	13.688	.81839
#2	.03268	.08763	.87531	.08214	.22025	4.1275	13.657	.80467
#3	.03270	.08728	.87935	.08112	.21761	4.1283	13.654	.80715

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	1.2422	4.5718	.76796	.37744	.67002	.52993	1.0443	.34607
Stddev	.0034	.0274	.00095	.00160	.00391	.00321	.0006	.00055
%RSD	.27316	.59903	.12395	.42446	.58373	.60539	.05643	.15829
#1	1.2385	4.5997	.76857	.37581	.67116	.53310	1.0446	.34607
#2	1.2432	4.5449	.76845	.37749	.66566	.52668	1.0448	.34552
#3	1.2451	4.5708	.76687	.37902	.67323	.53002	1.0437	.34661

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	.36010	.12508	.41665	.04592	9.1935	1.3708	.05835	1.2330
Stddev	.00190	.00036	.00543	.00020	.0045	.0027	.00053	.0042
%RSD	.52632	.29130	1.3044	.44322	.04893	.19987	.90231	.34342
#1	.35796	.12536	.41604	.04611	9.1969	1.3713	.05786	1.2369
#2	.36075	.12521	.41154	.04593	9.1951	1.3679	.05828	1.2285
#3	.36158	.12467	.42236	.04571	9.1884	1.3733	.05891	1.2335

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	1.0487	.03137	1.9822	.12082	.61697	2.2088	14.554
Stddev	.0054	.00030	.0045	.00061	.00237	.0181	.041
%RSD	.51367	.95343	.22779	.50187	.38409	.81725	.27993
#1	1.0430	.03115	1.9869	.12012	.61943	2.2207	14.590
#2	1.0536	.03126	1.9778	.12117	.61675	2.1880	14.510
#3	1.0496	.03171	1.9820	.12117	.61471	2.2176	14.563

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S2 Acquired: 10/30/2024 20:57:10 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S02 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	937.67	22580.	2585.3	797.29	1726.9
Stddev	2.50	54.	10.3	.75	3.4
%RSD	.26642	.23700	.39671	.09359	.19550
#1	939.83	22546.	2573.7	797.45	1730.5
#2	934.93	22552.	2593.3	796.48	1726.5
#3	938.25	22642.	2588.9	797.95	1723.8

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S3 Acquired: 10/30/2024 21:01:26 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.06772	.17353	1.7775	.16697	.45108	8.3958	27.651	1.6212
Stddev	.00013	.00062	.0013	.00060	.00092	.0340	.056	.0055
%RSD	.18592	.35477	.07240	.36024	.20366	.40445	.20297	.34169
#1	.06765	.17282	1.7786	.16762	.45136	8.4344	27.716	1.6276
#2	.06786	.17389	1.7761	.16644	.45182	8.3826	27.620	1.6190
#3	.06764	.17389	1.7777	.16685	.45005	8.3705	27.618	1.6172

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	2.5157	9.1804	1.5259	.77018	1.3393	1.0548	2.0748	.70593
Stddev	.0046	.0604	.0053	.00097	.0058	.0040	.0048	.00101
%RSD	.18116	.65740	.34893	.12650	.43301	.37515	.23265	.14245
#1	2.5205	9.2498	1.5202	.76994	1.3459	1.0592	2.0719	.70686
#2	2.5114	9.1400	1.5308	.76935	1.3358	1.0533	2.0803	.70608
#3	2.5154	9.1515	1.5267	.77125	1.3360	1.0517	2.0721	.70486

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	.73008	.22566	.86380	.09153	18.840	2.7440	.12268	2.4573
Stddev	.00018	.00105	.00475	.00073	.067	.0097	.00034	.0064
%RSD	.02462	.46751	.54954	.79234	.35343	.35438	.27424	.25909
#1	.73027	.22639	.86896	.09229	18.766	2.7550	.12267	2.4645
#2	.72992	.22614	.86281	.09085	18.896	2.7403	.12234	2.4523
#3	.73004	.22445	.85962	.09144	18.857	2.7366	.12301	2.4552

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.1547	.06509	3.9243	.24604	1.2403	4.5146	29.328
Stddev	.0035	.00035	.0091	.00090	.0045	.0375	.074
%RSD	.16260	.53055	.23134	.36529	.36439	.83119	.25260
#1	2.1584	.06477	3.9347	.24522	1.2430	4.5579	29.413
#2	2.1542	.06546	3.9180	.24589	1.2351	4.4933	29.294
#3	2.1515	.06503	3.9202	.24700	1.2427	4.4926	29.277

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S3 Acquired: 10/30/2024 21:01:26 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S03 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	892.70	22072.	2559.6	750.50	1637.7
Stddev	1.73	71.	8.9	2.35	2.2
%RSD	.19388	.32126	.34789	.31378	.13209
#1	891.36	22079.	2549.4	752.84	1636.2
#2	892.08	21998.	2565.6	748.13	1640.2
#3	894.66	22139.	2563.9	750.52	1636.8

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S4 Acquired: 10/30/2024 21:05:41 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.13943	.33776	3.5254	.34241	.93681	17.002	55.701	3.1868
Stddev	.00084	.00214	.0112	.00029	.00094	.036	.052	.0028
%RSD	.59987	.63313	.31668	.08451	.10078	.21314	.09394	.08801
#1	.14033	.33993	3.5324	.34258	.93735	16.979	55.671	3.1845
#2	.13868	.33565	3.5125	.34208	.93572	17.044	55.670	3.1899
#3	.13930	.33769	3.5312	.34258	.93736	16.984	55.761	3.1859

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	4.9651	18.290	2.9768	1.5353	2.6779	2.0716	4.0972	1.4288
Stddev	.0179	.052	.0047	.0048	.0013	.0067	.0019	.0046
%RSD	.36043	.28587	.15701	.31079	.04821	.32600	.04642	.32320
#1	4.9769	18.268	2.9796	1.5382	2.6772	2.0667	4.0994	1.4321
#2	4.9445	18.349	2.9794	1.5298	2.6770	2.0793	4.0962	1.4308
#3	4.9739	18.252	2.9714	1.5379	2.6794	2.0688	4.0960	1.4235

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	1.4476	.42230	1.7494	.18309	38.954	5.5431	.25202	4.8271
Stddev	.0035	.00084	.0008	.00111	.309	.0037	.00033	.0418
%RSD	.24000	.19812	.04667	.60712	.79448	.06609	.13261	.86546
#1	1.4496	.42298	1.7498	.18317	38.616	5.5417	.25240	4.8196
#2	1.4436	.42137	1.7499	.18194	39.225	5.5404	.25184	4.8722
#3	1.4497	.42256	1.7484	.18416	39.020	5.5473	.25181	4.7896

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	4.3952	.13412	7.7018	.49160	2.4701	9.2387	58.710
Stddev	.0071	.00064	.0490	.00155	.0027	.0418	.003
%RSD	.16200	.47440	.63586	.31466	.11120	.45196	.00556
#1	4.3975	.13484	7.6973	.49265	2.4694	9.2180	58.706
#2	4.3872	.13388	7.7529	.48983	2.4731	9.2867	58.712
#3	4.4009	.13363	7.6552	.49233	2.4677	9.2113	58.712

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S4 Acquired: 10/30/2024 21:05:41 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S04 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	831.08	21579.	2531.3	677.07	1541.6
Stddev	1.81	1.	12.5	5.52	5.5
%RSD	.21831	.00392	.49507	.81593	.35381
#1	830.74	21578.	2536.7	683.41	1537.7
#2	833.04	21580.	2516.9	673.35	1547.8
#3	829.46	21580.	2540.1	674.44	1539.2

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S5 Acquired: 10/30/2024 21:09:53 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.28427	.64077	6.9087	.72542	2.0264	33.339	106.27	6.1437
Stddev	.00086	.00120	.0096	.00067	.0049	.024	1.06	.0406
%RSD	.30134	.18699	.13864	.09169	.24078	.07227	1.0005	.66036
#1	.28329	.63973	6.8999	.72468	2.0215	33.356	106.12	6.1432
#2	.28486	.64208	6.9072	.72597	2.0265	33.351	105.28	6.1034
#3	.28467	.64050	6.9189	.72561	2.0313	33.312	107.40	6.1845

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	9.5570	34.970	5.6287	2.9859	5.1696	3.8929	7.7385	2.7802
Stddev	.0127	.092	.0064	.0032	.0075	.0073	.0241	.0065
%RSD	.13270	.26376	.11389	.10685	.14445	.18660	.31106	.23446
#1	9.5445	34.960	5.6228	2.9845	5.1751	3.8942	7.7570	2.7802
#2	9.5566	34.883	5.6278	2.9836	5.1728	3.8851	7.7113	2.7736
#3	9.5699	35.067	5.6356	2.9895	5.1611	3.8995	7.7471	2.7867

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	2.7949	.81511	3.4008	.35014	81.008	10.877	.50478	9.0276
Stddev	.0040	.00293	.0020	.00122	.868	.005	.00117	.0725
%RSD	.14477	.35953	.05820	.34875	1.0709	.04920	.23157	.80296
#1	2.7902	.81435	3.3986	.35008	80.541	10.879	.50442	9.0590
#2	2.7967	.81834	3.4014	.35139	82.009	10.870	.50609	8.9447
#3	2.7977	.81263	3.4025	.34895	80.475	10.880	.50384	9.0791

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	9.2038	.27292	14.674	.96018	4.7268	18.289	111.46
Stddev	.0212	.00042	.111	.00197	.0032	.019	1.49
%RSD	.23081	.15497	.75955	.20507	.06734	.10239	1.3330
#1	9.1827	.27292	14.707	.95805	4.7301	18.269	112.20
#2	9.2035	.27334	14.549	.96193	4.7237	18.306	109.75
#3	9.2251	.27249	14.765	.96057	4.7267	18.292	112.42

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S5 Acquired: 10/30/2024 21:09:53 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S05 Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	728.78	21049.	2525.2	566.50	1436.1
Stddev	1.46	31.	20.6	6.11	1.0
%RSD	.20083	.14825	.81536	1.0783	.07089
#1	730.40	21079.	2519.4	569.92	1437.3
#2	727.56	21051.	2548.1	559.44	1435.4
#3	728.38	21017.	2508.2	570.13	1435.6

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: S6 Acquired: 10/30/2024 21:14:20 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: S06 Custom ID2: Custom ID3:
Comment:

Elem	Al3961	Ca3736	Fe2598	Mg2790	Na8183
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	87.310	55.246	10.166	4.4409	9.2735
Stddev	.336	.293	.049	.0193	.0416
%RSD	.38443	.53083	.48341	.43356	.44830
#1	87.680	55.583	10.222	4.4630	9.3214
#2	87.026	55.050	10.129	4.4273	9.2533
#3	87.222	55.105	10.147	4.4325	9.2459

Int. Std.	Y_3710
Units	Cts/S
Avg	2469.0
Stddev	13.8
%RSD	.55985
#1	2453.8
#2	2480.9
#3	2472.1

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICV001 Acquired: 10/30/2024 22:24:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.067292	1.055083	.9955478	1.070181	1.019712	2.326254
Stddev	.014787	.004188	.0025240	.008417	.000796	.016577
%RSD	1.385428	.3969747	.2535257	.7865190	.0780462	.7125890
#1	1.076807	1.052835	.9962174	1.072468	1.018794	2.342406
#2	1.050257	1.059915	.9976694	1.077218	1.020143	2.309283
#3	1.074812	1.052499	.9927565	1.060856	1.020200	2.327071

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5101366	.5318094	.5020258	9.903521	.5495028	.4997480
Stddev	.0024311	.0017234	.0006444	.023980	.0017389	.0009864
%RSD	.4765540	.3240643	.1283604	.2421331	.3164457	.1973791
#1	.5104344	.5337822	.5017557	9.919879	.5479346	.4995076
#2	.5075704	.5305966	.5015604	9.875995	.5492011	.4989040
#3	.5124051	.5310495	.5027613	9.914691	.5513728	.5008324

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4819329	10.54750	.5251618	5.571044	.5087365	.2384678
Stddev	.0026242	.04590	.0023927	.051086	.0005496	.0013927
%RSD	.5445108	.4352137	.4556138	.9169897	.1080329	.5840257
#1	.4829242	10.59161	.5238684	5.525619	.5083513	.2374376
#2	.4789575	10.49999	.5279228	5.626348	.5093659	.2379135
#3	.4839171	10.55092	.5236941	5.561165	.5084922	.2400523

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.629331	.5185821	1.091627	9.051430	F .0026777	F .0023186
Stddev	.190093	.0069590	.002915	.101982	.0034513	.0007704
%RSD	1.974102	1.341936	.2670698	1.126692	128.8900	33.22470
#1	9.536283	.5180189	1.088531	8.935844	.0004737	.0018419
#2	9.848023	.5119218	1.092031	9.089723	.0066552	.0019067
#3	9.503687	.5258057	1.094320	9.128722	.0009042	.0032074

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICV001 Acquired: 10/30/2024 22:24:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV001 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.000474	F -.000638	F -.000039	F .0029650	F -.001375	F -.001569
Stddev	.000155	.007908	.000551	.0001538	.000657	.001113
%RSD	32.72071	1240.500	1424.124	5.186024	47.78101	70.92886
#1	-.000403	-.009176	.000495	.0031410	-.001298	-.000586
#2	-.000367	.006436	-.000605	.0028972	-.002067	-.002778
#3	-.000652	.000828	-.000006	.0028568	-.000760	-.001343

Elem	Sr4077
Units	ppm
Avg	F .0009135
Stddev	.0001726
%RSD	18.89110
#1	.0010294
#2	.0009959
#3	.0007152

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	976.8486	23409.99	2711.039	845.1478	1853.931
Stddev	1.4764	37.56	14.413	3.0383	1.680
%RSD	.1511399	.1604314	.5316364	.3594965	.0905915
#1	977.1311	23444.40	2695.187	848.3410	1855.267
#2	975.2514	23415.64	2723.353	842.2928	1852.045
#3	978.1634	23369.93	2714.578	844.8095	1854.480

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICB001 Acquired: 10/30/2024 22:28:57 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000572	.0015537	.0006569	.0063326	.0007641	-.006236	-.002591
Stddev	.008521	.0017807	.0030662	.0024511	.0021966	.004717	.000250
%RSD	1488.845	114.6094	466.7487	38.70649	287.4848	75.63660	9.655685
#1	-.006504	.0019777	.0005338	.0074835	.0029697	-.011660	-.002639
#2	.009192	-.000401	.0037828	.0035178	.0007460	-.003964	-.002320
#3	-.004405	.003084	-.002346	.0079966	-.001423	-.003086	-.002813

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000053	.0002574	-.005579	-.000462	.0002625	.0016205	.0001866
Stddev	.0001261	.0000846	.005215	.000379	.0004336	.0053773	.0213293
%RSD	2360.702	32.88171	93.48033	82.09828	165.2111	331.8273	11432.90
#1	-.000140	.0003545	-.011213	-.000027	-.000137	.0077927	.0018492
#2	.000075	.0001994	-.004602	-.000726	.000202	-.002052	.0206358
#3	.000081	.0002183	-.000921	-.000631	.000723	-.000879	-.021925

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000481	-.024729	-.000025	-.004312	.0536992	-.005526	-.000482
Stddev	.000650	.070341	.000164	.000397	.4014153	.004962	.000458
%RSD	134.9782	284.4459	650.6579	9.205582	747.5258	89.79741	94.95154
#1	.000251	.043923	-.000102	-.004323	-.148333	-.008337	-.000931
#2	-.000708	-.096645	-.000136	-.004704	.515993	-.008445	-.000016
#3	-.000987	-.021465	.000163	-.003910	-.206563	.000204	-.000498

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0892403	-.003915	-.005830	-.000049	-.004456	-.000365	.0007828
Stddev	.1659620	.005466	.000705	.000484	.004989	.000766	.0016295
%RSD	185.9720	139.6054	12.10061	991.6775	111.9481	210.1108	208.1634
#1	.1225678	-.010226	-.005376	-.000584	-.002218	-.000692	.0022817
#2	-.090856	-.000788	-.006642	.000077	-.010172	-.000912	-.000952
#3	.236010	-.000731	-.005470	.000360	-.000978	.000511	.001018

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICB001 Acquired: 10/30/2024 22:28:57 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB001 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0014833	-.002725	-.000283
Stddev	.0002451	.001278	.000064
%RSD	16.52191	46.89956	22.52175
#1	.0012009	-.003441	-.000331
#2	.0016087	-.003484	-.000307
#3	.0016404	-.001249	-.000211

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	981.2406	23267.71	2676.544	849.5621	1894.732
Stddev	1.2580	79.50	13.580	4.5012	4.262
%RSD	.1282070	.3416667	.5073807	.5298207	.2249326
#1	982.3928	23176.11	2667.443	844.5554	1899.096
#2	979.8984	23318.60	2670.036	850.8571	1894.520
#3	981.4306	23308.44	2692.154	853.2739	1890.580

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICSA001 Acquired: 10/30/2024 22:45:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031872	-.012660	-.004263	.0056159	.0010916	239.8169
Stddev	.0069194	.007123	.003377	.0036766	.0031424	.7081
%RSD	217.1005	56.26288	79.22598	65.46720	287.8651	.2952605
#1	.0111149	-.006093	-.004356	.0092124	-.001529	240.5265
#2	.0000848	-.011654	-.000840	.0018641	.004575	239.8137
#3	-.001638	-.020232	-.007593	.0057713	.000229	239.1104

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032228	.0012159	.0017446	247.1407	.0499646	.0013977
Stddev	.0007802	.0001096	.0003969	1.0021	.0011634	.0006678
%RSD	24.20980	9.009586	22.74806	.4054575	2.328557	47.77851
#1	.0026599	.0010998	.0021945	248.1500	.0511564	.0014280
#2	.0041135	.0013174	.0015952	247.1260	.0488317	.0007152
#3	.0028951	.0012306	.0014441	246.1461	.0499057	.0020498

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006814	102.9778	.0110981	253.2481	.0044850	-.000043
Stddev	.002545	.2937	.0010112	.8014	.0005890	.001277
%RSD	37.35331	.2851672	9.111679	.3164384	13.13293	2946.860
#1	-.004510	103.2232	.0122652	253.6272	.0046998	.001387
#2	-.009547	103.0578	.0105434	253.7897	.0038188	-.000448
#3	-.006387	102.6524	.0104856	252.3276	.0049365	-.001069

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2203775	.0117547	.0112006	.0106997	.0002919	F .0742236
Stddev	.2530967	.0083610	.0004843	.0801713	.0036463	.0006905
%RSD	114.8469	71.12869	4.323664	749.2869	1249.345	.9303410
#1	.3816147	.0059417	.0106592	.0521903	.0033668	.0739050
#2	-.071333	.0079857	.0113501	.0616226	-.003736	.0737499
#3	.350851	.0213367	.0115925	-.081714	.001245	.0750159

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICSA001 Acquired: 10/30/2024 22:45:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA001 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001053	.0080085	-.000496	-.002640	-.002115	-.000242
Stddev	.000680	.0087951	.000962	.001900	.001664	.000368
%RSD	64.57657	109.8221	193.7279	71.99889	78.67983	151.9268
#1	-.000356	.0067155	-.000951	-.003922	-.000254	.000166
#2	-.001088	-.000069	.000608	-.003540	-.002633	-.000345
#3	-.001714	.017379	-.001146	-.000456	-.003459	-.000548

Elem	Sr4077
Units	ppm
Avg	F .1027105
Stddev	.0001674
%RSD	.1629975
#1	.1028295
#2	.1027830
#3	.1025191

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	914.8548	22069.73	2628.932	792.3343	1590.786
Stddev	.1289	122.06	13.787	3.0024	1.584
%RSD	.0140846	.5530823	.5244498	.3789351	.0995634
#1	914.7238	21939.56	2621.996	793.3948	1592.605
#2	914.9813	22087.99	2619.990	788.9455	1589.711
#3	914.8595	22181.63	2644.810	794.6625	1590.043

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICSAB001 Acquired: 10/30/2024 22:49:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0941083	.0869805	.0477935	.0527576	.5626600	245.0777
Stddev	.0037450	.0058354	.0008435	.0083996	.0049577	.9907
%RSD	3.979428	6.708880	1.764938	15.92110	.8811113	.4042316
#1	.0972865	.0907228	.0487532	.0432054	.5570663	245.6266
#2	.0950587	.0802567	.0471694	.0560773	.5665111	243.9341
#3	.0899797	.0899621	.0474579	.0589899	.5644026	245.6725

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5359521	.5476853	1.042323	253.3000	.6005314	.5208746
Stddev	.0031143	.0034900	.002026	.6268	.0010946	.0019100
%RSD	.5810730	.6372229	.1943907	.2474409	.1822741	.3666999
#1	.5386571	.5512952	1.041532	253.7886	.6011578	.5191290
#2	.5325475	.5443291	1.040811	252.5933	.6011690	.5205799
#3	.5366517	.5474315	1.044625	253.5182	.5992675	.5229149

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4935200	105.7085	.5392960	259.1568	1.046274	.1919229
Stddev	.0081555	.3327	.0045672	.4740	.001553	.0007182
%RSD	1.652525	.3147312	.8468841	.1829167	.1483887	.3741945
#1	.4854116	105.6335	.5431792	259.6608	1.044644	.1920662
#2	.4934265	105.4197	.5342641	258.7199	1.046442	.1925586
#3	.5017218	106.0723	.5404447	259.0896	1.047735	.1911439

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4053588	.5197235	.9496390	-.276587	.0042206	F .0771574
Stddev	.2965240	.0056331	.0022916	.072993	.0057482	.0014342
%RSD	73.15100	1.083861	.2413087	26.39065	136.1933	1.858808
#1	.1931422	.5144261	.9474596	-.328410	.0088860	.0776037
#2	.7441677	.5256410	.9520283	-.308240	.0059767	.0755532
#3	.2787665	.5191036	.9494293	-.193110	-.002201	.0783155

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: ICSAB001 Acquired: 10/30/2024 22:49:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB001 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001378	.0161317	-.000565	-.002419	-.002149	-.001663
Stddev	.000240	.0038855	.000754	.001964	.000394	.000364
%RSD	17.41566	24.08619	133.3200	81.16648	18.34658	21.89351
#1	-.001632	.0199178	-.000559	-.001726	-.002484	-.001328
#2	-.001156	.0163234	-.001322	-.004636	-.001715	-.001612
#3	-.001346	.0121539	.000185	-.000897	-.002248	-.002051

Elem	Sr4077
Units	ppm
Avg	F .1047703
Stddev	.0002087
%RSD	.1991998
#1	.1049911
#2	.1045763
#3	.1047435

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	911.3702	22050.71	2645.280	786.7305	1592.065
Stddev	2.2971	72.43	15.423	1.2468	2.506
%RSD	.2520478	.3284618	.5830275	.1584840	.1574353
#1	914.0175	21995.30	2628.331	785.5006	1593.911
#2	909.9036	22024.16	2658.488	787.9936	1593.074
#3	910.1895	22132.66	2649.021	786.6973	1589.212

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV001 Acquired: 10/30/2024 22:54:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.113340	4.755521	24.57276	4.768050	4.812555	404.0415	10.06963
Stddev	.019730	.025732	.07300	.038299	.034057	4.1548	.07331
%RSD	.3858516	.5410951	.2970700	.8032377	.7076632	1.028302	.7280676
#1	5.091211	4.725933	24.49365	4.725800	4.788078	400.8208	10.01320
#2	5.129095	4.767964	24.63752	4.800488	4.798137	408.7312	10.15250
#3	5.119714	4.772667	24.58710	4.777863	4.851449	402.5724	10.04319

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5170370	2.477871	396.1876	14.85009	2.481669	14.71338	404.7757
Stddev	.0037278	.007950	4.4317	.03417	.008440	.12682	4.1996
%RSD	.7209887	.3208343	1.118587	.2301131	.3400942	.8619695	1.037510
#1	.5130948	2.469426	392.5098	14.83006	2.472263	14.60060	401.1851
#2	.5205049	2.485209	401.1080	14.88955	2.488582	14.85067	409.3936
#3	.5175112	2.478977	394.9451	14.83066	2.484161	14.68886	403.7484

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.61190	392.4418	2.467115	1.265082	399.2394	2.441846	14.30499
Stddev	.12605	4.6160	.008162	.005987	4.4235	.037447	.05228
%RSD	.8626523	1.176233	.3308265	.4732511	1.107992	1.533547	.3654547
#1	14.50549	388.0132	2.458507	1.266036	396.7854	2.407165	14.24533
#2	14.75110	397.2249	2.474742	1.270534	404.3460	2.481552	14.34280
#3	14.57910	392.0874	2.468097	1.258675	396.5869	2.436821	14.32684

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	150.7035	4.930086	4.828930	4.709452	5.035324	4.778169	4.944496
Stddev	1.3592	.021220	.047235	.033708	.014939	.042396	.019171
%RSD	.9018905	.4304109	.9781591	.7157460	.2966855	.8872867	.3877221
#1	149.4968	4.907064	4.806646	4.672858	5.018621	4.755718	4.929307
#2	152.1759	4.948861	4.883184	4.716264	5.047407	4.827069	4.966037
#3	150.4379	4.934333	4.796960	4.739233	5.039944	4.751720	4.938145

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV001 Acquired: 10/30/2024 22:54:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV001 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.888686	4.929326	5.007323
Stddev	.056916	.068291	.045831
%RSD	1.164240	1.385399	.9152755
#1	4.838952	4.887142	4.968094
#2	4.950759	5.008115	5.057700
#3	4.876346	4.892720	4.996176

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	797.1045	21264.56	2582.290	660.9086	1442.546
Stddev	3.6629	70.41	23.328	2.0558	2.069
%RSD	.4595234	.3311286	.9033679	.3110561	.1434106
#1	800.8531	21309.65	2601.501	663.2678	1444.626
#2	796.9266	21183.42	2556.332	659.5017	1440.489
#3	793.5338	21300.60	2589.036	659.9561	1442.522

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB001 Acquired: 10/30/2024 22:58:23 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB001 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004278	.0022898	.0013614	.0008979	.0013925	.0091740	-.002614
Stddev	.005931	.0022346	.0032868	.0025100	.0021929	.0017500	.000769
%RSD	138.6263	97.58933	241.4375	279.5482	157.4759	19.07558	29.39996
#1	-.006297	.0046268	.0027615	.0003640	.0032069	.0096842	-.001785
#2	-.008935	.0001741	.0037163	-.001302	.0020150	.0072256	-.003302
#3	.002398	.0020685	-.002394	.003632	-.001044	.0106121	-.002756

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000910	.0001157	.0211563	.0003533	.0002194	-.002094	.0259646
Stddev	.0001733	.0000251	.0132597	.0002846	.0000978	.002345	.0144303
%RSD	190.4146	21.69065	62.67479	80.54013	44.58446	111.9948	55.57694
#1	-.000109	.0000904	.0068011	.0005819	.0002072	-.003593	.0394583
#2	.000183	.0001162	.0237224	.0000346	.0001283	-.003297	.0107517
#3	.000199	.0001406	.0329453	.0004436	.0003228	.000609	.0276838

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014745	.0329108	.0000510	-.004549	-.124904	.0034957	.0002748
Stddev	.0004856	.0637356	.0007401	.000842	.450611	.0016083	.0001925
%RSD	32.92955	193.6616	1450.569	18.51090	360.7649	46.00941	70.02951
#1	.0012074	-.001019	.0008198	-.003801	-.503079	.0017083	.0004139
#2	.0020350	-.006682	-.000010	-.004385	-.245315	.0039527	.0000552
#3	.0011813	.106434	-.000657	-.005461	.373680	.0048261	.0003555

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1652287	-.005239	.0012447	.0000622	.0019210	-.000323	.0019270
Stddev	.0528906	.001638	.0020658	.0002997	.0023382	.000286	.0008620
%RSD	32.01052	31.26252	165.9670	482.1461	121.7149	88.59452	44.73525
#1	.1556979	-.007094	.0036139	-.000225	.0043919	-.000016	.0025974
#2	.1177515	-.003994	-.000180	.000039	-.000257	-.000370	.0009546
#3	.2222366	-.004629	.000300	.000373	.001628	-.000584	.0022290

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB001 Acquired: 10/30/2024 22:58:23 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB001 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0028165	.0001616	.0000353
Stddev	.0007401	.0028211	.0001670
%RSD	26.27898	1745.602	473.6694
#1	.0031615	.0008909	.0002212
#2	.0019668	-.002952	-.000013
#3	.0033211	.002546	-.000102

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	983.5124	23316.99	2678.240	846.5072	1896.226
Stddev	1.5229	128.61	16.907	3.4253	2.808
%RSD	.1548432	.5515564	.6312699	.4046399	.1481098
#1	982.3100	23209.53	2693.779	846.1788	1896.154
#2	985.2248	23281.97	2680.707	843.2579	1899.070
#3	983.0023	23459.48	2660.236	850.0849	1893.455

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-01DLX2 Acquired: 10/30/2024 23:02:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3372145	-.029997	.1906374	.0002714	.0065840	89.03849	1.337217
Stddev	.0130859	.004823	.0027355	.0031677	.0019548	.24389	.004856
%RSD	3.880574	16.07703	1.434922	1167.273	29.68996	.2739196	.3631584
#1	.3246759	-.032249	.1916156	-.003186	.0086173	88.75944	1.333096
#2	.3361812	-.024460	.1875472	.000967	.0047185	89.14515	1.335983
#3	.3507863	-.033282	.1927493	.003034	.0064162	89.21089	1.342571

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059575	.0090001	92.59518	.2149663	.1301554	.4488305	248.1483
Stddev	.0001813	.0003679	.30036	.0010882	.0009603	.0045103	.9455
%RSD	3.043128	4.088237	.3243748	.5062269	.7378185	1.004910	.3810356
#1	.0058315	.0093797	92.25281	.2143152	.1312604	.4450329	247.0698
#2	.0058758	.0086450	92.81431	.2143611	.1296833	.4476427	248.8343
#3	.0061653	.0089755	92.71842	.2162225	.1295225	.4538159	248.5410

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.225907	47.23938	.2347328	-.023649	1.103870	.4793325	.5386028
Stddev	.028221	.46626	.0010050	.000575	.253298	.0043676	.0021421
%RSD	.3058841	.9870068	.4281590	2.430095	22.94633	.9111933	.3977174
#1	9.196815	46.71297	.2352993	-.023411	1.166996	.4803632	.5372556
#2	9.253168	47.60038	.2335724	-.023230	.824979	.4830927	.5374800
#3	9.227737	47.40478	.2353268	-.024304	1.319635	.4745417	.5410730

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.79332	5.553115	.2198832	-.001072	1.027821	3.552379	.0055963
Stddev	.14301	.017142	.0010028	.000334	.005932	.017499	.0041887
%RSD	.6274070	.3086907	.4560693	31.13409	.5771737	.4926061	74.84720
#1	22.66662	5.542480	.2194899	-.001318	1.032283	3.532767	.0013067
#2	22.94839	5.543974	.2191367	-.000692	1.021089	3.557972	.0058061
#3	22.76496	5.572890	.2210231	-.001207	1.030091	3.566399	.0096762

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-01DLX2 Acquired: 10/30/2024 23:02:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.066554	.0787942	.2215626
Stddev	.009721	.0009174	.0007495
%RSD	.4704001	1.164293	.3382637
#1	2.059332	.0796945	.2208869
#2	2.062724	.0778606	.2214321
#3	2.077607	.0788273	.2223687

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1020.095	24638.96	2885.422	883.3752	1731.096
Stddev	2.274	31.78	11.779	4.0653	3.935
%RSD	.2229401	.1290011	.4082107	.4602048	.2272971
#1	1017.647	24662.87	2898.965	886.0191	1726.564
#2	1022.143	24602.89	2879.731	878.6941	1733.642
#3	1020.493	24651.11	2877.569	885.4125	1733.082

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-02DLX2 Acquired: 10/30/2024 23:07:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1270597	-.023182	.1259590	.0014182	.0040608	80.61759	.9126984
Stddev	.0062406	.002932	.0043266	.0051662	.0038124	.24126	.0055269
%RSD	4.911536	12.64776	3.434956	364.2844	93.88351	.2992611	.6055548
#1	.1320263	-.023030	.1209658	.0054234	.0046028	80.76482	.9185014
#2	.1200548	-.026187	.1283122	.0032441	.0075733	80.74880	.9120972
#3	.1290979	-.020329	.1285991	-.004413	.0000064	80.33917	.9074968

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048091	.0067095	42.07064	.1811165	.1011271	.4025213	182.3079
Stddev	.0002472	.0002496	.24827	.0004992	.0010417	.0026176	.8062
%RSD	5.140869	3.719423	.5901300	.2756009	1.030088	.6502918	.4422326
#1	.0046674	.0064217	41.95024	.1810046	.1020574	.4035196	181.8608
#2	.0050945	.0068406	42.35616	.1816621	.1013224	.4044929	183.2386
#3	.0046652	.0068661	41.90553	.1806828	.1000016	.3995515	181.8242

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.188390	40.67783	.1701306	-.019800	1.044357	.3701835	.4675532
Stddev	.020186	.23090	.0008223	.000457	.302306	.0043194	.0006638
%RSD	.4819544	.5676334	.4833426	2.309209	28.94665	1.166832	.1419700
#1	4.209854	40.74762	.1705281	-.019560	1.011414	.3707278	.4667869
#2	4.185529	40.86578	.1691851	-.020328	.759872	.3742049	.4679218
#3	4.169787	40.42008	.1706786	-.019514	1.361786	.3656177	.4679509

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.28466	6.835982	.1699247	.0010230	.9808543	4.213366	.0081475
Stddev	.17617	.007302	.0010033	.0004422	.0036756	.033572	.0012055
%RSD	.6702447	.1068197	.5904309	43.22885	.3747401	.7967974	14.79639
#1	26.40563	6.837091	.1690213	.0006450	.9827261	4.222476	.0083850
#2	26.36581	6.842667	.1710045	.0015093	.9832173	4.241442	.0092166
#3	26.08254	6.828189	.1697483	.0009147	.9766195	4.176179	.0068409

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-02DLX2 Acquired: 10/30/2024 23:07:20 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.090781	.0572274	.2379458
Stddev	.010104	.0011793	.0008391
%RSD	.4832642	2.060766	.3526317
#1	2.101265	.0581842	.2389137
#2	2.089972	.0575883	.2374244
#3	2.081106	.0559098	.2374993

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1033.035	24774.17	2890.473	892.5412	1766.023
Stddev	1.423	126.51	14.919	3.9285	4.803
%RSD	.1377911	.5106439	.5161539	.4401519	.2719929
#1	1032.575	24752.28	2882.390	889.4595	1761.047
#2	1034.632	24910.19	2881.339	896.9649	1766.388
#3	1031.899	24660.03	2907.689	891.1991	1770.633

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-03DLX2 Acquired: 10/30/2024 23:11:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1417598	-.023916	.1376751	.0005727	.0044706	80.33707	.8890211
Stddev	.0094500	.000604	.0042631	.0038908	.0028717	.43678	.0036773
%RSD	6.666218	2.526190	3.096515	679.4262	64.23389	.5436814	.4136337
#1	.1327692	-.024221	.1367372	-.002481	.0017208	80.16607	.8864970
#2	.1516105	-.024308	.1339590	.004953	.0042409	80.01167	.8873261
#3	.1408998	-.023220	.1423291	-.000755	.0074503	80.83348	.8932402

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049157	.0065923	38.64692	.1758785	.0988461	.4351767	185.7274
Stddev	.0000373	.0001542	.23151	.0015167	.0005765	.0062535	1.4276
%RSD	.7594367	2.339016	.5990442	.8623814	.5832131	1.437013	.7686486
#1	.0048893	.0067592	38.51328	.1743773	.0994214	.4351661	185.1007
#2	.0049584	.0065624	38.51324	.1774103	.0982684	.4289285	184.7203
#3	.0048994	.0064552	38.91425	.1758478	.0988486	.4414356	187.3611

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.176014	38.99781	.1660073	-.020227	1.311581	.3760233	.4754626
Stddev	.015246	.29880	.0013143	.000896	.247443	.0086087	.0042001
%RSD	.3650940	.7661976	.7916899	4.428902	18.86599	2.289394	.8833642
#1	4.166945	38.74967	.1650290	-.019240	1.596184	.3850197	.4801163
#2	4.167480	38.91427	.1675012	-.020452	1.191151	.3678634	.4743182
#3	4.193616	39.32949	.1654917	-.020989	1.147407	.3751867	.4719534

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.04863	5.479113	.1782631	.0014330	1.160443	3.922345	.0074994
Stddev	.17966	.032573	.0021344	.0005906	.013096	.023565	.0006948
%RSD	.7172393	.5944921	1.197304	41.21360	1.128525	.6007784	9.264191
#1	25.21628	5.454728	.1773004	.0012257	1.163402	3.909152	.0067894
#2	24.85899	5.516106	.1767797	.0009740	1.171807	3.908331	.0075310
#3	25.07063	5.466507	.1807093	.0020994	1.146121	3.949551	.0081779

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-03DLX2 Acquired: 10/30/2024 23:11:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.251181	.0582211	.2374978
Stddev	.010911	.0010320	.0014459
%RSD	.4846620	1.772586	.6088206
#1	2.245322	.0571445	.2369092
#2	2.244452	.0592018	.2364389
#3	2.263770	.0583169	.2391452

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1023.543	24575.78	2865.714	880.8715	1762.517
Stddev	.657	81.20	14.700	7.0445	4.125
%RSD	.0641637	.3303965	.5129648	.7997173	.2340542
#1	1024.026	24483.07	2867.561	872.7567	1764.634
#2	1022.795	24610.02	2879.404	885.4167	1757.764
#3	1023.807	24634.25	2850.178	884.4410	1765.155

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-04DLX2 Acquired: 10/30/2024 23:16:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1129079	-.018395	.1069597	.0004926	.0029845	59.62549	.6986065
Stddev	.0077572	.002859	.0020489	.0074716	.0020109	.20611	.0029115
%RSD	6.870408	15.54468	1.915549	1516.651	67.37867	.3456737	.4167527
#1	.1198675	-.021306	.1093134	-.006470	.0006761	59.70438	.6992272
#2	.1045447	-.015591	.1059894	.008386	.0039213	59.78051	.7011576
#3	.1143115	-.018288	.1055761	-.000438	.0043561	59.39159	.6954347

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036441	.0049726	34.62582	.1341657	.0782021	.3189112	144.9825
Stddev	.0001192	.0001669	.11408	.0011065	.0001625	.0010703	.6763
%RSD	3.270875	3.355989	.3294634	.8247073	.2078446	.3356087	.4664657
#1	.0035064	.0048455	34.72403	.1352917	.0781506	.3200012	145.2377
#2	.0037135	.0049106	34.65275	.1330798	.0783842	.3178617	145.4941
#3	.0037122	.0051616	34.50069	.1341257	.0780716	.3188706	144.2158

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.571729	30.12010	.1317209	-.017271	.9613327	.2973447	.3756024
Stddev	.020042	.22494	.0007027	.000323	.2081585	.0044587	.0007933
%RSD	.5611321	.7468049	.5334676	1.869387	21.65312	1.499520	.2112025
#1	3.579269	30.01767	.1324107	-.017222	.8242280	.2998857	.3759740
#2	3.586908	30.37802	.1317461	-.017615	1.200858	.2999521	.3746916
#3	3.549011	29.96460	.1310060	-.016975	.858912	.2921963	.3761418

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.34871	4.560330	.1365572	.0010170	.9228549	4.403542	.0060411
Stddev	.18744	.011988	.0006831	.0005786	.0068991	.027935	.0013740
%RSD	1.021541	.2628659	.5002370	56.89370	.7475844	.6343815	22.74436
#1	18.54850	4.570643	.1368757	.0003572	.9156065	4.403892	.0056818
#2	18.32092	4.563170	.1370230	.0014378	.9236166	4.431301	.0075590
#3	18.17672	4.547178	.1357731	.0012561	.9293415	4.375433	.0048824

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-04DLX2 Acquired: 10/30/2024 23:16:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.864058	.0421132	.1952911
Stddev	.007606	.0006266	.0008934
%RSD	.4080378	1.487931	.4574852
#1	1.864603	.0415114	.1959911
#2	1.871377	.0427620	.1955974
#3	1.856194	.0420663	.1942848

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1018.985	24499.47	2868.322	884.6071	1784.954
Stddev	.822	56.29	17.753	5.8959	2.936
%RSD	.0806550	.2297448	.6189226	.6664959	.1644919
#1	1018.041	24436.66	2865.068	877.8472	1782.991
#2	1019.366	24516.40	2852.420	888.6863	1783.543
#3	1019.547	24545.35	2887.476	887.2877	1788.330

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-05DLX2 Acquired: 10/30/2024 23:20:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1740613	-.024399	.1429999	.0025525	.0058094	79.76315	.9456664
Stddev	.0034356	.001267	.0036739	.0052382	.0026052	.16765	.0012531
%RSD	1.973813	5.192635	2.569150	205.2219	44.84418	.2101840	.1325103
#1	.1779580	-.025346	.1469065	-.003082	.0078026	79.95549	.9466457
#2	.1727573	-.024891	.1424790	.007275	.0028616	79.64799	.9460992
#3	.1714685	-.022960	.1396143	.003464	.0067640	79.68597	.9442542

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046324	.0068018	28.18976	.1930077	.1038963	.4284402	189.5576
Stddev	.0003478	.0001054	.05482	.0006811	.0014018	.0036048	.9142
%RSD	7.508434	1.548878	.1944717	.3528932	1.349200	.8413871	.4822648
#1	.0043016	.0068159	28.25306	.1931722	.1054682	.4324259	190.5107
#2	.0046004	.0066901	28.15818	.1922594	.1034449	.4274867	188.6882
#3	.0049951	.0068994	28.15805	.1935914	.1027759	.4254079	189.4740

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.570489	38.93343	.1871344	-.020506	1.204829	.3547679	.4582779
Stddev	.012920	.13098	.0017482	.000625	.174921	.0053073	.0045814
%RSD	.2319278	.3364205	.9341832	3.046185	14.51833	1.496003	.9997080
#1	5.556490	39.00566	.1890781	-.020060	1.199703	.3487913	.4625730
#2	5.581952	38.78223	.1856907	-.021220	1.382256	.3565825	.4534557
#3	5.573025	39.01238	.1866343	-.020238	1.032527	.3589300	.4588049

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.05936	4.835105	.1709497	.0005127	.7604049	3.478158	.0092514
Stddev	.07536	.002286	.0014895	.0006027	.0070457	.003507	.0022718
%RSD	.3132178	.0472868	.8713264	117.5339	.9265702	.1008154	24.55624
#1	24.06452	4.834895	.1715854	.0008998	.7641056	3.482206	.0112324
#2	23.98155	4.837489	.1692478	-.000182	.7522800	3.476073	.0097499
#3	24.13200	4.832931	.1720159	.000820	.7648291	3.476195	.0067717

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-05DLX2 Acquired: 10/30/2024 23:20:37 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.991641	.0571168	.1483734
Stddev	.007625	.0021117	.0002800
%RSD	.3828416	3.697075	.1887188
#1	2.000358	.0576983	.1486538
#2	1.988353	.0547753	.1483727
#3	1.986211	.0588767	.1480937

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1028.589	24704.27	2876.783	892.4960	1772.542
Stddev	1.895	95.68	12.785	8.8554	3.436
%RSD	.1842439	.3872830	.4444080	.9922105	.1938213
#1	1027.017	24629.83	2863.340	884.0995	1768.577
#2	1030.694	24812.19	2888.788	901.7482	1774.409
#3	1028.058	24670.80	2878.222	891.6401	1774.639

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-06DLX2 Acquired: 10/30/2024 23:25:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2569718	-.033627	.1722572	-.004616	.0071993	104.2122	1.181207
Stddev	.0045897	.000805	.0012083	.005078	.0011486	.2872	.003686
%RSD	1.786074	2.394792	.7014361	110.0025	15.95410	.2755674	.3120663
#1	.2561902	-.032837	.1708814	.000984	.0060699	104.5149	1.183712
#2	.2619021	-.033596	.1727447	-.008920	.0083661	104.1779	1.182933
#3	.2528231	-.034447	.1731456	-.005912	.0071619	103.9437	1.176974

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0062332	.0097340	44.09699	.3014328	.1650926	.5368287	263.8684
Stddev	.0002127	.0000881	.21281	.0021539	.0006455	.0045734	.9068
%RSD	3.413083	.9048524	.4826054	.7145528	.3909840	.8519295	.3436707
#1	.0061595	.0096754	44.27630	.3010256	.1644387	.5371993	264.5362
#2	.0060671	.0096913	44.15285	.3037613	.1651097	.5412056	264.2330
#3	.0064729	.0098353	43.86181	.2995116	.1657293	.5320814	262.8360

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.444315	55.94920	.3021258	-.025412	1.216893	.5137173	.5355471
Stddev	.016070	.35096	.0011687	.000565	.054664	.0016068	.0057175
%RSD	.2158671	.6272894	.3868353	2.224481	4.492086	.3127837	1.067596
#1	7.449061	55.76497	.3008608	-.025947	1.277382	.5122524	.5388203
#2	7.457477	56.35391	.3023513	-.024821	1.202268	.5134638	.5388758
#3	7.426407	55.72871	.3031654	-.025467	1.171030	.5154359	.5289452

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.87397	6.189646	.2276474	.0007686	1.088411	2.980340	.0066877
Stddev	.14009	.012833	.0006663	.0004263	.011207	.014250	.0020388
%RSD	.4851684	.2073294	.2926927	55.46692	1.029689	.4781242	30.48523
#1	28.92453	6.174841	.2284088	.0012463	1.077228	2.972056	.0070056
#2	28.98176	6.196516	.2273621	.0004266	1.099642	2.996794	.0085488
#3	28.71562	6.197582	.2271712	.0006330	1.088363	2.972171	.0045087

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-06DLX2 Acquired: 10/30/2024 23:25:03 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.157080	.0786547	.2124343
Stddev	.009257	.0009698	.0008234
%RSD	.4291577	1.232962	.3876147
#1	2.165872	.0797709	.2132675
#2	2.157949	.0780191	.2124145
#3	2.147419	.0781741	.2116210

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1028.836	24850.09	2898.126	895.7729	1736.433
Stddev	2.727	49.12	10.122	5.1979	.307
%RSD	.2650768	.1976526	.3492568	.5802720	.0176939
#1	1031.493	24816.30	2904.522	891.7929	1736.382
#2	1028.973	24827.54	2886.456	893.8722	1736.155
#3	1026.043	24906.44	2903.400	901.6537	1736.763

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-07DLX2 Acquired: 10/30/2024 23:29:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1850630	-.025215	.1414492	-.001277	.0051428	83.24994	.9394875
Stddev	.0033630	.001380	.0023800	.006971	.0009509	.26085	.0038029
%RSD	1.817219	5.473564	1.682547	545.9502	18.48927	.3133384	.4047852
#1	.1887052	-.025058	.1439020	.003421	.0040479	83.17545	.9402153
#2	.1820755	-.023920	.1391495	.002035	.0057614	83.53994	.9428739
#3	.1844081	-.026667	.1412961	-.009286	.0056191	83.03443	.9353733

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049591	.0068153	26.67864	.1967169	.1053244	.4930452	188.0034
Stddev	.0002713	.0001770	.07474	.0012290	.0006604	.0028173	.7609
%RSD	5.471393	2.596782	.2801476	.6247634	.6270408	.5714003	.4047159
#1	.0052723	.0067702	26.59389	.1967113	.1060579	.4962706	187.6180
#2	.0047945	.0070105	26.70691	.1979488	.1047770	.4917994	188.8799
#3	.0048106	.0066653	26.73513	.1954907	.1051383	.4910656	187.5124

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.256334	40.46370	.1904258	-.019954	1.262040	.3618191	.4546152
Stddev	.032674	.11852	.0010388	.000289	.329287	.0057683	.0013918
%RSD	.6216080	.2929116	.5455229	1.446950	26.09163	1.594245	.3061552
#1	5.245641	40.50121	.1900012	-.020122	1.568970	.3683798	.4544374
#2	5.293015	40.55894	.1916097	-.020121	.914216	.3575430	.4533208
#3	5.230347	40.33097	.1896665	-.019621	1.302935	.3595347	.4560873

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.64683	4.581200	.1673727	-.000506	.5952685	3.129750	.0056390
Stddev	.03859	.013846	.0017218	.000610	.0058882	.025678	.0035151
%RSD	.1632076	.3022342	1.028690	120.5256	.9891703	.8204632	62.33693
#1	23.67377	4.584367	.1654216	-.000945	.5975548	3.109928	.0040189
#2	23.60262	4.593189	.1680175	-.000765	.5996706	3.158758	.0096720
#3	23.66410	4.566045	.1686789	.000191	.5885800	3.120564	.0032259

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-07DLX2 Acquired: 10/30/2024 23:29:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.019571	.0590095	.1586686
Stddev	.006163	.0020851	.0004972
%RSD	.3051457	3.533554	.3133554
#1	2.018289	.0586840	.1587781
#2	2.026273	.0612382	.1591020
#3	2.014150	.0571062	.1581258

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1033.944	24742.79	2874.977	888.9322	1777.678
Stddev	1.336	23.05	19.822	.5598	1.993
%RSD	.1292139	.0931629	.6894570	.0629740	.1121293
#1	1032.957	24760.33	2888.040	889.2102	1777.611
#2	1033.411	24716.68	2852.170	889.2985	1775.719
#3	1035.464	24751.34	2884.722	888.2878	1779.704

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-08DLX2 Acquired: 10/30/2024 23:33:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1984449	-.025497	.2245921	.0002164	.0101047	102.6982	1.111732
Stddev	.0069621	.001678	.0068038	.0119008	.0037839	2.4540	.028783
%RSD	3.508316	6.581431	3.029393	5500.610	37.44754	2.389565	2.589031
#1	.2062942	-.027092	.2323591	.0029922	.0102398	105.5317	1.144968
#2	.1930163	-.023747	.2217316	.0104839	.0138192	101.3060	1.094977
#3	.1960240	-.025652	.2196855	-.012827	.0062549	101.2568	1.095252

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057645	.0105881	30.07157	.2346270	.1290248	.8610273	223.2830
Stddev	.0002417	.0003375	.77147	.0011035	.0015944	.0232360	4.9957
%RSD	4.193448	3.187255	2.565454	.4703325	1.235726	2.698636	2.237395
#1	.0059523	.0102049	30.95796	.2345400	.1276061	.8877775	229.0478
#2	.0058495	.0108411	29.70520	.2335695	.1287182	.8494495	220.5815
#3	.0054918	.0107182	29.55154	.2357715	.1307503	.8458548	220.2198

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.136980	48.92423	.2278901	-.023451	1.592524	.4167514	.6647541
Stddev	.148672	1.10642	.0014214	.000751	.112590	.0169380	.0039826
%RSD	2.422554	2.261503	.6237152	3.201010	7.069916	4.064304	.5991051
#1	6.308423	50.19617	.2263695	-.024198	1.722468	.4355158	.6686214
#2	6.043592	48.39221	.2281156	-.023456	1.531068	.4025923	.6606655
#3	6.058925	48.18431	.2291853	-.022697	1.524036	.4121459	.6649753

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.36600	6.495477	.1997873	.0004502	.9575050	3.167354	.0107707
Stddev	.82337	.041618	.0068653	.0002913	.0070331	.059236	.0012209
%RSD	2.467702	.6407285	3.436312	64.71152	.7345249	1.870220	11.33513
#1	34.31675	6.499744	.2077128	.0003886	.9518770	3.235363	.0106602
#2	32.88890	6.451889	.1956763	.0001946	.9552486	3.127028	.0096089
#3	32.89236	6.534797	.1959728	.0007674	.9653894	3.139670	.0120431

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-08DLX2 Acquired: 10/30/2024 23:33:53 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.448239	.0719208	.1872607
Stddev	.065107	.0033318	.0048313
%RSD	2.659331	4.632619	2.579982
#1	2.523004	.0757537	.1928337
#2	2.417680	.0697167	.1842555
#3	2.404033	.0702921	.1846930

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1042.385	25070.99	2890.771	899.5381	1751.669
Stddev	1.906	18.46	56.186	7.8320	2.903
%RSD	.1828765	.0736188	1.943632	.8706652	.1657359
#1	1043.474	25056.70	2826.014	890.5564	1751.420
#2	1040.184	25064.45	2926.576	903.1138	1754.689
#3	1043.498	25091.83	2919.723	904.9440	1748.899

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-09DLX2 Acquired: 10/30/2024 23:38:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0770655	-.026733	.1092172	.0037621	.0030905	81.19186	.8952610
Stddev	.0063043	.004942	.0042153	.0018138	.0033724	.21310	.0030657
%RSD	8.180484	18.48508	3.859600	48.21178	109.1239	.2624690	.3424327
#1	.0837486	-.023102	.1083844	.0058467	.0063502	80.98713	.8918645
#2	.0712247	-.032360	.1054804	.0028947	.0033056	81.17600	.8960955
#3	.0762231	-.024736	.1137868	.0025449	-.000384	81.41245	.8978231

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051394	.0060023	57.82473	.1680528	.1056192	.2245648	187.1083
Stddev	.0001355	.0001080	.10303	.0004631	.0002886	.0064374	.2328
%RSD	2.637176	1.799121	.1781830	.2755602	.2732298	2.866601	.1243967
#1	.0051445	.0061144	57.71317	.1675732	.1052989	.2171504	186.9195
#2	.0050015	.0058989	57.84473	.1680879	.1058589	.2287301	187.0370
#3	.0052724	.0059936	57.91630	.1684974	.1056997	.2278139	187.3683

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.402244	40.40771	.1776810	-.020290	1.737469	.4252064	.3689020
Stddev	.003152	.22191	.0004174	.000404	.158631	.0077036	.0010164
%RSD	.0715926	.5491799	.2349375	1.991197	9.130022	1.811726	.2755248
#1	4.400255	40.62672	.1780895	-.020623	1.832787	.4224763	.3677794
#2	4.405878	40.41341	.1776984	-.019840	1.825271	.4339032	.3691669
#3	4.400601	40.18301	.1772551	-.020407	1.554349	.4192396	.3697598

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.62710	5.592104	.1684967	-.000841	.6356831	4.812547	.0036147
Stddev	.02360	.030807	.0015661	.000584	.0112261	.014825	.0025784
%RSD	.1202188	.5509085	.9294576	69.35395	1.765994	.3080456	71.33172
#1	19.60950	5.626640	.1670434	-.000442	.6471798	4.827490	.0006383
#2	19.65391	5.567450	.1682915	-.000571	.6351210	4.797843	.0051662
#3	19.61788	5.582221	.1701554	-.001511	.6247486	4.812308	.0050395

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-09DLX2 Acquired: 10/30/2024 23:38:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.125044	.0523751	.2297898
Stddev	.006444	.0002786	.0006815
%RSD	.2062077	.5318805	.2965639
#1	3.118541	.0526926	.2291786
#2	3.131428	.0521720	.2296662
#3	3.125163	.0522606	.2305246

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1032.412	24916.24	2933.396	893.7729	1739.599
Stddev	4.210	27.45	9.880	.9106	3.483
%RSD	.4078134	.1101763	.3368067	.1018816	.2002145
#1	1032.166	24947.85	2922.487	894.7552	1740.228
#2	1036.740	24898.47	2941.743	893.6064	1742.724
#3	1028.331	24902.38	2935.958	892.9570	1735.844

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-10DLX2 Acquired: 10/30/2024 23:42:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1857842	-.025606	.1426102	-.001082	.0076251	84.07812	.9591928
Stddev	.0091213	.003056	.0031805	.003504	.0012736	.29710	.0019725
%RSD	4.909632	11.93452	2.230196	323.9284	16.70245	.3533674	.2056388
#1	.1926425	-.023571	.1402061	-.001890	.0062336	83.80695	.9579237
#2	.1892775	-.024126	.1462166	.002756	.0087329	84.39570	.9614652
#3	.1754325	-.029120	.1414080	-.004111	.0079088	84.03172	.9581895

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050828	.0074390	26.28918	.2116595	.1147309	.4674819	190.8562
Stddev	.0003195	.0004230	.14878	.0004716	.0005953	.0057702	.6527
%RSD	6.286215	5.686078	.5659349	.2228068	.5188640	1.234309	.3420096
#1	.0050217	.0073174	26.12390	.2120580	.1141598	.4611302	190.1130
#2	.0054284	.0079095	26.41241	.2117816	.1153478	.4724003	191.3366
#3	.0047982	.0070901	26.33122	.2111388	.1146851	.4689154	191.1189

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.680840	42.20003	.2087770	-.020946	1.097633	.3667017	.4639606
Stddev	.019842	.14105	.0013394	.000123	.240343	.0118044	.0006332
%RSD	.3492821	.3342503	.6415542	.5879138	21.89653	3.219083	.1364833
#1	5.657938	42.11268	.2078364	-.020968	.860827	.3564114	.4634756
#2	5.691701	42.36276	.2103106	-.020813	1.090707	.3641056	.4646770
#3	5.692880	42.12466	.2081841	-.021056	1.341364	.3795881	.4637292

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.64037	5.101421	.1664913	-.000183	.7298897	3.527019	.0079706
Stddev	.16355	.023523	.0007381	.000679	.0064542	.043804	.0022999
%RSD	.6918048	.4610988	.4433017	371.4040	.8842732	1.241948	28.85484
#1	23.50930	5.093616	.1656437	-.000953	.7231261	3.487446	.0093805
#2	23.58816	5.127854	.1668373	.000080	.7359821	3.574086	.0092147
#3	23.82364	5.082793	.1669927	.000326	.7305609	3.519524	.0053166

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-10DLX2 Acquired: 10/30/2024 23:42:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4B9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.246499	.0613838	.1525414
Stddev	.005182	.0002625	.0006899
%RSD	.2306855	.4276764	.4522493
#1	2.240647	.0616817	.1517807
#2	2.250509	.0612832	.1531265
#3	2.248341	.0611864	.1527171

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1027.873	24788.61	2873.988	895.9318	1767.726
Stddev	1.245	18.68	25.014	2.0562	5.335
%RSD	.1211162	.0753394	.8703453	.2295009	.3017869
#1	1026.441	24771.22	2896.669	893.5602	1770.684
#2	1028.488	24808.35	2847.161	897.0207	1761.568
#3	1028.692	24786.27	2878.135	897.2145	1770.927

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-11DLX2 Acquired: 10/30/2024 23:47:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1836157	-.031508	.1783970	-.000886	.0052975	101.0052	1.107238
Stddev	.0070733	.002436	.0042550	.003895	.0014444	.1333	.003216
%RSD	3.852230	7.731085	2.385130	439.8164	27.26610	.1319604	.2904763
#1	.1902881	-.034304	.1830788	.000518	.0053136	101.1292	1.110405
#2	.1762002	-.029849	.1747655	-.005288	.0038451	101.0220	1.107334
#3	.1843587	-.030370	.1773467	.002113	.0067339	100.8643	1.103974

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059928	.0090263	38.16212	.2292785	.1301042	.6042922	227.8231
Stddev	.0003114	.0001356	.16084	.0006841	.0007383	.0071696	.1786
%RSD	5.196236	1.502565	.4214561	.2983877	.5674895	1.186442	.0783887
#1	.0060373	.0089029	38.34422	.2289292	.1309238	.6088965	228.0016
#2	.0062796	.0091715	38.10264	.2288396	.1294911	.5960316	227.8235
#3	.0056616	.0090045	38.03949	.2300668	.1298976	.6079486	227.6444

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.991628	49.31695	.2300186	-.022465	1.529611	.4467427	.5710249
Stddev	.006847	.08571	.0014262	.000433	.282788	.0051708	.0050846
%RSD	.1142790	.1737955	.6200233	1.928850	18.48760	1.157447	.8904299
#1	5.998351	49.30741	.2287913	-.022524	1.529892	.4445886	.5665831
#2	5.991870	49.40703	.2315831	-.022005	1.812260	.4429972	.5765708
#3	5.984663	49.23641	.2296814	-.022866	1.246683	.4526423	.5699209

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.06364	6.404539	.2047317	-.000162	.8451173	3.708844	.0087489
Stddev	.12784	.010664	.0016554	.000346	.0104498	.009689	.0012097
%RSD	.4115513	.1665144	.8085834	213.7173	1.236496	.2612520	13.82667
#1	31.17872	6.394774	.2060928	-.000557	.8505910	3.704282	.0074607
#2	30.92603	6.415919	.2052134	.000090	.8330676	3.719972	.0098607
#3	31.08617	6.402924	.2028888	-.000019	.8516932	3.702278	.0089253

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-11DLX2 Acquired: 10/30/2024 23:47:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.779633	.0713652	.2039498
Stddev	.004051	.0006264	.0002482
%RSD	.1457406	.8776868	.1216946
#1	2.783253	.0707214	.2042191
#2	2.780388	.0714016	.2037304
#3	2.775257	.0719725	.2038999

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1039.303	24982.08	2893.540	899.8800	1745.317
Stddev	1.891	41.81	9.957	6.5233	3.195
%RSD	.1819477	.1673665	.3441284	.7249117	.1830563
#1	1040.587	24991.24	2885.655	900.5795	1746.745
#2	1037.132	24936.44	2890.235	893.0351	1741.657
#3	1040.190	25018.55	2904.730	906.0254	1747.549

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-12DLX2 Acquired: 10/30/2024 23:51:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1820019	-.024679	.1706506	.0011156	.0044525	91.46920	.9878508
Stddev	.0014555	.004694	.0032198	.0004661	.0019690	.03322	.0042929
%RSD	.7997245	19.02013	1.886806	41.77559	44.22230	.0363157	.4345727
#1	.1833663	-.029996	.1691839	.0016479	.0024180	91.50338	.9876802
#2	.1821696	-.021110	.1743426	.0009179	.0063486	91.43704	.9922265
#3	.1804698	-.022931	.1684252	.0007810	.0045908	91.46717	.9836457

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052404	.0081095	29.53882	.2141641	.1162126	.5985377	196.6206
Stddev	.0002685	.0001269	.09495	.0009375	.0004389	.0007893	.3884
%RSD	5.123395	1.565197	.3214527	.4377627	.3776967	.1318700	.1975373
#1	.0051863	.0079723	29.64809	.2130819	.1160803	.5990520	197.0678
#2	.0050031	.0081336	29.49193	.2146789	.1158550	.5976289	196.4267
#3	.0055319	.0082227	29.47643	.2147314	.1167025	.5989321	196.3674

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.486296	44.48086	.2131479	-.020115	.9906628	.3806223	.5419556
Stddev	.021837	.16913	.0003999	.000443	.0021311	.0092702	.0015579
%RSD	.3980282	.3802351	.1876251	2.201028	.2151192	2.435527	.2874547
#1	5.489696	44.67533	.2126944	-.020431	.9913932	.3720289	.5414633
#2	5.506233	44.36816	.2134501	-.019609	.9923327	.3793918	.5407033
#3	5.462958	44.39907	.2132994	-.020306	.9882625	.3904463	.5437002

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.00331	5.162253	.1772132	-.000006	.7645607	4.225846	.0090110
Stddev	.06869	.011363	.0015364	.000885	.0066472	.016161	.0015346
%RSD	.2641611	.2201195	.8669587	14434.82	.8694158	.3824432	17.03071
#1	26.01877	5.149403	.1786796	.000469	.7569688	4.238088	.0093386
#2	26.06295	5.166379	.1773446	.000540	.7673780	4.207527	.0103554
#3	25.92820	5.170976	.1756153	-.001027	.7693353	4.231923	.0073390

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-12DLX2 Acquired: 10/30/2024 23:51:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.316414	.0647566	.1684973
Stddev	.004885	.0010149	.0006326
%RSD	.2108750	1.567248	.3754548
#1	2.320693	.0656361	.1682397
#2	2.311092	.0636461	.1692181
#3	2.317456	.0649877	.1680340

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1032.641	24750.50	2872.809	891.6364	1758.189
Stddev	1.763	82.62	12.438	1.4163	1.996
%RSD	.1707006	.3338021	.4329622	.1588419	.1135521
#1	1030.776	24750.82	2860.048	892.4610	1757.525
#2	1034.279	24667.72	2873.481	890.0010	1760.433
#3	1032.869	24832.95	2884.897	892.4471	1756.609

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-13DLX2 Acquired: 10/30/2024 23:56:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1729221	-.021782	.1552270	-.004074	.0042075	83.97877	.9109803
Stddev	.0036199	.004422	.0039599	.001247	.0026916	.15569	.0018887
%RSD	2.093392	20.30066	2.551044	30.61009	63.96991	.1853885	.2073292
#1	.1687452	-.026688	.1528525	-.003574	.0015898	83.91321	.9111644
#2	.1751482	-.018102	.1530301	-.005494	.0040655	84.15652	.9127702
#3	.1748730	-.020556	.1597983	-.003155	.0069673	83.86659	.9090063

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046510	.0070047	29.35647	.1972538	.1067275	.5297317	180.0725
Stddev	.0001368	.0000947	.36375	.0005020	.0002539	.0010125	.7917
%RSD	2.941667	1.351927	1.239063	.2544709	.2379372	.1911396	.4396775
#1	.0046374	.0069379	29.71245	.1966751	.1069721	.5285811	179.2046
#2	.0047941	.0069630	29.37153	.1975149	.1067451	.5304867	180.2575
#3	.0045215	.0071131	28.98543	.1975713	.1064651	.5301274	180.7553

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.034228	40.04523	.1907236	-.019866	.8881168	.3552837	.6751861
Stddev	.018500	.13482	.0024738	.000946	.2870891	.0024839	.0316608
%RSD	.3674820	.3366769	1.297054	4.762624	32.32560	.6991179	4.689203
#1	5.036055	40.19076	.1901447	-.018774	1.171882	.3541396	.7101760
#2	5.051746	39.92458	.1885906	-.020388	.597815	.3535780	.6668667
#3	5.014882	40.02034	.1934355	-.020437	.894653	.3581334	.6485156

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.45341	4.639139	.1615051	.0004303	.6845495	3.464511	.0049235
Stddev	.03341	.014579	.0016929	.0003709	.0012086	.012481	.0027317
%RSD	.1424427	.3142700	1.048214	86.19235	.1765509	.3602487	55.48239
#1	23.48259	4.628078	.1602388	.0007972	.6855239	3.456968	.0047024
#2	23.46066	4.655660	.1634279	.0004383	.6831971	3.478917	.0077590
#3	23.41697	4.633678	.1608484	.0000555	.6849275	3.457648	.0023091

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-13DLX2 Acquired: 10/30/2024 23:56:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.237011	.0588796	.1559201
Stddev	.003783	.0007924	.0002639
%RSD	.1691265	1.345803	.1692356
#1	2.240136	.0584711	.1558836
#2	2.238092	.0597928	.1562003
#3	2.232804	.0583747	.1556764

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1027.591	24693.04	2866.558	887.4802	1768.241
Stddev	1.059	112.93	7.380	6.9195	1.669
%RSD	.1030627	.4573154	.2574582	.7796787	.0943807
#1	1026.877	24564.40	2865.925	879.8711	1769.960
#2	1027.088	24738.93	2859.515	893.3956	1766.627
#3	1028.808	24775.80	2874.235	889.1740	1768.137

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-14DLX2 Acquired: 10/31/2024 0:00:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2620599	.0691012	.2037712	.1630009	.1675083	92.49552	4.747363
Stddev	.0121690	.0040395	.0044091	.0099456	.0014753	.22159	.010984
%RSD	4.643578	5.845776	2.163774	6.101578	.8807102	.2395668	.2313774
#1	.2487853	.0650328	.2081141	.1601837	.1688361	92.75112	4.757594
#2	.2726874	.0691597	.2039010	.1547678	.1659202	92.35764	4.748739
#3	.2647069	.0731112	.1992986	.1740512	.1677686	92.37779	4.735755

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1006846	.1054293	28.59510	.6011543	1.087066	1.026637	192.8963
Stddev	.0001181	.0002083	.15438	.0016281	.001542	.003341	.4094
%RSD	.1173121	.1975427	.5398896	.2708300	.1418113	.3254077	.2122527
#1	.1007196	.1056572	28.77335	.6012065	1.088842	1.024487	193.3620
#2	.1007812	.1052489	28.50389	.6027557	1.086069	1.030485	192.7338
#3	.1005529	.1053818	28.50806	.5995007	1.086288	1.024938	192.5931

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.318295	43.13272	1.189856	.0707014	.9917850	1.299415	1.305216
Stddev	.017076	.04975	.003669	.0007106	.0891059	.006294	.002826
%RSD	.2702609	.1153360	.3083160	1.005020	8.984393	.4843380	.2165021
#1	6.327644	43.18293	1.192659	.0713761	.9157215	1.292547	1.303943
#2	6.328656	43.13177	1.185704	.0699597	1.089822	1.300791	1.308455
#3	6.298587	43.08345	1.191206	.0707684	.969812	1.304906	1.303251

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.42601	5.088027	.1713449	-.000143	.7630521	4.087452	.0081718
Stddev	.11518	.006072	.0016894	.000406	.0075791	.011631	.0025809
%RSD	.4529898	.1193358	.9859679	282.8644	.9932604	.2845602	31.58366
#1	25.47025	5.093782	.1731662	-.000129	.7645111	4.097423	.0052929
#2	25.51250	5.081682	.1698290	.000255	.7548496	4.090259	.0102787
#3	25.29527	5.088617	.1710395	-.000556	.7697956	4.074675	.0089437

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-14DLX2 Acquired: 10/31/2024 0:00:28 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.258318	.0622880	.1649242
Stddev	.006093	.0005914	.0002375
%RSD	.2697881	.9495077	.1440013
#1	2.265132	.0627144	.1651882
#2	2.256429	.0625367	.1648566
#3	2.253394	.0616128	.1647278

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1027.609	24706.27	2897.813	889.2070	1747.367
Stddev	2.081	82.08	17.149	3.0062	2.882
%RSD	.2025165	.3322233	.5917778	.3380794	.1649526
#1	1025.785	24617.30	2879.632	886.3455	1744.041
#2	1029.875	24779.05	2900.109	888.9360	1749.128
#3	1027.166	24722.46	2913.698	892.3396	1748.933

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-12LDLX10 Acquired: 10/31/2024 0:04:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0405666	-.005772	.0348802	.0020260	-.000419	20.04845	.2156009
Stddev	.0063330	.002560	.0032093	.0043712	.001981	.01284	.0002462
%RSD	15.61143	44.35071	9.200830	215.7556	473.2782	.0640527	.1141808
#1	.0368099	-.003002	.0349402	-.002799	-.002488	20.06268	.2154053
#2	.0370115	-.008051	.0316414	.003156	-.000227	20.04494	.2155201
#3	.0478784	-.006264	.0380591	.005721	.001460	20.03773	.2158773

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011963	.0016241	6.489909	.0468342	.0240994	.1317961	43.71865
Stddev	.0001542	.0000846	.056749	.0008417	.0004747	.0030054	.08171
%RSD	12.89143	5.211797	.8744135	1.797097	1.969733	2.280367	.1868889
#1	.0012484	.0015687	6.483585	.0467123	.0246158	.1304245	43.79030
#2	.0010228	.0015821	6.436587	.0460601	.0240002	.1352427	43.73599
#3	.0013177	.0017215	6.549555	.0477302	.0236821	.1297212	43.62967

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.225895	9.730020	.0442213	-.008480	.2398625	.0845040	.1168630
Stddev	.002789	.086548	.0005891	.000512	.1424951	.0020622	.0007539
%RSD	.2274969	.8894900	1.332174	6.036738	59.40701	2.440409	.6451192
#1	1.222697	9.815007	.0435798	-.009016	.1454612	.0868616	.1170837
#2	1.227167	9.733062	.0443460	-.008428	.1703535	.0830355	.1160234
#3	1.227821	9.641992	.0447381	-.007997	.4037729	.0836147	.1174820

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.631816	1.056640	.0334522	-.000901	.1590220	.9397004	.0035330
Stddev	.090301	.000514	.0007316	.000095	.0092234	.0023650	.0023816
%RSD	1.603401	.0486330	2.186944	10.55827	5.800098	.2516750	67.40801
#1	5.699343	1.057176	.0334187	-.000873	.1519559	.9378916	.0010767
#2	5.529246	1.056152	.0327379	-.000823	.1556540	.9388330	.0036905
#3	5.666859	1.056592	.0341999	-.001007	.1694560	.9423766	.0058320

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-12LDLX10 Acquired: 10/31/2024 0:04:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5098728	.0120593	.0367773
Stddev	.0022838	.0001306	.0002461
%RSD	.4479104	1.082637	.6690853
#1	.5108903	.0119258	.0370324
#2	.5114710	.0121867	.0367582
#3	.5072572	.0120654	.0365414

