EPA SAMPLE NO.

YE8C3

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-15

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 60 | J | 03/04/2025 | 1934 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1934 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1934 |
| 7440-39-3 | Barium | 260 | | 03/04/2025 | 1934 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1934 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1934 |
| 7440-70-2 | Calcium | 8500 | | 03/04/2025 | 1934 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1934 |
| 7440-48-4 | Cobalt | 2.0 | J | 03/04/2025 | 1934 |
| 7440-50-8 | Copper | 25 | U | 03/04/2025 | 1934 |
| 7439-89-6 | Iron | 110 | | 03/04/2025 | 1934 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1934 |
| 7439-95-4 | Magnesium | 3900 | J | 03/04/2025 | 1934 |
| 7439-96-5 | Manganese | 97 | | 03/04/2025 | 1934 |
| 7440-02-0 | Nickel | 2.2 | J | 03/04/2025 | 1934 |
| 7440-09-7 | Potassium | 5000 | U | 03/04/2025 | 1934 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1934 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1934 |
| 7440-23-5 | Sodium | 5500 | | 03/04/2025 | 1934 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1934 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1934 |
| 7440-66-6 | Zinc | 81 | | 03/04/2025 | 1934 |

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

Comments:

EPA SAMPLE NO.

YE8D1

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-12

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 48 | J | 03/04/2025 | 1922 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1922 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1922 |
| 7440-39-3 | Barium | 260 | | 03/04/2025 | 1922 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1922 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1922 |
| 7440-70-2 | Calcium | 8500 | | 03/04/2025 | 1922 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1922 |
| 7440-48-4 | Cobalt | 2.4 | J | 03/04/2025 | 1922 |
| 7440-50-8 | Copper | 25 | U | 03/04/2025 | 1922 |
| 7439-89-6 | Iron | 75 | J | 03/04/2025 | 1922 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1922 |
| 7439-95-4 | Magnesium | 3900 | J | 03/04/2025 | 1922 |
| 7439-96-5 | Manganese | 110 | | 03/04/2025 | 1922 |
| 7440-02-0 | Nickel | 3.4 | J | 03/04/2025 | 1922 |
| 7440-09-7 | Potassium | 5000 | U | 03/04/2025 | 1922 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1922 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1922 |
| 7440-23-5 | Sodium | 5100 | | 03/04/2025 | 1922 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1922 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1922 |
| 7440-66-6 | Zinc | 86 | | 03/04/2025 | 1922 |

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

Comments:

EPA SAMPLE NO.

YE8D2

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-13

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 28 | J | 03/04/2025 | 1926 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1926 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1926 |
| 7440-39-3 | Barium | 240 | | 03/04/2025 | 1926 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1926 |
| 7440-43-9 | Cadmium | 2.4 | J | 03/04/2025 | 1926 |
| 7440-70-2 | Calcium | 8500 | | 03/04/2025 | 1926 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1926 |
| 7440-48-4 | Cobalt | 10 | J | 03/04/2025 | 1926 |
| 7440-50-8 | Copper | 66 | | 03/04/2025 | 1926 |
| 7439-89-6 | Iron | 690 | | 03/04/2025 | 1926 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1926 |
| 7439-95-4 | Magnesium | 3400 | J | 03/04/2025 | 1926 |
| 7439-96-5 | Manganese | 65 | | 03/04/2025 | 1926 |
| 7440-02-0 | Nickel | 11 | J | 03/04/2025 | 1926 |
| 7440-09-7 | Potassium | 690 | J | 03/04/2025 | 1926 |
| 7782-49-2 | Selenium | 4.7 | J | 03/04/2025 | 1926 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1926 |
| 7440-23-5 | Sodium | 4600 | J | 03/04/2025 | 1926 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1926 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1926 |
| 7440-66-6 | Zinc | 300 | | 03/04/2025 | 1926 |

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

Comments:

EPA SAMPLE NO.

YE8D4

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-14

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 1100 | | 03/04/2025 | 1930 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1930 |
| 7440-38-2 | Arsenic | 5.8 | J | 03/04/2025 | 1930 |
| 7440-39-3 | Barium | 210 | | 03/04/2025 | 1930 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1930 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1930 |
| 7440-70-2 | Calcium | 7500 | | 03/04/2025 | 1930 |
| 7440-47-3 | Chromium | 2.5 | J | 03/04/2025 | 1930 |
| 7440-48-4 | Cobalt | 1.2 | J | 03/04/2025 | 1930 |
| 7440-50-8 | Copper | 13 | J | 03/04/2025 | 1930 |
| 7439-89-6 | Iron | 2800 | | 03/04/2025 | 1930 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1930 |
| 7439-95-4 | Magnesium | 5300 | | 03/04/2025 | 1930 |
| 7439-96-5 | Manganese | 51 | | 03/04/2025 | 1930 |
| 7440-02-0 | Nickel | 5.8 | J | 03/04/2025 | 1930 |
| 7440-09-7 | Potassium | 5000 | U | 03/04/2025 | 1930 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1930 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1930 |
| 7440-23-5 | Sodium | 8600 | | 03/04/2025 | 1930 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1930 |
| 7440-62-2 | Vanadium | 4.4 | J | 03/04/2025 | 1930 |
| 7440-66-6 | Zinc | 99 | | 03/04/2025 | 1930 |

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

Comments:

EPA SAMPLE NO.

YE8D5

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-17

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 200 | U | 03/04/2025 | 1939 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1939 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1939 |
| 7440-39-3 | Barium | 290 | | 03/04/2025 | 1939 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1939 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1939 |
| 7440-70-2 | Calcium | 29000 | | 03/04/2025 | 1939 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1939 |
| 7440-48-4 | Cobalt | 50 | U | 03/04/2025 | 1939 |
| 7440-50-8 | Copper | 25 | U | 03/04/2025 | 1939 |
| 7439-89-6 | Iron | 24 | J | 03/04/2025 | 1939 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1939 |
| 7439-95-4 | Magnesium | 7900 | | 03/04/2025 | 1939 |
| 7439-96-5 | Manganese | 490 | | 03/04/2025 | 1939 |
| 7440-02-0 | Nickel | 3.4 | J | 03/04/2025 | 1939 |
| 7440-09-7 | Potassium | 5000 | U | 03/04/2025 | 1939 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1939 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1939 |
| 7440-23-5 | Sodium | 4500 | J | 03/04/2025 | 1939 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1939 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1939 |
| 7440-66-6 | Zinc | 56 | J | 03/04/2025 | 1939 |

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

Comments:

EPA SAMPLE NO.

YE8E3

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-06

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 200 | U | 03/04/2025 | 1845 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1845 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1845 |
| 7440-39-3 | Barium | 220 | | 03/04/2025 | 1845 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1845 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1845 |
| 7440-70-2 | Calcium | 11000 | | 03/04/2025 | 1845 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1845 |
| 7440-48-4 | Cobalt | 1.1 | J | 03/04/2025 | 1845 |
| 7440-50-8 | Copper | 64 | | 03/04/2025 | 1845 |
| 7439-89-6 | Iron | 110 | | 03/04/2025 | 1845 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1845 |
| 7439-95-4 | Magnesium | 2800 | J | 03/04/2025 | 1845 |
| 7439-96-5 | Manganese | 46 | | 03/04/2025 | 1845 |
| 7440-02-0 | Nickel | 6.4 | J | 03/04/2025 | 1845 |
| 7440-09-7 | Potassium | 2400 | J | 03/04/2025 | 1845 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1845 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1845 |
| 7440-23-5 | Sodium | 4100 | J | 03/04/2025 | 1845 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1845 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1845 |
| 7440-66-6 | Zinc | 100 | | 03/04/2025 | 1845 |

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

Comments:

EPA SAMPLE NO.

YE8E4

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-07

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 2300 | | 03/04/2025 | 1849 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1849 |
| 7440-38-2 | Arsenic | 2.9 | J | 03/04/2025 | 1849 |
| 7440-39-3 | Barium | 300 | | 03/04/2025 | 1849 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1849 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1849 |
| 7440-70-2 | Calcium | 8700 | | 03/04/2025 | 1849 |
| 7440-47-3 | Chromium | 4.5 | J | 03/04/2025 | 1849 |
| 7440-48-4 | Cobalt | 1.2 | J | 03/04/2025 | 1849 |
| 7440-50-8 | Copper | 20 | J | 03/04/2025 | 1849 |
| 7439-89-6 | Iron | 4600 | | 03/04/2025 | 1849 |
| 7439-92-1 | Lead | 2.6 | J | 03/04/2025 | 1849 |
| 7439-95-4 | Magnesium | 5200 | | 03/04/2025 | 1849 |
| 7439-96-5 | Manganese | 54 | | 03/04/2025 | 1849 |
| 7440-02-0 | Nickel | 6.8 | J | 03/04/2025 | 1849 |
| 7440-09-7 | Potassium | 5000 | U | 03/04/2025 | 1849 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1849 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1849 |
| 7440-23-5 | Sodium | 17000 | | 03/04/2025 | 1849 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1849 |
| 7440-62-2 | Vanadium | 8.7 | J | 03/04/2025 | 1849 |
| 7440-66-6 | Zinc | 150 | | 03/04/2025 | 1849 |

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

Comments:

EPA SAMPLE NO.

YE8E5

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-08

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 3600 | | 03/04/2025 | 1853 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1853 |
| 7440-38-2 | Arsenic | 9.0 | J | 03/04/2025 | 1853 |
| 7440-39-3 | Barium | 210 | | 03/04/2025 | 1853 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1853 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1853 |
| 7440-70-2 | Calcium | 7100 | | 03/04/2025 | 1853 |
| 7440-47-3 | Chromium | 7.1 | J | 03/04/2025 | 1853 |
| 7440-48-4 | Cobalt | 50 | U | 03/04/2025 | 1853 |
| 7440-50-8 | Copper | 27 | | 03/04/2025 | 1853 |
| 7439-89-6 | Iron | 10000 | | 03/04/2025 | 1853 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1853 |
| 7439-95-4 | Magnesium | 5300 | | 03/04/2025 | 1853 |
| 7439-96-5 | Manganese | 14 | J | 03/04/2025 | 1853 |
| 7440-02-0 | Nickel | 6.2 | J | 03/04/2025 | 1853 |
| 7440-09-7 | Potassium | 5000 | U | 03/04/2025 | 1853 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1853 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1853 |
| 7440-23-5 | Sodium | 17000 | | 03/04/2025 | 1853 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1853 |
| 7440-62-2 | Vanadium | 8.4 | J | 03/04/2025 | 1853 |
| 7440-66-6 | Zinc | 150 | | 03/04/2025 | 1853 |

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

Comments:

EPA SAMPLE NO.

YE8E6

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-09

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 25 | J | 03/04/2025 | 1857 |
| 7440-36-0 | Antimony | 5.2 | J | 03/04/2025 | 1857 |
| 7440-38-2 | Arsenic | 18 | | 03/04/2025 | 1857 |
| 7440-39-3 | Barium | 260 | | 03/04/2025 | 1857 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1857 |
| 7440-43-9 | Cadmium | 12 | | 03/04/2025 | 1857 |
| 7440-70-2 | Calcium | 8800 | | 03/04/2025 | 1857 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1857 |
| 7440-48-4 | Cobalt | 19 | J | 03/04/2025 | 1857 |
| 7440-50-8 | Copper | 92 | | 03/04/2025 | 1857 |
| 7439-89-6 | Iron | 230 | | 03/04/2025 | 1857 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1857 |
| 7439-95-4 | Magnesium | 4400 | J | 03/04/2025 | 1857 |
| 7439-96-5 | Manganese | 290 | | 03/04/2025 | 1857 |
| 7440-02-0 | Nickel | 190 | | 03/04/2025 | 1857 |
| 7440-09-7 | Potassium | 1000 | J | 03/04/2025 | 1857 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1857 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1857 |
| 7440-23-5 | Sodium | 5500 | | 03/04/2025 | 1857 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1857 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1857 |
| 7440-66-6 | Zinc | 330 | | 03/04/2025 | 1857 |

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

Comments:

EPA SAMPLE NO.

YE8E7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-10

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 120 | J | 03/04/2025 | 1901 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1901 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1901 |
| 7440-39-3 | Barium | 240 | | 03/04/2025 | 1901 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1901 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1901 |
| 7440-70-2 | Calcium | 8700 | | 03/04/2025 | 1901 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1901 |
| 7440-48-4 | Cobalt | 10 | J | 03/04/2025 | 1901 |
| 7440-50-8 | Copper | 4.6 | J | 03/04/2025 | 1901 |
| 7439-89-6 | Iron | 240 | | 03/04/2025 | 1901 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1901 |
| 7439-95-4 | Magnesium | 4700 | J | 03/04/2025 | 1901 |
| 7439-96-5 | Manganese | 480 | | 03/04/2025 | 1901 |
| 7440-02-0 | Nickel | 13 | J | 03/04/2025 | 1901 |
| 7440-09-7 | Potassium | 5000 | U | 03/04/2025 | 1901 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1901 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1901 |
| 7440-23-5 | Sodium | 5600 | | 03/04/2025 | 1901 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1901 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1901 |
| 7440-66-6 | Zinc | 110 | | 03/04/2025 | 1901 |

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

Comments:

EPA SAMPLE NO.

YE8E8

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-11

% Solids: Date Received: 01/22/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 200 | U | 03/04/2025 | 1918 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1918 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1918 |
| 7440-39-3 | Barium | 240 | | 03/04/2025 | 1918 |
| 7440-41-7 | Beryllium | 0.18 | J | 03/04/2025 | 1918 |
| 7440-43-9 | Cadmium | 2.1 | J | 03/04/2025 | 1918 |
| 7440-70-2 | Calcium | 8100 | | 03/04/2025 | 1918 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1918 |
| 7440-48-4 | Cobalt | 34 | J | 03/04/2025 | 1918 |
| 7440-50-8 | Copper | 3.4 | J | 03/04/2025 | 1918 |
| 7439-89-6 | Iron | 510 | | 03/04/2025 | 1918 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1918 |
| 7439-95-4 | Magnesium | 3900 | J | 03/04/2025 | 1918 |
| 7439-96-5 | Manganese | 220 | | 03/04/2025 | 1918 |
| 7440-02-0 | Nickel | 260 | | 03/04/2025 | 1918 |
| 7440-09-7 | Potassium | 1500 | J | 03/04/2025 | 1918 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1918 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1918 |
| 7440-23-5 | Sodium | 5300 | | 03/04/2025 | 1918 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1918 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1918 |
| 7440-66-6 | Zinc | 310 | | 03/04/2025 | 1918 |

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

Comments:

EPA SAMPLE NO.

YE8F5

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-01

% Solids: Date Received: 01/18/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 31 | J | 03/04/2025 | 1821 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1821 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1821 |
| 7440-39-3 | Barium | 220 | | 03/04/2025 | 1821 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1821 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1821 |
| 7440-70-2 | Calcium | 7700 | | 03/04/2025 | 1821 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1821 |
| 7440-48-4 | Cobalt | 10 | J | 03/04/2025 | 1821 |
| 7440-50-8 | Copper | 25 | U | 03/04/2025 | 1821 |
| 7439-89-6 | Iron | 73 | J | 03/04/2025 | 1821 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1821 |
| 7439-95-4 | Magnesium | 4500 | J | 03/04/2025 | 1821 |
| 7439-96-5 | Manganese | 300 | | 03/04/2025 | 1821 |
| 7440-02-0 | Nickel | 9.8 | J | 03/04/2025 | 1821 |
| 7440-09-7 | Potassium | 580 | J | 03/04/2025 | 1821 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1821 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1821 |
| 7440-23-5 | Sodium | 5600 | | 03/04/2025 | 1821 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1821 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1821 |
| 7440-66-6 | Zinc | 70 | | 03/04/2025 | 1821 |

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

Comments:

EPA SAMPLE NO.

YE8F7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-02

% Solids: Date Received: 01/18/2025

Analytical Method: ICP_AES

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

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 200 | U | 03/04/2025 | 1825 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1825 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1825 |
| 7440-39-3 | Barium | 230 | | 03/04/2025 | 1825 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1825 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1825 |
| 7440-70-2 | Calcium | 8500 | | 03/04/2025 | 1825 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1825 |
| 7440-48-4 | Cobalt | 50 | U | 03/04/2025 | 1825 |
| 7440-50-8 | Copper | 25 | U | 03/04/2025 | 1825 |
| 7439-89-6 | Iron | 55 | J | 03/04/2025 | 1825 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1825 |
| 7439-95-4 | Magnesium | 2400 | J | 03/04/2025 | 1825 |
| 7439-96-5 | Manganese | 21 | | 03/04/2025 | 1825 |
| 7440-02-0 | Nickel | 1.4 | J | 03/04/2025 | 1825 |
| 7440-09-7 | Potassium | 5900 | | 03/04/2025 | 1825 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1825 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1825 |
| 7440-23-5 | Sodium | 4300 | J | 03/04/2025 | 1825 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1825 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1825 |
| 7440-66-6 | Zinc | 120 | | 03/04/2025 | 1825 |

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

Comments:

EPA SAMPLE NO.

YE8F8

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: ACE Case No.: 51955 MA No. : SDG No.: YE8F7

Matrix: Water Lab Sample ID: Q1136-05

% Solids: Date Received: 01/18/2025

Analytical Method: ICP_AES

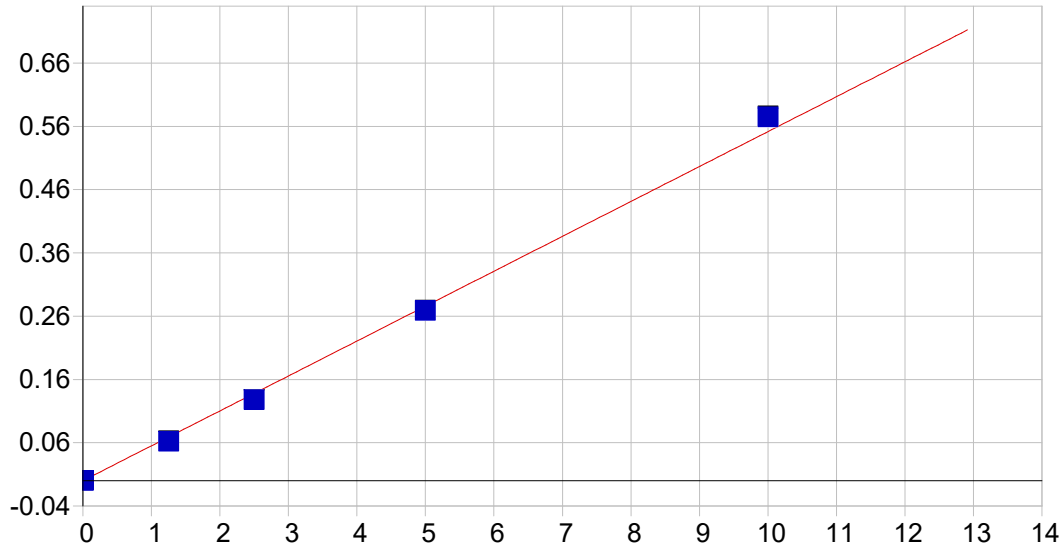
Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): ug/L

| CAS No. | Analyte | Concentration | Q | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 200 | U | 03/04/2025 | 1841 |
| 7440-36-0 | Antimony | 60 | U | 03/04/2025 | 1841 |
| 7440-38-2 | Arsenic | 10 | U | 03/04/2025 | 1841 |
| 7440-39-3 | Barium | 220 | | 03/04/2025 | 1841 |
| 7440-41-7 | Beryllium | 5.0 | U | 03/04/2025 | 1841 |
| 7440-43-9 | Cadmium | 5.0 | U | 03/04/2025 | 1841 |
| 7440-70-2 | Calcium | 11000 | | 03/04/2025 | 1841 |
| 7440-47-3 | Chromium | 10 | U | 03/04/2025 | 1841 |
| 7440-48-4 | Cobalt | 1.2 | J | 03/04/2025 | 1841 |
| 7440-50-8 | Copper | 2.5 | J | 03/04/2025 | 1841 |
| 7439-89-6 | Iron | 24 | J | 03/04/2025 | 1841 |
| 7439-92-1 | Lead | 10 | U | 03/04/2025 | 1841 |
| 7439-95-4 | Magnesium | 2800 | J | 03/04/2025 | 1841 |
| 7439-96-5 | Manganese | 55 | | 03/04/2025 | 1841 |
| 7440-02-0 | Nickel | 2.9 | J | 03/04/2025 | 1841 |
| 7440-09-7 | Potassium | 520 | J | 03/04/2025 | 1841 |
| 7782-49-2 | Selenium | 35 | U | 03/04/2025 | 1841 |
| 7440-22-4 | Silver | 10 | U* | 03/04/2025 | 1841 |
| 7440-23-5 | Sodium | 4000 | J | 03/04/2025 | 1841 |
| 7440-28-0 | Thallium | 25 | U | 03/04/2025 | 1841 |
| 7440-62-2 | Vanadium | 50 | U | 03/04/2025 | 1841 |
| 7440-66-6 | Zinc | 96 | | 03/04/2025 | 1841 |

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

Comments:

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



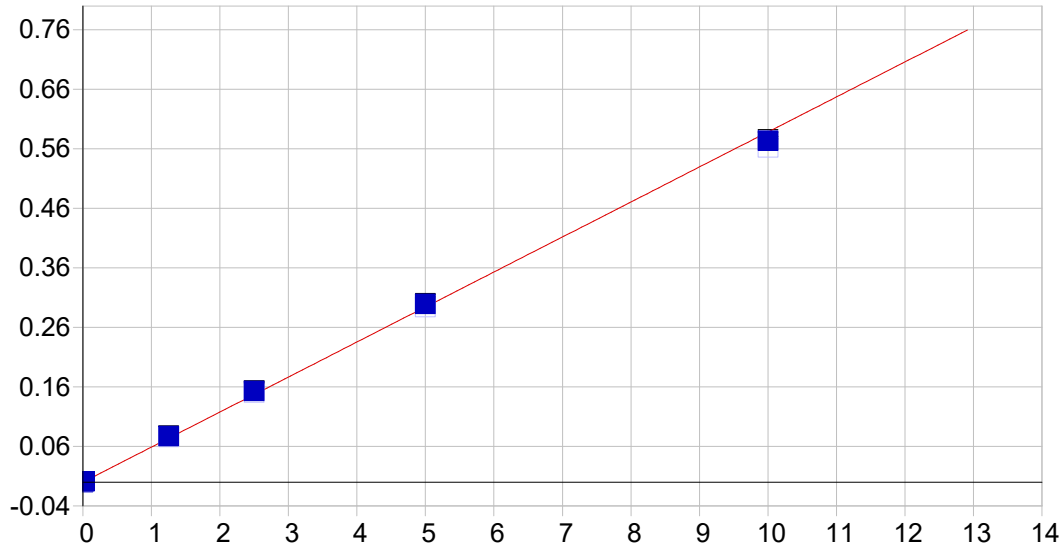

**As 189.042 {479}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000055 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.055176 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998803 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 0.002562 | | |
| Predicted MQL: | 0.008541 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00006 | .000 | 1 |
| S1 | .01000 | .00990 | -.000 | -.976 | .00049 | .000 | 1 |
| S3 | 2.5000 | 2.3233 | -.177 | -7.07 | .12789 | .000 | 1 |
| S4 | 5.0000 | 4.8724 | -.128 | -2.55 | .26829 | .001 | 1 |
| S5 | 10.000 | 10.423 | .423 | 4.23 | .57405 | .002 | 1 |
| S2 | 1.2500 | 1.1317 | -.118 | -9.46 | .06226 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



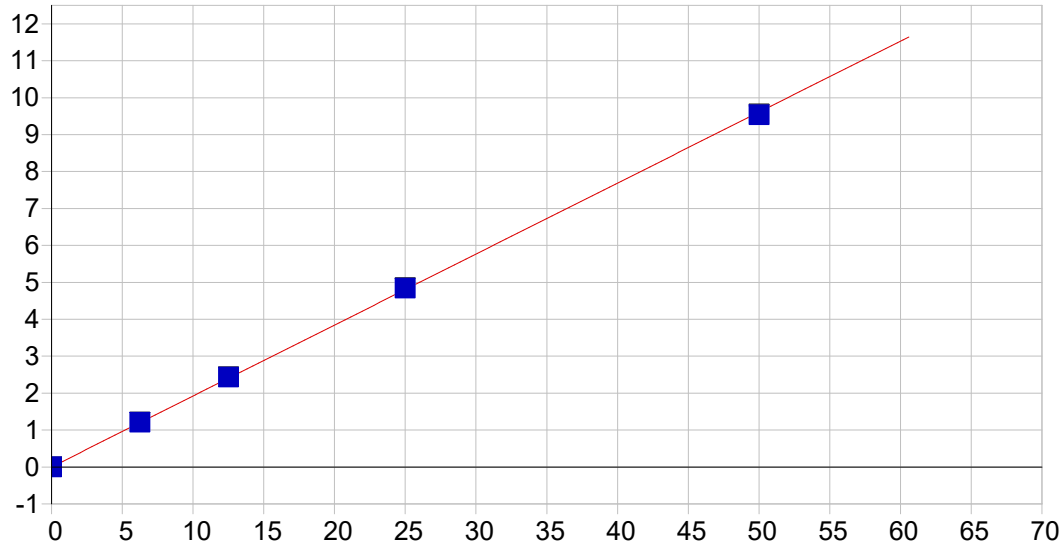

**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000039 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.058839 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999577 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 0.001888 | | |
| Predicted MQL: | 0.006292 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00004 | .000 | 1 |
| S1 | .02500 | .02683 | .002 | 7.32 | .00156 | .000 | 1 |
| S3 | 2.5000 | 2.6028 | .103 | 4.11 | .15034 | .001 | 1 |
| S4 | 5.0000 | 5.0876 | .088 | 1.75 | .29370 | .001 | 1 |
| S5 | 10.000 | 9.7469 | -.253 | -2.53 | .56216 | .002 | 1 |
| S2 | 1.2500 | 1.3109 | .061 | 4.87 | .07575 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