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	995.4857	23683.66	2720.695	863.0121	1842.691
Stddev	.8506	55.22	10.292	5.5376	3.387
%RSD	.0854459	.2331450	.3782979	.6416613	.1838284
#1	996.3357	23698.96	2719.218	858.6393	1839.181
#2	994.6345	23729.61	2731.646	869.2388	1842.952
#3	995.4868	23622.40	2711.221	861.1583	1845.941

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-15DLX2 Acquired: 10/31/2024 0:09:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3127193	-.027703	.1690443	-.000573	.0049336	93.08203	1.056877
Stddev	.0082173	.003115	.0050439	.004714	.0016695	.22870	.003154
%RSD	2.627682	11.24455	2.983757	822.3626	33.83832	.2456965	.2984271
#1	.3084798	-.029973	.1736953	.004288	.0068243	93.19285	1.056160
#2	.3221905	-.024152	.1636829	-.005124	.0043137	92.81903	1.054144
#3	.3074877	-.028985	.1697547	-.000883	.0036628	93.23420	1.060328

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0053692	.0081304	33.48492	.2285388	.1188854	.5444445	203.1160
Stddev	.0000989	.0001461	.18622	.0005243	.0006000	.0018331	.6918
%RSD	1.841220	1.796562	.5561192	.2294231	.5046680	.3366865	.3405718
#1	.0054757	.0079805	33.64263	.2290341	.1185276	.5425620	203.0296
#2	.0052804	.0081384	33.27949	.2285927	.1185504	.5462238	202.4715
#3	.0053514	.0082723	33.53264	.2279896	.1195780	.5445477	203.8469

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.698553	45.31349	.2279954	-.021185	1.147894	.4096038	.4961171
Stddev	.010019	.09818	.0005796	.000226	.035891	.0101513	.0028029
%RSD	.1758184	.2166621	.2541978	1.068039	3.126640	2.478309	.5649634
#1	5.710048	45.31499	.2275640	-.021036	1.110269	.4071357	.4948419
#2	5.693937	45.41092	.2286542	-.021073	1.181753	.4009142	.4993308
#3	5.691674	45.21458	.2277681	-.021445	1.151662	.4207615	.4941786

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.23069	5.152245	.1825199	.0003545	.9566291	3.261013	.0067890
Stddev	.07631	.015526	.0019313	.0001161	.0076541	.004779	.0019626
%RSD	.3284999	.3013367	1.058136	32.73233	.8001116	.1465568	28.90940
#1	23.27258	5.164526	.1847152	.0004884	.9594931	3.255687	.0045360
#2	23.27688	5.134794	.1817619	.0002828	.9479560	3.262425	.0077032
#3	23.14261	5.157416	.1810825	.0002924	.9624381	3.264927	.0081277

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-15DLX2 Acquired: 10/31/2024 0:09:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.223496	.0682439	.2023323
Stddev	.007201	.0018250	.0003455
%RSD	.3238561	2.674198	.1707719
#1	2.227525	.0697535	.2019980
#2	2.215183	.0662158	.2023109
#3	2.227781	.0687624	.2026880

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1029.187	24699.97	2884.718	889.7174	1753.918
Stddev	.712	19.21	4.008	2.9320	3.770
%RSD	.0691889	.0777831	.1389498	.3295376	.2149259
#1	1030.004	24721.80	2884.450	891.7531	1756.798
#2	1028.699	24685.62	2888.854	886.3568	1755.305
#3	1028.857	24692.50	2880.851	891.0423	1749.651

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-16DLX2 Acquired: 10/31/2024 0:13:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1243193	-.017832	.1415656	.0022356	.0073108	71.75832	.8255662
Stddev	.0058701	.003651	.0010931	.0053133	.0015201	.20997	.0020354
%RSD	4.721819	20.47314	.7721455	237.6747	20.79219	.2926133	.2465524
#1	.1309163	-.017291	.1410054	.0081891	.0058108	71.52001	.8237238
#2	.1196724	-.021723	.1408662	.0005426	.0088501	71.91612	.8277512
#3	.1223692	-.014482	.1428253	-.002025	.0072715	71.83885	.8252236

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045107	.0072661	45.34139	.1675707	.0938969	.4346974	167.4844
Stddev	.0001263	.0002477	.20403	.0004319	.0007985	.0064468	.7307
%RSD	2.799760	3.408399	.4499808	.2577233	.8504070	1.483046	.4362739
#1	.0043787	.0075453	45.10698	.1673590	.0932980	.4273381	166.7046
#2	.0046304	.0071803	45.43822	.1680675	.0935891	.4374072	167.5954
#3	.0045229	.0070728	45.47898	.1672854	.0948034	.4393470	168.1533

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.402451	37.32146	.1522195	-.018513	.9692946	.3247434	.5158819
Stddev	.012302	.21518	.0017660	.000584	.1800084	.0077291	.0027984
%RSD	.2794284	.5765611	1.160157	3.152249	18.57107	2.380050	.5424435
#1	4.394031	37.08054	.1502584	-.017852	1.154483	.3166450	.5126633
#2	4.416569	37.38927	.1536840	-.018958	.958444	.3320406	.5172431
#3	4.396754	37.49457	.1527161	-.018727	.794957	.3255446	.5177392

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.40256	7.425090	.1712866	.0011718	2.067705	3.494223	.0057362
Stddev	.15030	.053717	.0017800	.0005634	.010607	.022791	.0008495
%RSD	.6159031	.7234550	1.039196	48.07996	.5129924	.6522441	14.80958
#1	24.30536	7.365959	.1720015	.0005661	2.056123	3.469249	.0066758
#2	24.32664	7.438435	.1692603	.0016802	2.076946	3.513895	.0055103
#3	24.57567	7.470877	.1725980	.0012692	2.070047	3.499527	.0050224

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-16DLX2 Acquired: 10/31/2024 0:13:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.885930	.0500239	.2413036
Stddev	.002634	.0009809	.0008849
%RSD	.1396812	1.960863	.3667063
#1	1.886784	.0489858	.2404353
#2	1.888031	.0501506	.2422041
#3	1.882974	.0509353	.2412713

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1018.960	24457.92	2858.332	880.9041	1764.363
Stddev	2.296	38.21	11.614	3.1098	6.095
%RSD	.2252866	.1562457	.4063181	.3530284	.3454263
#1	1021.152	24427.26	2871.042	884.3425	1771.197
#2	1016.574	24500.73	2848.271	880.0817	1762.399
#3	1019.153	24445.75	2855.684	878.2882	1759.492

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-17DLX2 Acquired: 10/31/2024 0:18:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1621762	-.021876	.1328920	.0078262	.0052031	73.61240	.8644897
Stddev	.0042511	.001580	.0007342	.0065621	.0011657	.14909	.0027687
%RSD	2.621300	7.223994	.5524969	83.84782	22.40369	.2025347	.3202724
#1	.1621910	-.021124	.1326105	.0052426	.0049034	73.44195	.8614975
#2	.1664198	-.023692	.1337253	.0029492	.0064894	73.71857	.8669610
#3	.1579176	-.020812	.1323402	.0152869	.0042165	73.67668	.8650105

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043873	.0059249	32.37110	.1664664	.0935007	.3719647	162.5484
Stddev	.0004269	.0001276	.06376	.0011924	.0004948	.0076945	.2980
%RSD	9.730694	2.152951	.1969590	.7162833	.5291615	2.068615	.1833552
#1	.0047845	.0057814	32.42846	.1667845	.0938850	.3750705	162.5194
#2	.0044416	.0059681	32.30245	.1674674	.0936747	.3776209	162.8599
#3	.0039359	.0060253	32.38239	.1651472	.0929424	.3632027	162.2660

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.153030	37.09616	.1552381	-.019116	1.413997	.3181985	.4259112
Stddev	.018228	.16463	.0004670	.000854	.078945	.0102217	.0013337
%RSD	.4389042	.4437953	.3008130	4.469366	5.583087	3.212351	.3131372
#1	4.133924	36.91424	.1556327	-.019297	1.325511	.3082639	.4247128
#2	4.170229	37.13934	.1547226	-.018185	1.477212	.3286849	.4273480
#3	4.154938	37.23490	.1553591	-.019864	1.439268	.3176468	.4256727

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.15020	4.734080	.1560105	.0014506	1.305426	4.458233	.0065560
Stddev	.15570	.012477	.0012058	.0003190	.008343	.014413	.0003576
%RSD	.7029322	.2635603	.7728855	21.99177	.6391367	.3232985	5.454867
#1	22.13534	4.719870	.1571517	.0014464	1.302106	4.458515	.0063258
#2	22.31280	4.743244	.1561306	.0017717	1.314918	4.472503	.0063742
#3	22.00246	4.739125	.1547491	.0011337	1.299253	4.443680	.0069679

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-17DLX2 Acquired: 10/31/2024 0:18:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.951773	.0519290	.1985780
Stddev	.005632	.0022300	.0008424
%RSD	.2885625	4.294283	.4242325
#1	1.950488	.0493663	.1980731
#2	1.957937	.0534283	.1995505
#3	1.946895	.0529922	.1981103

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1019.255	24562.70	2886.794	884.7354	1758.703
Stddev	.787	35.43	6.175	.3072	2.681
%RSD	.0771898	.1442427	.2139026	.0347268	.1524264
#1	1019.175	24547.57	2885.602	884.4655	1755.612
#2	1018.511	24537.36	2881.302	884.6710	1760.105
#3	1020.078	24603.19	2893.478	885.0698	1760.392

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-18DLX2 Acquired: 10/31/2024 0:22:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1242702	-.022899	.1304305	.0002514	.0059559	86.73188	.9501605
Stddev	.0113795	.002539	.0020000	.0098326	.0039244	.28953	.0026833
%RSD	9.157085	11.08929	1.533364	3911.889	65.89047	.3338202	.2824055
#1	.1368269	-.025093	.1324281	-.010542	.0014353	86.79841	.9530646
#2	.1146391	-.023488	.1304351	.008699	.0079451	86.41488	.9477731
#3	.1213447	-.020117	.1284282	.002598	.0084875	86.98236	.9496437

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052552	.0071074	41.91269	.1855218	.1073705	.4318602	185.7984
Stddev	.0000650	.0002224	.23500	.0002357	.0010202	.0055359	.8960
%RSD	1.236791	3.129024	.5606843	.1270205	.9501398	1.281861	.4822251
#1	.0052520	.0071287	41.84769	.1856571	.1070977	.4276770	186.0938
#2	.0053217	.0073184	41.71703	.1852497	.1065145	.4297660	184.7920
#3	.0051918	.0068752	42.17334	.1856587	.1084994	.4381377	186.5093

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.769108	42.47941	.1734196	-.020677	.9722460	.3464175	.5350446
Stddev	.020961	.33902	.0017332	.000377	.1714125	.0014156	.0019298
%RSD	.4395200	.7980863	.9994437	1.822355	17.63057	.4086375	.3606759
#1	4.777890	42.76077	.1714277	-.020772	1.168984	.3453341	.5372597
#2	4.745184	42.10301	.1742463	-.020262	.855089	.3480192	.5341468
#3	4.784250	42.57447	.1745846	-.020998	.892666	.3458991	.5337274

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.53549	6.592153	.1821769	.0005915	1.895443	4.907711	.0057301
Stddev	.17973	.001708	.0033908	.0002153	.014234	.024404	.0010742
%RSD	.5885901	.0259125	1.861241	36.39473	.7509455	.4972484	18.74741
#1	30.54395	6.593986	.1849187	.0008393	1.892420	4.901123	.0049924
#2	30.35168	6.591867	.1783854	.0004847	1.910946	4.887278	.0052353
#3	30.71083	6.590606	.1832265	.0004506	1.882964	4.934732	.0069626

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-18DLX2 Acquired: 10/31/2024 0:22:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.168286	.0584559	.2302693
Stddev	.013107	.0004508	.0005167
%RSD	.6044672	.7712324	.2243919
#1	2.170928	.0582985	.2306522
#2	2.154060	.0581049	.2296816
#3	2.179871	.0589644	.2304741

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1025.500	24764.63	2899.999	891.5970	1746.616
Stddev	2.316	51.21	13.597	3.2916	1.660
%RSD	.2258798	.2067968	.4688654	.3691855	.0950653
#1	1028.033	24731.78	2894.295	887.9637	1748.521
#2	1024.975	24738.48	2915.519	892.4471	1745.481
#3	1023.491	24823.64	2890.182	894.3802	1745.844

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-19DLX2 Acquired: 10/31/2024 0:27:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1432081	-.021105	.1602545	.0011038	.0061581	69.54078	.8520138
Stddev	.0132028	.002582	.0046473	.0027167	.0030491	.11444	.0020787
%RSD	9.219285	12.23485	2.899967	246.1330	49.51339	.1645691	.2439713
#1	.1330473	-.021547	.1607484	.0000326	.0030285	69.67280	.8523421
#2	.1384456	-.023437	.1553800	.0041928	.0063260	69.46991	.8497904
#3	.1581313	-.018330	.1646352	-.000914	.0091196	69.47961	.8539087

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044830	.0071073	19.88139	.1624444	.0898317	.5175610	167.8335
Stddev	.0002455	.0000563	.13089	.0007442	.0005801	.0039387	.9681
%RSD	5.475434	.7920026	.6583403	.4581155	.6458108	.7610145	.5767941
#1	.0045768	.0070424	19.95509	.1615862	.0897579	.5220668	168.8681
#2	.0042044	.0071428	19.95882	.1628359	.0904452	.5147724	167.6827
#3	.0046677	.0071367	19.73027	.1629111	.0892920	.5158438	166.9497

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.497835	33.27959	.1551424	-.018713	.7158934	.3081943	.4932271
Stddev	.009478	.14339	.0000585	.000556	.1138439	.0044973	.0037240
%RSD	.2107274	.4308746	.0377162	2.969662	15.90235	1.459229	.7550264
#1	4.507433	33.42992	.1551385	-.019214	.8014599	.3131892	.4909616
#2	4.488481	33.26453	.1552028	-.018809	.5866856	.3044668	.4975251
#3	4.497592	33.14432	.1550859	-.018115	.7595348	.3069268	.4911945

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.23822	5.383349	.1528885	.0015915	1.053351	4.249445	.0082990
Stddev	.18121	.002703	.0018437	.0005008	.009515	.026298	.0013792
%RSD	.7476299	.0502143	1.205897	31.46476	.9032759	.6188504	16.61852
#1	24.30172	5.381462	.1539240	.0011873	1.042454	4.276724	.0092305
#2	24.03380	5.386446	.1539815	.0021516	1.057588	4.247356	.0089518
#3	24.37913	5.382140	.1507598	.0014355	1.060012	4.224253	.0067146

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-19DLX2 Acquired: 10/31/2024 0:27:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.021813	.0483875	.1733963
Stddev	.003964	.0006604	.0003024
%RSD	.1960570	1.364883	.1744177
#1	2.026364	.0479646	.1730692
#2	2.019961	.0480494	.1734542
#3	2.019114	.0491485	.1736657

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1022.888	24527.25	2841.297	882.0114	1775.773
Stddev	1.369	66.10	15.362	5.6929	2.937
%RSD	.1338051	.2694786	.5406823	.6454489	.1654036
#1	1023.360	24560.90	2824.280	887.3155	1776.208
#2	1021.346	24569.75	2845.466	875.9964	1772.642
#3	1023.959	24451.10	2854.144	882.7222	1778.468

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV002 Acquired: 10/31/2024 0:31:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.086353	4.764869	24.56487	4.732758	4.786417	402.5049	10.13714
Stddev	.009073	.025714	.03159	.012682	.009192	1.2301	.03084
%RSD	.1783769	.5396567	.1286074	.2679555	.1920400	.3056005	.3042195
#1	5.078205	4.743194	24.57238	4.746327	4.795849	403.7625	10.17215
#2	5.084724	4.758134	24.53020	4.721204	4.777486	402.4480	10.11400
#3	5.096130	4.793281	24.59203	4.730744	4.785916	401.3043	10.12527

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5229964	2.475024	396.4885	14.91577	2.486232	14.76124	403.1617
Stddev	.0033191	.004121	1.8186	.01117	.003071	.04305	2.1719
%RSD	.6346351	.1664957	.4586827	.0749107	.1235198	.2916307	.5387097
#1	.5215962	2.476105	397.7067	14.92423	2.485749	14.80955	404.9338
#2	.5267862	2.470470	397.3609	14.91997	2.483432	14.74720	403.8125
#3	.5206069	2.478496	394.3981	14.90310	2.489516	14.72696	400.7389

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.65539	391.8805	2.471361	1.262848	397.0654	2.414101	14.38256
Stddev	.02486	1.7204	.004609	.006872	1.4040	.011510	.05944
%RSD	.1696445	.4390102	.1865129	.5441769	.3535955	.4767769	.4132670
#1	14.67936	392.6771	2.470223	1.255430	398.4279	2.402424	14.44148
#2	14.65709	393.0583	2.467427	1.264116	397.1448	2.425437	14.38360
#3	14.62973	389.9062	2.476433	1.268997	395.6233	2.414442	14.32261

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	151.4225	4.942464	4.867239	4.704738	5.022413	4.833088	4.953606
Stddev	.4678	.010146	.011956	.003276	.009116	.024573	.012172
%RSD	.3089189	.2052787	.2456335	.0696394	.1815082	.5084421	.2457170
#1	151.9426	4.937438	4.877545	4.701454	5.021693	4.841073	4.954117
#2	151.2888	4.954141	4.870039	4.708006	5.031868	4.852676	4.941186
#3	151.0362	4.935812	4.854131	4.704754	5.013678	4.805515	4.965513

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV002 Acquired: 10/31/2024 0:31:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV002 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.896800	4.938267	5.026714
Stddev	.013700	.019988	.010917
%RSD	.2797780	.4047563	.2171731
#1	4.909430	4.956554	5.039299
#2	4.898735	4.941318	5.021039
#3	4.882236	4.916929	5.019804

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	794.6371	21148.29	2534.548	655.6141	1436.140
Stddev	.6762	25.90	13.079	3.0982	2.191
%RSD	.0850928	.1224719	.5160359	.4725618	.1525860
#1	795.1059	21131.65	2524.061	652.2183	1434.989
#2	794.9434	21178.14	2530.381	656.3372	1438.667
#3	793.8620	21135.09	2549.204	658.2868	1434.764

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB002 Acquired: 10/31/2024 0:35:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB002 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004267	.0043909	-.000395	-.002701	-.003118	.0121390	-.001454
Stddev	.004704	.0013357	.001902	.005322	.001199	.0099365	.000968
%RSD	110.2311	30.41990	482.0519	197.0807	38.44589	81.85583	66.56774
#1	-.009626	.0057878	-.002090	.001595	-.002385	.0198133	-.001574
#2	-.002356	.0031263	-.000756	-.008655	-.002468	.0009152	-.002355
#3	-.000820	.0042585	.001662	-.001042	-.004501	.0156887	-.000431

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001025	.0001366	.0328117	-.000631	.0003081	.0010748	.0481482
Stddev	.0002274	.0001218	.0362171	.000570	.0007236	.0030940	.0135481
%RSD	221.9566	89.20972	110.3786	90.38262	234.8548	287.8668	28.13841
#1	.0001025	.0000365	.0667731	.000027	-.000475	-.000005	.0625632
#2	.0003299	.0001010	-.005303	-.000942	.000448	-.001335	.0462045
#3	-.000125	.0002722	.036965	-.000977	.000952	.004564	.0356769

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009476	-.003319	-.000414	-.004596	.0555914	.0012231	.0001313
Stddev	.0015717	.080478	.000258	.000441	.0531657	.0098760	.0000880
%RSD	165.8660	2424.580	62.46183	9.595938	95.63660	807.4807	67.03004
#1	-.000860	-.090494	-.000334	-.004490	-.005757	-.003686	.0000595
#2	.001991	.068146	-.000205	-.005081	.088229	.012592	.0002295
#3	.001711	.012390	-.000702	-.004218	.084302	-.005236	.0001048

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0733717	-.003677	.0009301	.0001190	-.001362	.0004124	.0005861
Stddev	.1149953	.003557	.0005837	.0002592	.002007	.0000734	.0000546
%RSD	156.7298	96.75000	62.75848	217.8819	147.3276	17.80755	9.322692
#1	.1256217	-.007581	.0015806	-.000176	.000129	.0003293	.0006490
#2	.1529650	-.002828	.0007579	.000223	-.000572	.0004685	.0005596
#3	-.058472	-.000620	.0004519	.000310	-.003644	.0004394	.0005498

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB002 Acquired: 10/31/2024 0:35:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB002 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0017042	.0012702	-.000075
Stddev	.0007479	.0013680	.000125
%RSD	43.88824	107.7011	167.0133
#1	.0025422	.0026138	.000016
#2	.0014659	.0013177	-.000023
#3	.0011044	-.000121	-.000217

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	980.9052	23152.63	2652.286	844.7210	1888.538
Stddev	1.0429	69.09	5.775	4.6118	.831
%RSD	.1063252	.2984058	.2177350	.5459515	.0439972
#1	980.0965	23106.59	2658.293	839.9351	1889.400
#2	982.0824	23232.07	2646.775	845.0919	1888.473
#3	980.5369	23119.23	2651.789	849.1362	1887.742

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-20DLX2 Acquired: 10/31/2024 0:40:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1191015	-.022402	.1114679	-.002178	.0059524	70.03499	.9739454
Stddev	.0070087	.004233	.0047050	.006429	.0011064	.14324	.0015814
%RSD	5.884646	18.89615	4.220989	295.1434	18.58741	.2045239	.1623704
#1	.1258177	-.023403	.1077792	-.004914	.0072214	69.91011	.9729114
#2	.1196539	-.026045	.1098578	.005166	.0054461	70.19135	.9757658
#3	.1118330	-.017758	.1167666	-.006788	.0051898	70.00352	.9731589

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045166	.0059103	46.00491	.1580906	.1033756	.3331165	168.7588
Stddev	.0001064	.0001042	.11477	.0010853	.0010964	.0021881	.4223
%RSD	2.355027	1.763040	.2494664	.6864925	1.060570	.6568654	.2502678
#1	.0044118	.0058182	45.92119	.1591676	.1023276	.3317125	168.3171
#2	.0046245	.0060234	46.13573	.1569972	.1032846	.3356377	169.1586
#3	.0045136	.0058893	45.95782	.1581069	.1045146	.3319993	168.8008

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.125108	39.91566	.1476061	-.018550	1.119441	.3442322	.4260780
Stddev	.005445	.16114	.0008232	.000515	.346670	.0138225	.0012730
%RSD	.1062488	.4037120	.5577183	2.775924	30.96815	4.015452	.2987792
#1	5.118830	39.73111	.1483012	-.018327	1.252232	.3402789	.4257901
#2	5.127946	39.98734	.1478201	-.019139	.726005	.3596006	.4249737
#3	5.128549	40.02852	.1466970	-.018184	1.380085	.3328171	.4274704

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.90695	5.268669	.1582902	.0010509	.9086261	4.482855	.0068587
Stddev	.05501	.020953	.0023031	.0000146	.0059782	.009391	.0004680
%RSD	.2510927	.3976889	1.454953	1.390479	.6579368	.2094772	6.824122
#1	21.96925	5.281575	.1557909	.0010613	.9034189	4.486727	.0073917
#2	21.88649	5.244493	.1603266	.0010342	.9073051	4.489691	.0066692
#3	21.86510	5.279939	.1587532	.0010572	.9151543	4.472148	.0065151

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-20DLX2 Acquired: 10/31/2024 0:40:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.121674	.0477959	.2131764
Stddev	.005877	.0002052	.0004008
%RSD	.2770032	.4293663	.1879880
#1	2.115768	.0477583	.2131734
#2	2.121732	.0480174	.2135787
#3	2.127521	.0476121	.2127772

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1016.368	24508.14	2859.842	882.8930	1748.030
Stddev	2.131	29.93	.931	2.7660	3.912
%RSD	.2096716	.1221045	.0325653	.3132827	.2237779
#1	1017.616	24521.66	2859.794	884.7208	1750.206
#2	1017.581	24528.91	2858.936	884.2473	1750.369
#3	1013.908	24473.83	2860.797	879.7109	1743.514

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-21DLX2 Acquired: 10/31/2024 0:44:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1357391	-.019988	.1266020	.0027963	.0023744	75.84805	.8543248
Stddev	.0058066	.002506	.0025614	.0022862	.0031888	.12058	.0020597
%RSD	4.277737	12.53927	2.023172	81.75827	134.3017	.1589811	.2410935
#1	.1348108	-.020177	.1246023	.0050604	.0037821	75.76611	.8540195
#2	.1304526	-.017393	.1257148	.0028397	-.001276	75.98652	.8565202
#3	.1419539	-.022395	.1294891	.0004887	.004617	75.79154	.8524348

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046116	.0062020	42.25587	.1709040	.0958151	.3651799	176.5321
Stddev	.0001800	.0001483	.12963	.0007863	.0003620	.0017698	.7365
%RSD	3.902818	2.390471	.3067629	.4601041	.3778054	.4846446	.4172227
#1	.0046150	.0060332	42.32067	.1717297	.0954958	.3633852	176.3397
#2	.0047898	.0063108	42.34032	.1708181	.0957410	.3669237	177.3457
#3	.0044299	.0062622	42.10662	.1701641	.0962084	.3652309	175.9108

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.877099	36.32273	.1479711	-.018907	1.376125	.3499652	.5291145
Stddev	.012777	.07410	.0012922	.000280	.169190	.0042169	.0024873
%RSD	.3295626	.2040122	.8733091	1.483278	12.29466	1.204950	.4700939
#1	3.884897	36.25303	.1465000	-.018583	1.215441	.3454135	.5283535
#2	3.884047	36.40056	.1484899	-.019073	1.552700	.3537389	.5270966
#3	3.862353	36.31460	.1489233	-.019064	1.360234	.3507431	.5318934

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.21528	5.281021	.1650981	.0018752	4.657448	3.412115	.0057275
Stddev	.15322	.020559	.0019423	.0002047	.015988	.007988	.0002964
%RSD	.7222090	.3892936	1.176457	10.91870	.3432829	.2341177	5.174453
#1	21.32797	5.268861	.1640684	.0017204	4.675596	3.420914	.0058179
#2	21.27705	5.269443	.1673385	.0017979	4.651310	3.405318	.0059682
#3	21.04082	5.304757	.1638874	.0021074	4.645439	3.410115	.0053965

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-21DLX2 Acquired: 10/31/2024 0:44:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.998998	.0503854	.2071994
Stddev	.005823	.0009832	.0005578
%RSD	.2912774	1.951291	.2692026
#1	1.995701	.0492680	.2066510
#2	2.005721	.0511178	.2077661
#3	1.995573	.0507705	.2071812

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1023.145	24588.47	2879.776	888.7713	1755.329
Stddev	.484	65.59	9.664	.8218	2.614
%RSD	.0473268	.2667370	.3355697	.0924689	.1489336
#1	1022.986	24532.64	2868.645	888.4892	1753.878
#2	1023.689	24572.07	2886.029	889.6971	1758.347
#3	1022.760	24660.70	2884.653	888.1277	1753.763

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-22DLX2 Acquired: 10/31/2024 0:49:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3461121	-.025793	.1337592	.0005555	.0060801	76.12526	.8694774
Stddev	.0069255	.003710	.0052094	.0064392	.0015892	.05292	.0004477
%RSD	2.000957	14.38209	3.894639	1159.111	26.13817	.0695232	.0514913
#1	.3381579	-.021546	.1277988	-.006699	.0078823	76.06585	.8693236
#2	.3508045	-.028402	.1374421	.002771	.0054783	76.16738	.8699818
#3	.3493739	-.027430	.1360367	.005594	.0048796	76.14256	.8691270

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049479	.0070030	19.89541	.1928018	.1020156	.4239677	196.6495
Stddev	.0002176	.0000571	.05458	.0009734	.0005831	.0028778	.3039
%RSD	4.397252	.8157844	.2743240	.5048782	.5716185	.6787826	.1545468
#1	.0050783	.0070684	19.92144	.1925147	.1021768	.4240965	196.5977
#2	.0050686	.0069783	19.83269	.1920042	.1013688	.4210277	196.3748
#3	.0046967	.0069625	19.93210	.1938864	.1025012	.4267790	196.9760

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.431206	36.90880	.1762723	-.021218	1.400966	.3716903	.4860554
Stddev	.010777	.08496	.0007718	.000341	.323535	.0056777	.0003770
%RSD	.2432159	.2301774	.4378523	1.605472	23.09371	1.527546	.0775738
#1	4.425312	36.84689	.1762338	-.020839	1.192521	.3651363	.4860326
#2	4.443645	36.87385	.1755204	-.021320	1.773681	.3748218	.4856902
#3	4.424660	37.00566	.1770626	-.021497	1.236697	.3751126	.4864433

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.55772	5.605695	.1773671	.0032999	1.271694	3.016054	.0069796
Stddev	.01838	.002069	.0011946	.0004969	.009813	.009332	.0010340
%RSD	.0748269	.0369118	.6734917	15.05760	.7716152	.3094177	14.81440
#1	24.53891	5.607575	.1782859	.0038167	1.276453	3.026055	.0076258
#2	24.57563	5.603478	.1760168	.0032575	1.260409	3.007579	.0057870
#3	24.55862	5.606033	.1777988	.0028256	1.278219	3.014528	.0075259

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4481-22DLX2 Acquired: 10/31/2024 0:49:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.165399	.0584444	.1889738
Stddev	.004963	.0010295	.0002649
%RSD	.2291933	1.761573	.1401778
#1	2.163862	.0585560	.1886790
#2	2.161386	.0573637	.1890504
#3	2.170948	.0594136	.1891919

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1012.915	24416.73	2827.365	880.5082	1756.406
Stddev	4.212	23.62	9.259	3.0618	.746
%RSD	.4158374	.0967421	.3274955	.3477352	.0424998
#1	1008.057	24392.06	2818.208	878.2474	1755.881
#2	1015.130	24439.14	2836.724	883.9926	1756.077
#3	1015.557	24419.01	2827.163	879.2846	1757.260

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164431BL Acquired: 10/31/2024 0:53:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS431 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004527	-.001029	-.000771	.0024216	-.001158	-.005736	-.003013
Stddev	.004420	.001474	.001273	.0061061	.002251	.008255	.000997
%RSD	97.62783	143.2721	165.1892	252.1501	194.4001	143.9140	33.09409
#1	-.008420	-.000325	-.000947	.0060138	.000253	.003775	-.004110
#2	-.005438	-.000038	-.001947	.0058797	-.003754	-.009944	-.002769
#3	.000277	-.002723	.000581	-.004629	.000027	-.011040	-.002161

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000129	.0000411	.0120425	-.000181	.0003596	.0011287	.0089152
Stddev	.000093	.0001260	.0139603	.000426	.0003755	.0035761	.0212700
%RSD	72.25527	306.4137	115.9258	235.0277	104.4158	316.8288	238.5810
#1	-.000087	-.000069	.0229542	-.000599	.0001906	-.002800	.0093641
#2	-.000235	.000014	-.003689	-.000198	.0000984	.001992	-.012576
#3	-.000064	.000178	.016862	.000253	.0007900	.004194	.029957

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014261	-.084537	-.000283	-.003540	.3177188	.0009805	-.001088
Stddev	.0015288	.058934	.000486	.000523	.3619979	.0043578	.000406
%RSD	107.2007	69.71393	172.1544	14.77742	113.9366	444.4655	37.29695
#1	.0016512	-.120082	-.000425	-.004142	-.092639	.0052032	-.001536
#2	-.000203	-.117020	.000259	-.003205	.591799	-.003501	-.000746
#3	.002830	-.016509	-.000682	-.003271	.453997	.001239	-.000982

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.104266	-.001540	-.005518	.0001433	-.002042	.0004385	.0019712
Stddev	.187178	.002841	.000605	.0004768	.005422	.0004108	.0016519
%RSD	179.5194	184.4398	10.95930	332.8501	265.5073	93.67491	83.80127
#1	-.018345	-.004206	-.005913	.0001307	.003078	.0009089	.0028613
#2	-.318979	-.001863	-.005819	-.000327	-.007724	.0002566	.0000651
#3	.024526	.001448	-.004822	.000626	-.001481	.0001501	.0029873

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164431BL Acquired: 10/31/2024 0:53:29 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS431 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0019529	-.002094	-.000214
Stddev	.0022292	.001097	.000091
%RSD	114.1467	52.38945	42.61484
#1	.0044916	-.002407	-.000318
#2	.0003149	-.000875	-.000149
#3	.0010524	-.003001	-.000174

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	976.0697	23063.70	2647.923	839.5789	1883.569
Stddev	1.3198	53.21	12.472	5.9722	2.457
%RSD	.1352193	.2307257	.4710056	.7113300	.1304589
#1	974.6300	23113.55	2662.314	844.8801	1883.307
#2	976.3565	23007.67	2640.271	833.1087	1886.147
#3	977.2226	23069.87	2641.182	840.7480	1881.253

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164431BS Acquired: 10/31/2024 0:58:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS431 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0216639	.0547591	.0224833	.0668837	.1144651	.3894456
Stddev	.0011014	.0004341	.0026022	.0038255	.0027695	.0108764
%RSD	5.083945	.7927943	11.57392	5.719559	2.419502	2.792801
#1	.0209372	.0552543	.0248993	.0655220	.1112672	.3773449
#2	.0229311	.0545792	.0228225	.0712037	.1160546	.3925844
#3	.0211234	.0544439	.0197282	.0639254	.1160735	.3984075

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4318999	.0117943	.0108765	10.98522	.0221123	.1036492
Stddev	.0016786	.0001091	.0001326	.03006	.0007841	.0005264
%RSD	.3886580	.9246984	1.219366	.2736400	3.546191	.5078563
#1	.4303956	.0117108	.0109258	11.01991	.0223517	.1032403
#2	.4315936	.0117544	.0109774	10.96890	.0212363	.1034643
#3	.4337106	.0119177	.0107263	10.96685	.0227488	.1042431

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0514047	.2190569	.0341816	10.91236	.0868702	.0179774
Stddev	.0037950	.0360875	.0013342	.14625	.0003162	.0006804
%RSD	7.382524	16.47405	3.903115	1.340245	.3640227	3.784723
#1	.0479299	.1817013	.0353896	10.88088	.0865072	.0172594
#2	.0508299	.2537263	.0344057	11.07179	.0870179	.0186127
#3	.0554543	.2217432	.0327496	10.78441	.0870855	.0180602

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.41280	.1079533	.1172221	10.08279	.0159220	F -.003940
Stddev	.17383	.0016952	.0014095	.12479	.0038766	.001070
%RSD	1.669356	1.570308	1.202401	1.237641	24.34723	27.16483
#1	10.22455	.1061654	.1163718	10.11929	.0179589	-.005165
#2	10.56722	.1095374	.1188491	9.94382	.0183556	-.003186
#3	10.44663	.1081570	.1164454	10.18526	.0114516	-.003468

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164431BS Acquired: 10/31/2024 0:58:01 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS431 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0199714	.1791210	F .4583046	.0151260	.2097734	.0287344
Stddev	.0001638	.0078448	.0015444	.0020592	.0026689	.0010612
%RSD	.8202941	4.379615	.3369927	13.61353	1.272280	3.693273
#1	.0201448	.1814540	.4590057	.0170896	.2091216	.0292987
#2	.0198193	.1703744	.4593742	.0153056	.2074907	.0275102
#3	.0199499	.1855348	.4565340	.0129830	.2127078	.0293943

Elem	Sr4077
Units	ppm
Avg	.2142343
Stddev	.0005766
%RSD	.2691644
#1	.2136022
#2	.2147316
#3	.2143692

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	973.1628	23171.61	2652.855	843.2284	1837.729
Stddev	2.3723	28.42	8.768	1.0063	4.091
%RSD	.2437701	.1226601	.3305300	.1193417	.2226371
#1	975.8185	23188.72	2653.943	842.3111	1839.607
#2	972.4165	23138.80	2643.593	844.3048	1840.543
#3	971.2534	23187.31	2661.028	843.0692	1833.035

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164431BSD Acquired: 10/31/2024 1:02:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD431 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036744	.0273902	.0095211	.0360877	.0614976	.2026327	.2193706
Stddev	.0007152	.0013319	.0013231	.0040475	.0024418	.0047679	.0003602
%RSD	19.46347	4.862577	13.89630	11.21563	3.970616	2.352969	.1641725
#1	.0042579	.0260391	.0083371	.0342952	.0589278	.2005825	.2191666
#2	.0028766	.0287020	.0109492	.0332460	.0637873	.2080827	.2191588
#3	.0038886	.0274294	.0092770	.0407219	.0617777	.1992327	.2197865

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060894	.0055207	5.734355	.0111765	.0528850	.0242889	.0806020
Stddev	.0000159	.0000558	.013064	.0001713	.0003962	.0009577	.0430342
%RSD	.2614599	1.010033	.2278160	1.532325	.7491707	3.942986	53.39099
#1	.0060779	.0054573	5.724802	.0111227	.0531371	.0253934	.0970845
#2	.0060826	.0055621	5.729022	.0113682	.0524283	.0237841	.0317629
#3	.0061075	.0055426	5.749242	.0110385	.0530897	.0236892	.1129586

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0174962	5.549341	.0442336	.0071546	5.133325	.0582886	.0666796
Stddev	.0011399	.042939	.0004619	.0003979	.287290	.0022897	.0002716
%RSD	6.515189	.7737643	1.044335	5.561090	5.596571	3.928260	.4072747
#1	.0180900	5.504517	.0441045	.0075808	5.356163	.0591486	.0663838
#2	.0182167	5.553399	.0438499	.0067930	4.809084	.0600237	.0667374
#3	.0161820	5.590107	.0447463	.0070899	5.234727	.0556933	.0669177

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.153742	.0068449	-.005521	.0098624	.0942864	.2343105	.0086157
Stddev	.091474	.0032422	.001408	.0000782	.0045408	.0004425	.0009855
%RSD	1.774901	47.36771	25.50287	.7929180	4.815924	.1888465	11.43806
#1	5.196153	.0032143	-.005728	.0099159	.0988388	.2338003	.0084660
#2	5.048761	.0094515	-.006814	.0097726	.0897573	.2345889	.0096674
#3	5.216313	.0078688	-.004021	.0098985	.0942633	.2345424	.0077136

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164431BSD Acquired: 10/31/2024 1:02:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD431 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1069295	.0121164	.1098734
Stddev	.0016117	.0014032	.0001959
%RSD	1.507277	11.58085	.1782860
#1	.1069355	.0106170	.1099469
#2	.1053149	.0123343	.1096514
#3	.1085383	.0133979	.1100219

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	974.3407	23209.45	2662.855	846.4708	1859.024
Stddev	.8013	20.20	3.980	1.7254	.390
%RSD	.0822402	.0870491	.1494664	.2038351	.0209723
#1	974.6234	23189.26	2664.146	844.4805	1859.347
#2	973.4364	23209.42	2658.389	847.3887	1858.591
#3	974.9624	23229.67	2666.029	847.5434	1859.133

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-01DLX2 Acquired: 10/31/2024 1:07:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1493326	-.026581	.1495127	-.001261	.0052902	91.71413	1.016779
Stddev	.0019884	.002034	.0047323	.003786	.0030181	.06302	.003890
%RSD	1.331545	7.650773	3.165121	300.1171	57.05141	.0687133	.3825861
#1	.1493283	-.028617	.1545789	-.003273	.0081638	91.64420	1.017822
#2	.1513231	-.024550	.1487526	.003106	.0021458	91.76654	1.020041
#3	.1473463	-.026577	.1452064	-.003617	.0055611	91.73165	1.012474

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054528	.0079061	38.01768	.1970901	.1185905	.5111623	197.0739
Stddev	.0001077	.0001385	.04720	.0003777	.0011634	.0042204	.2662
%RSD	1.975447	1.752313	.1241513	.1916457	.9810092	.8256570	.1350800
#1	.0053964	.0080090	37.98356	.1967960	.1177248	.5078697	197.3812
#2	.0055770	.0077486	37.99794	.1975160	.1181337	.5096972	196.9259
#3	.0053851	.0079607	38.07155	.1969582	.1199130	.5159201	196.9146

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.159326	45.28820	.1861756	-.021094	1.384886	.3838469	.5651076
Stddev	.010042	.14507	.0005712	.000344	.213153	.0032592	.0026604
%RSD	.1946314	.3203241	.3068146	1.630630	15.39141	.8490839	.4707769
#1	5.160404	45.12294	.1866163	-.021314	1.159979	.3872303	.5621913
#2	5.168785	45.34714	.1855302	-.021270	1.583926	.3835823	.5674018
#3	5.148789	45.39453	.1863802	-.020697	1.410753	.3807280	.5657298

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.53412	7.090564	.1902453	.0008344	.9717089	4.995986	.0053448
Stddev	.16437	.009382	.0019611	.0009393	.0082119	.023828	.0016075
%RSD	.5383055	.1323195	1.030843	112.5655	.8450988	.4769529	30.07582
#1	30.34651	7.098428	.1905718	.0002159	.9759108	5.019866	.0071827
#2	30.65281	7.093087	.1881413	.0003721	.9622463	4.995882	.0042010
#3	30.60303	7.080179	.1920226	.0019153	.9769695	4.972209	.0046506

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-01DLX2 Acquired: 10/31/2024 1:07:02 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.350869	.0643951	.3002711
Stddev	.002717	.0014613	.0008051
%RSD	.1155916	2.269332	.2681230
#1	2.350267	.0654965	.3002110
#2	2.348502	.0627373	.3011046
#3	2.353836	.0649516	.2994978

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1032.517	24834.83	2898.374	893.1598	1730.398
Stddev	2.016	31.51	14.356	2.4688	2.561
%RSD	.1952161	.1268660	.4953040	.2764108	.1479754
#1	1030.230	24810.53	2887.841	895.6834	1727.540
#2	1033.285	24870.43	2892.554	890.7498	1731.174
#3	1034.036	24823.54	2914.725	893.0461	1732.481

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-02DLX2 Acquired: 10/31/2024 1:11:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0849139	-.026975	.1026444	.0034991	.0064359	68.82944	.7972924
Stddev	.0032761	.001476	.0060852	.0063382	.0014351	.11365	.0024421
%RSD	3.858163	5.473043	5.928439	181.1369	22.29752	.1651194	.3063034
#1	.0813225	-.025848	.1025826	-.003194	.0049029	68.76001	.7955223
#2	.0856803	-.026430	.1087603	.009410	.0066578	68.96060	.8000785
#3	.0877388	-.028646	.0965903	.004282	.0077472	68.76772	.7962764

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047050	.0057147	47.41545	.1840130	.1020236	.2082797	193.9251
Stddev	.0001870	.0000842	.21511	.0007214	.0002614	.0077062	.5378
%RSD	3.974579	1.473119	.4536778	.3920541	.2561760	3.699930	.2773025
#1	.0048141	.0058085	47.48968	.1846380	.1017221	.2112476	193.9207
#2	.0044891	.0056899	47.58362	.1832236	.1021851	.2140606	194.4650
#3	.0048120	.0056457	47.17305	.1841774	.1021638	.1995308	193.3895

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.862176	35.94786	.1688175	-.020022	1.184390	.4707877	.3348889
Stddev	.001931	.11364	.0005246	.000290	.139240	.0095982	.0014488
%RSD	.0500047	.3161130	.3107744	1.450412	11.75623	2.038746	.4326293
#1	3.864234	35.84251	.1694216	-.020304	1.344747	.4818704	.3360409
#2	3.861892	36.06828	.1684756	-.019724	1.094114	.4653169	.3332623
#3	3.860402	35.93279	.1685553	-.020038	1.114310	.4651758	.3353634

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.13852	5.482929	.1627649	-.000627	.4149107	3.986230	.0052536
Stddev	.11150	.007801	.0021930	.000595	.0097535	.028023	.0000620
%RSD	.7365212	.1422861	1.347360	94.86393	2.350740	.7029991	1.179666
#1	15.13095	5.491829	.1603651	-.001312	.4246673	3.979383	.0053136
#2	15.25361	5.477271	.1646649	-.000328	.4051604	3.962266	.0052573
#3	15.03099	5.479688	.1632647	-.000241	.4149045	4.017043	.0051898

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-02DLX2 Acquired: 10/31/2024 1:11:27 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.274533	.0467655	.1836463
Stddev	.015440	.0022449	.0005021
%RSD	.4715206	4.800415	.2733974
#1	3.283405	.0485944	.1841870
#2	3.283490	.0474421	.1835571
#3	3.256705	.0442601	.1831947

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1021.959	24609.27	2835.261	885.3177	1749.511
Stddev	.782	48.90	8.516	.4799	2.700
%RSD	.0765421	.1987226	.3003536	.0542092	.1543041
#1	1021.648	24665.48	2836.716	885.6680	1746.662
#2	1021.380	24576.49	2842.955	885.5145	1749.838
#3	1022.848	24585.83	2826.111	884.7707	1752.032

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-03DLX2 Acquired: 10/31/2024 1:15:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0791338	-.020368	.1055673	-.004849	.0010051	73.19122	.8002985
Stddev	.0044891	.000733	.0016157	.009761	.0042191	.21519	.0030858
%RSD	5.672845	3.599880	1.530494	201.2881	419.7837	.2940126	.3855791
#1	.0743985	-.019997	.1041238	-.010674	-.002513	73.09439	.7995445
#2	.0796752	-.019894	.1052656	.006419	.005683	73.43782	.8036914
#3	.0833277	-.021212	.1073127	-.010292	-.000154	73.04146	.7976596

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041338	.0052304	58.14664	.1497351	.0998483	.2668908	161.8221
Stddev	.0001672	.0002589	.12625	.0010136	.0011886	.0014445	.5118
%RSD	4.045432	4.950617	.2171246	.6769293	1.190382	.5412438	.3162665
#1	.0039673	.0049892	58.14178	.1508105	.1001083	.2654002	161.6181
#2	.0041324	.0051979	58.27525	.1487974	.1008854	.2669878	162.4045
#3	.0043018	.0055040	58.02289	.1495975	.0985513	.2682843	161.4438

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.999632	38.14466	.1423528	-.017537	1.603007	.3211326	.3672484
Stddev	.013333	.15477	.0006886	.000459	.190196	.0032657	.0014971
%RSD	.2666831	.4057389	.4837226	2.618324	11.86498	1.016927	.4076425
#1	4.986570	38.28830	.1430772	-.017012	1.420991	.3217273	.3689453
#2	4.999107	38.16491	.1422743	-.017738	1.587587	.3176104	.3661141
#3	5.013220	37.98076	.1417068	-.017862	1.800445	.3240600	.3666859

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.37496	5.414437	.1498222	-.000298	.8190905	6.498443	.0052988
Stddev	.07972	.018479	.0003729	.000140	.0053815	.013771	.0020946
%RSD	.3410592	.3412943	.2488761	46.80788	.6570026	.2119179	39.52921
#1	23.30571	5.417435	.1494255	-.000380	.8147315	6.504337	.0029101
#2	23.35705	5.394642	.1498754	-.000137	.8174347	6.482706	.0061650
#3	23.46211	5.431233	.1501656	-.000378	.8251053	6.508287	.0068214

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-03DLX2 Acquired: 10/31/2024 1:15:55 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.432081	.0476753	.2456301
Stddev	.005814	.0017426	.0003990
%RSD	.2390469	3.655189	.1624502
#1	2.437094	.0465155	.2451882
#2	2.433443	.0468312	.2457381
#3	2.425708	.0496792	.2459641

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1023.107	24610.13	2865.536	886.7794	1737.711
Stddev	.993	57.12	5.814	1.9506	.665
%RSD	.0970469	.2320947	.2028942	.2199685	.0382761
#1	1022.376	24544.68	2860.943	884.6653	1736.957
#2	1022.708	24649.87	2872.073	888.5095	1738.214
#3	1024.238	24635.86	2863.592	887.1635	1737.963

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-04DLX2 Acquired: 10/31/2024 1:20:23 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0824261	-.019782	.0917753	.0029723	.0037751	72.59608	.7828550
Stddev	.0022085	.003621	.0026098	.0027853	.0039991	.21750	.0027217
%RSD	2.679334	18.30603	2.843636	93.70678	105.9337	.2995981	.3476666
#1	.0808254	-.018586	.0900232	.0056995	-.000759	72.55919	.7824769
#2	.0815074	-.016911	.0905280	.0001323	.006799	72.82966	.7857461
#3	.0849457	-.023850	.0947746	.0030852	.005285	72.39939	.7803422

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042809	.0054500	57.90778	.1534820	.0982772	.2697747	161.1531
Stddev	.0002915	.0002684	.18766	.0005505	.0001097	.0017263	.0876
%RSD	6.810349	4.925669	.3240624	.3586945	.1115831	.6399132	.0543874
#1	.0039458	.0057526	57.75117	.1541093	.0984014	.2699821	161.0620
#2	.0044763	.0052406	58.11578	.1532574	.0982364	.2679540	161.2369
#3	.0044206	.0053568	57.85639	.1530793	.0981938	.2713879	161.1605

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.754810	37.54907	.1419562	-.017879	1.725409	.3233284	.3626833
Stddev	.023824	.24733	.0002234	.000173	.324339	.0064919	.0026096
%RSD	.5010459	.6586797	.1573562	.9696081	18.79781	2.007820	.7195246
#1	4.738857	37.26348	.1418741	-.017771	1.929869	.3188397	.3604410
#2	4.782195	37.69217	.1417855	-.017787	1.351439	.3203735	.3620612
#3	4.743377	37.69155	.1422090	-.018079	1.894920	.3307721	.3655477

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.76631	5.168625	.1486559	-.000385	.7733922	6.329512	.0030396
Stddev	.27910	.005204	.0021103	.000256	.0091739	.012625	.0007034
%RSD	1.225927	.1006754	1.419571	66.63879	1.186184	.1994561	23.14119
#1	22.54905	5.165928	.1462415	-.000396	.7705890	6.314974	.0038405
#2	23.08108	5.165324	.1501479	-.000635	.7836406	6.337710	.0025221
#3	22.66880	5.174624	.1495784	-.000123	.7659470	6.335852	.0027561

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-04DLX2 Acquired: 10/31/2024 1:20:23 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.435329	.0470657	.2357657
Stddev	.008332	.0014160	.0002950
%RSD	.3421401	3.008492	.1251186
#1	2.433553	.0469845	.2356716
#2	2.444407	.0485205	.2360962
#3	2.428029	.0456920	.2355292

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1015.684	24489.06	2850.555	880.1133	1732.665
Stddev	1.572	37.64	5.911	4.7479	1.968
%RSD	.1547935	.1536931	.2073597	.5394656	.1135569
#1	1013.901	24456.96	2856.147	884.8704	1731.664
#2	1016.872	24479.73	2844.370	880.0949	1734.932
#3	1016.278	24530.49	2851.147	875.3746	1731.399

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-05DLX2 Acquired: 10/31/2024 1:24:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1453931	.0721650	.1473862	.1680579	.1670008	74.67756	4.660555
Stddev	.0075865	.0020671	.0023182	.0043240	.0029748	.47875	.037905
%RSD	5.217930	2.864453	1.572894	2.572929	1.781340	.6410916	.8133170
#1	.1415829	.0735995	.1447762	.1673521	.1635825	75.20658	4.704323
#2	.1541295	.0730998	.1481762	.1641302	.1684166	74.55201	4.638890
#3	.1404668	.0697955	.1492062	.1726914	.1690033	74.27410	4.638451

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1030901	.1046585	56.90462	.5442958	1.096340	.7009028	160.1268
Stddev	.0003589	.0004957	.46204	.0029402	.001293	.0045821	1.1115
%RSD	.3481719	.4736877	.8119580	.5401876	.1179515	.6537452	.6941427
#1	.1032096	.1040953	57.35577	.5417896	1.094910	.7051637	161.1887
#2	.1033740	.1050287	56.92570	.5435655	1.097426	.7014888	160.2200
#3	.1026866	.1048516	56.43241	.5475324	1.096686	.6960558	158.9716

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.794029	36.94770	1.143350	.0761556	1.198182	1.281597	1.176445
Stddev	.037513	.09508	.001166	.0003384	.184811	.020310	.002128
%RSD	.6474392	.2573287	.1019760	.4444014	15.42428	1.584710	.1808462
#1	5.835859	36.98938	1.144194	.0757649	.989210	1.294852	1.178847
#2	5.782857	37.01481	1.142019	.0763425	1.340128	1.291724	1.174797
#3	5.763372	36.83890	1.143835	.0763594	1.265208	1.258215	1.175690

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.68337	5.237030	.1456560	-.000922	.7918814	6.282018	.0057331
Stddev	.22528	.006130	.0017936	.000479	.0122090	.029723	.0007153
%RSD	.9931469	.1170432	1.231413	51.97590	1.541766	.4731379	12.47659
#1	22.86606	5.230119	.1462165	-.000414	.7957822	6.309932	.0061044
#2	22.75239	5.239163	.1471025	-.000988	.8016632	6.285354	.0061864
#3	22.43165	5.241808	.1436491	-.001366	.7781987	6.250768	.0049085

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-05DLX2 Acquired: 10/31/2024 1:24:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.362202	.0453467	.2385109
Stddev	.020273	.0013521	.0011544
%RSD	.8582152	2.981750	.4840108
#1	2.383738	.0439795	.2398415
#2	2.359380	.0466833	.2377755
#3	2.343488	.0453775	.2379159

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1015.495	24556.95	2879.197	882.3123	1733.245
Stddev	.271	38.82	21.980	2.7028	.921
%RSD	.0267297	.1580962	.7634046	.3063327	.0531400
#1	1015.184	24535.57	2863.052	879.2724	1733.639
#2	1015.682	24533.52	2870.308	883.2201	1733.905
#3	1015.620	24601.77	2904.229	884.4443	1732.193

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-03LDLX10 Acquired: 10/31/2024 1:29:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0185207	-.003352	.0215532	-.002127	.0008346	15.95857	.1729059
Stddev	.0033630	.001656	.0005127	.003024	.0022045	.01048	.0004636
%RSD	18.15832	49.40374	2.379002	142.1520	264.1243	.0656729	.2681385
#1	.0185293	-.005235	.0211772	-.000072	.0031756	15.96831	.1734354
#2	.0218793	-.002701	.0221373	-.005600	.0005299	15.94748	.1727096
#3	.0151533	-.002121	.0213451	-.000711	-.001202	15.95992	.1725727

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012076	.0009121	12.93998	.0326615	.0203905	.0563426	36.32392
Stddev	.0001974	.0000401	.06763	.0009973	.0000765	.0015209	.06808
%RSD	16.34966	4.394747	.5226651	3.053275	.3751690	2.699329	.1874234
#1	.0014223	.0009166	12.94494	.0325509	.0204782	.0577603	36.28363
#2	.0010340	.0009497	13.00500	.0317241	.0203561	.0547362	36.28561
#3	.0011664	.0008699	12.87000	.0337094	.0203374	.0565313	36.40252

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.102770	8.286665	.0293771	-.006678	.0948981	.0683636	.0817133
Stddev	.007222	.067630	.0002148	.000403	.3363220	.0129907	.0005380
%RSD	.6549173	.8161302	.7313002	6.038343	354.4033	19.00229	.6583518
#1	1.105243	8.215513	.0292615	-.007062	.4300906	.0550382	.0822052
#2	1.094636	8.294369	.0296250	-.006713	.0971459	.0690614	.0811388
#3	1.108431	8.350114	.0292449	-.006258	-.242542	.0809914	.0817960

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.040612	1.093287	.0290388	-.000757	.1583316	1.462669	.0008574
Stddev	.121955	.006639	.0007995	.000292	.0004911	.008474	.0018755
%RSD	2.419446	.6072959	2.753026	38.63458	.3101442	.5793859	218.7397
#1	5.179164	1.086562	.0292152	-.000419	.1588975	1.469917	.0009122
#2	4.993146	1.093460	.0297354	-.000912	.1580801	1.464739	.0027049
#3	4.949528	1.099838	.0281659	-.000939	.1580173	1.453351	-.001045

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-03LDLX10 Acquired: 10/31/2024 1:29:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5335332	.0105538	.0537141
Stddev	.0033401	.0007636	.0003324
%RSD	.6260395	7.235055	.6188598
#1	.5356836	.0096759	.0540948
#2	.5352307	.0109218	.0534813
#3	.5296852	.0110637	.0535662

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	988.9499	23537.28	2689.365	854.6626	1834.002
Stddev	1.7722	59.70	11.314	4.2265	4.012
%RSD	.1792003	.2536562	.4207085	.4945243	.2187622
#1	987.9754	23601.63	2678.950	854.6570	1829.380
#2	990.9955	23526.52	2687.743	858.8919	1836.587
#3	987.8788	23483.68	2701.404	850.4389	1836.038

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-06DLX2 Acquired: 10/31/2024 1:33:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1062155	-.020662	.1274669	-.004139	.0034502	64.33348	.7622468
Stddev	.0066172	.003366	.0037486	.005080	.0029605	.02913	.0016841
%RSD	6.229995	16.28995	2.940820	122.7380	85.80684	.0452730	.2209330
#1	.1058370	-.024529	.1307161	-.009662	.0004363	64.31349	.7632492
#2	.1130139	-.018398	.1283189	-.003087	.0063542	64.32006	.7631886
#3	.0997957	-.019058	.1233656	.000333	.0035601	64.36690	.7603025

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040857	.0053693	47.80170	.1339038	.0878404	.3633856	150.0507
Stddev	.0000933	.0001009	.12807	.0007781	.0009545	.0073300	.4341
%RSD	2.283330	1.879120	.2679185	.5810556	1.086632	2.017148	.2892867
#1	.0039790	.0052528	47.65480	.1342213	.0874275	.3706915	149.8126
#2	.0041258	.0054289	47.86039	.1344728	.0871618	.3634335	150.5517
#3	.0041521	.0054262	47.88989	.1330172	.0889318	.3560317	149.7878

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.871690	36.55260	.1511939	-.015555	1.997133	.3001608	.4113966
Stddev	.010615	.17230	.0013937	.000162	.151020	.0103701	.0015138
%RSD	.2741617	.4713630	.9217826	1.038903	7.561840	3.454832	.3679641
#1	3.872595	36.40045	.1497886	-.015416	1.856826	.3072740	.4130259
#2	3.881824	36.51765	.1525757	-.015732	1.977605	.3049461	.4100336
#3	3.860652	36.73969	.1512175	-.015517	2.156966	.2882621	.4111305

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.43125	6.460448	.1519833	.0008039	1.328238	6.259328	.0077593
Stddev	.10414	.023762	.0015736	.0004039	.006198	.004894	.0020781
%RSD	.4642564	.3678050	1.035371	50.24480	.4666229	.0781925	26.78180
#1	22.33758	6.433257	.1503675	.0003953	1.326331	6.261718	.0055173
#2	22.54339	6.470867	.1520713	.0008134	1.335165	6.262567	.0081396
#3	22.41280	6.477221	.1535110	.0012031	1.323217	6.253697	.0096210

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-06DLX2 Acquired: 10/31/2024 1:33:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.046242	.0466191	.2704282
Stddev	.003945	.0013926	.0000574
%RSD	.1927835	2.987267	.0212095
#1	2.046256	.0462129	.2704799
#2	2.042291	.0481696	.2703665
#3	2.050180	.0454747	.2704383

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1013.445	24332.86	2822.301	874.4287	1754.025
Stddev	2.950	25.07	5.768	3.6591	5.174
%RSD	.2911313	.1030214	.2043835	.4184539	.2949946
#1	1016.142	24311.74	2827.160	870.2393	1758.453
#2	1013.899	24360.56	2815.926	876.9980	1755.285
#3	1010.294	24326.27	2823.818	876.0490	1748.338

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-07DLX2 Acquired: 10/31/2024 1:38:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0945385	-.021970	.1168560	.0037087	.0027912	79.14974	.8148531
Stddev	.0029752	.003140	.0020009	.0025053	.0020705	.09048	.0039647
%RSD	3.147082	14.29284	1.712257	67.55221	74.18257	.1143127	.4865580
#1	.0945190	-.018503	.1147629	.0014258	.0051511	79.23539	.8150464
#2	.0975234	-.022783	.1170555	.0063889	.0012793	79.15872	.8187176
#3	.0915731	-.024623	.1187497	.0033113	.0019430	79.05510	.8107952

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045606	.0057525	45.85004	.1577921	.0993923	.3551081	162.7210
Stddev	.0001160	.0001706	.09857	.0003201	.0005324	.0009653	.1360
%RSD	2.542627	2.965775	.2149727	.2028286	.5356787	.2718377	.0835535
#1	.0044324	.0058446	45.76194	.1581078	.0988108	.3559117	162.5640
#2	.0045911	.0055556	45.83170	.1578006	.0998558	.3553751	162.8011
#3	.0046582	.0058571	45.95649	.1574679	.0995103	.3540373	162.7979

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.648485	38.50521	.1474560	-.018214	1.232163	.3222153	.4206559
Stddev	.015908	.14170	.0008843	.000418	.070165	.0041639	.0006853
%RSD	.3422283	.3680010	.5996862	2.294274	5.694461	1.292271	.1629206
#1	4.655745	38.35928	.1471316	-.018675	1.162636	.3217720	.4207171
#2	4.659468	38.51410	.1484566	-.018107	1.230904	.3182908	.4213086
#3	4.630242	38.64226	.1467796	-.017860	1.302949	.3265831	.4199420

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.62250	5.355454	.1521703	.0001951	.8393974	6.447965	.0036230
Stddev	.10121	.015088	.0018537	.0003028	.0138051	.012375	.0021919
%RSD	.4110589	.2817233	1.218144	155.2130	1.644648	.1919187	60.49748
#1	24.64910	5.364724	.1522190	.0004062	.8552272	6.442997	.0016409
#2	24.70776	5.363595	.1539991	.0003308	.8298564	6.438845	.0032512
#3	24.51065	5.338045	.1502927	-.000152	.8331087	6.462051	.0059770

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-07DLX2 Acquired: 10/31/2024 1:38:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.342395	.0538095	.2267147
Stddev	.001607	.0006462	.0008699
%RSD	.0685843	1.200957	.3836814
#1	2.343884	.0539969	.2269945
#2	2.340692	.0530902	.2274103
#3	2.342610	.0543413	.2257394

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1020.499	24598.02	2870.373	881.8598	1735.609
Stddev	.880	16.76	8.423	2.0530	1.110
%RSD	.0862357	.0681490	.2934608	.2328059	.0639365
#1	1021.511	24579.02	2866.096	879.8951	1736.327
#2	1020.076	24610.71	2880.077	881.6933	1736.169
#3	1019.910	24604.33	2864.945	883.9910	1734.331

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-08DLX2 Acquired: 10/31/2024 1:42:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1069737	-.018722	.1192578	.0029967	.0063785	66.54383	.7260187
Stddev	.0054731	.002250	.0030541	.0004609	.0017899	.23342	.0018977
%RSD	5.116280	12.01567	2.560966	15.37994	28.06209	.3507746	.2613801
#1	.1120888	-.016988	.1204334	.0027949	.0051898	66.75408	.7273394
#2	.1076305	-.021264	.1215495	.0035240	.0055085	66.29266	.7238441
#3	.1012019	-.017913	.1157905	.0026711	.0084371	66.58476	.7268727

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038124	.0052971	43.66096	.1465237	.0863484	.3161974	141.9850
Stddev	.0001332	.0001025	.32762	.0021177	.0007545	.0044044	.7585
%RSD	3.494990	1.935848	.7503659	1.445305	.8737632	1.392935	.5342280
#1	.0036887	.0054131	43.98946	.1443032	.0870284	.3212091	142.5305
#2	.0037952	.0052596	43.33424	.1467470	.0855368	.3129422	141.1188
#3	.0039535	.0052186	43.65919	.1485209	.0864799	.3144411	142.3058

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.579815	37.03557	.1459758	-.016519	2.083487	.2807934	.4473812
Stddev	.009907	.27170	.0012554	.000617	.136881	.0029086	.0012432
%RSD	.2767457	.7336321	.8600000	3.732881	6.569782	1.035843	.2778747
#1	3.582898	37.26870	.1453625	-.016316	1.925939	.2834370	.4471212
#2	3.568733	36.73718	.1474200	-.017211	2.151305	.2812655	.4462886
#3	3.587814	37.10083	.1451449	-.016029	2.173218	.2776776	.4487338

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.17688	5.782223	.1615837	.0012072	1.829765	6.965723	.0068175
Stddev	.09957	.010898	.0006119	.0005091	.008422	.014182	.0007679
%RSD	.3954724	.1884777	.3786645	42.17594	.4603039	.2036027	11.26388
#1	25.26033	5.788733	.1610629	.0010912	1.838309	6.975483	.0072832
#2	25.06667	5.788294	.1614306	.0007661	1.821469	6.949454	.0059312
#3	25.20365	5.769641	.1622576	.0017644	1.829518	6.972231	.0072381

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-08DLX2 Acquired: 10/31/2024 1:42:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.972931	.0455490	.2271239
Stddev	.009633	.0015385	.0009244
%RSD	.4882434	3.377725	.4069804
#1	1.982833	.0465049	.2281780
#2	1.963592	.0463679	.2264515
#3	1.972368	.0437742	.2267423

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1011.578	24367.49	2838.971	880.1998	1746.778
Stddev	1.833	65.39	9.266	.7473	2.581
%RSD	.1811637	.2683483	.3263791	.0848979	.1477530
#1	1010.545	24364.26	2830.780	879.3379	1743.839
#2	1013.693	24434.43	2849.028	880.6659	1747.821
#3	1010.494	24303.77	2837.105	880.5955	1748.675

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-09DLX2 Acquired: 10/31/2024 1:46:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0762027	-.020139	.0930311	-.006541	.0034979	65.84183	.7343084
Stddev	.0055681	.003772	.0005406	.000913	.0011561	.24005	.0002202
%RSD	7.306969	18.72943	.5811259	13.96024	33.05136	.3645925	.0299819
#1	.0706896	-.015989	.0924231	-.006222	.0039728	65.95122	.7344625
#2	.0760944	-.023359	.0934577	-.007570	.0043410	66.00770	.7344064
#3	.0818242	-.021069	.0932124	-.005830	.0021800	65.56656	.7340562

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040787	.0045625	49.87804	.1269325	.0824481	.2660311	137.3899
Stddev	.0001688	.0002425	.21112	.0019984	.0012771	.0058834	.6806
%RSD	4.137475	5.315893	.4232697	1.574392	1.548932	2.211540	.4953445
#1	.0040172	.0045790	50.05272	.1275397	.0835871	.2703836	137.7196
#2	.0042696	.0043121	49.93797	.1247010	.0826896	.2593375	137.8428
#3	.0039494	.0047964	49.64344	.1285569	.0810675	.2683722	136.6073

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.992530	33.23842	.1289868	-.016206	1.019661	.2706365	.3654557
Stddev	.015293	.23579	.0011399	.000809	.261861	.0111163	.0007323
%RSD	.3830384	.7093918	.8837544	4.993905	25.68115	4.107468	.2003697
#1	3.997773	33.15627	.1280205	-.016982	1.272778	.2785190	.3652110
#2	4.004512	33.50430	.1302440	-.016269	1.036350	.2754687	.3662790
#3	3.975305	33.05470	.1286960	-.015367	.749855	.2579219	.3648772

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.97912	5.688583	.1320669	-.000124	1.498571	5.155362	.0051380
Stddev	.04894	.014583	.0010623	.000596	.005296	.031718	.0023511
%RSD	.2129724	.2563557	.8043468	479.5430	.3534310	.6152390	45.75832
#1	22.99496	5.694347	.1310002	-.000271	1.503041	5.175436	.0033297
#2	23.01819	5.699403	.1331247	.000532	1.499949	5.171853	.0077958
#3	22.92423	5.671999	.1320758	-.000634	1.492721	5.118796	.0042886

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-09DLX2 Acquired: 10/31/2024 1:46:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.936028	.0449850	.1954457
Stddev	.008411	.0001240	.0002444
%RSD	.4344411	.2757275	.1250406
#1	1.937403	.0450938	.1952042
#2	1.943668	.0448499	.1954400
#3	1.927015	.0450113	.1956929

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1011.739	24453.89	2867.462	879.9183	1742.901
Stddev	1.994	29.45	21.017	1.9902	3.982
%RSD	.1970708	.1204189	.7329510	.2261819	.2284714
#1	1009.898	24487.72	2856.657	880.6444	1739.485
#2	1011.464	24433.99	2854.044	877.6670	1741.943
#3	1013.857	24439.95	2891.683	881.4436	1747.274

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-10DLX2 Acquired: 10/31/2024 1:51:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1640738	-.022835	.1922302	.0002670	.0031035	80.78886	.9061619
Stddev	.0034224	.003771	.0010377	.0034197	.0037133	.10844	.0005668
%RSD	2.085905	16.51194	.5398439	1280.676	119.6480	.1342275	.0625532
#1	.1615344	-.020104	.1913127	.0030140	.0060934	80.85531	.9055470
#2	.1627212	-.021264	.1933565	-.003563	-.001053	80.66372	.9062749
#3	.1679659	-.027137	.1920213	.001350	.004270	80.84754	.9066637

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045448	.0084171	36.99980	.1824313	.1025137	.6469563	172.3758
Stddev	.0001006	.0002379	.08614	.0003453	.0007065	.0059172	.3821
%RSD	2.213282	2.825855	.2328019	.1892504	.6891952	.9146157	.2216462
#1	.0044507	.0083666	37.02937	.1827376	.1032229	.6501119	172.1414
#2	.0045327	.0086762	36.90278	.1820572	.1025084	.6506268	172.1693
#3	.0046508	.0082085	37.06726	.1824992	.1018099	.6401303	172.8167

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.893254	39.42524	.1832742	-.017554	1.097388	.3342074	.5778769
Stddev	.010869	.16832	.0006871	.000070	.099061	.0026824	.0024793
%RSD	.2221151	.4269439	.3749044	.4007729	9.026942	.8026129	.4290374
#1	4.889340	39.23114	.1828962	-.017490	1.211529	.3370945	.5782312
#2	4.884883	39.53099	.1828591	-.017543	1.046787	.3337352	.5801600
#3	4.905537	39.51359	.1840673	-.017630	1.033847	.3317924	.5752395

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.74224	5.635510	.1630718	.0004066	1.277285	5.103714	.0082296
Stddev	.04044	.014562	.0012941	.0005598	.004400	.008834	.0009298
%RSD	.1457611	.2583930	.7935891	137.6641	.3444940	.1730905	11.29767
#1	27.70322	5.652251	.1616903	-.000148	1.277006	5.094283	.0090933
#2	27.78396	5.625776	.1642558	.000396	1.281817	5.105065	.0083500
#3	27.73955	5.628503	.1632694	.000972	1.273030	5.111795	.0072455

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-10DLX2 Acquired: 10/31/2024 1:51:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.122104	.0561379	.1902838
Stddev	.006465	.0003890	.0001982
%RSD	.3046375	.6929421	.1041519
#1	2.124632	.0559368	.1900893
#2	2.114757	.0558906	.1902766
#3	2.126923	.0565863	.1904855

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1020.460	24513.07	2856.902	886.3787	1747.990
Stddev	.872	64.45	7.473	3.6000	1.919
%RSD	.0854210	.2629381	.2615688	.4061450	.1097573
#1	1020.218	24462.49	2859.145	882.7284	1747.635
#2	1021.427	24585.64	2862.997	886.4816	1750.061
#3	1019.735	24491.07	2848.565	889.9261	1746.273

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-11DLX2 Acquired: 10/31/2024 1:55:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1386245	-.022313	.1624223	.0025342	.0037096	81.60721	.9778906
Stddev	.0024401	.004594	.0021505	.0046747	.0063912	.40428	.0033694
%RSD	1.760215	20.59136	1.324035	184.4663	172.2889	.4953930	.3445578
#1	.1369964	-.026021	.1613476	.0003046	.0061277	81.99310	.9797979
#2	.1414300	-.017173	.1648984	.0079063	.0085388	81.64179	.9798738
#3	.1374471	-.023744	.1610210	-.000608	-.003538	81.18676	.9740002

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045217	.0072371	38.30606	.1804029	.1045593	.5463308	163.5377
Stddev	.0001839	.0001257	.16769	.0014038	.0005215	.0039716	.7973
%RSD	4.067627	1.736335	.4377589	.7781333	.4987268	.7269657	.4875250
#1	.0043794	.0073790	38.48793	.1817705	.1040446	.5506891	164.4518
#2	.0047294	.0071926	38.27266	.1789656	.1045461	.5453874	162.9863
#3	.0044564	.0071398	38.15758	.1804727	.1050873	.5429158	163.1748

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.240326	40.59417	.1779052	-.017791	1.329428	.3155399	.5907476
Stddev	.008595	.17132	.0003347	.000268	.162469	.0135754	.0058490
%RSD	.1640161	.4220429	.1881202	1.508522	12.22098	4.302278	.9900970
#1	5.248159	40.79137	.1781719	-.017673	1.154367	.3284060	.5945135
#2	5.241686	40.48190	.1775296	-.017602	1.475366	.3013519	.5937198
#3	5.231132	40.50925	.1780140	-.018098	1.358549	.3168619	.5840093