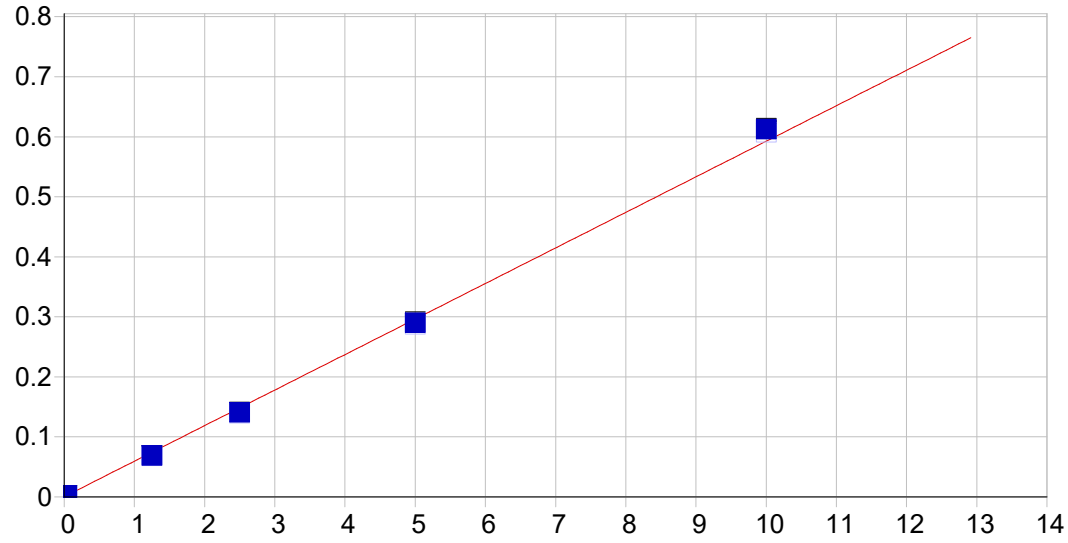

**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000128 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.192180 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999963 | Status: | OK. |
| Std Error of Est: | 0.000062 | | |
| Predicted MDL: | 0.001394 | | |
| Predicted MQL: | 0.004645 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00013 | .000 | 1 |
| S1 | .01000 | .00947 | -.001 | -5.27 | .00168 | .000 | 1 |
| S3 | 12.500 | 12.650 | .150 | 1.20 | 2.4290 | .005 | 1 |
| S4 | 25.000 | 25.206 | .206 | .826 | 4.8400 | .005 | 1 |
| S5 | 50.000 | 49.605 | -.395 | -.789 | 9.5250 | .025 | 1 |
| S2 | 6.2500 | 6.2883 | .038 | .612 | 1.2073 | .002 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



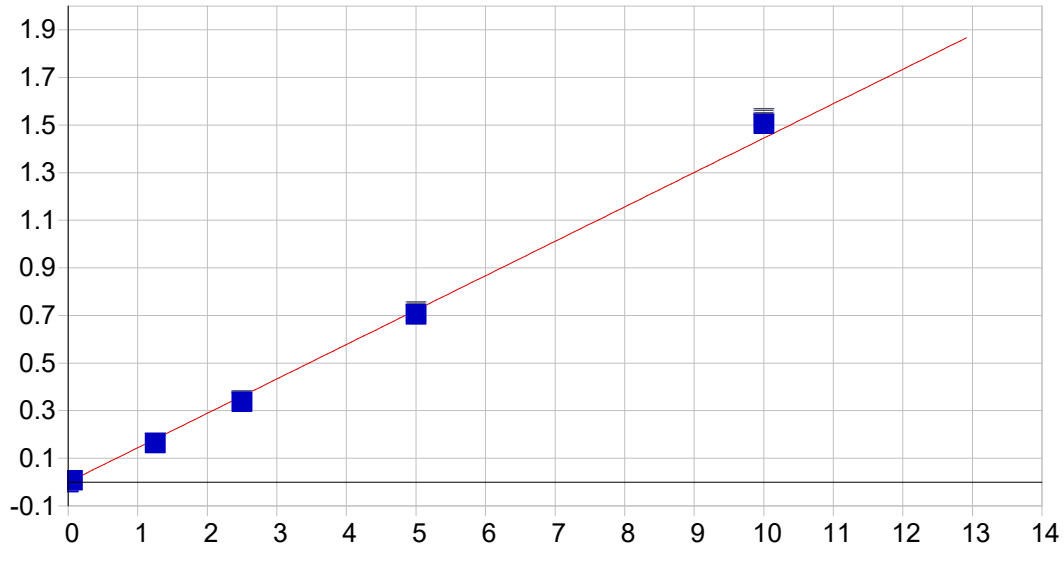

**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000309 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.059212 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999234 | Status: | OK. |
| Std Error of Est: | 0.000072 | | |
| Predicted MDL: | 0.002894 | | |
| Predicted MQL: | 0.009648 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00031 | .000 | 1 |
| S1 | .03500 | .03177 | -.003 | -9.23 | .00219 | .000 | 1 |
| S3 | 2.5000 | 2.3683 | -.132 | -5.27 | .13917 | .001 | 1 |
| S4 | 5.0000 | 4.8902 | -.110 | -2.20 | .28714 | .002 | 1 |
| S5 | 10.000 | 10.339 | .339 | 3.39 | .60705 | .002 | 1 |
| S2 | 1.2500 | 1.1557 | -.094 | -7.55 | .06806 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



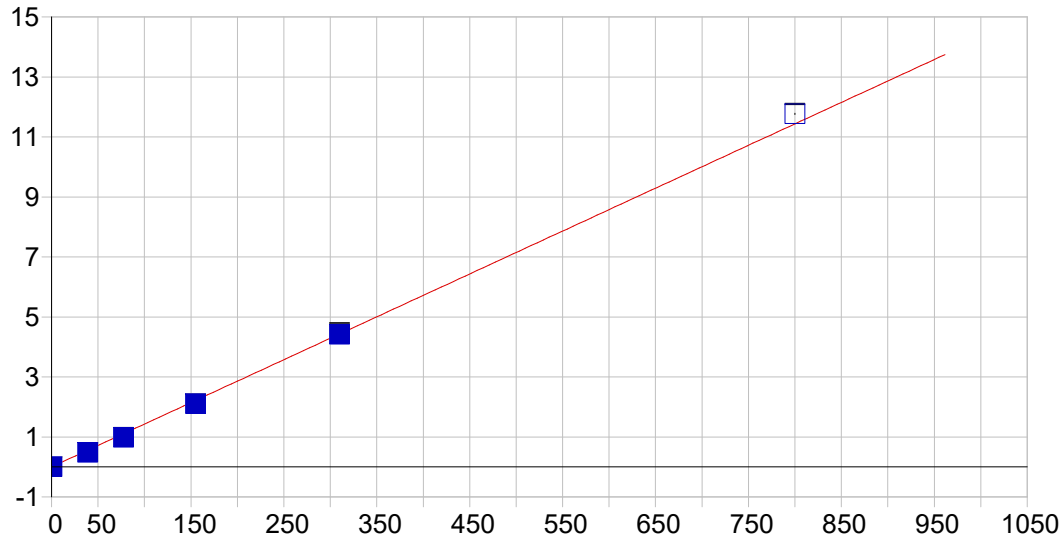

**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000106 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.144529 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998859 | Status: | OK. |
| Std Error of Est: | 0.000288 | | |
| Predicted MDL: | 0.001888 | | |
| Predicted MQL: | 0.006292 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | -.00010 | .000 | 1 |
| S1 | .06000 | .05601 | -.004 | -6.64 | .00797 | .000 | 1 |
| S3 | 2.5000 | 2.3291 | -.171 | -6.84 | .34133 | .001 | 1 |
| S4 | 5.0000 | 4.8760 | -.124 | -2.48 | .71426 | .002 | 1 |
| S5 | 10.000 | 10.419 | .419 | 4.19 | 1.5250 | .003 | 1 |
| S2 | 1.2500 | 1.1299 | -.120 | -9.61 | .16560 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



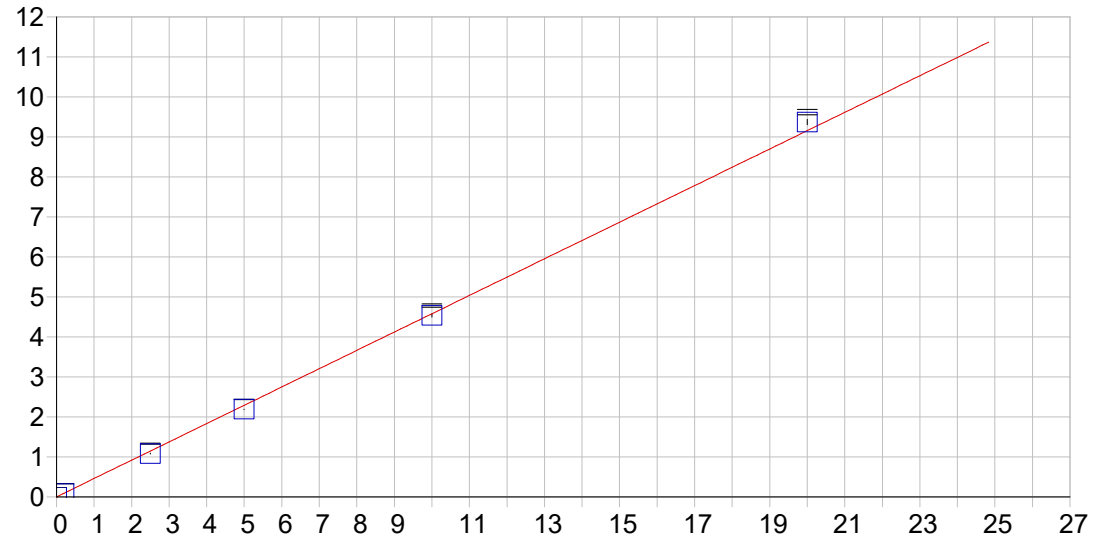

**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000062 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.014294 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999004 | Status: | OK. |
| Std Error of Est: | 0.000397 | | |
| Predicted MDL: | 0.006591 | | |
| Predicted MQL: | 0.021969 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00008 | .000 | .000 | .00006 | .000 | 1 |
| S1 | .20000 | .16929 | -.031 | -15.4 | .00249 | .000 | 1 |
| S3 | 77.500 | 68.726 | -8.77 | -11.3 | .98371 | .005 | 1 |
| S4 | 155.00 | 146.82 | -8.18 | -5.28 | 2.1013 | .004 | 1 |
| S5 | 310.00 | 308.79 | -1.21 | -.389 | 4.4191 | .052 | 1 |
| S2 | 38.750 | 33.736 | -5.01 | -12.9 | .48292 | .003 | 1 |
| S6 | 800.00 | 823.23 | 23.2 | 2.90 | 11.767 | .023 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



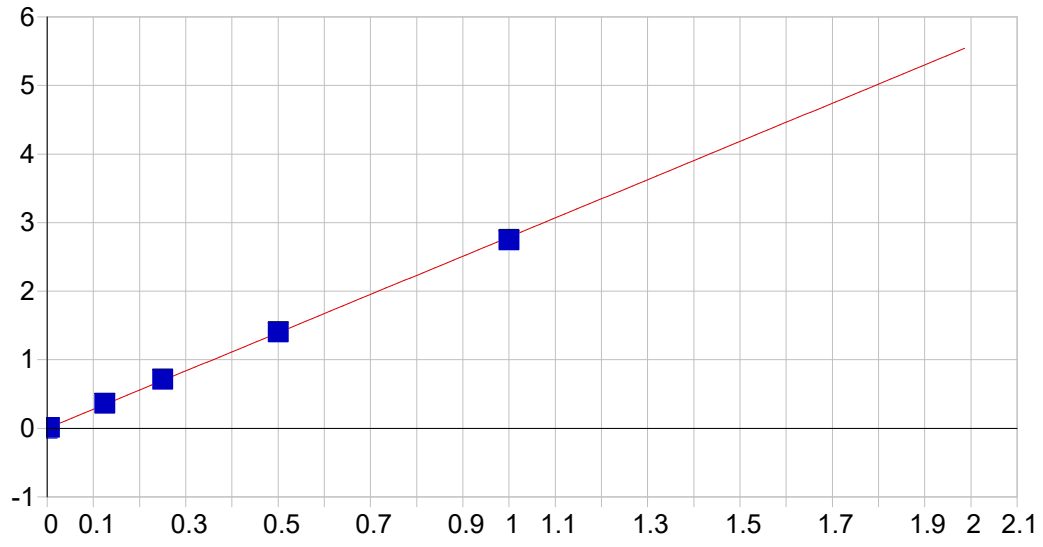

**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002332 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.457690 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999577 | Status: | OK. |
| Std Error of Est: | 0.001415 | | |
| Predicted MDL: | 0.000798 | | |
| Predicted MQL: | 0.002661 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00004 | .000 | .000 | .00235 | .000 | 1 |
| S1 | .20000 | .17746 | -.023 | -11.3 | .08355 | .001 | 1 |
| S3 | 5.0000 | 4.7764 | -.224 | -4.47 | 2.1885 | .006 | 1 |
| S4 | 10.000 | 9.9130 | -.087 | -.870 | 4.5394 | .040 | 1 |
| S5 | 20.000 | 20.470 | .470 | 2.35 | 9.3713 | .067 | 1 |
| S2 | 2.5000 | 2.3629 | -.137 | -5.49 | 1.0838 | .013 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



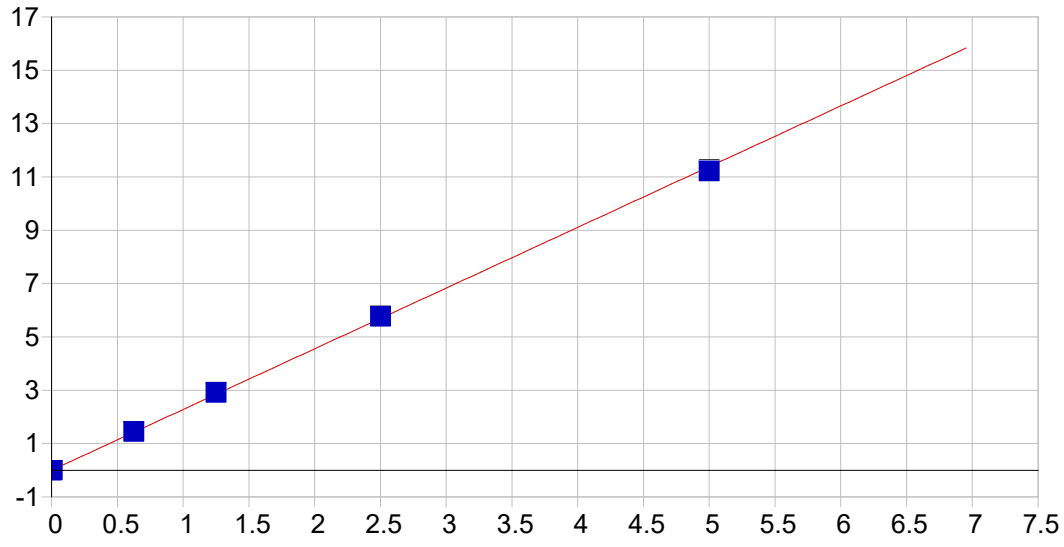

**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000047 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.789292 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999821 | Status: | OK. |
| Std Error of Est: | 0.000197 | | |
| Predicted MDL: | 0.000075 | | |
| Predicted MQL: | 0.000250 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00005 | .000 | 1 |
| S1 | .00500 | .00536 | .000 | 7.12 | .01487 | .000 | 1 |
| S3 | .25000 | .25630 | .006 | 2.52 | .71170 | .003 | 1 |
| S4 | .50000 | .50352 | .004 | .704 | 1.3981 | .005 | 1 |
| S5 | 1.0000 | .98459 | -.015 | -1.54 | 2.7337 | .009 | 1 |
| S2 | .12500 | .13024 | .005 | 4.19 | .36165 | .003 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



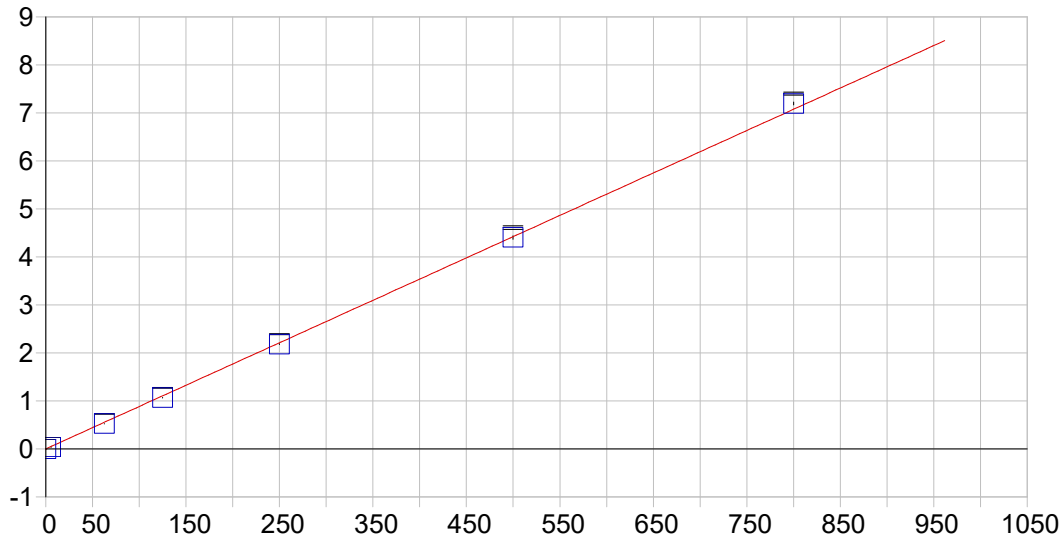

**Cd 214.438 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000000 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.276951 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999878 | Status: | OK. |
| Std Error of Est: | 0.000299 | | |
| Predicted MDL: | 0.000076 | | |
| Predicted MQL: | 0.000254 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00000 | .000 | 1 |
| S1 | .00500 | .00501 | .000 | .122 | .01141 | .000 | 1 |
| S3 | 1.2500 | 1.2796 | .030 | 2.37 | 2.9192 | .003 | 1 |
| S4 | 2.5000 | 2.5334 | .033 | 1.34 | 5.7797 | .006 | 1 |
| S5 | 5.0000 | 4.9283 | -.072 | -1.43 | 11.244 | .025 | 1 |
| S2 | .62500 | .63374 | .009 | 1.40 | 1.4458 | .002 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



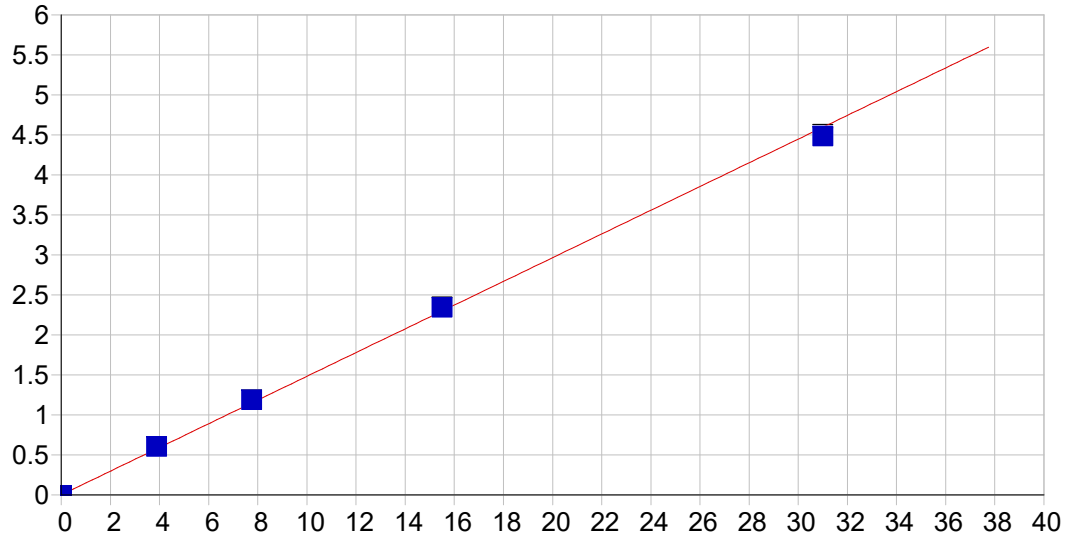

**Ca 373.690 { 90}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000077 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.008844 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999817 | Status: | OK. |
| Std Error of Est: | 0.000590 | | |
| Predicted MDL: | 0.008134 | | |
| Predicted MQL: | 0.027115 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00080 | .001 | .000 | .00008 | .000 | 1 |
| S2 | 62.500 | 59.391 | -3.11 | -4.97 | .52534 | .004 | 1 |
| S3 | 125.00 | 120.37 | -4.63 | -3.71 | 1.0646 | .007 | 1 |
| S4 | 250.00 | 246.51 | -3.49 | -1.40 | 2.1802 | .010 | 1 |
| S5 | 500.00 | 498.07 | -1.93 | -.386 | 4.4051 | .037 | 1 |
| S1 | 5.0000 | 4.6425 | -.358 | -7.15 | .04114 | .000 | 1 |
| S6 | 800.00 | 813.52 | 13.5 | 1.69 | 7.1950 | .030 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



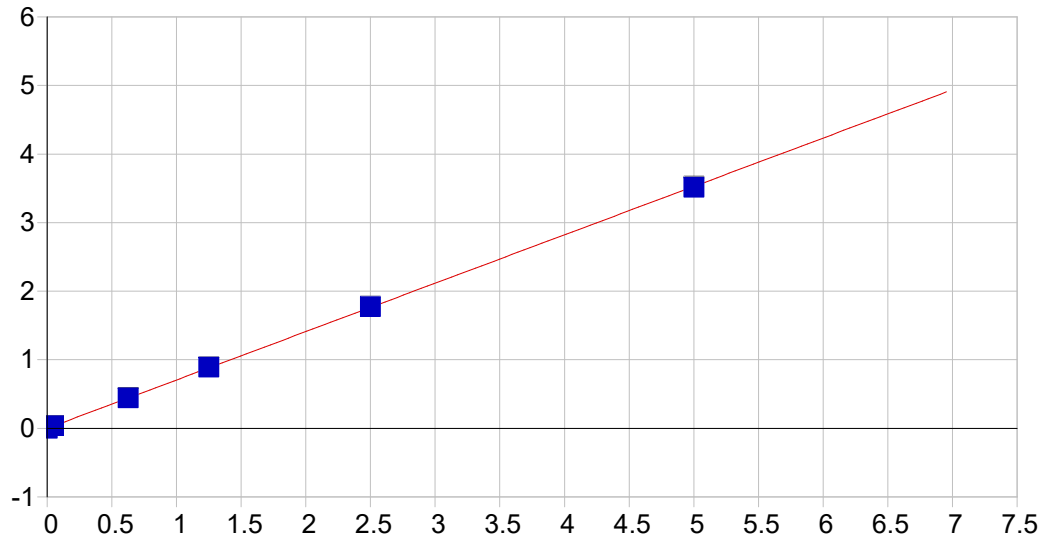

**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000071 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.148260 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999625 | Status: | OK. |
| Std Error of Est: | 0.000120 | | |
| Predicted MDL: | 0.000412 | | |
| Predicted MQL: | 0.001374 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00007 | .000 | 1 |
| S1 | .01000 | .01066 | .001 | 6.61 | .00165 | .000 | 1 |
| S3 | 7.7500 | 8.0144 | .264 | 3.41 | 1.1897 | .001 | 1 |
| S4 | 15.500 | 15.801 | .301 | 1.94 | 2.3455 | .004 | 1 |
| S5 | 31.000 | 30.237 | -.763 | -2.46 | 4.4886 | .020 | 1 |
| S2 | 3.8750 | 4.0719 | .197 | 5.08 | .60447 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



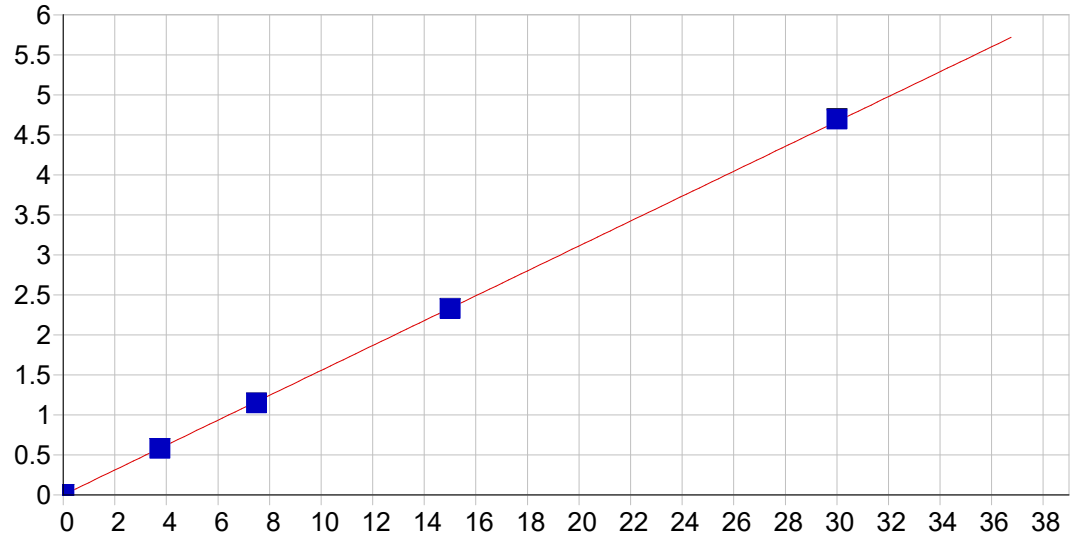

**Co 228.616 {448}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000165 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.705564 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999985 | Status: | OK. |
| Std Error of Est: | 0.000103 | | |
| Predicted MDL: | 0.000265 | | |
| Predicted MQL: | 0.000882 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00017 | .000 | 1 |
| S1 | .05000 | .04958 | -.000 | -.840 | .03495 | .000 | 1 |
| S3 | 1.2500 | 1.2609 | .011 | .874 | .89285 | .002 | 1 |
| S4 | 2.5000 | 2.5132 | .013 | .527 | 1.7797 | .002 | 1 |
| S5 | 5.0000 | 4.9760 | -.024 | -.480 | 3.5241 | .007 | 1 |
| S2 | .62500 | .62534 | .000 | .054 | .44273 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



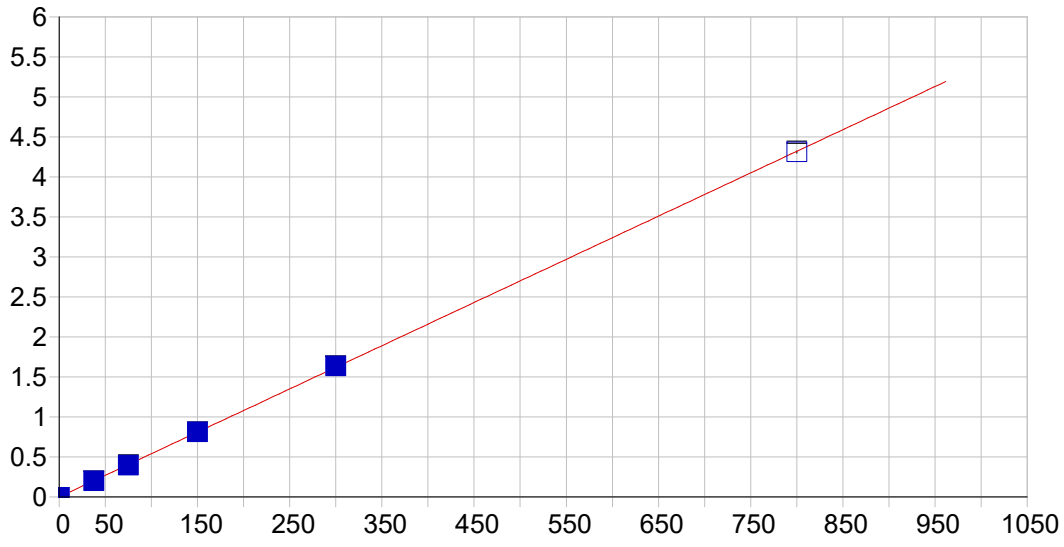

**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000435 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.155535 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999956 | Status: | OK. |
| Std Error of Est: | 0.000067 | | |
| Predicted MDL: | 0.001705 | | |
| Predicted MQL: | 0.005684 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00001 | -.000 | .000 | .00043 | .000 | 1 |
| S1 | .02500 | .03097 | .006 | 23.9 | .00525 | .000 | 1 |
| S3 | 7.5000 | 7.3687 | -.131 | -1.75 | 1.1464 | .002 | 1 |
| S4 | 15.000 | 14.967 | -.033 | -.218 | 2.3281 | .004 | 1 |
| S5 | 30.000 | 30.175 | .175 | .584 | 4.6933 | .008 | 1 |
| S2 | 3.7500 | 3.7330 | -.017 | -.453 | .58099 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



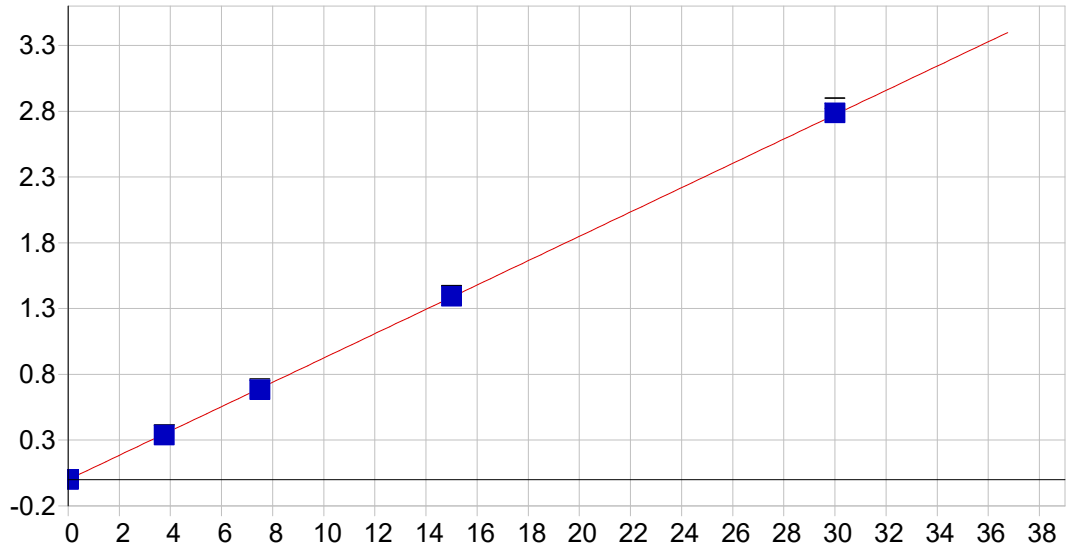

**Fe 259.837 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000020 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.005400 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999971 | Status: | OK. |
| Std Error of Est: | 0.000018 | | |
| Predicted MDL: | 0.005655 | | |
| Predicted MQL: | 0.018850 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00002 | .000 | 1 |
| S1 | .10000 | .10257 | .003 | 2.57 | .00056 | .000 | 1 |
| S3 | 75.000 | 73.505 | -1.50 | -1.99 | .39652 | .002 | 1 |
| S4 | 150.00 | 150.49 | .490 | .327 | .81181 | .003 | 1 |
| S5 | 300.00 | 303.27 | 3.27 | 1.09 | 1.6360 | .003 | 1 |
| S2 | 37.500 | 36.906 | -.594 | -1.58 | .19910 | .001 | 1 |
| S6 | 800.00 | 798.32 | -1.68 | -.210 | 4.3108 | .014 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



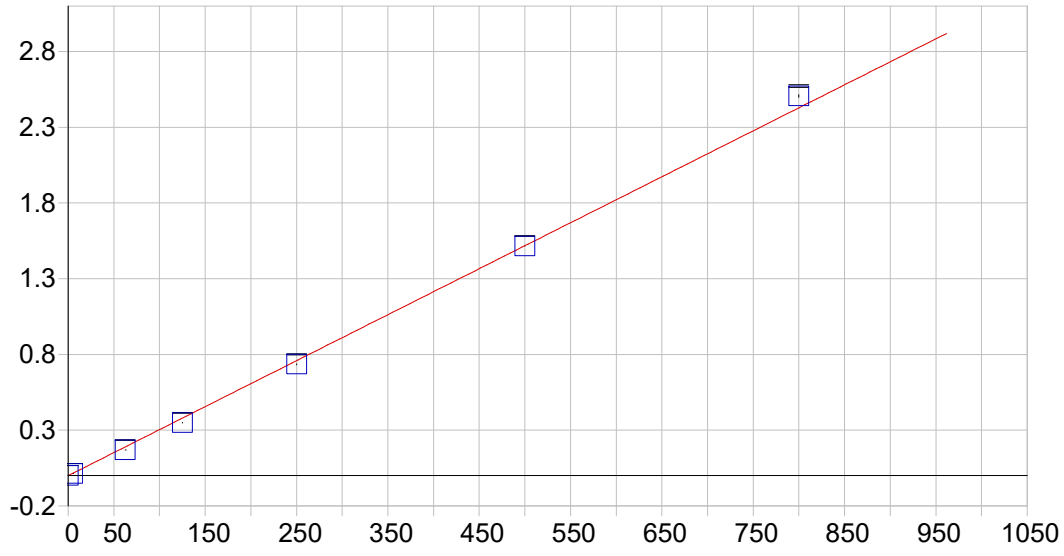

**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000011 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.092469 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999960 | Status: | OK. |
| Std Error of Est: | 0.000029 | | |
| Predicted MDL: | 0.000311 | | |
| Predicted MQL: | 0.001035 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00001 | .000 | 1 |
| S1 | .01500 | .01461 | -.000 | -2.58 | .00134 | .000 | 1 |
| S3 | 7.5000 | 7.3941 | -.106 | -1.41 | .68323 | .006 | 1 |
| S4 | 15.000 | 15.063 | .063 | .423 | 1.3919 | .009 | 1 |
| S5 | 30.000 | 30.132 | .132 | .439 | 2.7843 | .039 | 1 |
| S2 | 3.7500 | 3.6610 | -.089 | -2.37 | .33828 | .003 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



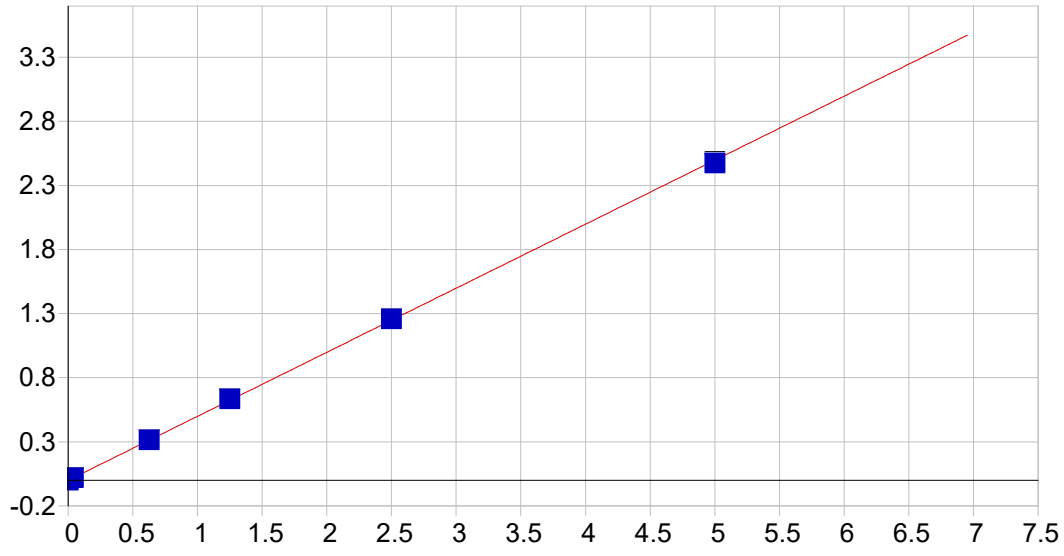

**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000040 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.003035 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999236 | Status: | OK. |
| Std Error of Est: | 0.000414 | | |
| Predicted MDL: | 0.012899 | | |
| Predicted MQL: | 0.042997 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00172 | .002 | .000 | -.00003 | .000 | 1 |
| S2 | 62.500 | 56.019 | -6.48 | -10.4 | .17000 | .000 | 1 |
| S3 | 125.00 | 114.99 | -10.0 | -8.00 | .34902 | .002 | 1 |
| S4 | 250.00 | 242.15 | -7.85 | -3.14 | .73501 | .002 | 1 |
| S5 | 500.00 | 499.56 | -.440 | -.088 | 1.5164 | .001 | 1 |
| S1 | 5.0000 | 4.2011 | -.799 | -16.0 | .01271 | .000 | 1 |
| S6 | 800.00 | 825.57 | 25.6 | 3.20 | 2.5060 | .009 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



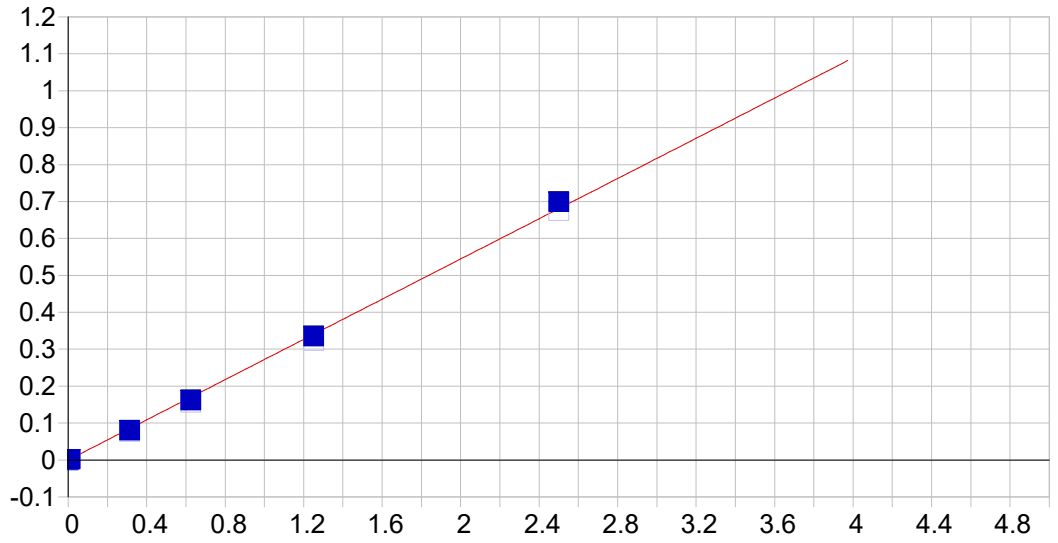

**Ni 231.604 {446}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000199 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.499519 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999948 | Status: | OK. |
| Std Error of Est: | 0.000122 | | |
| Predicted MDL: | 0.000419 | | |
| Predicted MQL: | 0.001396 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00020 | .000 | 1 |
| S1 | .04000 | .04005 | .000 | .132 | .01983 | .000 | 1 |
| S3 | 1.2500 | 1.2703 | .020 | 1.62 | .63581 | .001 | 1 |
| S4 | 2.5000 | 2.5200 | .020 | .799 | 1.2615 | .002 | 1 |
| S5 | 5.0000 | 4.9533 | -.047 | -.933 | 2.4799 | .006 | 1 |
| S2 | .62500 | .63132 | .006 | 1.01 | .31589 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



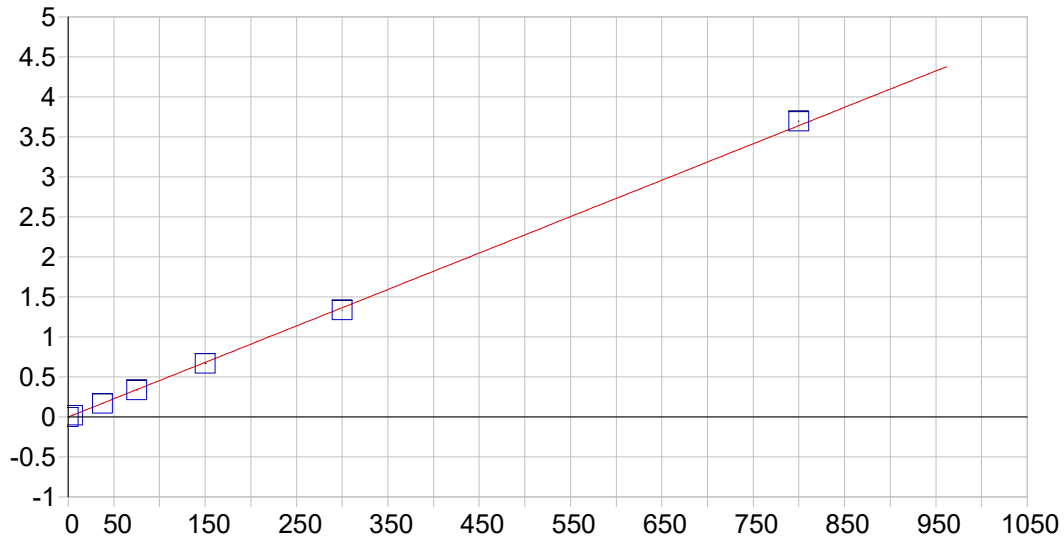

**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000209 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.272312 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999492 | Status: | OK. |
| Std Error of Est: | 0.000070 | | |
| Predicted MDL: | 0.000356 | | |
| Predicted MQL: | 0.001187 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00021 | .000 | 1 |
| S1 | .01000 | .00911 | -.001 | -8.95 | .00225 | .000 | 1 |
| S3 | .62500 | .59602 | -.029 | -4.64 | .15610 | .000 | 1 |
| S4 | 1.2500 | 1.2308 | -.019 | -1.54 | .32295 | .001 | 1 |
| S5 | 2.5000 | 2.5664 | .066 | 2.66 | .67467 | .000 | 1 |
| S2 | .31250 | .29520 | -.017 | -5.54 | .07718 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



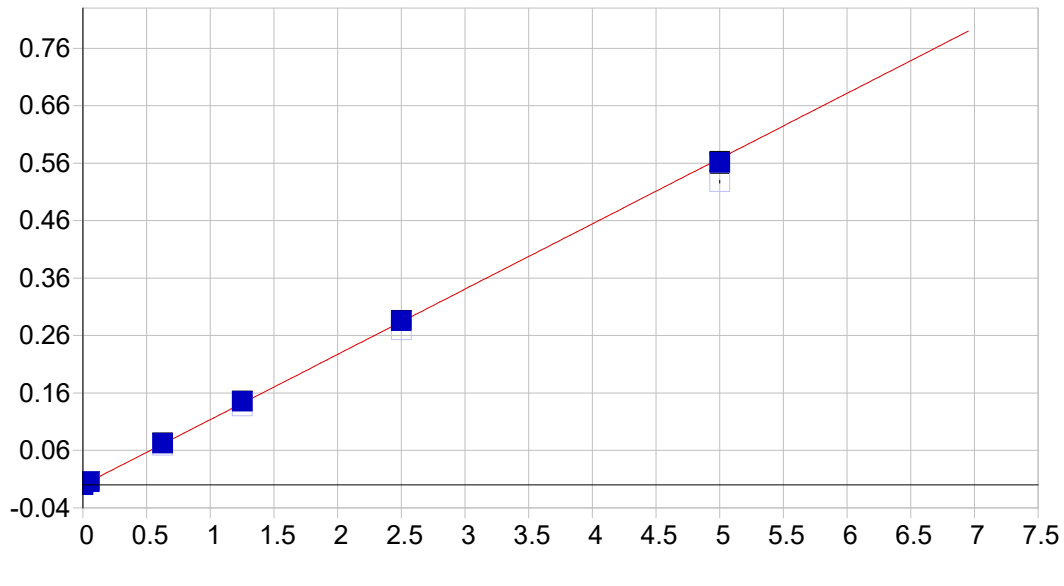

**Na 818.326 { 41}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.001076 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.004554 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999853 | Status: | OK. |
| Std Error of Est: | 0.000241 | | |
| Predicted MDL: | 0.181435 | | |
| Predicted MQL: | 0.604783 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00033 | .000 | .000 | -.00107 | .001 | 1 |
| S2 | 37.500 | 36.780 | -.720 | -1.92 | .16641 | .001 | 1 |
| S3 | 75.000 | 73.868 | -1.13 | -1.51 | .33531 | .001 | 1 |
| S4 | 150.00 | 146.98 | -3.02 | -2.01 | .66825 | .001 | 1 |
| S5 | 300.00 | 293.40 | -6.60 | -2.20 | 1.3350 | .003 | 1 |
| S1 | 5.0000 | 4.9806 | -.019 | -.387 | .02160 | .001 | 1 |
| S6 | 800.00 | 811.49 | 11.5 | 1.44 | 3.6943 | .004 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



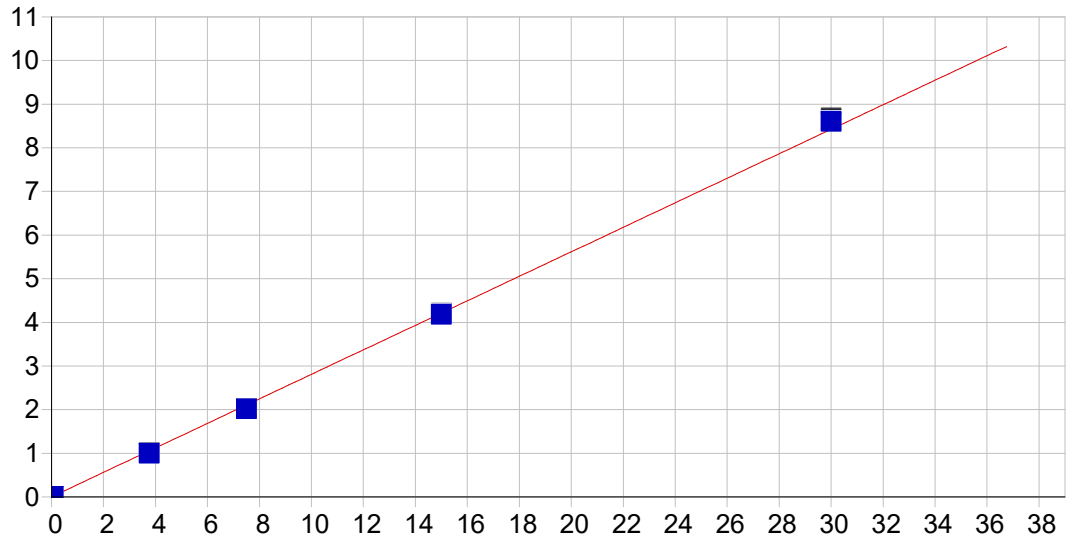

**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000026 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.113612 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999879 | Status: | OK. |
| Std Error of Est: | 0.000044 | | |
| Predicted MDL: | 0.001730 | | |
| Predicted MQL: | 0.005767 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00003 | .000 | 1 |
| S1 | .05000 | .05018 | .000 | .354 | .00566 | .000 | 1 |
| S3 | 1.2500 | 1.2796 | .030 | 2.37 | .13705 | .001 | 1 |
| S4 | 2.5000 | 2.5177 | .018 | .709 | .26941 | .000 | 1 |
| S5 | 5.0000 | 4.9368 | -.063 | -1.26 | .52763 | .002 | 1 |
| S2 | .62500 | .64072 | .016 | 2.51 | .06861 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



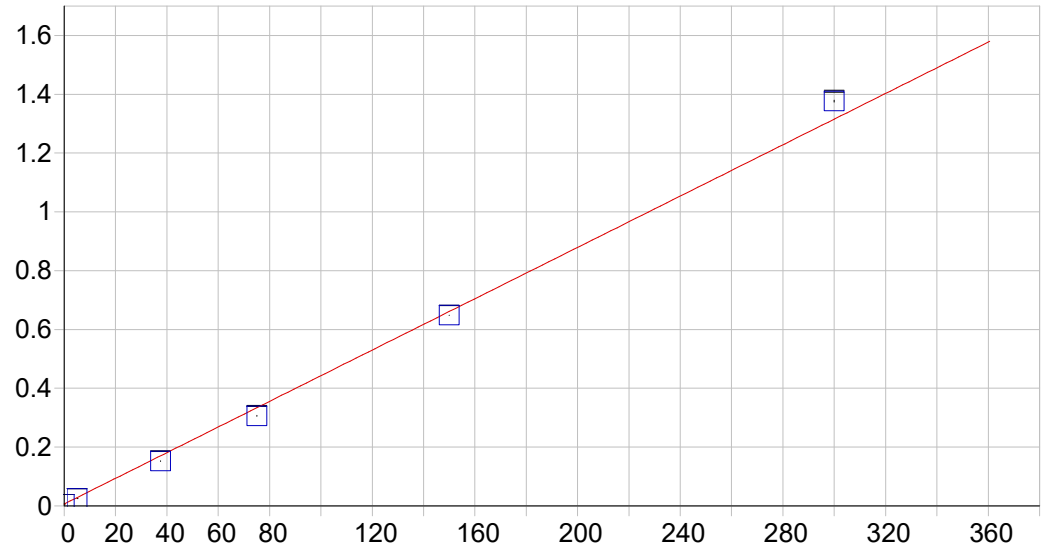

**Zn 213.856 {158}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000333 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.280823 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999657 | Status: | OK. |
| Std Error of Est: | 0.000525 | | |
| Predicted MDL: | 0.001393 | | |
| Predicted MQL: | 0.004643 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00034 | .000 | 1 |
| S1 | .06000 | .05688 | -.003 | -5.19 | .01641 | .000 | 1 |
| S3 | 7.5000 | 7.1692 | -.331 | -4.41 | 2.0215 | .005 | 1 |
| S4 | 15.000 | 14.893 | -.107 | -.711 | 4.1986 | .010 | 1 |
| S5 | 30.000 | 30.634 | .634 | 2.11 | 8.6348 | .049 | 1 |
| S2 | 3.7500 | 3.5565 | -.194 | -5.16 | 1.0030 | .003 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