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.79568	6.654182	.1704350	.0008332	1.981011	6.140071	.0079276
Stddev	.20219	.006729	.0016731	.0003921	.006252	.013836	.0008878
%RSD	.7545606	.1011261	.9816820	47.05427	.3156046	.2253410	11.19914
#1	27.02695	6.646982	.1721827	.0009501	1.983724	6.153014	.0089528
#2	26.70774	6.655254	.1702742	.0011536	1.973861	6.125488	.0074116
#3	26.65236	6.660311	.1688480	.0003960	1.985448	6.141711	.0074185

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-11DLX2 Acquired: 10/31/2024 1:55:49 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.076426	.0590363	.2450536
Stddev	.017118	.0012759	.0004057
%RSD	.8243787	2.161255	.1655357
#1	2.094846	.0577560	.2454742
#2	2.073423	.0590450	.2450217
#3	2.061008	.0603078	.2446648

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1020.197	24508.86	2856.179	879.4101	1748.082
Stddev	1.563	41.41	11.162	6.8079	3.917
%RSD	.1532218	.1689573	.3907905	.7741385	.2240996
#1	1018.611	24461.05	2848.378	873.7286	1747.322
#2	1021.736	24532.98	2868.964	877.5459	1752.324
#3	1020.243	24532.56	2851.194	886.9559	1744.600

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-12DLX2 Acquired: 10/31/2024 2:00:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1518690	-.024171	.1262264	-.005373	.0037511	86.89032	.9814445
Stddev	.0018771	.003620	.0044379	.006664	.0016821	.12831	.0041775
%RSD	1.236005	14.97759	3.515853	124.0205	44.84331	.1476687	.4256497
#1	.1506455	-.023883	.1304636	.000661	.0037271	86.82991	.9788896
#2	.1540302	-.027926	.1266039	-.012526	.0054450	87.03768	.9862654
#3	.1509313	-.020703	.1216118	-.004256	.0020811	86.80336	.9791785

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042657	.0067958	50.21843	.2390592	.1243274	.4673168	185.5104
Stddev	.0000905	.0001393	.11355	.0004550	.0003498	.0053353	.3399
%RSD	2.121869	2.049448	.2261075	.1903440	.2813886	1.141692	.1832488
#1	.0042683	.0069189	50.20335	.2391164	.1246524	.4612947	185.4050
#2	.0043549	.0066446	50.33876	.2385783	.1239572	.4692021	185.8906
#3	.0041739	.0068239	50.11317	.2394830	.1243728	.4714535	185.2356

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.057242	52.79889	.2336475	-.019339	1.581300	.3948570	.4324292
Stddev	.016940	.23865	.0003525	.000724	.221390	.0075316	.0025954
%RSD	.2796708	.4519895	.1508645	3.743890	14.00049	1.907426	.6001836
#1	6.053339	52.57542	.2337186	-.018518	1.753414	.4022123	.4323247
#2	6.075794	53.05026	.2332649	-.019610	1.331548	.3951981	.4298877
#3	6.042594	52.77100	.2339590	-.019887	1.658938	.3871607	.4350753

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.52235	5.799304	.1887503	.0002788	1.675120	4.834041	.0073247
Stddev	.06853	.020585	.0013774	.0002269	.005309	.010679	.0015695
%RSD	.3339118	.3549506	.7297541	81.39346	.3169374	.2209063	21.42756
#1	20.52170	5.819861	.1891315	.0001673	1.671536	4.845580	.0065282
#2	20.45414	5.799358	.1898970	.0001292	1.672606	4.832035	.0063132
#3	20.59119	5.778692	.1872225	.0005399	1.681219	4.824507	.0091328

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-12DLX2 Acquired: 10/31/2024 2:00:14 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.969475	.0575049	.2737570
Stddev	.004659	.0011526	.0008449
%RSD	.2365444	2.004355	.3086355
#1	1.964184	.0566771	.2737704
#2	1.972964	.0570162	.2745951
#3	1.971276	.0588213	.2729054

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1008.666	24291.06	2859.790	871.9562	1728.907
Stddev	1.895	62.76	8.083	3.4040	3.074
%RSD	.1879161	.2583581	.2826505	.3903863	.1777769
#1	1010.316	24246.88	2852.279	871.2787	1726.412
#2	1009.086	24263.41	2858.747	875.6481	1727.968
#3	1006.596	24362.90	2868.344	868.9420	1732.340

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-13DLX2 Acquired: 10/31/2024 2:04:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4L0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1165022	-.019717	.0922597	.0041101	.0029607	76.64665	1.035086
Stddev	.0074344	.001994	.0023456	.0010009	.0008479	.23349	.001043
%RSD	6.381300	10.11520	2.542444	24.35297	28.63754	.3046318	.1007381
#1	.1100127	-.022014	.0905391	.0040246	.0027398	76.73180	1.035459
#2	.1148803	-.018416	.0949316	.0031547	.0022451	76.82561	1.033908
#3	.1246136	-.018723	.0913086	.0051511	.0038972	76.38253	1.035890

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047380	.0048173	68.66305	.1633107	.0988615	.2291941	153.4082
Stddev	.0002313	.0001928	.35985	.0000519	.0000812	.0034665	.7322
%RSD	4.881426	4.002723	.5240745	.0317876	.0821761	1.512490	.4772902
#1	.0045698	.0049957	68.77884	.1633601	.0987941	.2323960	154.0203
#2	.0050017	.0046127	68.95075	.1633155	.0989517	.2296736	153.6071
#3	.0046424	.0048435	68.25957	.1632566	.0988385	.2255128	152.5971

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.657630	39.10512	.1880504	-.017229	.9898733	.3054229	.3447342
Stddev	.015023	.13499	.0009745	.000222	.3819377	.0079043	.0010491
%RSD	.3225548	.3451936	.5182280	1.290031	38.58451	2.587972	.3043210
#1	4.667106	39.16966	.1885425	-.017409	1.418843	.3145491	.3448546
#2	4.665477	39.19573	.1869279	-.016981	.864075	.3007530	.3436301
#3	4.640308	38.94998	.1886806	-.017296	.686702	.3009665	.3457180

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.60927	5.082299	.1363532	-.000489	.7623903	5.577912	.0059670
Stddev	.13232	.014251	.0015504	.000832	.0083496	.028551	.0051049
%RSD	.7514333	.2804098	1.137028	170.1842	1.095186	.5118597	85.55116
#1	17.68681	5.077013	.1350079	-.000551	.7661140	5.595342	.0060230
#2	17.45648	5.071447	.1380487	-.001288	.7528267	5.593432	.0008344
#3	17.68451	5.098438	.1360029	.000372	.7682300	5.544963	.0110437

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-13DLX2 Acquired: 10/31/2024 2:04:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4L0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.478062	.0571739	.2405551
Stddev	.007580	.0011531	.0004475
%RSD	.3059022	2.016751	.1860319
#1	2.482517	.0584379	.2407030
#2	2.482359	.0569040	.2409100
#3	2.469309	.0561797	.2400524

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1019.590	24651.30	2882.903	889.7727	1725.297
Stddev	1.329	32.31	11.280	1.4878	1.213
%RSD	.1303688	.1310829	.3912868	.1672159	.0703235
#1	1020.703	24686.86	2878.087	888.0869	1726.654
#2	1019.947	24623.73	2874.829	890.3290	1724.919
#3	1018.118	24643.31	2895.792	890.9023	1724.317

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV003 Acquired: 10/31/2024 2:09:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.210346	4.830509	24.96673	4.840140	4.888350	407.4358	10.29384
Stddev	.013098	.008894	.03197	.009063	.011395	1.7723	.03048
%RSD	.2513754	.1841175	.1280345	.1872370	.2330986	.4349888	.2961310
#1	5.212501	4.820249	24.94094	4.840242	4.901383	408.9780	10.32156
#2	5.196305	4.835242	24.95675	4.831028	4.880273	407.8296	10.29877
#3	5.222232	4.836036	25.00249	4.849152	4.883393	405.4997	10.26119

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5310972	2.519939	402.5457	15.00138	2.527034	14.93132	408.2870
Stddev	.0012217	.002375	2.0600	.02532	.000937	.07759	1.9230
%RSD	.2300264	.0942488	.5117533	.1687902	.0370849	.5196556	.4709801
#1	.5297236	2.517410	404.4140	15.01639	2.525984	15.00912	409.9701
#2	.5320621	2.520283	402.8867	15.01561	2.527334	14.93090	408.6997
#3	.5315060	2.522123	400.3365	14.97215	2.527784	14.85394	406.1912

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.75882	395.5766	2.513075	1.279084	401.6568	2.456662	14.51180
Stddev	.04430	2.0155	.002379	.002841	2.4152	.015726	.04302
%RSD	.3001393	.5095170	.0946669	.2221495	.6013179	.6401299	.2964428
#1	14.80590	397.7144	2.511694	1.282245	403.9219	2.445102	14.46395
#2	14.75262	395.3042	2.511709	1.276742	401.9333	2.474570	14.52419
#3	14.71796	393.7111	2.515822	1.278265	399.1152	2.450315	14.54727

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	153.2679	5.039444	4.859938	4.776382	5.134948	4.852406	5.034960
Stddev	.4887	.011835	.010402	.010074	.010442	.008363	.009343
%RSD	.3188423	.2348378	.2140385	.2109032	.2033533	.1723423	.1855540
#1	153.7127	5.049802	4.865139	4.776504	5.124316	4.853816	5.026127
#2	153.3463	5.041985	4.866714	4.786394	5.145189	4.859974	5.034012
#3	152.7448	5.026546	4.847961	4.766248	5.135338	4.843428	5.044740

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV003 Acquired: 10/31/2024 2:09:07 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV003 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.955035	5.005181	5.097326
Stddev	.012202	.025028	.016666
%RSD	.2462607	.5000358	.3269644
#1	4.966296	5.027033	5.113378
#2	4.956738	5.010634	5.098495
#3	4.942071	4.977876	5.080106

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	787.7690	21163.00	2550.420	654.7983	1424.241
Stddev	1.1527	76.23	9.356	.5042	2.048
%RSD	.1463205	.3602102	.3668460	.0770081	.1438148
#1	786.8246	21075.00	2542.339	654.4015	1424.269
#2	787.4288	21205.16	2548.249	655.3657	1426.275
#3	789.0534	21208.84	2560.670	654.6276	1422.178

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB003 Acquired: 10/31/2024 2:13:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB003 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005687	.0007355	.0012418	-.000577	.0006786	.0179594	-.002877
Stddev	.001008	.0033590	.0025230	.002979	.0068968	.0082443	.000571
%RSD	17.72479	456.7250	203.1794	516.2701	1016.346	45.90505	19.82855
#1	-.004525	.0046021	.0011410	-.001480	.0086410	.0262079	-.003468
#2	-.006202	-.001462	-.001229	-.003000	-.003177	.0097194	-.002330
#3	-.006333	-.000934	.003814	.002749	-.003428	.0179508	-.002833

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000040	.0001391	.0344051	.0002391	.0003316	-.001837	-.015685
Stddev	.000037	.0001122	.0324772	.0007949	.0001857	.002976	.033692
%RSD	91.68588	80.64989	94.39667	332.4367	55.99133	161.9886	214.8108
#1	-.000055	.0002492	.0374020	.0010105	.0002066	.000804	.016777
#2	-.000068	.0001430	.0652799	.0002844	.0005449	-.005061	-.050486
#3	.000002	.0000250	.0005332	-.000577	.0002432	-.001254	-.013345

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002821	.0129034	-.000375	-.004575	.0838087	-.006634	.0000280
Stddev	.0018230	.0416760	.000457	.000416	.0335913	.006017	.0007057
%RSD	646.2190	322.9838	121.8406	9.083836	40.08086	90.69696	2519.424
#1	-.001823	-.034604	.000141	-.004369	.1113645	-.000581	-.000508
#2	.001315	.030012	-.000730	-.004303	.0463902	-.006707	.000828
#3	.001354	.043303	-.000536	-.005053	.0936714	-.012615	-.000236

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0577927	-.005917	.0005293	.0003630	-.005429	.0003238	.0014955
Stddev	.1159110	.002420	.0009950	.0003677	.002947	.0001534	.0004058
%RSD	200.5633	40.90702	187.9959	101.2746	54.29388	47.39003	27.13629
#1	-.044190	-.003236	.0011398	.0007577	-.005470	.0001643	.0013409
#2	.183850	-.006574	.0010669	.0003011	-.008355	.0003367	.0019559
#3	.033718	-.007940	-.000619	.0000303	-.002460	.0004704	.0011897

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB003 Acquired: 10/31/2024 2:13:19 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB003 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0004393	.0000842	-.000007
Stddev	.0009740	.0004743	.000056
%RSD	221.6930	563.5742	795.5889
#1	.0015293	-.000096	-.000052
#2	.0001343	-.000274	.000056
#3	-.000346	.000622	-.000025

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	974.5888	23090.11	2625.558	840.3849	1872.903
Stddev	3.4094	91.55	42.366	4.9681	5.217
%RSD	.3498295	.3964797	1.613616	.5911680	.2785255
#1	970.9644	23014.47	2579.418	840.8275	1867.300
#2	977.7320	23063.99	2662.707	835.2103	1877.620
#3	975.0700	23191.89	2634.550	845.1168	1873.789

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-14DLX2 Acquired: 10/31/2024 2:17:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4L1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1353695	-.023390	.1387689	-.002379	.0031975	86.61535	.9298672
Stddev	.0033139	.005806	.0076769	.001923	.0027921	.13019	.0014139
%RSD	2.448017	24.82321	5.532173	80.82886	87.32245	.1503084	.1520580
#1	.1356169	-.019634	.1346577	-.000649	.0054861	86.73384	.9314877
#2	.1319389	-.020458	.1476259	-.004449	.0040200	86.63622	.9288846
#3	.1385527	-.030077	.1340231	-.002039	.0000865	86.47598	.9292293

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052241	.0071643	33.97945	.1772806	.1068760	.4341145	187.5618
Stddev	.0000389	.0001247	.05119	.0008892	.0002720	.0025475	.3232
%RSD	.7452335	1.741183	.1506530	.5015508	.2544812	.5868278	.1723211
#1	.0051813	.0070278	34.03835	.1774567	.1070932	.4325000	187.9038
#2	.0052574	.0072723	33.94567	.1763165	.1065710	.4327923	187.5203
#3	.0052337	.0071927	33.95434	.1780685	.1069639	.4370513	187.2614

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.163972	40.59613	.1646608	-.020414	1.138335	.3512320	.4690684
Stddev	.004996	.23717	.0005602	.000138	.136221	.0122674	.0049603
%RSD	.1199880	.5842263	.3402313	.6763886	11.96671	3.492670	1.057483
#1	4.169348	40.86732	.1640143	-.020534	1.058280	.3377113	.4633468
#2	4.159471	40.49358	.1649657	-.020263	1.061104	.3543341	.4717010
#3	4.163096	40.42748	.1650025	-.020446	1.295622	.3616505	.4721574

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.50782	5.568897	.1752025	.0001424	.7191206	5.458384	.0072678
Stddev	.11594	.022166	.0015202	.0003800	.0097682	.016088	.0016727
%RSD	.4373967	.3980297	.8676875	266.8393	1.358355	.2947310	23.01471
#1	26.60262	5.543643	.1750530	.0005680	.7190474	5.463299	.0053775
#2	26.54229	5.585133	.1767919	.0000224	.7093892	5.440412	.0085562
#3	26.37855	5.577913	.1737625	-.000163	.7289252	5.471440	.0078697

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-14DLX2 Acquired: 10/31/2024 2:17:52 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4L1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.383868	.0562185	.1857306
Stddev	.006468	.0015873	.0005074
%RSD	.2713329	2.823382	.2731928
#1	2.379922	.0576716	.1861881
#2	2.391332	.0545246	.1858189
#3	2.380349	.0564593	.1851849

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1026.093	24674.11	2871.328	887.7036	1742.081
Stddev	.727	56.90	7.192	7.0612	1.231
%RSD	.0708834	.2306089	.2504630	.7954466	.0706836
#1	1025.444	24629.44	2863.062	895.7334	1742.461
#2	1026.879	24654.74	2876.152	882.4631	1743.078
#3	1025.955	24738.18	2874.769	884.9143	1740.705

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-15DLX2 Acquired: 10/31/2024 2:22:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4L2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1476953	-.029252	.1582397	.0073224	.0014153	95.29386	1.047277
Stddev	.0165201	.000672	.0078253	.0033277	.0033715	.15022	.002508
%RSD	11.18527	2.295812	4.945193	45.44570	238.2194	.1576414	.2395082
#1	.1352950	-.028572	.1636201	.0110308	-.001310	95.46694	1.048686
#2	.1413419	-.029271	.1492627	.0063396	.000370	95.19734	1.048764
#3	.1664489	-.029914	.1618361	.0045967	.005186	95.21730	1.044381

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054616	.0080135	38.00756	.1954207	.1293504	.4914965	207.0517
Stddev	.0001783	.0000800	.10939	.0002722	.0007153	.0043284	.4958
%RSD	3.264698	.9987312	.2878143	.1392787	.5530068	.8806493	.2394474
#1	.0053768	.0080664	38.08508	.1951240	.1295097	.4889271	207.2412
#2	.0056665	.0079214	37.88243	.1956589	.1299727	.4964938	206.4891
#3	.0053416	.0080527	38.05518	.1954791	.1285689	.4890685	207.4247

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.780715	46.09110	.1884819	-.021642	1.306538	.3771272	.5199785
Stddev	.018243	.03848	.0012438	.000181	.177322	.0064815	.0013313
%RSD	.3816049	.0834964	.6599034	.8373188	13.57191	1.718659	.2560366
#1	4.766294	46.04944	.1898733	-.021774	1.288979	.3753793	.5187648
#2	4.801224	46.09854	.1874779	-.021435	1.491987	.3843035	.5197683
#3	4.774628	46.12532	.1880944	-.021716	1.138649	.3716989	.5214025

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.94201	6.386769	.1905881	.0000632	.8335324	6.089484	.0079365
Stddev	.06861	.022437	.0009618	.0002866	.0147013	.019190	.0015562
%RSD	.2217368	.3512967	.5046205	453.3161	1.763729	.3151400	19.60828
#1	30.87100	6.401884	.1908184	.0003114	.8231618	6.070069	.0074902
#2	30.94710	6.397434	.1895321	-.000250	.8503566	6.089940	.0096671
#3	31.00793	6.360989	.1914137	.000129	.8270787	6.108442	.0066522

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-15DLX2 Acquired: 10/31/2024 2:22:17 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4L2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.406165	.0642306	.2077189
Stddev	.005598	.0019990	.0004107
%RSD	.2326614	3.112274	.1977117
#1	2.412606	.0638254	.2081199
#2	2.403419	.0624652	.2077376
#3	2.402471	.0664012	.2072992

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1033.537	24867.08	2902.321	892.5676	1728.054
Stddev	1.711	65.94	4.540	3.5891	1.855
%RSD	.1655739	.2651798	.1564221	.4021060	.1073331
#1	1033.871	24814.78	2905.830	891.5786	1728.987
#2	1031.684	24845.29	2897.194	889.5767	1725.918
#3	1035.057	24941.16	2903.940	896.5474	1729.258

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-16DLX2 Acquired: 10/31/2024 2:26:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P6 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1700158	-.025017	.1038067	-.005605	.0002978	81.27687	1.080259
Stddev	.0086525	.001031	.0023789	.003951	.0016225	.40779	.005368
%RSD	5.089260	4.119267	2.291685	70.49087	544.8096	.5017268	.4969046
#1	.1675091	-.024428	.1011181	-.005592	-.001563	81.69725	1.086372
#2	.1796449	-.026207	.1056386	-.009563	.001041	80.88296	1.076312
#3	.1628933	-.024417	.1046634	-.001661	.001415	81.25039	1.078095

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052645	.0059614	16.51116	.1504896	.1059657	.2950572	189.0280
Stddev	.0003689	.0000821	.05854	.0006472	.0008095	.0028452	.6934
%RSD	7.006454	1.377283	.3545361	.4300799	.7639535	.9642736	.3668026
#1	.0049423	.0058718	16.57752	.1497599	.1062400	.2973988	189.7213
#2	.0056669	.0059791	16.46684	.1507144	.1066023	.2918907	188.3346
#3	.0051844	.0060332	16.48912	.1509944	.1050546	.2958820	189.0280

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.874407	35.88602	.1879451	-.022345	.6745003	.3512837	.3612557
Stddev	.024328	.20031	.0011626	.000633	.1876885	.0077135	.0009325
%RSD	.4990883	.5581749	.6185823	2.832231	27.82630	2.195804	.2581259
#1	4.901992	36.11495	.1874031	-.022903	.4807504	.3446576	.3610719
#2	4.856018	35.80010	.1871524	-.021657	.6872762	.3494422	.3622665
#3	4.865210	35.74300	.1892797	-.022475	.8554745	.3597512	.3604289

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.14221	3.751873	.1591319	-.001127	.5724111	5.388044	.0084726
Stddev	.05201	.009037	.0014631	.000425	.0139521	.016265	.0022965
%RSD	.3221821	.2408597	.9193938	37.76490	2.437430	.3018667	27.10454
#1	16.18464	3.741462	.1583085	-.000805	.5822681	5.388764	.0111038
#2	16.08419	3.756458	.1608212	-.000966	.5564467	5.371432	.0074425
#3	16.15779	3.757697	.1582662	-.001609	.5785185	5.403937	.0068715

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-16DLX2 Acquired: 10/31/2024 2:26:42 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P6 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.973332	.0645653	.1613247
Stddev	.007849	.0003095	.0006087
%RSD	.3977778	.4792946	.3773252
#1	1.981982	.0647805	.1619954
#2	1.966661	.0647047	.1611713
#3	1.971354	.0642106	.1608073

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1017.292	24507.18	2840.580	883.3639	1755.467
Stddev	1.523	35.20	3.309	1.4996	1.244
%RSD	.1496849	.1436449	.1164944	.1697591	.0708764
#1	1015.719	24526.05	2837.536	881.8046	1754.314
#2	1018.759	24466.56	2844.102	883.4915	1756.786
#3	1017.396	24528.92	2840.101	884.7956	1755.301

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-17DLX2 Acquired: 10/31/2024 2:31:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P7 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4796598	-.055636	.0726706	-.005039	.0111890	152.6557	1.439962
Stddev	.0062947	.005156	.0035650	.007499	.0039157	.4219	.006571
%RSD	1.312333	9.268270	4.905682	148.8188	34.99566	.2763798	.4563403
#1	.4868615	-.057729	.0757302	-.012386	.0075880	153.1374	1.447453
#2	.4769103	-.059417	.0687558	.002603	.0153574	152.3516	1.437261
#3	.4752076	-.049762	.0735258	-.005333	.0106216	152.4781	1.435172

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0063091	.0155632	405.1076	2.219868	.3932134	.5760293	410.2651
Stddev	.0001246	.0002371	1.2698	.001627	.0012901	.0013987	1.9230
%RSD	1.974401	1.523268	.3134517	.0732948	.3280829	.2428104	.4687180
#1	.0064189	.0153453	406.3953	2.218150	.3931236	.5746747	412.3852
#2	.0063347	.0158156	403.8565	2.221386	.3919706	.5759451	408.6336
#3	.0061738	.0155287	405.0712	2.220067	.3945460	.5774682	409.7764

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.56214	151.6479	1.552530	-.031111	1.833354	1.076676	.5183162
Stddev	.05667	.6691	.002364	.000228	.267790	.017043	.0008301
%RSD	.3226952	.4412042	.1522609	.7314061	14.60658	1.582973	.1601616
#1	17.62728	152.4105	1.549913	-.030917	1.740616	1.070421	.5192652
#2	17.52416	151.1593	1.553168	-.031361	1.624260	1.063644	.5177243
#3	17.53498	151.3738	1.554509	-.031055	2.135186	1.095963	.5179593

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.019173	3.385964	.3237121	-.003529	.1565051	6.300715	.0027729
Stddev	.036806	.007447	.0025969	.000253	.0163947	.023876	.0020144
%RSD	1.822850	.2199493	.8022141	7.161363	10.47550	.3789421	72.64677
#1	1.988926	3.377572	.3266884	-.003800	.1708041	6.322067	.0050333
#2	2.008440	3.388535	.3219079	-.003486	.1600998	6.274935	.0011674
#3	2.060153	3.391785	.3225400	-.003300	.1386113	6.305145	.0021181

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-17DLX2 Acquired: 10/31/2024 2:31:10 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P7 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.405965	.1849040	.3829672
Stddev	.006321	.0008868	.0019513
%RSD	.1855811	.4796218	.5095201
#1	3.413123	.1838916	.3852067
#2	3.403619	.1855436	.3820620
#3	3.401151	.1852767	.3816330

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	965.6847	24156.99	2858.588	839.5438	1556.949
Stddev	2.8040	49.55	14.452	3.4618	1.143
%RSD	.2903642	.2051085	.5055803	.4123418	.0734280
#1	962.6978	24114.36	2844.353	835.5986	1555.667
#2	968.2604	24145.26	2873.248	840.9590	1557.862
#3	966.0960	24211.35	2858.163	842.0738	1557.317

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-18DLX2 Acquired: 10/31/2024 2:35:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P8 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2419581	-.029408	.2750086	-.000498	.0031043	110.6404	1.474221
Stddev	.0049693	.003802	.0000906	.010031	.0045281	.2548	.004223
%RSD	2.053786	12.92975	.0329588	2014.592	145.8652	.2303068	.2864252
#1	.2464311	-.033711	.2750836	-.002836	.0080431	110.4636	1.473919
#2	.2428342	-.028015	.2749079	-.009154	-.000852	110.5250	1.470157
#3	.2366090	-.026499	.2750342	.010496	.002122	110.9324	1.478586

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065361	.0115589	26.83779	.2293151	.1498343	.6771961	231.0456
Stddev	.0002015	.0002187	.13454	.0020718	.0007572	.0027529	.7022
%RSD	3.083296	1.892026	.5013049	.9034741	.5053811	.4065095	.3039254
#1	.0067567	.0117296	26.68498	.2269254	.1507054	.6786206	230.3501
#2	.0063617	.0113124	26.88993	.2304127	.1493334	.6789448	231.0325
#3	.0064899	.0116348	26.93844	.2306072	.1494640	.6740229	231.7544

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.884832	52.76129	.2809876	-.025256	1.305781	.4450200	.7503448
Stddev	.011573	.25751	.0005073	.000290	.165514	.0048427	.0044582
%RSD	.1467762	.4880637	.1805405	1.148325	12.67545	1.088197	.5941551
#1	7.886805	52.51913	.2804062	-.024922	1.462464	.4407520	.7554800
#2	7.872399	52.73295	.2812167	-.025404	1.132663	.4440252	.7474637
#3	7.895291	53.03180	.2813400	-.025443	1.322216	.4502829	.7480907

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.56303	6.148131	.1981127	-.000538	1.284282	6.248410	.0094996
Stddev	.22174	.015240	.0029262	.000372	.004090	.009290	.0014570
%RSD	.8347846	.2478734	1.477034	69.03682	.3184784	.1486819	15.33712
#1	26.32169	6.154968	.1947338	-.000545	1.288817	6.239661	.0079612
#2	26.60963	6.130670	.1998102	-.000164	1.283156	6.247409	.0096792
#3	26.75777	6.158754	.1997941	-.000907	1.280873	6.258160	.0108585

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-18DLX2 Acquired: 10/31/2024 2:35:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P8 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.453432	.0910526	.2247276
Stddev	.003066	.0013518	.0006452
%RSD	.1249521	1.484696	.2870983
#1	2.450392	.0894917	.2240840
#2	2.456523	.0918451	.2247245
#3	2.453381	.0918209	.2253743

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1034.933	24915.19	2936.881	892.4385	1720.637
Stddev	2.357	27.69	8.479	4.6238	1.734
%RSD	.2277451	.1111466	.2887100	.5181135	.1007694
#1	1032.593	24943.06	2946.664	887.1056	1719.122
#2	1034.899	24914.82	2932.324	895.3297	1720.261
#3	1037.306	24887.68	2931.654	894.8801	1722.528

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-19DLX2 Acquired: 10/31/2024 2:39:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P9 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1674120	-.021877	.2061262	.0039095	.0052899	67.51503	.9399893
Stddev	.0042040	.005050	.0041021	.0054225	.0020797	.03620	.0022287
%RSD	2.511189	23.08140	1.990095	138.7014	39.31510	.0536246	.2371019
#1	.1667899	-.020180	.2066388	.0054667	.0033737	67.47645	.9374159
#2	.1635536	-.027557	.2099479	.0083829	.0075015	67.52035	.9412987
#3	.1718924	-.017895	.2017919	-.002121	.0049944	67.54827	.9412532

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047064	.0079740	13.76966	.1461807	.0947227	.4645366	165.1104
Stddev	.0000728	.0000822	.06203	.0013810	.0006961	.0027922	.2348
%RSD	1.546743	1.030414	.4505007	.9447253	.7348935	.6010755	.1421836
#1	.0047719	.0080559	13.77568	.1477033	.0951348	.4656587	165.2258
#2	.0047193	.0079743	13.70483	.1458299	.0951144	.4613579	164.8403
#3	.0046280	.0078916	13.82846	.1450089	.0939190	.4665932	165.2651

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.537367	33.67871	.1712419	-.020603	.8549313	.3121066	.5966988
Stddev	.010256	.28899	.0008298	.000689	.0903674	.0060041	.0018450
%RSD	.2260313	.8580730	.4845525	3.343991	10.57013	1.923745	.3092071
#1	4.526602	33.35327	.1711556	-.020039	.9591739	.3175801	.5987122
#2	4.547024	33.77756	.1704587	-.020400	.7987634	.3130551	.5950889
#3	4.538476	33.90530	.1721114	-.021371	.8068566	.3056847	.5962953

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.51734	3.665176	.1372672	-.000965	.8368010	6.299061	.0114756
Stddev	.06896	.005530	.0015512	.000051	.0087696	.019021	.0001859
%RSD	.4444244	.1508786	1.130089	5.332468	1.047994	.3019688	1.619941
#1	15.46382	3.658843	.1377509	-.000911	.8284709	6.306877	.0113394
#2	15.59516	3.667634	.1385190	-.000972	.8459524	6.277377	.0116874
#3	15.49302	3.669050	.1355318	-.001013	.8359798	6.312929	.0114000

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-19DLX2 Acquired: 10/31/2024 2:39:56 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4P9 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.733562	.0551717	.1247248
Stddev	.004912	.0015946	.0001038
%RSD	.2833546	2.890301	.0832357
#1	1.735720	.0553794	.1248411
#2	1.727940	.0566523	.1246415
#3	1.737025	.0534834	.1246918

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1027.106	24667.10	2859.358	886.8835	1800.910
Stddev	1.527	62.26	3.672	2.3489	1.421
%RSD	.1486817	.2524067	.1284288	.2648535	.0789047
#1	1025.428	24630.95	2855.165	884.3175	1799.562
#2	1028.413	24631.35	2862.001	887.4051	1800.775
#3	1027.477	24738.99	2860.909	888.9277	1802.394

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-20DLX2 Acquired: 10/31/2024 2:44:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4Q0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3154722	-.047376	.1429625	-.005321	.0100476	152.9435	.6465187
Stddev	.0044839	.005756	.0037892	.009546	.0018609	.3426	.0012820
%RSD	1.421340	12.14914	2.650486	179.4066	18.52034	.2240324	.1982907
#1	.3143160	-.042121	.1402487	-.015678	.0084433	152.6545	.6453124
#2	.3116796	-.046480	.1413472	.003124	.0096118	152.8540	.6463789
#3	.3204210	-.053527	.1472917	-.003408	.0120877	153.3220	.6478649

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065875	.0162406	45.14355	.1094993	.2570115	.5443380	357.7651
Stddev	.0002346	.0002850	.15243	.0011254	.0002424	.0041752	.7559
%RSD	3.561952	1.754965	.3376666	1.027763	.0943315	.7670263	.2112913
#1	.0068577	.0164345	44.96867	.1083682	.2567332	.5491435	356.9854
#2	.0064352	.0159134	45.21364	.1095109	.2571244	.5415997	357.8152
#3	.0064696	.0163740	45.24832	.1106189	.2571769	.5422707	358.4947

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.710069	62.26140	.1308913	-.029546	2.493447	.6232425	1.323051
Stddev	.008265	.24990	.0002157	.000448	.104053	.0056007	.006832
%RSD	.0851181	.4013668	.1647820	1.517864	4.173070	.8986469	.5163784
#1	9.701702	62.00185	.1311400	-.029069	2.533812	.6246984	1.325078
#2	9.710277	62.50038	.1307786	-.029959	2.571271	.6170575	1.315435
#3	9.718229	62.28196	.1307553	-.029611	2.375259	.6279715	1.328641

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.024761	3.500695	.2829187	-.001336	.2182246	5.704472	.0065384
Stddev	.078046	.006243	.0017467	.000533	.0102814	.023548	.0005864
%RSD	1.553235	.1783251	.6174014	39.90640	4.711407	.4128015	8.968973
#1	5.023365	3.507853	.2846305	-.000780	.2283042	5.677759	.0066658
#2	4.947422	3.497853	.2811390	-.001843	.2077526	5.713432	.0070506
#3	5.103496	3.496379	.2829866	-.001386	.2186171	5.722225	.0058987

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-20DLX2 Acquired: 10/31/2024 2:44:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4Q0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.290863	.0780361	.3158634
Stddev	.005916	.0018542	.0010540
%RSD	.1118172	2.376133	.3336846
#1	5.287542	.0768361	.3150545
#2	5.287353	.0771005	.3154804
#3	5.297694	.0801717	.3170554

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1000.673	24172.64	2827.211	865.3163	1701.743
Stddev	1.166	26.24	13.576	2.8912	3.792
%RSD	.1165662	.1085614	.4802008	.3341182	.2228401
#1	1001.757	24200.16	2840.053	863.2438	1699.485
#2	1000.824	24169.84	2813.004	868.6191	1706.121
#3	999.439	24147.90	2828.576	864.0859	1699.622

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-21DLX2 Acquired: 10/31/2024 2:48:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4Q1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2458936	-.027226	.2204496	-.002859	.0022872	85.78323	1.232713
Stddev	.0105494	.003270	.0032193	.001005	.0036610	.18224	.001077
%RSD	4.290213	12.00917	1.460354	35.14852	160.0644	.2124419	.0873483
#1	.2467376	-.029121	.2192426	-.003878	.0065083	85.77605	1.232008
#2	.2559956	-.029106	.2180081	-.002829	-.000022	85.96895	1.233952
#3	.2349476	-.023450	.2240980	-.001869	.000376	85.60468	1.232178

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054573	.0091543	16.19395	.1852550	.1307556	.5934500	207.2623
Stddev	.0001125	.0000681	.09615	.0008730	.0000742	.0059418	.6397
%RSD	2.061848	.7442338	.5937231	.4712353	.0567442	1.001227	.3086285
#1	.0054255	.0090759	16.12202	.1862550	.1308405	.6003039	207.3005
#2	.0053641	.0091993	16.30315	.1846452	.1307226	.5897532	207.8820
#3	.0055823	.0091877	16.15668	.1848647	.1307035	.5902929	206.6044

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.250384	44.33439	.2383908	-.023128	.8682381	.4192993	.5123828
Stddev	.022494	.21323	.0004443	.000941	.1491501	.0069352	.0006149
%RSD	.3598886	.4809568	.1863943	4.067778	17.17847	1.654006	.1200040
#1	6.255664	44.12525	.2384285	-.022377	.9864906	.4219821	.5124259
#2	6.269768	44.55148	.2379288	-.022824	.9175461	.4244923	.5117475
#3	6.225719	44.32645	.2388151	-.024183	.7006776	.4114234	.5129750

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.33658	3.865762	.1698207	-.000798	.4485007	6.796037	.0097558
Stddev	.11960	.006323	.0007231	.000857	.0025826	.018504	.0022386
%RSD	.7321245	.1635594	.4258261	107.4006	.5758333	.2722816	22.94642
#1	16.23889	3.862426	.1699525	-.001625	.4485857	6.788338	.0093000
#2	16.46997	3.861806	.1690407	-.000855	.4458767	6.817148	.0077801
#3	16.30088	3.873054	.1704689	.000086	.4510398	6.782625	.0121872

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4519-21DLX2 Acquired: 10/31/2024 2:48:46 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4Q1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.152025	.0712301	.1540167
Stddev	.003971	.0017976	.0006116
%RSD	.1845412	2.523589	.3970751
#1	2.154484	.0694704	.1542204
#2	2.154147	.0730632	.1545003
#3	2.147443	.0711567	.1533292

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1014.948	24545.90	2843.913	882.5753	1745.083
Stddev	.959	104.36	10.949	2.9285	3.546
%RSD	.0945201	.4251683	.3849836	.3318136	.2032169
#1	1015.683	24463.71	2845.826	879.4215	1741.766
#2	1015.299	24510.68	2832.134	885.2087	1748.821
#3	1013.863	24663.32	2853.779	883.0959	1744.662

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164457BL Acquired: 10/31/2024 2:53:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS457 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002140	.0042071	.0013133	.0011097	.0017110	.0063906	-.003177
Stddev	.001749	.0009644	.0006840	.0050146	.0017277	.0105272	.000377
%RSD	81.74909	22.92393	52.08025	451.8963	100.9746	164.7295	11.86919
#1	-.002658	.0036944	.0019448	-.001188	.0031230	.0168622	-.003545
#2	-.000190	.0053196	.0014083	.006861	.0022256	.0065010	-.003194
#3	-.003571	.0036074	.0005868	-.002344	-.000216	-.004191	-.002791

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000074	-.000181	-.001305	-.001492	.0001904	-.003823	-.004982
Stddev	.000070	.000090	.003016	.000772	.0000909	.005177	.026021
%RSD	95.05472	49.56703	231.0691	51.71571	47.75664	135.4024	522.2847
#1	-.000053	-.000174	-.000323	-.001528	.0001025	-.009662	-.033776
#2	-.000016	-.000095	-.004690	-.000703	.0002841	.000205	.016849
#3	-.000152	-.000274	.001098	-.002245	.0001846	-.002012	.001981

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000018	-.055392	-.000389	-.006172	-.304350	-.004684	-.000866
Stddev	.000633	.058185	.000383	.000514	.268042	.008560	.000064
%RSD	3445.517	105.0411	98.31240	8.323740	88.07036	182.7605	7.392686
#1	.000467	-.013422	-.000823	-.006175	-.376219	.005198	-.000939
#2	-.000734	-.030942	-.000098	-.006684	-.529131	-.009813	-.000842
#3	.000211	-.121812	-.000247	-.005657	-.007700	-.009437	-.000818

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1506512	-.001304	-.004872	-.000294	-.004607	.0017241	.0000654
Stddev	.0557879	.001765	.000888	.000328	.008238	.0000956	.0017418
%RSD	37.03115	135.4187	18.22404	111.5189	178.8237	5.543987	2664.484
#1	.0942238	.000387	-.005869	-.000284	-.002413	.0016464	-.001057
#2	.2057768	-.003136	-.004577	.000028	.002312	.0018308	.002072
#3	.1519528	-.001162	-.004169	-.000628	-.013719	.0016951	-.000819

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164457BL Acquired: 10/31/2024 2:53:11 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBS457 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0006732	-.001985	-.000170
Stddev	.0023060	.001661	.000017
%RSD	342.5178	83.64837	9.726553
#1	-.001424	-.000808	-.000155
#2	.000301	-.003885	-.000188
#3	.003143	-.001264	-.000167

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	973.0874	23232.24	2663.750	844.7594	1866.533
Stddev	.9284	78.97	10.217	3.5633	1.552
%RSD	.0954103	.3398991	.3835416	.4218127	.0831586
#1	973.6016	23217.23	2664.150	846.0867	1865.538
#2	972.0156	23317.64	2673.761	847.4686	1868.321
#3	973.6449	23161.86	2653.339	840.7230	1865.739

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164457BS Acquired: 10/31/2024 2:57:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS457 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0163741	.0552473	.0199075	.0711353	.1168141	.3957257
Stddev	.0041864	.0024979	.0047129	.0023478	.0019957	.0131479
%RSD	25.56733	4.521334	23.67416	3.300520	1.708453	3.322484
#1	.0122537	.0563423	.0148803	.0717522	.1147830	.4108149
#2	.0206236	.0570106	.0242258	.0731131	.1187724	.3896318
#3	.0162451	.0523889	.0206163	.0685406	.1168871	.3867304

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4454300	.0119692	.0111924	11.19816	.0220327	.1062988
Stddev	.0007362	.0001400	.0000274	.03404	.0007265	.0005194
%RSD	.1652759	1.170114	.2445342	.3040062	3.297482	.4886606
#1	.4445838	.0121262	.0112168	11.20523	.0226758	.1062575
#2	.4459229	.0118570	.0111628	11.22811	.0221778	.1058013
#3	.4457833	.0119244	.0111976	11.16113	.0212446	.1068377

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0503605	.2226678	.0338805	11.07171	.0886815	.0186487
Stddev	.0074895	.0300270	.0014791	.11733	.0004364	.0007822
%RSD	14.87178	13.48511	4.365641	1.059721	.4921373	4.194178
#1	.0590053	.2084329	.0330015	10.98389	.0881929	.0177525
#2	.0462480	.2024056	.0330518	11.20496	.0888186	.0189999
#3	.0458283	.2571649	.0355882	11.02628	.0890328	.0191938

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.65903	.1208683	.1179097	10.30052	.0157794	F -.004481
Stddev	.48489	.0084862	.0006442	.09557	.0013906	.000397
%RSD	4.549063	7.020995	.5463592	.9277911	8.812832	8.849847
#1	10.90391	.1156724	.1171960	10.39854	.0143914	-.004042
#2	10.97265	.1162714	.1180849	10.20762	.0157743	-.004589
#3	10.10055	.1306612	.1184482	10.29541	.0171726	-.004813

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164457BS Acquired: 10/31/2024 2:57:43 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS457 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0196478	.1854425	F .4643793	.0163503	.2146587	.0285846
Stddev	.0008128	.0046977	.0019462	.0014068	.0016779	.0006494
%RSD	4.136801	2.533253	.4190997	8.604307	.7816783	2.271840
#1	.0191145	.1869520	.4649622	.0168951	.2144958	.0292193
#2	.0205832	.1801756	.4659674	.0174033	.2164121	.0286129
#3	.0192455	.1892000	.4622082	.0147526	.2130681	.0279215

Elem	Sr4077
Units	ppm
Avg	.2207338
Stddev	.0001323
%RSD	.0599328
#1	.2206732
#2	.2206427
#3	.2208855

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	967.3467	23022.63	2657.080	837.9573	1822.604
Stddev	1.7784	5.35	12.914	3.1490	.196
%RSD	.1838461	.0232404	.4860113	.3757944	.0107530
#1	969.4003	23023.48	2650.882	839.9990	1822.592
#2	966.3274	23016.91	2648.433	834.3307	1822.414
#3	966.3126	23027.51	2671.924	839.5422	1822.805

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164457BSD Acquired: 10/31/2024 3:02:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD457 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0071227	.0298776	.0118060	.0310451	.0580020	.1862647	.2214239
Stddev	.0030461	.0018608	.0010583	.0021410	.0026816	.0185567	.0014803
%RSD	42.76603	6.228144	8.964132	6.896463	4.623216	9.962546	.6685400
#1	.0070109	.0300019	.0108829	.0293828	.0554432	.2066999	.2230781
#2	.0102232	.0316732	.0129611	.0302914	.0577712	.1816287	.2202238
#3	.0041341	.0279578	.0115741	.0334610	.0607914	.1704655	.2209699

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0058886	.0055931	5.519668	.0098148	.0527899	.0256732	.0868697
Stddev	.0001861	.0000665	.020619	.0005151	.0001385	.0012542	.0306035
%RSD	3.161093	1.189028	.3735638	5.248680	.2623186	4.885195	35.22916
#1	.0060427	.0055238	5.502123	.0099569	.0529485	.0245235	.1139341
#2	.0056818	.0055992	5.514502	.0092435	.0527282	.0254854	.0930152
#3	.0059413	.0056564	5.542379	.0102439	.0526931	.0270107	.0536598

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0168515	5.334788	.0434599	.0071741	5.338046	.0641169	.0595471
Stddev	.0003368	.005619	.0006810	.0009700	.052555	.0109337	.0003656
%RSD	1.998659	.1053270	1.567039	13.52022	.9845400	17.05275	.6139251
#1	.0164851	5.331724	.0438797	.0072984	5.388933	.0705194	.0592397
#2	.0171477	5.331368	.0438258	.0061479	5.283968	.0703392	.0594503
#3	.0169216	5.341273	.0426741	.0080758	5.341236	.0514922	.0599514

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.164421	.0040246	-.006524	.0098789	.0866406	.2310957	.0080063
Stddev	.160302	.0024953	.000876	.0002610	.0003994	.0016003	.0016712
%RSD	3.103960	62.00164	13.43307	2.642516	.4609848	.6924654	20.87328
#1	5.215364	.0047301	-.005522	.0096430	.0868180	.2311268	.0061363
#2	4.984839	.0060912	-.007146	.0101593	.0861832	.2326802	.0093537
#3	5.293061	.0012525	-.006904	.0098343	.0869205	.2294802	.0085289

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: PB164457BSD Acquired: 10/31/2024 3:02:13 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCSD457 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1056622	.0142359	.1098160
Stddev	.0020588	.0019790	.0004864
%RSD	1.948445	13.90159	.4429219
#1	.1078370	.0120152	.1101270
#2	.1037434	.0148796	.1092555
#3	.1054061	.0158129	.1100655

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	974.0128	23020.30	2656.127	833.5689	1848.901
Stddev	1.2380	91.64	11.621	1.8676	3.225
%RSD	.1271010	.3980798	.4375106	.2240447	.1744021
#1	975.3661	22984.79	2644.111	831.5934	1845.205
#2	972.9374	23124.38	2656.964	835.3056	1850.354
#3	973.7349	22951.73	2667.307	833.8077	1851.143

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-01DLX2 Acquired: 10/31/2024 3:06:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H0 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1669119	-.027659	.1666493	-.005014	.0048645	95.08357	.9899891
Stddev	.0039636	.003192	.0016110	.004949	.0048230	.28045	.0019159
%RSD	2.374639	11.54095	.9667019	98.70639	99.14736	.2949519	.1935226
#1	.1637039	-.024853	.1670615	.000027	.0103637	94.81977	.9888089
#2	.1713428	-.026993	.1648722	-.009866	.0013529	95.05279	.9889588
#3	.1656891	-.031132	.1680141	-.005204	.0028769	95.37814	.9921996

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052101	.0086462	36.62873	.2411813	.1180483	.5396970	205.0944
Stddev	.0001104	.0003578	.12199	.0007155	.0012275	.0026100	.7116
%RSD	2.118665	4.138212	.3330407	.2966515	1.039862	.4836072	.3469619
#1	.0053375	.0083179	36.52162	.2405829	.1169560	.5378222	204.4867
#2	.0051513	.0090276	36.60306	.2419738	.1178121	.5385908	204.9194
#3	.0051416	.0085930	36.76151	.2409873	.1193767	.5426779	205.8772

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.227261	45.53905	.2201709	-.021166	3.140874	.4058226	.5356528
Stddev	.010257	.44862	.0013664	.000466	.082241	.0130234	.0030618
%RSD	.1962269	.9851220	.6206139	2.203030	2.618407	3.209127	.5715939
#1	5.215509	45.02105	.2197320	-.021253	3.092764	.3939971	.5346100
#2	5.231864	45.79442	.2190778	-.021583	3.094023	.4036901	.5390997
#3	5.234411	45.80168	.2217028	-.020663	3.235835	.4197806	.5332486

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.38807	6.495042	.1897782	-.000364	1.372786	3.761528	.0062431
Stddev	.11325	.017246	.0004594	.000684	.001636	.024035	.0011710
%RSD	.3853510	.2655324	.2420636	187.9008	.1191469	.6389616	18.75612
#1	29.28131	6.484058	.1899350	-.000357	1.372006	3.734774	.0066233
#2	29.50685	6.514920	.1901387	.000316	1.374666	3.768514	.0071767
#3	29.37605	6.486149	.1892610	-.001052	1.371687	3.781296	.0049293

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-01DLX2 Acquired: 10/31/2024 3:06:44 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H0 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.764767	.0636901	.2043041
Stddev	.005710	.0011250	.0004392
%RSD	.2065353	1.766289	.2149747
#1	2.758321	.0644940	.2037970
#2	2.766790	.0641717	.2045505
#3	2.769190	.0624045	.2045647

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1022.343	24498.31	2878.012	881.2801	1731.452
Stddev	.935	39.99	12.302	1.0191	.696
%RSD	.0914760	.1632401	.4274543	.1156344	.0401919
#1	1022.020	24452.29	2891.894	882.1942	1730.683
#2	1023.397	24524.59	2873.681	880.1813	1732.038
#3	1021.613	24518.06	2868.461	881.4647	1731.635

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-02DLX2 Acquired: 10/31/2024 3:11:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3114725	-.032889	.2921602	-.004013	.0102662	90.15324	1.157259
Stddev	.0023655	.001997	.0020060	.002795	.0021949	.05019	.001529
%RSD	.7594480	6.072898	.6866217	69.66184	21.37965	.0556697	.1321208
#1	.3140342	-.030608	.2898912	-.006769	.0127629	90.16288	1.155680
#2	.3110124	-.034325	.2936984	-.001180	.0093947	90.09893	1.157366
#3	.3093709	-.033734	.2928908	-.004089	.0086409	90.19791	1.158732

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066371	.0123969	13.89744	.2170046	.1401864	.6543546	271.6454
Stddev	.0001974	.0001962	.05571	.0006977	.0004854	.0057272	.2910
%RSD	2.974125	1.582734	.4008400	.3215151	.3462745	.8752389	.1071377
#1	.0068440	.0123843	13.96176	.2163519	.1398569	.6587462	271.9759
#2	.0066165	.0122073	13.86603	.2169220	.1399585	.6564408	271.5328
#3	.0064509	.0125991	13.86453	.2177400	.1407439	.6478768	271.4274

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.309245	46.08086	.2497162	-.027276	1.092739	.4951448	.7915820
Stddev	.014026	.12530	.0015102	.000321	.108600	.0047221	.0037595
%RSD	.2223082	.2719145	.6047799	1.177027	9.938363	.9536871	.4749289
#1	6.307254	46.22519	.2513477	-.027435	1.217154	.4904892	.7876383
#2	6.296320	46.01749	.2483671	-.027485	1.016946	.4950144	.7919825
#3	6.324160	45.99990	.2494338	-.026906	1.044115	.4999307	.7951251

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.09750	4.946248	.2217577	.0002624	.6528980	3.132923	.0118116
Stddev	.04760	.013523	.0016405	.0002523	.0068484	.013316	.0007609
%RSD	.2630432	.2733961	.7397738	96.18265	1.048922	.4250382	6.441787
#1	18.06572	4.956735	.2222578	-.000013	.6453116	3.141686	.0115132
#2	18.07456	4.930985	.2230899	.000483	.6547587	3.117600	.0112451
#3	18.15223	4.951023	.2199253	.000316	.6586238	3.139484	.0126764

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-02DLX2 Acquired: 10/31/2024 3:11:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H1 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.272956	.0757952	.1459978
Stddev	.003135	.0004725	.0000268
%RSD	.1379291	.6233901	.0183758
#1	2.276249	.0761468	.1460013
#2	2.272611	.0752581	.1459694
#3	2.270007	.0759807	.1460227

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1014.657	24428.14	2857.038	877.3024	1743.975
Stddev	1.598	21.74	13.162	1.1638	2.920
%RSD	.1574595	.0889958	.4606913	.1326610	.1674340
#1	1016.403	24413.14	2844.586	877.0717	1746.042
#2	1013.268	24418.20	2870.811	878.5643	1745.249
#3	1014.301	24453.07	2855.719	876.2712	1740.635

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-03DLX2 Acquired: 10/31/2024 3:15:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.010379	-.055882	.1014930	-.005661	.0170367	135.7877	1.458583
Stddev	.012840	.004667	.0025429	.012744	.0029451	.2370	.001653
%RSD	1.270837	8.351963	2.505472	225.1259	17.28664	.1745015	.1133298
#1	.996233	-.050509	.1040915	-.019581	.0142119	135.6896	1.459250
#2	1.021297	-.058205	.0990097	.005432	.0200889	135.6156	1.456701
#3	1.013609	-.058931	.1013778	-.002834	.0168092	136.0580	1.459798

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077259	.0142611	211.7447	1.554958	.3191109	.5502806	412.9407
Stddev	.0003508	.0000893	.3118	.002267	.0004000	.0032704	.9527
%RSD	4.541217	.6261571	.1472428	.1457717	.1253488	.5943071	.2307002
#1	.0078941	.0141645	211.4608	1.553897	.3186919	.5480816	412.1576
#2	.0073226	.0142782	211.6950	1.557561	.3194886	.5540388	412.6632
#3	.0079609	.0143406	212.0784	1.553416	.3191523	.5487214	414.0013

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.06273	106.2008	1.094719	-.034276	1.691550	.9541159	.5238306
Stddev	.03343	.4502	.001728	.000559	.075495	.0058140	.0029485
%RSD	.2377547	.4239289	.1578612	1.630835	4.463090	.6093553	.5628726
#1	14.05890	106.2015	1.095413	-.034832	1.607446	.9603062	.5270856
#2	14.03137	105.7503	1.092752	-.034282	1.753462	.9487709	.5213388
#3	14.09791	106.6507	1.095993	-.033714	1.713742	.9532705	.5230672

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.680642	4.081194	.3320521	.0010612	.4318138	1.986873	.0053244
Stddev	.077887	.018543	.0012848	.0005380	.0122709	.003034	.0049200
%RSD	.8972493	.4543548	.3869225	50.69958	2.841704	.1527213	92.40456
#1	8.614889	4.061827	.3311973	.0014007	.4179381	1.983539	.0096263
#2	8.660381	4.082971	.3314294	.0013419	.4412361	1.987607	-.000040
#3	8.766658	4.098785	.3335296	.0004409	.4362671	1.989473	.006387

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-03DLX2 Acquired: 10/31/2024 3:15:34 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.606278	.1420338	.3077623
Stddev	.004984	.0007385	.0006211
%RSD	.1382075	.5199344	.2018096
#1	3.606728	.1428859	.3074371
#2	3.611022	.1415789	.3073714
#3	3.601084	.1416366	.3084785

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	982.8493	24338.23	2890.941	850.4444	1622.621
Stddev	2.6233	26.63	1.440	3.1166	2.899
%RSD	.2669045	.1094149	.0498159	.3664670	.1786425
#1	982.0738	24308.59	2891.539	848.8157	1621.669
#2	985.7729	24360.15	2891.985	854.0379	1625.876
#3	980.7011	24345.94	2889.298	848.4796	1620.318

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-04DLX2 Acquired: 10/31/2024 3:19:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2D Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8359238	-.051642	.0929049	-.008172	.0112141	131.9620	1.246235
Stddev	.0025465	.001238	.0015474	.015073	.0038989	.5585	.002914
%RSD	.3046281	2.396442	1.665580	184.4331	34.76753	.4232112	.2338446
#1	.8388549	-.052248	.0921098	.006328	.0157085	132.5955	1.249371
#2	.8346599	-.052461	.0946882	-.007087	.0091930	131.5405	1.243609
#3	.8342565	-.050219	.0919167	-.023758	.0087407	131.7502	1.245726

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0070526	.0127114	220.7369	1.506734	.2854286	.5229101	378.8806
Stddev	.0001669	.0001667	1.2031	.001576	.0009569	.0060908	1.8750
%RSD	2.365877	1.311150	.5450459	.1046201	.3352366	1.164787	.4948710
#1	.0072004	.0128632	221.9786	1.506407	.2865219	.5205687	380.9855
#2	.0070857	.0125331	219.5764	1.505347	.2847438	.5298242	377.3892
#3	.0068717	.0127380	220.6557	1.508448	.2850202	.5183375	378.2672

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.32007	102.9551	1.032168	-.029885	1.667492	.9068006	.4964719
Stddev	.01795	.5386	.003417	.000574	.370118	.0183876	.0031105
%RSD	.1457180	.5231642	.3310462	1.919792	22.19607	2.027743	.6265260
#1	12.32166	103.5439	1.035429	-.029924	1.527159	.9072186	.4941717
#2	12.30138	102.4873	1.028614	-.030438	1.388062	.9249757	.5000110
#3	12.33718	102.8342	1.032461	-.029293	2.087253	.8882076	.4952332

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.466922	4.073607	.3067020	.0001718	.4982945	3.468031	.0056569
Stddev	.072070	.003883	.0029695	.0002039	.0102422	.017248	.0017402
%RSD	.7612828	.0953267	.9682001	118.6702	2.055452	.4973496	30.76224
#1	9.536443	4.077951	.3101305	-.000045	.5095133	3.486626	.0058156
#2	9.471775	4.072398	.3050298	.000201	.4894437	3.452555	.0038428
#3	9.392548	4.070472	.3049456	.000360	.4959265	3.464911	.0073123

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-04DLX2 Acquired: 10/31/2024 3:19:58 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2D Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.500169	.1355194	.2897091
Stddev	.013432	.0015435	.0008919
%RSD	.3837512	1.138964	.3078727
#1	3.514980	.1338179	.2900787
#2	3.488777	.1359106	.2886917
#3	3.496749	.1368297	.2903567

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	977.4801	24036.32	2847.837	846.7021	1615.806
Stddev	1.1307	51.50	16.549	.8794	2.869
%RSD	.1156754	.2142770	.5810910	.1038621	.1775692
#1	976.4884	24036.70	2832.221	846.0503	1612.941
#2	977.2407	24087.63	2865.182	846.3536	1615.797
#3	978.7114	23984.63	2846.107	847.7023	1618.679

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-05DLX2 Acquired: 10/31/2024 3:24:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2S Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.042877	.0390790	.1358974	.1576574	.1808958	137.1290	5.251448
Stddev	.003239	.0052496	.0021565	.0018272	.0083517	.0990	.007943
%RSD	.3105527	13.43340	1.586860	1.158963	4.616869	.0721886	.1512593
#1	1.043784	.0388382	.1350952	.1596940	.1878600	137.0185	5.244118
#2	1.045565	.0339539	.1383400	.1561617	.1716365	137.1587	5.250339
#3	1.039281	.0444449	.1342569	.1571166	.1831909	137.2096	5.259888

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1029004	.1101691	208.3765	1.917679	1.288512	.9798826	408.2999
Stddev	.0010519	.0003829	.3916	.001329	.001849	.0013988	.8318
%RSD	1.022204	.3475717	.1879112	.0692797	.1434978	.1427536	.2037157
#1	.1023598	.1097429	207.9499	1.918995	1.286442	.9801780	407.4713
#2	.1041126	.1104842	208.4600	1.917703	1.289091	.9783597	409.1348
#3	.1022288	.1102801	208.7196	1.916338	1.290002	.9811101	408.2938

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.73821	104.6684	2.043243	.0594391	2.142300	1.864125	1.326900
Stddev	.01187	.3354	.003698	.0004091	.172271	.012395	.002230
%RSD	.0805099	.3204496	.1810106	.6882619	8.041401	.6649006	.1680467
#1	14.75178	104.2937	2.039919	.0590039	1.972293	1.864371	1.329234
#2	14.72979	104.7709	2.042585	.0598158	2.137856	1.876395	1.324791
#3	14.73307	104.9406	2.047227	.0594976	2.316749	1.851610	1.326675

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.510587	3.973759	.3297743	-.000021	.4187851	1.976109	.0047243
Stddev	.076146	.011488	.0018563	.000786	.0115188	.013594	.0025828
%RSD	.8947200	.2890999	.5628912	3677.448	2.750536	.6879157	54.67059
#1	8.424435	3.973670	.3314347	-.000652	.4071554	1.974591	.0019411
#2	8.538446	3.962315	.3277702	.000859	.4190100	1.990398	.0051880
#3	8.568880	3.985291	.3301180	-.000271	.4301898	1.963338	.0070439

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-05DLX2 Acquired: 10/31/2024 3:24:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2S Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.543769	.1386157	.3022041
Stddev	.001510	.0004309	.0001466
%RSD	.0426062	.3108866	.0485092
#1	3.544177	.1391129	.3020349
#2	3.542097	.1383504	.3022936
#3	3.545034	.1383837	.3022838

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	982.3128	24233.12	2855.427	846.7850	1631.217
Stddev	2.3183	24.49	8.745	3.3278	1.421
%RSD	.2360044	.1010722	.3062483	.3929875	.0870935
#1	979.7779	24216.80	2852.465	844.3806	1630.335
#2	984.3254	24221.28	2848.547	850.5830	1632.856
#3	982.8352	24261.28	2865.267	845.3915	1630.460

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-03LDLX10 Acquired: 10/31/2024 3:28:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2L Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1983406	-.012171	.0212676	-.001371	.0040658	28.47476	.3089145
Stddev	.0006551	.001148	.0013736	.000313	.0033452	.05366	.0015206
%RSD	.3302781	9.430667	6.458758	22.85339	82.27688	.1884577	.4922498
#1	.1975854	-.010862	.0206476	-.001683	.0020305	28.52951	.3101283
#2	.1986812	-.012647	.0228419	-.001373	.0022403	28.42226	.3072088
#3	.1987552	-.013005	.0203132	-.001056	.0079266	28.47250	.3094064

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017986	.0019362	45.39338	.3416248	.0630504	.1165514	91.10363
Stddev	.0001798	.0002231	.10623	.0006548	.0002642	.0005904	.40772
%RSD	9.997046	11.52399	.2340235	.1916659	.4190018	.5065308	.4475294
#1	.0017042	.0020098	45.48305	.3420646	.0627553	.1162512	91.55597
#2	.0020059	.0021133	45.27606	.3419375	.0631310	.1172315	90.99047
#3	.0016856	.0016856	45.42103	.3408723	.0632649	.1161714	90.76445

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.091964	22.37228	.2202635	-.009702	.5919401	.2059769	.1122985
Stddev	.010161	.24910	.0004737	.000244	.2708675	.0061443	.0010149
%RSD	.3286252	1.113414	.2150632	2.513830	45.75928	2.982986	.9037420
#1	3.103405	22.55347	.2197489	-.009451	.3925332	.2013921	.1115895
#2	3.088493	22.47514	.2203604	-.009716	.9003225	.2129583	.1134611
#3	3.083992	22.08822	.2206813	-.009938	.4829647	.2035804	.1118449

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.654214	.7927606	.0692799	-.000894	.0847022	.4289160	.0021593
Stddev	.030935	.0088383	.0003596	.000068	.0027915	.0011726	.0031944
%RSD	1.870050	1.114875	.5191215	7.579676	3.295627	.2733878	147.9343
#1	1.652121	.8001092	.0689186	-.000928	.0854907	.4302041	.0053130
#2	1.686142	.7952193	.0692834	-.000939	.0816012	.4279104	-.001074
#3	1.624379	.7829533	.0696379	-.000816	.0870145	.4286336	.002239

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-03LDLX10 Acquired: 10/31/2024 3:28:41 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2L Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7735751	.0283141	.0655308
Stddev	.0022784	.0023774	.0003459
%RSD	.2945336	8.396662	.5278529
#1	.7756325	.0280553	.0659274
#2	.7711263	.0308103	.0653733
#3	.7739664	.0260766	.0652916

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	975.9437	23342.79	2698.977	838.3755	1774.840
Stddev	2.0828	70.55	14.144	2.6314	2.511
%RSD	.2134145	.3022337	.5240635	.3138706	.1414514
#1	973.7487	23266.58	2683.605	837.6769	1771.947
#2	977.8925	23355.97	2711.443	836.1638	1776.441
#3	976.1898	23405.81	2701.883	841.2857	1776.133

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-06DLX2 Acquired: 10/31/2024 3:33:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H3 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2462607	-.039210	.1116112	-.001330	.0169752	134.3061	.5650068
Stddev	.0082769	.007409	.0050194	.004637	.0041859	.4819	.0037731
%RSD	3.361034	18.89465	4.497256	348.5089	24.65892	.3588087	.6677926
#1	.2407254	-.043306	.1122859	.003939	.0155805	134.1974	.5647803
#2	.2422808	-.030658	.1162591	-.003142	.0136647	133.8878	.5613522
#3	.2557757	-.043666	.1062885	-.004788	.0216804	134.8331	.5688881

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057421	.0119266	38.23502	.1128701	.1695610	.4741227	301.1447
Stddev	.0000987	.0001517	.13258	.0010040	.0010802	.0065916	.2566
%RSD	1.719405	1.272015	.3467502	.8895567	.6370462	1.390269	.0852193
#1	.0058351	.0117919	38.22884	.1122485	.1704798	.4709009	300.9522
#2	.0057525	.0118970	38.10564	.1140284	.1683711	.4697616	301.0459
#3	.0056385	.0120909	38.37058	.1123333	.1698320	.4817055	301.4361

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.094317	50.50502	.1225336	-.026174	2.192456	.5189759	1.108615
Stddev	.040324	.14974	.0012385	.000191	.040334	.0095952	.005861
%RSD	.5684048	.2964799	1.010782	.7278383	1.839661	1.848862	.5287203
#1	7.094267	50.33658	.1211392	-.026108	2.163907	.5235580	1.111171
#2	7.054017	50.55543	.1235061	-.026389	2.174863	.5254211	1.101909
#3	7.134666	50.62304	.1229554	-.026025	2.238598	.5079488	1.112764

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.294912	3.137597	.2385443	-.000631	.1974768	1.775948	.0075163
Stddev	.139190	.019258	.0012412	.000450	.0064506	.009102	.0029601
%RSD	2.628745	.6137945	.5203384	71.36104	3.266492	.5125037	39.38200
#1	5.134364	3.130782	.2384840	-.000492	.2037764	1.767581	.0057515
#2	5.368702	3.122672	.2398146	-.000267	.1977688	1.774623	.0058637
#3	5.381670	3.159336	.2373344	-.001135	.1908852	1.785639	.0109337

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-06DLX2 Acquired: 10/31/2024 3:33:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H3 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.318758	.0713040	.2572826
Stddev	.020591	.0016729	.0009681
%RSD	.3871480	2.346180	.3762578
#1	5.318996	.0710270	.2577660
#2	5.298049	.0697869	.2561680
#3	5.339230	.0730982	.2579137

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	997.2691	24158.44	2820.205	868.6739	1721.401
Stddev	1.2152	72.99	7.568	4.3061	4.279
%RSD	.1218481	.3021375	.2683436	.4957133	.2485544
#1	997.2532	24079.01	2817.780	864.3399	1721.368
#2	998.4921	24173.71	2828.688	872.9516	1725.696
#3	996.0620	24222.58	2814.147	868.7300	1717.139

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-07DLX2 Acquired: 10/31/2024 3:37:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H4 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4557490	-.044462	.4314323	-.005869	.0213015	107.0105	1.428787
Stddev	.0094384	.005589	.0050593	.005943	.0019744	.1645	.002886
%RSD	2.070976	12.57012	1.172682	101.2652	9.268739	.1537420	.2020014
#1	.4511530	-.044930	.4307678	-.012650	.0235709	107.1543	1.431858
#2	.4494889	-.038654	.4367910	-.001564	.0199782	107.0463	1.426130
#3	.4666052	-.049802	.4267380	-.003393	.0203555	106.8311	1.428374

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074363	.0170081	15.54398	.2483536	.1752576	.9174877	331.8052
Stddev	.0002059	.0000594	.02984	.0016845	.0015360	.0042892	1.0055
%RSD	2.768938	.3492042	.1919727	.6782767	.8764152	.4674883	.3030383
#1	.0075398	.0169595	15.57764	.2485125	.1737882	.9131376	332.2743
#2	.0075699	.0169906	15.52076	.2465952	.1751321	.9217132	332.4904
#3	.0071992	.0170743	15.53354	.2499530	.1768524	.9176123	330.6509

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.995554	52.91374	.2888679	-.032266	1.401397	.6580445	.8986957
Stddev	.023021	.17298	.0013963	.000381	.332821	.0024657	.0050725
%RSD	.2559108	.3269169	.4833683	1.182157	23.74922	.3746946	.5644276
#1	8.978967	53.08880	.2898291	-.032298	1.312117	.6580969	.8968082
#2	8.985857	52.90949	.2872663	-.032630	1.769753	.6604836	.9044413
#3	9.021836	52.74291	.2895084	-.031869	1.122322	.6555531	.8948375

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.02405	5.141169	.2673368	-.000408	.6794860	3.457090	.0103478
Stddev	.07071	.028604	.0012671	.000175	.0073558	.005739	.0013955
%RSD	.3923285	.5563773	.4739542	42.77835	1.082555	.1660156	13.48596
#1	18.10327	5.127153	.2683869	-.000256	.6861343	3.455804	.0118027
#2	18.00157	5.122276	.2676940	-.000599	.6807399	3.463363	.0090204
#3	17.96730	5.174079	.2659295	-.000370	.6715838	3.452102	.0102204

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-07DLX2 Acquired: 10/31/2024 3:37:35 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H4 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.700006	.0877515	.2060870
Stddev	.008096	.0001157	.0002148
%RSD	.2998695	.1318168	.1042330
#1	2.706976	.0877003	.2058956
#2	2.701916	.0876702	.2063193
#3	2.691125	.0878839	.2060462

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1017.572	24631.69	2885.526	882.9320	1729.192
Stddev	2.628	48.76	4.733	2.8504	5.939
%RSD	.2582727	.1979593	.1640158	.3228352	.3434387
#1	1019.084	24679.89	2887.548	883.4864	1728.472
#2	1019.095	24632.79	2880.118	879.8451	1735.458
#3	1014.538	24582.39	2888.912	885.4645	1723.646

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-08DLX2 Acquired: 10/31/2024 3:42:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H5 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4023678	-.033609	.2720164	.0025976	.0148674	90.28780	1.180621
Stddev	.0093261	.003934	.0104235	.0060112	.0024537	.24023	.002488
%RSD	2.317805	11.70521	3.831942	231.4164	16.50417	.2660688	.2107361
#1	.4107571	-.029072	.2840093	-.003163	.0167902	90.10497	1.177750
#2	.4040204	-.036062	.2669009	.002125	.0121038	90.19855	1.182131
#3	.3923258	-.035694	.2651389	.008831	.0157082	90.55988	1.181983

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0064072	.0122347	16.63629	.2088973	.1247137	.6388855	265.4597
Stddev	.0002010	.0002728	.02639	.0014845	.0009410	.0107080	.8577
%RSD	3.137109	2.229706	.1586563	.7106545	.7545634	1.676048	.3231123
#1	.0061775	.0124159	16.61050	.2094629	.1244183	.6490397	264.5034
#2	.0064928	.0123673	16.63512	.2100159	.1257671	.6399184	265.7144
#3	.0065512	.0119210	16.66325	.2072131	.1239559	.6276985	266.1612

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.863697	41.00646	.2407639	-.025642	1.028829	.5160398	.7310341
Stddev	.025769	.06941	.0004451	.000308	.400606	.0165002	.0026164
%RSD	.5298192	.1692633	.1848648	1.200829	38.93807	3.197456	.3579072
#1	4.835379	40.97762	.2404001	-.025925	1.118389	.5240050	.7291611
#2	4.885767	40.95611	.2412602	-.025314	1.377076	.4970682	.7340235
#3	4.869945	41.08563	.2406315	-.025686	.591023	.5270464	.7299177

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.57990	4.507714	.2178372	.0003305	.6631888	3.407505	.0122919
Stddev	.10579	.008280	.0009511	.0010994	.0075076	.021280	.0041240
%RSD	.6380581	.1836765	.4366122	332.6222	1.132044	.6244966	33.55076
#1	16.63686	4.511216	.2170469	.0015995	.6548284	3.386536	.0169967
#2	16.45784	4.498259	.2175719	-.000336	.6653833	3.406898	.0093016
#3	16.64502	4.513668	.2188928	-.000272	.6693545	3.429082	.0105776

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: P4484-08DLX2 Acquired: 10/31/2024 3:42:00 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H5 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.761614	.0697879	.2002523
Stddev	.012174	.0020780	.0008813
%RSD	.4408328	2.977559	.4401027
#1	2.757477	.0698074	.1994246
#2	2.752047	.0677003	.2001534
#3	2.775317	.0718561	.2011789

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1011.369	24361.28	2845.306	875.5081	1742.835
Stddev	.712	60.31	14.488	2.4266	2.140
%RSD	.0704182	.2475769	.5091826	.2771692	.1227954
#1	1011.677	24335.44	2859.099	873.8768	1740.363
#2	1011.876	24318.20	2846.610	874.3506	1744.050
#3	1010.555	24430.21	2830.211	878.2967	1744.091