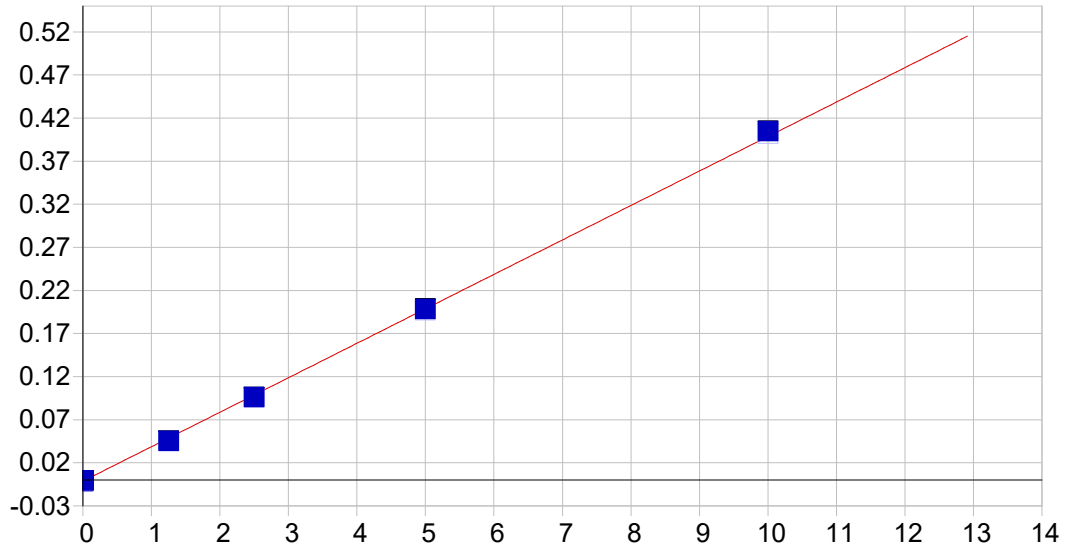

**K 769.896 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.006523 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.004363 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998431 | Status: | OK. |
| Std Error of Est: | 0.000504 | | |
| Predicted MDL: | 0.041565 | | |
| Predicted MQL: | 0.138550 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00154 | .002 | .000 | .00653 | .000 | 1 |
| S2 | 37.500 | 33.499 | -4.00 | -10.7 | .15269 | .001 | 1 |
| S3 | 75.000 | 68.640 | -6.36 | -8.48 | .30602 | .002 | 1 |
| S4 | 150.00 | 147.06 | -2.94 | -1.96 | .64818 | .001 | 1 |
| S5 | 300.00 | 314.03 | 14.0 | 4.68 | 1.3767 | .004 | 1 |
| S1 | 5.0000 | 4.2801 | -.720 | -14.4 | .02520 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



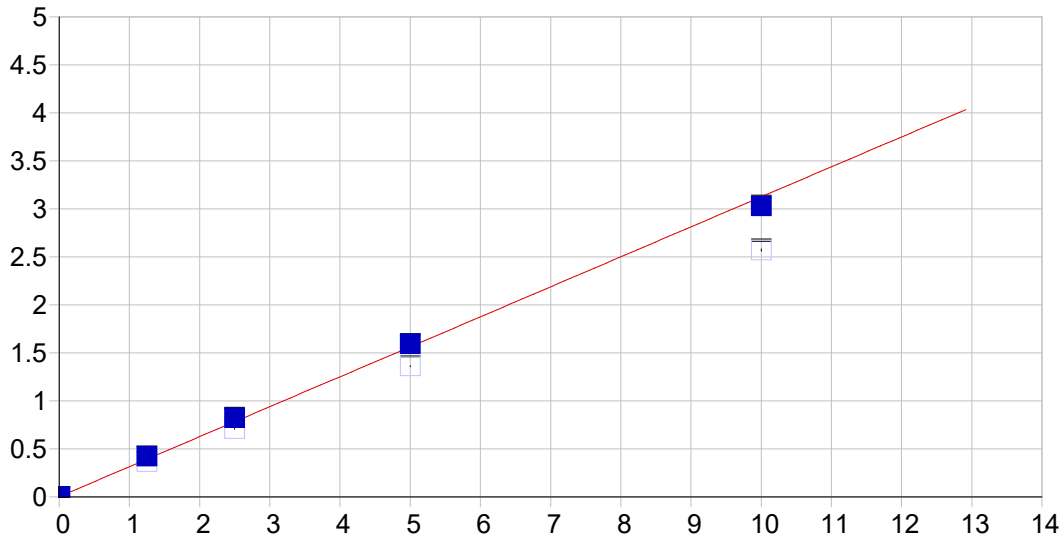

**P 177.495 {490}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.001238 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.039980 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999740 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 0.002351 | | |
| Predicted MQL: | 0.007838 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00124 | .000 | 1 |
| S1 | .01000 | .00979 | -.000 | -2.10 | -.00085 | .000 | 1 |
| S3 | 2.5000 | 2.4364 | -.064 | -2.54 | .09546 | .000 | 1 |
| S4 | 5.0000 | 4.9925 | -.008 | -.151 | .19693 | .001 | 1 |
| S5 | 10.000 | 10.155 | .155 | 1.55 | .40190 | .000 | 1 |
| S2 | 1.2500 | 1.1663 | -.084 | -6.69 | .04503 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



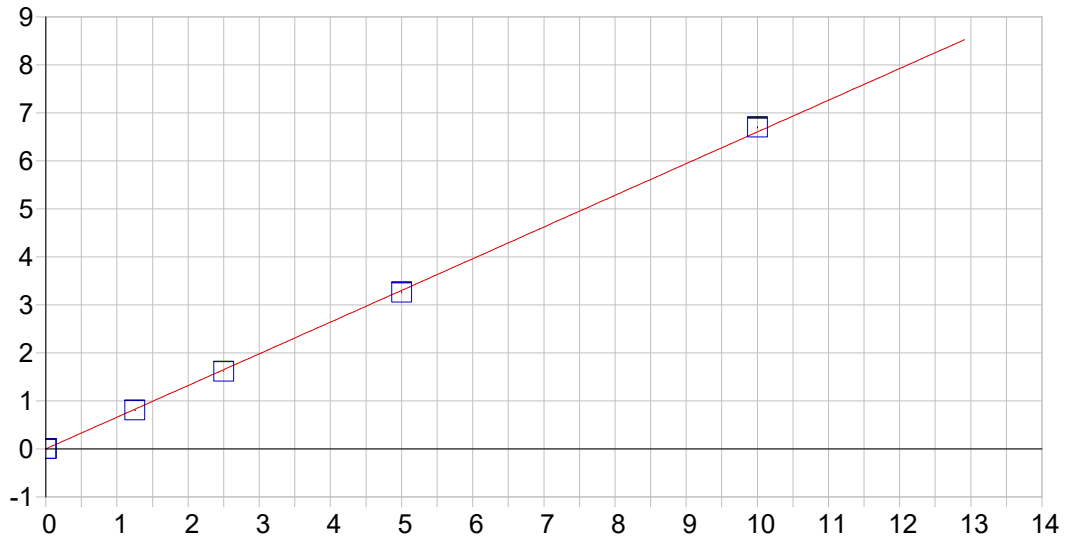

**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002564 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.312262 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998709 | Status: | OK. |
| Std Error of Est: | 0.000227 | | |
| Predicted MDL: | 0.000709 | | |
| Predicted MQL: | 0.002364 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00257 | .000 | 1 |
| S1 | .01000 | -.00019 | -.010 | -102. | .00234 | .000 | 1 |
| S3 | 2.5000 | 2.6300 | .130 | 5.20 | .70897 | .005 | 1 |
| S4 | 5.0000 | 5.0905 | .091 | 1.81 | 1.3625 | .005 | 1 |
| S5 | 10.000 | 9.6957 | -.304 | -3.04 | 2.5708 | .011 | 1 |
| S2 | 1.2500 | 1.3451 | .095 | 7.61 | .36518 | .003 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



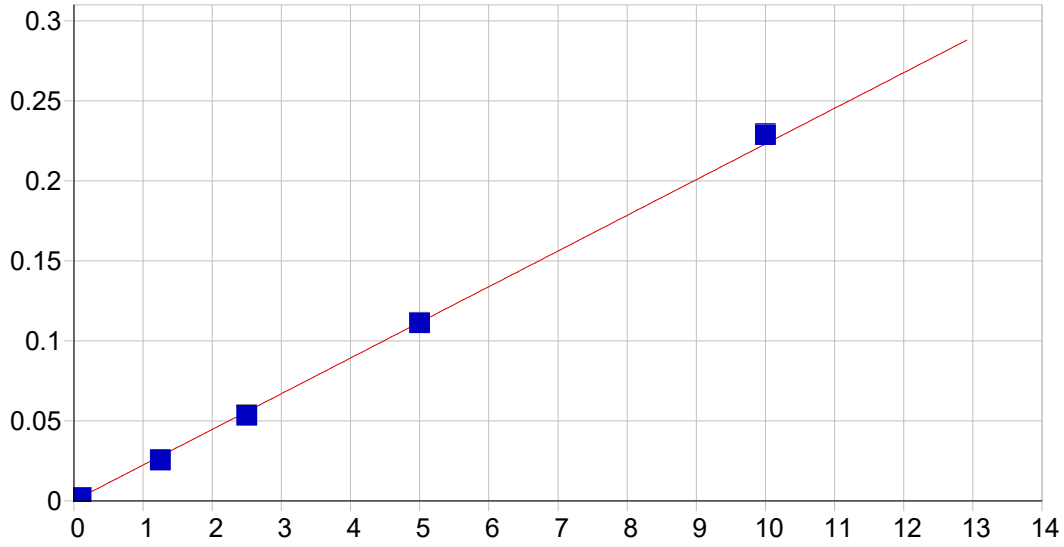

**Mo 202.030 {467}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000005 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.660333 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999872 | Status: | OK. |
| Std Error of Est: | 0.000177 | | |
| Predicted MDL: | 0.000293 | | |
| Predicted MQL: | 0.000975 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00001 | .000 | 1 |
| S1 | .01000 | .01011 | .000 | 1.08 | .00668 | .000 | 1 |
| S3 | 2.5000 | 2.4458 | -.054 | -2.17 | 1.6150 | .002 | 1 |
| S4 | 5.0000 | 4.9412 | -.059 | -1.18 | 3.2628 | .011 | 1 |
| S5 | 10.000 | 10.145 | .145 | 1.45 | 6.6990 | .014 | 1 |
| S2 | 1.2500 | 1.2181 | -.032 | -2.55 | .80434 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



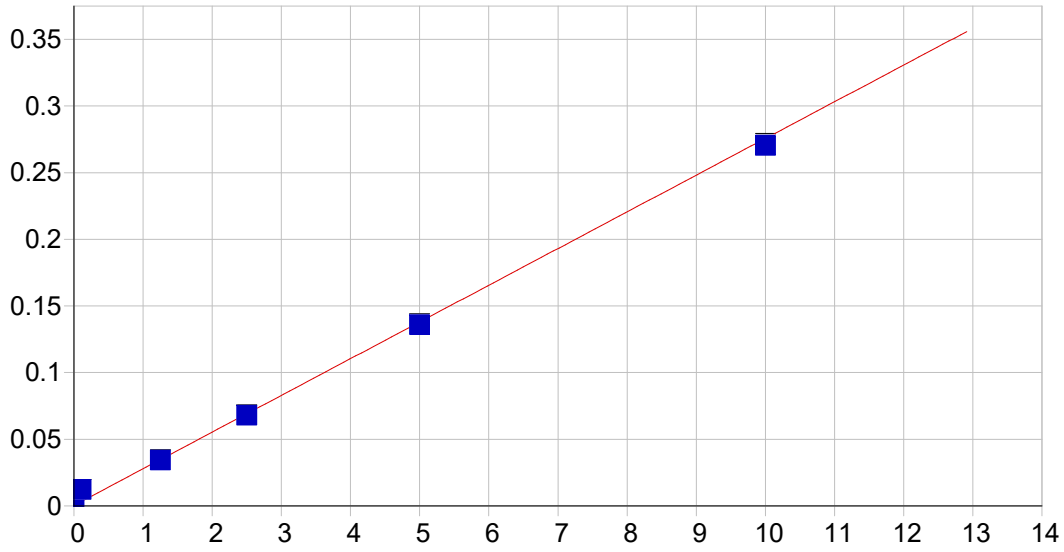

**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000116 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.022294 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999361 | Status: | OK. |
| Std Error of Est: | 0.000042 | | |
| Predicted MDL: | 0.004097 | | |
| Predicted MQL: | 0.013658 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00003 | .000 | .000 | .00012 | .000 | 1 |
| S1 | .10000 | .08447 | -.016 | -15.5 | .00200 | .000 | 1 |
| S3 | 2.5000 | 2.3887 | -.111 | -4.45 | .05344 | .000 | 1 |
| S4 | 5.0000 | 4.9844 | -.016 | -.313 | .11138 | .000 | 1 |
| S5 | 10.000 | 10.256 | .256 | 2.56 | .22904 | .000 | 1 |
| S2 | 1.2500 | 1.1369 | -.113 | -9.04 | .02550 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



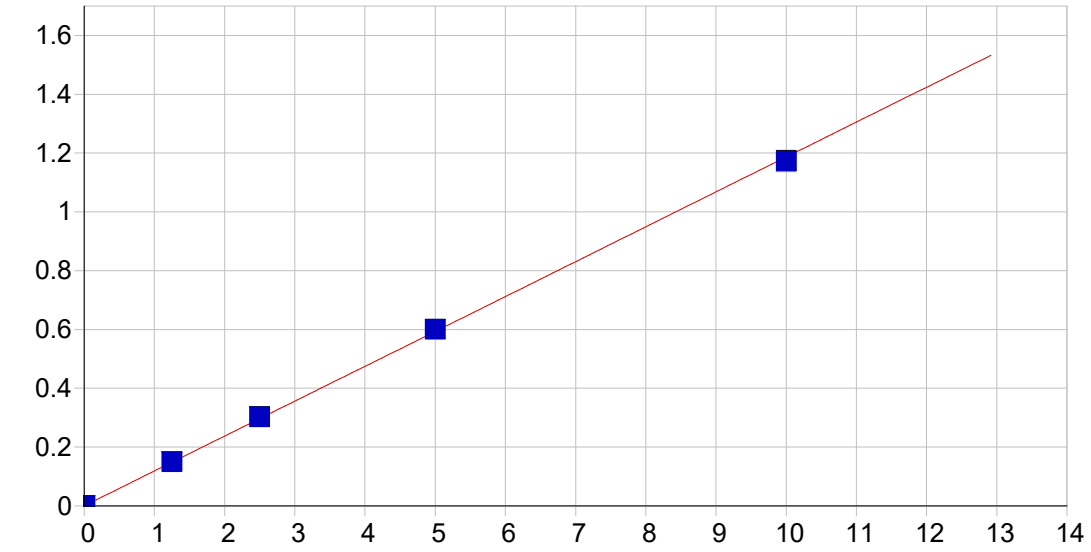

**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000336 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.027533 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.971718 | Status: | OK. |
| Std Error of Est: | 0.000357 | | |
| Predicted MDL: | 0.004696 | | |
| Predicted MQL: | 0.015653 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00033 | -.000 | .000 | .00033 | .000 | 1 |
| S1 | .10000 | .43357 | .334 | 334. | .01227 | .000 | 1 |
| S3 | 2.5000 | 2.4577 | -.042 | -1.69 | .06821 | .000 | 1 |
| S4 | 5.0000 | 4.9251 | -.075 | -1.50 | .13635 | .001 | 1 |
| S5 | 10.000 | 9.8027 | -.197 | -1.97 | .27106 | .001 | 1 |
| S2 | 1.2500 | 1.2317 | -.018 | -1.46 | .03435 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



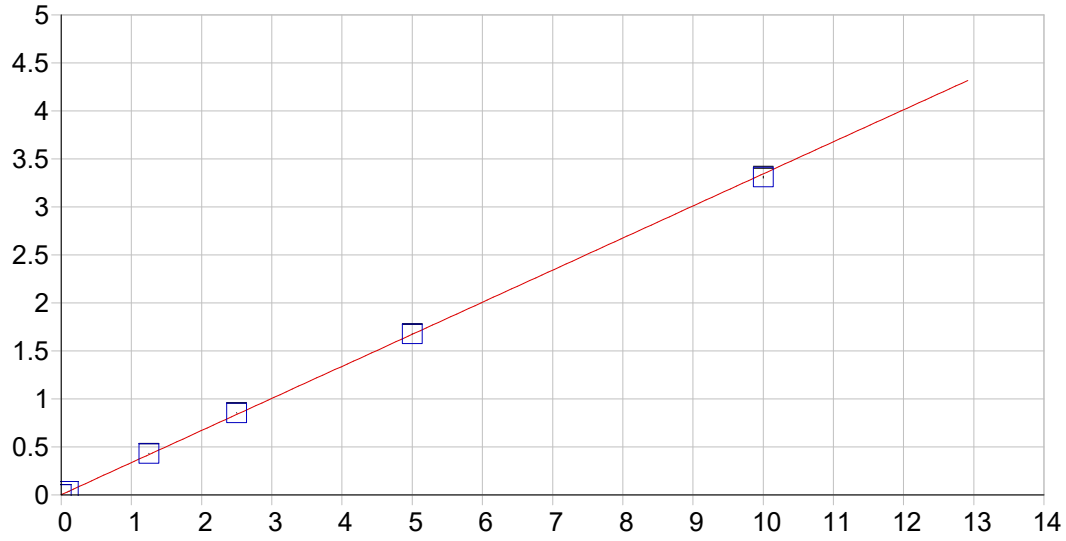

**Sn 189.989 {478}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000182 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.118648 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999904 | Status: | OK. |
| Std Error of Est: | 0.000023 | | |
| Predicted MDL: | 0.000869 | | |
| Predicted MQL: | 0.002896 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00018 | .000 | 1 |
| S1 | .00700 | .00600 | -.001 | -14.3 | .00086 | .000 | 1 |
| S3 | 2.5000 | 2.5516 | .052 | 2.06 | .30200 | .001 | 1 |
| S4 | 5.0000 | 5.0606 | .061 | 1.21 | .59878 | .000 | 1 |
| S5 | 10.000 | 9.8769 | -.123 | -1.23 | 1.1684 | .003 | 1 |
| S2 | 1.2500 | 1.2618 | .012 | .946 | .14944 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



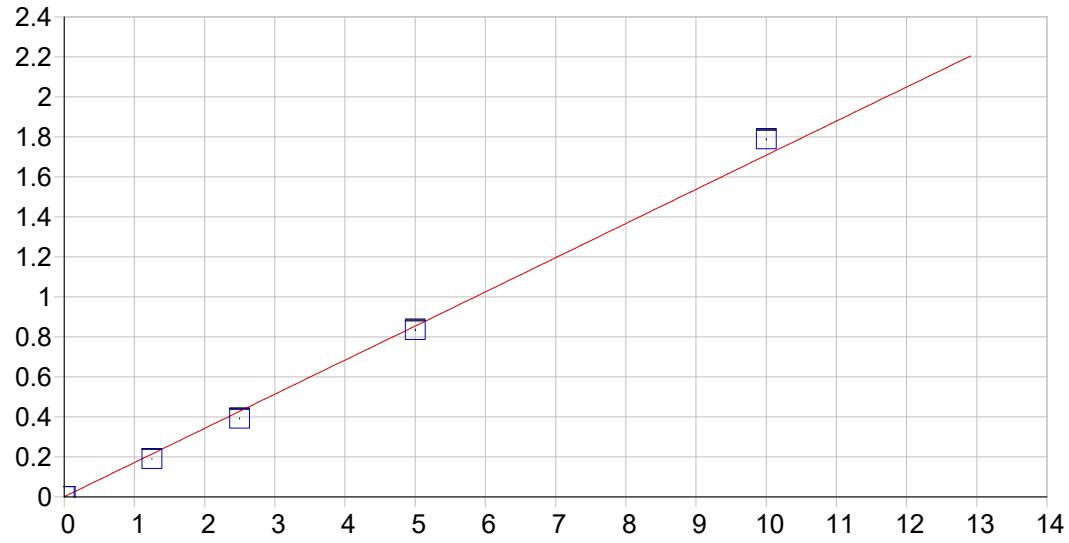

**Ti 336.121 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002490 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.334116 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999918 | Status: | OK. |
| Std Error of Est: | 0.000227 | | |
| Predicted MDL: | 0.000778 | | |
| Predicted MQL: | 0.002592 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00001 | -.000 | .000 | .00249 | .000 | 1 |
| S1 | .10000 | .10246 | .002 | 2.46 | .03672 | .000 | 1 |
| S3 | 2.5000 | 2.5512 | .051 | 2.05 | .85490 | .002 | 1 |
| S4 | 5.0000 | 5.0134 | .013 | .267 | 1.6775 | .003 | 1 |
| S5 | 10.000 | 9.8992 | -.101 | -1.01 | 3.3100 | .009 | 1 |
| S2 | 1.2500 | 1.2837 | .034 | 2.70 | .43141 | .002 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



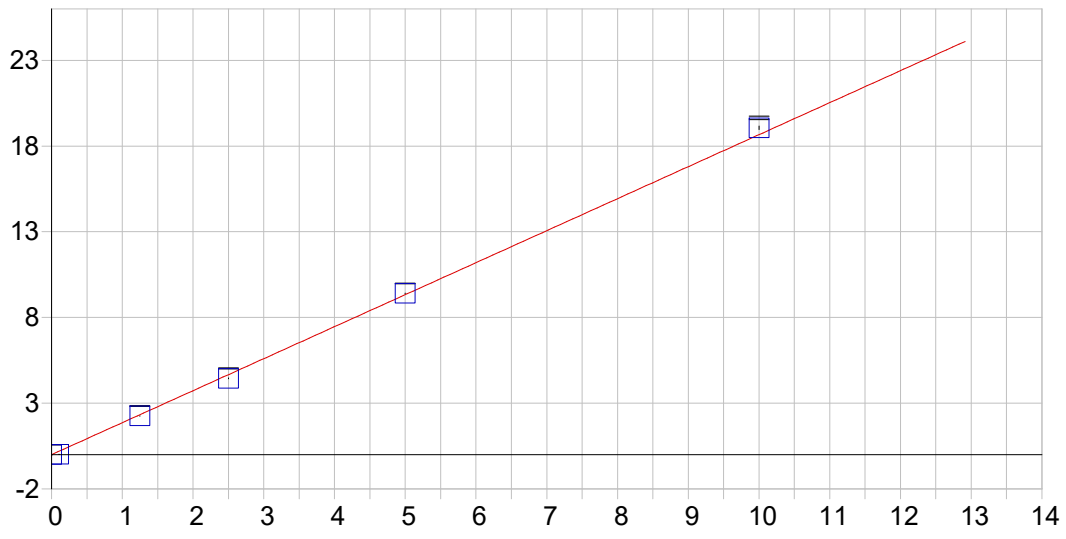

**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001120 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.170700 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998448 | Status: | OK. |
| Std Error of Est: | 0.000196 | | |
| Predicted MDL: | 0.001077 | | |
| Predicted MQL: | 0.003589 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00112 | .000 | 1 |
| S5 | 10.000 | 10.469 | .469 | 4.69 | 1.7882 | .004 | 1 |
| S4 | 5.0000 | 4.8830 | -.117 | -2.34 | .83464 | .005 | 1 |
| S3 | 2.5000 | 2.2911 | -.209 | -8.36 | .39221 | .003 | 1 |
| S1 | .01500 | .01232 | -.003 | -17.9 | .00322 | .000 | 1 |
| S2 | 1.2500 | 1.1098 | -.140 | -11.2 | .19056 | .002 | 1 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4



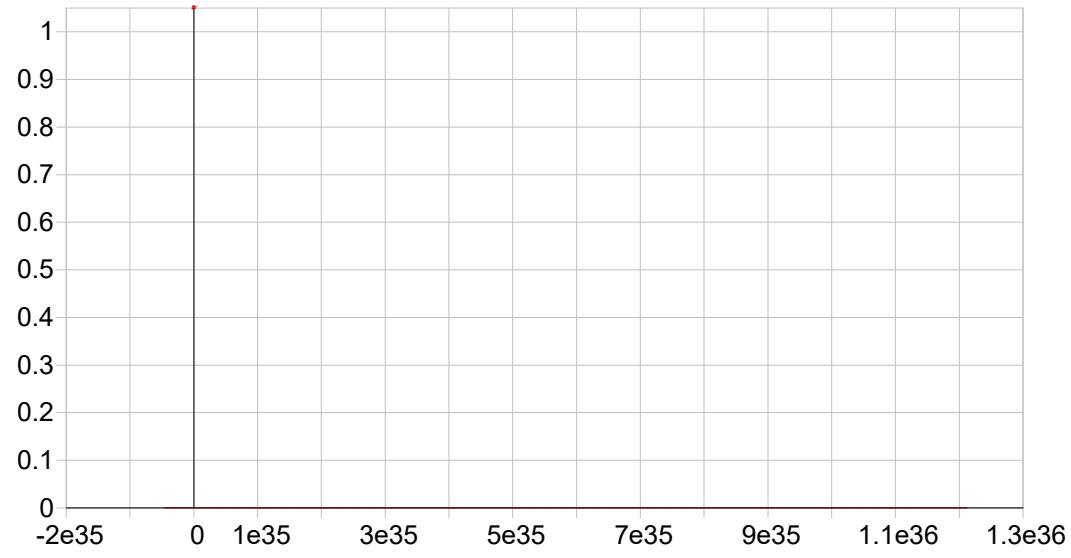

**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000033 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.866476 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997531 | Status: | OK. |
| Std Error of Est: | 0.006983 | | |
| Predicted MDL: | 0.000052 | | |
| Predicted MQL: | 0.000174 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00010 | .000 | .000 | .00014 | .000 | 1 |
| S1 | .10000 | .00962 | -.090 | -90.4 | .01793 | .000 | 1 |
| S3 | 2.5000 | 2.3824 | -.118 | -4.70 | 4.4466 | .029 | 1 |
| S4 | 5.0000 | 5.0357 | .036 | .713 | 9.3989 | .018 | 1 |
| S5 | 10.000 | 10.213 | .213 | 2.13 | 19.062 | .105 | 1 |
| S2 | 1.2500 | 1.2093 | -.041 | -3.26 | 2.2570 | .012 | 1 |