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV004 Acquired: 10/31/2024 3:46:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV004 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.111457	4.808546	24.69934	4.769137	4.826219	406.5519	10.29309
Stddev	.020240	.017991	.05273	.024977	.011315	1.0482	.02809
%RSD	.3959739	.3741410	.2134948	.5237192	.2344423	.2578254	.2728948
#1	5.123572	4.827165	24.74814	4.794456	4.836344	406.1119	10.27387
#2	5.122707	4.807214	24.70648	4.744517	4.814006	405.7953	10.28007
#3	5.088091	4.791258	24.64341	4.768438	4.828306	407.7483	10.32532

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5256789	2.484440	399.5816	15.01598	2.498701	14.89524	405.5224
Stddev	.0018874	.005956	.5140	.01498	.006372	.05558	.2288
%RSD	.3590453	.2397318	.1286332	.0997740	.2549951	.3731459	.0564327
#1	.5241216	2.491312	399.4519	15.02735	2.505607	14.86020	405.4205
#2	.5277780	2.481259	399.1449	15.02159	2.497446	14.86619	405.3621
#3	.5251373	2.480751	400.1480	14.99900	2.493051	14.95932	405.7845

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.72308	393.7782	2.484382	1.272187	402.0157	2.443269	14.44958
Stddev	.09147	.6894	.006964	.005287	.1717	.011001	.04611
%RSD	.6212500	.1750618	.2803242	.4155938	.0427095	.4502720	.3190981
#1	14.68578	393.9265	2.491226	1.271860	402.1124	2.436797	14.48347
#2	14.65616	393.0267	2.484616	1.277630	401.8175	2.437037	14.39708
#3	14.82731	394.3813	2.477303	1.267071	402.1173	2.455971	14.46820

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	153.3097	5.000599	4.897545	4.744515	5.072702	4.875005	4.994492
Stddev	.5487	.017830	.015195	.004043	.015267	.014635	.010696
%RSD	.3578984	.3565643	.3102607	.0852111	.3009609	.3002139	.2141548
#1	152.9840	5.021142	4.887519	4.748771	5.077330	4.865686	5.006826
#2	153.0018	4.989136	4.915028	4.740725	5.085119	4.891873	4.987764
#3	153.9432	4.991518	4.890087	4.744048	5.055657	4.867455	4.988887

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCV004 Acquired: 10/31/2024 3:46:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV004 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.935200	5.003852	5.091261
Stddev	.022470	.002071	.019722
%RSD	.4552964	.0413969	.3873722
#1	4.942005	5.006220	5.081920
#2	4.910115	5.002961	5.077945
#3	4.953482	5.002375	5.113918

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	788.9558	20989.82	2512.121	651.6440	1425.695
Stddev	1.8288	66.88	.888	2.9098	3.493
%RSD	.2318014	.3186100	.0353419	.4465364	.2449970
#1	786.8711	20913.97	2511.110	649.3506	1422.485
#2	789.7069	21040.28	2512.774	654.9173	1425.185
#3	790.2895	21015.21	2512.479	650.6641	1429.415

Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB004 Acquired: 10/31/2024 3:50:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB004 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007792	.0009600	.0034423	-.001654	-.001405	.0618689	-.002799
Stddev	.001754	.0014135	.0029165	.002576	.001075	.0114569	.001671
%RSD	22.51679	147.2480	84.72601	155.7408	76.53377	18.51800	59.67699
#1	-.006627	.0013570	.0001688	.001318	-.002630	.0714487	-.004671
#2	-.009809	.0021325	.0057642	-.003044	-.000618	.0491777	-.001459
#3	-.006938	-.000610	.0043938	-.003237	-.000966	.0649804	-.002269

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000356	.0002409	.0313767	.0000384	.0006789	-.003076	.0044681
Stddev	.0000773	.0000224	.0102392	.0004229	.0002062	.001069	.0154416
%RSD	217.2626	9.300358	32.63306	1101.484	30.37063	34.74797	345.6006
#1	-.000051	.0002242	.0295448	-.000350	.0005768	-.002014	.0138642
#2	.000099	.0002322	.0424082	-.000024	.0009161	-.004151	.0128936
#3	.000059	.0002664	.0221771	.000489	.0005436	-.003062	-.013354

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000685	-.005657	.0002323	-.005262	.0560999	-.000601	.0000100
Stddev	.000542	.071562	.0002787	.000658	.1677467	.006351	.0002198
%RSD	79.11859	1264.952	119.9896	12.51295	299.0141	1056.927	2199.262
#1	-.000088	.072002	.0001023	-.004637	-.123745	-.006101	-.000171
#2	-.001146	-.020034	.0000423	-.005200	.208318	-.002051	-.000054
#3	-.000819	-.068940	.0005522	-.005950	.083726	.006350	.000255

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002193	-.002138	.0007869	.0004170	-.006742	.0011217	.0005116
Stddev	.025798	.002678	.0003756	.0001370	.005928	.0004986	.0018436
%RSD	1176.222	125.2731	47.73266	32.85378	87.92137	44.44845	360.3490
#1	.023058	-.005215	.0011471	.0002595	-.001426	.0016177	.0016032
#2	-.028506	-.000872	.0003976	.0004831	-.013135	.0006206	-.001617
#3	-.001132	-.000327	.0008161	.0005084	-.005667	.0011269	.001549

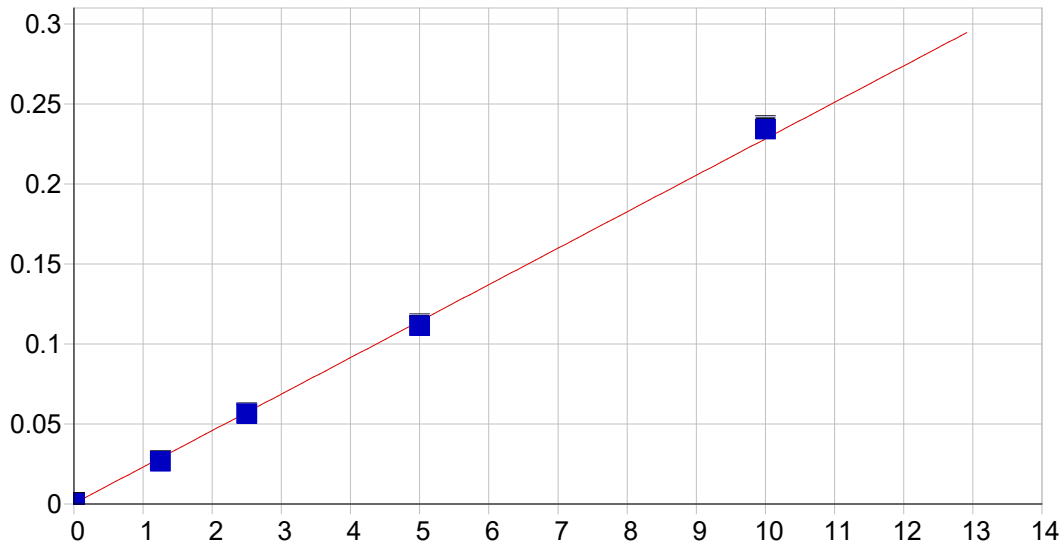
Reviewed By:Mohan
On:11/7/2024 4:26:12 AM
Inst Id :P5

Sample Name: CCB004 Acquired: 10/31/2024 3:50:38 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v711) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB004 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0000367	.0014340	.0001705
Stddev	.0016934	.0020210	.0000318
%RSD	4619.573	140.9388	18.63798
#1	-.000887	-.000657	.0001896
#2	.001991	.001582	.0001881
#3	-.000994	.003377	.0001338

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	968.5966	22984.55	2616.145	836.3151	1865.534
Stddev	3.4496	75.84	12.235	3.7987	4.422
%RSD	.3561490	.3299444	.4676845	.4542225	.2370153
#1	970.7630	22927.80	2630.011	832.1928	1865.160
#2	970.4082	22955.16	2611.561	839.6745	1870.131
#3	964.6185	23070.68	2606.864	837.0781	1861.311

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



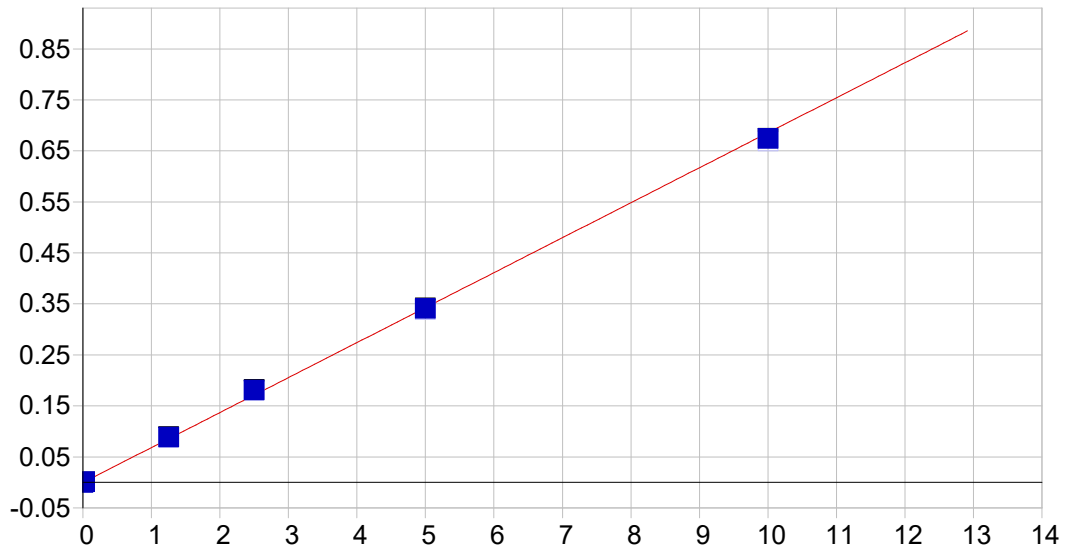
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Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000308	Re-Slope:	1.000000
A1 (Gain):	0.022792	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999519	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	0.010763		
Predicted MQL:	0.035876		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00031	.000	1
S1	.01000	.01232	.002	23.2	.00059	.000	1
S2	1.2500	1.1537	-.096	-7.70	.02682	.000	1
S3	2.5000	2.4581	-.042	-1.68	.05676	.000	1
S4	5.0000	4.8774	-.123	-2.45	.11233	.000	1
S5	10.000	10.259	.259	2.59	.23583	.001	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



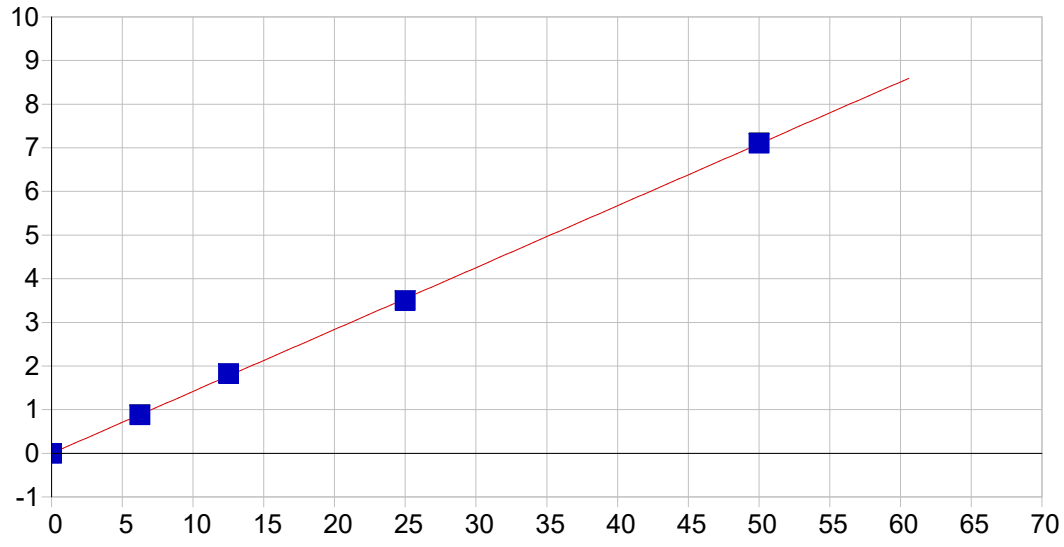
Tl 190.856 {477}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000262	Re-Slope:	1.000000
A1 (Gain):	0.068577	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999637	Status:	OK.
Std Error of Est:	0.000049		
Predicted MDL:	0.003274		
Predicted MQL:	0.010914		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00026	.000	1
S1	.02500	.02386	-.001	-4.57	.00133	.000	1
S2	1.2500	1.3002	.050	4.01	.08831	.000	1
S3	2.5000	2.6451	.145	5.80	.17995	.001	1
S4	5.0000	4.9746	-.025	-.508	.33852	.001	1
S5	10.000	9.8312	-.169	-1.69	.66921	.001	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



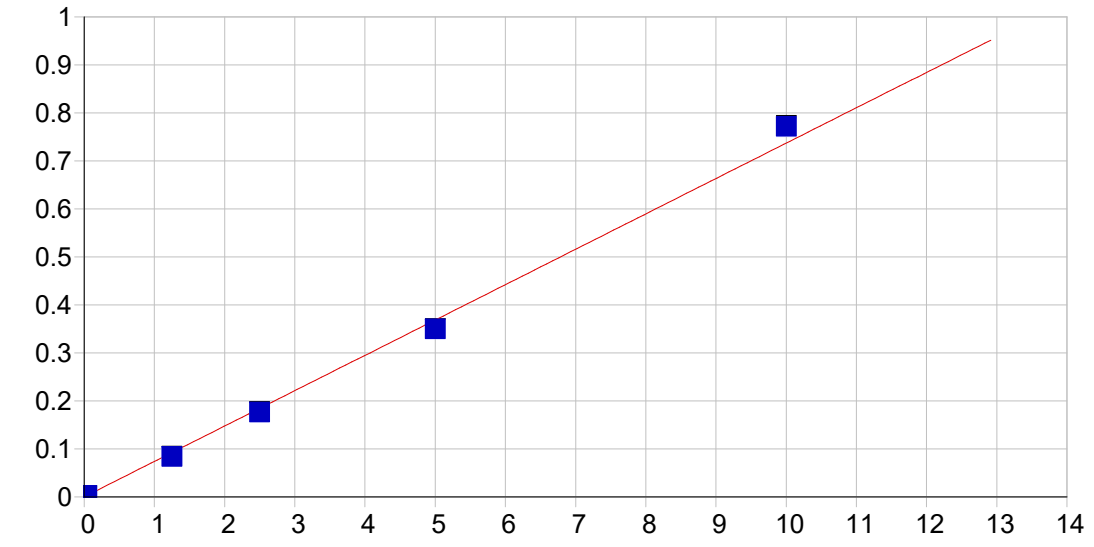
Pb 220.353 {453}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000587	Re-Slope:	1.000000
A1 (Gain):	0.141830	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999921	Status:	OK.
Std Error of Est:	0.000067		
Predicted MDL:	0.003485		
Predicted MQL:	0.011615		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00059	.000	1
S1	.01000	.01027	.000	2.68	.00087	.000	1
S2	6.2500	6.1872	-.063	-1.00	.87672	.001	1
S3	12.500	12.840	.340	2.72	1.8201	.002	1
S4	25.000	24.653	-.347	-1.39	3.4951	.010	1
S5	50.000	50.069	.069	.138	7.0989	.007	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



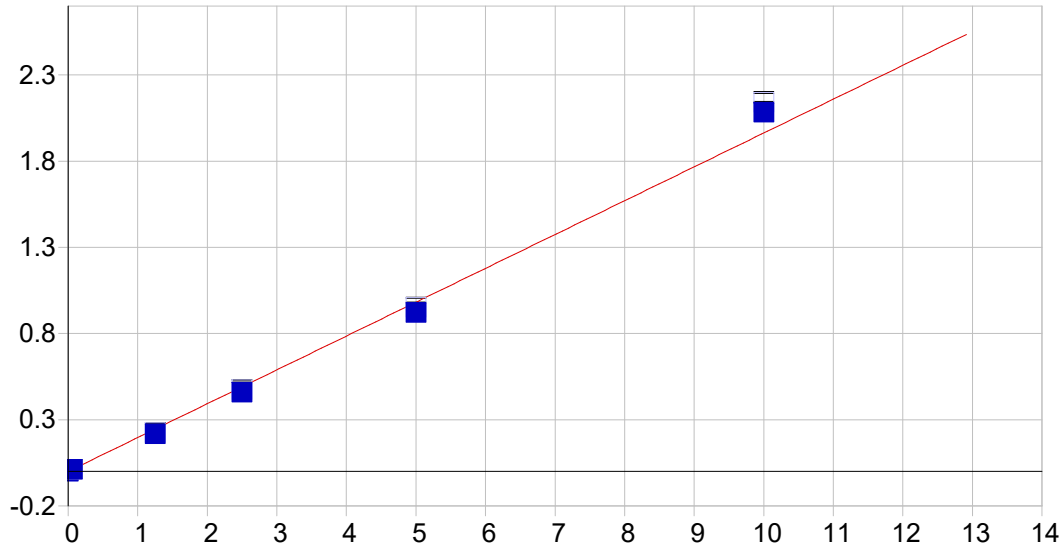
Se 196.090 {472}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000215	Re-Slope:	1.000000
A1 (Gain):	0.073675	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998654	Status:	OK.
Std Error of Est:	0.000120		
Predicted MDL:	0.005932		
Predicted MQL:	0.019775		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00022	.000	1
S1	.03500	.03248	-.003	-7.21	.00261	.000	1
S2	1.2500	1.1386	-.111	-8.91	.08392	.001	1
S3	2.5000	2.3918	-.108	-4.33	.17608	.001	1
S4	5.0000	4.7456	-.254	-5.09	.34914	.001	1
S5	10.000	10.477	.477	4.77	.77067	.002	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



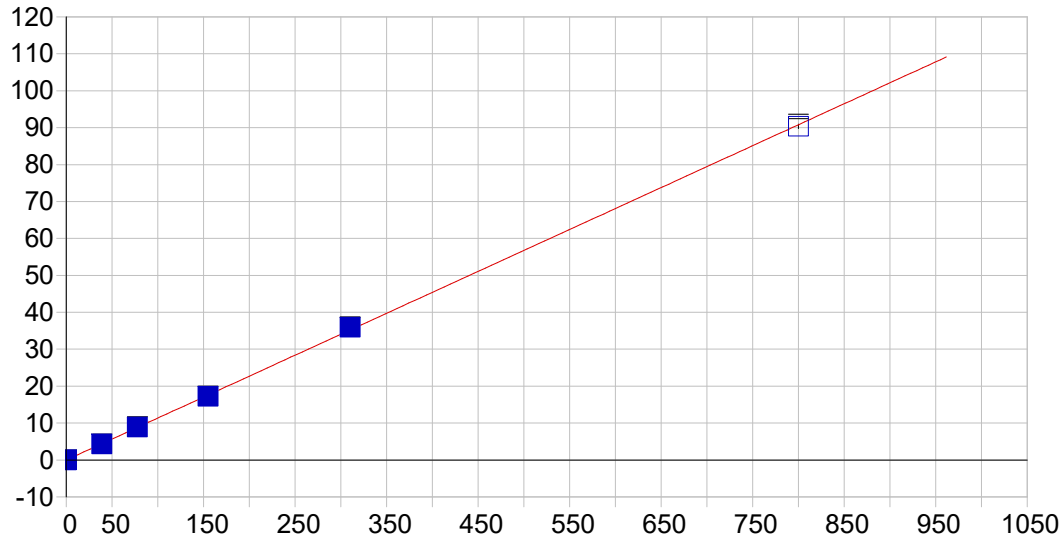
Sb 206.833 {463}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.196354	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997950	Status:	OK.
Std Error of Est:	0.000533		
Predicted MDL:	0.002686		
Predicted MQL:	0.008953		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00001	.000	1
S1	.06000	.05675	-.003	-5.41	.01115	.000	1
S2	1.2500	1.1110	-.139	-11.1	.22540	.001	1
S3	2.5000	2.3388	-.161	-6.45	.47373	.002	1
S4	5.0000	4.6936	-.306	-6.13	.95060	.003	1
S5	10.000	10.610	.610	6.10	2.1412	.006	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



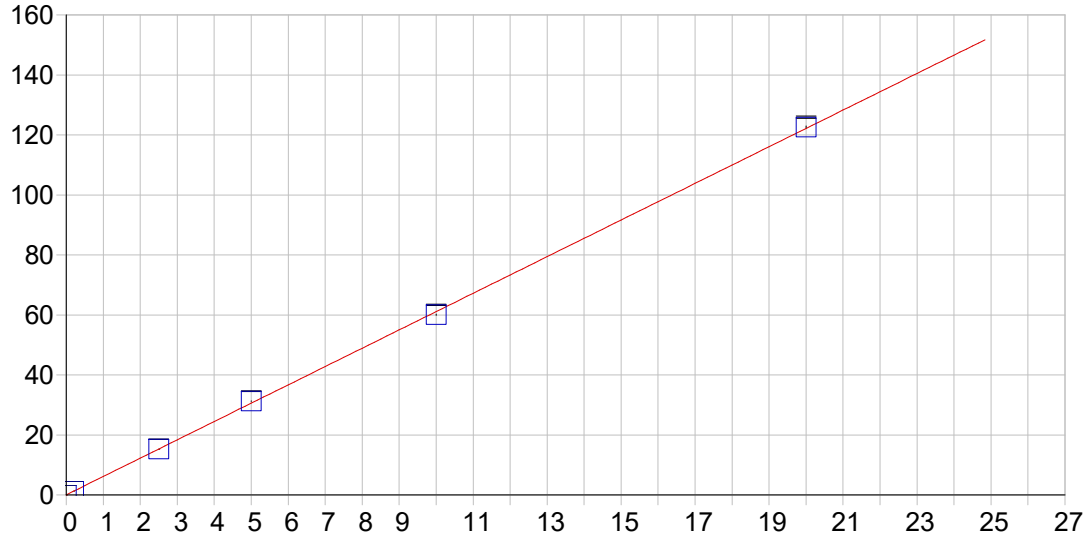
Al 396.152 { 85}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001183	Re-Slope:	1.000000
A1 (Gain):	0.113505	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.000916		
Predicted MDL:	0.015602		
Predicted MQL:	0.052008		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00004	.000	.000	-.00118	.000	1
S1	.20000	.16350	-.037	-18.3	.01742	.001	1
S2	38.750	38.270	-.480	-1.24	4.3479	.018	1
S3	77.500	78.576	1.08	1.39	8.9282	.033	1
S4	155.00	151.93	-3.07	-1.98	17.265	.060	1
S5	310.00	316.27	6.27	2.02	35.940	.080	1
S6	800.00	796.23	-3.77	-.471	90.375	.596	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



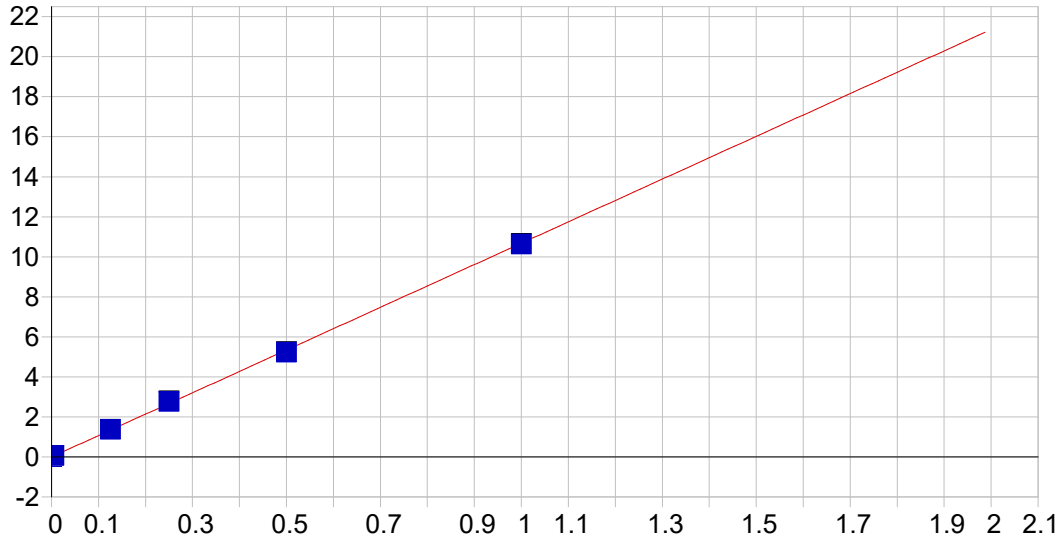
Ba 493.409 { 68}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.036871	Re-Slope:	1.000000
A1 (Gain):	6.106553	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999918	Status:	OK.
Std Error of Est:	0.008329		
Predicted MDL:	0.000926		
Predicted MQL:	0.003086		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.03683	.004	1
S1	.20000	.20688	.007	3.44	1.3002	.004	1
S2	2.5000	2.4864	-.014	-.543	15.220	.018	1
S3	5.0000	5.1133	.113	2.27	31.262	.078	1
S4	10.000	9.8242	-.176	-1.76	60.029	.198	1
S5	20.000	20.069	.069	.346	122.59	.377	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



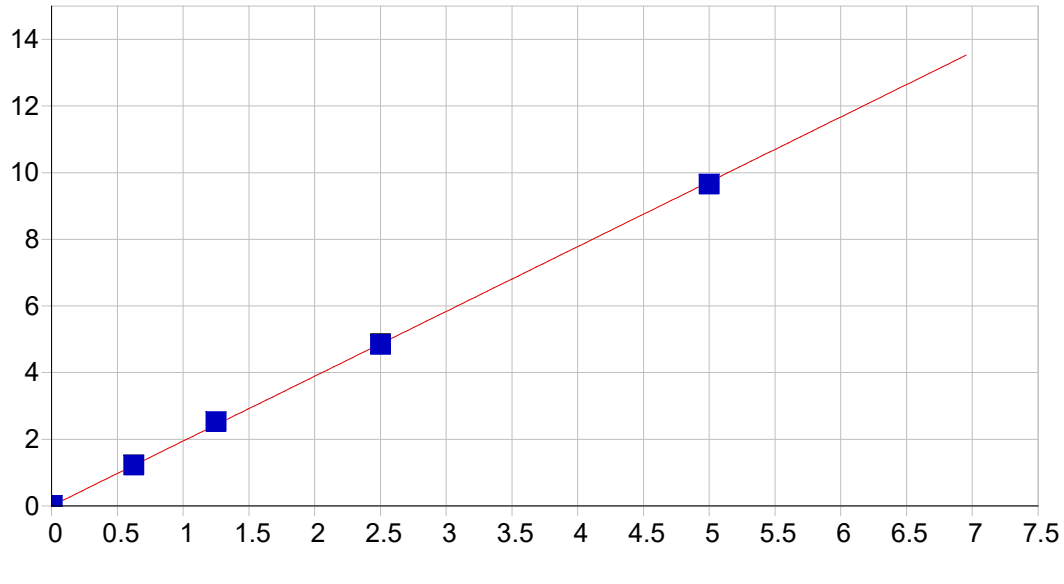
Be 234.861 {144}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001675	Re-Slope:	1.000000
A1 (Gain):	10.680035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999810	Status:	OK.
Std Error of Est:	0.000781		
Predicted MDL:	0.000095		
Predicted MQL:	0.000317		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00168	.001	1
S1	.00500	.00544	.000	8.78	.05638	.001	1
S2	.12500	.12875	.004	3.00	1.3712	.007	1
S3	.25000	.25935	.009	3.74	2.7639	.026	1
S4	.50000	.49001	-.010	-2.00	5.2230	.025	1
S5	1.0000	.99645	-.004	-.355	10.623	.029	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



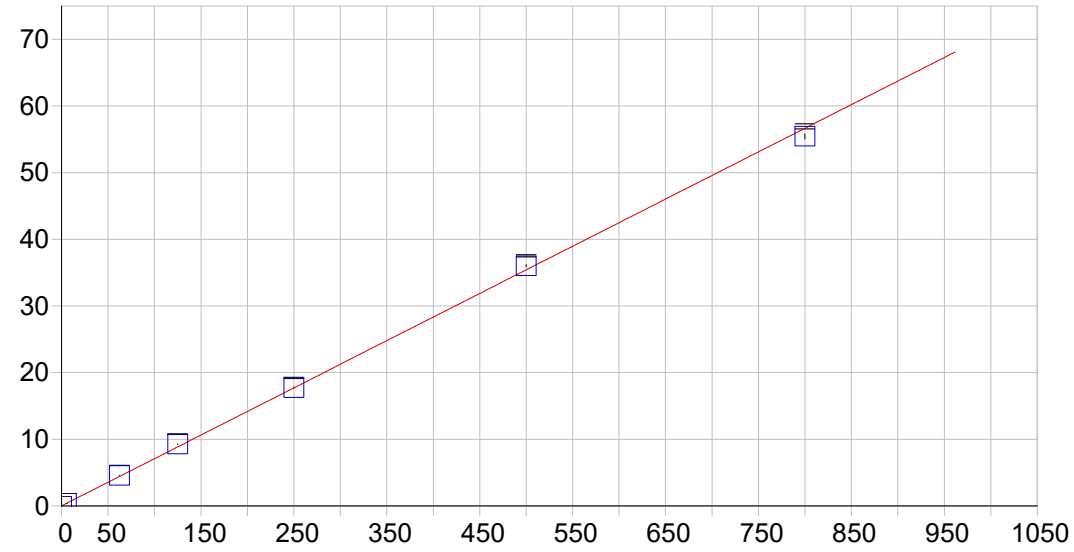
Cd 214.438 {457}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000282	Re-Slope:	1.000000
A1 (Gain):	1.945240	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999884	Status:	OK.
Std Error of Est:	0.000250		
Predicted MDL:	0.000155		
Predicted MQL:	0.000515		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00028	.000	1
S1	.00500	.00511	.000	2.14	.01022	.000	1
S2	.62500	.62826	.003	.521	1.2253	.000	1
S3	1.2500	1.2977	.048	3.81	2.5304	.004	1
S4	2.5000	2.4873	-.013	-.509	4.8503	.014	1
S5	5.0000	4.9617	-.038	-.766	9.6753	.009	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



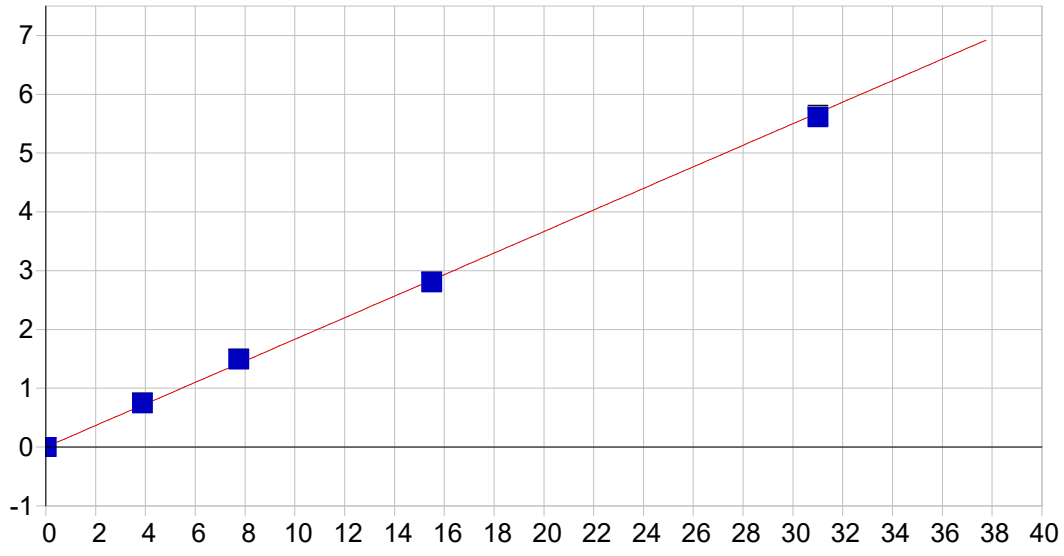
Ca 373.690 { 90}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005317	Re-Slope:	1.000000
A1 (Gain):	0.070826	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999737	Status:	OK.
Std Error of Est:	0.005667		
Predicted MDL:	0.019934		
Predicted MQL:	0.066447		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00090	-.001	.000	.00525	.000	1
S1	5.0000	5.5214	.521	10.4	.39637	.002	1
S2	62.500	64.575	2.08	3.32	4.5789	.031	1
S3	125.00	130.88	5.88	4.71	9.2751	.056	1
S4	250.00	250.18	.180	.072	17.725	.081	1
S5	500.00	508.54	8.54	1.71	36.023	.163	1
S6	800.00	782.80	-17.2	-2.15	55.448	.378	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



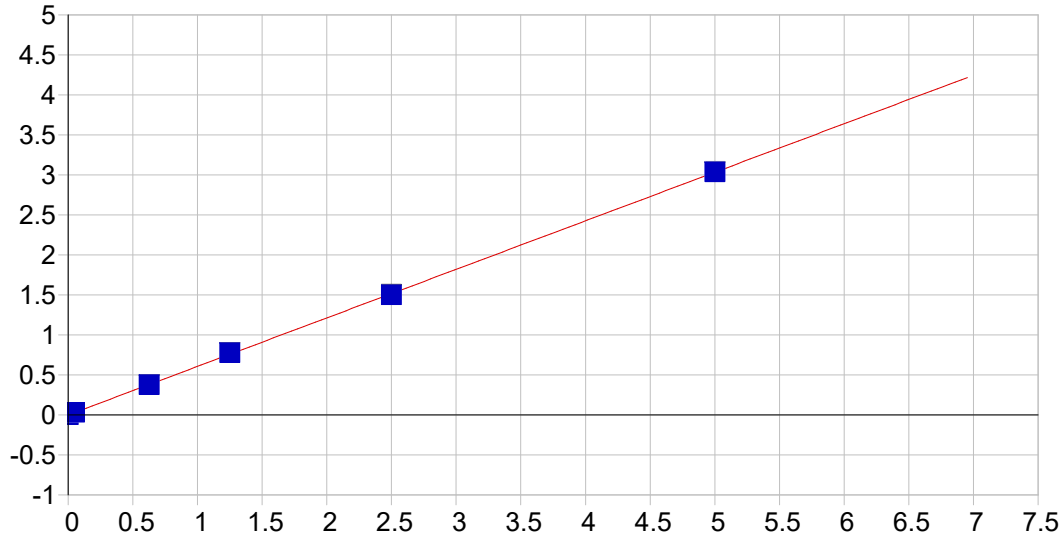
Cr 267.716 {126}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000040	Re-Slope:	1.000000
A1 (Gain):	0.183303	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999681	Status:	OK.
Std Error of Est:	0.000137		
Predicted MDL:	0.001027		
Predicted MQL:	0.003423		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00004	.000	1
S1	.01000	.01157	.002	15.7	.00216	.000	1
S2	3.8750	4.0658	.191	4.92	.74610	.001	1
S3	7.7500	8.1454	.395	5.10	1.4947	.000	1
S4	15.500	15.303	-.197	-1.27	2.8083	.002	1
S5	31.000	30.609	-.391	-1.26	5.6172	.025	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



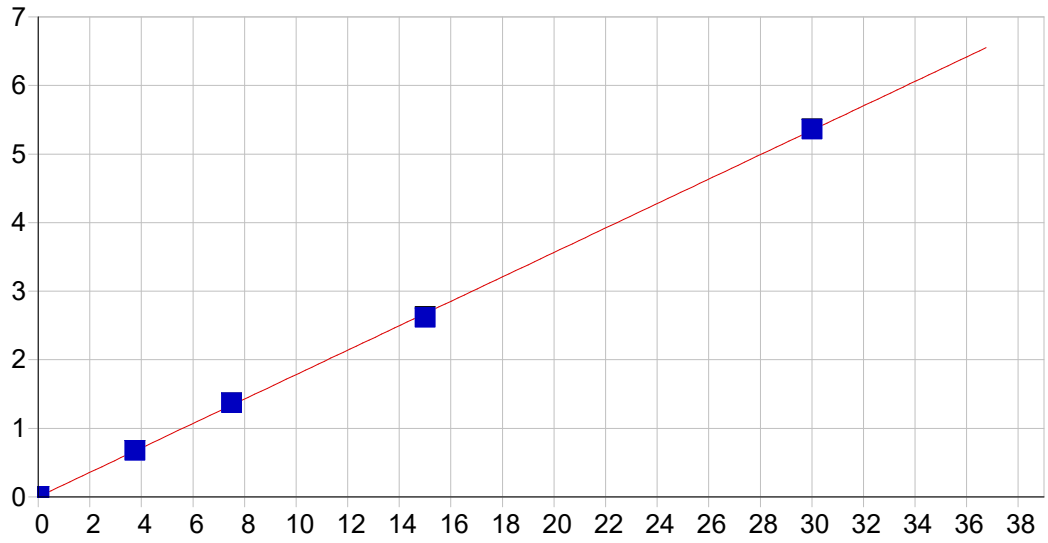
Co 228.616 {448}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000182	Re-Slope:	1.000000
A1 (Gain):	0.606587	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000177		
Predicted MDL:	0.000569		
Predicted MQL:	0.001898		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00018	.000	1
S1	.05000	.04978	-.000	-.447	.03012	.000	1
S2	.62500	.61689	-.008	-1.30	.37448	.001	1
S3	1.2500	1.2804	.030	2.44	.77745	.002	1
S4	2.5000	2.4733	-.027	-1.07	1.5019	.005	1
S5	5.0000	5.0046	.005	.092	3.0392	.003	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



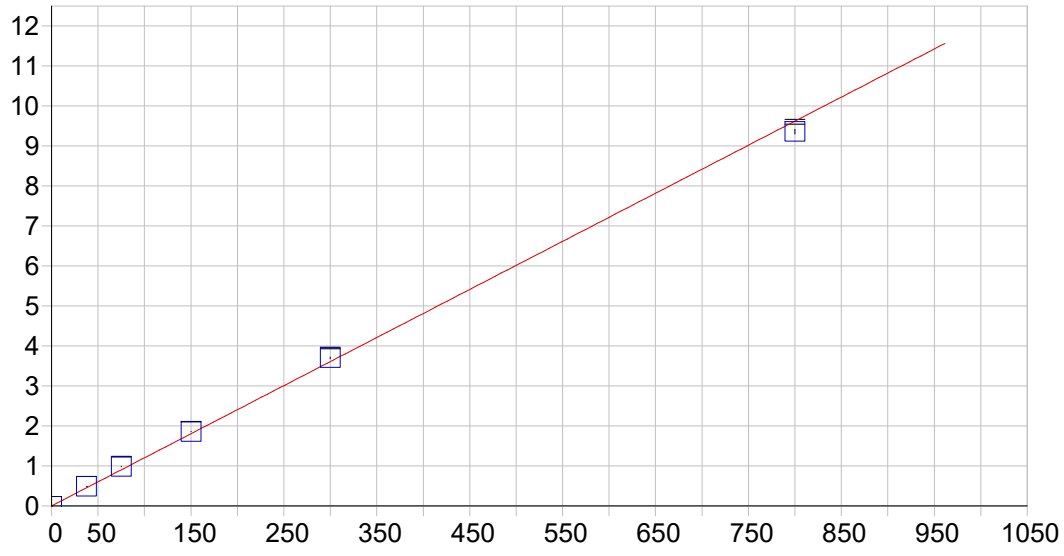
Cu 324.754 {104}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001419	Re-Slope:	1.000000
A1 (Gain):	0.178180	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999875	Status:	OK.
Std Error of Est:	0.000129		
Predicted MDL:	0.004721		
Predicted MQL:	0.015738		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00142	.001	1
S1	.02500	.02007	-.005	-19.7	.00499	.000	1
S2	3.7500	3.7894	.039	1.05	.67619	.000	1
S3	7.5000	7.6980	.198	2.64	1.3722	.002	1
S4	15.000	14.673	-.327	-2.18	2.6142	.014	1
S5	30.000	30.094	.094	.313	5.3601	.005	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



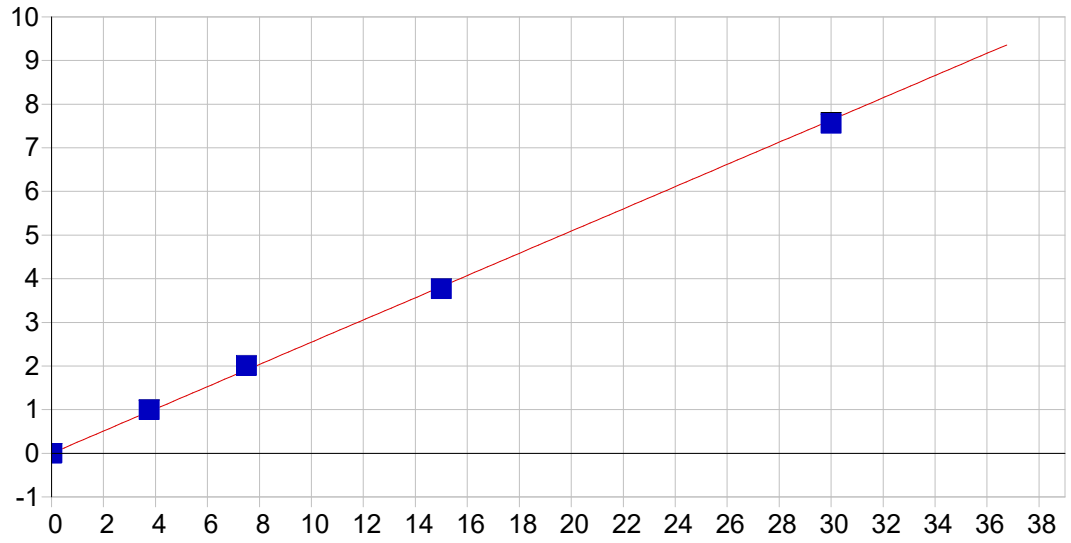
Fe 259.837 {130}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000601	Re-Slope:	1.000000
A1 (Gain):	0.012028	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999351	Status:	OK.
Std Error of Est:	0.000189		
Predicted MDL:	0.032510		
Predicted MQL:	0.108368		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00060	.000	1
S1	.10000	.07497	-.025	-25.0	.00150	.000	1
S2	37.500	40.508	3.01	8.02	.48782	.003	1
S3	75.000	81.632	6.63	8.84	.98246	.007	1
S4	150.00	154.57	4.57	3.05	1.8597	.005	1
S5	300.00	307.71	7.71	2.57	3.7017	.019	1
S6	800.00	778.11	-21.9	-2.74	9.3595	.063	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



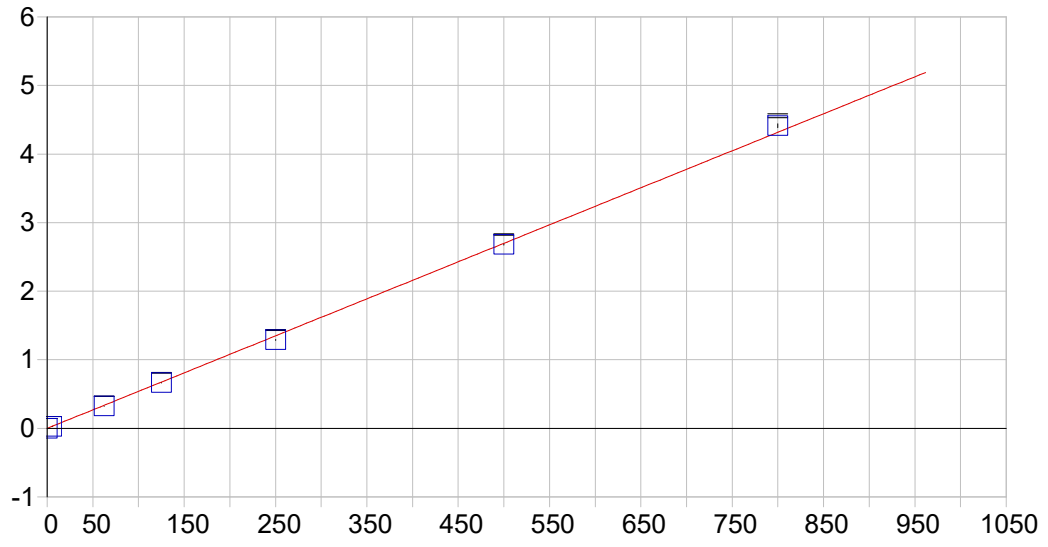
Mn 257.610 {131}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000463	Re-Slope:	1.000000
A1 (Gain):	0.254606	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999723	Status:	OK.
Std Error of Est:	0.000213		
Predicted MDL:	0.001638		
Predicted MQL:	0.005460		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00046	.000	1
S1	.01500	.01754	.003	17.0	.00401	.000	1
S2	3.7500	3.9003	.150	4.01	.99272	.003	1
S3	7.5000	7.8718	.372	4.96	2.0040	.009	1
S4	15.000	14.789	-.211	-1.41	3.7654	.011	1
S5	30.000	29.686	-.314	-1.05	7.5590	.024	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



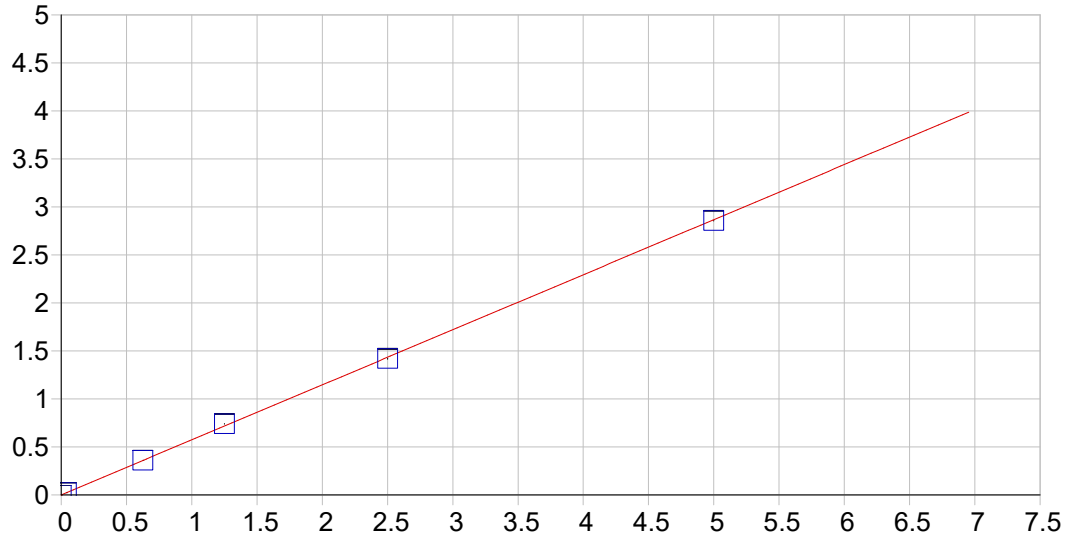
Mg 279.079 {121}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000418	Re-Slope:	1.000000
A1 (Gain):	0.005397	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999704	Status:	OK.
Std Error of Est:	0.000459		
Predicted MDL:	0.086127		
Predicted MQL:	0.287091		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00010	.000	.000	-.00042	.000	1
S1	5.0000	5.2939	.294	5.88	.02816	.000	1
S2	62.500	60.046	-2.45	-3.93	.32368	.003	1
S3	125.00	123.62	-1.38	-1.10	.66683	.005	1
S4	250.00	238.91	-11.1	-4.44	1.2891	.009	1
S5	500.00	496.90	-3.10	-.621	2.6816	.010	1
S6	800.00	817.73	17.7	2.22	4.4133	.026	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



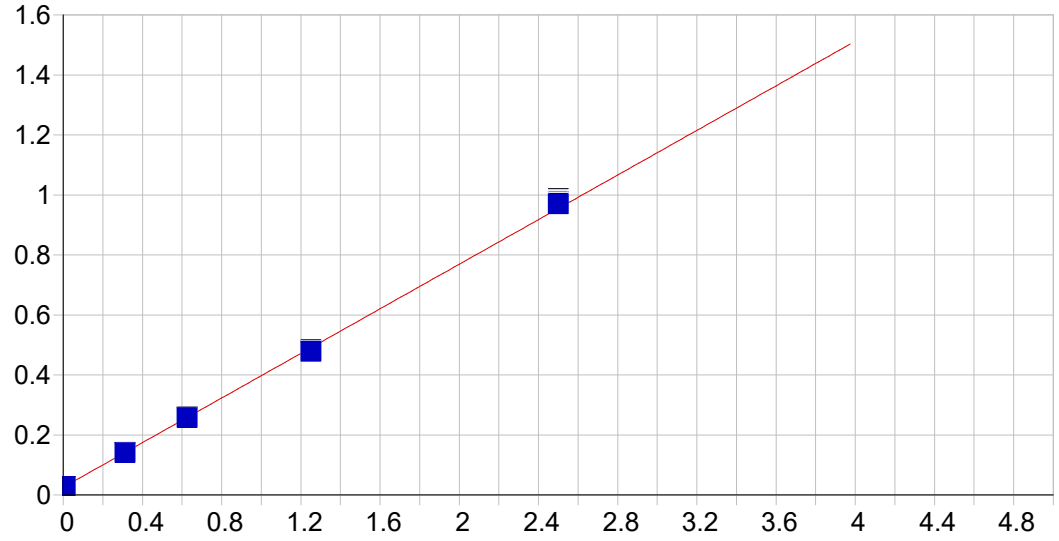
Ni 231.604 {446}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000323	Re-Slope:	1.000000
A1 (Gain):	0.573351	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.000176		
Predicted MDL:	0.000640		
Predicted MQL:	0.002134		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00032	.000	1
S1	.04000	.04112	.001	2.79	.02390	.000	1
S2	.62500	.62597	.001	.155	.35922	.001	1
S3	1.2500	1.2894	.039	3.15	.73962	.003	1
S4	2.5000	2.4756	-.024	-.976	1.4197	.005	1
S5	5.0000	4.9829	-.017	-.342	2.8573	.004	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



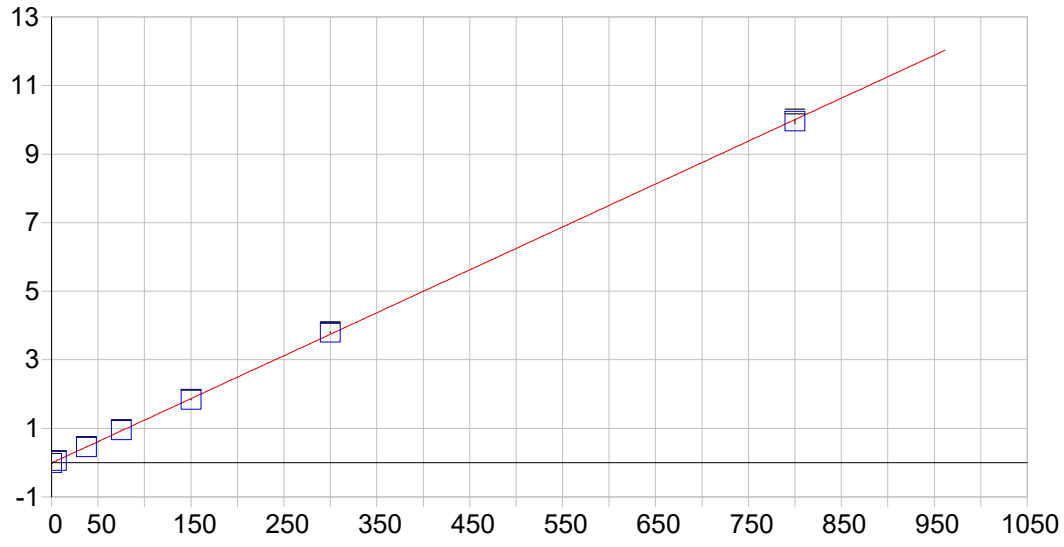
Ag 328.068 {103}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.025765	Re-Slope:	1.000000
A1 (Gain):	0.371653	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999826	Status:	OK.
Std Error of Est:	0.000059		
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	.02576	.000	1
S1	.01000	.01062	.001	6.19	.02970	.000	1
S2	.31250	.30836	-.004	-1.32	.14162	.000	1
S3	.62500	.62332	-.002	-.269	.25992	.000	1
S4	1.2500	1.2157	-.034	-2.75	.48257	.002	1
S5	2.5000	2.5396	.040	1.58	.97961	.008	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



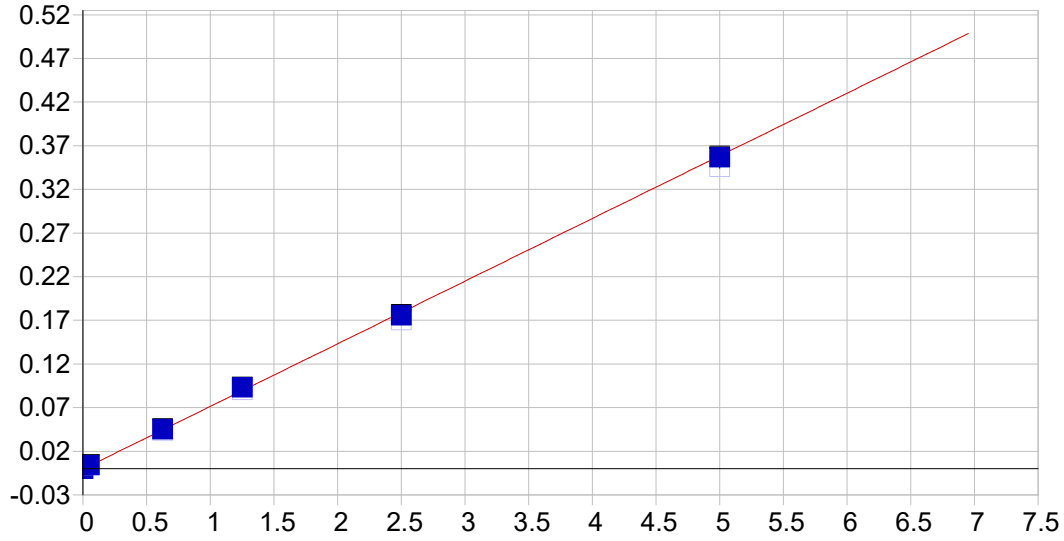
Na 818.326 { 41}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.011635	Re-Slope:	1.000000
A1 (Gain):	0.012519	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000439		
Predicted MDL:	0.324469		
Predicted MQL:	1.081562		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00017	-.000	.000	-.01164	.002	1
S1	5.0000	5.0788	.079	1.58	.05195	.004	1
S2	37.500	37.522	.022	.059	.45812	.003	1
S3	75.000	76.864	1.86	2.49	.95066	.008	1
S4	150.00	147.56	-2.44	-1.63	1.8357	.012	1
S5	300.00	304.52	4.52	1.51	3.8008	.019	1
S6	800.00	795.95	-4.05	-.506	9.9533	.071	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



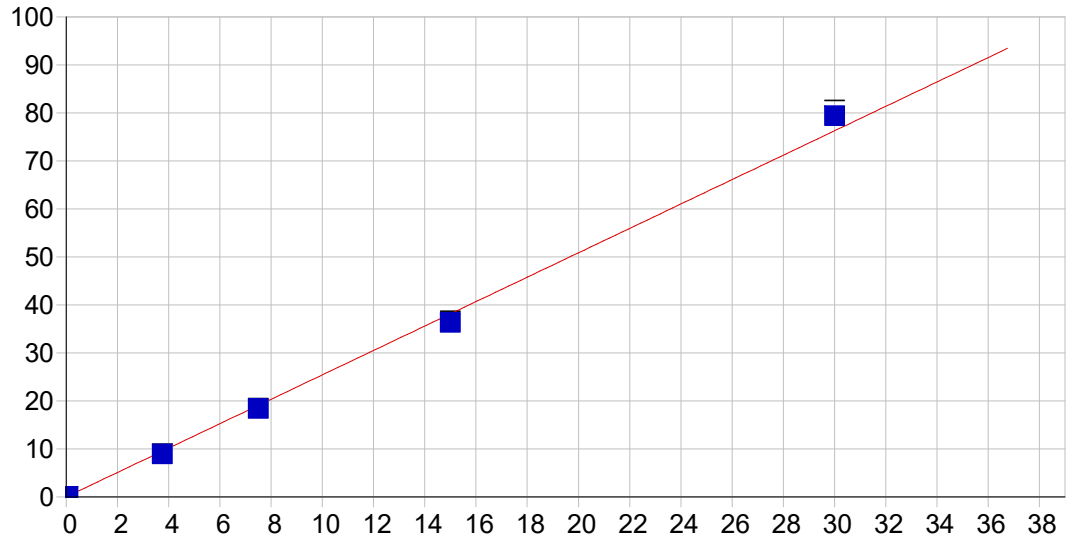
V 292.402 {115}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000392	Re-Slope:	1.000000
A1 (Gain):	0.071765	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999683	Status:	OK.
Std Error of Est:	0.000047		
Predicted MDL:	0.011593		
Predicted MQL:	0.038644		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00039	.000	1
S1	.05000	.06068	.011	21.4	.00395	.000	1
S2	.62500	.63332	.008	1.33	.04368	.001	1
S3	1.2500	1.3027	.053	4.22	.09034	.000	1
S4	2.5000	2.4531	-.047	-1.87	.17014	.001	1
S5	5.0000	4.9748	-.025	-.503	.34560	.001	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



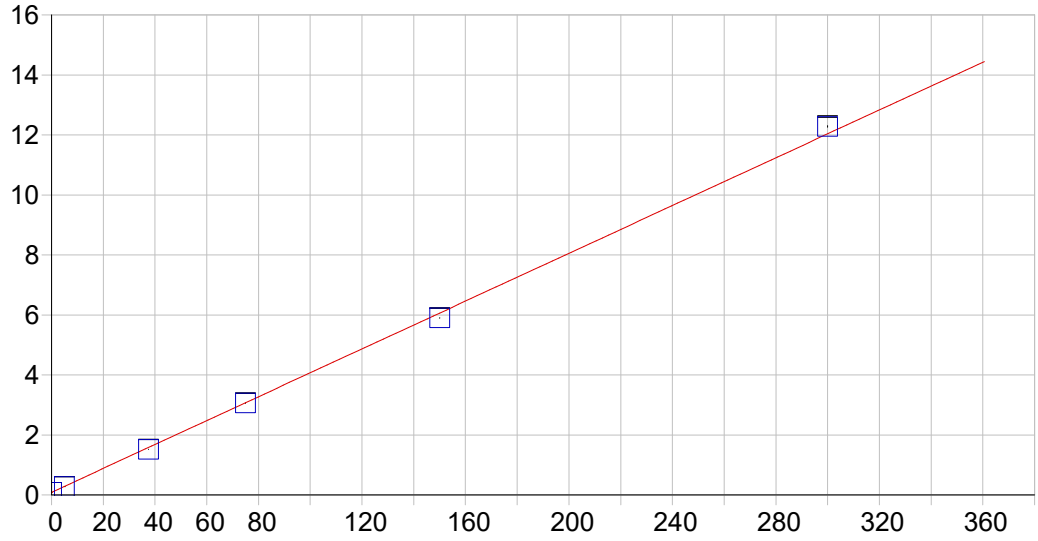
Zn 213.856 {158}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005091	Re-Slope:	1.000000
A1 (Gain):	2.542330	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999027	Status:	OK.
Std Error of Est:	0.007997		
Predicted MDL:	0.000518		
Predicted MQL:	0.001726		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00511	.002	1
S1	.06000	.05767	-.002	-3.89	.15244	.002	1
S2	3.7500	3.5080	-.242	-6.45	8.9351	.056	1
S3	7.5000	7.2299	-.270	-3.60	18.409	.070	1
S4	15.000	14.284	-.716	-4.77	36.366	.273	1
S5	30.000	31.230	1.23	4.10	79.495	1.07	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



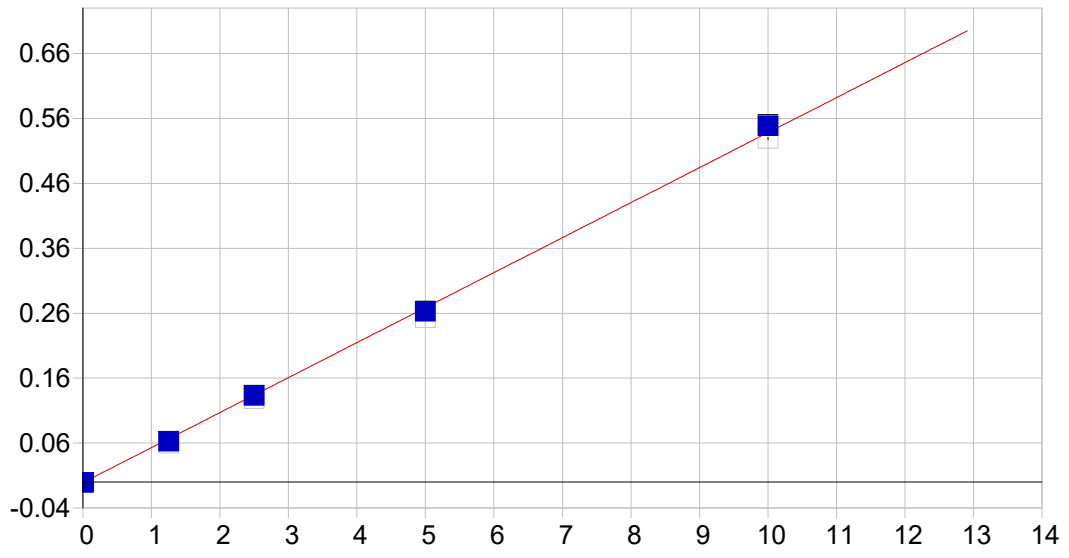
K 769.896 { 44}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.087919	Re-Slope:	1.000000
A1 (Gain):	0.039823	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999719	Status:	OK.
Std Error of Est:	0.001945		
Predicted MDL:	0.131838		
Predicted MQL:	0.439461		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00051	.001	.000	.08794	.005	1
S1	5.0000	4.7500	-.250	-5.00	.27708	.001	1
S2	37.500	35.917	-1.58	-4.22	1.5183	.006	1
S3	75.000	74.658	-.342	-.456	3.0610	.012	1
S4	150.00	145.96	-4.04	-2.69	5.9005	.013	1
S5	300.00	306.22	6.22	2.07	12.282	.028	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



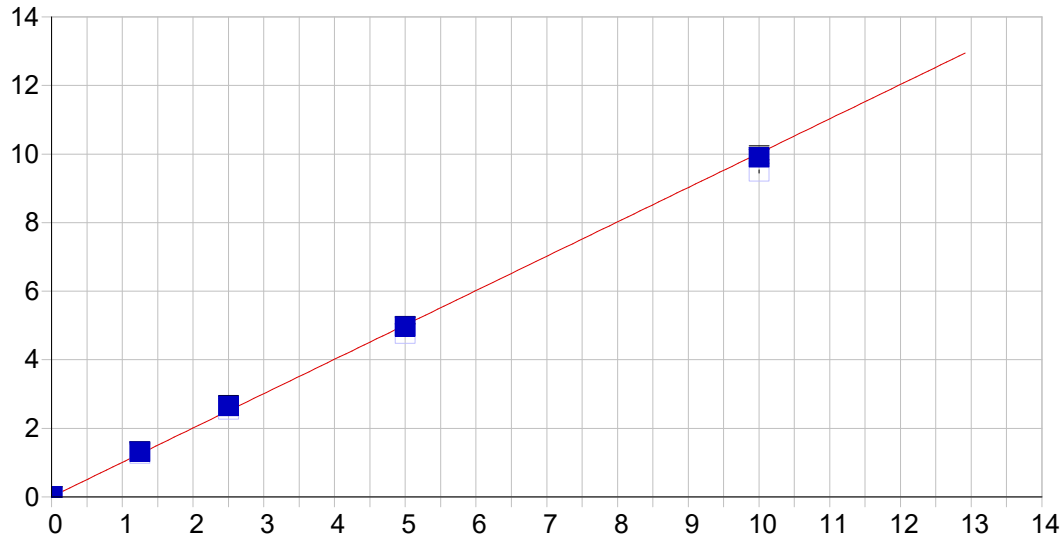
P 177.495 {490}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000996	Re-Slope:	1.000000
A1 (Gain):	0.053931	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999687	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	0.003595		
Predicted MQL:	0.011984		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00100	.000	1
S1	.01000	.00915	-.001	-8.45	-.00052	.000	1
S2	1.2500	1.1742	-.076	-6.07	.05985	.000	1
S3	2.5000	2.4876	-.012	-.496	.12821	.000	1
S4	5.0000	4.8924	-.108	-2.15	.25294	.000	1
S5	10.000	10.197	.197	1.97	.52909	.002	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



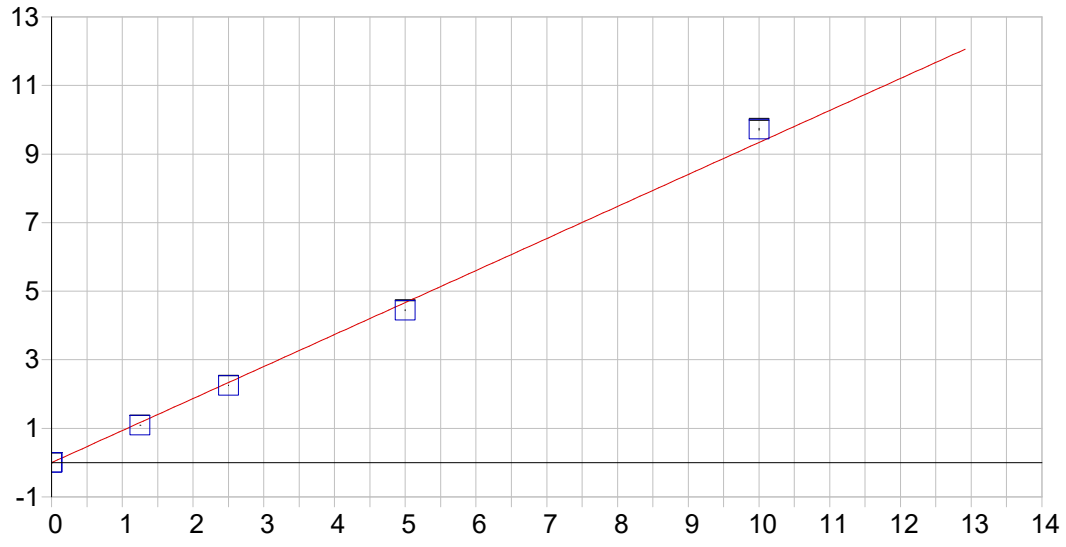
B 249.678 {135}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005268	Re-Slope:	1.000000
A1 (Gain):	1.001997	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999262	Status:	OK.
Std Error of Est:	0.000620		
Predicted MDL:	0.001182		
Predicted MQL:	0.003940		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00528	.001	1
S1	.01000	-.00171	-.012	-117.	.00347	.001	1
S2	1.2500	1.3039	.054	4.31	1.2612	.006	1
S3	2.5000	2.6358	.136	5.43	2.5453	.019	1
S4	5.0000	4.9481	-.052	-1.04	4.7611	.013	1
S5	10.000	9.8743	-.126	-1.26	9.4949	.048	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



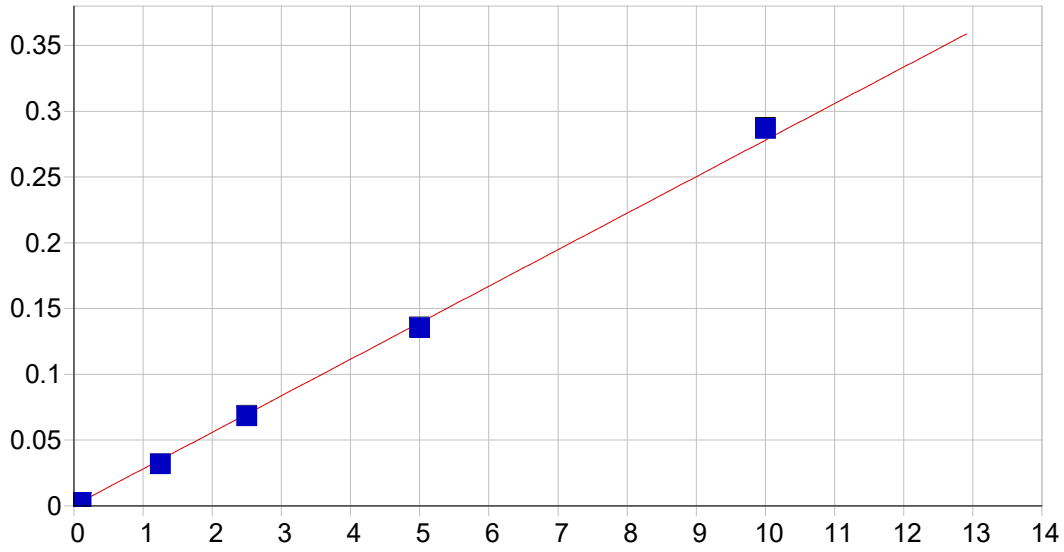
Mo 202.030 {467}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000102	Re-Slope:	1.000000
A1 (Gain):	0.933807	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998997	Status:	OK.
Std Error of Est:	0.000702		
Predicted MDL:	0.000506		
Predicted MQL:	0.001687		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00010	.000	1
S1	.01000	.01007	.000	.718	.00930	.000	1
S2	1.2500	1.1656	-.084	-6.75	1.0883	.001	1
S3	2.5000	2.4097	-.090	-3.61	2.2501	.005	1
S4	5.0000	4.7599	-.240	-4.80	4.4447	.011	1
S5	10.000	10.415	.415	4.15	9.7253	.026	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



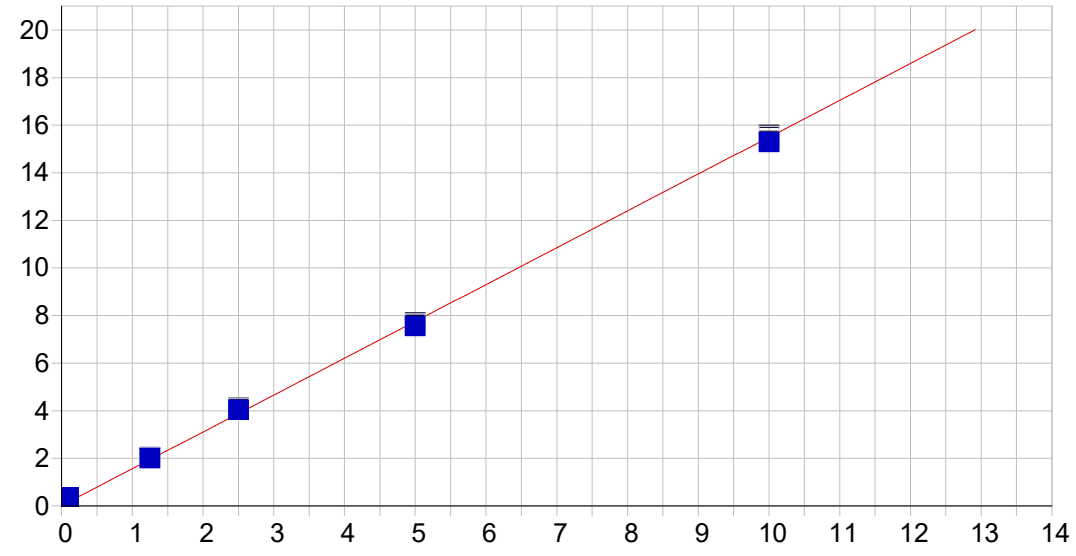
S 182.034 {485}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000398	Re-Slope:	1.000000
A1 (Gain):	0.027766	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999266	Status:	OK.
Std Error of Est:	0.000057		
Predicted MDL:	0.006815		
Predicted MQL:	0.022715		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00040	.000	1
S1	.10000	.08711	-.013	-12.9	.00282	.000	1
S2	1.2500	1.1313	-.119	-9.49	.03181	.000	1
S3	2.5000	2.4442	-.056	-2.23	.06827	.001	1
S4	5.0000	4.8694	-.131	-2.61	.13562	.000	1
S5	10.000	10.318	.318	3.18	.28692	.001	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



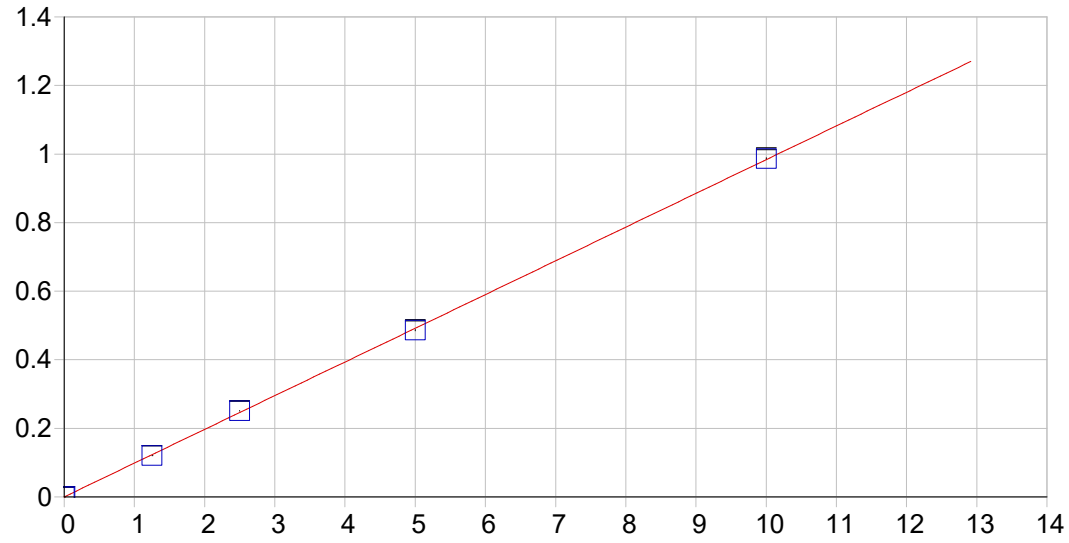
Si 251.611 {134}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.012234	Re-Slope:	1.000000
A1 (Gain):	1.548405	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995455	Status:	OK.
Std Error of Est:	0.007999		
Predicted MDL:	0.000650		
Predicted MQL:	0.002167		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00013	-.000	.000	.01203	.001	1
S1	.10000	.22968	.130	130.	.36891	.005	1
S2	1.2500	1.2885	.038	3.08	2.0386	.007	1
S3	2.5000	2.5941	.094	3.76	4.0916	.025	1
S4	5.0000	4.8727	-.127	-2.55	7.6824	.023	1
S5	10.000	9.8662	-.134	-1.34	15.540	.045	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



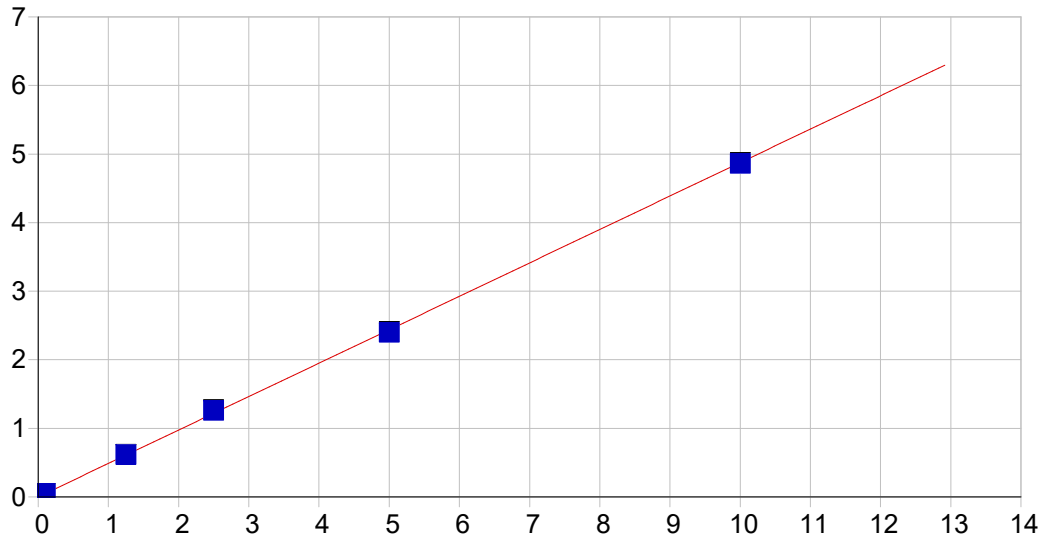
Sn 189.989 {478}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000205	Re-Slope:	1.000000
A1 (Gain):	0.098335	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999935	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.001929		
Predicted MQL:	0.006429		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00021	.000	1
S1	.00700	.00717	.000	2.48	.00091	.000	1
S2	1.2500	1.2223	-.028	-2.22	.12040	.000	1
S3	2.5000	2.5523	.052	2.09	.25118	.001	1
S4	5.0000	4.9441	-.056	-1.12	.48638	.002	1
S5	10.000	10.031	.031	.312	.98662	.003	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



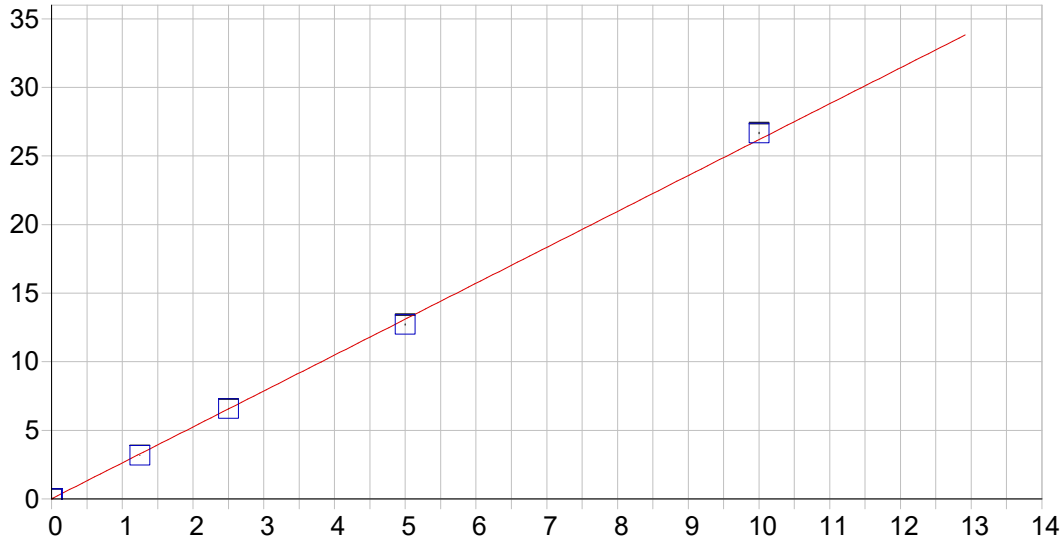
Ti 336.121 {100}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000450	Re-Slope:	1.000000
A1 (Gain):	0.487487	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999875	Status:	OK.
Std Error of Est:	0.000409		
Predicted MDL:	0.002010		
Predicted MQL:	0.006699		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00045	.000	1
S1	.10000	.10252	.003	2.52	.05041	.001	1
S2	1.2500	1.2664	.016	1.31	.61750	.002	1
S3	2.5000	2.5880	.088	3.52	1.2615	.009	1
S4	5.0000	4.9214	-.079	-1.57	2.3983	.011	1
S5	10.000	9.9717	-.028	-.283	4.8591	.014	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



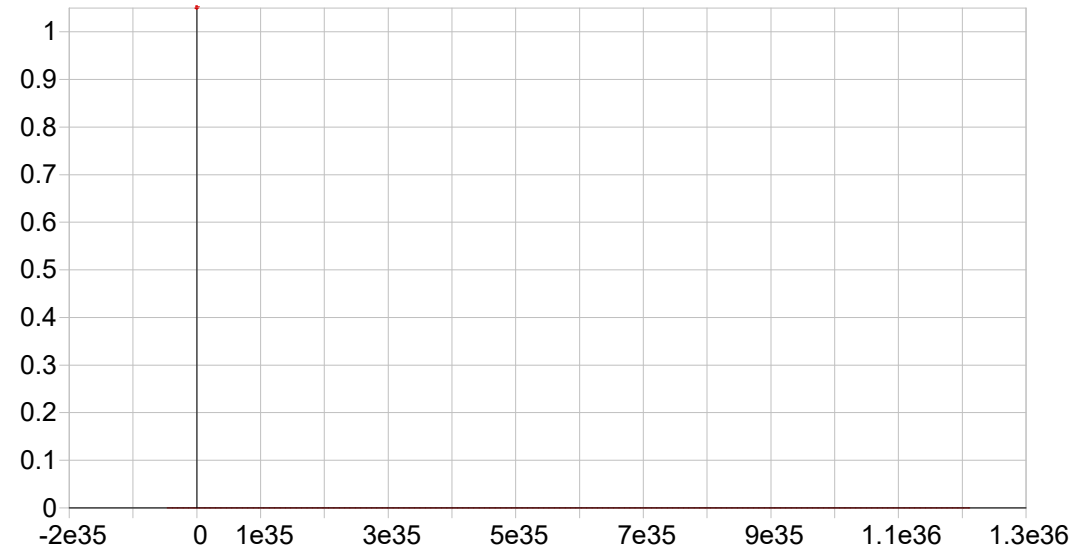
Li 670.784 { 50}

Date of Fit:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.011629	Re-Slope:	1.000000
A1 (Gain):	2.618257	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999762	Status:	OK.
Std Error of Est:	0.001174		
Predicted MDL:	0.001569		
Predicted MQL:	0.005229		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.01163	.001	1
S5	10.000	10.183	.183	1.83	26.674	.058	1
S4	5.0000	4.8522	-.148	-2.96	12.716	.041	1
S3	2.5000	2.5040	.004	.161	6.5678	.008	1
S2	1.2500	1.2110	-.039	-3.12	3.1823	.007	1
S1	.01500	.01464	-.000	-2.43	.04995	.004	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

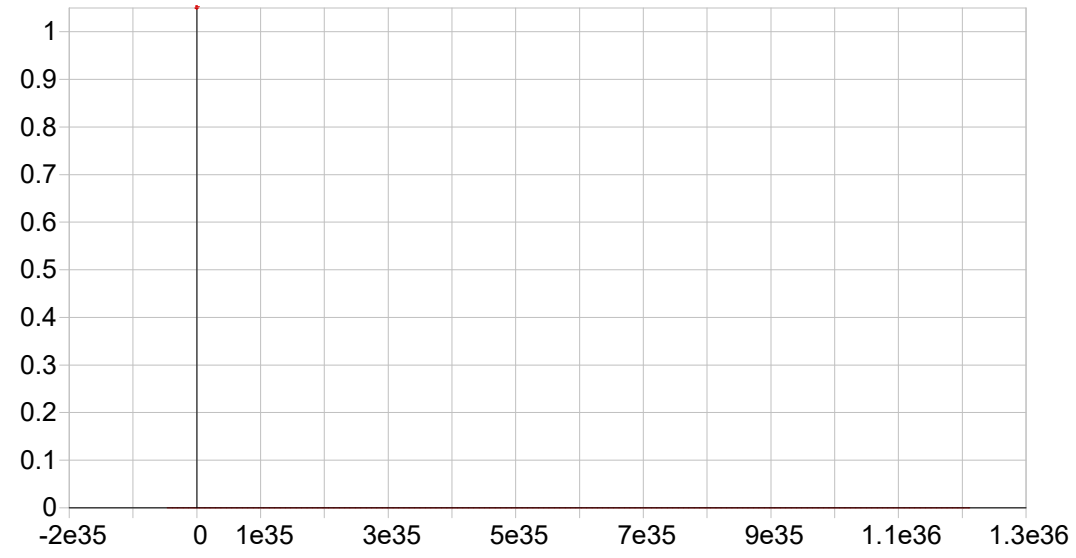


Y 224.306 {450}*

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

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

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



Y 360.073 { 94}*

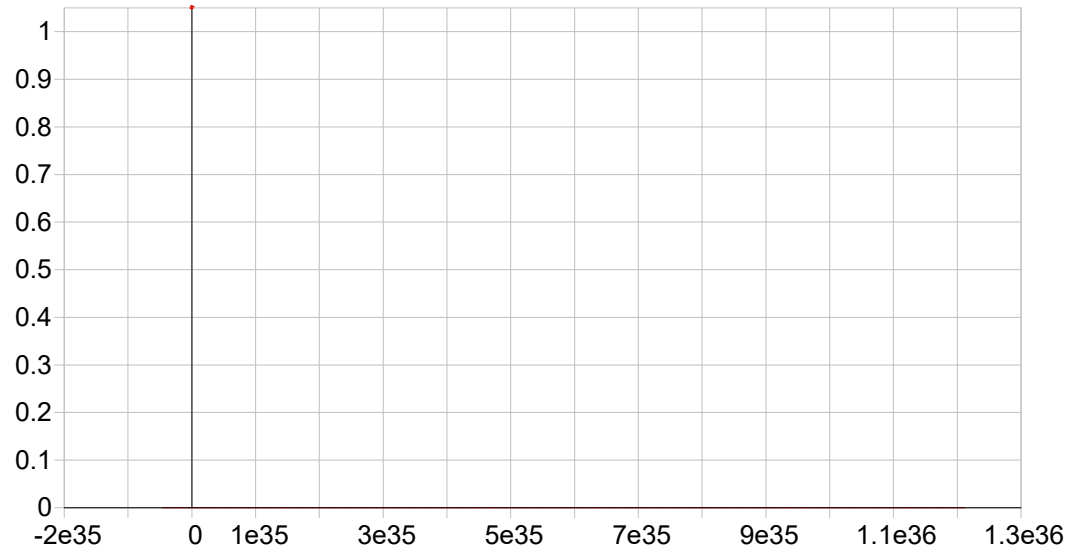
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

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

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

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

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

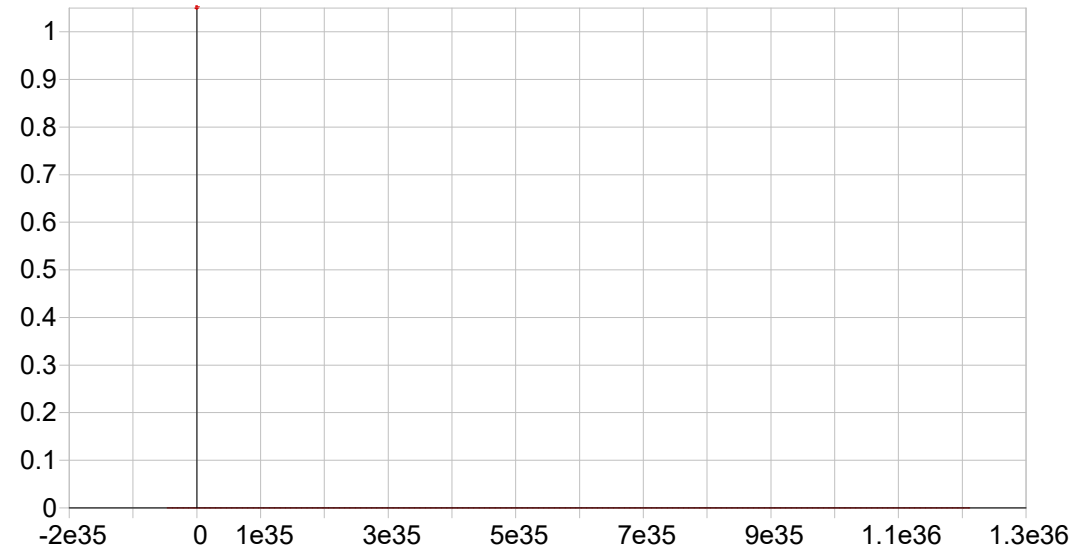


Y 371.030 { 91}*

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

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

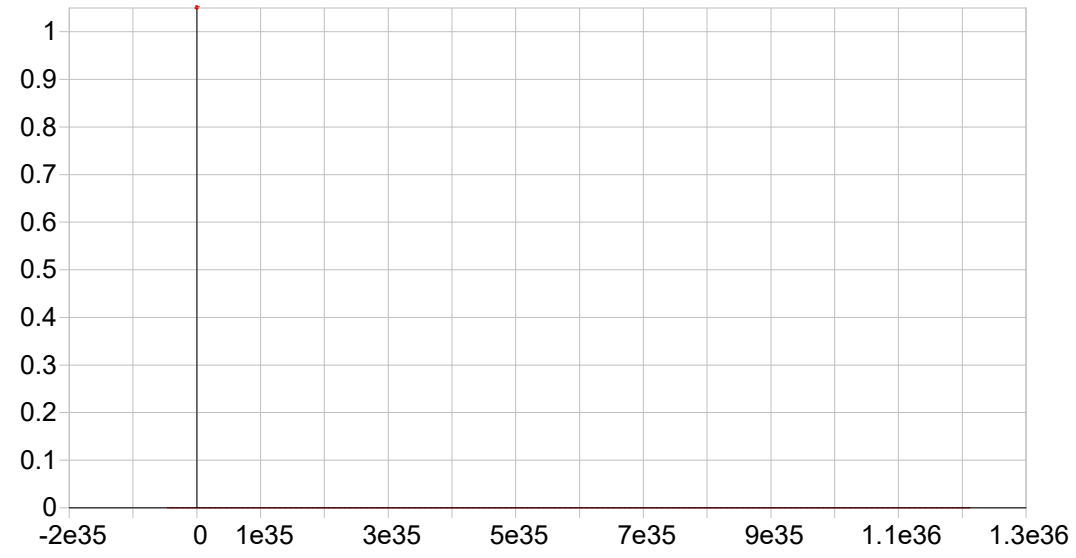
Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5



Y 224.306 {150}*

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

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



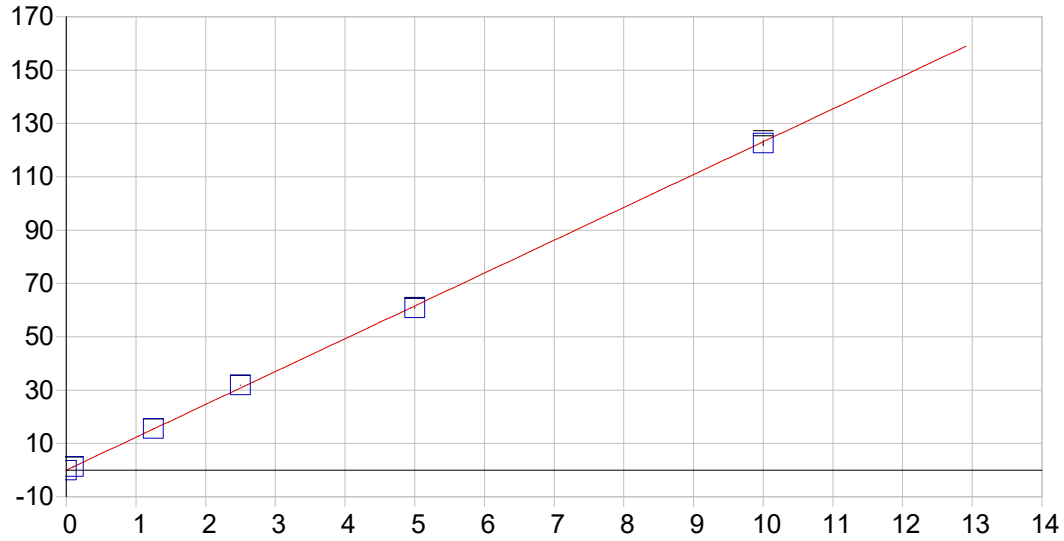
In 230.606 {446}*

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

Reviewed By:Mohan
On:11/8/2024 8:03:53 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:	11/07/2024 16:58:18	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000391	Re-Slope:	1.000000
A1 (Gain):	12.311857	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.009666		
Predicted MDL:	0.000132		
Predicted MQL:	0.000440		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00048	.001	1
S1	.10000	.10415	.004	4.15	1.2819	.005	1
S2	1.2500	1.2642	.014	1.14	15.564	.009	1
S3	2.5000	2.5848	.085	3.39	31.823	.108	1
S4	5.0000	4.9402	-.060	-1.20	60.823	.199	1
S5	10.000	9.9566	-.043	-.434	122.58	.958	1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S0 Acquired: 11/07/2024 16:24:32 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	.00031	-.00026	-.00059	.00022	.00001	-.00118	.03683	-.00168
Stddev	.00005	.00008	.00036	.00016	.00018	.00029	.00357	.00099
%RSD	16.966	31.810	61.548	76.003	1777.1	24.259	9.6856	58.718
#1	.00029	-.00017	-.00046	.00019	-.00018	-.00085	.03311	-.00102
#2	.00026	-.00029	-.00099	.00007	.00019	-.00129	.04022	-.00121
#3	.00037	-.00033	-.00030	.00039	.00002	-.00139	.03716	-.00282

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	.00028	.00525	.00004	-.00018	.00142	.00060	-.00046	-.00042
Stddev	.00011	.00038	.00016	.00036	.00083	.00018	.00048	.00041
%RSD	39.305	7.2985	408.23	196.48	58.452	29.884	103.22	98.584
#1	.00016	.00515	-.00001	-.00028	.00129	.00072	-.00070	-.00018
#2	.00031	.00493	-.00009	.00021	.00231	.00069	.00009	-.00089
#3	.00037	.00568	.00022	-.00048	.00066	.00039	-.00078	-.00018

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00032	.02576	-.01164	-.00039	.00511	.08794	-.00100	.00528
Stddev	.00005	.00010	.00165	.00036	.00183	.00450	.00012	.00086
%RSD	14.123	.37608	14.167	91.316	35.719	5.1175	11.791	16.307
#1	.00037	.02568	-.01126	-.00079	.00705	.09251	-.00107	.00610
#2	.00033	.02587	-.01021	-.00010	.00486	.08351	-.00106	.00438
#3	.00028	.02575	-.01344	-.00028	.00343	.08780	-.00086	.00536

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	-.00010	.00040	.01203	.00021	.00045	.01163	-.00048
Stddev	.00039	.00009	.00142	.00007	.00009	.00142	.00064
%RSD	390.91	21.922	11.790	34.205	20.448	12.249	133.21
#1	.00028	.00049	.01359	.00013	.00046	.01031	-.00121
#2	-.00050	.00031	.01083	.00021	.00053	.01144	-.00018
#3	-.00008	.00040	.01167	.00027	.00035	.01314	-.00005

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S0 Acquired: 11/07/2024 16:24:32 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	895.84	22687.	2400.9	812.74	1782.7
Stddev	1.39	38.	9.2	3.31	4.3
%RSD	.15542	.16634	.38274	.40716	.23886
#1	894.76	22645.	2391.1	809.39	1779.0
#2	895.35	22717.	2402.3	816.01	1781.7
#3	897.41	22700.	2409.3	812.81	1787.3

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S1 Acquired: 11/07/2024 16:29:11 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	.00059	.00133	.00087	.00261	.01115	.01742	1.3002	.05638
Stddev	.00013	.00019	.00035	.00034	.00034	.00125	.0038	.00096
%RSD	22.804	14.248	39.612	13.167	3.0749	7.1683	.29319	1.7037
#1	.00070	.00119	.00089	.00292	.01078	.01855	1.3034	.05624
#2	.00062	.00155	.00052	.00224	.01145	.01608	1.3012	.05741
#3	.00044	.00127	.00121	.00265	.01123	.01763	1.2960	.05550

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	.01022	.39637	.00216	.03012	.00499	.00150	.00401	.02816
Stddev	.00026	.00232	.00007	.00025	.00017	.00022	.00016	.00042
%RSD	2.5421	.58451	3.0290	.83956	3.4658	14.334	3.9546	1.4788
#1	.01033	.39717	.00218	.02998	.00479	.00148	.00390	.02857
#2	.01041	.39819	.00222	.02996	.00509	.00173	.00420	.02774
#3	.00993	.39376	.00209	.03041	.00510	.00130	.00394	.02815

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	.02390	.02970	.05195	.00395	.15244	.27708	-.00052	.00347
Stddev	.00031	.00013	.00403	.00048	.00210	.00103	.00013	.00121
%RSD	1.2785	.44418	7.7654	12.251	1.3771	.37036	24.317	34.895
#1	.02422	.02959	.05631	.00450	.15019	.27779	-.00066	.00478
#2	.02386	.02967	.04836	.00377	.15279	.27755	-.00048	.00320
#3	.02361	.02984	.05118	.00359	.15435	.27591	-.00041	.00241

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	.00930	.00282	.36891	.00091	.05041	.04995	1.2819
Stddev	.00030	.00009	.00547	.00026	.00055	.00356	.0049
%RSD	3.1965	3.3173	1.4829	29.081	1.0980	7.1334	.38239
#1	.00913	.00271	.37219	.00119	.05004	.05067	1.2873
#2	.00965	.00289	.37195	.00066	.05104	.04608	1.2777
#3	.00914	.00285	.36260	.00088	.05014	.05310	1.2806

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S1 Acquired: 11/07/2024 16:29:11 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	893.52	22686.	2412.0	815.01	1762.5
Stddev	1.16	21.	22.9	2.52	4.7
%RSD	.12989	.09171	.95020	.30909	.26539
#1	892.34	22678.	2397.9	817.73	1763.4
#2	894.66	22710.	2399.6	814.53	1766.7
#3	893.55	22670.	2438.4	812.76	1757.5

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S2 Acquired: 11/07/2024 16:33:50 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	.02682	.08831	.87672	.08392	.22540	4.3479	15.220	1.3712
Stddev	.00031	.00043	.00142	.00064	.00067	.0177	.018	.0066
%RSD	1.1529	.48546	.16207	.76706	.29621	.40643	.11598	.47953
#1	.02647	.08781	.87573	.08323	.22579	4.3345	15.204	1.3638
#2	.02708	.08855	.87608	.08450	.22463	4.3413	15.239	1.3762
#3	.02690	.08856	.87834	.08405	.22578	4.3680	15.218	1.3736

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	1.2253	4.5789	.74610	.37448	.67619	.48782	.99272	.32368
Stddev	.0002	.0312	.00070	.00078	.00038	.00322	.00257	.00266
%RSD	.01613	.68173	.09345	.20719	.05583	.66084	.25938	.82146
#1	1.2254	4.5534	.74676	.37360	.67620	.48466	.98976	.32091
#2	1.2254	4.5696	.74537	.37477	.67581	.48771	.99395	.32392
#3	1.2251	4.6137	.74617	.37506	.67656	.49110	.99445	.32621

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	.35922	.14162	.45812	.04368	8.9351	1.5183	.05985	1.2612
Stddev	.00088	.00039	.00272	.00080	.0560	.0061	.00021	.0061
%RSD	.24401	.27801	.59404	1.8337	.62635	.39957	.34838	.48445
#1	.35822	.14167	.45498	.04310	8.8706	1.5146	.05968	1.2545
#2	.35980	.14120	.45967	.04459	8.9707	1.5150	.06008	1.2624
#3	.35965	.14199	.45971	.04335	8.9640	1.5253	.05978	1.2666

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	1.0883	.03181	2.0386	.12040	.61750	3.1823	15.564
Stddev	.0010	.00015	.0074	.00027	.00179	.0067	.009
%RSD	.09521	.48181	.36394	.22721	.28995	.21000	.05759
#1	1.0876	.03181	2.0301	.12031	.61654	3.1750	15.567
#2	1.0895	.03166	2.0438	.12019	.61639	3.1839	15.554
#3	1.0879	.03197	2.0419	.12071	.61956	3.1881	15.572

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S2 Acquired: 11/07/2024 16:33:50 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	850.32	22209.	2399.3	767.37	1607.7
Stddev	1.51	69.	3.4	4.37	1.4
%RSD	.17777	.31050	.13991	.56947	.08959
#1	849.74	22153.	2402.1	771.35	1607.6
#2	849.18	22286.	2400.2	768.06	1606.2
#3	852.03	22188.	2395.5	762.69	1609.1

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S3 Acquired: 11/07/2024 16:38:16 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	.05676	.17995	1.8201	.17608	.47373	8.9282	31.262	2.7639
Stddev	.00027	.00101	.0017	.00098	.00168	.0328	.078	.0257
%RSD	.47979	.56129	.09327	.55872	.35397	.36689	.25042	.92831
#1	.05646	.17883	1.8186	.17534	.47196	8.8992	31.171	2.7444
#2	.05700	.18080	1.8219	.17571	.47395	8.9217	31.302	2.7544
#3	.05682	.18021	1.8197	.17720	.47529	8.9637	31.312	2.7930

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	2.5304	9.2751	1.4947	.77745	1.3722	.98246	2.0040	.66683
Stddev	.0043	.0562	.0004	.00157	.0019	.00678	.0094	.00498
%RSD	.16976	.60548	.02656	.20167	.13719	.69009	.46874	.74618
#1	2.5256	9.2463	1.4947	.77569	1.3703	.97877	1.9950	.66283
#2	2.5338	9.2392	1.4944	.77792	1.3723	.97833	2.0033	.66526
#3	2.5318	9.3398	1.4951	.77872	1.3740	.99028	2.0138	.67240

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	.73962	.25992	.95066	.09034	18.409	3.0610	.12821	2.5453
Stddev	.00313	.00049	.00848	.00029	.070	.0122	.00022	.0189
%RSD	.42378	.18675	.89178	.32184	.37955	.39818	.17061	.74323
#1	.73648	.26048	.94232	.09001	18.329	3.0479	.12813	2.5374
#2	.73963	.25957	.95040	.09053	18.457	3.0634	.12845	2.5315
#3	.74275	.25972	.95927	.09049	18.441	3.0719	.12803	2.5668

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.2501	.06827	4.0916	.25118	1.2615	6.5678	31.823
Stddev	.0047	.00056	.0247	.00084	.0087	.0077	.108
%RSD	.20717	.81798	.60407	.33531	.68718	.11761	.33900
#1	2.2457	.06867	4.0724	.25029	1.2601	6.5595	31.710
#2	2.2496	.06851	4.0828	.25130	1.2536	6.5748	31.835
#3	2.2550	.06763	4.1195	.25196	1.2707	6.5692	31.925

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S3 Acquired: 11/07/2024 16:38:16 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	812.99	21872.	2389.2	730.26	1518.8
Stddev	2.46	31.	15.6	1.74	2.0
%RSD	.30270	.14225	.65296	.23776	.13492
#1	813.81	21838.	2397.7	732.22	1521.2
#2	814.93	21877.	2398.8	728.92	1517.7
#3	810.22	21900.	2371.2	729.63	1517.6

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S4 Acquired: 11/07/2024 16:42:39 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	.11233	.33852	3.4951	.34914	.95060	17.265	60.029	5.2230
Stddev	.00033	.00105	.0098	.00056	.00262	.060	.198	.0246
%RSD	.29520	.31095	.27912	.16014	.27569	.34718	.33033	.47160
#1	.11246	.33972	3.4949	.34976	.94919	17.253	59.953	5.2085
#2	.11195	.33777	3.4855	.34868	.94898	17.330	60.254	5.2515
#3	.11257	.33807	3.5050	.34898	.95362	17.212	59.879	5.2091

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	4.8503	17.725	2.8083	1.5019	2.6142	1.8597	3.7654	1.2891
Stddev	.0138	.081	.0016	.0050	.0135	.0052	.0113	.0088
%RSD	.28471	.45748	.05580	.32970	.51648	.27709	.30104	.68291
#1	4.8439	17.728	2.8087	1.5009	2.6030	1.8619	3.7602	1.2912
#2	4.8409	17.804	2.8066	1.4976	2.6292	1.8634	3.7785	1.2967
#3	4.8662	17.642	2.8097	1.5073	2.6105	1.8538	3.7577	1.2794

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	1.4197	.48257	1.8357	.17014	36.366	5.9005	.25294	4.7611
Stddev	.0052	.00192	.0120	.00096	.273	.0131	.00048	.0125
%RSD	.36869	.39702	.65178	.56563	.75111	.22166	.19005	.26328
#1	1.4153	.48209	1.8300	.16910	36.439	5.8900	.25255	4.7539
#2	1.4184	.48094	1.8494	.17099	36.064	5.9151	.25280	4.7755
#3	1.4255	.48468	1.8277	.17034	36.596	5.8963	.25348	4.7538

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	4.4447	.13562	7.6824	.48638	2.3983	12.716	60.823
Stddev	.0112	.00026	.0233	.00190	.0115	.041	.199
%RSD	.25168	.18856	.30310	.39113	.47739	.32578	.32680
#1	4.4463	.13534	7.6770	.48502	2.3948	12.701	60.685
#2	4.4328	.13566	7.7079	.48556	2.4111	12.763	61.051
#3	4.4550	.13585	7.6622	.48855	2.3891	12.684	60.733

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S4 Acquired: 11/07/2024 16:42:39 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	757.34	21358.	2388.8	667.95	1432.7
Stddev	1.24	65.	11.3	6.40	2.9
%RSD	.16337	.30641	.47212	.95865	.19974
#1	756.55	21287.	2382.2	664.59	1432.7
#2	758.76	21415.	2382.3	675.33	1435.5
#3	756.70	21373.	2401.8	663.92	1429.8

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S5 Acquired: 11/07/2024 16:46:58 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	.23583	.66921	7.0989	.77067	2.1412	35.940	122.59	10.623
Stddev	.00066	.00100	.0070	.00218	.0057	.081	.38	.029
%RSD	.28107	.14871	.09847	.28276	.26710	.22398	.30792	.27562
#1	.23565	.66817	7.1000	.77249	2.1444	36.032	123.01	10.652
#2	.23527	.66931	7.0914	.76826	2.1346	35.882	122.28	10.624
#3	.23656	.67015	7.1053	.77128	2.1447	35.905	122.48	10.594

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	9.6753	36.023	5.6172	3.0392	5.3601	3.7017	7.5590	2.6816
Stddev	.0094	.163	.0245	.0031	.0049	.0194	.0240	.0097
%RSD	.09722	.45153	.43646	.10336	.09114	.52511	.31797	.36317
#1	9.6717	36.176	5.6452	3.0383	5.3632	3.7203	7.5441	2.6893
#2	9.6682	36.041	5.6064	3.0366	5.3545	3.7032	7.5463	2.6847
#3	9.6859	35.852	5.5998	3.0427	5.3627	3.6816	7.5867	2.6706

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	2.8573	.97961	3.8008	.34560	79.495	12.282	.52909	9.4949
Stddev	.0037	.00830	.0186	.00147	1.074	.028	.00175	.0483
%RSD	.12987	.84704	.48973	.42443	1.3512	.22972	.33095	.50877
#1	2.8549	.98905	3.8162	.34729	80.707	12.295	.53016	9.5469
#2	2.8553	.97348	3.8061	.34465	78.660	12.250	.52707	9.4864
#3	2.8615	.97629	3.7801	.34486	79.118	12.302	.53004	9.4514

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	9.7253	.28692	15.540	.98662	4.8591	26.674	122.58
Stddev	.0257	.00072	.045	.00251	.0141	.058	.96
%RSD	.26424	.25127	.29048	.25464	.28934	.21882	.78161
#1	9.7268	.28698	15.592	.98629	4.8732	26.736	123.28
#2	9.6988	.28761	15.517	.98430	4.8591	26.621	121.49
#3	9.7501	.28617	15.511	.98929	4.8450	26.663	122.98

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S5 Acquired: 11/07/2024 16:46:58 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	659.96	20513.	2322.9	550.72	1327.7
Stddev	1.43	103.	4.3	8.04	1.2
%RSD	.21720	.50319	.18376	1.4600	.08798
#1	660.60	20397.	2319.3	541.89	1329.0
#2	660.96	20595.	2327.6	557.62	1327.3
#3	658.32	20547.	2322.0	552.65	1326.7

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: S6 Acquired: 11/07/2024 16:51:27 Type: Cal
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) 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	90.375	55.448	9.3595	4.4133	9.9533
Stddev	.596	.378	.0627	.0264	.0712
%RSD	.65923	.68186	.66953	.59767	.71576
#1	90.972	55.821	9.4222	4.4427	10.022
#2	89.780	55.065	9.2969	4.3919	9.8801
#3	90.373	55.458	9.3595	4.4052	9.9572

Int. Std.	Y_3710
Units	Cts/S
Avg	2273.8
Stddev	12.1
%RSD	.53225
#1	2260.4
#2	2284.0
#3	2277.0

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICV005 Acquired: 11/07/2024 17:13:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV005 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.023055	1.026292	.9551224	.9300119	.9001448	2.323992
Stddev	.005827	.005900	.0000786	.0143347	.0048044	.011085
%RSD	.5695514	.5748374	.0082271	1.541350	.5337372	.4769975
#1	1.024613	1.027355	.9550596	.9313882	.8988712	2.332381
#2	1.016607	1.019933	.9550971	.9150386	.8961055	2.311425
#3	1.027944	1.031587	.9552105	.9436088	.9054577	2.328171

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5049022	.5221115	.4870422	10.00083	.5517431	.4858959
Stddev	.0020610	.0015688	.0010403	.05950	.0022687	.0019753
%RSD	.4082004	.3004758	.2135890	.5949962	.4111829	.4065196
#1	.5028294	.5237557	.4859844	9.98383	.5533193	.4836153
#2	.5049261	.5206308	.4870782	9.95167	.5491429	.4870044
#3	.5069512	.5219480	.4880640	10.06698	.5527670	.4870679

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4824115	10.61856	.5202243	5.960331	.4971365	.2385664
Stddev	.0057077	.02017	.0029566	.083120	.0026597	.0002717
%RSD	1.183167	.1899555	.5683311	1.394560	.5350123	.1138864
#1	.4759051	10.60045	.5186872	5.902225	.4949628	.2383628
#2	.4847546	10.61494	.5183529	6.055541	.4963444	.2384615
#3	.4865748	10.64030	.5236328	5.923227	.5001024	.2388749

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.590459	.5174630	.9263806	9.532967	F .0071834	F .0080783
Stddev	.130353	.0096991	.0035564	.070064	.0020982	.0009968
%RSD	1.359198	1.874360	.3839067	.7349632	29.20988	12.33906
#1	9.654548	.5253811	.9265950	9.602332	.0074610	.0074683
#2	9.676362	.5066446	.9227219	9.534345	.0091290	.0075380
#3	9.440468	.5203633	.9298251	9.462225	.0049601	.0092286

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICV005 Acquired: 11/07/2024 17:13:16 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV005 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.000237	F .0018257	F .0022081	F .0020626	F -.000522	F .0061826
Stddev	.000160	.0072349	.0006773	.0003324	.001306	.0002850
%RSD	67.49005	396.2702	30.67447	16.11627	250.0540	4.609554
#1	-.000052	.0097646	.0024772	.0016794	-.000016	.0058918
#2	-.000334	-.004396	.0014376	.0022727	.000455	.0064614
#3	-.000324	.000109	.0027095	.0022358	-.002005	.0061946

Elem	Sr4077
Units	ppm
Avg	F .0012792
Stddev	.0001257
%RSD	9.826811
#1	.0011381
#2	.0013203
#3	.0013792

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	898.5207	22754.54	2422.280	818.6110	1754.226
Stddev	2.0328	55.65	7.887	3.8344	1.497
%RSD	.2262356	.2445852	.3256096	.4684023	.0853339
#1	897.6993	22691.48	2413.202	815.8315	1754.459
#2	900.8356	22775.31	2427.443	822.9854	1755.593
#3	897.0271	22796.82	2426.197	817.0160	1752.626

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICB005 Acquired: 11/07/2024 17:19:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB005 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004290	-.002764	-.000552	-.006441	-.002988	-.013335	.0000290
Stddev	.009219	.001452	.002957	.006805	.002302	.015620	.0001422
%RSD	214.9232	52.55241	535.9877	105.6648	77.02179	117.1327	490.9210
#1	.006183	-.001896	-.000158	.001077	-.005425	-.013535	.0000770
#2	-.011181	-.001955	-.003685	-.012182	-.000850	.002384	-.000131
#3	-.007871	-.004440	.002188	-.008216	-.002690	-.028854	.000141

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000425	.0000730	.0485813	.0004460	.0003935	-.003253	-.027143
Stddev	.0001280	.0000600	.0177908	.0008275	.0005208	.002786	.045943
%RSD	301.3618	82.20167	36.62064	185.5414	132.3589	85.62129	169.2599
#1	.0001839	.0001382	.0661784	.0012942	.0009928	-.005793	.025393
#2	.0000092	.0000606	.0306029	.0004029	.0001371	-.000274	-.059791
#3	-.000066	.0000201	.0489627	-.000359	.0000505	-.003694	-.047032

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021402	.0054510	-.000811	.0007232	.4926763	-.012456	.0005869
Stddev	.0008708	.0451085	.000119	.0003386	.1591881	.004533	.0002949
%RSD	40.68625	827.5194	14.62967	46.81367	32.31089	36.39086	50.25145
#1	.0028514	-.040158	-.000906	.0011089	.5305009	-.010169	.0004250
#2	.0011691	.006470	-.000678	.0005859	.6295454	-.009523	.0009273
#3	.0024002	.050041	-.000850	.0004749	.3179827	-.017677	.0004083

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.270847	.0011227	-.000262	.0001777	-.006197	.0009367	.0030661
Stddev	.106712	.0023763	.000549	.0004075	.000171	.0006797	.0006244
%RSD	39.39952	211.6625	209.5261	229.2831	2.762011	72.56139	20.36396
#1	-.161126	-.000639	.000368	-.000291	-.006390	.0004460	.0026352
#2	-.277142	.003825	-.000511	.000448	-.006134	.0006517	.0027809
#3	-.374272	.000182	-.000643	.000376	-.006066	.0017125	.0037821

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICB005 Acquired: 11/07/2024 17:19:32 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB005 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000052	.0065061	-.000051
Stddev	.002029	.0015551	.000102
%RSD	3877.734	23.90231	198.9407
#1	.002184	.0071416	-.000069
#2	-.001773	.0047339	-.000143
#3	-.000568	.0076428	.000059

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	893.2473	22458.00	2402.900	811.2470	1769.313
Stddev	.9245	65.44	8.108	2.9856	2.885
%RSD	.1035010	.2913683	.3374241	.3680277	.1630388
#1	894.1394	22415.86	2406.675	808.3167	1767.091
#2	892.2934	22424.77	2393.593	811.1394	1772.573
#3	893.3090	22533.39	2408.432	814.2850	1768.273

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICSA005 Acquired: 11/07/2024 17:24:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA005 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0097431	-.016528	.0004553	-.000693	.0015673	245.2835
Stddev	.0234524	.003000	.0047147	.006903	.0013220	.8645
%RSD	240.7079	18.15193	1035.506	996.4237	84.34569	.3524407
#1	.0136895	-.019593	.0041736	.003024	.0021126	246.1587
#2	.0309718	-.016394	.0020398	-.008658	.0025294	244.4302
#3	-.015432	-.013597	-.004848	.003555	.0000599	245.2615

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060460	-.000095	.0014339	256.4521	.0519222	-.001576
Stddev	.0007646	.000175	.0002895	.4290	.0005469	.000508
%RSD	12.64664	184.3363	20.19123	.1672950	1.053271	32.22755
#1	.0069266	.000031	.0011651	256.8914	.0513580	-.002064
#2	.0056612	-.000021	.0013961	256.4307	.0519585	-.001615
#3	.0055502	-.000294	.0017405	256.0342	.0524500	-.001050

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002074	107.4409	.0118276	255.3218	.0042232	.0030204
Stddev	.005027	.0421	.0023497	.7540	.0009123	.0000662
%RSD	242.4265	.0391547	19.86596	.2953055	21.60200	2.192513
#1	-.003037	107.4480	.0092527	255.3713	.0044275	.0030320
#2	.003365	107.3957	.0123743	256.0497	.0050161	.0029492
#3	-.006549	107.4789	.0138557	254.5442	.0032261	.0030801

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2090397	.0073252	.0137685	-.406183	.0030383	F .0847366
Stddev	.1870250	.0103105	.0003278	.038769	.0034716	.0019774
%RSD	89.46865	140.7539	2.381070	9.544620	114.2609	2.333526
#1	.3879693	-.002519	.0134952	-.446992	-.000948	.0824615
#2	.0148539	.018046	.0136782	-.369843	.004663	.0860416
#3	.2242959	.006448	.0141320	-.401713	.005400	.0857066

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICSA005 Acquired: 11/07/2024 17:24:04 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA005 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001015	.0070532	.0005923	-.001852	-.000243	.0094467
Stddev	.000351	.0138690	.0003764	.003692	.001221	.0003436
%RSD	34.52863	196.6347	63.55324	199.3003	502.0195	3.637195
#1	-.000623	.0011865	.0008565	.000766	.000017	.0093714
#2	-.001297	-.002918	.0007592	-.006074	.000827	.0091470
#3	-.001127	.022891	.0001613	-.000248	-.001573	.0098217

Elem	Sr4077
Units	ppm
Avg	F .1032204
Stddev	.0003822
%RSD	.3702536
#1	.1036615
#2	.1029885
#3	.1030113

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	836.5381	21377.44	2369.776	765.8691	1484.432
Stddev	1.5715	14.79	7.637	.3476	2.964
%RSD	.1878617	.0691993	.3222756	.0453798	.1996840
#1	838.2378	21381.07	2361.998	765.9091	1487.810
#2	836.2390	21390.08	2370.067	766.1949	1482.268
#3	835.1377	21361.17	2377.264	765.5033	1483.217

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICSAB005 Acquired: 11/07/2024 17:28:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB005 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1158849	.0926160	.0476916	.0468288	.5451829	243.0360
Stddev	.0194540	.0049555	.0061220	.0046246	.0015329	.2259
%RSD	16.78738	5.350602	12.83670	9.875449	.2811738	.0929400
#1	.1360035	.0871943	.0535592	.0414889	.5445748	242.8070
#2	.0971716	.0969114	.0413434	.0494813	.5469266	243.2586
#3	.1144795	.0937423	.0481721	.0495163	.5440474	243.0424

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5278243	.5341449	1.029480	252.7554	.6071772	.5166093
Stddev	.0009761	.0024148	.004964	.1220	.0021870	.0010063
%RSD	.1849218	.4520952	.4822004	.0482749	.3601962	.1947978
#1	.5267116	.5367513	1.025102	252.8489	.6066637	.5156688
#2	.5285360	.5336998	1.028464	252.7999	.6052926	.5164886
#3	.5282253	.5319835	1.034873	252.6174	.6095752	.5176706

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4808637	105.8459	.5370009	251.7915	1.037910	.1919147
Stddev	.0081573	.1970	.0078584	.1058	.005953	.0001178
%RSD	1.696392	.1861320	1.463383	.0420129	.5735594	.0613838
#1	.4865661	105.9557	.5283877	251.9024	1.032971	.1919419
#2	.4845052	105.9635	.5388349	251.7806	1.036240	.1917857
#3	.4715199	105.6184	.5437801	251.6916	1.044520	.1920166

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8680386	.5212761	.9536000	-.477026	F .0111235	F .0850681
Stddev	.0487452	.0078628	.0034662	.203038	.0077064	.0007233
%RSD	5.615552	1.508383	.3634875	42.56323	69.28006	.8502395
#1	.8786001	.5122256	.9572135	-.711470	.0194809	.0852222
#2	.8148785	.5264258	.9503027	-.360945	.0042984	.0842802
#3	.9106372	.5251769	.9532838	-.358663	.0095912	.0857019

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: ICSAB005 Acquired: 11/07/2024 17:28:33 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB005 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001146	.0133083	.0011597	-.003139	-.002101	.0081540
Stddev	.000719	.0085318	.0003925	.003567	.000751	.0007044
%RSD	62.68872	64.10906	33.84204	113.6290	35.74360	8.639029
#1	-.000920	.0099578	.0015737	-.006506	-.002416	.0074056
#2	-.001951	.0230067	.0011123	-.003510	-.001244	.0088042
#3	-.000568	.0069603	.0007931	.000599	-.002642	.0082522

Elem	Sr4077
Units	ppm
Avg	F .1026387
Stddev	.0001578
%RSD	.1536958
#1	.1025031
#2	.1028118
#3	.1026010

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	836.2975	21397.71	2381.092	761.8759	1488.426
Stddev	1.4038	40.28	5.337	3.7053	4.690
%RSD	.1678601	.1882344	.2241362	.4863427	.3151273
#1	837.6180	21444.20	2375.139	758.1522	1492.505
#2	836.4514	21373.33	2382.687	761.9131	1489.472
#3	834.8230	21375.58	2385.449	765.5625	1483.301

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCV029 Acquired: 11/07/2024 17:32:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV029 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.916081	4.784351	24.25121	4.688305	4.737588	399.8860	10.02437
Stddev	.012534	.026500	.05261	.021148	.011027	1.0333	.05145
%RSD	.2549533	.5538894	.2169236	.4510743	.2327588	.2583988	.5132813
#1	4.906573	4.790013	24.27165	4.678952	4.734824	399.8563	10.05773
#2	4.930285	4.755478	24.19145	4.712516	4.728206	398.8678	9.96512
#3	4.911386	4.807563	24.29052	4.673446	4.749735	400.9338	10.05028

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5016044	2.453070	398.8849	15.30864	2.467146	14.80465	408.6802
Stddev	.0017938	.005941	.6838	.02505	.002715	.01777	.6445
%RSD	.3576036	.2421777	.1714335	.1636453	.1100461	.1200097	.1577139
#1	.5021176	2.455660	398.6053	15.32195	2.468229	14.80639	408.3207
#2	.4996100	2.446274	398.3851	15.32424	2.464056	14.78607	408.2956
#3	.5030857	2.457276	399.6642	15.27975	2.469152	14.82148	409.4243

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.71207	387.2769	2.465526	1.242273	402.3306	2.454649	14.33885
Stddev	.05663	.9953	.004574	.004968	1.0392	.028854	.08326
%RSD	.3849293	.2570076	.1855078	.3999096	.2582966	1.175486	.5806592
#1	14.74757	386.4118	2.463238	1.247901	402.7637	2.445012	14.27972
#2	14.64677	387.0541	2.462548	1.238498	401.1449	2.431848	14.43406
#3	14.74189	388.3647	2.470792	1.240420	403.0832	2.487089	14.30276

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	150.3417	4.973483	5.133022	4.701374	4.980491	4.950324	4.903657
Stddev	.1875	.017676	.011884	.002057	.011475	.013087	.018260
%RSD	.1247137	.3554043	.2315136	.0437638	.2303891	.2643719	.3723711
#1	150.3709	4.978944	5.137726	4.703261	4.993714	4.955873	4.902646
#2	150.1413	4.953721	5.119507	4.699180	4.973158	4.935376	4.885923
#3	150.5129	4.987784	5.141834	4.701680	4.974601	4.959722	4.922401

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCV029 Acquired: 11/07/2024 17:32:54 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV029 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.914731	5.046973	4.982213
Stddev	.015880	.021827	.010335
%RSD	.3231006	.4324681	.2074384
#1	4.909823	5.056587	4.985364
#2	4.901886	5.021990	4.970668
#3	4.932486	5.062342	4.990604

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	726.6007	20461.15	2295.960	643.7868	1351.775
Stddev	.2202	73.99	3.531	3.6461	2.294
%RSD	.0303007	.3616249	.1537745	.5663525	.1697246
#1	726.4146	20378.21	2294.084	645.0589	1349.623
#2	726.5438	20484.85	2300.033	639.6751	1354.189
#3	726.8438	20520.38	2293.764	646.6265	1351.513

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCB029 Acquired: 11/07/2024 17:37:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB029 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004034	.0005462	-.000671	-.001085	-.000491	.0035214	.0007119
Stddev	.004044	.0001616	.003220	.003152	.001268	.0070194	.0002338
%RSD	100.2535	29.58817	479.9047	290.4718	257.9097	199.3350	32.84503
#1	.000379	.0007315	-.004369	.002552	-.001947	.0089256	.0004427
#2	-.007563	.0004343	.001510	-.002769	.000368	.0060507	.0008639
#3	-.004918	.0004728	.000846	-.003038	.000105	-.004412	.0008291

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000125	.0000255	.0690094	.0005208	.0006356	-.001753	-.000416
Stddev	.0001708	.0002024	.0123717	.0005477	.0002256	.003318	.029748
%RSD	1363.018	793.5095	17.92761	105.1825	35.49718	189.2290	7159.462
#1	-.000169	.0001811	.0670074	-.000094	.0006163	-.004772	-.033323
#2	.000035	.0000987	.0822600	.000700	.0004202	.001799	.024570
#3	.000171	-.000203	.0577607	.000956	.0008702	-.002287	.007506

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027523	-.025879	-.000587	.0016542	.5223294	-.003053	.0013454
Stddev	.0031432	.057240	.000497	.0002514	.0646730	.001987	.0003250
%RSD	114.2022	221.1851	84.59648	15.19463	12.38165	65.10748	24.15884
#1	.0054998	.006323	-.000147	.0017697	.4863183	-.002087	.0012969
#2	.0034326	-.091966	-.000489	.0013659	.5969918	-.005338	.0016920
#3	-.000675	.008008	-.001126	.0018271	.4836781	-.001732	.0010474

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.181728	.0005101	.0062303	.0004856	.0025648	.0004800	.0005648
Stddev	.039998	.0061281	.0005379	.0000843	.0069967	.0004230	.0017827
%RSD	22.00995	1201.268	8.633608	17.36725	272.8014	88.12213	315.6184
#1	-.196632	.0008176	.0067350	.0005795	-.005372	.0009677	.0003802
#2	-.212135	-.005766	.0062915	.0004162	.005227	.0002141	-.001118
#3	-.136418	.006479	.0056644	.0004612	.007840	.0002581	.002433

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCB029 Acquired: 11/07/2024 17:37:08 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB029 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000070	.0106707	.0001617
Stddev	.002088	.0009361	.0000247
%RSD	2969.422	8.772744	15.28054
#1	-.002482	.0097646	.0001873
#2	.001139	.0106132	.0001380
#3	.001131	.0116342	.0001596

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	894.7112	22407.34	2369.102	813.3784	1770.290
Stddev	.8743	47.33	17.035	2.4095	.325
%RSD	.0977194	.2112450	.7190365	.2962278	.0183579
#1	894.4355	22401.62	2351.461	816.0839	1770.375
#2	894.0079	22457.28	2385.457	811.4640	1769.931
#3	895.6901	22363.13	2370.389	812.5872	1770.564

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4480-05A Acquired: 11/07/2024 18:17:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE494A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4355632	-.067093	.5566268	.0482972	.0122308	240.5173
Stddev	.0138160	.005096	.0038527	.0074426	.0015664	.3579
%RSD	3.171984	7.595341	.6921497	15.41004	12.80729	.1487837
#1	.4464416	-.072954	.5585216	.0567905	.0140327	240.9289
#2	.4402298	-.064614	.5591651	.0451861	.0111933	240.2801
#3	.4200182	-.063711	.5521936	.0429149	.0114663	240.3428

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.869900	.0061777	.0173974	123.5401	.4145590	.2395134
Stddev	.006284	.0002956	.0003671	.4059	.0010300	.0011858
%RSD	.2189643	4.785584	2.109924	.3285829	.2484559	.4950853
#1	2.876846	.0064706	.0175768	123.9505	.4142267	.2393448
#2	2.868246	.0061831	.0169751	123.1388	.4157141	.2407745
#3	2.864609	.0058794	.0176403	123.5310	.4137362	.2384210

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7603938	442.4990	8.971123	101.0801	.5381509	-.033085
Stddev	.0038604	.7491	.000705	.4137	.0007610	.000279
%RSD	.5076829	.1692943	.0078570	.4092869	.1414048	.8433170
#1	.7648138	443.3173	8.971571	101.1874	.5382396	-.033166
#2	.7576837	441.8469	8.970311	100.6233	.5388637	-.032775
#3	.7586839	442.3329	8.971487	101.4295	.5373495	-.033315

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.943425	.8512841	.8446544	43.05801	F 12.26951	.4061804
Stddev	.059821	.0088798	.0018064	.14902	.00663	.0007412
%RSD	1.516976	1.043107	.2138609	.3460867	.0540458	.1824859
#1	3.894310	.8607929	.8461178	43.22805	12.27102	.4065475
#2	3.925919	.8432073	.8426355	42.95016	12.26225	.4066664
#3	4.010046	.8498522	.8452098	42.99582	12.27525	.4053272

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4480-05A Acquired: 11/07/2024 18:17:36 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE494A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000913	1.627793	13.63829	.0100655	6.025305	.1830070
Stddev	.000661	.008480	.06083	.0023846	.020258	.0010146
%RSD	72.41309	.5209367	.4460277	23.69054	.3362081	.5543879
#1	-.000626	1.634342	13.68625	.0110043	6.047686	.1834344
#2	-.001669	1.630823	13.56987	.0073544	6.008224	.1837380
#3	-.000444	1.618215	13.65875	.0118378	6.020004	.1818487

Elem	Sr4077
Units	ppm
Avg	1.086599
Stddev	.001037
%RSD	.0954187
#1	1.087795
#2	1.086051
#3	1.085952

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	980.5888	25351.35	2810.332	899.1685	1546.705
Stddev	1.2764	94.64	6.800	.7012	1.873
%RSD	.1301680	.3733292	.2419811	.0779817	.1210934
#1	979.1152	25433.65	2802.859	898.9952	1548.708
#2	981.3496	25247.93	2816.157	899.9401	1544.997
#3	981.3015	25372.49	2811.979	898.5703	1546.411

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4481-12A Acquired: 11/07/2024 18:21:59 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6777465	-.053147	.3357543	.0009822	.0066041	178.9457
Stddev	.0108985	.001720	.0018251	.0082980	.0018996	.2390
%RSD	1.608043	3.236543	.5435706	844.8174	28.76418	.1335424
#1	.6795073	-.052094	.3342649	-.007078	.0051907	178.6867
#2	.6876573	-.055132	.3377902	.000526	.0058582	179.1577
#3	.6660748	-.052215	.3352080	.009499	.0087635	178.9926

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.836637	.0052589	.0169458	54.51140	.4075833	.2224339
Stddev	.001823	.0000532	.0001151	.16385	.0008180	.0007261
%RSD	.0992552	1.011337	.6793593	.3005731	.2006948	.3264311
#1	1.835263	.0052903	.0168143	54.32223	.4083809	.2226171
#2	1.838705	.0051975	.0170282	54.60325	.4076225	.2216338
#3	1.835942	.0052889	.0169950	54.60873	.4067463	.2230509

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.041554	368.3848	9.994578	82.95883	.4200045	-.028331
Stddev	.010012	1.4937	.015570	.43342	.0015725	.000110
%RSD	.4904256	.4054806	.1557801	.5224509	.3744066	.3891297
#1	2.036000	366.6757	9.979297	82.60209	.4183918	-.028447
#2	2.035549	369.0379	9.994018	82.83323	.4200881	-.028319
#3	2.053112	369.4407	10.01042	83.44118	.4215335	-.028228

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.486020	.7100548	1.723527	49.68160	F 10.11523	.3436610
Stddev	.238953	.0121788	.010426	.06722	.06125	.0009733
%RSD	9.611861	1.715184	.6049387	.1353068	.6055256	.2832032
#1	2.753951	.7033415	1.723396	49.75917	10.06828	.3425979
#2	2.294975	.7027100	1.734018	49.64518	10.09291	.3438770
#3	2.409134	.7241129	1.713166	49.64044	10.18451	.3445081

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4481-12A Acquired: 11/07/2024 18:21:59 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4C1A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009797	1.523687	13.64681	.0133570	4.747355	.1335789
Stddev	.0007128	.006270	.03952	.0027741	.012152	.0004706
%RSD	72.75572	.4114800	.2895586	20.76916	.2559821	.3523238
#1	.0016323	1.517904	13.60163	.0125610	4.733381	.1332243
#2	.0002190	1.522807	13.67493	.0164421	4.753239	.1341128
#3	.0010878	1.530350	13.66387	.0110678	4.755446	.1333996

Elem	Sr4077
Units	ppm
Avg	.3189701
Stddev	.0003023
%RSD	.0947738
#1	.3188010
#2	.3187902
#3	.3193191

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	993.1015	25526.61	2787.169	912.6737	1597.910
Stddev	1.3546	75.26	4.958	3.8541	2.388
%RSD	.1364029	.2948378	.1778992	.4222900	.1494229
#1	993.0128	25447.21	2790.794	910.5037	1598.757
#2	994.4983	25535.71	2781.518	910.3938	1599.759
#3	991.7935	25596.90	2789.194	917.1236	1595.215

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4482-14A Acquired: 11/07/2024 18:26:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4E3A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1565531	-.053642	.2562654	-.002601	.0102057	155.1585
Stddev	.0041088	.001366	.0083166	.007729	.0021456	.6871
%RSD	2.624505	2.546734	3.245322	297.1950	21.02339	.4428157
#1	.1519075	-.052292	.2520760	-.011236	.0117187	155.6924
#2	.1580423	-.053609	.2508765	.003669	.0111483	155.3998
#3	.1597097	-.055024	.2658436	-.000236	.0077502	154.3833

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.431668	.0046841	.0127267	84.69763	.3334190	.1893534
Stddev	.008174	.0000596	.0001760	.47567	.0003730	.0005963
%RSD	.5709326	1.273165	1.382966	.5616132	.1118579	.3149372
#1	1.438251	.0046153	.0125274	85.06626	.3336373	.1888414
#2	1.434233	.0047155	.0127916	84.86594	.3336312	.1900082
#3	1.422519	.0047215	.0128610	84.16068	.3329883	.1892107

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4577523	360.0770	7.225586	67.68703	.3181122	-.028849
Stddev	.0055145	1.9298	.045796	.36987	.0014186	.000187
%RSD	1.204684	.5359409	.6338072	.5464472	.4459303	.6483042
#1	.4629165	361.5113	7.257993	68.02515	.3177578	-.028973
#2	.4583964	360.8367	7.245572	67.74392	.3169045	-.028940
#3	.4519441	357.8829	7.173194	67.29200	.3196744	-.028634

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.869082	.8393524	1.442282	40.14215	F 11.42620	.3425080
Stddev	.399539	.0215239	.009863	.12861	.04141	.0043930
%RSD	13.92567	2.564348	.6838298	.3203928	.3624396	1.282611
#1	3.260152	.8437606	1.453584	40.08048	11.37858	.3434832
#2	2.461582	.8583309	1.435417	40.28998	11.45375	.3463314
#3	2.885513	.8159656	1.437845	40.05598	11.44628	.3377093

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4482-14A Acquired: 11/07/2024 18:26:21 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4E3A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004350	2.854944	13.14791	.0071458	5.644116	.1107576
Stddev	.0002318	.016125	.08678	.0015599	.030940	.0004869
%RSD	53.28639	.5647933	.6599917	21.82996	.5481799	.4396105
#1	.0002400	2.871346	13.23413	.0055478	5.666847	.1111628
#2	.0003738	2.854375	13.14901	.0072251	5.656621	.1102174
#3	.0006913	2.839112	13.06059	.0086646	5.608881	.1108924

Elem	Sr4077
Units	ppm
Avg	.3671742
Stddev	.0013540
%RSD	.3687734
#1	.3677230
#2	.3681676
#3	.3656319

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	993.5780	25507.26	2825.268	912.0952	1608.077
Stddev	2.5844	47.58	21.706	4.2849	2.047
%RSD	.2601130	.1865157	.7682787	.4697870	.1272948
#1	996.2462	25509.28	2809.906	907.2661	1610.427
#2	993.4014	25458.71	2815.798	913.5769	1606.681
#3	991.0864	25553.79	2850.100	915.4427	1607.122

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4483-20A Acquired: 11/07/2024 18:30:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4G9A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4164970	-.059953	.2613143	-.009937	.0087298	186.2637
Stddev	.0110998	.002046	.0048113	.006120	.0010543	.4839
%RSD	2.665026	3.412861	1.841206	61.58775	12.07664	.2598096
#1	.4049006	-.061093	.2664004	-.011756	.0075136	186.6894
#2	.4175678	-.057591	.2568353	-.003114	.0092930	186.3643
#3	.4270225	-.061175	.2607071	-.014941	.0093830	185.7374

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.936743	.0051304	.0169671	77.01034	.5031142	.2233257
Stddev	.002551	.0000275	.0002104	.34516	.0014433	.0006045
%RSD	.1316973	.5366746	1.240134	.4482046	.2868724	.2706784
#1	1.939490	.0050990	.0170717	77.18122	.5028252	.2233502
#2	1.936287	.0051504	.0167249	77.23672	.5046801	.2227094
#3	1.934451	.0051417	.0171048	76.61307	.5018372	.2239176

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8571109	404.6663	9.121220	93.54830	.4538254	-.031218
Stddev	.0008222	1.6492	.029123	.63792	.0005650	.000298
%RSD	.0959301	.4075495	.3192920	.6819133	.1244897	.9538478
#1	.8561768	405.4081	9.125973	93.13352	.4538366	-.031360
#2	.8574306	405.8144	9.147675	94.28286	.4532549	-.031419
#3	.8577252	402.7765	9.090013	93.22851	.4543847	-.030876

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.107636	.7899131	1.747441	43.23790	F 11.14251	.3676241
Stddev	.179952	.0058021	.001876	.18019	.01733	.0021104
%RSD	5.790639	.7345181	.1073415	.4167297	.1555664	.5740678
#1	3.314520	.7884165	1.746923	43.41952	11.14641	.3672127
#2	3.020981	.7963169	1.745878	43.23500	11.12356	.3699099
#3	2.987406	.7850060	1.749521	43.05918	11.15757	.3657496

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4483-20A Acquired: 11/07/2024 18:30:45 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4G9A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000742	1.629818	12.64272	.0116685	4.693618	.1432175
Stddev	.000605	.016848	.09351	.0052526	.014851	.0006653
%RSD	81.50926	1.033734	.7396384	45.01522	.3164043	.4645076
#1	-.000738	1.634152	12.67984	.0101106	4.699202	.1439372
#2	-.000139	1.611227	12.71197	.0175238	4.704868	.1426251
#3	-.001348	1.644076	12.53635	.0073711	4.676785	.1430902

Elem	Sr4077
Units	ppm
Avg	.4507782
Stddev	.0016159
%RSD	.3584681
#1	.4526432
#2	.4497967
#3	.4498947

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	984.3216	25288.03	2801.844	902.7046	1587.916
Stddev	1.5792	64.68	23.892	1.6034	1.228
%RSD	.1604354	.2557636	.8527071	.1776221	.0773569
#1	983.5474	25218.20	2786.775	902.8360	1586.500
#2	986.1385	25300.00	2789.366	904.2383	1588.550
#3	983.2789	25345.88	2829.391	901.0396	1588.697

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4484-03A Acquired: 11/07/2024 18:35:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.852437	-.116467	.1875799	-.030592	.0137262	260.0441	2.643073
Stddev	.035503	.007665	.0021171	.011603	.0021108	.3578	.005013
%RSD	1.916551	6.580836	1.128659	37.92815	15.37775	.1376008	.1896768
#1	1.869707	-.110963	.1869421	-.040844	.0155083	260.1314	2.648862
#2	1.811603	-.125221	.1899426	-.032937	.0142752	260.3503	2.640213
#3	1.876001	-.113218	.1858550	-.017996	.0113952	259.6508	2.640145

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054197	.0302263	389.6158	5.341727	.6039666	1.011963	750.8174
Stddev	.0001407	.0004416	1.5375	.006854	.0017762	.005576	2.7496
%RSD	2.596615	1.460810	.3946261	.1283141	.2940885	.5509603	.3662128
#1	.0055305	.0307181	389.8565	5.336607	.6046962	1.010883	751.6341
#2	.0052613	.0298639	391.0188	5.339061	.6019418	1.007007	753.0660
#3	.0054672	.0300970	387.9721	5.349514	.6052618	1.018000	747.7519

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.08699	196.4119	2.087115	-.053255	3.484319	1.762596	.9880158
Stddev	.02023	.6479	.003191	.000391	.067373	.010768	.0062568
%RSD	.0806297	.3298803	.1528844	.7336645	1.933596	.6109216	.6332714
#1	25.09782	196.5401	2.085386	-.053262	3.447160	1.772248	.9898191
#2	25.09949	196.9862	2.085161	-.053641	3.562089	1.764558	.9931729
#3	25.06365	195.7095	2.090797	-.052860	3.443709	1.750982	.9810554

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.23935	7.902389	.6220145	.0009407	.8608308	12.55967	.0058067
Stddev	.06537	.012250	.0012658	.0003043	.0120864	.09904	.0022108
%RSD	.4025145	.1550210	.2034976	32.34984	1.404044	.7885616	38.07355
#1	16.31080	7.905771	.6234719	.0006536	.8695219	12.57510	.0039664
#2	16.22469	7.912594	.6213810	.0009087	.8659420	12.65009	.0051946
#3	16.18256	7.888803	.6211905	.0012597	.8470285	12.45382	.0082591

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4484-03A Acquired: 11/07/2024 18:35:06 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4H2A Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	8.136218	.2845354	.5621864
Stddev	.037061	.0002308	.0003618
%RSD	.4555088	.0811042	.0643607
#1	8.137547	.2844661	.5624548
#2	8.172596	.2847929	.5623296
#3	8.098510	.2843473	.5617749

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	932.4955	25080.60	2812.827	848.4538	1469.145
Stddev	1.8622	82.20	14.182	1.4503	3.908
%RSD	.1997014	.3277443	.5041940	.1709370	.2660129
#1	931.1887	25072.16	2806.850	846.9948	1464.766
#2	931.6701	25166.69	2802.612	848.4712	1470.390
#3	934.6278	25002.94	2829.019	849.8953	1472.279

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4496-07A Acquired: 11/07/2024 18:39:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MGHZC8A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047612	-.023116	.2705150	.0421666	.1011393	175.3470
Stddev	.0127384	.008492	.0092728	.0016495	.0052936	4.6208
%RSD	267.5482	36.73495	3.427850	3.911857	5.233935	2.635224
#1	-.009373	-.025530	.2604512	.0439037	.0950957	171.8808
#2	.015355	-.030140	.2723808	.0406216	.1049534	180.5930
#3	.008301	-.013679	.2787132	.0419744	.1033689	173.5672

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4871012	.0041622	.0149965	F 961.4822	1.579795	.2690367
Stddev	.0132409	.0001313	.0006951	25.2027	.002755	.0010421
%RSD	2.718296	3.153571	4.635200	2.621230	.1743749	.3873636
#1	.4766804	.0042552	.0156679	943.3261	1.581804	.2702335
#2	.5020005	.0042195	.0142799	990.2565	1.576654	.2683295
#3	.4826228	.0040121	.0150416	950.8640	1.580926	.2685471

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3713356	410.3240	4.793550	152.5201	4.951813	.0001901
Stddev	.0064753	11.4181	.117350	4.3311	.007502	.0008591
%RSD	1.743785	2.782693	2.448091	2.839668	.1514931	451.8039
#1	.3671209	402.4512	4.706128	149.5284	4.943223	.0007733
#2	.3787915	423.4194	4.926923	157.4866	4.957079	-.000796
#3	.3680945	405.1014	4.747601	150.5453	4.955136	.000594

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.368209	1.168049	.5491845	15.59442	6.516126	.3996171
Stddev	.222021	.027839	.0023115	.48183	.016124	.0114464
%RSD	6.591653	2.383350	.4208984	3.089766	.2474495	2.864347
#1	3.163533	1.142676	.5482951	15.17631	6.498101	.3903946
#2	3.336854	1.197828	.5518086	16.12136	6.529176	.4124277
#3	3.604241	1.163643	.5474498	15.48559	6.521102	.3960291

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4496-07A Acquired: 11/07/2024 18:39:26 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MGHZC8A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025058	21.59706	12.14918	.0096558	4.772057	.1962984
Stddev	.0006656	.04891	.32136	.0002917	.131624	.0046992
%RSD	26.56192	.2264539	2.645101	3.021188	2.758224	2.393919
#1	.0019561	21.56804	11.92907	.0093542	4.672804	.1931653
#2	.0032458	21.65352	12.51795	.0099365	4.921366	.2017016
#3	.0023155	21.56961	12.00051	.0096767	4.722003	.1940282

Elem	Sr4077
Units	ppm
Avg	1.170804
Stddev	.029864
%RSD	2.550741
#1	1.149309
#2	1.204904
#3	1.158199

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	878.5646	23226.45	2550.224	804.8941	1377.547
Stddev	1.0137	60.41	61.886	5.9724	1.100
%RSD	.1153800	.2600958	2.426706	.7420116	.0798255
#1	877.4815	23160.22	2587.248	800.0450	1378.201
#2	878.7217	23278.53	2478.779	803.0719	1376.277
#3	879.4905	23240.61	2584.644	811.5653	1378.163

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4497-20A Acquired: 11/07/2024 18:43:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHDD0A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0369866	-.007702	.1828449	.0482168	.0080601	119.8693
Stddev	.0194529	.004517	.0087669	.0060022	.0034957	.6805
%RSD	52.59445	58.65430	4.794716	12.44843	43.37068	.5676651
#1	.0576318	-.010735	.1729267	.0427723	.0112715	120.6193
#2	.0343287	-.002510	.1895592	.0546532	.0043365	119.6969
#3	.0189993	-.009860	.1860487	.0472249	.0085722	119.2916

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7960571	.0024428	.0124727	F 1249.079	2.382359	.2514611
Stddev	.0060307	.0002071	.0005240	16.572	.029514	.0015473
%RSD	.7575772	8.476915	4.201415	1.326777	1.238866	.6153181
#1	.8024496	.0023040	.0125327	1267.158	2.388871	.2502134
#2	.7952528	.0023435	.0119213	1234.606	2.350133	.2509774
#3	.7904688	.0026808	.0129642	1245.474	2.408074	.2531924