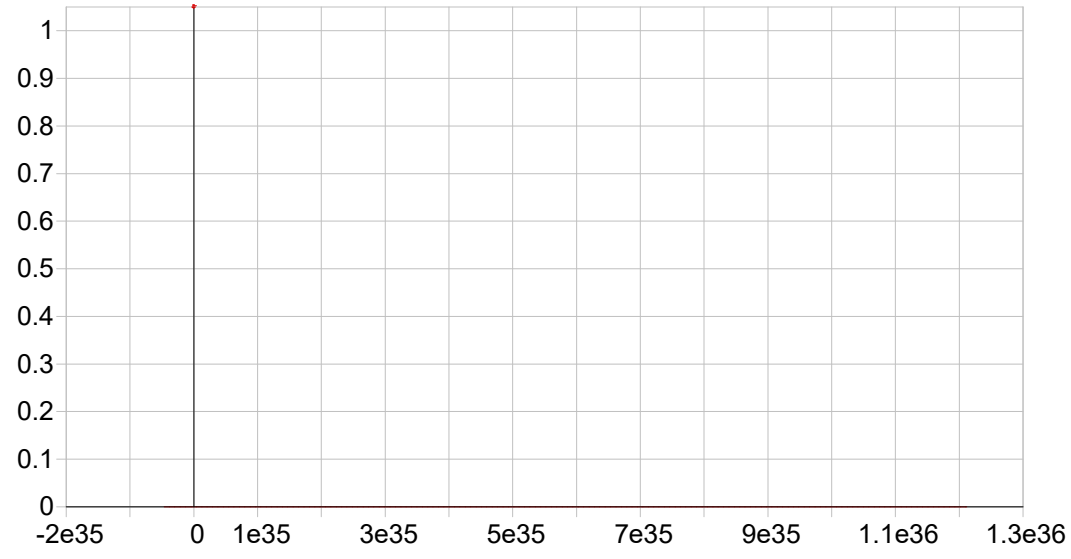
Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4




**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/4/2025 16:10:25 | Type of Fit: | Linear | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000 | | Re-Slope: | 1.000000 | |
| A1 (Gain): | 0.000000 | | Y-int: | 0.000000 | |
| A2 (Curvature): | 0.000000 | | | | |
| n (Exponent): | 1.000000 | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain |
| Std Error of Est: | 0.000000 | | | | |
| Predicted MDL: | n/a | | | | |
| Predicted MQL: | n/a | | | | |

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



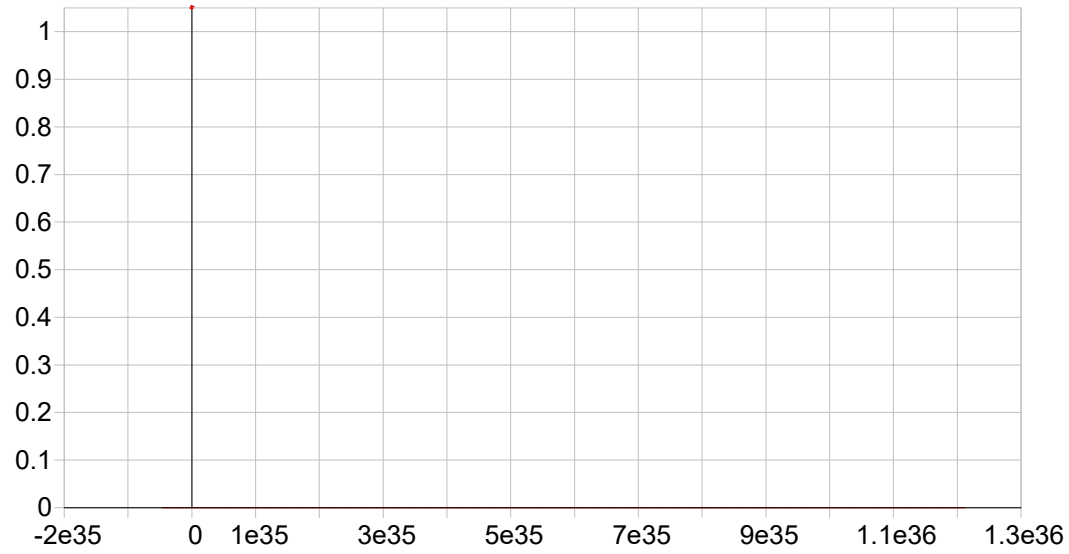

**Y 360.073 { 94}***

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

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

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

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



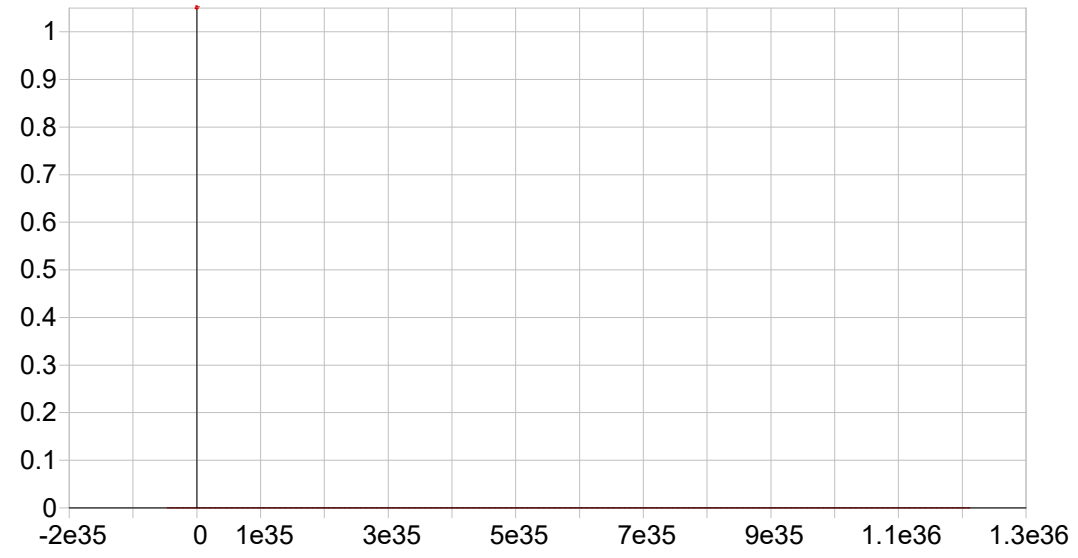

**Y 371.030 { 91}***

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

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

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

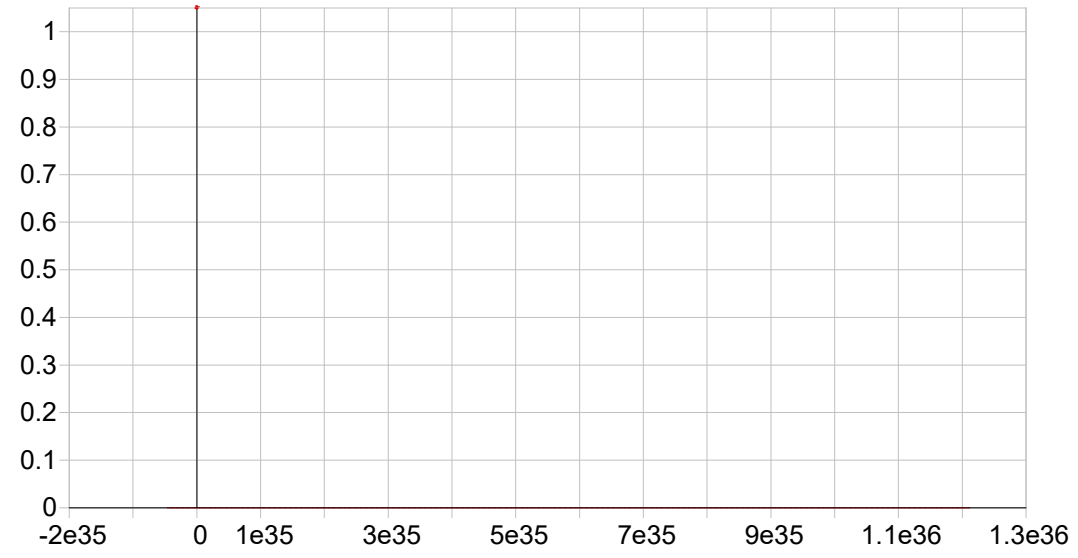
Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4




**Y 224.306 {150}***

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

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




**In 230.606 {446}***

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

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

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

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

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S0 Acquired: 3/4/2025 15:34:47 Type: Cal
Method: EPA SFAM01.0(v66) 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 | **-.00006** | **.00004** | **-.00013** | **.00031** | **-.00010** | **.00006** | **.00235** | **-.00005** |
| Stddev | .00003 | .00006 | .00020 | .00008 | .00011 | .00007 | .00030 | .00026 |
| %RSD | 51.514 | 144.76 | 154.91 | 24.542 | 105.31 | 103.67 | 12.575 | 531.16 |
| #1 | -.00002 | .00010 | -.00027 | .00024 | -.00017 | .00014 | .00209 | -.00035 |
| #2 | -.00008 | -.00001 | .00010 | .00030 | -.00016 | .00001 | .00229 | .00008 |
| #3 | -.00006 | .00003 | -.00021 | .00039 | .00002 | .00004 | .00267 | .00012 |

| 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 | **-.00000** | **.00008** | **.00007** | **-.00017** | **.00043** | **.00002** | **-.00001** | **-.00003** |
| Stddev | .00008 | .00009 | .00003 | .00002 | .00015 | .00000 | .00001 | .00003 |
| %RSD | 10687. | 110.64 | 37.304 | 14.518 | 34.771 | 23.443 | 114.14 | 72.980 |
| #1 | .00008 | .00003 | .00010 | -.00016 | .00044 | .00001 | -.00002 | -.00001 |
| #2 | -.00000 | .00019 | .00007 | -.00019 | .00028 | .00002 | -.00002 | -.00005 |
| #3 | -.00008 | .00003 | .00005 | -.00014 | .00058 | .00002 | .00000 | -.00004 |

| 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 | **-.00020** | **-.00021** | **-.00107** | **-.00003** | **.00034** | **.00653** | **-.00124** | **.00257** |
| Stddev | .00020 | .00005 | .00055 | .00008 | .00006 | .00016 | .00003 | .00010 |
| %RSD | 99.803 | 22.240 | 50.855 | 293.24 | 16.732 | 2.4913 | 2.6333 | 3.7176 |
| #1 | -.00029 | -.00025 | -.00151 | .00005 | .00034 | .00660 | -.00125 | .00262 |
| #2 | -.00034 | -.00016 | -.00046 | -.00003 | .00039 | .00665 | -.00127 | .00262 |
| #3 | .00003 | -.00022 | -.00125 | -.00010 | .00027 | .00634 | -.00120 | .00246 |

| 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 | **.00001** | **.00012** | **.00033** | **.00018** | **.00249** | **.00112** | **.00014** |
| Stddev | .00018 | .00003 | .00006 | .00012 | .00004 | .00021 | .00004 |
| %RSD | 3233.8 | 21.561 | 18.069 | 66.801 | 1.5179 | 18.889 | 24.240 |
| #1 | .00009 | .00009 | .00031 | .00018 | .00246 | .00130 | .00018 |
| #2 | -.00020 | .00014 | .00039 | .00006 | .00247 | .00117 | .00014 |
| #3 | .00013 | .00012 | .00027 | .00031 | .00253 | .00089 | .00012 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S0 Acquired: 3/4/2025 15:34:47 Type: Cal
Method: EPA SFAM01.0(v66) 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 | 3578.4 | 77251. | 16345. | 3281.3 | 5036.2 |
| Stddev | 7.4 | 79. | 47. | 2.1 | 14.4 |
| %RSD | .20552 | .10277 | .28998 | .06383 | .28524 |
| #1 | 3571.4 | 77296. | 16291. | 3283.5 | 5019.7 |
| #2 | 3577.8 | 77298. | 16362. | 3279.3 | 5042.7 |
| #3 | 3586.1 | 77159. | 16381. | 3281.1 | 5046.2 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S1 Acquired: 3/4/2025 15:38:59 Type: Cal
Method: EPA SFAM01.0(v66) 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 | **.00049** | **.00156** | **.00168** | **.00219** | **.00797** | **.00249** | **.08355** | **.01487** |
| Stddev | .00004 | .00015 | .00021 | .00019 | .00017 | .00009 | .00056 | .00003 |
| %RSD | 7.6401 | 9.5018 | 12.699 | 8.5062 | 2.1799 | 3.8180 | .67361 | .18999 |
| #1 | .00052 | .00173 | .00179 | .00239 | .00815 | .00259 | .08322 | .01490 |
| #2 | .00051 | .00149 | .00181 | .00203 | .00781 | .00241 | .08323 | .01485 |
| #3 | .00045 | .00145 | .00143 | .00214 | .00796 | .00246 | .08420 | .01488 |

| 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 | **.01141** | **.04114** | **.00165** | **.03495** | **.00525** | **.00056** | **.00134** | **.01271** |
| Stddev | .00018 | .00015 | .00005 | .00009 | .00023 | .00003 | .00003 | .00005 |
| %RSD | 1.6050 | .37313 | 2.9349 | .24741 | 4.4606 | 4.7402 | 2.2254 | .37366 |
| #1 | .01124 | .04119 | .00162 | .03490 | .00499 | .00059 | .00137 | .01268 |
| #2 | .01137 | .04096 | .00163 | .03491 | .00545 | .00056 | .00131 | .01269 |
| #3 | .01160 | .04126 | .00171 | .03505 | .00532 | .00054 | .00133 | .01277 |

| 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 | **.01983** | **.00225** | **.02160** | **.00566** | **.01641** | **.02520** | **-.00085** | **.00234** |
| Stddev | .00016 | .00003 | .00067 | .00013 | .00016 | .00016 | .00004 | .00007 |
| %RSD | .81963 | 1.3853 | 3.0977 | 2.3154 | .99592 | .65274 | 4.9403 | 3.0695 |
| #1 | .01996 | .00227 | .02116 | .00558 | .01622 | .02510 | -.00083 | .00234 |
| #2 | .01989 | .00222 | .02238 | .00559 | .01653 | .02511 | -.00082 | .00242 |
| #3 | .01965 | .00227 | .02127 | .00581 | .01646 | .02539 | -.00090 | .00227 |

| 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 | **.00668** | **.00200** | **.01227** | **.00086** | **.03672** | **.00322** | **.01793** |
| Stddev | .00003 | .00013 | .00010 | .00005 | .00020 | .00019 | .00020 |
| %RSD | .39606 | 6.3362 | .80794 | 6.1881 | .55648 | 5.9607 | 1.1036 |
| #1 | .00670 | .00192 | .01235 | .00080 | .03695 | .00325 | .01794 |
| #2 | .00665 | .00193 | .01230 | .00088 | .03665 | .00302 | .01773 |
| #3 | .00669 | .00214 | .01216 | .00090 | .03657 | .00340 | .01812 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S1 Acquired: 3/4/2025 15:38:59 Type: Cal
Method: EPA SFAM01.0(v66) 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 | 3580.2 | 76367. | 16041. | 3277.2 | 4915.7 |
| Stddev | 1.3 | 291. | 118. | 12.1 | 2.3 |
| %RSD | .03505 | .38125 | .73483 | .37032 | .04755 |
| | | | | | |
| #1 | 3581.0 | 76141. | 15968. | 3263.3 | 4913.7 |
| #2 | 3580.8 | 76695. | 15979. | 3282.7 | 4915.3 |
| #3 | 3578.7 | 76264. | 16177. | 3285.6 | 4918.3 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S2 Acquired: 3/4/2025 15:43:13 Type: Cal
Method: EPA SFAM01.0(v66) 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 | **.06226** | **.07575** | **1.2073** | **.06806** | **.16560** | **.48292** | **1.0838** | **.36165** |
| Stddev | .00016 | .00037 | .0019 | .00019 | .00067 | .00305 | .0128 | .00288 |
| %RSD | .25667 | .48813 | .15788 | .27683 | .40453 | .63240 | 1.1800 | .79536 |
| #1 | .06223 | .07604 | 1.2077 | .06811 | .16631 | .47970 | 1.0710 | .36472 |
| #2 | .06244 | .07587 | 1.2090 | .06821 | .16552 | .48328 | 1.0838 | .36122 |
| #3 | .06212 | .07533 | 1.2053 | .06785 | .16498 | .48577 | 1.0966 | .35902 |

| 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 | **1.4458** | **.52534** | **.60447** | **.44273** | **.58099** | **.19910** | **.33828** | **.17000** |
| Stddev | .0024 | .00355 | .00138 | .00052 | .00018 | .00129 | .00339 | .00037 |
| %RSD | .16258 | .67501 | .22893 | .11841 | .03117 | .64724 | 1.0012 | .21999 |
| #1 | 1.4470 | .52176 | .60543 | .44276 | .58083 | .19774 | .33501 | .16964 |
| #2 | 1.4474 | .52541 | .60289 | .44324 | .58095 | .19926 | .33804 | .16998 |
| #3 | 1.4431 | .52885 | .60510 | .44219 | .58119 | .20030 | .34178 | .17039 |

| 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 | **.31589** | **.07718** | **.16641** | **.06861** | **1.0030** | **.15269** | **.04503** | **.36518** |
| Stddev | .00091 | .00013 | .00091 | .00031 | .0029 | .00117 | .00013 | .00341 |
| %RSD | .28665 | .16915 | .54854 | .45336 | .29371 | .76832 | .28790 | .93411 |
| #1 | .31594 | .07724 | .16577 | .06853 | .99971 | .15157 | .04510 | .36888 |
| #2 | .31676 | .07727 | .16601 | .06836 | 1.0053 | .15259 | .04488 | .36449 |
| #3 | .31495 | .07703 | .16746 | .06896 | 1.0041 | .15391 | .04512 | .36217 |

| 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 | **.80434** | **.02550** | **.03435** | **.14944** | **.43141** | **.19056** | **2.2570** |
| Stddev | .00061 | .00007 | .00026 | .00039 | .00161 | .00197 | .0117 |
| %RSD | .07645 | .27342 | .75770 | .26172 | .37204 | 1.0323 | .51772 |
| #1 | .80490 | .02543 | .03407 | .14910 | .43028 | .18877 | 2.2445 |
| #2 | .80444 | .02550 | .03440 | .14987 | .43070 | .19026 | 2.2676 |
| #3 | .80368 | .02557 | .03458 | .14934 | .43324 | .19267 | 2.2591 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S2 Acquired: 3/4/2025 15:43:13 Type: Cal
Method: EPA SFAM01.0(v66) 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 | 3441.3 | 74109. | 16209. | 3148.1 | 4455.0 |
| Stddev | 5.9 | 105. | 89. | 2.5 | 8.2 |
| %RSD | .17049 | .14149 | .55155 | .07815 | .18433 |
| #1 | 3434.9 | 74146. | 16109. | 3146.1 | 4447.4 |
| #2 | 3442.4 | 74191. | 16236. | 3150.8 | 4453.8 |
| #3 | 3446.5 | 73991. | 16281. | 3147.3 | 4463.7 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S3 Acquired: 3/4/2025 15:47:16 Type: Cal
Method: EPA SFAM01.0(v66) 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 | .12789 | .15034 | 2.4290 | .13917 | .34133 | .98371 | 2.1885 | .71170 |
| Stddev | .00042 | .00055 | .0047 | .00092 | .00065 | .00521 | .0057 | .00346 |
| %RSD | .32497 | .36495 | .19170 | .66222 | .19068 | .53008 | .26003 | .48616 |
| #1 | .12749 | .15097 | 2.4257 | .13889 | .34071 | .97812 | 2.1859 | .71461 |
| #2 | .12786 | .14997 | 2.4271 | .13843 | .34128 | .98455 | 2.1950 | .71262 |
| #3 | .12832 | .15009 | 2.4343 | .14020 | .34201 | .98845 | 2.1845 | .70788 |

| 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 | 2.9192 | 1.0646 | 1.1897 | .89285 | 1.1464 | .39652 | .68323 | .34902 |
| Stddev | .0028 | .0073 | .0009 | .00221 | .0020 | .00231 | .00580 | .00214 |
| %RSD | .09692 | .69041 | .07559 | .24765 | .17245 | .58306 | .84837 | .61290 |
| #1 | 2.9178 | 1.0562 | 1.1887 | .89091 | 1.1486 | .39385 | .67669 | .34661 |
| #2 | 2.9172 | 1.0680 | 1.1904 | .89238 | 1.1458 | .39772 | .68530 | .34975 |
| #3 | 2.9224 | 1.0697 | 1.1900 | .89526 | 1.1448 | .39798 | .68771 | .35070 |

| 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 | .63581 | .15610 | .33531 | .13705 | 2.0215 | .30602 | .09546 | .70897 |
| Stddev | .00137 | .00023 | .00100 | .00051 | .0050 | .00181 | .00015 | .00498 |
| %RSD | .21494 | .14607 | .29699 | .36970 | .24653 | .59249 | .15818 | .70177 |
| #1 | .63514 | .15625 | .33526 | .13675 | 2.0176 | .30403 | .09562 | .71404 |
| #2 | .63490 | .15583 | .33632 | .13763 | 2.0271 | .30646 | .09531 | .70879 |
| #3 | .63738 | .15620 | .33434 | .13677 | 2.0199 | .30758 | .09544 | .70409 |

| 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 | 1.6150 | .05344 | .06821 | .30200 | .85490 | .39221 | 4.4466 |
| Stddev | .0023 | .00015 | .00014 | .00051 | .00164 | .00332 | .0293 |
| %RSD | .14441 | .27972 | .20654 | .16964 | .19172 | .84676 | .65820 |
| #1 | 1.6147 | .05340 | .06825 | .30151 | .85348 | .38858 | 4.4351 |
| #2 | 1.6129 | .05332 | .06833 | .30196 | .85669 | .39297 | 4.4249 |
| #3 | 1.6175 | .05361 | .06805 | .30254 | .85453 | .39509 | 4.4799 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S3 Acquired: 3/4/2025 15:47:16 Type: Cal
Method: EPA SFAM01.0(v66) 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 | 3253.1 | 72182. | 16025. | 3046.8 | 4150.9 |
| Stddev | 6.2 | 186. | 67. | 1.9 | 5.9 |
| %RSD | .19148 | .25827 | .41567 | .06262 | .14318 |
| #1 | 3256.4 | 72290. | 15948. | 3045.0 | 4154.6 |
| #2 | 3256.9 | 72288. | 16065. | 3046.7 | 4154.0 |
| #3 | 3245.9 | 71966. | 16062. | 3048.8 | 4144.0 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S4 Acquired: 3/4/2025 15:51:24 Type: Cal
Method: EPA SFAM01.0(v66) 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 | .26829 | .29370 | 4.8400 | .28714 | .71426 | 2.1013 | 4.5394 | 1.3981 |
| Stddev | .00095 | .00095 | .0049 | .00162 | .00185 | .0043 | .0399 | .0046 |
| %RSD | .35267 | .32460 | .10159 | .56267 | .25885 | .20634 | .87937 | .32836 |
| #1 | .26772 | .29275 | 4.8455 | .28656 | .71363 | 2.1053 | 4.5855 | 1.3932 |
| #2 | .26777 | .29370 | 4.8361 | .28589 | .71281 | 2.0967 | 4.5156 | 1.3990 |
| #3 | .26939 | .29466 | 4.8384 | .28896 | .71634 | 2.1018 | 4.5171 | 1.4022 |

| 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 | 5.7797 | 2.1802 | 2.3455 | 1.7797 | 2.3281 | .81181 | 1.3919 | .73501 |
| Stddev | .0059 | .0098 | .0044 | .0024 | .0041 | .00263 | .0088 | .00243 |
| %RSD | .10257 | .45020 | .18693 | .13509 | .17453 | .32401 | .63334 | .33111 |
| #1 | 5.7866 | 2.1884 | 2.3419 | 1.7823 | 2.3255 | .81301 | 1.4000 | .73682 |
| #2 | 5.7760 | 2.1694 | 2.3443 | 1.7775 | 2.3328 | .80879 | 1.3825 | .73225 |
| #3 | 5.7766 | 2.1829 | 2.3504 | 1.7794 | 2.3261 | .81362 | 1.3934 | .73597 |

| 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 | 1.2615 | .32295 | .66825 | .26941 | 4.1986 | .64818 | .19693 | 1.3625 |
| Stddev | .0017 | .00061 | .00099 | .00046 | .0099 | .00093 | .00071 | .0046 |
| %RSD | .13351 | .18822 | .14885 | .17024 | .23558 | .14348 | .35895 | .33801 |
| #1 | 1.2625 | .32244 | .66932 | .26940 | 4.1978 | .64923 | .19775 | 1.3574 |
| #2 | 1.2596 | .32280 | .66735 | .26895 | 4.1891 | .64746 | .19655 | 1.3664 |
| #3 | 1.2624 | .32362 | .66808 | .26987 | 4.2089 | .64785 | .19650 | 1.3636 |

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3.2628 | .11138 | .13635 | .59878 | 1.6775 | .83464 | 9.3989 |
| Stddev | .0107 | .00020 | .00051 | .00041 | .0031 | .00489 | .0183 |
| %RSD | .32676 | .17671 | .37140 | .06770 | .18599 | .58590 | .19494 |
| #1 | 3.2579 | .11133 | .13680 | .59924 | 1.6808 | .84001 | 9.4191 |
| #2 | 3.2555 | .11121 | .13644 | .59856 | 1.6746 | .83043 | 9.3834 |
| #3 | 3.2751 | .11160 | .13580 | .59853 | 1.6772 | .83349 | 9.3942 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S4 Acquired: 3/4/2025 15:51:24 Type: Cal
Method: EPA SFAM01.0(v66) 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 | 2956.5 | 66880. | 15497. | 2833.1 | 3772.0 |
| Stddev | 8.4 | 111. | 14. | 10.4 | 4.7 |
| %RSD | .28576 | .16639 | .08744 | .36821 | .12437 |
| #1 | 2960.4 | 66808. | 15509. | 2828.3 | 3769.2 |
| #2 | 2962.3 | 67008. | 15483. | 2845.0 | 3777.5 |
| #3 | 2946.8 | 66825. | 15501. | 2825.8 | 3769.4 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S5 Acquired: 3/4/2025 15:55:28 Type: Cal
Method: EPA SFAM01.0(v66) 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 | .57405 | .56216 | 9.5250 | .60705 | 1.5250 | 4.4191 | 9.3713 | 2.7337 |
| Stddev | .00159 | .00207 | .0251 | .00161 | .0033 | .0516 | .0673 | .0086 |
| %RSD | .27695 | .36882 | .26383 | .26591 | .21703 | 1.1677 | .71766 | .31484 |
| #1 | .57251 | .56422 | 9.5328 | .60544 | 1.5214 | 4.4510 | 9.2938 | 2.7436 |
| #2 | .57395 | .56221 | 9.4969 | .60867 | 1.5278 | 4.4466 | 9.4136 | 2.7280 |
| #3 | .57569 | .56007 | 9.5452 | .60704 | 1.5259 | 4.3595 | 9.4066 | 2.7295 |

| 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 | 11.244 | 4.4051 | 4.4886 | 3.5241 | 4.6933 | 1.6360 | 2.7843 | 1.5164 |
| Stddev | .025 | .0369 | .0197 | .0069 | .0083 | .0025 | .0393 | .0011 |
| %RSD | .22123 | .83715 | .43986 | .19492 | .17591 | .15337 | 1.4127 | .07238 |
| #1 | 11.256 | 4.4258 | 4.4659 | 3.5280 | 4.7014 | 1.6334 | 2.8263 | 1.5176 |
| #2 | 11.215 | 4.4270 | 4.4983 | 3.5162 | 4.6935 | 1.6384 | 2.7484 | 1.5158 |
| #3 | 11.260 | 4.3625 | 4.5017 | 3.5282 | 4.6849 | 1.6362 | 2.7783 | 1.5157 |

| 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 | 2.4799 | .67467 | 1.3350 | .52763 | 8.6348 | 1.3767 | .40190 | 2.5708 |
| Stddev | .0064 | .00045 | .0028 | .00248 | .0486 | .0036 | .00044 | .0114 |
| %RSD | .25709 | .06670 | .20915 | .46979 | .56336 | .25801 | .10995 | .44328 |
| #1 | 2.4823 | .67519 | 1.3380 | .53021 | 8.6667 | 1.3736 | .40209 | 2.5835 |
| #2 | 2.4727 | .67442 | 1.3345 | .52526 | 8.5788 | 1.3806 | .40222 | 2.5614 |
| #3 | 2.4848 | .67439 | 1.3325 | .52741 | 8.6590 | 1.3761 | .40140 | 2.5676 |

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6.6990 | .22904 | .27106 | 1.1684 | 3.3100 | 1.7882 | 19.062 |
| Stddev | .0142 | .00046 | .00086 | .0032 | .0086 | .0041 | .105 |
| %RSD | .21196 | .19909 | .31648 | .27162 | .26067 | .22757 | .54970 |
| #1 | 6.6848 | .22873 | .27173 | 1.1714 | 3.3195 | 1.7835 | 19.183 |
| #2 | 6.6990 | .22883 | .27009 | 1.1651 | 3.3028 | 1.7907 | 19.006 |
| #3 | 6.7132 | .22956 | .27134 | 1.1687 | 3.3075 | 1.7903 | 18.998 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S5 Acquired: 3/4/2025 15:55:28 Type: Cal
Method: EPA SFAM01.0(v66) 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 | 2583.3 | 62454. | 15114. | 2592.3 | 3387.3 |
| Stddev | 9.0 | 86. | 53. | 11.7 | 3.1 |
| %RSD | .34875 | .13698 | .34912 | .45143 | .09190 |
| | | | | | |
| #1 | 2593.7 | 62467. | 15053. | 2583.3 | 3390.7 |
| #2 | 2578.1 | 62362. | 15143. | 2605.6 | 3386.4 |
| #3 | 2578.0 | 62532. | 15146. | 2588.1 | 3384.7 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: S6 Acquired: 3/4/2025 16:00:03 Type: Cal
Method: EPA SFAM01.0(v66) 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 | 11.767 | 7.1950 | 4.3108 | 2.5060 | 3.6943 |
| Stddev | .023 | .0300 | .0138 | .0091 | .0040 |
| %RSD | .19491 | .41710 | .32124 | .36213 | .10841 |
| #1 | 11.789 | 7.1876 | 4.3230 | 2.5133 | 3.6967 |
| #2 | 11.743 | 7.2281 | 4.3136 | 2.5088 | 3.6965 |
| #3 | 11.769 | 7.1694 | 4.2957 | 2.4958 | 3.6897 |