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2845782	297.4815	5.158535	271.0501	F 7.742212	-.002209
Stddev	.0015866	1.5617	.045009	1.5306	.032934	.000971
%RSD	.5575323	.5249883	.8725205	.5646785	.4253872	43.94708
#1	.2855704	299.1333	5.207659	272.5011	7.709396	-.002144
#2	.2827483	297.2821	5.148668	271.1983	7.741977	-.003210
#3	.2854158	296.0290	5.119278	269.4508	7.775263	-.001272

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.853785	.8297842	1.763925	9.748696	6.853388	.3244420
Stddev	.708243	.0201185	.018186	.069374	.054140	.0010549
%RSD	7.999323	2.424550	1.030993	.7116240	.7899723	.3251315
#1	9.481718	.8515805	1.770082	9.800672	6.805451	.3241558
#2	8.086075	.8119257	1.743460	9.775496	6.842604	.3235597
#3	8.993562	.8258466	1.778234	9.669919	6.912107	.3256104

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4497-20A Acquired: 11/07/2024 18:43:48 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHDD0A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024244	30.07818	7.371984	.0118591	6.496789	.1411589
Stddev	.0008629	.17681	.045422	.0029081	.032300	.0011034
%RSD	35.59284	.5878463	.6161389	24.52187	.4971721	.7817021
#1	.0019883	29.94827	7.422146	.0144431	6.533445	.1414485
#2	.0034183	30.00674	7.333637	.0124244	6.484422	.1420886
#3	.0018665	30.27954	7.360169	.0087099	6.472499	.1399395

Elem	Sr4077
Units	ppm
Avg	2.149267
Stddev	.018500
%RSD	.8607582
#1	2.170064
#2	2.143096
#3	2.134641

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	816.0893	21983.67	2469.984	751.2600	1325.459
Stddev	.8332	159.60	14.391	5.7652	2.587
%RSD	.1020935	.7259706	.5826343	.7674069	.1951762
#1	816.6253	21883.96	2453.462	748.0574	1327.933
#2	815.1294	22167.74	2476.706	757.9155	1325.673
#3	816.5133	21899.32	2479.783	747.8070	1322.772

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4498-10A Acquired: 11/07/2024 18:48:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHDF0A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008984	-.034969	.3609550	.0446993	.0066379	187.4321
Stddev	.017716	.007508	.0017019	.0028216	.0048684	3.2456
%RSD	197.1907	21.47145	.4714961	6.312408	73.34195	1.731592
#1	-.015179	-.032719	.3601620	.0471409	.0077699	191.1770
#2	-.022770	-.028843	.3629087	.0453466	.0013033	185.6839
#3	.010997	-.043345	.3597944	.0416102	.0108406	185.4354

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.410541	.0042821	.0154461	249.1868	4.376569	.5238851
Stddev	.028842	.0001480	.0004074	4.2528	.009127	.0014010
%RSD	2.044725	3.456226	2.637620	1.706682	.2085335	.2674252
#1	1.443800	.0041567	.0149781	253.9896	4.376167	.5251910
#2	1.395406	.0044454	.0157213	247.6719	4.385891	.5240590
#3	1.392417	.0042444	.0156389	245.8988	4.367651	.5224053

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4876181	467.0122	8.960876	474.0458	F 6.478323	-.025287
Stddev	.0155099	7.8714	.149902	7.3884	.003365	.000389
%RSD	3.180754	1.685486	1.672856	1.558582	.0519478	1.536654
#1	.5054616	475.9380	9.133192	482.4677	6.475909	-.025730
#2	.4800245	464.0345	8.888899	471.0144	6.482167	-.025125
#3	.4773681	461.0639	8.860537	468.6552	6.476893	-.025005

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.175564	1.199920	.5804660	13.22420	5.125269	.4369509
Stddev	.161593	.022061	.0021777	.15415	.009657	.0106063
%RSD	2.616648	1.838526	.3751682	1.165671	.1884176	2.427349
#1	5.989091	1.224541	.5829798	13.36554	5.114131	.4491643
#2	6.274549	1.193270	.5792646	13.24722	5.131306	.4316304
#3	6.263051	1.181950	.5791536	13.05983	5.130370	.4300580

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4498-10A Acquired: 11/07/2024 18:48:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHDF0A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036670	2.111776	8.353274	.0213085	12.71741	.1236058
Stddev	.0011294	.016586	.097254	.0017126	.22680	.0022222
%RSD	30.79982	.7854212	1.164258	8.037234	1.783375	1.797829
#1	.0044328	2.130313	8.458261	.0232335	12.97915	.1261520
#2	.0041985	2.106676	8.335299	.0199539	12.57883	.1220572
#3	.0023699	2.098338	8.266262	.0207380	12.59427	.1226082

Elem	Sr4077
Units	ppm
Avg	.9134975
Stddev	.0177740
%RSD	1.945703
#1	.9339888
#2	.9042489
#3	.9022549

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	869.8860	23373.20	2554.676	792.3280	1423.058
Stddev	2.6055	75.97	35.257	3.2718	3.722
%RSD	.2995270	.3250219	1.380084	.4129394	.2615222
#1	866.8813	23302.22	2516.882	788.5919	1419.333
#2	871.2553	23364.05	2560.467	793.7101	1423.064
#3	871.5214	23453.33	2586.678	794.6820	1426.776

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4499-20A Acquired: 11/07/2024 18:52:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHCN0A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0609697	-.005821	.1873371	-.005457	.0060653	128.7366
Stddev	.0201684	.006319	.0077734	.001451	.0046787	.1599
%RSD	33.07931	108.5547	4.149401	26.58973	77.13826	.1242314
#1	.0719241	-.012847	.1783649	-.006894	.0032617	128.8204
#2	.0732903	-.000604	.1916004	-.003992	.0034677	128.8371
#3	.0376946	-.004011	.1920460	-.005485	.0114665	128.5521

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.629300	.0042315	.0141860	F 1134.543	2.705097	1.104615
Stddev	.004590	.0000946	.0005191	5.431	.101189	.018583
%RSD	.2817331	2.234781	3.658999	.4787193	3.740675	1.682267
#1	1.627822	.0042875	.0135872	1134.520	2.766344	1.083459
#2	1.634447	.0042847	.0145076	1129.123	2.760646	1.112093
#3	1.625630	.0041223	.0144631	1139.986	2.588300	1.118294

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.335881	293.2385	5.899249	412.8294	4.976038	-.009316
Stddev	.004343	.3286	.010985	.6981	.082560	.003004
%RSD	.3251191	.1120473	.1862072	.1690910	1.659152	32.24542
#1	1.331043	292.8840	5.891339	412.1082	4.884931	-.008149
#2	1.339444	293.2987	5.911791	412.8784	4.997287	-.007071
#3	1.337155	293.5328	5.894617	413.5017	5.045897	-.012729

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.28233	.7605976	.9150821	15.24311	F 13.13056	.3192751
Stddev	.28103	.0082103	.0405358	.08221	.24962	.0007059
%RSD	2.115813	1.079452	4.429741	.5393479	1.901083	.2210924
#1	12.95962	.7584946	.9416762	15.17365	12.85495	.3186953
#2	13.47322	.7696549	.9351424	15.33388	13.19529	.3190689
#3	13.41415	.7536434	.8684277	15.22180	13.34144	.3200611

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4499-20A Acquired: 11/07/2024 18:52:40 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHCN0A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039301	11.31999	6.882955	.0256484	1.782514	.1004767
Stddev	.0004240	.19157	.050157	.0014059	.004194	.0003393
%RSD	10.78946	1.692289	.7287147	5.481533	.2352943	.3376921
#1	.0043046	11.10728	6.919935	.0240574	1.781586	.1002856
#2	.0034697	11.37382	6.903066	.0267235	1.787094	.1002760
#3	.0040159	11.47889	6.825863	.0261642	1.778861	.1008684

Elem	Sr4077
Units	ppm
Avg	2.391393
Stddev	.002113
%RSD	.0883392
#1	2.390193
#2	2.393833
#3	2.390154

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	852.0222	23438.28	2597.912	800.0060	1300.931
Stddev	8.8928	816.85	3.831	28.3901	18.775
%RSD	1.043734	3.485098	.1474499	3.548738	1.443163
#1	861.4428	22978.08	2593.755	781.7991	1321.516
#2	850.8505	22955.36	2598.682	785.5006	1296.525
#3	843.7733	24381.41	2601.300	832.7184	1284.751

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4500-10A Acquired: 11/07/2024 18:57:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHCP0A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.028215	-.021283	.1329442	-.003196	.0062573	173.3198
Stddev	.018180	.004125	.0018425	.003547	.0040780	.5321
%RSD	64.43575	19.38376	1.385937	110.9796	65.17181	.3069800
#1	-.019490	-.023862	.1327830	-.000543	.0103277	172.8329
#2	-.049113	-.016525	.1348621	-.007226	.0021717	173.2388
#3	-.016041	-.023461	.1311876	-.001820	.0062726	173.8877

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.094904	.0039133	.0148671	478.8023	3.578080	.4547080
Stddev	.004385	.0001815	.0001098	1.5051	.010418	.0007510
%RSD	.4005178	4.636911	.7387373	.3143481	.2911553	.1651638
#1	1.093559	.0038061	.0149135	477.1322	3.572341	.4555726
#2	1.091350	.0038110	.0149461	479.2207	3.571795	.4542177
#3	1.099805	.0041228	.0147417	480.0539	3.590106	.4543336

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4203570	412.0867	8.185180	383.5576	F 5.343237	-.019200
Stddev	.0061246	1.3393	.016166	1.0781	.007151	.000089
%RSD	1.456998	.3249985	.1974993	.2810753	.1338417	.4618741
#1	.4175602	410.6094	8.179660	382.4197	5.344847	-.019115
#2	.4161301	412.4293	8.172498	383.6895	5.349446	-.019292
#3	.4273807	413.2214	8.203383	384.5637	5.335418	-.019194

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.969424	1.135677	.5521912	11.26968	6.087045	.4027512
Stddev	.055577	.007056	.0038470	.10532	.021550	.0025292
%RSD	.7974446	.6212636	.6966703	.9345709	.3540330	.6279732
#1	7.024725	1.129580	.5480648	11.15021	6.080353	.3998632
#2	6.969975	1.134047	.5528299	11.34914	6.111147	.4038194
#3	6.913574	1.143405	.5556788	11.30968	6.069634	.4045710

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4500-10A Acquired: 11/07/2024 18:57:09 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHCP0A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001470	4.747557	9.157915	.0082198	10.70558	.1305841
Stddev	.0003116	.009264	.053774	.0017469	.03745	.0013889
%RSD	211.9742	.1951229	.5871846	21.25289	.3498020	1.063593
#1	-.000206	4.758212	9.095929	.0083715	10.66707	.1293318
#2	.000383	4.741413	9.185751	.0098859	10.70778	.1303425
#3	.000264	4.743046	9.192064	.0064019	10.74187	.1320779

Elem	Sr4077
Units	ppm
Avg	1.003373
Stddev	.003613
%RSD	.3600841
#1	1.001702
#2	1.000898
#3	1.007519

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	868.5590	23150.27	2581.244	789.8473	1396.605
Stddev	2.1261	64.36	7.364	3.7771	2.095
%RSD	.2447822	.2780095	.2852888	.4782074	.1500272
#1	866.8372	23159.67	2587.421	792.9906	1394.438
#2	867.9043	23209.41	2583.218	790.8941	1396.757
#3	870.9354	23081.72	2573.095	785.6572	1398.620

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4501-13A Acquired: 11/07/2024 19:01:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHCW0A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0119724	-.013116	.4655920	.0387251	.0991032	147.1007
Stddev	.0194794	.004745	.0081061	.0030031	.0015406	.2344
%RSD	162.7019	36.17682	1.741042	7.754814	1.554504	.1593520
#1	-.004333	-.009673	.4729506	.0378104	.1001198	147.3395
#2	.006707	-.011148	.4669226	.0420791	.0973307	147.0916
#3	.033543	-.018529	.4569029	.0362857	.0998590	146.8710

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6260008	.0035633	.0156094	F 1026.997	1.863933	.2896268
Stddev	.0020613	.0002478	.0002974	2.266	.003720	.0015192
%RSD	.3292789	6.954697	1.905564	.2206008	.1995878	.5245461
#1	.6283369	.0032825	.0157779	1028.486	1.862318	.2885960
#2	.6244380	.0037516	.0152659	1028.115	1.868187	.2889130
#3	.6252275	.0036556	.0157843	1024.390	1.861292	.2913715

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3751557	376.6565	4.477495	189.7823	F 6.755886	.0044712
Stddev	.0077605	.6161	.020610	.5507	.020468	.0003470
%RSD	2.068598	.1635764	.4603116	.2901536	.3029662	7.761049
#1	.3841002	377.3671	4.500810	190.3256	6.751666	.0041305
#2	.3702135	376.3315	4.469973	189.7970	6.737857	.0048242
#3	.3711533	376.2709	4.461703	189.2245	6.778135	.0044588

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.245229	1.043015	3.685882	18.07579	7.147942	.3797341
Stddev	.392999	.007404	.018719	.12546	.044586	.0015812
%RSD	5.424250	.7098877	.5078499	.6940687	.6237608	.4163940
#1	7.661977	1.051515	3.689894	18.03853	7.124242	.3814728
#2	6.881327	1.039562	3.665483	18.21566	7.120211	.3793472
#3	7.192381	1.037968	3.702270	17.97319	7.199373	.3783823

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4501-13A Acquired: 11/07/2024 19:01:31 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MBHCW0A Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012544	83.73250	11.56993	.0340230	4.585073	.1622335
Stddev	.0007471	.21521	.02289	.0016901	.015603	.0006449
%RSD	59.55852	.2570234	.1978546	4.967424	.3402914	.3975232
#1	.0004684	83.62141	11.55137	.0350890	4.603087	.1625061
#2	.0013393	83.59553	11.59551	.0320744	4.576304	.1614970
#3	.0019553	83.98055	11.56290	.0349057	4.575827	.1626972

Elem	Sr4077
Units	ppm
Avg	1.538083
Stddev	.002556
%RSD	.1662128
#1	1.540995
#2	1.536208
#3	1.537047

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	873.2284	23023.44	2585.357	795.3717	1377.575
Stddev	1.3107	45.26	2.647	4.2224	4.446
%RSD	.1500941	.1965967	.1023834	.5308683	.3227164
#1	871.7375	22971.70	2582.317	793.7737	1377.159
#2	874.1994	23055.72	2587.150	800.1599	1382.214
#3	873.7482	23042.89	2586.604	792.1816	1373.352

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4519-03ADLX2 Acquired: 11/07/2024 19:05:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2A Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0800860	-.024161	.3176737	.0062918	.0060318	77.55919	.7930471
Stddev	.0094383	.002624	.0065661	.0036454	.0003812	.18935	.0014529
%RSD	11.78522	10.86050	2.066920	57.93916	6.319990	.2441344	.1832097
#1	.0855524	-.026809	.3103164	.0033059	.0060068	77.37349	.7932037
#2	.0691876	-.024113	.3197660	.0103543	.0056637	77.55210	.7915222
#3	.0855180	-.021562	.3229386	.0052153	.0064249	77.75199	.7944154

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022829	.0050680	59.59879	.1541987	.0962369	.2691162	168.0015
Stddev	.0000939	.0001625	.24829	.0013124	.0010277	.0018361	.5448
%RSD	4.110762	3.205895	.4165972	.8510795	1.067908	.6822677	.3242651
#1	.0023205	.0050358	59.37132	.1543637	.0957892	.2696343	167.3942
#2	.0021761	.0052441	59.56139	.1554207	.0974126	.2706375	168.1630
#3	.0023522	.0049240	59.86365	.1528116	.0955090	.2670767	168.4471

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.963196	38.50428	.1432358	-.012347	1.817042	.3330244	.3783419
Stddev	.011257	.13940	.0012106	.000236	.174591	.0062871	.0019458
%RSD	.2268062	.3620392	.8451789	1.910343	9.608549	1.887868	.5143003
#1	4.950228	38.36518	.1446327	-.012467	1.688111	.3402777	.3799257
#2	4.970446	38.50367	.1424910	-.012076	1.747289	.3296603	.3789301
#3	4.968914	38.64398	.1425838	-.012500	2.015727	.3291352	.3761698

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.35456	5.319466	.1622567	-.000047	.8085177	8.347425	.0029255
Stddev	.03321	.024591	.0005891	.000385	.0111244	.021277	.0023465
%RSD	.1421999	.4622902	.3630559	820.9317	1.375898	.2548877	80.20629
#1	23.38509	5.301788	.1618849	-.000305	.7973108	8.342067	.0023890
#2	23.35938	5.309061	.1629359	-.000231	.8195577	8.370868	.0054938
#3	23.31920	5.347550	.1619492	.000396	.8086845	8.329339	.0008938

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: P4519-03ADLX2 Acquired: 11/07/2024 19:05:51 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: MYE4K2A Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.557564	.0578688	.2489409
Stddev	.006809	.0005681	.0003681
%RSD	.2662467	.9816538	.1478758
#1	2.549863	.0573808	.2486200
#2	2.562790	.0577331	.2488600
#3	2.560038	.0584924	.2493428

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	941.6794	24020.23	2592.246	857.0763	1630.940
Stddev	2.2635	40.53	4.601	1.8068	2.198
%RSD	.2403737	.1687474	.1774892	.2108051	.1347919
#1	943.9632	24052.29	2596.000	855.2094	1633.474
#2	941.6383	23974.67	2587.113	858.8162	1629.554
#3	939.4366	24033.74	2593.624	857.2034	1629.790

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCV030 Acquired: 11/07/2024 19:10:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV030 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.975025	4.777453	24.53277	4.738561	4.806099	398.1931	9.916441
Stddev	.017638	.008084	.02529	.013799	.011112	12.1073	.302033
%RSD	.3545337	.1692086	.1030743	.2911985	.2312117	3.040571	3.045780
#1	4.965950	4.783652	24.51367	4.725276	4.813113	404.3685	10.04855
#2	4.963772	4.768310	24.52319	4.737585	4.793287	384.2432	9.57086
#3	4.995353	4.780398	24.56144	4.752821	4.811897	405.9674	10.12991

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5017085	2.485571	399.3235	15.06854	2.495687	14.58865	406.6296
Stddev	.0110371	.002500	11.9002	.39249	.002518	.44601	11.9131
%RSD	2.199893	.1005910	2.980079	2.604723	.1009051	3.057217	2.929728
#1	.5043485	2.482927	405.8939	14.62531	2.492846	14.79403	413.0002
#2	.4895908	2.485890	385.5867	15.37207	2.497643	14.07696	392.8857
#3	.5111861	2.487896	406.4899	15.20823	2.496572	14.89497	414.0029

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.45875	385.0547	2.486810	1.236950	402.6593	2.441559	14.30289
Stddev	.44090	11.4140	.002367	.035561	12.0784	.064677	.50289
%RSD	3.049332	2.964253	.0951943	2.874890	2.999649	2.649014	3.516002
#1	14.64188	390.2743	2.484355	1.197852	409.6915	2.475956	13.74922
#2	13.95580	371.9642	2.486997	1.267365	388.7126	2.366952	14.73134
#3	14.77857	392.9257	2.489078	1.245633	409.5739	2.481770	14.42810

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	150.5661	4.977297	5.066995	4.746722	5.026217	4.960119	4.947551
Stddev	4.5360	.008736	.114807	.013048	.021487	.099587	.003653
%RSD	3.012642	.1755149	2.265778	.2748846	.4274983	2.007757	.0738379
#1	152.6381	4.971514	5.103498	4.750402	5.036976	4.991141	4.944582
#2	145.3641	4.987346	4.938375	4.732229	5.001476	4.848713	4.946441
#3	153.6961	4.973030	5.159113	4.757535	5.040199	5.040503	4.951631

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCV030 Acquired: 11/07/2024 19:10:18 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV030 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.877011	5.014489	4.943990
Stddev	.132490	.149638	.149914
%RSD	2.716628	2.984107	3.032256
#1	4.943392	5.088009	5.009751
#2	4.724452	4.842313	4.772434
#3	4.963188	5.113146	5.049786

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	722.2230	20697.30	2305.310	648.3627	1341.471
Stddev	1.3808	419.81	57.701	18.7512	.975
%RSD	.1911890	2.028325	2.502971	2.892087	.0727148
#1	721.2053	21165.16	2273.596	669.0018	1340.632
#2	723.7948	20353.51	2371.913	632.3749	1342.542
#3	721.6689	20573.22	2270.422	643.7114	1341.239

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCB030 Acquired: 11/07/2024 19:14:30 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB030 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003036	-.002285	-.000680	.0031004	.0013151	.0080318	.0002699
Stddev	.005707	.000425	.002357	.0030273	.0007762	.0073078	.0002505
%RSD	187.9609	18.61973	346.3561	97.64371	59.02150	90.98597	92.81224
#1	-.009429	-.002739	-.002382	.0065711	.0005135	.0031278	.0001348
#2	-.001226	-.001896	-.001669	.0017254	.0020632	.0164307	.0005589
#3	.001546	-.002220	.002009	.0010045	.0013686	.0045368	.0001159

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000015	.0000292	.0794768	.0009433	.0004864	.0005407	-.009021
Stddev	.000038	.0001389	.0058609	.0012319	.0003539	.0059356	.045487
%RSD	252.6055	475.3444	7.374401	130.5984	72.76958	1097.676	504.2518
#1	-.000058	-.000117	.0842956	-.000473	.0006938	.0050939	.028085
#2	.000004	.000045	.0729522	.001765	.0000777	.0027007	.004620
#3	.000010	.000160	.0811825	.001538	.0006876	-.006172	-.059768

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012259	-.063775	-.000667	.0009438	.4233176	.0034455	.0013699
Stddev	.0016832	.020157	.000392	.0002191	.2329843	.0065854	.0003409
%RSD	137.2980	31.60621	58.80267	23.21312	55.03771	191.1317	24.88450
#1	.0031652	-.041543	-.000582	.0006919	.2160470	.0105967	.0010115
#2	.0001445	-.080857	-.000325	.0010502	.3784239	.0021088	.0016901
#3	.0003681	-.068924	-.001095	.0010895	.6754818	-.002369	.0014080

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.156431	.0009211	.0042614	.0002888	.0005759	.0015342	.0031630
Stddev	.097688	.0028746	.0001670	.0005897	.0048049	.0003529	.0006333
%RSD	62.44775	312.0911	3.919478	204.1812	834.2873	23.00365	20.02244
#1	-.259436	.0040671	.0040831	-.000386	.0004920	.0013040	.0038938
#2	-.144745	-.001569	.0042870	.000707	-.004186	.0019405	.0028204
#3	-.065112	.000265	.0044142	.000544	.005422	.0013580	.0027747

Reviewed By:Mohan
On:11/8/2024 8:03:53 AM
Inst Id :P5

Sample Name: CCB030 Acquired: 11/07/2024 19:14:30 Type: Unk
Method: SFAM01.1 INSTRUMENT P5 WITH 6 POINT ICAL(v712) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB030 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0024868	.0078479	.0003519
Stddev	.0004962	.0019529	.0001559
%RSD	19.95333	24.88435	44.30747
#1	.0022327	.0100769	.0004868
#2	.0030586	.0070287	.0001812
#3	.0021692	.0064380	.0003878

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	892.8702	22409.60	2384.644	809.7736	1759.040
Stddev	2.0061	16.74	13.382	5.8367	3.903
%RSD	.2246839	.0747057	.5611746	.7207801	.2218979
#1	892.1825	22393.92	2373.129	804.2208	1754.685
#2	895.1297	22427.23	2381.479	815.8578	1762.224
#3	891.2983	22407.64	2399.325	809.2421	1760.211

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Prep Standard - Chemical Standard Summary

Order ID : P4519

Test : Metals CLP Full

Prepbatch ID : PB164457,

Sequence ID/Qc Batch ID: LB133243,LB133346,

Standard ID :

MP81119,MP82127,MP82441,MP82442,MP82443,MP82444,MP82445,MP82446,MP82450,MP82451,MP82452,MP82453,MP82455,MP82456,MP82631,MP82632,MP82711,MP82731,MP83014,MP83134,MP83136,MP83137,MP83138,MP83139,MP83140,MP83141,MP83142,MP83143,MP83144,MP83145,MP83146,MP83148,MP83149,MP83156,

Chemical ID :

M4960,M5130,M5192,M5218,M5223,M5288,M5289,M5295,M5296,M5390,M5394,M5395,M5429,M5467,M5473,M5476,M5498,M5513,M5515,M5519,M5634,M5658,M5697,M5698,M5747,M5748,M5751,M5768,M5769,M5798,M5799,M5800,M5801,M5802,M5806,M5814,M5815,M5816,M5817,M5818,M5819,M5820,M5875,M5935,M5960,M5961,M5962,M5970,M5976,M5978,M5982,M5984,M5985,M5990,M5999,M6021,M6023,M6025,M6028,M6030,M6033,M6037,M6040,M6095,M6097,M6111,M6115,M6117,W2606,W3112,

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Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
169	1:1HNO3	MP81119	06/21/2024	04/24/2025	Al-Terek Isaac	METALS_SCALE_2 (M SC-2)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/21/2024

FROM 1250.00000ml of M5935 + 1250.00000ml of W2606 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP82127	09/03/2024	02/08/2025	Janvi Patel	None	None	Sarabjit Jaswal 09/03/2024

FROM 1250.00000ml of M6040 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

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Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP82441	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 125.00000ml of M6040 + 2350.00000ml of W3112 + 25.00000ml of M6037 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2480	ICP AES STD 6 ISM01.3	MP82442	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 4.00000ml of M5289 + 4.00000ml of M5498 + 4.00000ml of M5515 + 4.00000ml of M5769 + 4.00000ml of M5806 + 30.00000ml of MP82441 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1004	ICPAES ISM01.2 (S5)	MP82443	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.25000ml of M5798 + 0.50000ml of M5429 + 0.50000ml of M5473 + 0.50000ml of M5815 + 0.50000ml of M5817 + 12.50000ml of M5519 + 12.50000ml of M5698 + 12.50000ml of M5806 + 12.50000ml of M5819 + 13.75000ml of M5697 + 14.50000ml of M5515 + 14.50000ml of M5658 + 14.50000ml of M6033 + 2.00000ml of M5513 + 22.50000ml of M5498 + 22.50000ml of M5769 + 5.00000ml of M5296 + 5.00000ml of M5394 + 5.00000ml of M5802 + 5.00000ml of M5818 + 5.00000ml of M5875 + 303.50000ml of MP82441 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1005	ICPAES ISM01.2(S4)	MP82444	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 250.00000ml of MP82441 + 250.00000ml of MP82443 = Final Quantity: 500.000 ml

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
1007	ICPAES ISM01.2(S3)	MP82445	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of MP82443 + 75.00000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1008	ICPAES ISM01.2(S2)	MP82446	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 12.50000ml of MP82443 + 87.50000ml of MP82441 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2054	ICV-ICPAES	MP82450	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.50000ml of M5218 + 0.50000ml of M5816 + 0.50000ml of M5820 + 0.50000ml of M5970 + 0.50000ml of M5982 + 10.00000ml of M5295 + 87.50000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP82451	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of M5130 + 225.00000ml of MP82441 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
905	ICP AES ICSAB SOLN	MP82452	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of M5130 + 25.00000ml of M5223 + 200.00000ml of MP82441 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1119	ICPAES ISM01.2(CCV)	MP82453	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.75000ml of M5498 + 0.75000ml of M5769 + 1.22500ml of M6033 + 1.25000ml of M5515 + 1.25000ml of M5806 + 19.77500ml of MP82441 + 25.00000ml of MP82443 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP82455	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 1.00000ml of M5984 + 10.00000ml of M4960 + 1969.00000ml of W3112 + 20.00000ml of M6037 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP82456	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 200.00000ml of M6037 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
994	ICPAES ISM01.2 S1 (CONC.)	MP82631	10/02/2024	10/23/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/02/2024

FROM 0.02000ml of M5815 + 0.03000ml of M5429 + 0.10000ml of M5798 + 0.10000ml of M6028 + 0.14000ml of M5799 + 0.20000ml of M5473 + 0.20000ml of M5515 + 0.20000ml of M5658 + 0.20000ml of M5801 + 0.20000ml of M5817 + 0.20000ml of M5976 + 0.20000ml of M6025 + 0.20000ml of M6030 + 0.30000ml of M5698 + 0.40000ml of M6033 + 0.50000ml of M5697 + 0.50000ml of M6023 + 0.70000ml of M5962 + 0.80000ml of M5961 + 1.00000ml of M5800 + 1.00000ml of M6021 + 1.20000ml of M5802 + 1.20000ml of M5819 + 10.00000ml of M5498 + 10.00000ml of M5519 + 10.00000ml of M5769 + 10.00000ml of M5806 + 10.00000ml of M5818 + 2.00000ml of M5978 + 4.00000ml of M5390 + 34.24000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1003	ICPAES ISM01.2 S1	MP82632	10/02/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/02/2024

FROM 0.50000ml of MP82631 + 87.50000ml of MP82441 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP82711	10/07/2024	10/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/07/2024

FROM 0.00300ml of M6028 + 0.03000ml of M5798 + 0.05000ml of M5515 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6033 + 0.06000ml of M5747 + 0.10000ml of M5697 + 0.10000ml of M5698 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M5982 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5819 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M5802 + 0.50000ml of M5390 + 0.50000ml of M5814 + 1.00000ml of M5192 + 1.00000ml of M5288 + 1.00000ml of M5498 + 1.00000ml of M5769 + 1.00000ml of M5806 + 1.00000ml of M5978 + 2.00000ml of M5816 + 2.00000ml of M5818 + 77.68000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
921	ICPAES SPIKE SOL#6	MP82731	10/04/2024	10/31/2024	Sarabjit Jaswal	METALS_SCALE_2 (M SC-2)	METALS_PIPETTE_3 (A)	Mohan Bera 10/08/2024

FROM 2.50000ml of M5962 + 50.00000ml of M5990 + 50.00000ml of M5999 + 147.50000ml of MP82441 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP83014	11/02/2024	11/25/2024	Sarabjit Jaswal	None	None	Mohan Bera 11/04/2024

FROM 25.00000ml of M6095 + 4925.00000ml of W3112 + 50.00000ml of M6115 = Final Quantity: 5000.000 ml

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

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Metals STANDARD PREPARATION LOG

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

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

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Metals STANDARD PREPARATION LOG

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

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

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Metals STANDARD PREPARATION LOG

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

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1003	ICPAES ISM01.2 S1	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

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

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Metals STANDARD PREPARATION LOG

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

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

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Metals STANDARD PREPARATION LOG

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

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
996	PB 100PPM	MP83156	11/07/2024	11/25/2024	Sarabjit Jaswal	None	None	Mohan Bera 11/08/2024

FROM 1.00000ml of M5513 + 9.00000ml of MP83014 = Final Quantity: 10.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	100721	10/07/2024	10/09/2021 / jaswal	10/08/2021 / jaswal	M4960

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5130

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5223

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Aluminum (Al) 10,000PPM	070622	07/06/2025	09/02/2022 / jaswal	07/12/2022 / jaswal	M5289

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	02/05/2025	08/07/2024 / jaswal	02/20/2020 / bin	M5295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	11/28/2022 / bin	09/19/2022 / bin	M5394

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	01/30/2024 / bin	09/19/2022 / bin	M5395

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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.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57138 / Sr, 10000 PPM, 125 ml	082922	08/29/2025	03/16/2023 / jaswal	03/16/2023 / jaswal	M5473

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57138 / Sr, 10000 PPM, 125 ml	082922	08/09/2025	07/29/2024 / jaswal	03/16/2023 / jaswal	M5476

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57182 / Pb, 10000 PPM, 125 ml	061522	06/15/2025	03/19/2023 / bin	03/17/2023 / bin	M5513

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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.	58126 / Fe, 10000 PPM, 500 ml	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57119 / Potassium (K) 10,000PPM	120822	12/08/2025	01/08/2024 / bin	03/17/2023 / bin	M5519

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1403 / Hydrogen Peroxide, 30% 1 gal	820803	02/03/2025	04/18/2024 / jaswal	08/03/2022 / Al-Terek	M5634

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

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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.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

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.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	05/24/2024 / Jaswal	01/03/2024 / bin	M5769

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

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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.	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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

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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.	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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	12/08/2024	06/21/2024 / Al-Terek	06/07/2024 / Al-Terek	M5935

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57028 / Ni, 1000 PPM, 125 ml	041124	04/11/2027	07/03/2024 / 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.	57028 / Ni, 1000 PPM, 125 ml	041124	04/11/2027	07/02/2024 / Jaswal	06/11/2024 / Jaswal	M5961

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	07/01/2024 / Jaswal	07/01/2024 / Jaswal	M5970

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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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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-1 / SOIL/WATER SPIKE SOLN 1, 125mL	T2-MEB721963	07/27/2027	09/04/2024 / Jaswal	02/22/2024 / kareem	M5999

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57082 / Pb, 1000 PPM, 125 ml	061224	06/12/2027	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	01/25/2019 / Jaswal	M6028

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	02/02/2025	08/24/2024 / Janvi	08/01/2024 / Janvi	M6037

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	24D1562005	02/08/2025	08/09/2024 / jaswal	08/01/2024 / Janvi	M6040

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)		03/17/2029	10/26/2024 / Janvi	10/21/2024 / Janvi	M6095

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	10/24/2024 / Janvi	09/21/2024 / Janvi	M6097

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	05/04/2025	11/02/2024 / Janvi	09/29/2024 / Eman	M6115

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 #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-SPK-5
Lot Number:	V2-MEB742037
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	100 µg/mL ea: Antimony,
	50 µg/mL ea: Selenium, Cadmium, Thallium,
	40 µg/mL ea: Arsenic,
	20 µg/mL ea: Lead

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.7 µg/mL	Arsenic, As	40.00 ± 0.26 µg/mL
Cadmium, Cd	49.99 ± 0.22 µg/mL	Lead, Pb	19.99 ± 0.09 µg/mL
Selenium, Se	50.00 ± 0.23 µg/mL	Thallium, Tl	50.00 ± 0.22 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Cd	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 12, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 12, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R 8/5/24

M6028

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

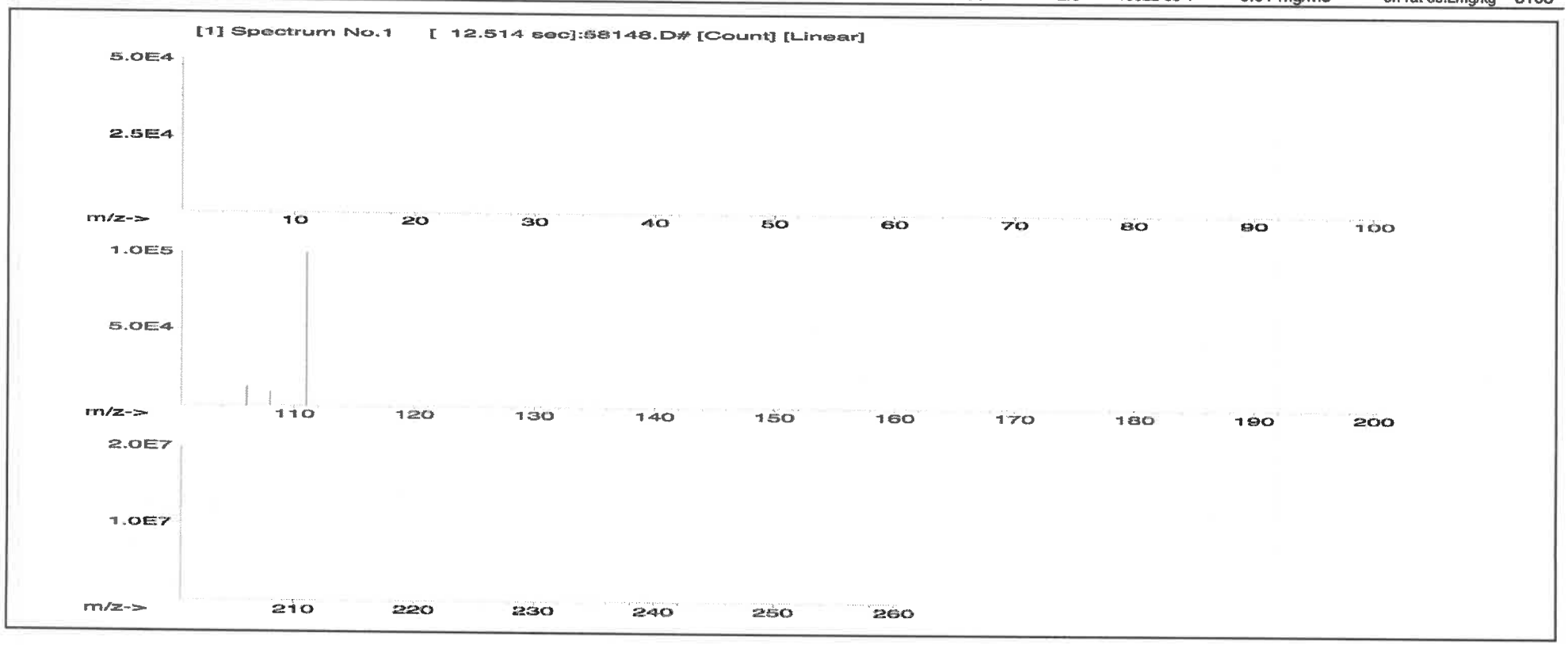
CERTIFIED WEIGHT REPORT:

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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Refine your results. Redefine your industry.

Certificate of Analysis

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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:	CHEM-CLP-4
Lot Number:	S2-MEB711673
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 6 µg/mL**	**Molybdenum, Mo**	**1 000 ± 6 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 6 µg/mL**
Titanium, Ti	**1 000 ± 7 µg/mL**		

Density: 1.030 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 02, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**2 000 ± 7 µg/mL**	**Barium, Ba**	**2 000 ± 9 µg/mL**
Beryllium, Be	**50.00 ± 0.26 µg/mL**	**Calcium, Ca**	**5 000 ± 22 µg/mL**
Chromium, Cr	**200.0 ± 1.0 µg/mL**	**Cobalt, Co**	**500.0 ± 2.4 µg/mL**
Copper, Cu	**250.0 ± 1.0 µg/mL**	**Iron, Fe**	**1 000 ± 4 µg/mL**
Magnesium, Mg	**5 000 ± 20 µg/mL**	**Manganese, Mn**	**500.0 ± 2.0 µg/mL**
Nickel, Ni	**500.0 ± 2.2 µg/mL**	**Potassium, K**	**5 000 ± 19 µg/mL**
Silver, Ag	**250.0 ± 1.1 µg/mL**	**Sodium, Na**	**5 000 ± 18 µg/mL**
Vanadium, V	**499.7 ± 2.2 µg/mL**	**Zinc, Zn**	**500.0 ± 2.2 µg/mL**

Density: 1.118 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

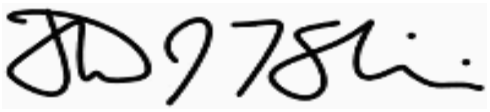
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-3
Lot Number:	T2-MEB714159
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 500 µg/mL ea: Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**1 000 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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"

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- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 13, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

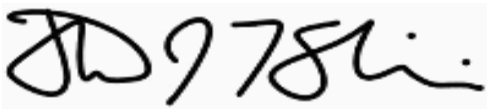
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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

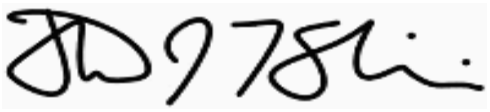
- Sealed TCT Bag Open Date: _____

- 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



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

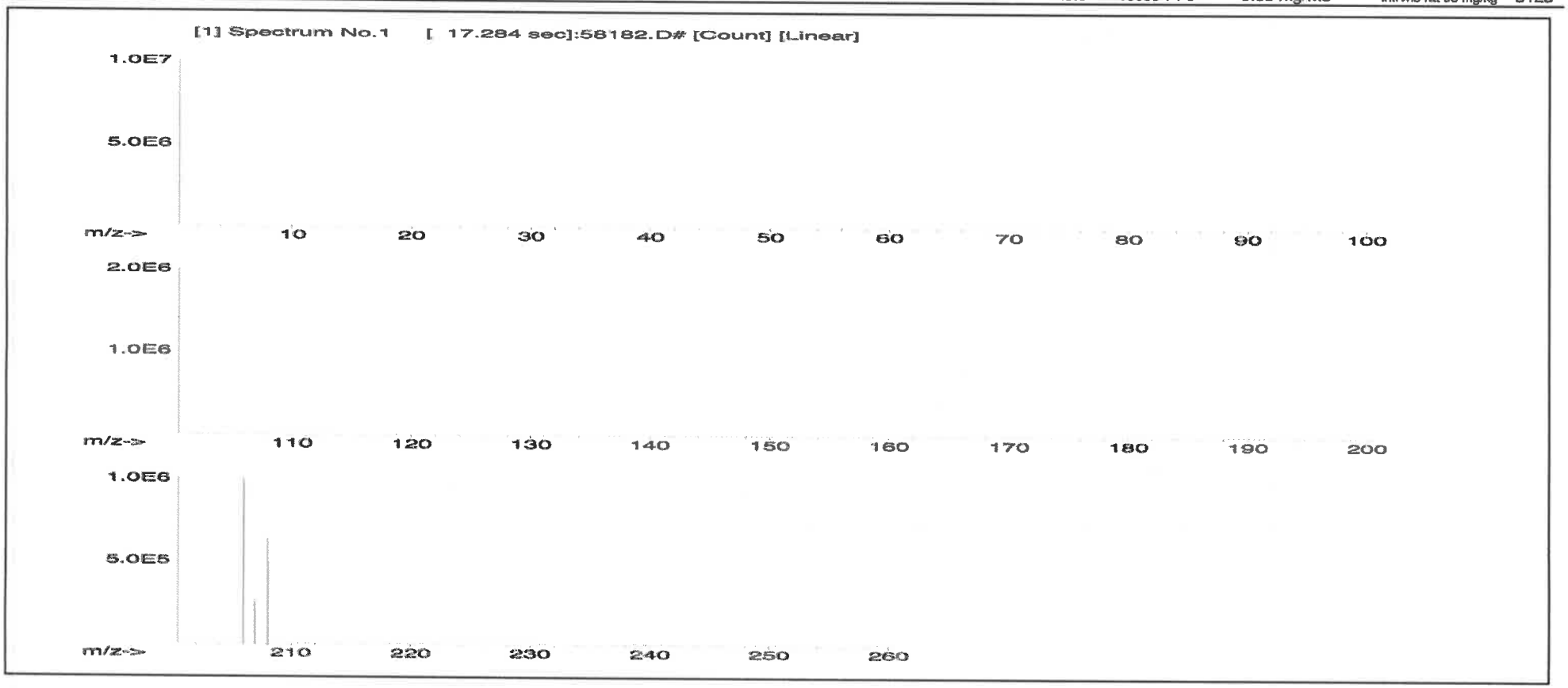
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

		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).

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www.absolutestandards.com

Certified Reference Material CRM

M4960 R: 10/08/21 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58149
Lot Number: 100721
Description: Indium (In)

Expiration Date: 100724
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

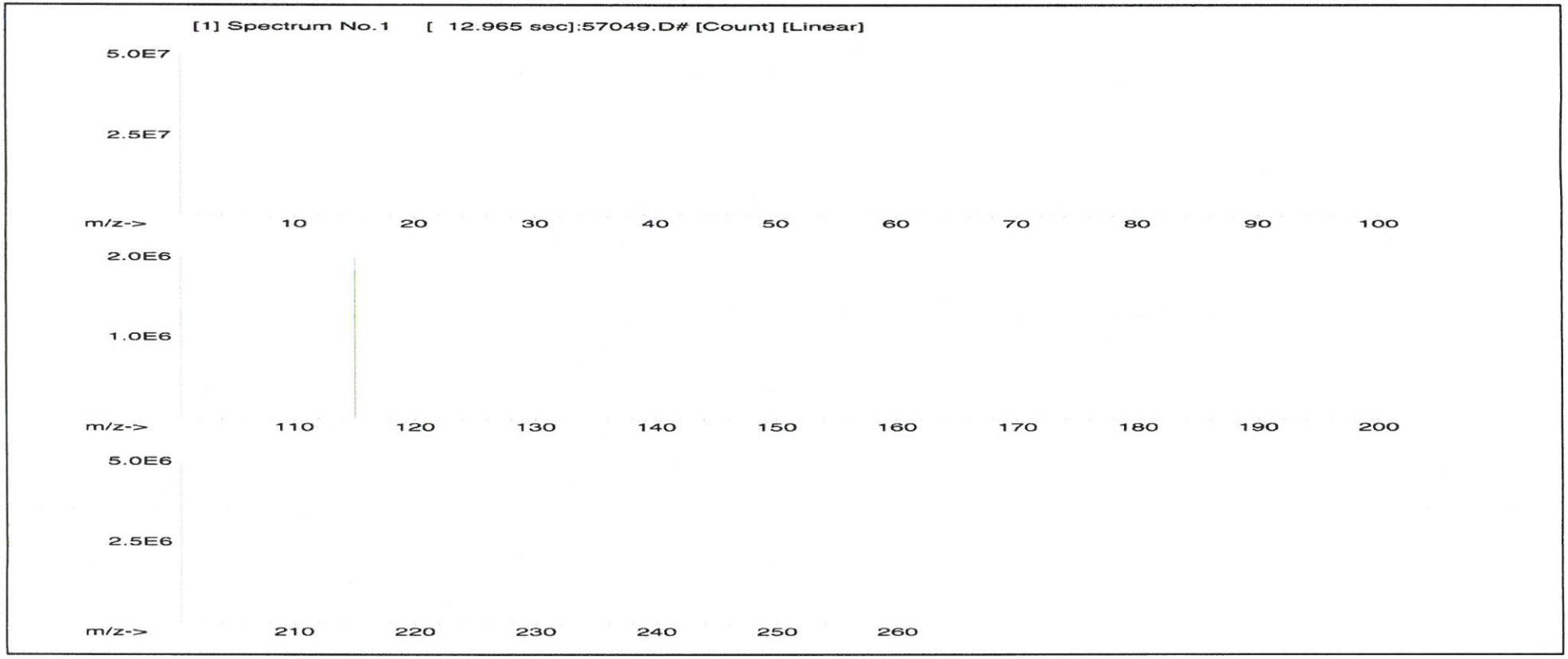
Weight shown below was diluted to (mL): 500.06 0.058 Flask Uncertainty

	Lot #		
Solvent:	20370011	Nitric Acid	
5%	25.0 (mL)	Nitric Acid	
		5E-05	Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	100721
Reviewed By:	Pedro L. Rentas	100721

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Indium Oxide (In)	IN086	W1096A	10000	99.999	0.10	82.6	6.05408	6.05441	**10000.6**	**20.1**	1312-43-2	NA	NA	3124a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	T	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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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Certified Reference Material CRM

M5192 R: 06/17/22

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

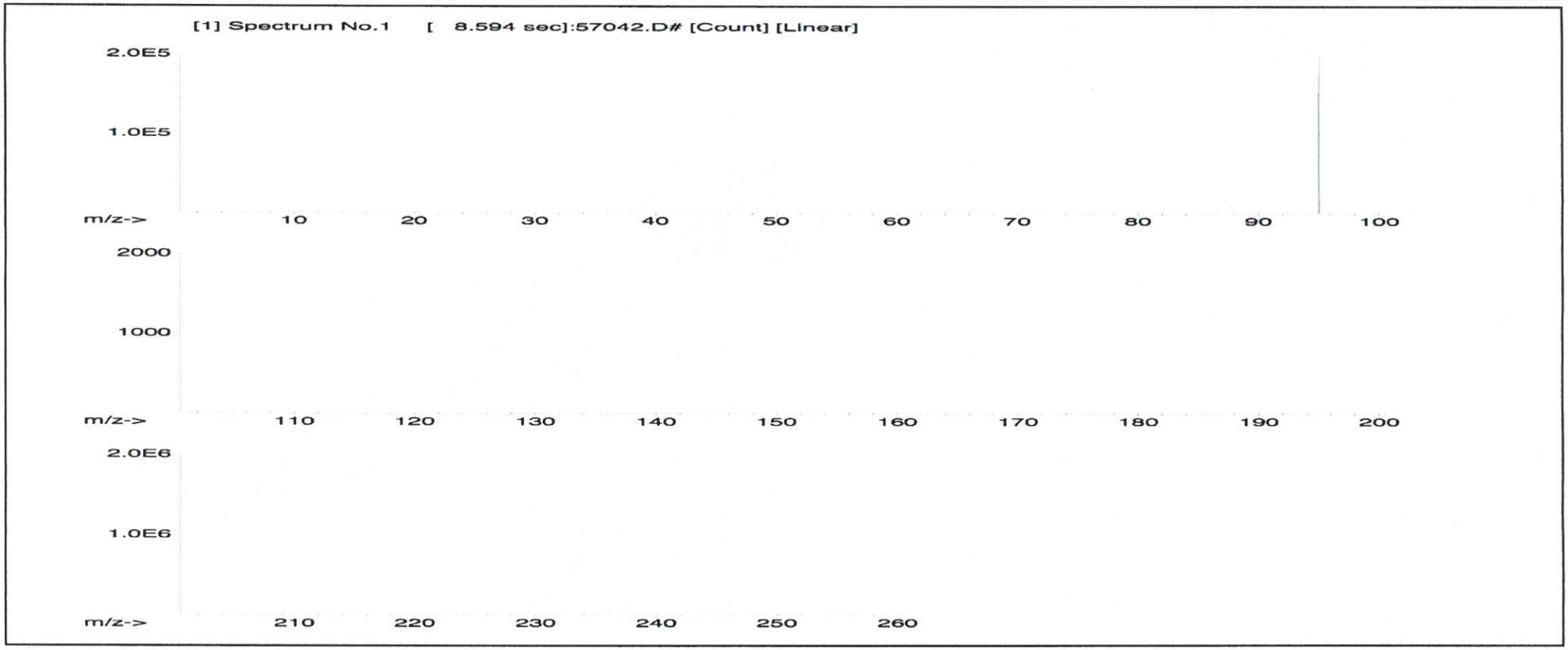
Part Number: 57042
Lot Number: 051722
Description: Molybdenum (Mo)

	Lot #	Solvent:	
	MKBQ8597V	Ammonium hydroxide	
	0.5%	15.0 (mL)	Ammonium hydroxide

Expiration Date: 051725
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Volume shown below was diluted to (mL): 3000.41 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	051722
Reviewed By:	Pedro L. Rentas	051722

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium molybdate (Mo)	58142	022222	0.1000	300.0	0.084	1000	10001.0	**1000.0**	**2.1**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	T	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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.

V15200 R: 04/24/22 (BP)

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

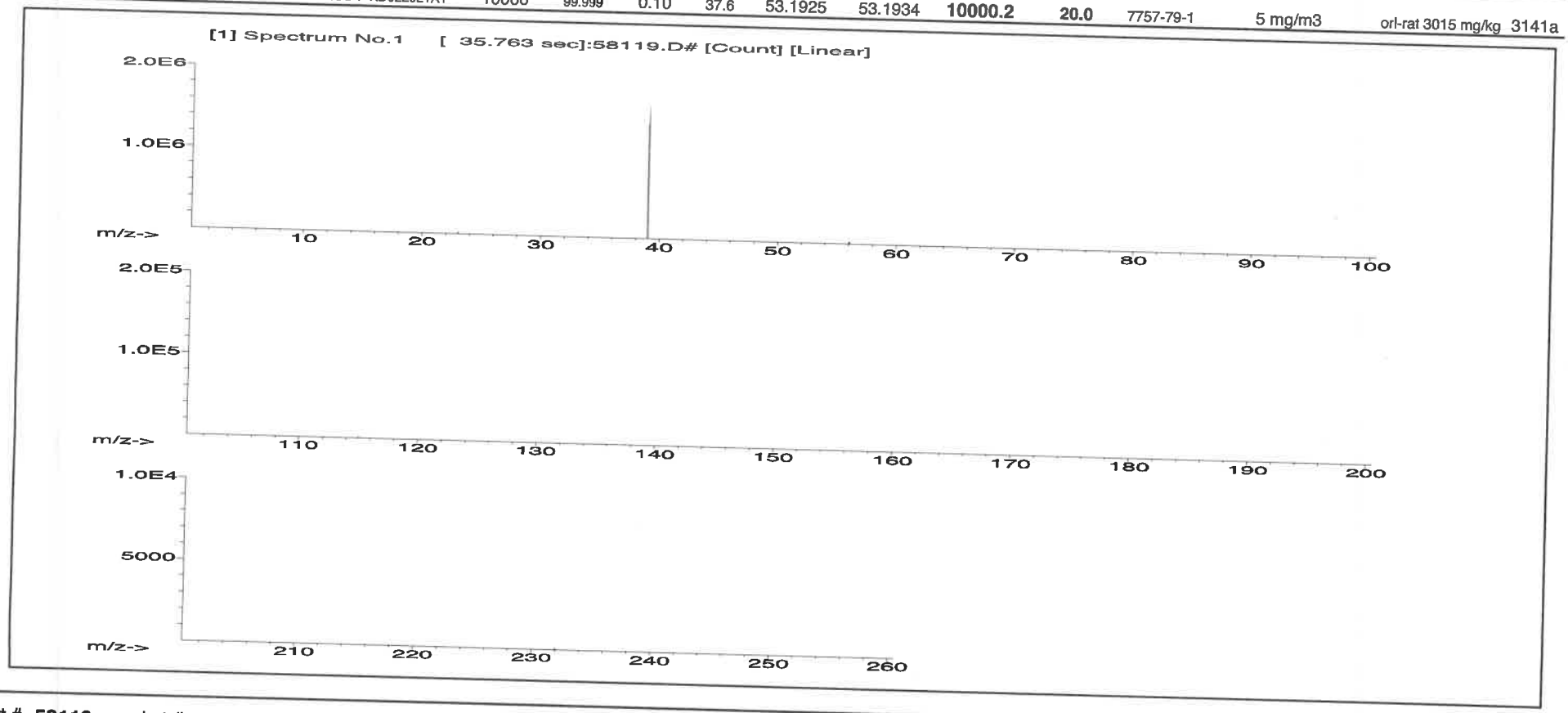
Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

Expiration Date: 071125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

		Lot #	
Solvent:	20510011		Nitric Acid
2%	40.0 (mL)		Nitric Acid
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	071122
Reviewed By:	Pedro L. Rentas	071122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	**10000.2**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M5289 R: 07/12/22 (BH)

Certified Reference Material CRM

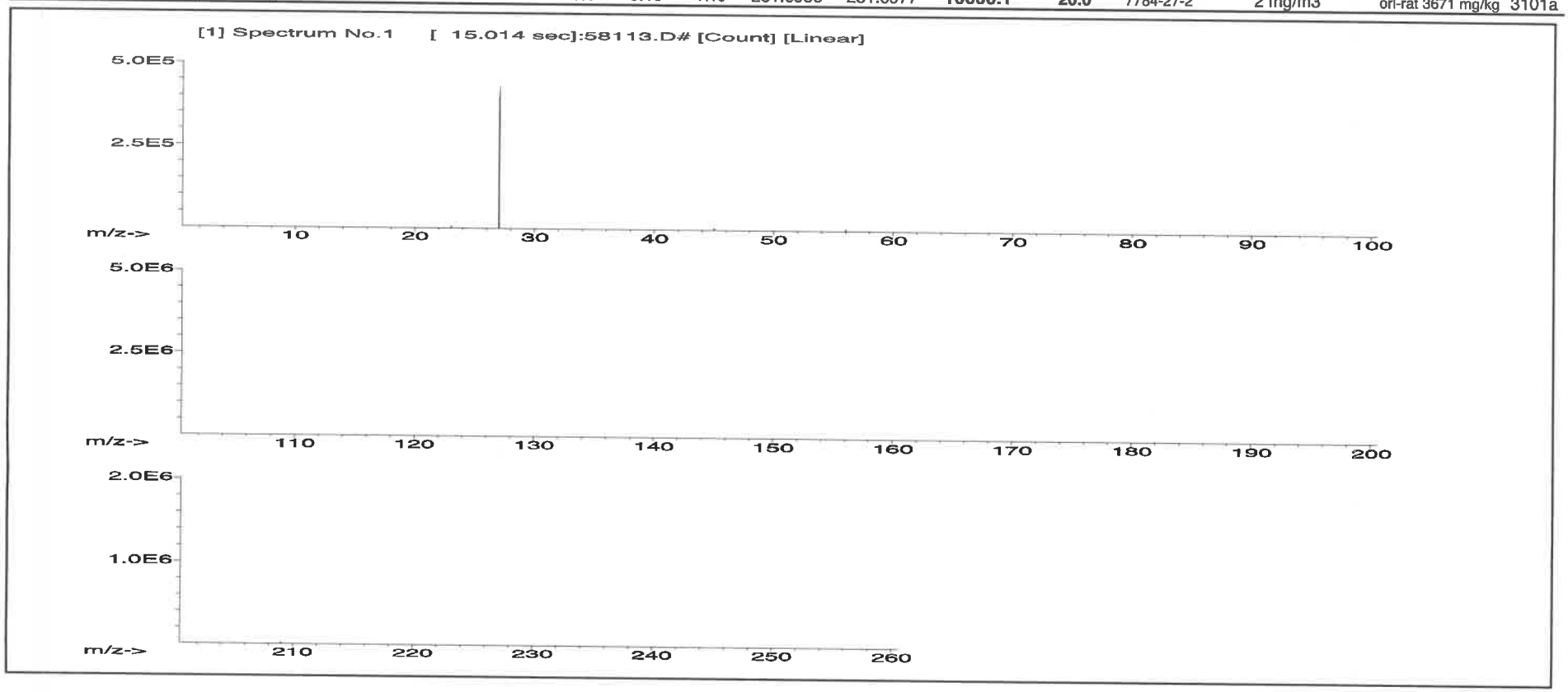
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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)

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M5387 . M5389 . M5390 . M5391 . M5392

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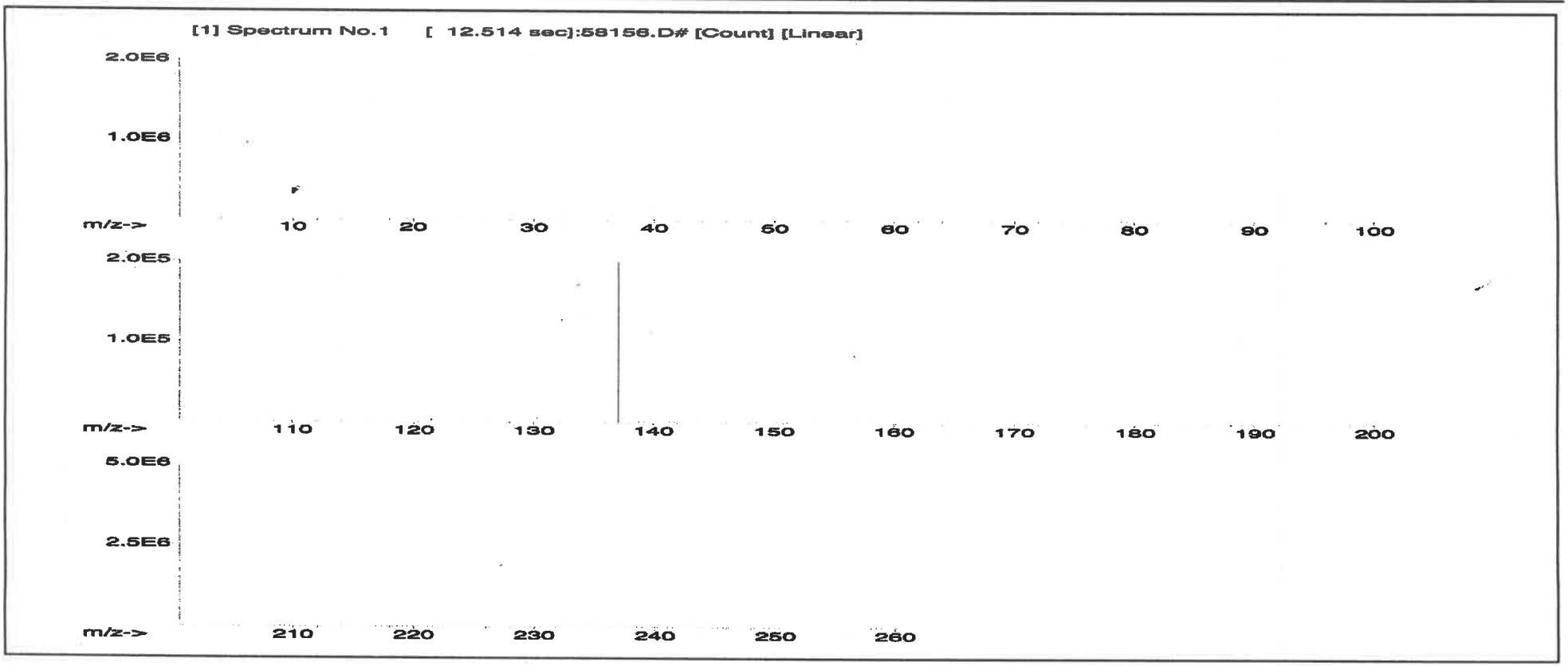
CERTIFIED WEIGHT REPORT:

		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.
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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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M5429 R1 01/26/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

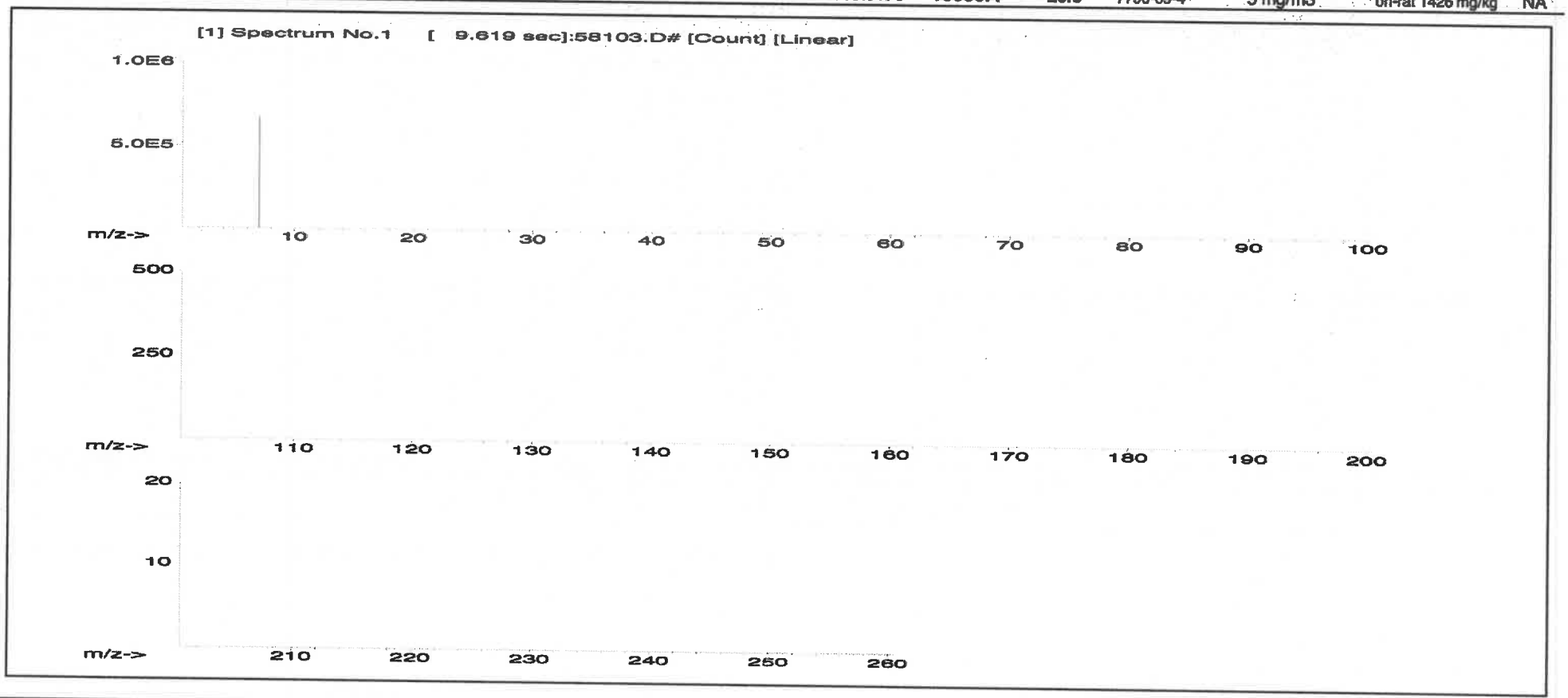
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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.