| Int. Std. | Y_3600 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | 59662. | 14579. |
| Stddev | 129. | 25. |
| %RSD | .21619 | .16858 |
| #1 | 59553. | 14590. |
| #2 | 59630. | 14597. |
| #3 | 59804. | 14551. |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICV001 Acquired: 3/4/2025 17:17:14 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **.9757523** | **1.059134** | **.9983013** | **.9155289** | **.9089349** | **2.439686** |
| Stddev | .0024942 | .007982 | .0006607 | .0064169 | .0029569 | .017388 |
| %RSD | .2556229 | .7536789 | .0661815 | .7008960 | .3253176 | .7127034 |
| #1 | .9783942 | 1.065001 | .9990626 | .9229026 | .9122557 | 2.456543 |
| #2 | .9754247 | 1.050044 | .9979648 | .9124732 | .9079621 | 2.440701 |
| #3 | .9734381 | 1.062357 | .9978767 | .9112110 | .9065870 | 2.421812 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5227809** | **.5207138** | **.4943777** | **9.115492** | **.5542646** | **.4899510** |
| Stddev | .0034528 | .0022223 | .0011799 | .033030 | .0010464 | .0000507 |
| %RSD | .6604600 | .4267800 | .2386582 | .3623517 | .1887832 | .0103422 |
| #1 | .5267175 | .5183640 | .4940000 | 9.149136 | .5550321 | .4899650 |
| #2 | .5213597 | .5209958 | .4934329 | 9.114227 | .5530727 | .4899932 |
| #3 | .5202656 | .5227817 | .4957002 | 9.083112 | .5546889 | .4898948 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5236324** | **9.545833** | **.4808668** | **5.436558** | **.5083980** | **.2300223** |
| Stddev | .0015670 | .016769 | .0008333 | .005301 | .0010673 | .0007363 |
| %RSD | .2992559 | .1756680 | .1732956 | .0975020 | .2099330 | .3201082 |
| #1 | .5220772 | 9.565093 | .4817816 | 5.434010 | .5089372 | .2294331 |
| #2 | .5252110 | 9.537931 | .4806680 | 5.433012 | .5090881 | .2308477 |
| #3 | .5236090 | 9.534475 | .4801509 | 5.442652 | .5071687 | .2297862 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.802175** | **.5246378** | **.9341918** | **9.090877** | F **4.108315** | **4.628924** |
| Stddev | .052676 | .0010025 | .0059205 | .055343 | .011933 | .024774 |
| %RSD | .5373924 | .1910762 | .6337525 | .6087805 | .2904529 | .5351937 |
| #1 | 9.829676 | .5236351 | .9366023 | 9.134100 | 4.104629 | 4.600688 |
| #2 | 9.741440 | .5256401 | .9385267 | 9.110031 | 4.098660 | 4.639071 |
| #3 | 9.835410 | .5246380 | .9274463 | 9.028501 | 4.121655 | 4.647014 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICV001 Acquired: 3/4/2025 17:17:14 Type: Unk
Method: EPA SFAM01.0(v66) 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 | 4.635639 | F 3.808251 | F .0189475 | F -.001025 | F -.001839 | F .0000995 |
| Stddev | .005100 | .014496 | .0032247 | .000516 | .000316 | .0006314 |
| %RSD | .1100221 | .3806550 | 17.01941 | 50.32800 | 17.19854 | 634.7996 |
| #1 | 4.641247 | 3.824467 | .0210241 | -.001374 | -.001934 | .0007586 |
| #2 | 4.634389 | 3.796549 | .0205858 | -.001268 | -.001486 | -.000500 |
| #3 | 4.631279 | 3.803736 | .0152324 | -.000433 | -.002096 | .000040 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F .0012035 |
| Stddev | .0000285 |
| %RSD | 2.368484 |
| #1 | .0012102 |
| #2 | .0012280 |
| #3 | .0011722 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3604.087 | 77803.02 | 16366.60 | 3275.122 | 4892.592 |
| Stddev | 7.079 | 126.75 | 51.22 | 5.168 | 5.908 |
| %RSD | .1964198 | .1629125 | .3129529 | .1577900 | .1207462 |
| #1 | 3597.271 | 77669.93 | 16415.77 | 3269.869 | 4885.937 |
| #2 | 3603.587 | 77922.30 | 16370.47 | 3275.296 | 4894.624 |
| #3 | 3611.403 | 77816.83 | 16313.55 | 3280.200 | 4897.216 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICB001 Acquired: 3/4/2025 17:23:05 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **-.000596** | **.0007404** | **-.000052** | **.0007103** | **.0013687** | **.0022003** | **.0004262** |
| Stddev | .001317 | .0006890 | .001639 | .0013206 | .0004839 | .0059819 | .0009516 |
| %RSD | 221.1703 | 93.06229 | 3153.896 | 185.9323 | 35.35434 | 271.8734 | 223.2466 |
| #1 | .000815 | .0001838 | .000235 | .0002331 | .0018498 | .0073747 | -.000671 |
| #2 | -.001794 | .0015110 | .001424 | -.000305 | .0008820 | .0035757 | .001027 |
| #3 | -.000808 | .0005263 | -.001815 | .002203 | .0013744 | -.004350 | .000923 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000028** | **-.000037** | **.0043802** | **-.000142** | **.0001045** | **.0017013** | **-.003071** |
| Stddev | .000019 | .000048 | .0043554 | .000148 | .0001177 | .0009294 | .003102 |
| %RSD | 68.02114 | 131.4725 | 99.43355 | 104.0898 | 112.6401 | 54.63020 | 101.0057 |
| #1 | -.000035 | -.000027 | -.000608 | -.000171 | -.000001 | .0010717 | -.006078 |
| #2 | -.000007 | -.000089 | .006321 | -.000274 | .000082 | .0012635 | .000117 |
| #3 | -.000044 | .000006 | .007428 | .000018 | .000232 | .0027688 | -.003251 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000177** | **.0125515** | **.0000947** | **.0000503** | **.0970367** | **-.000148** | **.0005299** |
| Stddev | .000155 | .0021631 | .0003189 | .0002415 | .0829883 | .000519 | .0013276 |
| %RSD | 87.70487 | 17.23389 | 336.6411 | 480.2951 | 85.52253 | 350.3249 | 250.5224 |
| #1 | -.000244 | .0105756 | .0001497 | .0002675 | .1144349 | .000388 | .0018820 |
| #2 | -.000287 | .0122163 | -.000248 | .0000931 | .1699467 | -.000647 | -.000772 |
| #3 | .000000 | .0148627 | .000383 | -.000210 | .0067287 | -.000186 | .000480 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.045200** | **.0006547** | **-.000283** | **.0001078** | **.0015336** | **.0064356** | **-.000518** |
| Stddev | .024865 | .0022180 | .000620 | .0003404 | .0042342 | .0041949 | .000906 |
| %RSD | 55.01174 | 338.8130 | 219.3874 | 315.8203 | 276.0965 | 65.18337 | 174.7304 |
| #1 | -.073693 | .0032141 | .000011 | .0004126 | -.003197 | .0067930 | -.001522 |
| #2 | -.034020 | -.000543 | -.000995 | -.000260 | .004968 | .0020733 | -.000273 |
| #3 | -.027887 | -.000707 | .000136 | .000170 | .002829 | .0104403 | .000239 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICB001 Acquired: 3/4/2025 17:23:05 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **-.001039** | **-.000903** | **-.000001** |
| Stddev | .000599 | .000774 | .000049 |
| %RSD | 57.64046 | 85.68663 | 4084.608 |
| #1 | -.000364 | -.000024 | .000007 |
| #2 | -.001249 | -.001481 | -.000054 |
| #3 | -.001505 | -.001204 | .000043 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3655.831** | **79486.21** | **16109.19** | **3349.315** | **5140.191** |
| Stddev | 10.289 | 100.07 | 78.37 | 5.411 | 8.477 |
| %RSD | .2814464 | .1258942 | .4864719 | .1615447 | .1649220 |
| #1 | 3666.228 | 79578.37 | 16199.02 | 3343.153 | 5148.490 |
| #2 | 3655.614 | 79500.49 | 16073.70 | 3351.502 | 5140.537 |
| #3 | 3645.653 | 79379.76 | 16054.84 | 3353.289 | 5131.546 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICSA001 Acquired: 3/4/2025 17:27:13 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **.0000689** | **-.001196** | **.0038281** | **.0165994** | **.0121148** | **229.1883** |
| Stddev | .0007743 | .001260 | .0022444 | .0011695 | .0028495 | 2.0034 |
| %RSD | 1124.443 | 105.3159 | 58.62926 | 7.045510 | 23.52060 | .8741165 |
| #1 | -.000071 | -.002171 | .0061503 | .0153520 | .0154010 | 227.0926 |
| #2 | -.000626 | -.001645 | .0016706 | .0167751 | .0103306 | 229.3879 |
| #3 | .000904 | .000227 | .0036634 | .0176712 | .0106127 | 231.0844 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0053003** | **-.000453** | **.0013161** | **243.8951** | **.0531602** | **.0014963** |
| Stddev | .0007790 | .000054 | .0000951 | 1.0670 | .0003833 | .0002976 |
| %RSD | 14.69648 | 11.97663 | 7.225449 | .4374831 | .7210111 | 19.89099 |
| #1 | .0059270 | -.000511 | .0013161 | 243.5645 | .0531445 | .0018318 |
| #2 | .0055457 | -.000404 | .0012210 | 243.0325 | .0527850 | .0012642 |
| #3 | .0044282 | -.000444 | .0014112 | 245.0882 | .0535511 | .0013928 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.005455** | **101.1526** | **.0115480** | **238.6516** | **.0042979** | **-.000781** |
| Stddev | .000808 | .5259 | .0003312 | 1.2057 | .0007464 | .000208 |
| %RSD | 14.80449 | .5198916 | 2.867898 | .5052092 | 17.36559 | 26.68433 |
| #1 | -.005962 | 100.9691 | .0111664 | 238.0069 | .0036551 | -.000801 |
| #2 | -.005880 | 100.7432 | .0117601 | 237.9054 | .0041222 | -.000563 |
| #3 | -.004524 | 101.7457 | .0117175 | 240.0426 | .0051165 | -.000978 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2237193** | **-.005530** | **-.006310** | **-.061088** | **.0054810** | F **.4102497** |
| Stddev | .0899429 | .000809 | .001387 | .062419 | .0021186 | .0023679 |
| %RSD | 40.20347 | 14.62142 | 21.97214 | 102.1789 | 38.65277 | .5771863 |
| #1 | .2081997 | -.004806 | -.005719 | -.039292 | .0079253 | .4100892 |
| #2 | .3204122 | -.005382 | -.005318 | -.131483 | .0043448 | .4079661 |
| #3 | .1425461 | -.006403 | -.007895 | -.012490 | .0041730 | .4126938 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICSA001 Acquired: 3/4/2025 17:27:13 Type: Unk
Method: EPA SFAM01.0(v66) 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 | .0008847 | .0255738 | .0068683 | -.005114 | -.003761 | .0055475 |
| Stddev | .0003449 | .0077007 | .0034404 | .000825 | .000357 | .0004357 |
| %RSD | 38.98839 | 30.11188 | 50.09124 | 16.13674 | 9.484753 | 7.854546 |
| #1 | .0012365 | .0166853 | .0085156 | -.004396 | -.003982 | .0055225 |
| #2 | .0005470 | .0302356 | .0091755 | -.006015 | -.003350 | .0051248 |
| #3 | .0008708 | .0298004 | .0029140 | -.004930 | -.003952 | .0059952 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F .1027541 |
| Stddev | .0005091 |
| %RSD | .4954516 |
| #1 | .1024423 |
| #2 | .1024784 |
| #3 | .1033416 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3191.842 | 68335.57 | 15478.32 | 2914.217 | 3972.032 |
| Stddev | 7.999 | 173.96 | 50.03 | 10.974 | 8.198 |
| %RSD | .2506001 | .2545725 | .3232489 | .3765639 | .2064002 |
| #1 | 3186.949 | 68314.48 | 15457.08 | 2921.630 | 3963.161 |
| #2 | 3187.505 | 68519.12 | 15442.41 | 2919.411 | 3973.605 |
| #3 | 3201.073 | 68173.11 | 15535.47 | 2901.611 | 3979.330 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICSAB001 Acquired: 3/4/2025 17:31:29 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **.0895532** | **.1100796** | **.0532360** | **.0650995** | **.5613490** | **224.6757** |
| Stddev | .0029818 | .0053782 | .0036427 | .0023078 | .0046070 | 1.3520 |
| %RSD | 3.329645 | 4.885768 | 6.842514 | 3.545083 | .8207021 | .6017522 |
| #1 | .0925701 | .1154529 | .0554569 | .0658028 | .5578637 | 224.0072 |
| #2 | .0866077 | .1100895 | .0490320 | .0669738 | .5596112 | 223.7883 |
| #3 | .0894818 | .1046965 | .0552190 | .0625218 | .5665722 | 226.2318 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4987148** | **.5178272** | **1.018132** | **239.6125** | **.5994386** | **.5139315** |
| Stddev | .0007993 | .0000632 | .002859 | .4830 | .0016999 | .0004215 |
| %RSD | .1602640 | .0122107 | .2808214 | .2015707 | .2835834 | .0820087 |
| #1 | .4983890 | .5177704 | 1.021317 | 239.5091 | .5981458 | .5142390 |
| #2 | .4996255 | .5178953 | 1.015788 | 239.1896 | .6013641 | .5134511 |
| #3 | .4981299 | .5178158 | 1.017290 | 240.1388 | .5988058 | .5141045 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5119050** | **99.63112** | **.5122889** | **234.3081** | **1.031419** | **.2011393** |
| Stddev | .0004205 | .13291 | .0023527 | .8225 | .001059 | .0005250 |
| %RSD | .0821445 | .1334018 | .4592593 | .3510514 | .1026835 | .2610232 |
| #1 | .5119341 | 99.59320 | .5096165 | 234.0566 | 1.032589 | .2009148 |
| #2 | .5123101 | 99.52129 | .5140480 | 233.6406 | 1.031144 | .2007640 |
| #3 | .5114707 | 99.77887 | .5132023 | 235.2270 | 1.030525 | .2017393 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1318018** | **.5036661** | **.9861088** | **-.280740** | **.0088285** | F **.9897836** |
| Stddev | .3474414 | .0009982 | .0059327 | .032910 | .0016856 | .0011623 |
| %RSD | 263.6090 | .1981885 | .6016263 | 11.72251 | 19.09229 | .1174300 |
| #1 | -.076465 | .5029310 | .9836471 | -.318582 | .0078415 | .9885534 |
| #2 | -.061024 | .5048025 | .9818033 | -.264827 | .0107748 | .9908634 |
| #3 | .532894 | .5032647 | .9928761 | -.258811 | .0078693 | .9899339 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: ICSAB001 Acquired: 3/4/2025 17:31:29 Type: Unk
Method: EPA SFAM01.0(v66) 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 | F .6259309 | .0245610 | F .5229054 | F .6469798 | F .6587108 | .0047873 |
| Stddev | .0019805 | .0035649 | .0071188 | .0016893 | .0013233 | .0006499 |
| %RSD | .3164031 | 14.51441 | 1.361393 | .2611104 | .2008841 | 13.57519 |
| #1 | .6242327 | .0221334 | .5301529 | .6488409 | .6589825 | .0054503 |
| #2 | .6254535 | .0228958 | .5226405 | .6465553 | .6572728 | .0047602 |
| #3 | .6281064 | .0286537 | .5159227 | .6455432 | .6598771 | .0041514 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F .1019428 |
| Stddev | .0001289 |
| %RSD | .1264560 |
| #1 | .1019508 |
| #2 | .1020675 |
| #3 | .1018100 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3197.733 | 69404.19 | 15714.52 | 2943.505 | 3993.566 |
| Stddev | 4.382 | 84.58 | 30.00 | 5.571 | 9.654 |
| %RSD | .1370408 | .1218667 | .1909115 | .1892794 | .2417463 |
| #1 | 3200.512 | 69311.82 | 15681.07 | 2949.302 | 3985.468 |
| #2 | 3192.681 | 69477.85 | 15739.05 | 2938.191 | 3990.980 |
| #3 | 3200.006 | 69422.89 | 15723.43 | 2943.022 | 4004.250 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCV001 Acquired: 3/4/2025 17:35:31 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV001 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.783277** | **4.643900** | **24.08654** | **4.756181** | **4.798694** | **381.9284** |
| Stddev | .015362 | .036916 | .02327 | .007135 | .015568 | .9577 |
| %RSD | .3211548 | .7949460 | .0965919 | .1500194 | .3244308 | .2507467 |
| #1 | 4.784264 | 4.686143 | 24.09250 | 4.762673 | 4.801606 | 382.8012 |
| #2 | 4.767445 | 4.617833 | 24.06088 | 4.748542 | 4.781875 | 382.0801 |
| #3 | 4.798121 | 4.627724 | 24.10625 | 4.757326 | 4.812601 | 380.9040 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.999945** | **.4894614** | **2.459426** | **392.4143** | **15.24319** | **2.447529** |
| Stddev | .030742 | .0019819 | .002210 | 2.6194 | .02714 | .002211 |
| %RSD | .3074251 | .4049056 | .0898406 | .6674968 | .1780337 | .0903217 |
| #1 | 10.03436 | .4905758 | 2.461277 | 392.6985 | 15.25188 | 2.446493 |
| #2 | 9.97519 | .4871732 | 2.456980 | 394.8800 | 15.26492 | 2.446026 |
| #3 | 9.99030 | .4906352 | 2.460022 | 389.6644 | 15.21277 | 2.450067 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **14.88897** | **394.6198** | **14.98056** | **391.2684** | **2.445293** | **1.260010** |
| Stddev | .02805 | 1.8053 | .07025 | 1.7417 | .002304 | .003287 |
| %RSD | .1883696 | .4574779 | .4689247 | .4451328 | .0942176 | .2608517 |
| #1 | 14.91598 | 394.0575 | 14.91160 | 390.4459 | 2.442932 | 1.260432 |
| #2 | 14.89092 | 396.6393 | 15.05202 | 393.2690 | 2.445414 | 1.263066 |
| #3 | 14.85999 | 393.1625 | 14.97805 | 390.0904 | 2.447535 | 1.256533 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **392.2296** | **2.449349** | **14.97379** | **151.4958** | **4.998382** | F **5.837700** |
| Stddev | .3098 | .007408 | .10322 | .8478 | .006300 | .009705 |
| %RSD | .0789940 | .3024296 | .6893145 | .5596349 | .1260416 | .1662467 |
| #1 | 392.2617 | 2.441665 | 14.86977 | 151.4857 | 5.000490 | 5.848181 |
| #2 | 392.5221 | 2.449938 | 15.07619 | 152.3486 | 4.991298 | 5.829025 |
| #3 | 391.9050 | 2.456445 | 14.97541 | 150.6531 | 5.003358 | 5.835894 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCV001 Acquired: 3/4/2025 17:35:31 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV001 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.778150** | **4.917816** | **4.908993** | **4.867207** | **4.936024** | **5.009632** |
| Stddev | .005411 | .010150 | .012106 | .003298 | .012390 | .024493 |
| %RSD | .1132355 | .2064004 | .2466063 | .0677517 | .2510154 | .4889271 |
| #1 | 4.780736 | 4.911717 | 4.903792 | 4.865545 | 4.923084 | 4.994079 |
| #2 | 4.771931 | 4.912198 | 4.900356 | 4.865070 | 4.937209 | 5.037866 |
| #3 | 4.781782 | 4.929533 | 4.922830 | 4.871004 | 4.947779 | 4.996950 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | **5.073647** |
| Stddev | .077853 |
| %RSD | 1.534461 |
| #1 | 5.113932 |
| #2 | 5.123103 |
| #3 | 4.983906 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2815.996** | **64217.45** | **15206.59** | **2683.696** | **3524.671** |
| Stddev | 5.646 | 281.56 | 51.14 | 7.454 | 6.524 |
| %RSD | .2004903 | .4384499 | .3362975 | .2777602 | .1851024 |
| #1 | 2814.912 | 64078.19 | 15148.39 | 2688.802 | 3524.847 |
| #2 | 2822.105 | 64032.65 | 15244.36 | 2675.142 | 3531.105 |
| #3 | 2810.970 | 64541.50 | 15227.00 | 2687.144 | 3518.060 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCB001 Acquired: 3/4/2025 17:39:49 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **-.001639** | **.0008607** | **-.000837** | **-.000573** | **.0020872** | **.0030185** | **.0019393** |
| Stddev | .000435 | .0003131 | .000175 | .000762 | .0020032 | .0017360 | .0005472 |
| %RSD | 26.54528 | 36.37589 | 20.91142 | 132.9967 | 95.97785 | 57.51315 | 28.21703 |
| #1 | -.001769 | .0009997 | -.000709 | -.001309 | .0031030 | .0019445 | .0025250 |
| #2 | -.001154 | .0010801 | -.001036 | -.000621 | .0033790 | .0020896 | .0018517 |
| #3 | -.001994 | .0005022 | -.000765 | .000212 | -.000220 | .0050213 | .0014411 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000040** | **-.000002** | **.0073259** | **.0001268** | **.0002938** | **.0004610** | **.0096947** |
| Stddev | .000029 | .000010 | .0015020 | .0001308 | .0001663 | .0012375 | .0066020 |
| %RSD | 71.89303 | 574.3992 | 20.50258 | 103.1514 | 56.58945 | 268.4338 | 68.09916 |
| #1 | -.000072 | .000003 | .0087207 | .0000011 | .0001043 | .0008726 | .0173181 |
| #2 | -.000015 | -.000013 | .0075212 | .0001171 | .0004151 | .0014403 | .0058643 |
| #3 | -.000034 | .000005 | .0057358 | .0002621 | .0003621 | -.000930 | .0059018 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002030** | **.0117241** | **.0000301** | **-.000174** | **.1470418** | **.0005659** | **.0019820** |
| Stddev | .0002700 | .0125312 | .0001371 | .000058 | .0698594 | .0012832 | .0004103 |
| %RSD | 133.0072 | 106.8838 | 455.4212 | 33.17382 | 47.50988 | 226.7693 | 20.70070 |
| #1 | -.000103 | .0235217 | -.000053 | -.000241 | .2261155 | .0000236 | .0016216 |
| #2 | .000406 | -.001430 | -.000045 | -.000138 | .1213197 | -.000357 | .0024285 |
| #3 | .000306 | .013081 | .000188 | -.000144 | .0936902 | .002031 | .0018959 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.021902** | **.0025090** | **.0019566** | **.0000299** | **.0001536** | **.0065354** | **-.000009** |
| Stddev | .025007 | .0002902 | .0001840 | .0000746 | .0004415 | .0022408 | .000210 |
| %RSD | 114.1761 | 11.56630 | 9.402027 | 249.8479 | 287.4868 | 34.28674 | 2216.237 |
| #1 | -.017439 | .0021871 | .0017548 | .0000263 | -.000040 | .0054601 | .000184 |
| #2 | .000573 | .0027507 | .0021150 | -.000043 | .000659 | .0050349 | -.000233 |
| #3 | -.048840 | .0025891 | .0020002 | .000106 | -.000158 | .0091111 | .000020 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCB001 Acquired: 3/4/2025 17:39:49 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **-.001545** | **-.000136** | **.0000749** |
| Stddev | .000403 | .000609 | .0000311 |
| %RSD | 26.05149 | 446.0872 | 41.51306 |
| #1 | -.001977 | -.000070 | .0001067 |
| #2 | -.001479 | .000436 | .0000733 |
| #3 | -.001180 | -.000775 | .0000446 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3672.061** | **81486.34** | **16135.11** | **3401.075** | **5150.058** |
| Stddev | 5.320 | 250.63 | 58.63 | 17.065 | 2.817 |
| %RSD | .1448855 | .3075673 | .3633642 | .5017457 | .0547055 |
| #1 | 3672.806 | 81330.91 | 16092.52 | 3381.848 | 5150.419 |
| #2 | 3676.969 | 81775.46 | 16110.83 | 3406.955 | 5147.078 |
| #3 | 3666.407 | 81352.65 | 16201.98 | 3414.423 | 5152.678 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166911BL Acquired: 3/4/2025 17:43:59 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW911 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001343** | **.0010056** | **.0005247** | **-.000743** | **.0007510** | **.0113519** | **.0028732** |
| Stddev | .001438 | .0003713 | .0009033 | .001234 | .0015107 | .0002190 | .0006392 |
| %RSD | 107.0867 | 36.92741 | 172.1698 | 166.1250 | 201.1684 | 1.928816 | 22.24797 |
| #1 | -.002448 | .0011724 | -.000412 | -.002109 | .0017346 | .0115779 | .0036060 |
| #2 | .000283 | .0005801 | .001390 | .000291 | -.000988 | .0111407 | .0025838 |
| #3 | -.001863 | .0012643 | .000596 | -.000411 | .001507 | .0113372 | .0024299 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000005** | **-.000034** | **.0000177** | **-.000584** | **.0001036** | **.0008024** | **.0043854** |
| Stddev | .000020 | .000009 | .0083856 | .000385 | .0002199 | .0008322 | .0080948 |
| %RSD | 409.0563 | 26.37201 | 47390.74 | 65.96226 | 212.3220 | 103.7104 | 184.5832 |
| #1 | .000015 | -.000044 | .0009508 | -.000248 | .0003444 | .0006098 | .0108850 |
| #2 | -.000025 | -.000028 | .0078977 | -.001004 | .0000531 | .0000834 | .0069531 |
| #3 | -.000004 | -.000029 | -.008795 | -.000500 | -.000087 | .0017141 | -.004682 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007834** | **.0072324** | **.0001082** | **-.000022** | **.1853126** | **-.000013** | **.0009252** |
| Stddev | .0001869 | .0057405 | .0001967 | .000231 | .0999641 | .000964 | .0011573 |
| %RSD | 23.85331 | 79.37130 | 181.7814 | 1069.406 | 53.94350 | 7217.763 | 125.0854 |
| #1 | .0006108 | .0074023 | -.000015 | -.000244 | .0809276 | -.000078 | -.000300 |
| #2 | .0007575 | .0014089 | .000005 | .000216 | .1948360 | -.000943 | .001076 |
| #3 | .0009818 | .0128860 | .000335 | -.000036 | .2801743 | .000982 | .001999 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-1.29683** | **.0036042** | **-.002391** | **-.000114** | **.0069871** | **.0113110** | **-.001286** |
| Stddev | .02071 | .0011363 | .000537 | .000071 | .0033686 | .0021839 | .000591 |
| %RSD | 1.596923 | 31.52782 | 22.46374 | 62.59025 | 48.21231 | 19.30734 | 45.97188 |
| #1 | -1.31085 | .0034524 | -.002844 | -.000096 | .0108741 | .0136033 | -.001898 |
| #2 | -1.30660 | .0048088 | -.001798 | -.000192 | .0049151 | .0110750 | -.001244 |
| #3 | -1.27304 | .0025514 | -.002532 | -.000053 | .0051722 | .0092548 | -.000718 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166911BL Acquired: 3/4/2025 17:43:59 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW911 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.001520** | **-.002629** | **.0000253** |
| Stddev | .000619 | .000553 | .0000088 |
| %RSD | 40.73715 | 21.03160 | 34.66438 |
| #1 | -.001180 | -.003149 | .0000166 |
| #2 | -.001145 | -.002690 | .0000341 |
| #3 | -.002234 | -.002048 | .0000252 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3750.723** | **81744.54** | **16762.36** | **3467.477** | **5326.357** |
| Stddev | 17.497 | 184.46 | 30.51 | 16.622 | 18.293 |
| %RSD | .4665101 | .2256564 | .1820264 | .4793777 | .3434456 |
| #1 | 3769.118 | 81937.86 | 16739.16 | 3486.303 | 5345.300 |
| #2 | 3748.763 | 81725.32 | 16750.99 | 3454.827 | 5324.980 |
| #3 | 3734.288 | 81570.45 | 16796.92 | 3461.300 | 5308.792 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166911BS Acquired: 3/4/2025 17:48:09 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS911 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0179368** | **.0545362** | **.0192926** | **.0647526** | **.1110369** | **.3301169** | **.3616292** |
| Stddev | .0014926 | .0002725 | .0005069 | .0014687 | .0016277 | .0019615 | .0020552 |
| %RSD | 8.321515 | .4997275 | 2.627232 | 2.268212 | 1.465933 | .5941709 | .5683123 |
| #1 | .0165806 | .0547516 | .0193238 | .0663700 | .1108799 | .3322574 | .3631533 |
| #2 | .0176939 | .0546273 | .0197832 | .0643854 | .1094933 | .3296878 | .3624423 |
| #3 | .0195360 | .0542298 | .0187709 | .0635022 | .1127374 | .3284055 | .3592918 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0109574** | **.0098745** | **9.327481** | **.0211459** | **.0980017** | **.0550549** | **.1960601** |
| Stddev | .0000844 | .0001240 | .041994 | .0000904 | .0002366 | .0003509 | .0001152 |
| %RSD | .7699514 | 1.256186 | .4502194 | .4272491 | .2413685 | .6374387 | .0587632 |
| #1 | .0108946 | .0097666 | 9.356171 | .0210476 | .0979481 | .0551708 | .1961158 |
| #2 | .0110533 | .0098469 | 9.346990 | .0212253 | .0977966 | .0546607 | .1961369 |
| #3 | .0109243 | .0100101 | 9.279281 | .0211648 | .0982605 | .0553333 | .1959276 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0301442** | **8.554508** | **.0791466** | **.0187391** | **10.02950** | **.1073704** | **.1142378** |
| Stddev | .0000741 | .021835 | .0006478 | .0002888 | .06705 | .0003331 | .0034025 |
| %RSD | .2457737 | .2552490 | .8184335 | 1.541048 | .6685283 | .3102630 | 2.978402 |
| #1 | .0300754 | 8.579358 | .0785242 | .0186644 | 10.00254 | .1071159 | .1169779 |
| #2 | .0301345 | 8.545776 | .0798171 | .0184951 | 10.10583 | .1077474 | .1104294 |
| #3 | .0302226 | 8.538390 | .0790985 | .0190579 | 9.98013 | .1072479 | .1153062 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.250703** | **.0212375** | **-.001972** | **.0201817** | **.1771263** | **.8795541** | **.0125139** |
| Stddev | .041577 | .0021602 | .000223 | .0002318 | .0033644 | .0025346 | .0000994 |
| %RSD | .5734238 | 10.17183 | 11.30691 | 1.148322 | 1.899419 | .2881636 | .7942900 |
| #1 | 7.292630 | .0225660 | -.002149 | .0203796 | .1749157 | .8811453 | .0124145 |
| #2 | 7.209485 | .0224015 | -.002044 | .0202388 | .1809982 | .8808857 | .0125138 |
| #3 | 7.249994 | .0187448 | -.001721 | .0199268 | .1754651 | .8766313 | .0126133 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166911BS Acquired: 3/4/2025 17:48:09 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS911 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .2054802 | .0221070 | .0547619 |
| Stddev | .0010853 | .0007827 | .0000630 |
| %RSD | .5281747 | 3.540356 | .1150250 |
| #1 | .2063964 | .0229722 | .0548187 |
| #2 | .2057627 | .0214482 | .0547728 |
| #3 | .2042816 | .0219006 | .0546941 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3650.485 | 78770.99 | 16577.77 | 3347.351 | 5052.915 |
| Stddev | 11.815 | 218.34 | 68.70 | 10.070 | 18.274 |
| %RSD | .3236639 | .2771796 | .4143932 | .3008441 | .3616572 |
| #1 | 3661.692 | 78975.31 | 16649.81 | 3347.844 | 5071.591 |
| #2 | 3651.621 | 78540.92 | 16513.00 | 3357.166 | 5052.083 |
| #3 | 3638.143 | 78796.74 | 16570.50 | 3337.043 | 5035.071 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB168913BL Acquired: 3/4/2025 17:52:14 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW913 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000134** | **.0007821** | **.0015176** | **-.001726** | **-.000734** | **.0029565** | **.0016546** |
| Stddev | .000677 | .0015639 | .0006248 | .000725 | .001490 | .0060464 | .0005231 |
| %RSD | 503.6619 | 199.9624 | 41.17344 | 42.02653 | 203.0353 | 204.5097 | 31.61633 |
| #1 | -.000733 | .0023482 | .0017325 | -.002479 | .000894 | -.003008 | .0019140 |
| #2 | -.000270 | -.000780 | .0008136 | -.001666 | -.002028 | .009082 | .0019972 |
| #3 | .000600 | .000778 | .0020065 | -.001032 | -.001067 | .002796 | .0010524 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000041** | **-.000076** | **.0061948** | **-.000251** | **.0002156** | **.0014128** | **.0061474** |
| Stddev | .000042 | .000043 | .0021337 | .000104 | .0000995 | .0011487 | .0035332 |
| %RSD | 102.6949 | 56.43401 | 34.44252 | 41.29079 | 46.14583 | 81.30381 | 57.47501 |
| #1 | -.000002 | -.000049 | .0075507 | -.000296 | .0002990 | .0008531 | .0021809 |
| #2 | -.000035 | -.000054 | .0072984 | -.000324 | .0001055 | .0006513 | .0089575 |
| #3 | -.000087 | -.000126 | .0037354 | -.000132 | .0002425 | .0027341 | .0073037 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008569** | **.0062505** | **.0010550** | **-.000088** | **.1813444** | **.0007164** | **.0003392** |
| Stddev | .0001131 | .0103358 | .0002280 | .000424 | .1899671 | .0006344 | .0004662 |
| %RSD | 13.20231 | 165.3608 | 21.61134 | 482.4641 | 104.7549 | 88.55276 | 137.4174 |
| #1 | .0007329 | -.002324 | .0009436 | .000167 | .0491603 | .0001452 | .0007332 |
| #2 | .0009545 | .003348 | .0009041 | .000147 | .3990380 | .0006049 | .0004598 |
| #3 | .0008833 | .017727 | .0013172 | -.000578 | .0958349 | .0013993 | -.000175 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-1.32713** | **.0041839** | **-.003586** | **.0001058** | **.0059002** | **.0085354** | **-.001540** |
| Stddev | .02008 | .0010639 | .000182 | .0000767 | .0030241 | .0032270 | .000339 |
| %RSD | 1.513024 | 25.42788 | 5.082598 | 72.44613 | 51.25397 | 37.80693 | 22.02124 |
| #1 | -1.30690 | .0039456 | -.003580 | .0000525 | .0049817 | .0075567 | -.001159 |
| #2 | -1.32744 | .0053466 | -.003406 | .0001936 | .0092771 | .0121384 | -.001808 |
| #3 | -1.34705 | .0032593 | -.003771 | .0000713 | .0034419 | .0059111 | -.001653 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB168913BL Acquired: 3/4/2025 17:52:14 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW913 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.001311 | -.003360 | .0000192 |
| Stddev | .000558 | .001034 | .0000252 |
| %RSD | 42.56035 | 30.78053 | 131.2343 |
| #1 | -.000699 | -.004539 | .0000466 |
| #2 | -.001792 | -.002609 | -.000003 |
| #3 | -.001443 | -.002931 | .000014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3704.965 | 80636.75 | 17079.58 | 3409.887 | 5282.046 |
| Stddev | 7.812 | 657.09 | 45.90 | 28.343 | 15.482 |