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* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M5467 R: 03/01/23 (LA)

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CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

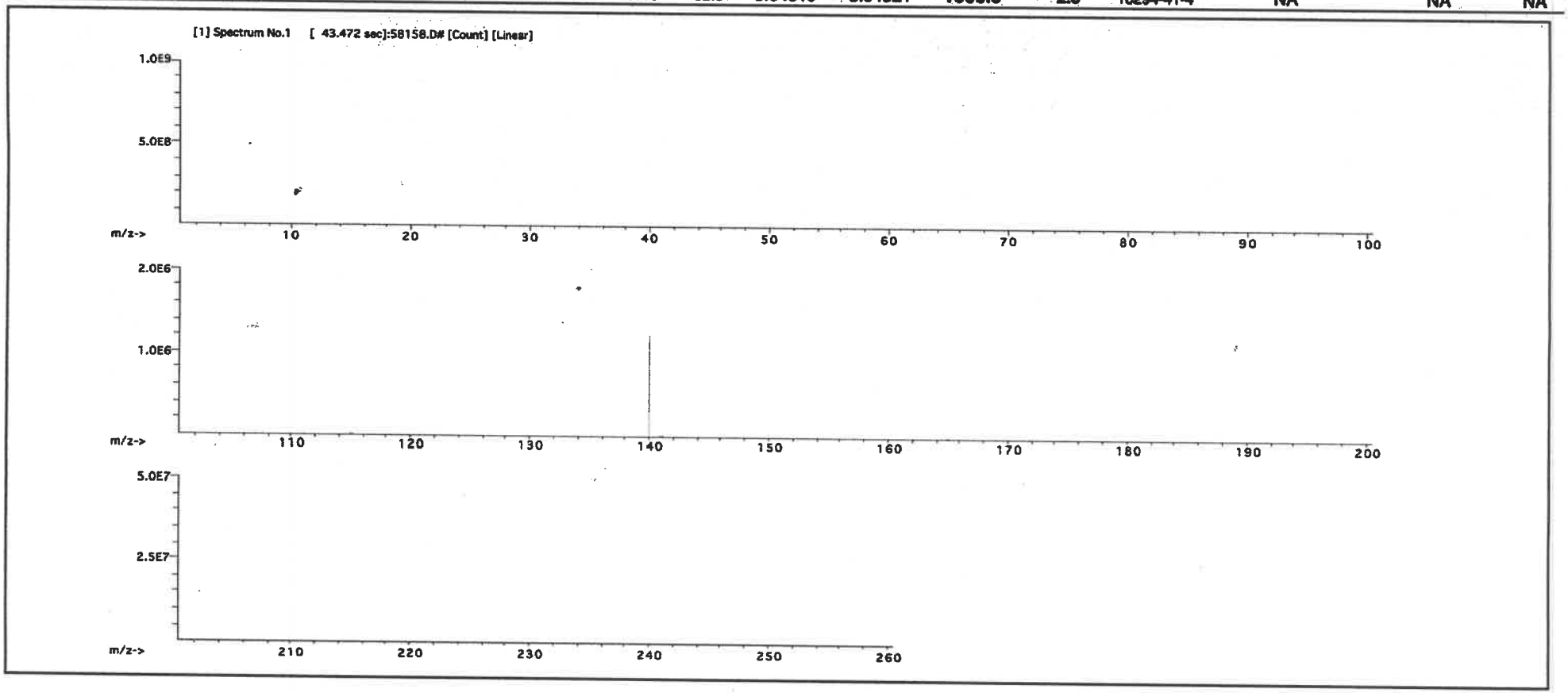
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	**1000.0**	**2.0**	10294-41-4	NA	NA	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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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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IN5497 - IN5498 R: 03/17/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

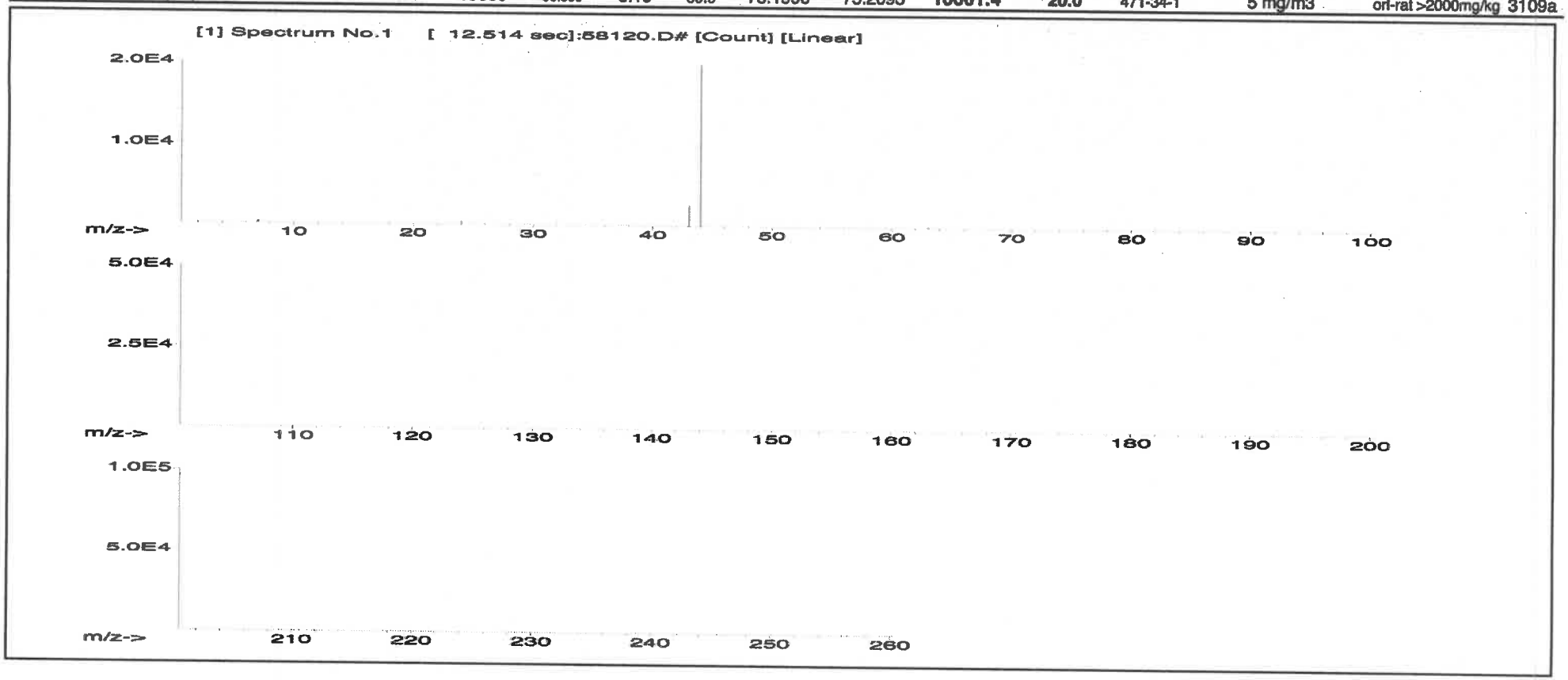
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 ± 0.058 Flask Uncertainty

		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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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

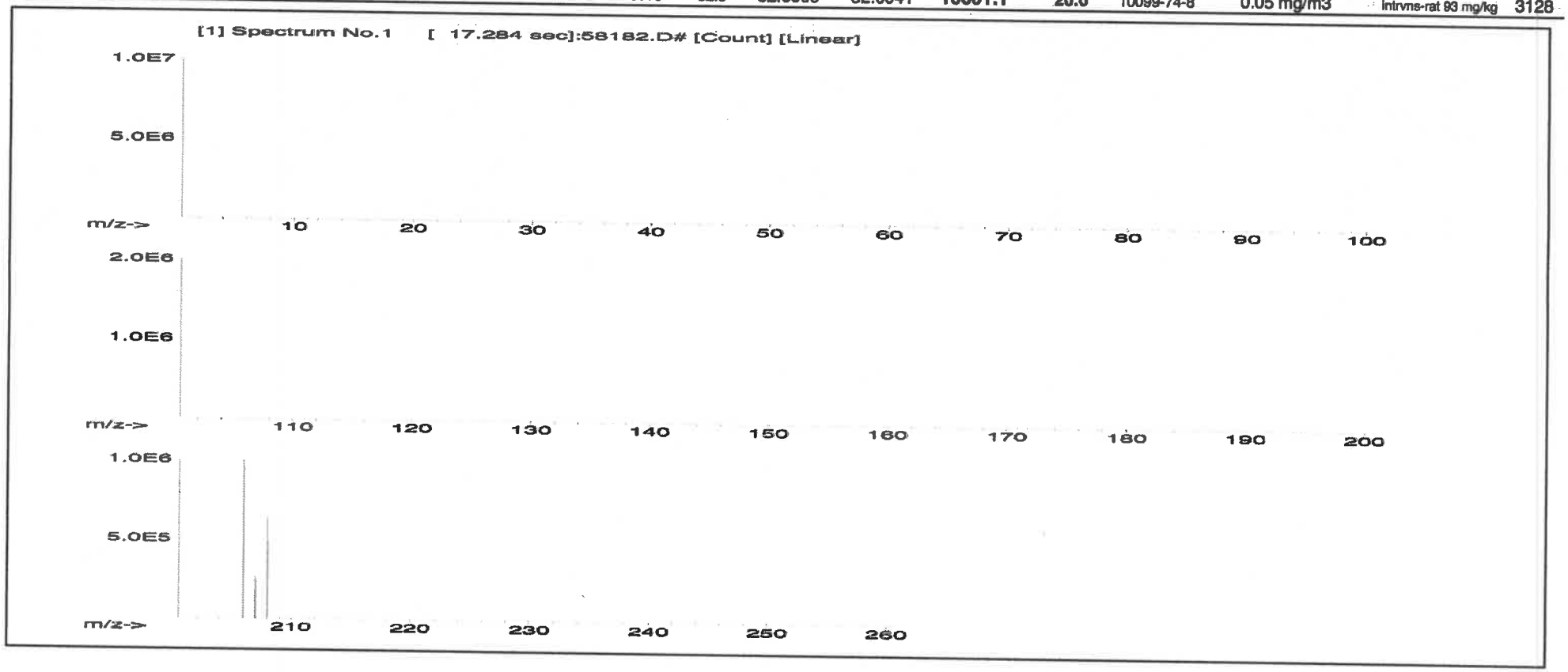
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

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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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M5514 - M5515 R: 03/17/22

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CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 092122
Description: Iron (Fe)

Expiration Date: 092125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1 ± 0.12 Flask Uncertainty

	Lot #		
Solvent:	20510011	Nitric Acid	
7.0%	350.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

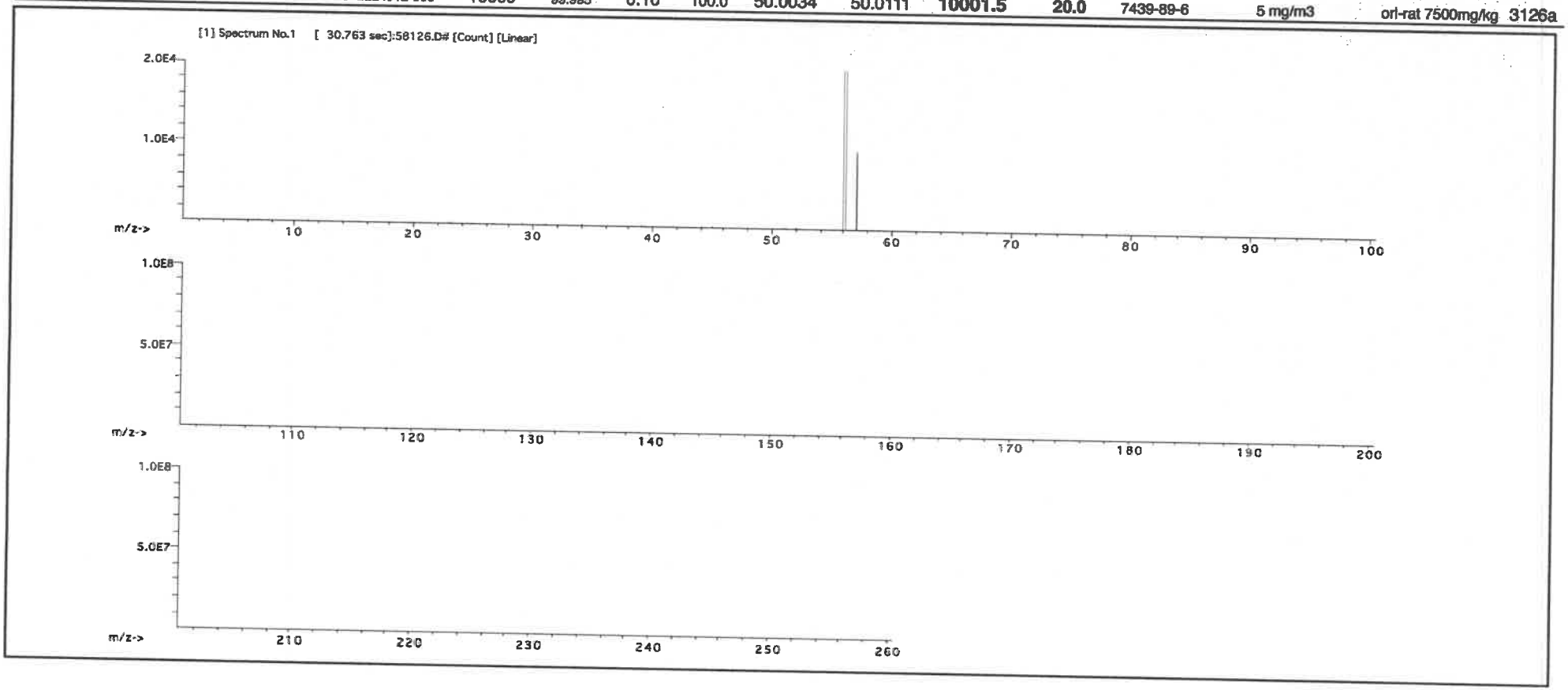
Giovanni Esposito

Formulated By: Giovanni Esposito 092122

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:

* 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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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

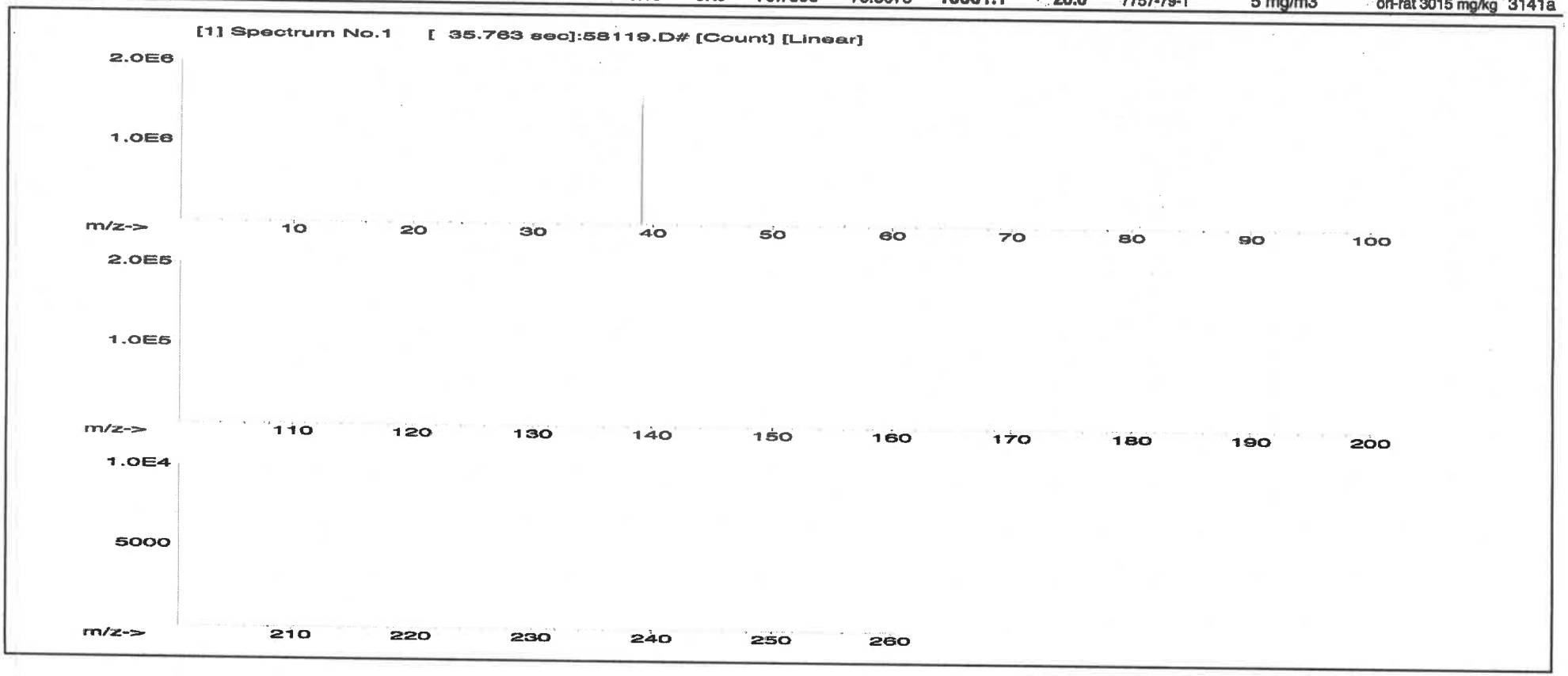
Lot #		
Solvent: 20510011		Nitric Acid
2%	60.0 (mL)	Nitric Acid

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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CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

CERTIFICATE OF ANALYSIS

Date: 8/3/2022 MS631 MS632 MS633 MS634 **Lot No 820803**

Hydrogen Peroxide, ACS
Reagent Grade

TEST	MAXIMUM LIMITS	RESULT
Appearance	Colorless and free from suspended matter or sediment	Pass
Assay	29-32%	31.4%
Color (APHA)	10	5
Residue after Evaporation	0.002%	.0001%
Titratable Acid	0.0006 meq/g	< .0006 meq/g
Chloride (Cl)	2 ppm	< 1 ppm
Nitrate (NO_3)	2 ppm	< 1 ppm
Phosphate	2 ppm	< 1 ppm
Sulfate (SO_4)	5 ppm	< .5 ppm
Ammonium (NH_4)	5 ppm	< 1 ppm
Heavy Metals (as Pb)	1 ppm	< .1 ppm
Iron (Fe)	0.5 ppm	< .1 ppm
Sodium Stannate	200 – 300 ppb	Pass

***Our Hydrogen Peroxide is considered un-stabilized because it is very slightly stabilized with Sodium Stannate, 500 ppb maximum, just for safety purposes.

Date of MFG: 8/2022
Retest date: 8/2024

Gina M. Rambo
Office Manager

CORCO CHEMICAL CORPORATION. 299 CEDAR LANE. FAIRLESS HILLS, PA 19030. 215-295-5006. FAX 215-295-0781

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M5658 R ! 8/25/23

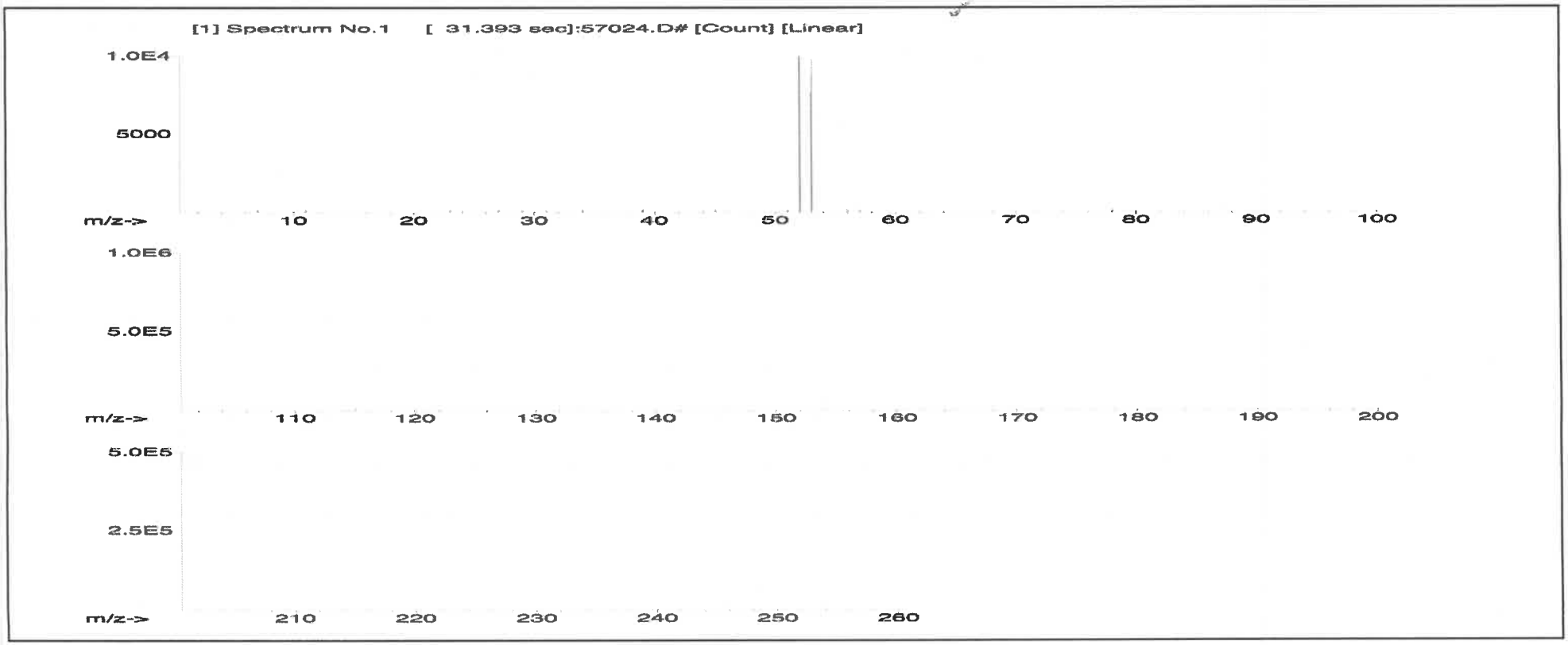
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Rentas	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



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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M5697 R: 10/27/23

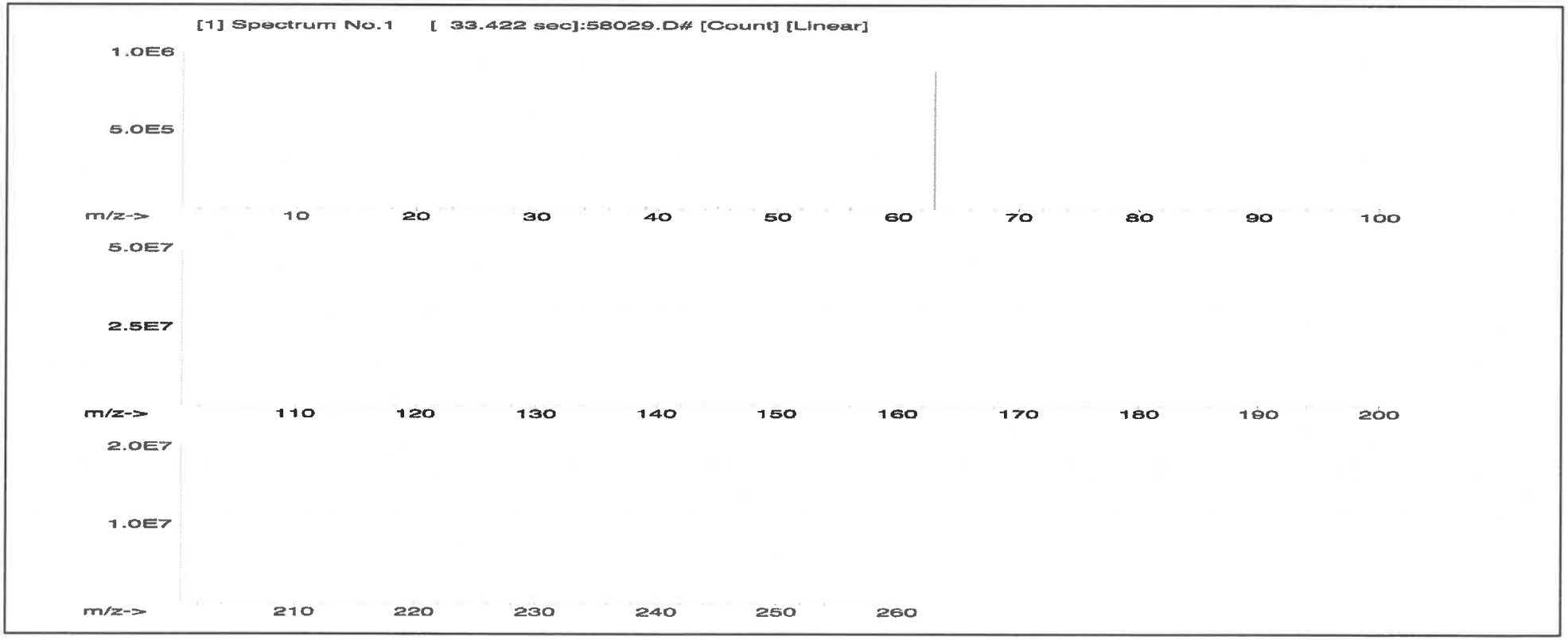
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Copper (Cu)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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M5648 R: 10/27/23

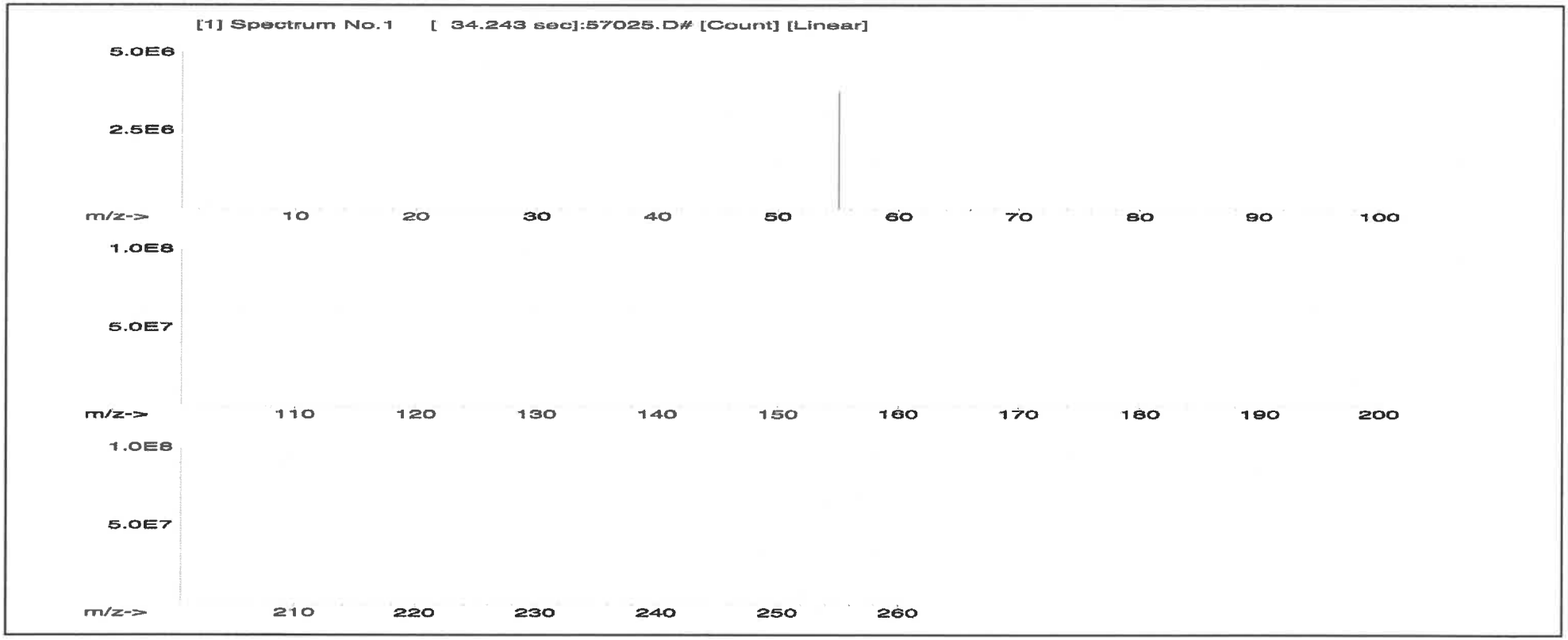
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CERTIFIED WEIGHT REPORT:

		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:

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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: 12/20/23 M5747

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

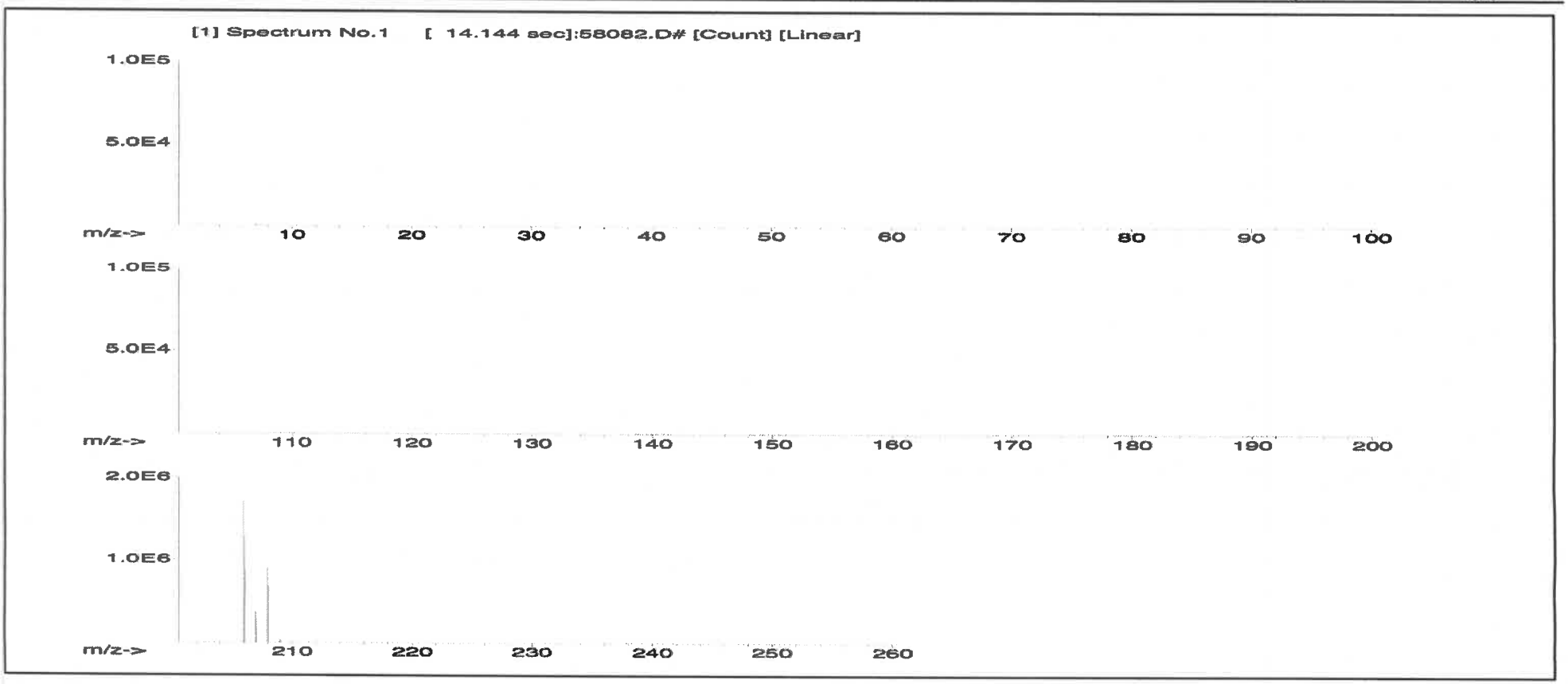
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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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R: 12/20/23 M5748

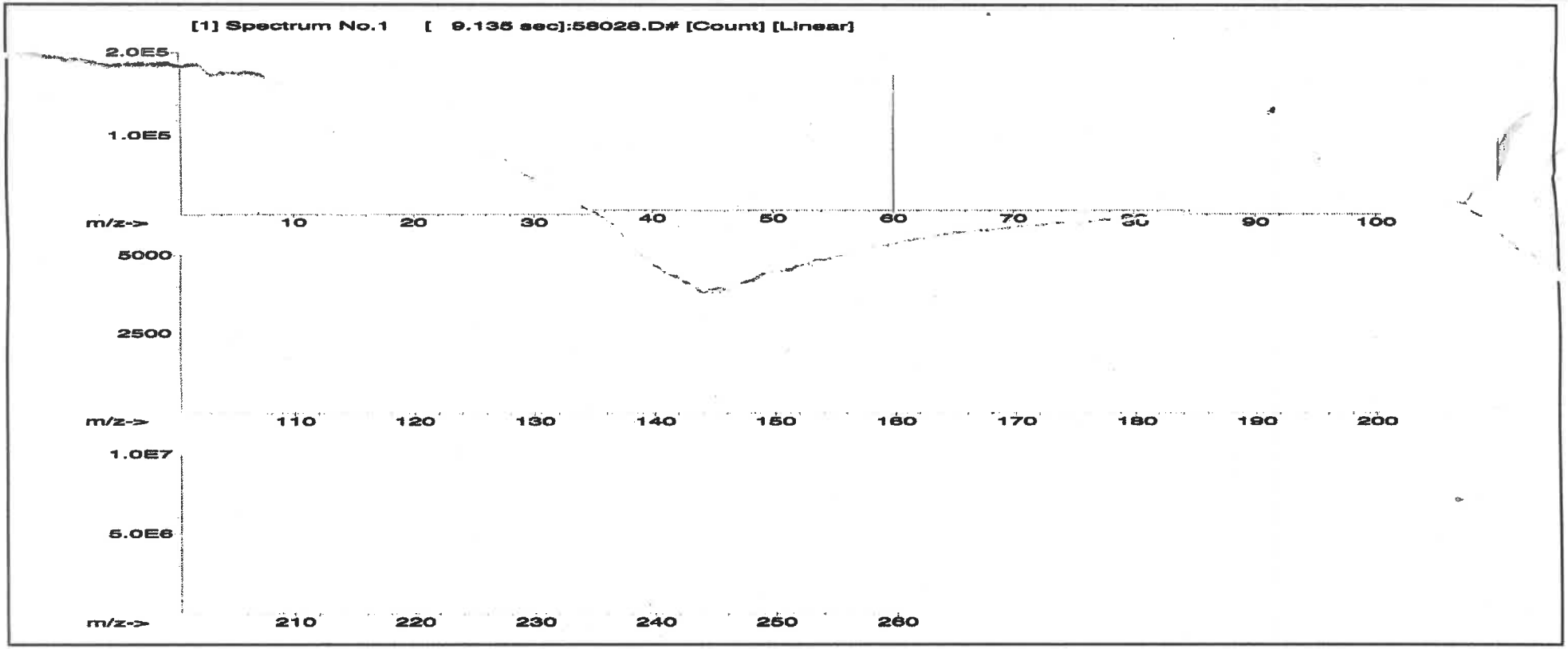
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.1000	200.0	0.084	1000	10000.4	**1000.0**	**2.2**	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* 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: 8/25/23 M5751

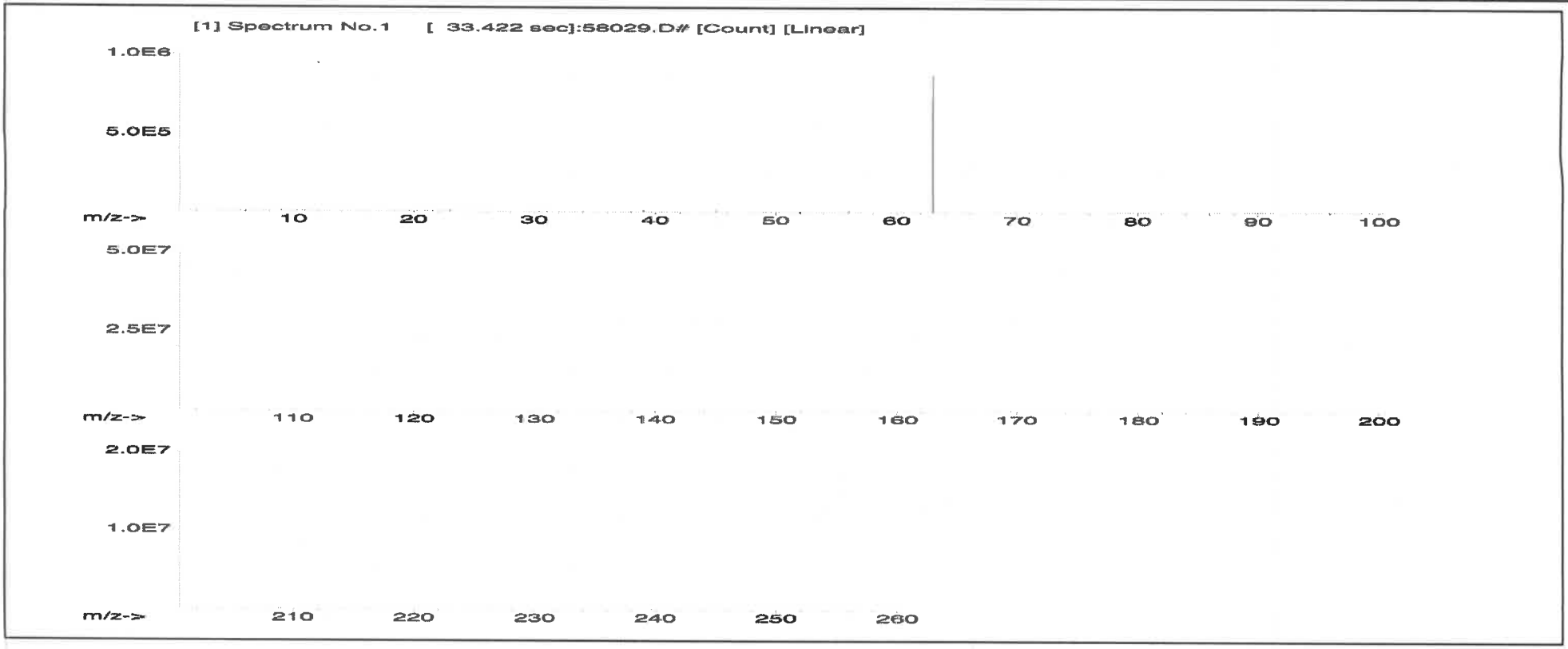
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	21110221	Nitric Acid	
Lot Number:	**071723**			
Description:	**Copper (Cu)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	071723
Reviewed By:	Pedro L. Rentas	071723

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	022723	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* 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

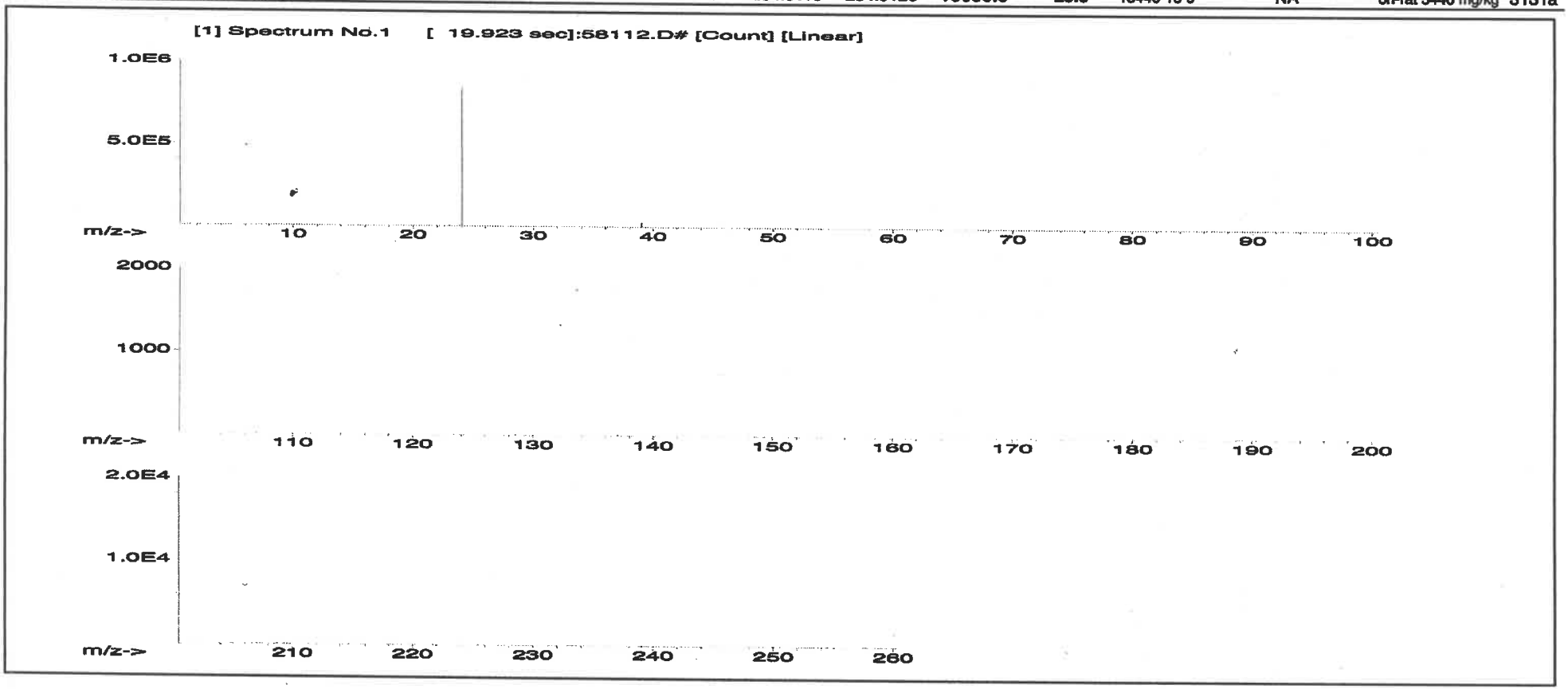
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

	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:

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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

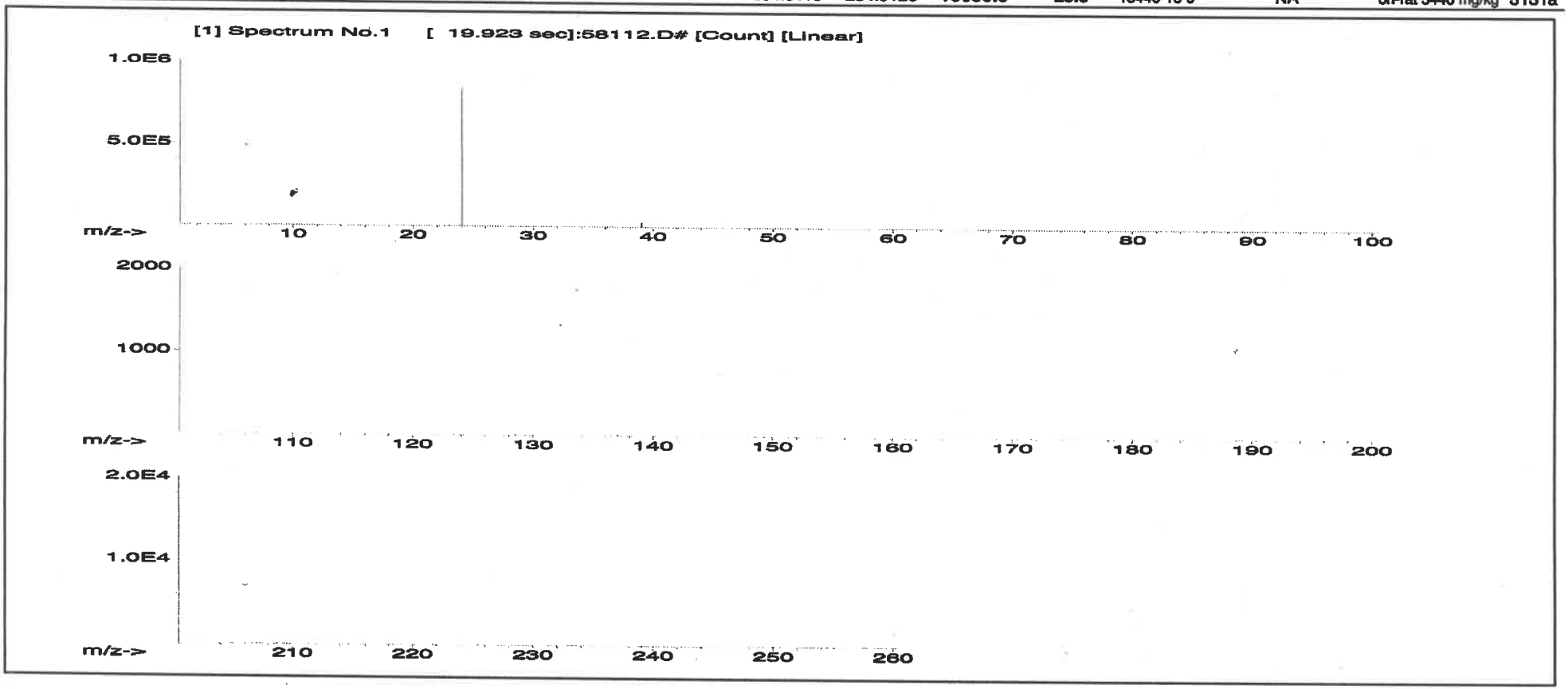
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

	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:

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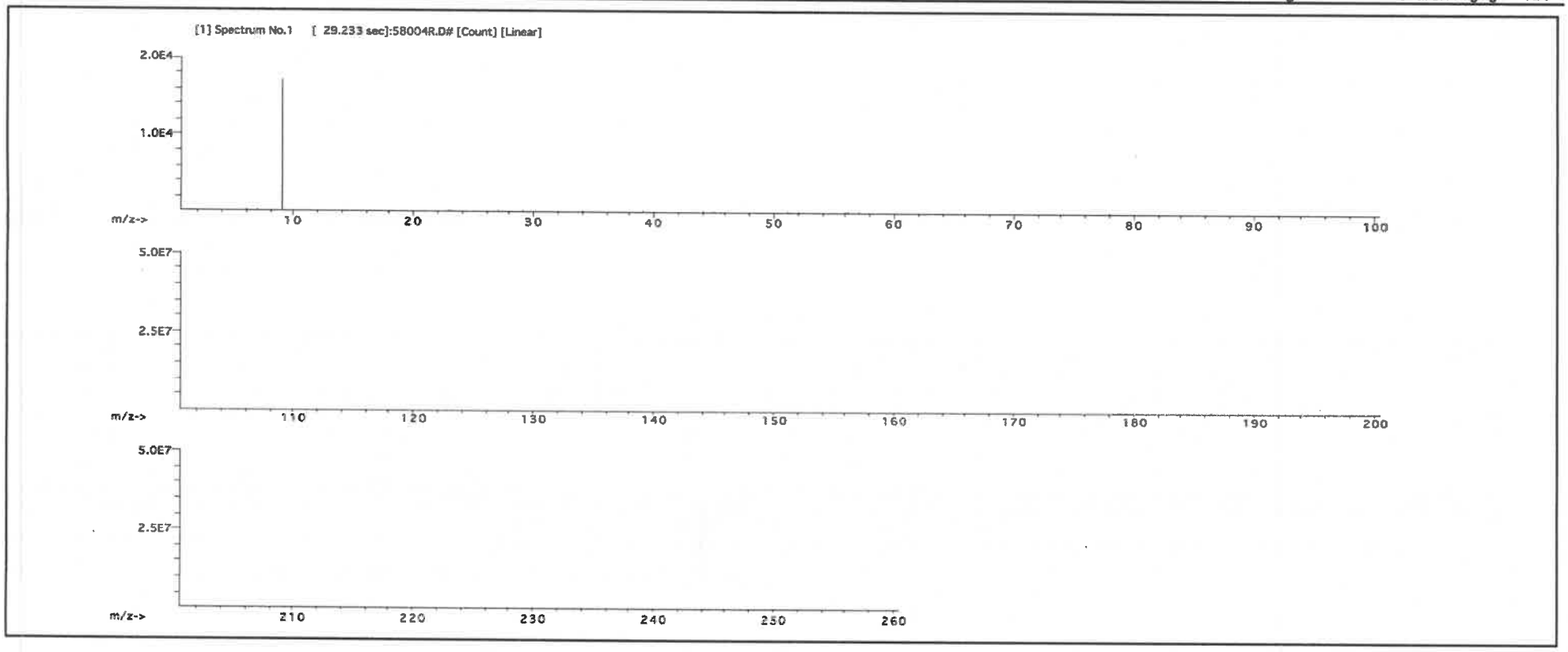
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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R? 02/09/24 IV15799

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

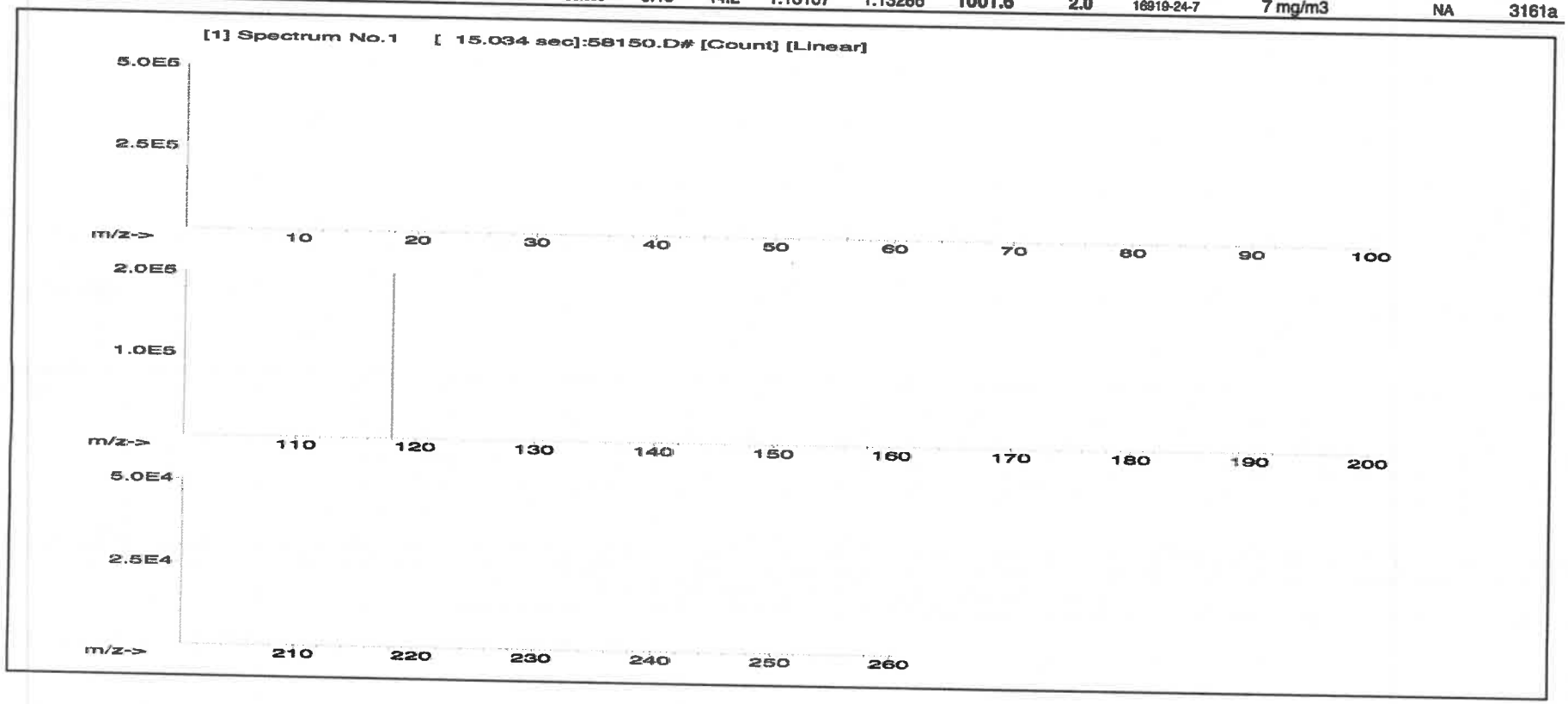
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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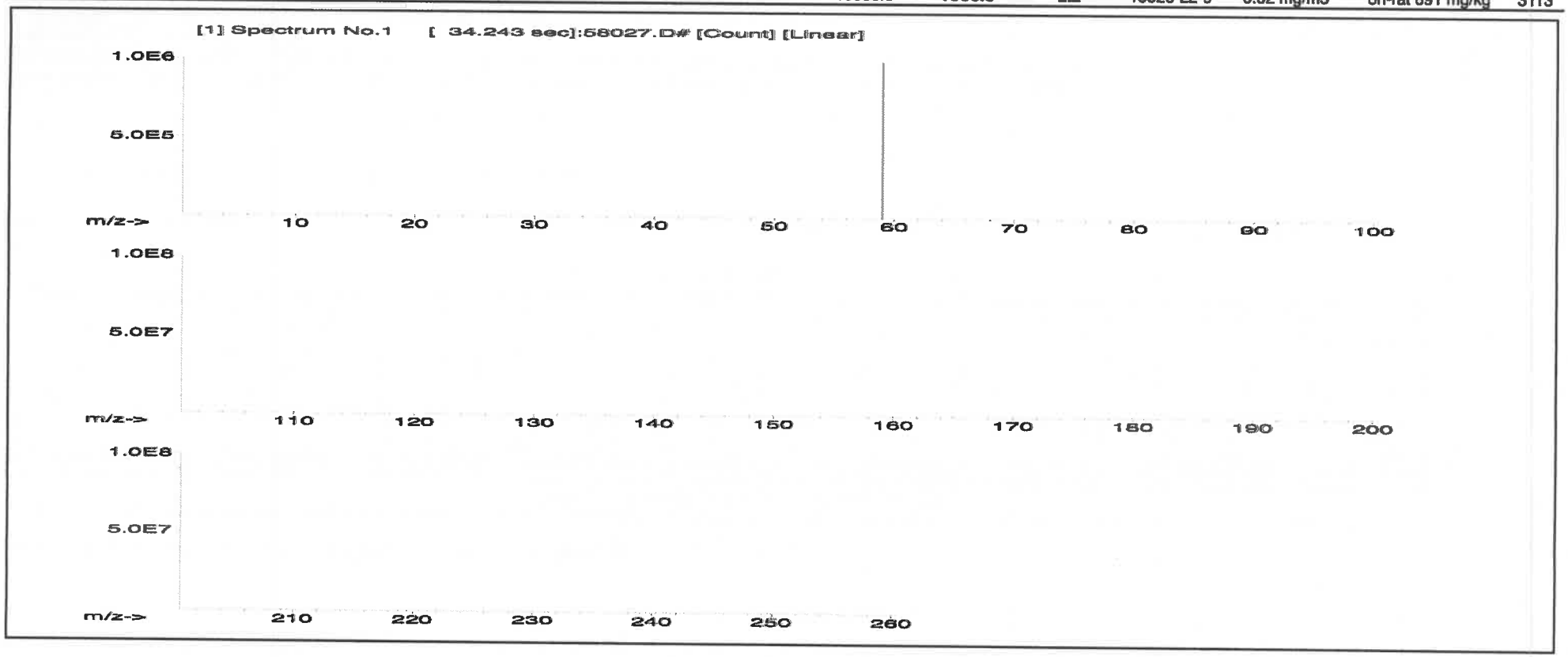
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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

		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.
* 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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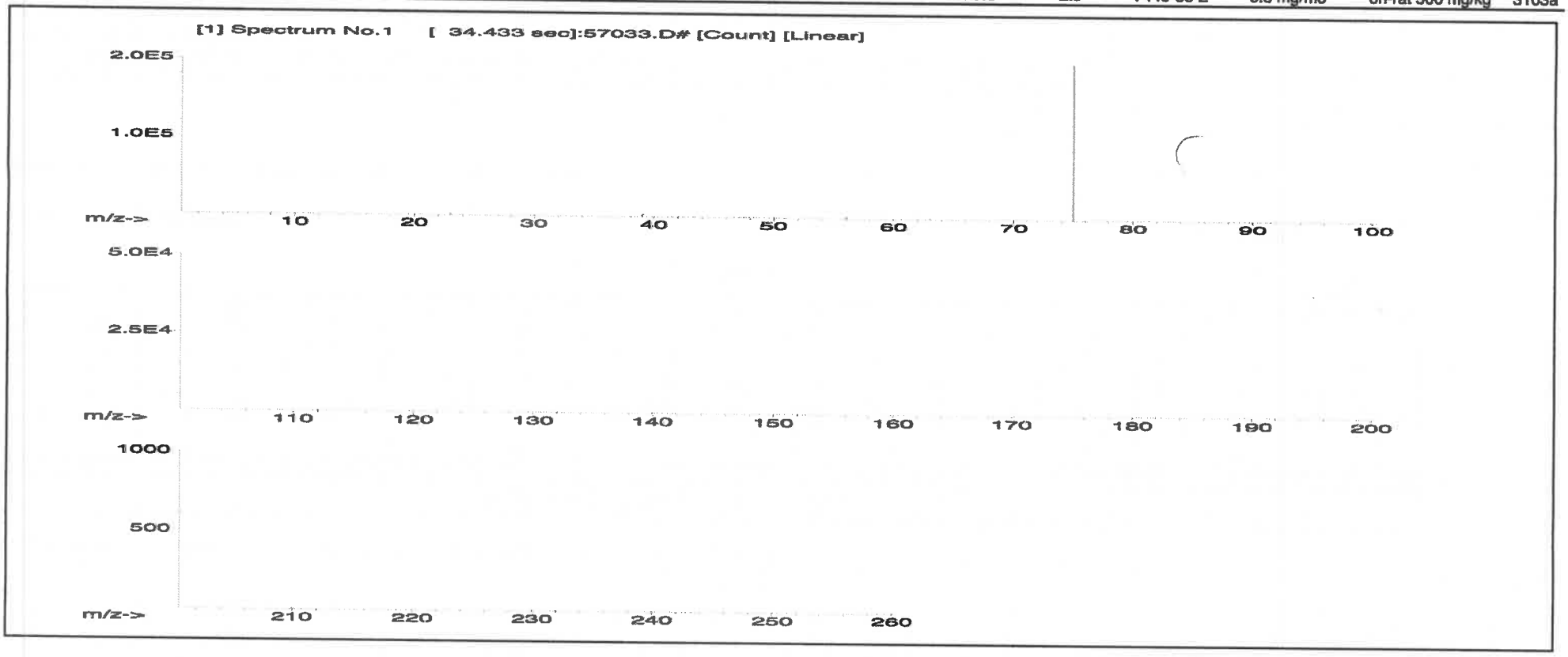
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CERTIFIED **WEIGHT** REPORT:

		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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* 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.
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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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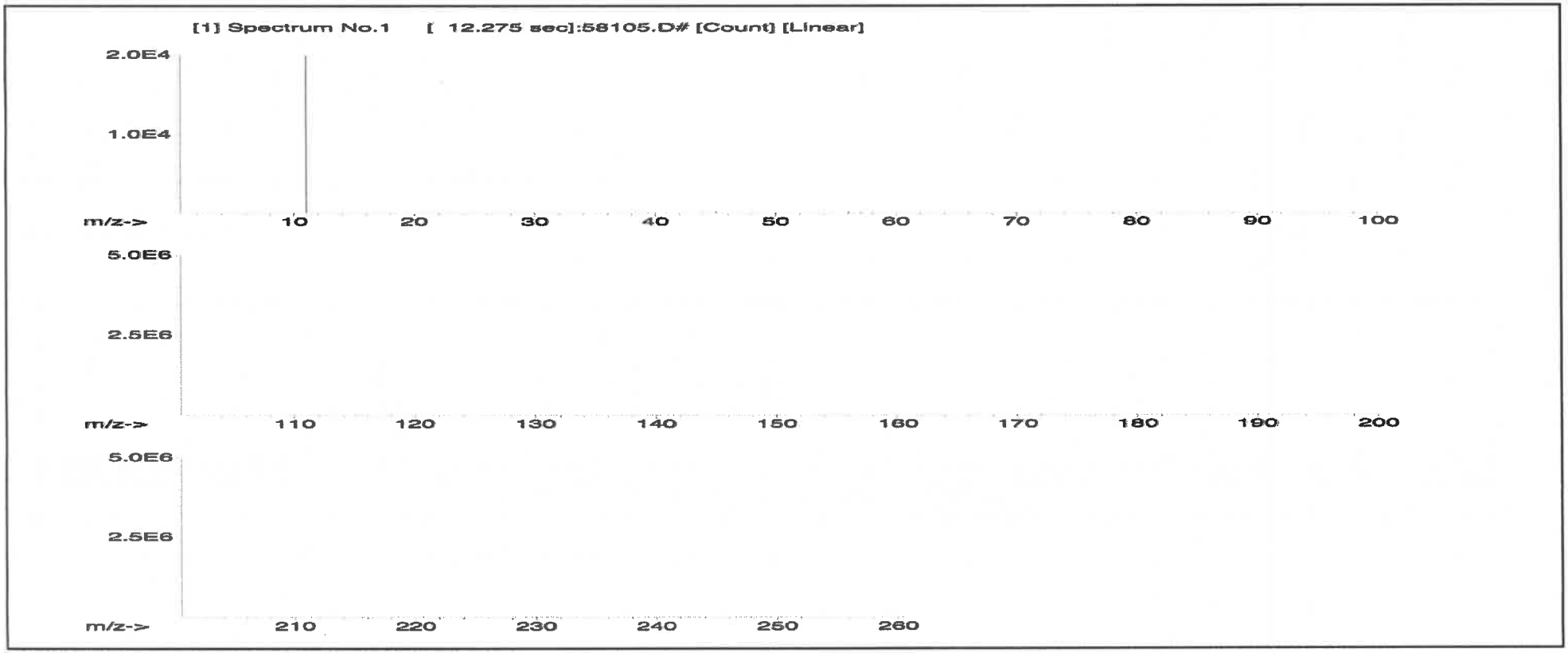
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CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**Solvent:**	MKBQ8597V	Ammonium hydroxide
Lot Number:	**071123**				
Description:	**Boron (B)**		2.0%	40.0 (mL)	Ammonium hydroxide
Expiration Date:	071126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	1999.48	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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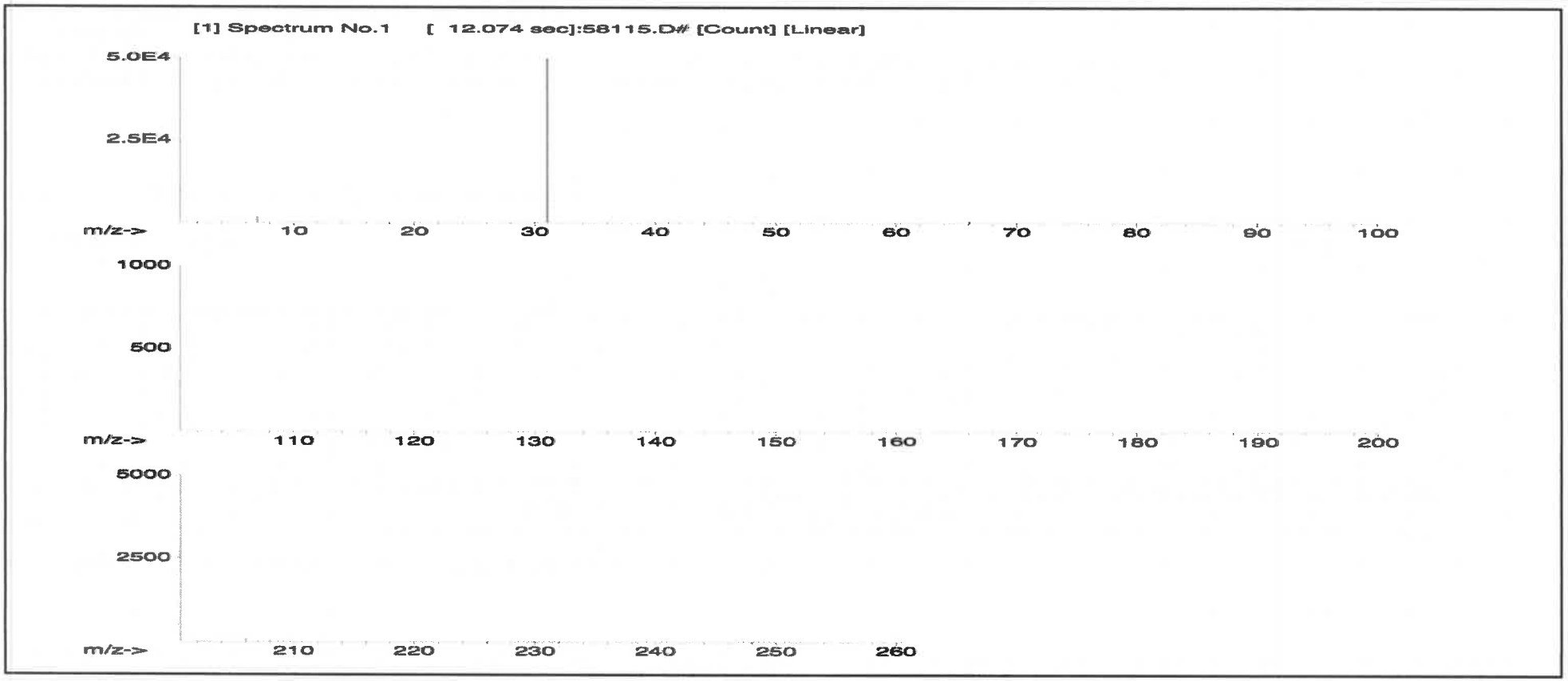
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CERTIFIED WEIGHT REPORT:

			Lot #	
Part Number:	**57115**	**Solvent:**	21110221	Nitric Acid
Lot Number:	**041723**			
Description:	**Phosphorous (P)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	041726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	041723
Reviewed By:	Pedro L. Rentas	041723

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	10000	99.999	0.10	27.5	72.7287	72.7289	**10000.0**	**20.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/kg	3186



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* 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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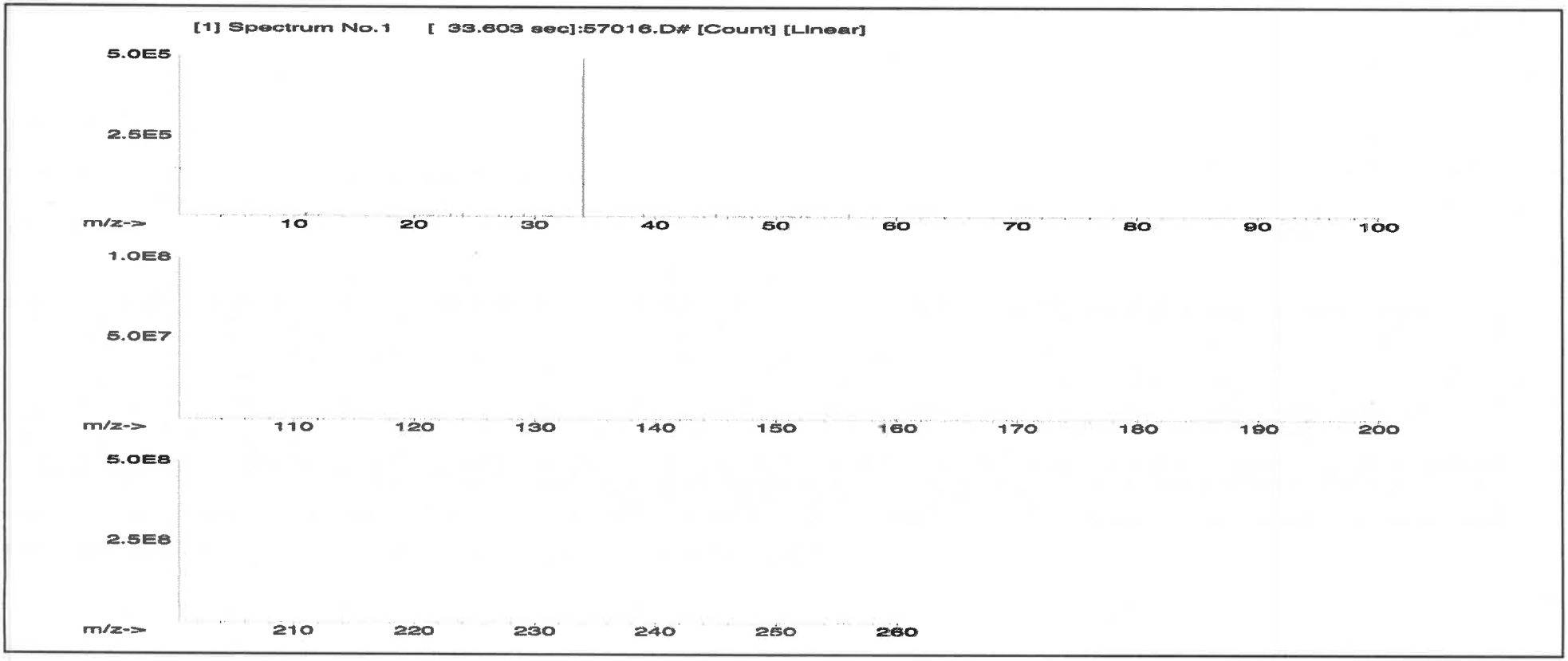
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CERTIFIED WEIGHT REPORT:

Part Number:	**57016**	**Solvent:**	**Lot #** 122923	ASTM Type 1 Water
Lot Number:	**122923**			
Description:	**Sulfur (S)**			
Expiration Date:	122926			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



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* 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:

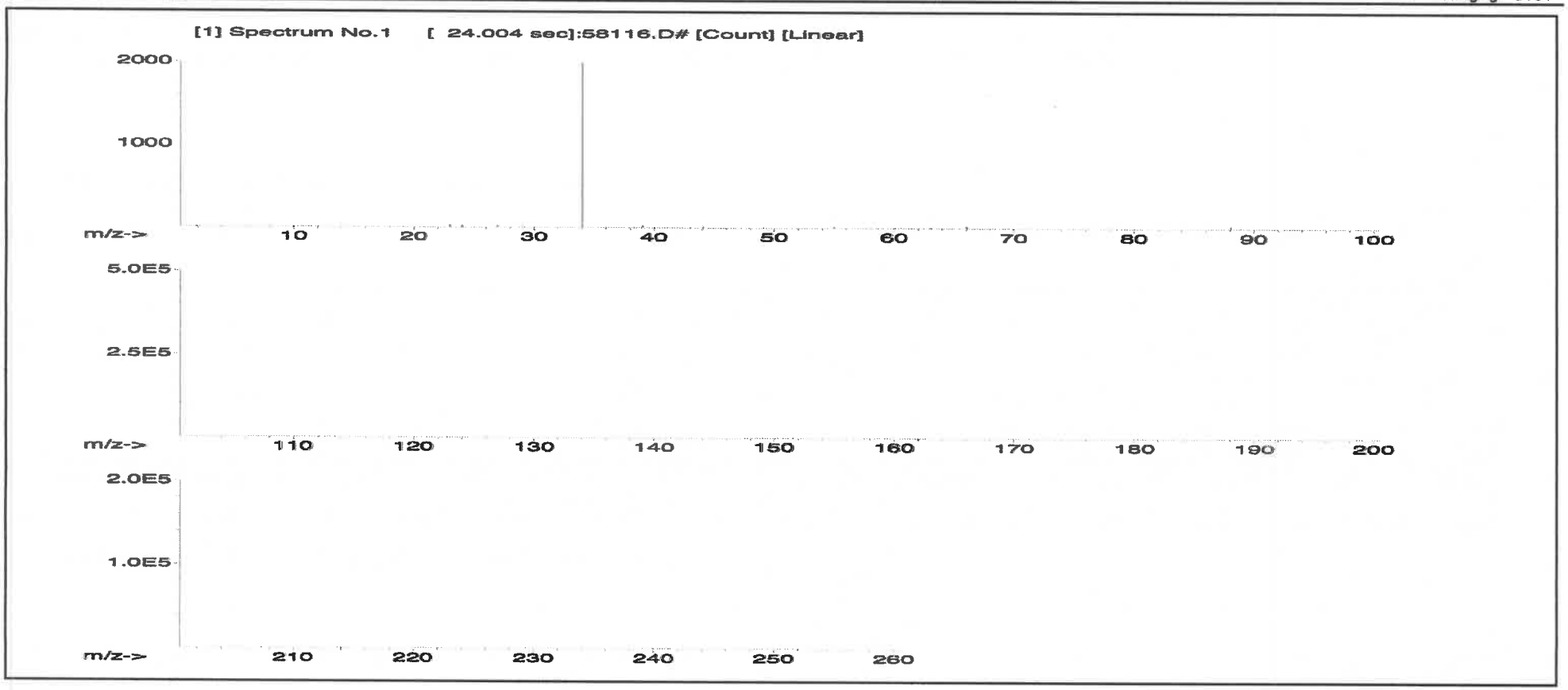
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

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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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

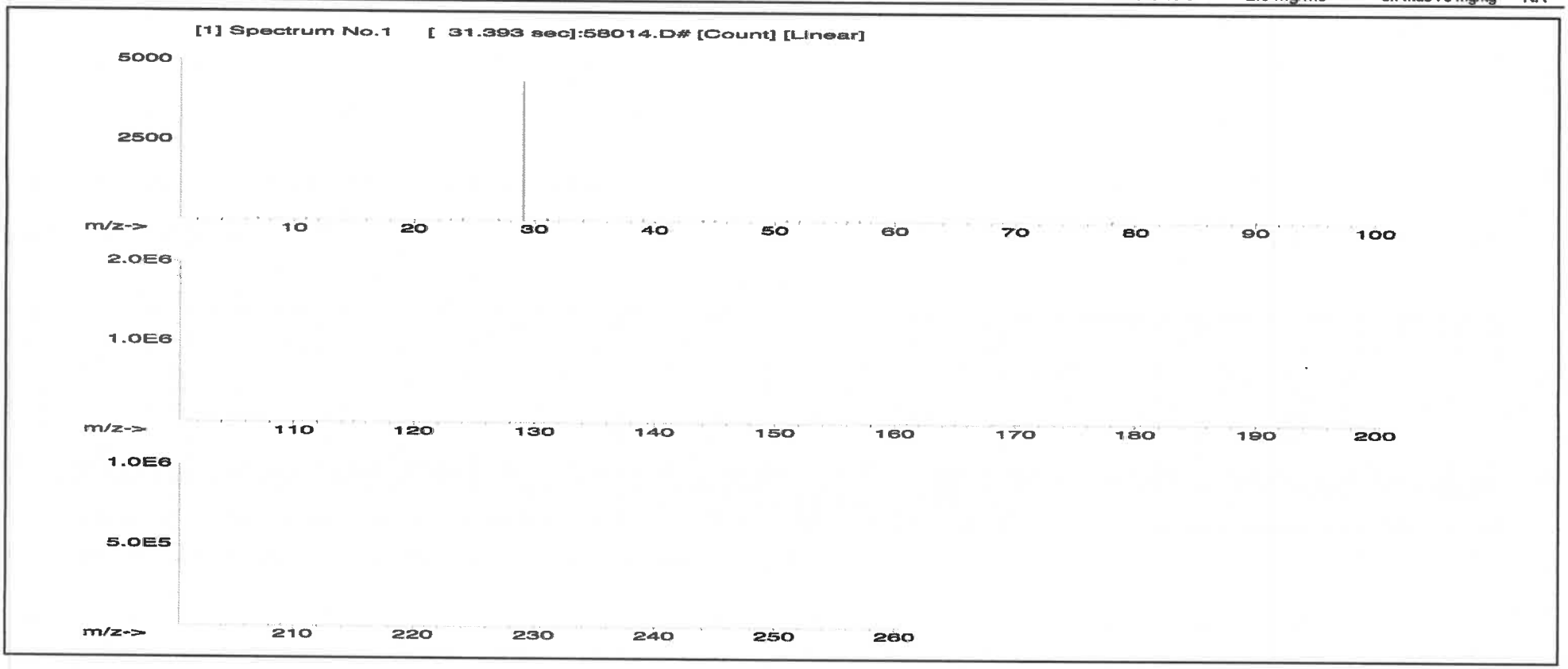
Aleah O'Brady

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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

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

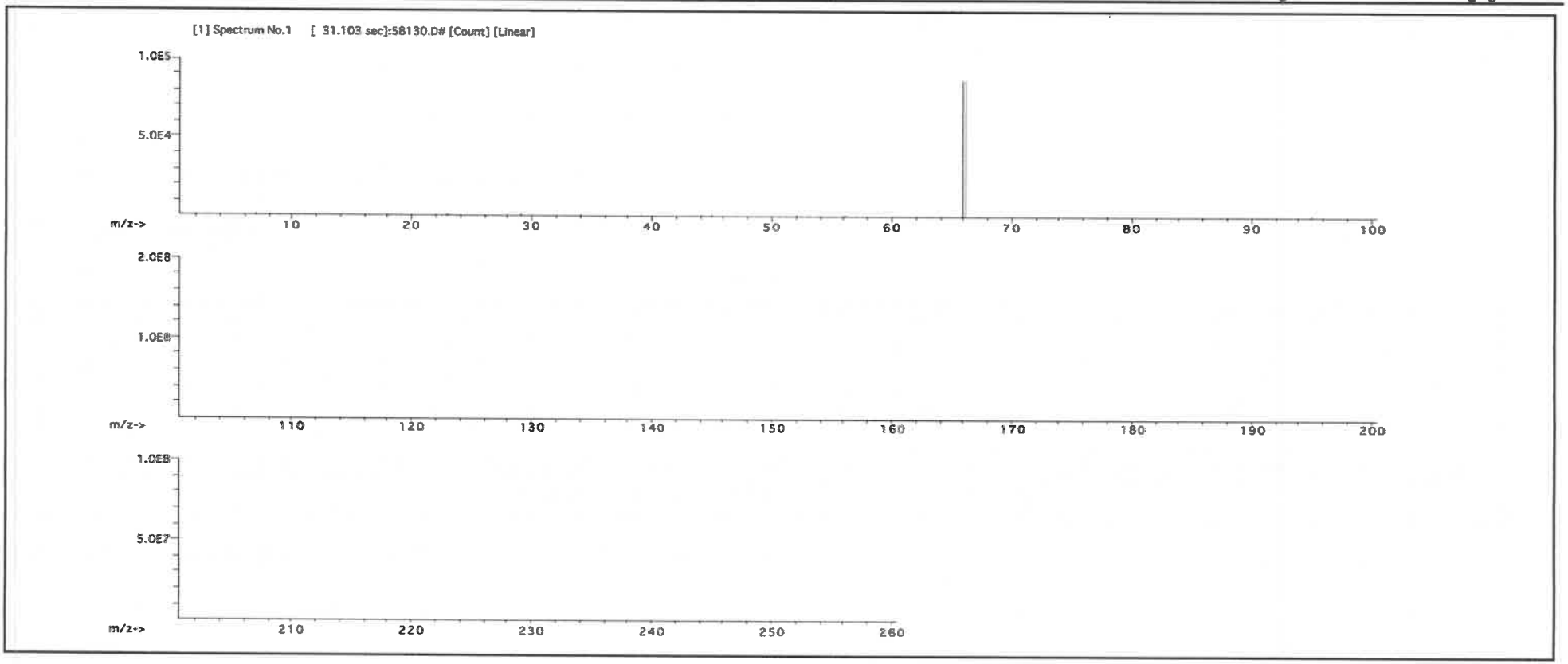
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

		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:

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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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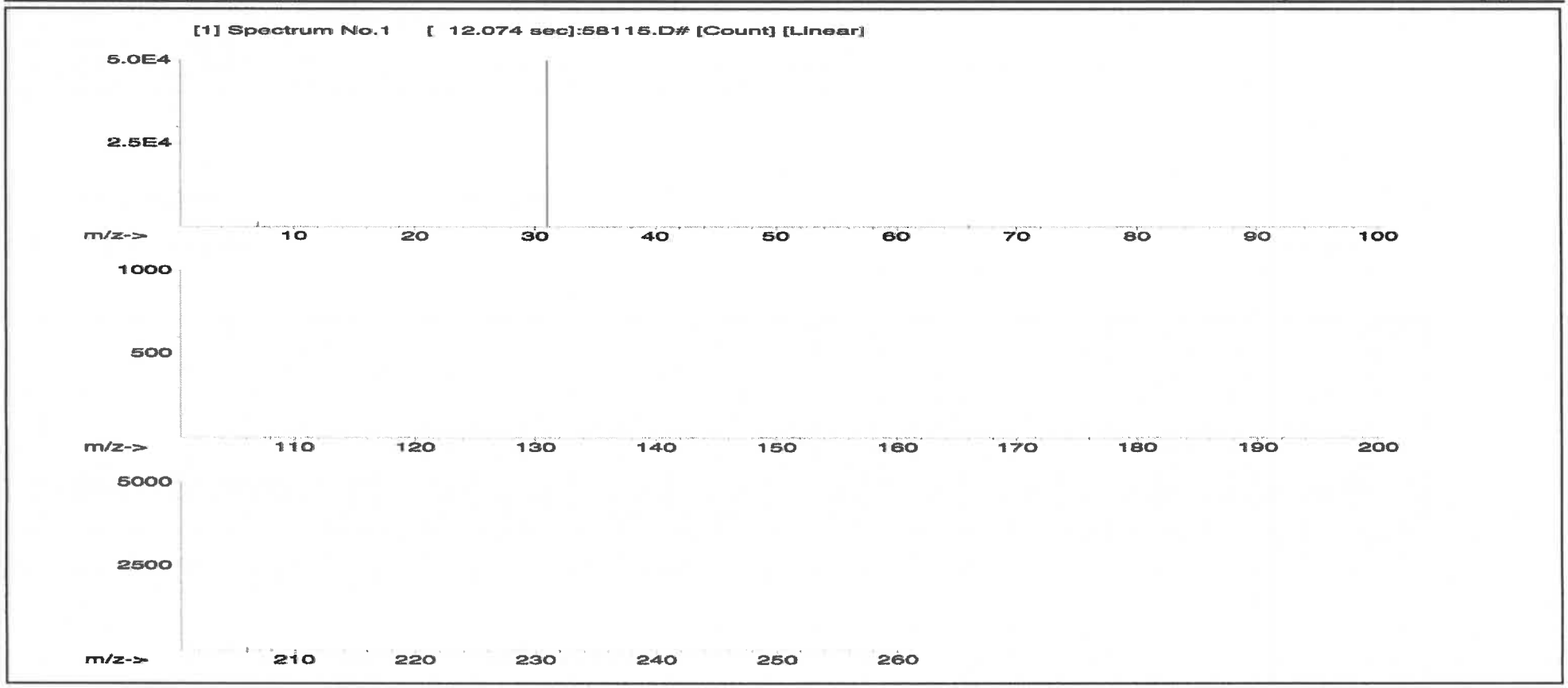
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CERTIFIED WEIGHT REPORT:

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.

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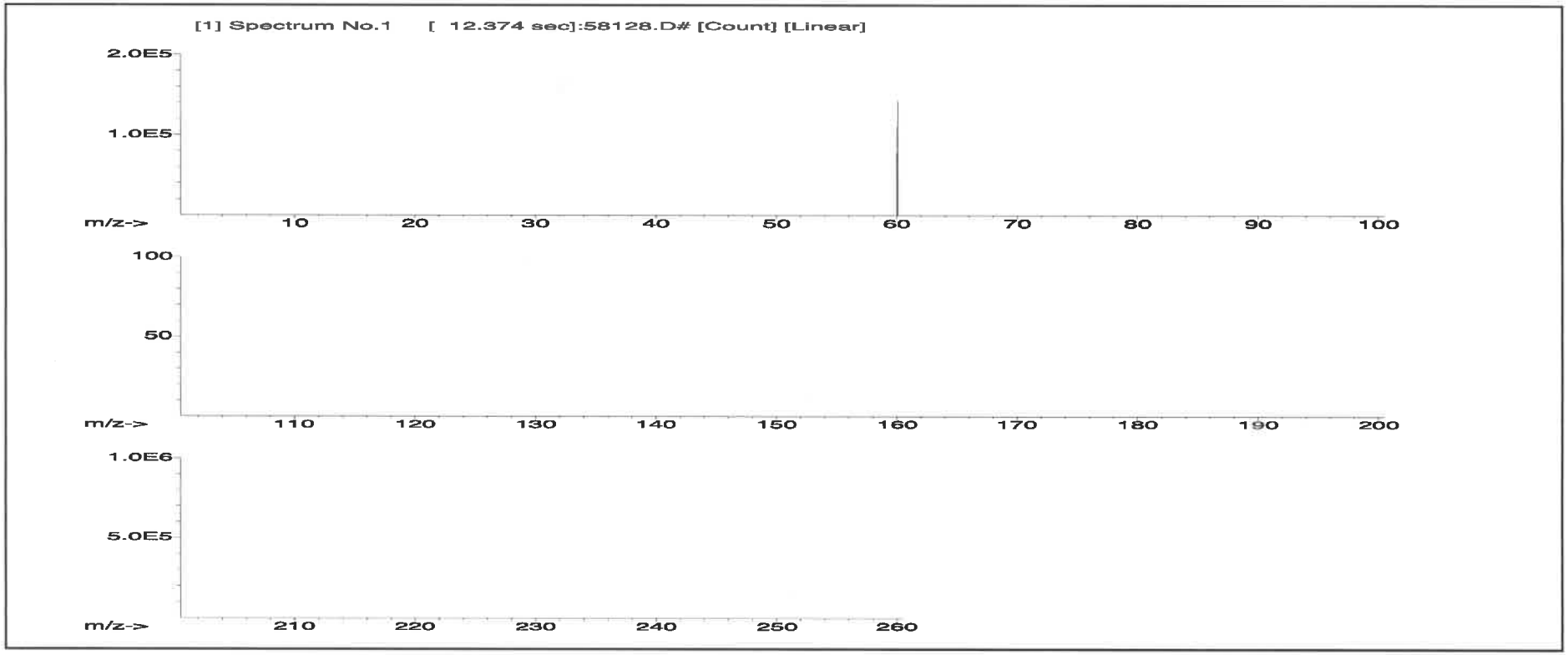
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CERTIFIED WEIGHT REPORT:

			Lot #	
Part Number:	**57028**	**Solvent:**	24002546	Nitric Acid
Lot Number:	**041124**			
Description:	**Nickel (Ni)**			
		2%	5.0 (mL)	Nitric Acid
Expiration Date:	041127			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	249.85	0.002	Flask Uncertainty	

Formulated By:	Brian Geddes	041124
Reviewed By:	Pedro L. Rentas	041124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	IN033	NIM052023A1	1000	99.999	0.10	20.2	1.2369	1.2369	**1000.0**	**2.0**	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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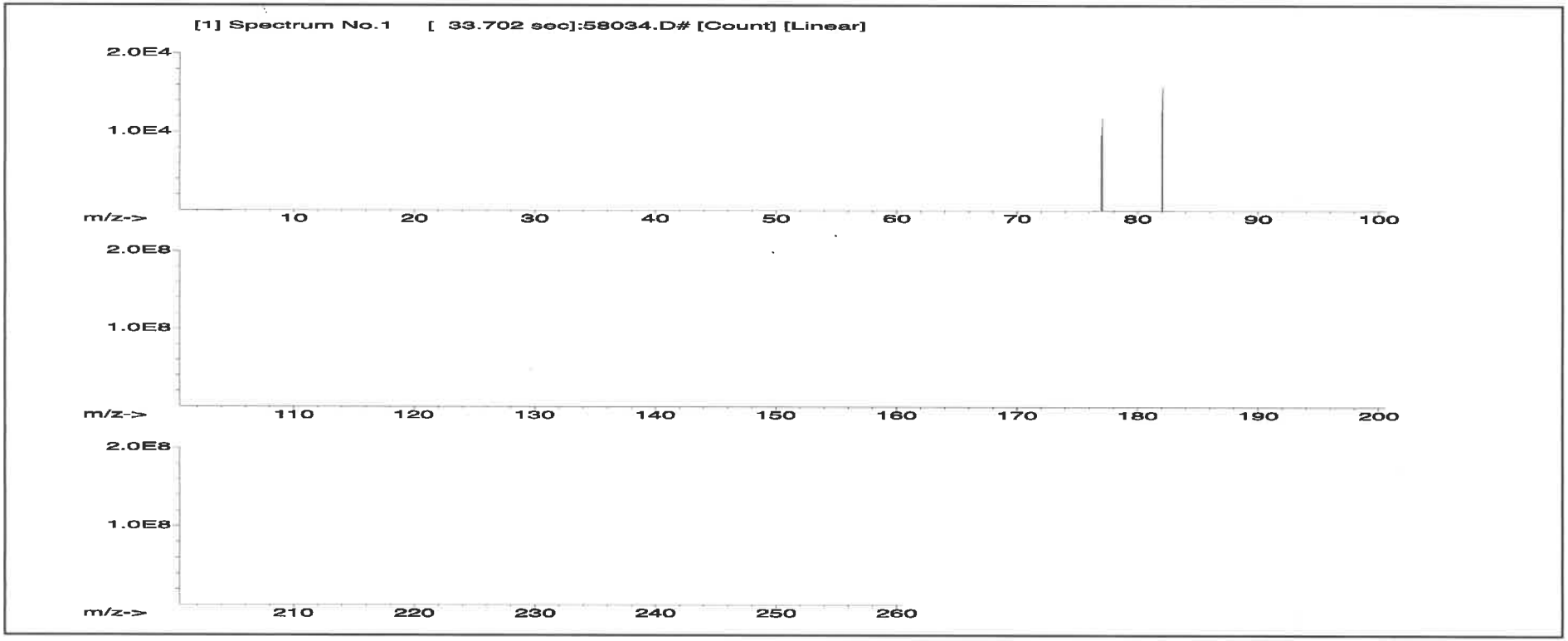
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CERTIFIED WEIGHT REPORT:

		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:



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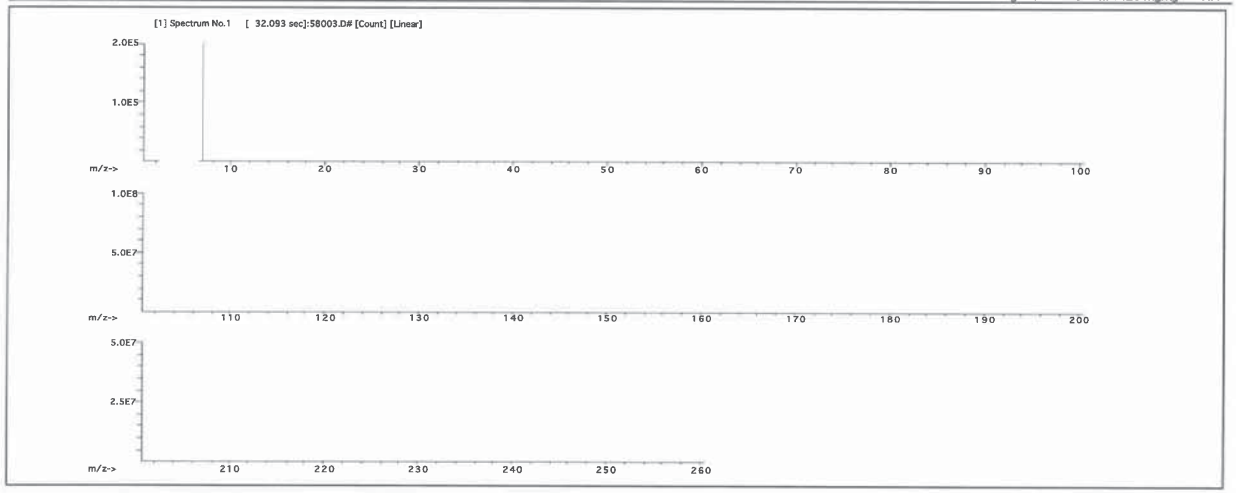
CERTIFIED WEIGHT REPORT:

		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:

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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.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certificate of Analysis

M5976, M5977
R: 02/22/24

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO1
Lot Number:	T2-MO720876
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	1 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 7 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance.

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.000879	M	Se	<	0.008000	M	Zn		0.000598
M	Al		0.000563	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.000175				
M	Ba		0.001689	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.006334	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Tl	<	0.032000				
M	Ce	<	0.008300	M	K		0.130213	M	Rb		0.004575	M	Tl		0.001266				
M	Co		0.000598	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.000527	O	Li		0.000059	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.000527	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.002252	M	Mg		0.000563	i	S	<		M	W		0.087982				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.001513	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br1 6O,190Os2+,190Pt 2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Technical



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



M5978, M5979

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) 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

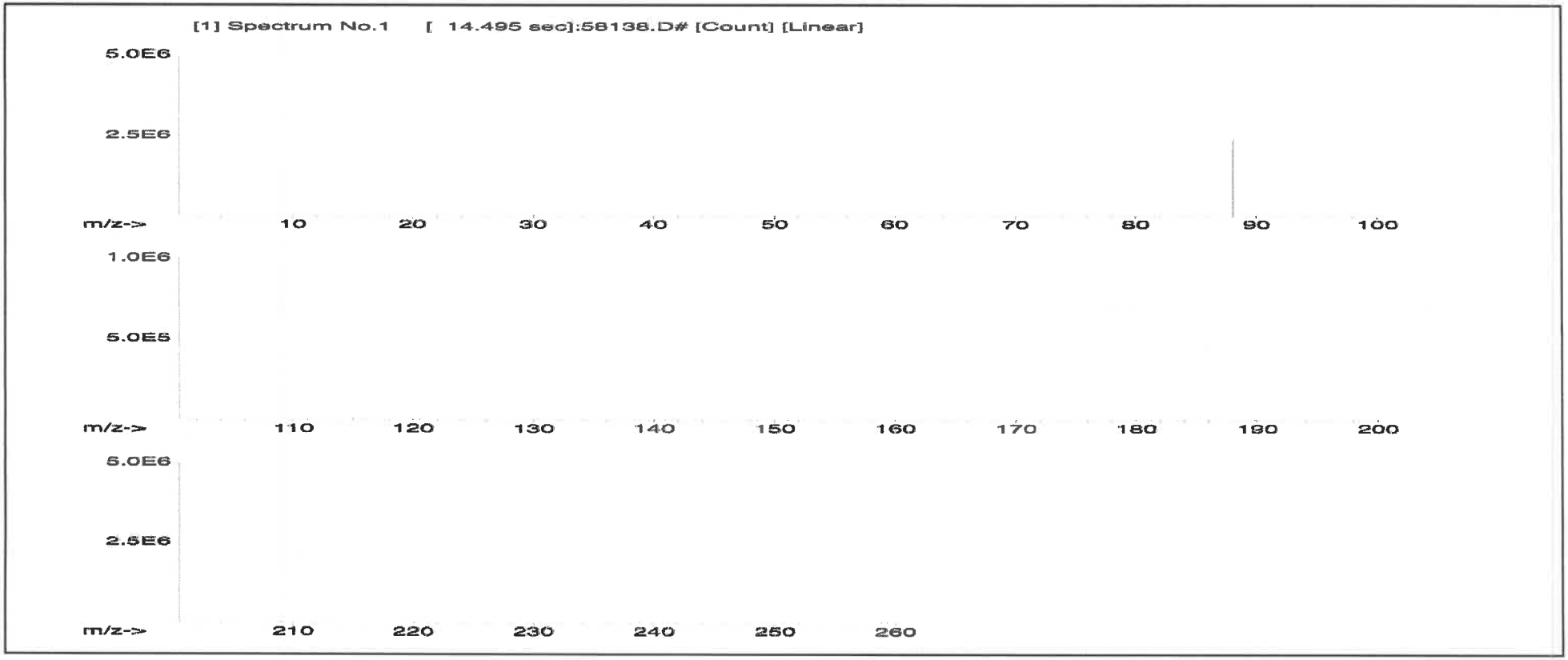
45982 R: 6/11/24

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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 20, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 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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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-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:

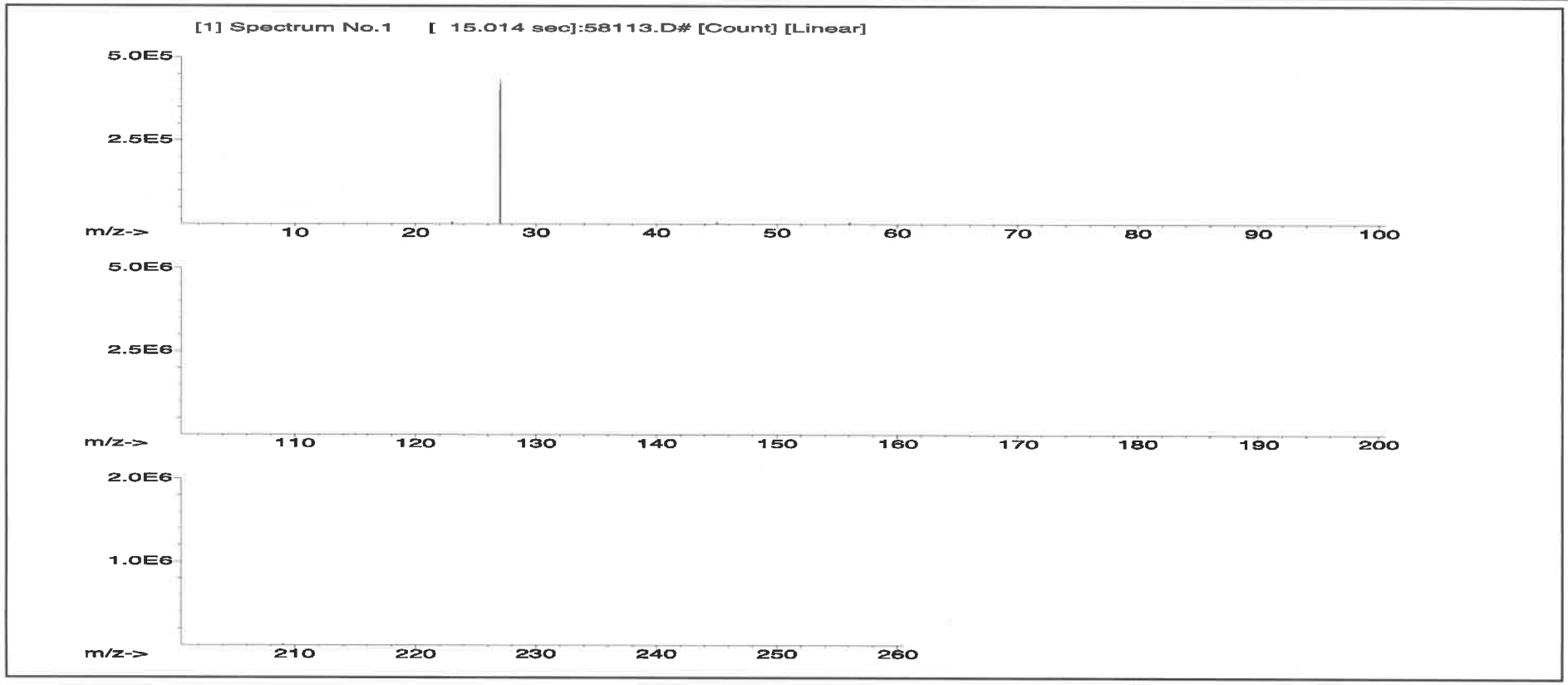
Part Number:	**58113**		**Solvent:**	20510011	Nitric Acid
Lot Number:	**011623**				
Description:	**Aluminum (Al)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	011626				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
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



Nitric Acid 69%
CMOS

Recv date: 1. 1. – 08/01/2023

M6034, M6037
M6035, M6038,
M6036,

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

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Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

J Croak

Jamie Croak
Director Quality Operations, Bioscience Production

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Received — 08/01/2024
paper
M6039
M6040

Material No.: 9530-33
Batch No.: 24D1562005
Manufactured Date: 2024-03-18
Retest Date: 2029-03-17
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.6 %
ACS - Color (APHA)	≤ 10	5
ACS - Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.192
ACS - Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS - Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS - Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities - Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities - Aluminum (Al)	≤ 10.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities - Barium (Ba)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 20.0 ppb	2.2 ppb
Trace Impurities - Cadmium (Cd)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	31.0 ppb
Trace Impurities - Chromium (Cr)	≤ 1.0 ppb	0.5 ppb
Trace Impurities - Cobalt (Co)	≤ 1.0 ppb	0.2 ppb
Trace Impurities - Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities - Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities - Gold (Au)	≤ 4.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities - Iron (Fe)	≤ 15 ppb	3 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.2 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	0.2 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 1.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.0 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.4 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6094
M6095.

metdig
10/21/24.

Material No.: 9530-33
Batch No.: 24D1562005
Manufactured Date: 2024-03-18
Retest Date: 2029-03-17
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.192
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	2.2 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	31.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	3 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
Trace Impurities - Lead (Pb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Lithium (Li)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities - Magnesium (Mg)	≤ 10.0 ppb	2.2 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	0.2 ppb
Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Potassium (K)	≤ 9.0 ppb	< 1.0 ppb
Trace Impurities - Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	2.0 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.4 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities - Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

M6096
M6097
M6098
M6099
M6100

Mtdl 9/21/24

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

J Croak

Jamie Croak
Director Quality Operations, Bioscience Production

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

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Certified Reference Material CRM

R: 01/03/24 M5806, M5807

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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Expiration Date: 122226
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

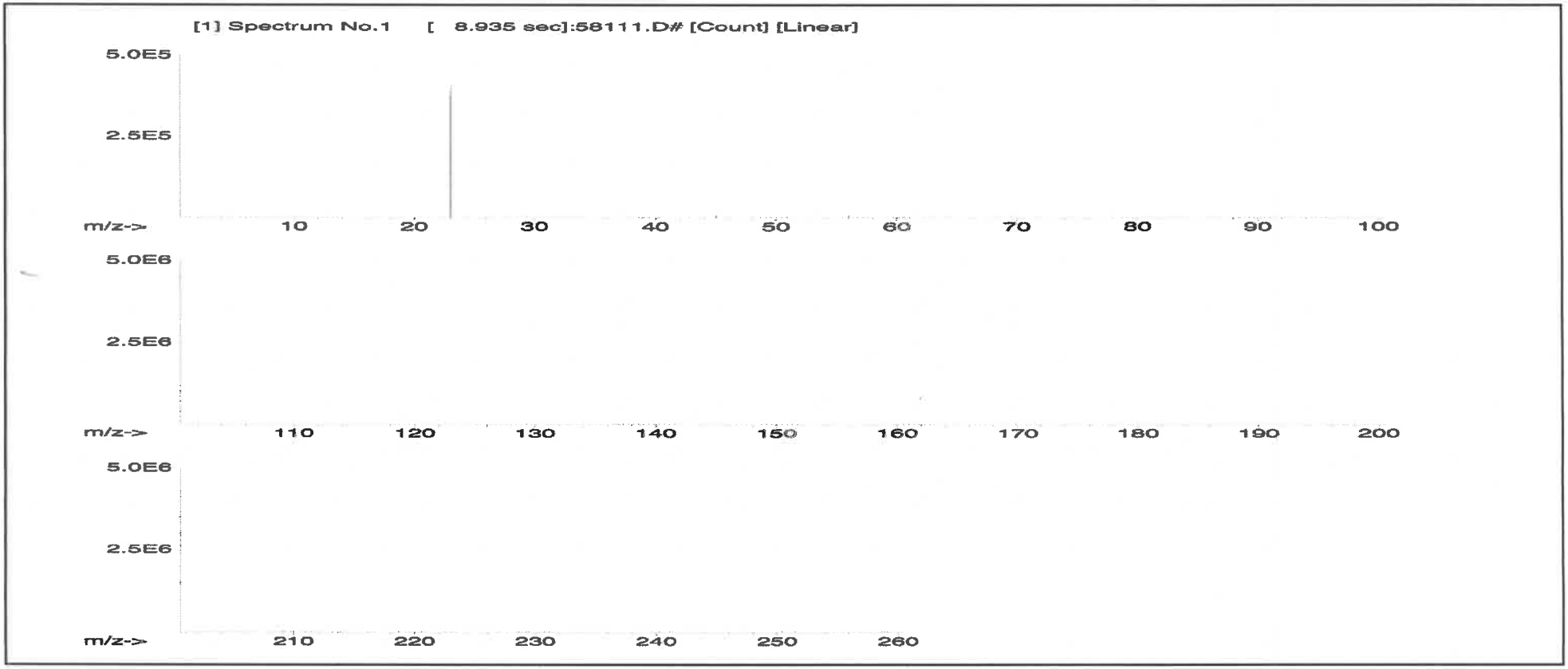
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Aleah O'Brady

Formulated By:	Aleah O'Brady	122223
Reviewed By:	Pedro L. Rentas	122223

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	111.5406	111.5479	**10000.7**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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AR-1539 Certificate Number
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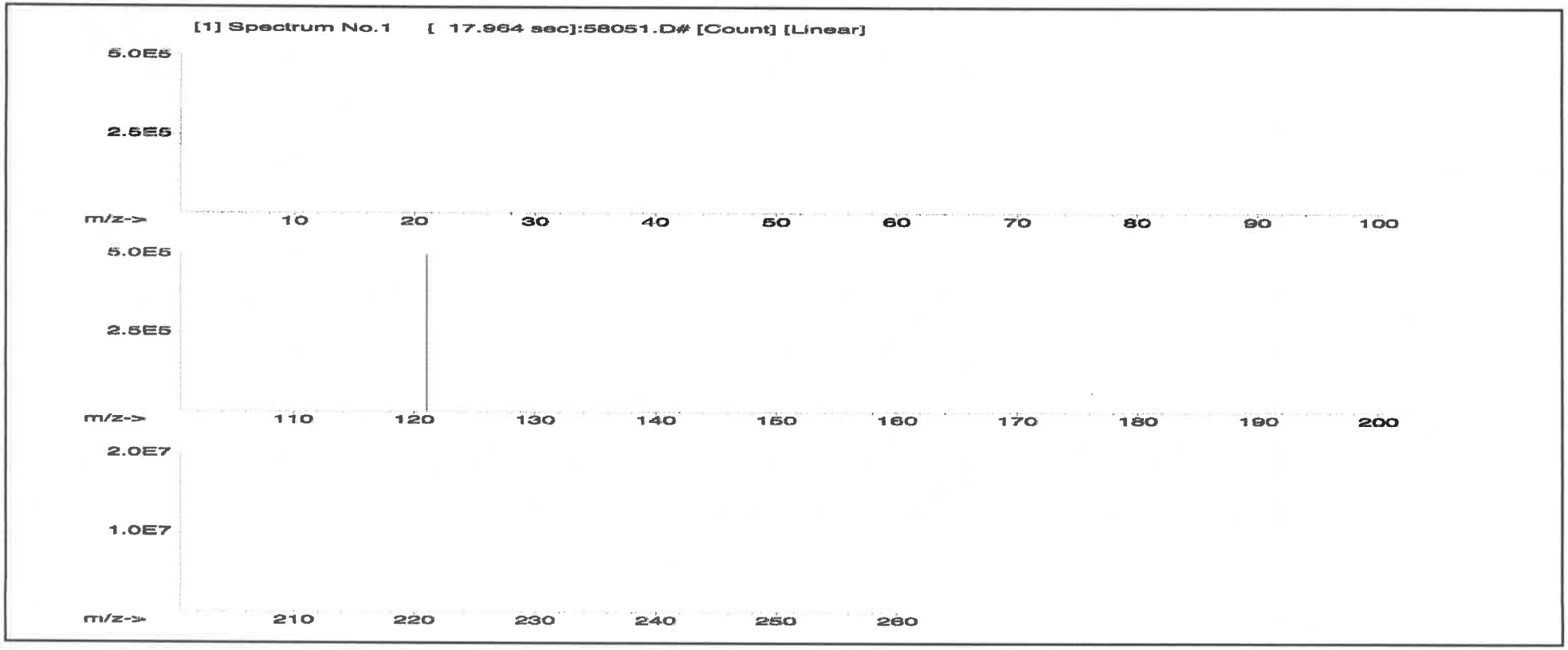
R: 01/03/24 M5802, M5803

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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M6030

R: 8/5/24

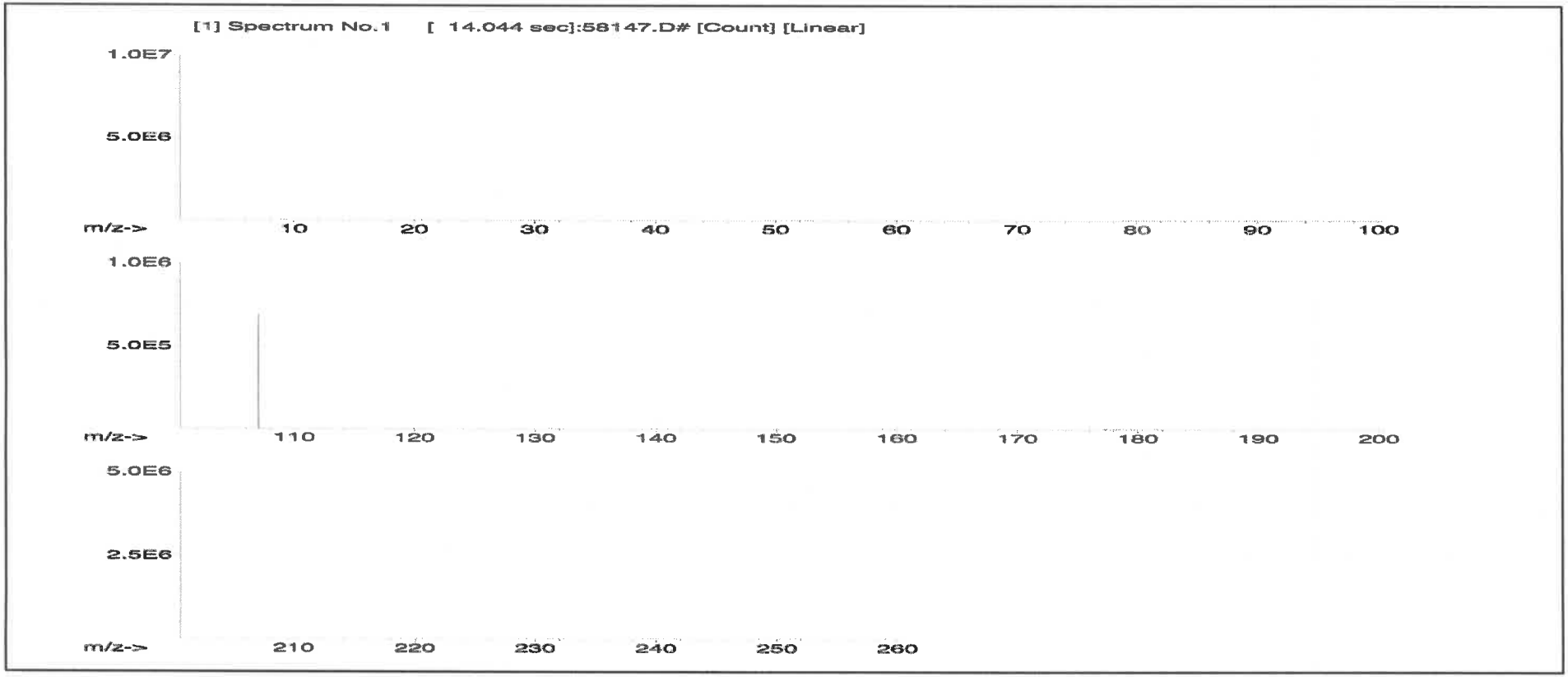
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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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* 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: 03/16/23 M5473, M5474, M5475, M5476

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CERTIFIED WEIGHT REPORT:

Part Number: 56138
Lot Number: 082922
Description: Strontium (Sr)

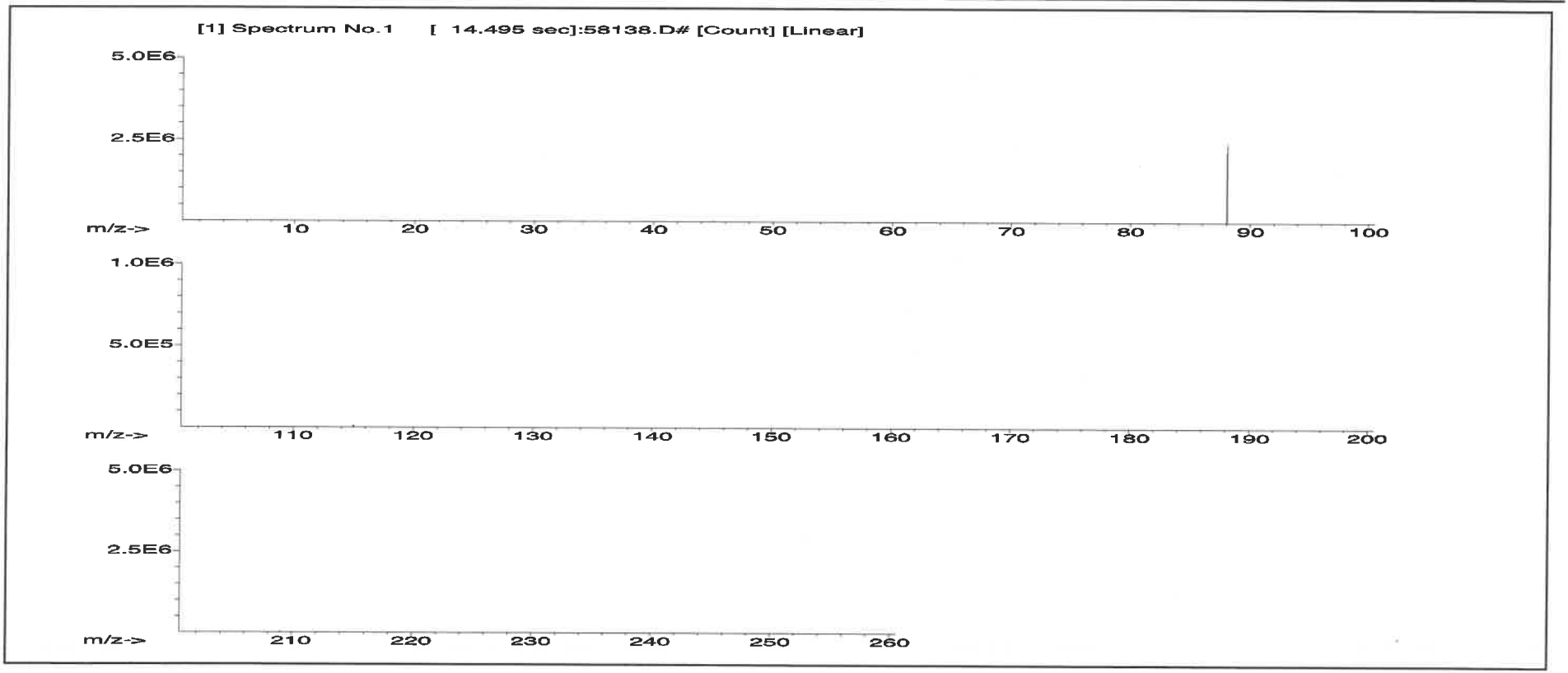
Expiration Date: 082925
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	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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CERTIFIED WEIGHT REPORT:

Part Number: 56138
Lot Number: 082922
Description: Strontium (Sr)

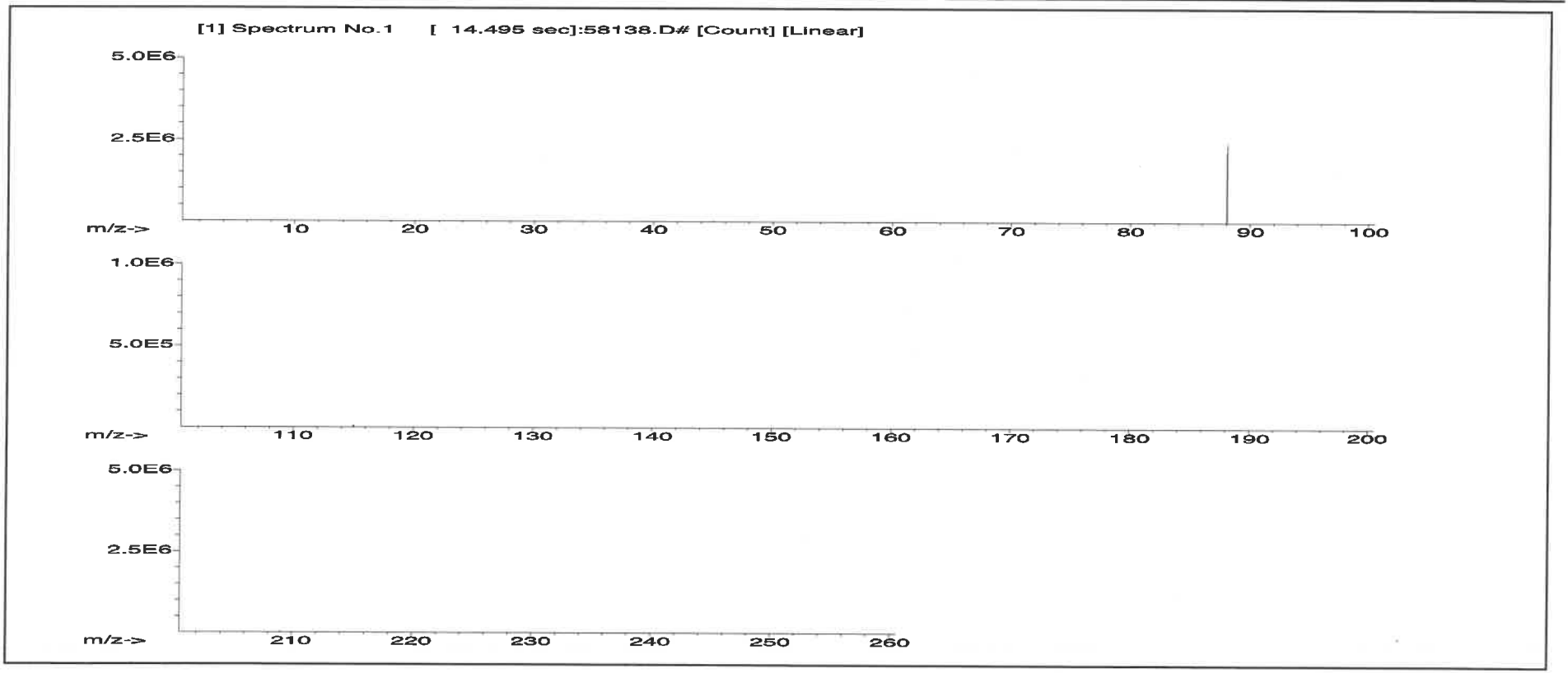
Expiration Date: 082925
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	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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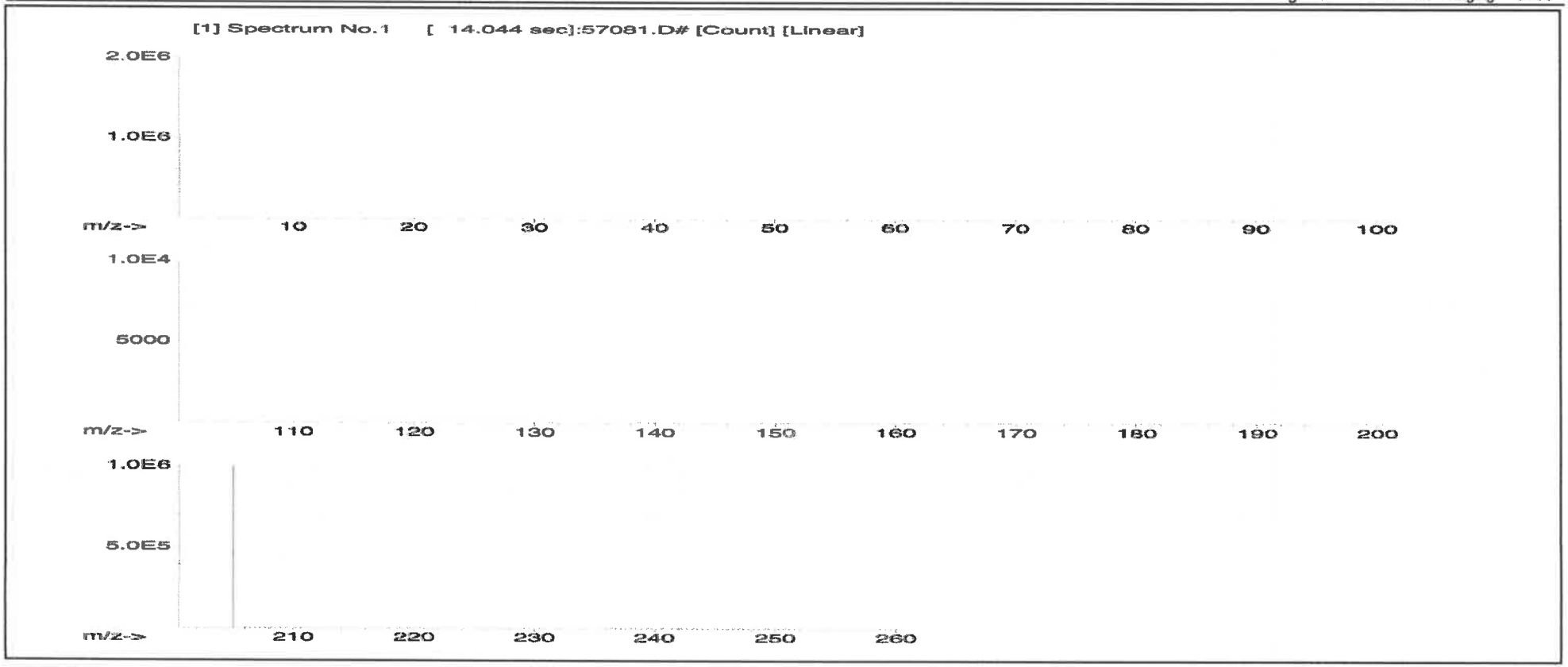
CERTIFIED WEIGHT REPORT:

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	

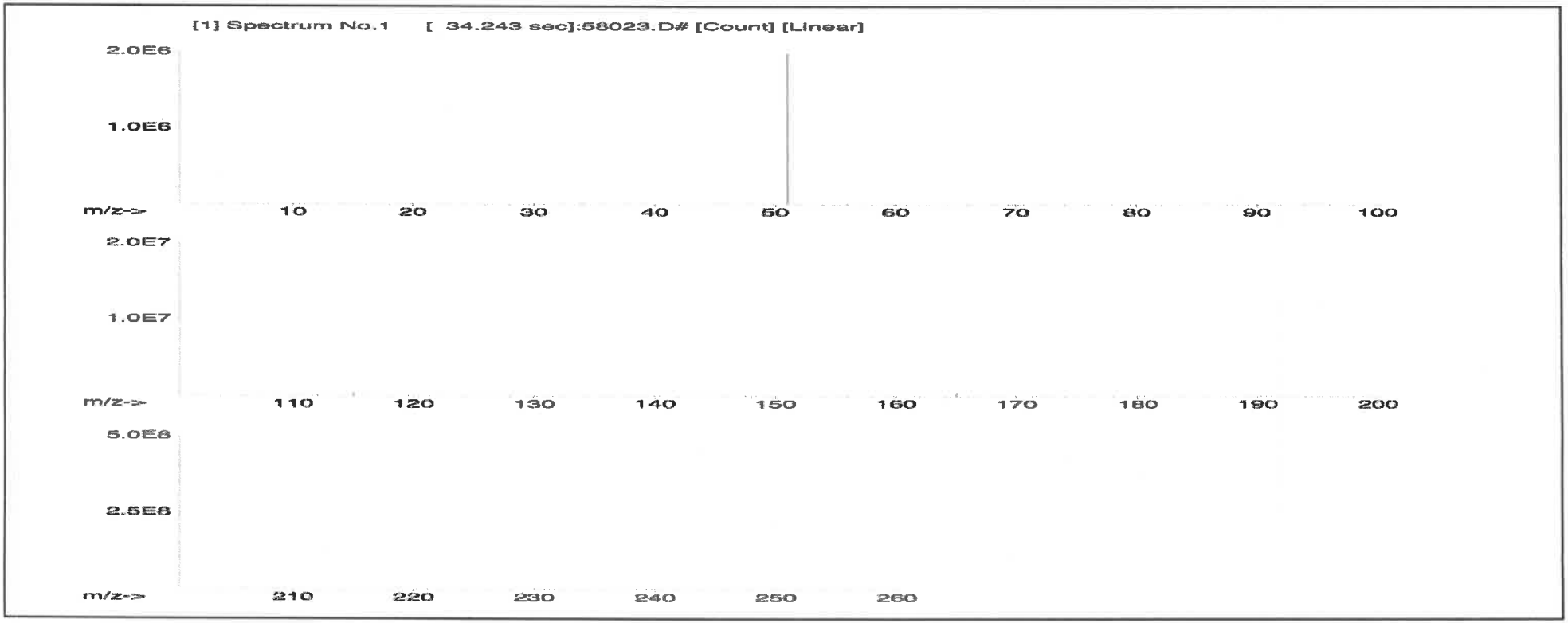
Aleah O'Brady

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

Physical Characterization:

Certified by:

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Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB164457

SOP ID : M3050B-Digestion-20, MSFAM01.1-Trace Metals-2

SDG No : MYE4K0

Matrix : SOIL

Pippete ID: ICP B

Balance ID : M SC-2

Filter paper ID : N/A

pH Strip ID : N/A

Hood ID : #3

Block ID: 1. HOT BLOCK #3 2. N/A

Start Digest Date: 10/28/2024 **Time :** 09:00 **Temp :** 97 °C

End Digest Date: 10/28/2024 **Time :** 12:00 **Temp :** 97 °C

Digestion tube ID: M6054

Block thermometer ID: MET-DIG. # 3

Dig Technician Signature: JSP

Supervisor Signature:

Temp : 1. 97°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1.00	MP82711
LCSSD	0.50	MP82711
Spike Sol 6	2.00	MP82731
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	10.00	MP81119
1:1 HCL	5.00	MP82127
Conc. HNO3	5.00	M6097
30% H2O2	3.00	M5634
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #3 CELL #3: 97 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/28/24 12:30	JSP Met dig	
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB164457

Lab Sample ID	Client Sample ID	pH	Initial Weight (g)	Final Vol (ml)	Color Before	Color After	Texture	Artifact	Comment	Prep Pos
P4519-01	MYE4K0	N/A	1.27	100	Brown	Yellow	Medium	N/A	N/A	1
P4519-02	MYE4K1	N/A	1.29	100	Brown	Yellow	Medium	N/A	N/A	2
P4519-03	MYE4K2	N/A	1.37	100	Brown	Yellow	Medium	N/A	N/A	3
P4519-04	MYE4K2D	N/A	1.11	100	Brown	Yellow	Medium	N/A	N/A	5
P4519-05	MYE4K2S	N/A	1.26	100	Brown	Yellow	Medium	N/A	MP82731	28
P4519-06	MYE4K3	N/A	1.30	100	Brown	Yellow	Medium	N/A	N/A	7
P4519-07	MYE4K4	N/A	1.16	100	Brown	Yellow	Medium	N/A	N/A	8
P4519-08	MYE4K5	N/A	1.13	100	Brown	Yellow	Medium	N/A	N/A	9
P4519-09	MYE4K6	N/A	1.18	100	Brown	Yellow	Medium	N/A	N/A	10
P4519-10	MYE4K7	N/A	1.19	100	Brown	Yellow	Medium	N/A	N/A	11
P4519-11	MYE4K8	N/A	1.09	100	Brown	Yellow	Medium	N/A	N/A	12
P4519-12	MYE4K9	N/A	1.28	100	Brown	Yellow	Medium	N/A	N/A	13
P4519-13	MYE4L0	N/A	1.19	100	Brown	Yellow	Medium	N/A	N/A	14
P4519-14	MYE4L1	N/A	1.21	100	Brown	Yellow	Medium	N/A	N/A	15
P4519-15	MYE4L2	N/A	1.47	100	Brown	Yellow	Medium	N/A	N/A	16
P4519-16	MYE4P6	N/A	1.22	100	Brown	Yellow	Medium	N/A	N/A	17
P4519-17	MYE4P7	N/A	1.30	100	Brown	Yellow	Medium	N/A	N/A	18
P4519-18	MYE4P8	N/A	1.40	100	Brown	Yellow	Medium	N/A	N/A	19
P4519-19	MYE4P9	N/A	1.18	100	Brown	Yellow	Medium	N/A	N/A	20
P4519-20	MYE4Q0	N/A	1.33	100	Brown	Yellow	Medium	N/A	N/A	21
P4519-21	MYE4Q1	N/A	1.20	100	Brown	Yellow	Medium	N/A	N/A	22
PB164457BL	PBS457	N/A	1.00	100	Colorless	Colorless	Fine	N/A	N/A	23
PB164457BS	LCS457	N/A	1.00	100	Colorless	Colorless	Fine	N/A	MP82711	26
PB164457BSD	LCSD457	N/A	1.00	100	Colorless	Colorless	Fine	N/A	MP82711	27

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/30/24 20:47		Kareem	OK
2	S1	S01	CAL2	10/30/24 20:52		Kareem	OK
3	S2	S02	CAL3	10/30/24 20:57		Kareem	OK
4	S3	S03	CAL4	10/30/24 21:01		Kareem	OK
5	S4	S04	CAL5	10/30/24 21:05		Kareem	OK
6	S5	S05	CAL6	10/30/24 21:09		Kareem	OK
7	S6	S06	CAL7	10/30/24 21:14		Kareem	OK
8	ICV001	ICV001	ICV	10/30/24 22:24	Inst. paused for calibration review	Kareem	OK
9	ICB001	ICB001	ICB	10/30/24 22:28		Kareem	OK
10	ICSA001	ICSA001	ICSA	10/30/24 22:45	Inst. paused for review	Kareem	OK
11	ICSAB001	ICSAB001	ICSAB	10/30/24 22:49		Kareem	OK
12	CCV001	CCV001	CCV	10/30/24 22:54		Kareem	OK
13	CCB001	CCB001	CCB	10/30/24 22:58		Kareem	OK
14	P4481-01DL	MYE4B0	SAM	10/30/24 23:02		Kareem	OK
15	P4481-02DL	MYE4B1	SAM	10/30/24 23:07		Kareem	OK
16	P4481-03DL	MYE4B2	SAM	10/30/24 23:11		Kareem	OK
17	P4481-04DL	MYE4B3	SAM	10/30/24 23:16		Kareem	OK
18	P4481-05DL	MYE4B4	SAM	10/30/24 23:20		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

19	P4481-06DL	MYE4B5	SAM	10/30/24 23:25		Kareem	OK
20	P4481-07DL	MYE4B6	SAM	10/30/24 23:29		Kareem	OK
21	P4481-08DL	MYE4B7	SAM	10/30/24 23:33		Kareem	OK
22	P4481-09DL	MYE4B8	SAM	10/30/24 23:38		Kareem	OK
23	P4481-10DL	MYE4B9	SAM	10/30/24 23:42		Kareem	OK
24	P4481-11DL	MYE4C0	SAM	10/30/24 23:47		Kareem	OK
25	P4481-12DL	MYE4C1	SAM	10/30/24 23:51		Kareem	OK
26	P4481-13DL	MYE4C1D	DUP	10/30/24 23:56		Kareem	OK
27	P4481-14DL	MYE4C1S	MS	10/31/24	MS fail for As (ppb), Cu (ppb), Zn (ppb)	Kareem	OK
28	P4481-12LDL	MYE4C1L	SD	10/31/24 00:04		Kareem	OK
29	P4481-15DL	MYE4C2	SAM	10/31/24 00:09		Kareem	OK
30	P4481-16DL	MYE4C3	SAM	10/31/24 00:13		Kareem	OK
31	P4481-17DL	MYE4C4	SAM	10/31/24 00:18		Kareem	OK
32	P4481-18DL	MYE4C5	SAM	10/31/24 00:22		Kareem	OK
33	P4481-19DL	MYE4C6	SAM	10/31/24 00:27		Kareem	OK
34	CCV002	CCV002	CCV	10/31/24 00:31		Kareem	OK
35	CCB002	CCB002	CCB	10/31/24 00:35		Kareem	OK
36	P4481-20DL	MYE4C7	SAM	10/31/24 00:40		Kareem	OK
37	P4481-21DL	MYE4C8	SAM	10/31/24 00:44		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

38	P4481-22DL	MYE4C9	SAM	10/31/24 00:49		Kareem	OK
39	PB164431BL	PBS431	MB	10/31/24 00:53		Kareem	OK
40	PB164431BS	LCS431	LCS	10/31/24 00:58		Kareem	OK
41	PB164431BSD	LCSD431	LCSD	10/31/24 01:02		Kareem	OK
42	P4519-01DL	MYE4K0	SAM	10/31/24 01:07		Kareem	OK
43	P4519-02DL	MYE4K1	SAM	10/31/24 01:11		Kareem	OK
44	P4519-03DL	MYE4K2	SAM	10/31/24 01:15		Kareem	OK
45	P4519-04DL	MYE4K2D	DUP	10/31/24 01:20		Kareem	OK
46	P4519-05DL	MYE4K2S	MS	10/31/24 01:24	MS fail for Pb (ppb)	Kareem	OK
47	P4519-03LDL	MYE4K2L	SD	10/31/24 01:29		Kareem	OK
48	P4519-06DL	MYE4K3	SAM	10/31/24 01:33		Kareem	OK
49	P4519-07DL	MYE4K4	SAM	10/31/24 01:38		Kareem	OK
50	P4519-08DL	MYE4K5	SAM	10/31/24 01:42		Kareem	OK
51	P4519-09DL	MYE4K6	SAM	10/31/24 01:46		Kareem	OK
52	P4519-10DL	MYE4K7	SAM	10/31/24 01:51		Kareem	OK
53	P4519-11DL	MYE4K8	SAM	10/31/24 01:55		Kareem	OK
54	P4519-12DL	MYE4K9	SAM	10/31/24 02:00		Kareem	OK
55	P4519-13DL	MYE4L0	SAM	10/31/24 02:04		Kareem	OK
56	CCV003	CCV003	CCV	10/31/24 02:09		Kareem	OK
57	CCB003	CCB003	CCB	10/31/24 02:13		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

58	P4519-14DL	MYE4L1	SAM	10/31/24 02:17		Kareem	OK
59	P4519-15DL	MYE4L2	SAM	10/31/24 02:22		Kareem	OK
60	P4519-16DL	MYE4P6	SAM	10/31/24 02:26		Kareem	OK
61	P4519-17DL	MYE4P7	SAM	10/31/24 02:31		Kareem	OK
62	P4519-18DL	MYE4P8	SAM	10/31/24 02:35		Kareem	OK
63	P4519-19DL	MYE4P9	SAM	10/31/24 02:39		Kareem	OK
64	P4519-20DL	MYE4Q0	SAM	10/31/24 02:44		Kareem	OK
65	P4519-21DL	MYE4Q1	SAM	10/31/24 02:48		Kareem	OK
66	PB164457BL	PBS457	MB	10/31/24 02:53		Kareem	OK
67	PB164457BS	LCS457	LCS	10/31/24 02:57		Kareem	OK
68	PB164457BSD	LCSD457	LCSD	10/31/24 03:02		Kareem	OK
69	P4484-01DL	MYE4H0	SAM	10/31/24 03:06		Kareem	OK
70	P4484-02DL	MYE4H1	SAM	10/31/24 03:11		Kareem	OK
71	P4484-03DL	MYE4H2	SAM	10/31/24 03:15		Kareem	OK
72	P4484-04DL	MYE4H2D	DUP	10/31/24 03:19		Kareem	OK
73	P4484-05DL	MYE4H2S	MS	10/31/24 03:24	MS fail for Cr (ppb)	Kareem	OK
74	P4484-03LDL	MYE4H2L	SD	10/31/24 03:28		Kareem	OK
75	P4484-06DL	MYE4H3	SAM	10/31/24 03:33		Kareem	OK
76	P4484-07DL	MYE4H4	SAM	10/31/24 03:37		Kareem	OK
77	P4484-08DL	MYE4H5	SAM	10/31/24 03:42		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

78	CCV004	CCV004	CCV	10/31/24 03:46		Kareem	OK
79	CCB004	CCB004	CCB	10/31/24 03:50		Kareem	OK
80	P4484-09DL	MYE4H6	SAM	10/31/24 03:55		Kareem	OK
81	P4484-10DL	MYE4H8	SAM	10/31/24 03:59		Kareem	OK
82	P4484-11DL	MYE4H9	SAM	10/31/24 04:04		Kareem	OK
83	P4484-12DL	MYE4J0	SAM	10/31/24 04:08		Kareem	OK
84	P4484-13DL	MYE4J1	SAM	10/31/24 04:12		Kareem	OK
85	P4484-14DL	MYE4J2	SAM	10/31/24 04:17		Kareem	OK
86	P4484-15DL	MYE4J3	SAM	10/31/24 04:21		Kareem	OK
87	P4484-16DL	MYE4J4	SAM	10/31/24 04:26		Kareem	OK
88	P4484-17DL	MYE4J5	SAM	10/31/24 04:30		Kareem	OK
89	P4484-18DL	MYE4J6	SAM	10/31/24 04:34		Kareem	OK
90	P4484-19DL	MYE4J7	SAM	10/31/24 04:39		Kareem	OK
91	P4484-20DL	MYE4J8	SAM	10/31/24 04:43		Kareem	OK
92	P4484-21DL	MYE4J9	SAM	10/31/24 04:48		Kareem	OK
93	P4484-22DL	MYE4L3	SAM	10/31/24 04:52		Kareem	OK
94	PB164455BL	PBS455	MB	10/31/24 04:57		Kareem	OK
95	PB164455BS	LCS455	LCS	10/31/24 05:01		Kareem	OK
96	PB164455BSD	LCSD455	LCSD	10/31/24 05:06		Kareem	OK
97	P4525-01DL	MYE4H7	SAM	10/31/24 05:10		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

98	P4525-02DL	MYE4H7D	DUP	10/31/24 05:15		Kareem	OK
99	P4525-03DL	MYE4H7S	MS	10/31/24 05:19		Kareem	OK
100	CCV005	CCV005	CCV	10/31/24 05:23		Kareem	OK
101	CCB005	CCB005	CCB	10/31/24 05:28		Kareem	OK
102	P4525-01LDL	MYE4H7L	SD	10/31/24 05:32		Kareem	OK
103	P4526-01DL	MYE4M3	SAM	10/31/24 05:37		Kareem	OK
104	P4526-02DL	MYE4M3D	DUP	10/31/24 05:41		Kareem	OK
105	P4526-03DL	MYE4M3S	MS	10/31/24 05:45	MS fail for As (ppb), Cu (ppb), Zn (ppb)	Kareem	OK
106	P4526-01LDL	MYE4M3L	SD	10/31/24 05:50		Kareem	OK
107	P4527-01DL	MYE4R9	SAM	10/31/24 05:54		Kareem	OK
108	P4527-02DL	MYE4R9D	DUP	10/31/24 05:59		Kareem	OK
109	P4527-03DL	MYE4R9S	MS	10/31/24 06:03		Kareem	OK
110	P4527-01LDL	MYE4R9L	SD	10/31/24 06:07		Kareem	OK
111	P4544-01DL	MYE5G1	SAM	10/31/24 06:12		Kareem	OK
112	P4544-02DL	MYE5G1D	DUP	10/31/24 06:16		Kareem	OK
113	P4544-03DL	MYE5G1S	MS	10/31/24 06:21	MS/MSD fail for more than 50% parameters	Kareem	Not Ok
114	P4544-01LDL	MYE5G1L	SD	10/31/24 06:25		Kareem	OK
115	PB164451BL	PBS451	MB	10/31/24 06:30		Kareem	OK
116	PB164451BS	LCS451	LCS	10/31/24 06:34		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

117	PB164451BSD	LCSD451	LCSD	10/31/24 06:39		Kareem	OK
118	P4496-01	MBHCX5	SAM	10/31/24 06:43		Kareem	OK
119	P4496-02	MBHCY6	SAM	10/31/24 06:48		Kareem	OK
120	P4496-03	MBHCY7	SAM	10/31/24 06:52		Kareem	OK
121	CCV006	CCV006	CCV	10/31/24 06:57		Kareem	OK
122	CCB006	CCB006	CCB	10/31/24 07:01		Kareem	OK
123	P4584-01	MC0PI1	SAM	10/31/24 07:05		Kareem	OK
124	P4584-02	MC0PI5	SAM	10/31/24 07:10		Kareem	OK
125	PB164537BL	PBW537	MB	10/31/24 07:15	NOT USE	Kareem	Not Ok
126	PB164537BS	LCS537	LCS	10/31/24 07:19	NOT USE	Kareem	Not Ok
127	P4501-01	MBHCS8	SAM	10/31/24 07:24	Ca,Mg,Ni high	Kareem	Dilution
128	P4501-02	MBHCS9	SAM	10/31/24 07:28	Mg,Ni high	Kareem	Dilution
129	P4501-03	MBHCT0	SAM	10/31/24 07:32	Mg,Ni high	Kareem	Dilution
130	P4501-04	MBHCT1	SAM	10/31/24 07:37	Ca,Ni high	Kareem	Dilution
131	P4501-05	MBHCT2	SAM	10/31/24 07:41	Ca high	Kareem	Dilution
132	P4501-06	MBHCT3	SAM	10/31/24 07:46		Kareem	OK
133	P4501-07	MBHCT4	SAM	10/31/24 07:50	Ni high	Kareem	Dilution
134	P4501-08	MBHCT5	SAM	10/31/24 07:54	Ca high	Kareem	Dilution
135	P4501-09	MBHCT6	SAM	10/31/24 07:59	Ca high	Kareem	Dilution
136	P4501-10	MBHCT7	SAM	10/31/24 08:03	Ca high	Kareem	Dilution

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 # LB133243

Review By	Sarabjit Jaswal	Review On	11/7/2024 4:10:01 AM
Supervise By	Mohan Bera	Supervise On	11/7/2024 4:26:12 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82632,MP82446,MP82445,MP82444,MP82443,MP82442
ICV Standard	MP82450
CCV Standard	MP82453
ICSA Standard	MP82451,MP82452
CRI Standard	
LCS Standard	MP82711
Chk Standard	MP82455,MP82456

137	P4501-11	MBHCT8	SAM	10/31/24 08:08	Ca high	Kareem	Dilution
138	P4501-12	MBHCT9	SAM	10/31/24 08:12	Ca high	Kareem	Dilution
139	P4501-13	MBHCW0	SAM	10/31/24 08:17	Ca high	Kareem	Dilution
140	P4501-14	MBHCW0D	DUP	10/31/24 08:21	Ca high	Kareem	Dilution
141	P4501-15	MBHCW0S	MS	10/31/24 08:26	Ca high, MS fail for Pb (ppb), Ni (ppb), Zn (ppb), Sb,As,Se,Ag,Tl (Below RL)	Kareem	Dilution
142	P4501-13L	MBHCW0L	SD	10/31/24 08:30	Ca high	Kareem	Dilution
143	CCV007	CCV007	CCV	10/31/24 08:34		Kareem	OK
144	CCB007	CCB007	CCB	10/31/24 08:39		Kareem	OK
145	P4501-16	MBHCW1	SAM	10/31/24 08:43	Ca high	Kareem	Dilution
146	P4501-17	MBHCW2	SAM	10/31/24 08:47	Ni high	Kareem	Dilution
147	P4501-18	MBHCW3	SAM	10/31/24 08:52	Ni high	Kareem	Dilution
148	P4501-19	MBHCW4	SAM	10/31/24 08:56	Ni high	Kareem	Dilution
149	P4501-20	MBHCW5	SAM	10/31/24 09:00	Ni high	Kareem	Dilution
150	P4501-21	MBHCW6	SAM	10/31/24 09:05	Ca high	Kareem	Dilution
151	P4501-22	MBHCW7	SAM	10/31/24 09:09	Ca high	Kareem	Dilution
152	PB164544BL	PBS544	MB	10/31/24 09:14		Kareem	OK
153	PB164544BS	LCS544	LCS	10/31/24 09:18		Kareem	OK
154	CCV008	CCV008	CCV	10/31/24 09:23		Kareem	OK
155	CCB008	CCB008	CCB	10/31/24 09:27		Kareem	OK

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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133346

Review By	Sarabjit Jaswal	Review On	11/8/2024 8:02:58 AM
Supervise By	Mohan Bera	Supervise On	11/8/2024 8:03:53 AM

STD. NAME	STD REF.#
ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	
Chk Standard	MP83148,MP83149

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/07/24 16:24		Kareem	OK
2	S1	S01	CAL2	11/07/24 16:29		Kareem	OK
3	S2	S02	CAL3	11/07/24 16:33		Kareem	OK
4	S3	S03	CAL4	11/07/24 16:38		Kareem	OK
5	S4	S04	CAL5	11/07/24 16:42		Kareem	OK
6	S5	S05	CAL6	11/07/24 16:46		Kareem	OK
7	S6	S06	CAL7	11/07/24 16:51		Kareem	OK
8	ICV005	ICV005	ICV	11/07/24 17:13	Inst. paused for calibration review	Kareem	OK
9	ICB005	ICB005	ICB	11/07/24 17:19	Inst. paused for review	Kareem	OK
10	ICSA005	ICSA005	ICSA	11/07/24 17:24		Kareem	OK
11	ICSAB005	ICSAB005	ICSAB	11/07/24 17:28		Kareem	OK
12	CCV029	CCV029	CCV	11/07/24 17:32		Kareem	OK
13	CCB029	CCB029	CCB	11/07/24 17:37		Kareem	OK
14	P4480-05A	MYE494A	PS	11/07/24 18:17	NOT USE	Kareem	Not Ok
15	P4481-12A	MYE4C1A	PS	11/07/24 18:21	NOT USE	Kareem	Not Ok
16	P4482-14A	MYE4E3A	PS	11/07/24 18:26	NOT USE	Kareem	Not Ok
17	P4483-20A	MYE4G9A	PS	11/07/24 18:30	NOT USE	Kareem	Not Ok
18	P4484-03ADL	MYE4H2A	PS	11/07/24 18:35	PS for Cr-0.031ml of M5658 - 10ml sample	Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB133346

Review By	Sarabjit Jaswal	Review On	11/8/2024 8:02:58 AM
Supervise By	Mohan Bera	Supervise On	11/8/2024 8:03:53 AM

STD. NAME	STD REF.#
ICAL Standard	MP83134,MP83142,MP83140,MP83139,MP83138,MP83137,MP83136
ICV Standard	MP83143
CCV Standard	MP83146
ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	
Chk Standard	MP83148,MP83149

19	P4496-07A	MBHZC8A	PS	11/07/24 18:39	PS For Pb-0.018ml of MP83156, Ni-0.035ml of M5961, Se-0.07ml of MP83152, Tl-0.05ml of MP83153	Kareem	OK
20	P4497-20A	MBHDD0A	PS	11/07/24 18:43	NOT USE	Kareem	Not Ok
21	P4498-10A	MBHDF0A	PS	11/07/24 18:48	PS For As-0.02ml MP83154, Pb-0.025ml of MP83156, Se-0.07ml of MP83152, Tl-0.05ml-MP83153	Kareem	OK
22	P4499-20A	MBHCN0A	PS	11/07/24 18:52	NOT USE	Kareem	Not Ok
23	P4500-10A	MBHCP0A	PS	11/07/24 18:57	PS For As-0.02ml MP83154, Pb-0.019ml of MP83156, Tl-0.05ml of MP83153	Kareem	OK
24	P4501-13A	MBHCW0A	PS	11/07/24 19:01	NOT USE	Kareem	Not Ok
25	P4519-03ADL	MYE4K2A	PS	11/07/24 19:05	PS for Pb-0.021ml of MP83156	Kareem	OK
26	CCV030	CCV030	CCV	11/07/24 19:10		Kareem	OK
27	CCB030	CCB030	CCB	11/07/24 19:14		Kareem	OK
28	P4480-05ADL	MYE494A	PS	11/07/24 19:25	PS for Pb-0.0028ml of M6025,Se-0.07ml of MP83152 - 10 ml sample	Kareem	OK
29	P4481-12ADL	MYE4C1A	PS	11/07/24 19:29	PS for As-0.0036ml of M5801,Cu-0.012ml of M5751,Zn-0.011ml of M5819 - 10ml sample	Kareem	OK
30	P4482-14ADL	MYE4E3A	PS	11/07/24 19:34	NOT USE	Kareem	Not Ok

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31	P4483-20ADL	MYE4G9A	PS	11/07/24 19:38	NOT USE	Kareem	Not Ok
32	P4496-07ADL	MBHZC8A	PS	11/07/24 19:43	NOT USE	Kareem	Not Ok
33	P4501-13ADL	MBHCW0A	PS	11/07/24 19:47	NOT USE	Kareem	Not Ok
34	CCV031	CCV031	CCV	11/07/24 19:51		Kareem	OK
35	CCB031	CCB031	CCB	11/07/24 19:56		Kareem	OK
36	P4497-11DL	MBHDB6	SAM	11/07/24 21:23	5X for Ca	Kareem	Confirms
37	P4497-13DL	MBHDB8	SAM	11/07/24 21:27	5X for Ni	Kareem	Confirms
38	P4499-19DL	MBHCM9	SAM	11/07/24 21:32	5X for Ca	Kareem	Confirms
39	CCV032	CCV032	CCV	11/07/24 21:36		Kareem	OK
40	CCB032	CCB032	CCB	11/07/24 21:40		Kareem	OK
41	P4499-20DL	MBHCN0	SAM	11/07/24 21:45	3X for Ca,Mg,Ni	Kareem	Confirms
42	P4499-21DL	MBHCN0D	DUP	11/07/24 21:49	3X for Ca,Mg,Ni	Kareem	Confirms
43	P4499-20LDL	MBHCN0L	SD	11/07/24 21:54	15X for Ca,Mg,Ni	Kareem	Confirms
44	P4499-22DL	MBHCN0S	MS	11/07/24 21:58	3X for Ca,Mg,Ni	Kareem	Confirms
45	P4496-04DL	MBHDO5	SAM	11/07/24 22:03	5X for Ca	Kareem	Confirms
46	P4496-05DL	MBHDO6	SAM	11/07/24 22:07	4X for Ca	Kareem	Confirms
47	P4496-06DL	MBHZC7	SAM	11/07/24 22:12	2X for Ca	Kareem	Confirms
48	P4496-07DL	MBHZC8	SAM	11/07/24 22:16	2X for Ca	Kareem	Confirms
49	P4496-08DL	MBHZC8D	DUP	11/07/24 22:20	2X for Ca	Kareem	Confirms
50	P4496-07LDL	MBHZC8L	SD	11/07/24 22:25	10X for Ca	Kareem	Confirms

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Chk Standard	MP83148,MP83149

51	P4496-09DL	MBHZC8S	MS	11/07/24 22:29	2X for Ca	Kareem	Confirms
52	P4498-02DL	MBHDD2	SAM	11/07/24 22:39	5X for Ca	Kareem	Confirms
53	P4498-03DL	MBHDD8	SAM	11/07/24 22:44	2X For Ca,Mg,Ni High, Still Mg,Ni High	Kareem	Dilution
54	P4498-03DL2	MBHDD8	SAM	11/07/24 22:48	5X for Mg,Ni	Kareem	Confirms
55	P4498-04DL	MBHDD9	SAM	11/07/24 22:53	2X for Ca,Ni	Kareem	Confirms
56	P4498-05DL	MBHDE0	SAM	11/07/24 22:57	2X for Ca	Kareem	Confirms
57	P4498-06DL	MBHDE1	SAM	11/07/24 23:01	2X for Ni	Kareem	Confirms
58	P4498-07DL	MBHDE2	SAM	11/07/24 23:06	2X for Ni	Kareem	Confirms
59	P4498-08DL	MBHDE8	SAM	11/07/24 23:10	5X for Ca	Kareem	Confirms
60	P4498-09DL	MBHDE9	SAM	11/07/24 23:15	5X for Ca	Kareem	Confirms
61	CCV033	CCV033	CCV	11/07/24 23:19		Kareem	OK
62	CCB033	CCB033	CCB	11/07/24 23:23		Kareem	OK
63	P4498-10DL	MBHDF0	SAM	11/07/24 23:28	2x for Ni	Kareem	Confirms
64	P4498-11DL	MBHDF0D	DUP	11/07/24 23:32	2x for Ni	Kareem	Confirms
65	P4498-10LDL	MBHDF0L	SD	11/07/24 23:37	10x for Ni	Kareem	Confirms
66	P4498-12DL	MBHDF0S	MS	11/07/24 23:41	2x for Ni	Kareem	Confirms
67	P4498-13DL	MBHDF1	SAM	11/07/24 23:45	5x for Ca	Kareem	Confirms
68	P4498-14DL	MBHDF2	SAM	11/07/24 23:50	10x for Ca	Kareem	Confirms
69	P4498-15DL	MBHCH8	SAM	11/07/24 23:54	2X For Ca,Ni	Kareem	Confirms

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ICSA Standard	MP83144,MP83145
CRI Standard	
LCS Standard	
Chk Standard	MP83148,MP83149

70	P4498-16DL	MBHCH9	SAM	11/07/24 23:59	3X For Ni	Kareem	Confirms
71	P4498-20DL	MBHCJ3	SAM	11/08/24 00:03	3X For Ca,Ni	Kareem	Confirms
72	P4498-21DL	MBHCJ5	SAM	11/08/24 00:08	5X For Ca	Kareem	Confirms
73	P4498-22DL	MBHCJ6	SAM	11/08/24 00:12	2X For Ca	Kareem	Confirms
74	CCV034	CCV034	CCV	11/08/24 00:16		Kareem	OK
75	CCB034	CCB034	CCB	11/08/24 00:21		Kareem	OK