| %RSD | .2108647 | .8148811 | .2687456 | .8312138 | .2931090 |
| #1 | 3713.671 | 80620.10 | 17131.20 | 3431.139 | 5297.309 |
| #2 | 3702.660 | 79988.15 | 17043.36 | 3377.706 | 5282.475 |
| #3 | 3698.566 | 81302.02 | 17064.19 | 3420.816 | 5266.354 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB168913BS Acquired: 3/4/2025 17:56:24 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS913 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0173637 | .0553181 | .0200804 | .0655415 | .1121334 | .3420377 | .3711617 |
| Stddev | .0000472 | .0006276 | .0006882 | .0005826 | .0004143 | .0009286 | .0019391 |
| %RSD | .2715879 | 1.134504 | 3.427110 | .8888956 | .3695072 | .2714780 | .5224289 |
| #1 | .0174164 | .0549954 | .0201487 | .0653118 | .1120294 | .3430603 | .3694344 |
| #2 | .0173495 | .0549176 | .0193606 | .0662039 | .1125899 | .3418054 | .3732591 |
| #3 | .0173253 | .0560414 | .0207319 | .0651087 | .1117810 | .3412473 | .3707916 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0110183 | .0101110 | 9.497683 | .0215456 | .0996129 | .0570309 | .2043318 |
| Stddev | .0000189 | .0000702 | .028726 | .0001314 | .0002768 | .0013272 | .0074079 |
| %RSD | .1718344 | .6942961 | .3024510 | .6096638 | .2779180 | 2.327095 | 3.625420 |
| #1 | .0110051 | .0101077 | 9.491516 | .0216962 | .0998902 | .0571176 | .2011716 |
| #2 | .0110400 | .0101827 | 9.528992 | .0214860 | .0996119 | .0583125 | .2127957 |
| #3 | .0110098 | .0100424 | 9.472542 | .0214546 | .0993365 | .0556625 | .1990280 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0316861 | 8.695119 | .0806095 | .0191185 | 10.13795 | .1066642 | .1155710 |
| Stddev | .0002538 | .025975 | .0002850 | .0002284 | .06648 | .0014307 | .0015496 |
| %RSD | .8008086 | .2987305 | .3535338 | 1.194650 | .6557990 | 1.341363 | 1.340822 |
| #1 | .0313963 | 8.698877 | .0806863 | .0190960 | 10.20229 | .1050211 | .1142981 |
| #2 | .0318686 | 8.719010 | .0802940 | .0189022 | 10.14204 | .1076351 | .1151184 |
| #3 | .0317934 | 8.667469 | .0808483 | .0193573 | 10.06951 | .1073363 | .1172965 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 7.390756 | .0220402 | -.002131 | .0201233 | .1855129 | .8887660 | .0125893 |
| Stddev | .066466 | .0004172 | .000426 | .0001309 | .0044740 | .0013997 | .0003884 |
| %RSD | .8993182 | 1.892966 | 20.00283 | .6504853 | 2.411671 | .1574849 | 3.085157 |
| #1 | 7.431131 | .0225209 | -.002212 | .0199939 | .1906667 | .8879008 | .0122792 |
| #2 | 7.427093 | .0217721 | -.001671 | .0202556 | .1826273 | .8903808 | .0124639 |
| #3 | 7.314042 | .0218276 | -.002512 | .0201203 | .1832447 | .8880163 | .0130250 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB168913BS Acquired: 3/4/2025 17:56:24 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS913 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .2072646 | .0229000 | .0558827 |
| Stddev | .0006366 | .0007762 | .0001559 |
| %RSD | .3071192 | 3.389528 | .2789886 |
| #1 | .2079186 | .0237543 | .0558175 |
| #2 | .2072284 | .0227075 | .0560607 |
| #3 | .2066470 | .0222381 | .0557701 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3608.157 | 77835.07 | 16605.65 | 3302.737 | 4949.054 |
| Stddev | 10.889 | 84.05 | 40.04 | 12.902 | 6.436 |
| %RSD | .3017767 | .1079878 | .2411087 | .3906573 | .1300442 |
| #1 | 3607.904 | 77820.31 | 16611.46 | 3315.200 | 4945.728 |
| #2 | 3619.170 | 77759.38 | 16642.46 | 3303.575 | 4956.472 |
| #3 | 3597.398 | 77925.53 | 16563.02 | 3289.436 | 4944.961 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166912BL Acquired: 3/4/2025 18:00:29 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW912 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004012** | **.0003892** | **.0007915** | **-.002718** | **.0006209** | **-.003204** | **.0022702** |
| Stddev | .0009102 | .0009520 | .0005957 | .002220 | .0008449 | .001640 | .0011108 |
| %RSD | 226.8999 | 244.6371 | 75.26664 | 81.66663 | 136.0834 | 51.19817 | 48.93019 |
| #1 | .0013480 | -.000127 | .0001379 | -.000156 | -.000323 | -.001561 | .0024623 |
| #2 | .0003228 | .001488 | .0013041 | -.004070 | .001307 | -.003208 | .0010759 |
| #3 | -.000467 | -.000193 | .0009325 | -.003928 | .000879 | -.004842 | .0032725 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000006** | **-.000022** | **-.001800** | **-.000284** | **-.000001** | **-.000366** | **.0047279** |
| Stddev | .000100 | .000056 | .003897 | .000277 | .000170 | .000791 | .0009178 |
| %RSD | 1688.267 | 256.0100 | 216.4849 | 97.77097 | 16753.82 | 215.7343 | 19.41264 |
| #1 | -.000092 | .000034 | -.002421 | -.000493 | -.000126 | .000540 | .0048742 |
| #2 | .000104 | -.000021 | .002370 | .000031 | .000192 | -.000915 | .0037457 |
| #3 | -.000029 | -.000079 | -.005350 | -.000389 | -.000069 | -.000724 | .0055638 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017259** | **-.000068** | **-.000169** | **-.000132** | **.0063867** | **.0006610** | **.0020970** |
| Stddev | .0004374 | .014114 | .000349 | .000040 | .1377496 | .0009330 | .0008081 |
| %RSD | 25.34235 | 20687.86 | 207.2886 | 30.26111 | 2156.824 | 141.1450 | 38.53441 |
| #1 | .0013365 | -.014711 | -.000567 | -.000168 | -.109191 | .0016823 | .0014192 |
| #2 | .0021991 | .013449 | -.000021 | -.000089 | -.030462 | -.000147 | .0029912 |
| #3 | .0016420 | .001057 | .000083 | -.000138 | .158813 | .000447 | .0018805 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-1.29231** | **.0035040** | **-.003831** | **-.000163** | **.0121659** | **.0060335** | **-.001182** |
| Stddev | .00590 | .0009082 | .000180 | .000259 | .0024751 | .0038903 | .000203 |
| %RSD | .4562216 | 25.92013 | 4.697880 | 158.7519 | 20.34423 | 64.47877 | 17.14931 |
| #1 | -1.28609 | .0043841 | -.003776 | -.000267 | .0116464 | .0096491 | -.000957 |
| #2 | -1.29782 | .0025700 | -.003685 | -.000353 | .0099918 | .0065344 | -.001351 |
| #3 | -1.29301 | .0035579 | -.004032 | .000132 | .0148594 | .0019170 | -.001239 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166912BL Acquired: 3/4/2025 18:00:29 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: PBW912 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.001063** | **-.003667** | **.0000138** |
| Stddev | .000734 | .000709 | .0000312 |
| %RSD | 69.00660 | 19.34383 | 225.6795 |
| | | | |
| #1 | -.001330 | -.004486 | .0000498 |
| #2 | -.000233 | -.003280 | -.000003 |
| #3 | -.001626 | -.003236 | -.000005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3726.276** | **80913.44** | **16682.74** | **3402.797** | **5302.754** |
| Stddev | .591 | 85.97 | 90.56 | 2.147 | 9.241 |
| %RSD | .0158474 | .1062538 | .5428460 | .0631064 | .1742772 |
| | | | | | |
| #1 | 3726.557 | 80822.11 | 16622.98 | 3400.414 | 5294.258 |
| #2 | 3726.674 | 80992.80 | 16786.94 | 3403.394 | 5312.594 |
| #3 | 3725.598 | 80925.42 | 16638.31 | 3404.583 | 5301.411 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166912BS Acquired: 3/4/2025 18:04:38 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS912 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0171076 | .0554193 | .0196948 | .0654070 | .1087742 | .3188282 | .3525765 |
| Stddev | .0003762 | .0002954 | .0010421 | .0013373 | .0012729 | .0075653 | .0020635 |
| %RSD | 2.198939 | .5330490 | 5.291129 | 2.044634 | 1.170264 | 2.372852 | .5852545 |
| #1 | .0168412 | .0555776 | .0187388 | .0656381 | .1078219 | .3176774 | .3503539 |
| #2 | .0175379 | .0556017 | .0195398 | .0666137 | .1102200 | .3119042 | .3529443 |
| #3 | .0169436 | .0550785 | .0208056 | .0639691 | .1082807 | .3269029 | .3544314 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0110444 | .0099862 | 9.143752 | .0211322 | .0979633 | .0562579 | .1938309 |
| Stddev | .0001607 | .0000753 | .035024 | .0002574 | .0004980 | .0015427 | .0014954 |
| %RSD | 1.454900 | .7538400 | .3830385 | 1.218204 | .5084097 | 2.742248 | .7714961 |
| #1 | .0111883 | .0100384 | 9.104207 | .0210144 | .0977232 | .0575481 | .1926831 |
| #2 | .0110737 | .0098999 | 9.170863 | .0209549 | .0976307 | .0545491 | .1955220 |
| #3 | .0108710 | .0100203 | 9.156185 | .0214275 | .0985359 | .0566767 | .1932874 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0299789 | 8.377492 | .0792053 | .0185567 | 10.18266 | .1065800 | .1111447 |
| Stddev | .0003391 | .012266 | .0005354 | .0002499 | .03024 | .0003471 | .0005869 |
| %RSD | 1.131195 | .1464110 | .6759446 | 1.346611 | .2969475 | .3256216 | .5280578 |
| #1 | .0295970 | 8.366170 | .0785946 | .0182964 | 10.20360 | .1062855 | .1117046 |
| #2 | .0302447 | 8.390522 | .0795938 | .0187947 | 10.19639 | .1069626 | .1105340 |
| #3 | .0300951 | 8.375785 | .0794273 | .0185791 | 10.14799 | .1064920 | .1111954 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 7.046785 | .0203169 | -.002545 | .0197880 | .1909622 | .8857590 | .0128278 |
| Stddev | .049032 | .0016731 | .000803 | .0001885 | .0022697 | .0055711 | .0005449 |
| %RSD | .6958072 | 8.235162 | 31.54955 | .9523889 | 1.188544 | .6289635 | 4.247815 |
| #1 | 6.995119 | .0184327 | -.001772 | .0197222 | .1926288 | .8870545 | .0125595 |
| #2 | 7.052564 | .0208894 | -.002487 | .0196412 | .1883773 | .8905681 | .0134548 |
| #3 | 7.092671 | .0216287 | -.003375 | .0200005 | .1918806 | .8796542 | .0124690 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: PB166912BS Acquired: 3/4/2025 18:04:38 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LCS912 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .2031212 | .0219520 | .0528752 |
| Stddev | .0004627 | .0018113 | .0006307 |
| %RSD | .2277862 | 8.251158 | 1.192792 |
| #1 | .2027274 | .0202692 | .0523636 |
| #2 | .2036308 | .0217178 | .0526821 |
| #3 | .2030053 | .0238690 | .0535798 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3612.540 | 78514.63 | 16242.26 | 3327.619 | 4963.514 |
| Stddev | 12.037 | 389.99 | 132.02 | .358 | 18.399 |
| %RSD | .3332077 | .4967087 | .8128352 | .0107500 | .3706774 |
| #1 | 3621.818 | 78907.75 | 16210.84 | 3328.032 | 4980.142 |
| #2 | 3616.863 | 78127.85 | 16128.79 | 3327.417 | 4966.651 |
| #3 | 3598.938 | 78508.29 | 16387.16 | 3327.407 | 4943.748 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-01 Acquired: 3/4/2025 18:21:07 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F5 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007459** | **.0010195** | **.0003624** | **.0000353** | **-.000443** | **.0310448** |
| Stddev | .0012076 | .0006429 | .0010280 | .0014092 | .000878 | .0051127 |
| %RSD | 161.8929 | 63.06756 | 283.6566 | 3995.594 | 198.2967 | 16.46870 |
| #1 | .0018053 | .0005054 | .0012418 | .0015933 | .000566 | .0295032 |
| #2 | .0010015 | .0017404 | .0006133 | -.001150 | -.000859 | .0367509 |
| #3 | -.000569 | .0008127 | -.000768 | -.000337 | -.001036 | .0268804 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2187321** | **.0000708** | **.0001082** | **7.704541** | **-.000547** | **.0103477** |
| Stddev | .0007396 | .0000535 | .0000832 | .007049 | .000251 | .0001276 |
| %RSD | .3381364 | 75.54912 | 76.93956 | .0914871 | 45.87165 | 1.233209 |
| #1 | .2195771 | .0000660 | .0002009 | 7.711198 | -.000376 | .0102016 |
| #2 | .2182021 | .0001265 | .0000837 | 7.705269 | -.000430 | .0104378 |
| #3 | .2184171 | .0000199 | .0000399 | 7.697157 | -.000836 | .0104036 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0023377** | **.0732435** | **.3004728** | **4.475223** | **.0098320** | **-.000345** |
| Stddev | .0013433 | .0038242 | .0012949 | .008821 | .0004098 | .000066 |
| %RSD | 57.46385 | 5.221191 | .4309366 | .1971157 | 4.167827 | 19.23944 |
| #1 | .0019413 | .0772460 | .3017284 | 4.478418 | .0102533 | -.000268 |
| #2 | .0038347 | .0696269 | .2991420 | 4.482002 | .0094348 | -.000387 |
| #3 | .0012372 | .0728576 | .3005479 | 4.465250 | .0098080 | -.000379 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.558566** | **.0011862** | **.0703462** | **.5750073** | **.0059917** | **.0853404** |
| Stddev | .179800 | .0014117 | .0004717 | .0108196 | .0014861 | .0010554 |
| %RSD | 3.234650 | 119.0126 | .6705725 | 1.881645 | 24.80241 | 1.236656 |
| #1 | 5.766010 | .0016686 | .0700024 | .5644555 | .0044412 | .0858441 |
| #2 | 5.447558 | -.000403 | .0708840 | .5860761 | .0061301 | .0860496 |
| #3 | 5.462128 | .002293 | .0701523 | .5744902 | .0074037 | .0841276 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-01 Acquired: 3/4/2025 18:21:07 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F5 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0011450 | F 10.93622 | 6.487493 | -.000225 | .0008419 | .0041691 |
| Stddev | .0002422 | .02674 | .014390 | .000439 | .0006813 | .0009130 |
| %RSD | 21.14814 | .2444641 | .2218085 | 195.3820 | 80.92388 | 21.90063 |
| #1 | .0011660 | 10.94702 | 6.499290 | -.000367 | .0002234 | .0040359 |
| #2 | .0013760 | 10.90577 | 6.491727 | -.000575 | .0015721 | .0051414 |
| #3 | .0008930 | 10.95586 | 6.471461 | .000268 | .0007301 | .0033299 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0503843 |
| Stddev | .0001117 |
| %RSD | .2215987 |
| #1 | .0504178 |
| #2 | .0502598 |
| #3 | .0504755 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3659.691 | 80212.20 | 16567.11 | 3351.723 | 5127.232 |
| Stddev | 4.264 | 102.00 | 25.80 | 7.860 | 3.276 |
| %RSD | .1165074 | .1271675 | .1557138 | .2344915 | .0638932 |
| #1 | 3658.486 | 80095.29 | 16565.16 | 3360.697 | 5125.636 |
| #2 | 3656.159 | 80283.09 | 16542.35 | 3348.412 | 5125.060 |
| #3 | 3664.427 | 80258.20 | 16593.83 | 3346.061 | 5131.000 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-02 Acquired: 3/4/2025 18:25:13 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002443** | **.0017075** | **.0002814** | **-.000072** | **-.000062** | **.0047420** |
| Stddev | .002326 | .0009953 | .0011373 | .002541 | .001323 | .0017119 |
| %RSD | 95.20092 | 58.29008 | 404.2071 | 3518.982 | 2132.294 | 36.10143 |
| #1 | -.000348 | .0006585 | -.000243 | -.002911 | .000415 | .0033854 |
| #2 | -.004946 | .0018253 | .001586 | .000703 | .000956 | .0041751 |
| #3 | -.002036 | .0026386 | -.000499 | .001991 | -.001558 | .0066654 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2287303** | **.0000459** | **.0000032** | **8.540349** | **.0002454** | **.0002413** |
| Stddev | .0008298 | .0000241 | .0000615 | .010162 | .0000715 | .0002593 |
| %RSD | .3627912 | 52.45276 | 1892.429 | .1189884 | 29.12233 | 107.4744 |
| #1 | .2286113 | .0000191 | .0000698 | 8.533365 | .0003220 | -.000018 |
| #2 | .2279664 | .0000529 | -.000008 | 8.552007 | .0002339 | .000242 |
| #3 | .2296132 | .0000657 | -.000052 | 8.535674 | .0001804 | .000500 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0020129** | **.0552031** | **.0210459** | **2.418827** | **.0013922** | **-.000308** |
| Stddev | .0010822 | .0054112 | .0003738 | .011769 | .0002176 | .000083 |
| %RSD | 53.76272 | 9.802274 | 1.775996 | .4865395 | 15.63279 | 27.01492 |
| #1 | .0015184 | .0505851 | .0212694 | 2.431127 | .0011454 | -.000311 |
| #2 | .0012663 | .0611572 | .0206144 | 2.407674 | .0014749 | -.000389 |
| #3 | .0032540 | .0538671 | .0212539 | 2.417679 | .0015564 | -.000223 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.294818** | **.0009838** | **.1208162** | **5.930394** | **.0531299** | **.1074794** |
| Stddev | .078926 | .0007901 | .0008763 | .035395 | .0033967 | .0012428 |
| %RSD | 1.837715 | 80.30676 | .7253207 | .5968452 | 6.393104 | 1.156274 |
| #1 | 4.245804 | .0010092 | .1198865 | 5.890886 | .0502167 | .1085412 |
| #2 | 4.252784 | .0017609 | .1216270 | 5.941083 | .0568607 | .1077846 |
| #3 | 4.385865 | .0001814 | .1209351 | 5.959213 | .0523123 | .1061125 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-02 Acquired: 3/4/2025 18:25:13 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.000092 | F 10.60747 | 2.775803 | -.001845 | -.001169 | -.000587 |
| Stddev | .000144 | .02058 | .010721 | .000392 | .000620 | .000663 |
| %RSD | 156.4327 | .1940203 | .3862479 | 21.26736 | 53.08717 | 113.0467 |
| #1 | -.000081 | 10.59076 | 2.784944 | -.001581 | -.001583 | .000110 |
| #2 | .000046 | 10.60120 | 2.778463 | -.001658 | -.001468 | -.001211 |
| #3 | -.000241 | 10.63046 | 2.764002 | -.002296 | -.000455 | -.000659 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0643553 |
| Stddev | .0003776 |
| %RSD | .5867368 |
| #1 | .0639333 |
| #2 | .0644715 |
| #3 | .0646612 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3652.337 | 79513.80 | 16404.99 | 3353.281 | 5104.087 |
| Stddev | 10.377 | 320.93 | 44.87 | 17.010 | 12.116 |
| %RSD | .2841242 | .4036181 | .2735274 | .5072721 | .2373867 |
| #1 | 3662.445 | 79854.54 | 16411.07 | 3345.866 | 5116.371 |
| #2 | 3652.856 | 79217.27 | 16357.39 | 3341.238 | 5103.747 |
| #3 | 3641.710 | 79469.59 | 16446.52 | 3372.741 | 5092.145 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-03 Acquired: 3/4/2025 18:29:18 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7D Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001241** | **.0010590** | **.0008028** | **-.000438** | **.0014031** | **-.000228** |
| Stddev | .001125 | .0011423 | .0004914 | .001083 | .0006601 | .000627 |
| %RSD | 90.64722 | 107.8598 | 61.20570 | 247.6273 | 47.04396 | 275.2568 |
| #1 | -.001110 | .0018279 | .0004188 | -.001334 | .0011742 | -.000432 |
| #2 | -.002426 | -.000254 | .0013565 | -.000745 | .0008880 | -.000728 |
| #3 | -.000188 | .001603 | .0006331 | .000766 | .0021472 | .000476 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2453863** | **.0000394** | **-.000045** | **8.583123** | **.0028607** | **.0002334** |
| Stddev | .0017946 | .0000835 | .000018 | .031180 | .0002327 | .0002590 |
| %RSD | .7313218 | 211.8915 | 39.03022 | .3632746 | 8.135779 | 110.9625 |
| #1 | .2473175 | .0001341 | -.000026 | 8.609783 | .0027930 | .0004885 |
| #2 | .2450712 | .0000082 | -.000062 | 8.590748 | .0031198 | .0002410 |
| #3 | .2437701 | -.000024 | -.000048 | 8.548837 | .0026693 | -.000029 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0029312** | **.0356899** | **.0237299** | **2.435683** | **.0025637** | **-.000129** |
| Stddev | .0009150 | .0051935 | .0001067 | .016464 | .0002989 | .000152 |
| %RSD | 31.21575 | 14.55171 | .4497811 | .6759520 | 11.66073 | 117.3763 |
| #1 | .0038190 | .0353318 | .0236071 | 2.440201 | .0022655 | -.000122 |
| #2 | .0029834 | .0410531 | .0238000 | 2.449415 | .0028634 | -.000284 |
| #3 | .0019912 | .0306847 | .0237826 | 2.417431 | .0025624 | .000019 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.331572** | **.0012034** | **.1178039** | **5.931486** | **.0516194** | **.1052195** |
| Stddev | .172369 | .0009399 | .0014323 | .079874 | .0014798 | .0010816 |
| %RSD | 3.979368 | 78.10192 | 1.215831 | 1.346602 | 2.866753 | 1.027949 |
| #1 | 4.307771 | .0003488 | .1169245 | 5.971452 | .0533010 | .1043089 |
| #2 | 4.514605 | .0022101 | .1170306 | 5.983488 | .0510408 | .1049347 |
| #3 | 4.172340 | .0010514 | .1194567 | 5.839518 | .0505162 | .1064151 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-03 Acquired: 3/4/2025 18:29:18 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7D Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.000207 | F 10.64341 | 2.735890 | -.001896 | -.001499 | -.001589 |
| Stddev | .000048 | .03231 | .007526 | .000632 | .000503 | .000620 |
| %RSD | 23.01146 | .3035481 | .2750707 | 33.33218 | 33.57058 | 38.98829 |
| #1 | -.000259 | 10.61734 | 2.738203 | -.002604 | -.002052 | -.002264 |
| #2 | -.000165 | 10.63335 | 2.727479 | -.001387 | -.001068 | -.001046 |
| #3 | -.000198 | 10.67956 | 2.741988 | -.001699 | -.001377 | -.001458 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0659159 |
| Stddev | .0003955 |
| %RSD | .6000435 |
| #1 | .0662533 |
| #2 | .0660138 |
| #3 | .0654806 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3622.326 | 79159.38 | 16676.45 | 3336.450 | 5064.857 |
| Stddev | 12.297 | 120.53 | 106.31 | 15.084 | 11.655 |
| %RSD | .3394866 | .1522657 | .6374569 | .4520941 | .2301093 |
| #1 | 3633.922 | 79220.19 | 16793.17 | 3352.320 | 5074.380 |
| #2 | 3623.625 | 79020.56 | 16650.99 | 3322.299 | 5068.331 |
| #3 | 3609.431 | 79237.39 | 16585.19 | 3334.730 | 5051.861 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-02LX5 Acquired: 3/4/2025 18:33:23 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7L Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002278** | **-.000454** | **-.000144** | **.0001769** | **.0015127** | **-.004652** | **.0479725** |
| Stddev | .001032 | .000314 | .000207 | .0032863 | .0003898 | .002940 | .0007514 |
| %RSD | 45.32677 | 69.10594 | 143.2421 | 1857.236 | 25.76588 | 63.19994 | 1.566244 |
| #1 | -.002172 | -.000429 | -.000185 | .0024279 | .0018812 | -.008021 | .0488214 |
| #2 | -.003359 | -.000780 | .000080 | .0016972 | .0015522 | -.003328 | .0473928 |
| #3 | -.001302 | -.000154 | -.000328 | -.003594 | .0011047 | -.002606 | .0477034 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000241** | **-.000018** | **1.737021** | **.0001037** | **.0001377** | **.0006540** | **.0124318** |
| Stddev | .0000992 | .000000 | .003999 | .0001670 | .0001764 | .0024591 | .0042198 |
| %RSD | 411.5549 | 1.599682 | .2302046 | 161.0088 | 128.0849 | 375.9974 | 33.94347 |
| #1 | -.000075 | -.000018 | 1.736536 | .0001437 | .0001906 | -.002160 | .0112159 |
| #2 | .000124 | -.000018 | 1.741240 | .0002470 | .0002816 | .001731 | .0089535 |
| #3 | .000023 | -.000017 | 1.733287 | -.000080 | -.000059 | .002390 | .0171261 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0047114** | **.4936916** | **.0002516** | **-.000139** | **1.009166** | **.0001946** | **.0243706** |
| Stddev | .0002373 | .0077469 | .0000856 | .000091 | .169901 | .0005125 | .0007233 |
| %RSD | 5.036293 | 1.569169 | 34.03217 | 65.55390 | 16.83583 | 263.4137 | 2.967786 |
| #1 | .0044598 | .4978598 | .0003225 | -.000245 | .856058 | -.000138 | .0236001 |
| #2 | .0047434 | .4847530 | .0001565 | -.000086 | .979490 | .000785 | .0244767 |
| #3 | .0049311 | .4984619 | .0002758 | -.000088 | 1.191950 | -.000063 | .0250349 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.133430** | **.0114289** | **.0171419** | **.0000495** | **2.091560** | **.5541019** | **-.000914** |
| Stddev | .021080 | .0017129 | .0001407 | .0000812 | .010580 | .0028960 | .000807 |
| %RSD | 1.859880 | 14.98745 | .8206225 | 163.9604 | .5058520 | .5226536 | 88.29672 |
| #1 | 1.133276 | .0128658 | .0171755 | -.000044 | 2.082231 | .5512571 | -.001846 |
| #2 | 1.154587 | .0095334 | .0169875 | .000101 | 2.089393 | .5540018 | -.000440 |
| #3 | 1.112427 | .0118876 | .0172628 | .000092 | 2.103056 | .5570466 | -.000456 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-02LX5 Acquired: 3/4/2025 18:33:23 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7L Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.001272** | **-.001692** | **.0133725** |
| Stddev | .000596 | .000389 | .0000195 |
| %RSD | 46.85801 | 22.99695 | .1457838 |
| #1 | -.001960 | -.001627 | .0133904 |
| #2 | -.000912 | -.002109 | .0133753 |
| #3 | -.000944 | -.001339 | .0133517 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3627.210** | **78269.26** | **16348.83** | **3307.768** | **5071.795** |
| Stddev | 2.697 | 274.97 | 54.37 | 10.305 | 4.800 |
| %RSD | .0743585 | .3513173 | .3325487 | .3115373 | .0946494 |
| #1 | 3624.870 | 77971.63 | 16345.17 | 3300.569 | 5072.886 |
| #2 | 3626.599 | 78513.84 | 16404.94 | 3319.573 | 5075.956 |
| #3 | 3630.160 | 78322.33 | 16296.38 | 3303.164 | 5066.543 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-04 Acquired: 3/4/2025 18:37:32 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7S Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0354359 | .0544647 | .0194313 | .0931132 | .0890442 | 1.629387 |
| Stddev | .0013359 | .0014540 | .0010559 | .0027134 | .0021724 | .004115 |
| %RSD | 3.769869 | 2.669589 | 5.433764 | 2.914128 | 2.439733 | .2525255 |
| #1 | .0369759 | .0528517 | .0190765 | .0903673 | .0892698 | 1.633539 |
| #2 | .0345884 | .0556747 | .0206188 | .0957930 | .0867678 | 1.625311 |
| #3 | .0347435 | .0548675 | .0185984 | .0931793 | .0910951 | 1.629310 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 2.104036 | .0517610 | .0478778 | 8.602371 | .2169044 | .4835087 |
| Stddev | .009848 | .0002210 | .0001705 | .045507 | .0003316 | .0004987 |
| %RSD | .4680531 | .4270118 | .3561537 | .5290073 | .1528780 | .1031418 |
| #1 | 2.115214 | .0519507 | .0479197 | 8.647669 | .2172573 | .4837643 |
| #2 | 2.100257 | .0515183 | .0476902 | 8.556658 | .2168563 | .4838278 |
| #3 | 2.096638 | .0518139 | .0480234 | 8.602787 | .2165994 | .4829340 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .2539618 | 1.018252 | .5238261 | 2.430842 | .4943250 | .0372146 |
| Stddev | .0006450 | .001710 | .0045514 | .004330 | .0004939 | .0001742 |
| %RSD | .2539609 | .1679533 | .8688689 | .1781396 | .0999092 | .4680538 |
| #1 | .2535358 | 1.018572 | .5283706 | 2.434828 | .4944236 | .0372641 |
| #2 | .2536458 | 1.019779 | .5192679 | 2.431462 | .4937893 | .0373588 |
| #3 | .2547039 | 1.016404 | .5238398 | 2.426235 | .4947622 | .0370211 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 5.533853 | .5120076 | .5957890 | 6.377023 | .0457276 | .1134568 |
| Stddev | .199946 | .0036562 | .0030820 | .059096 | .0014014 | .0002761 |
| %RSD | 3.613144 | .7140852 | .5172986 | .9267079 | 3.064721 | .2433058 |
| #1 | 5.305242 | .5155850 | .5923227 | 6.427048 | .0472419 | .1131404 |
| #2 | 5.620204 | .5082774 | .5982201 | 6.311817 | .0454644 | .1135819 |
| #3 | 5.676112 | .5121605 | .5968242 | 6.392205 | .0444764 | .1136482 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-04 Acquired: 3/4/2025 18:37:32 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F7S Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.000016 | F 10.94559 | 2.773442 | -.000486 | -.002356 | -.000308 |
| Stddev | .000262 | .02176 | .012775 | .000355 | .000586 | .000087 |
| %RSD | 1660.391 | .1988046 | .4606293 | 73.12898 | 24.89389 | 28.35134 |
| #1 | -.000194 | 10.92428 | 2.787644 | -.000333 | -.002807 | -.000394 |
| #2 | -.000138 | 10.94473 | 2.762888 | -.000893 | -.002568 | -.000220 |
| #3 | .000285 | 10.96777 | 2.769791 | -.000233 | -.001693 | -.000309 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0656533 |
| Stddev | .0002388 |
| %RSD | .3637562 |
| #1 | .0658243 |
| #2 | .0657552 |
| #3 | .0653804 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3607.523 | 78516.68 | 16813.16 | 3297.957 | 5025.473 |
| Stddev | 11.456 | 312.47 | 87.65 | 21.723 | 8.340 |
| %RSD | .3175705 | .3979653 | .5213161 | .6586726 | .1659561 |
| #1 | 3620.735 | 78204.52 | 16783.23 | 3317.667 | 5032.662 |
| #2 | 3601.490 | 78829.46 | 16911.85 | 3301.537 | 5027.428 |
| #3 | 3600.343 | 78516.05 | 16744.39 | 3274.666 | 5016.329 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-05 Acquired: 3/4/2025 18:41:29 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F8 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002728** | **.0014563** | **.0001815** | **.0002180** | **-.000570** | **.0013538** |
| Stddev | .002417 | .0017405 | .0011979 | .0025769 | .000575 | .0031590 |
| %RSD | 88.60174 | 119.5159 | 659.9122 | 1182.145 | 100.8615 | 233.3447 |
| #1 | -.000619 | -.000553 | -.000624 | .0029416 | -.000997 | -.002144 |
| #2 | -.005366 | .002461 | .001558 | -.000106 | .000084 | .002206 |
| #3 | -.002200 | .002461 | -.000389 | -.002181 | -.000798 | .004000 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2187264** | **.0000463** | **-.000053** | **11.22635** | **-.000111** | **.0011601** |
| Stddev | .0004883 | .0000594 | .000044 | .03062 | .000153 | .0001633 |
| %RSD | .2232385 | 128.3306 | 81.47675 | .2727748 | 138.2007 | 14.07151 |
| #1 | .2188419 | .0000470 | -.000041 | 11.22991 | .000020 | .0011462 |
| #2 | .2181907 | -.000013 | -.000102 | 11.19410 | -.000279 | .0010042 |
| #3 | .2191466 | .000105 | -.000017 | 11.25503 | -.000074 | .0013299 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0025233** | **.0237438** | **.0548450** | **2.796959** | **.0028927** | **-.000220** |
| Stddev | .0015737 | .0006722 | .0003637 | .009613 | .0001685 | .000255 |
| %RSD | 62.36739 | 2.831245 | .6632144 | .3437104 | 5.825637 | 116.2888 |
| #1 | .0031615 | .0229956 | .0546329 | 2.785869 | .0027039 | -.000508 |
| #2 | .0036776 | .0242970 | .0546371 | 2.802935 | .0030278 | -.000130 |
| #3 | .0007307 | .0239387 | .0552650 | 2.802071 | .0029465 | -.000021 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.039365** | **-.000951** | **.0956217** | **.5154199** | **.0054343** | **.0913727** |
| Stddev | .181371 | .001025 | .0009055 | .0129866 | .0012663 | .0002389 |
| %RSD | 4.490078 | 107.7871 | .9469160 | 2.519623 | 23.30116 | .2614358 |
| #1 | 3.888412 | .000099 | .0952001 | .5016122 | .0041290 | .0911623 |
| #2 | 3.989123 | -.001001 | .0966610 | .5172579 | .0066575 | .0916324 |
| #3 | 4.240560 | -.001949 | .0950039 | .5273896 | .0055163 | .0913234 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-05 Acquired: 3/4/2025 18:41:29 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F8 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0000855 | F 10.42044 | 4.435494 | -.001895 | -.000655 | .0000504 |
| Stddev | .0002447 | .01268 | .018354 | .000587 | .000305 | .0006973 |
| %RSD | 286.3317 | .1216820 | .4137872 | 30.96849 | 46.56712 | 1383.293 |
| #1 | .0000363 | 10.41267 | 4.456017 | -.002201 | -.000595 | .0001854 |
| #2 | .0003510 | 10.43507 | 4.420654 | -.002266 | -.000384 | .0006704 |
| #3 | -.000131 | 10.41358 | 4.429812 | -.001218 | -.000985 | -.000704 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0829427 |
| Stddev | .0002752 |
| %RSD | .3318350 |
| #1 | .0828396 |
| #2 | .0827339 |
| #3 | .0832546 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3651.234 | 79485.05 | 16835.76 | 3335.350 | 5117.146 |
| Stddev | 3.511 | 49.82 | 37.61 | 13.378 | 8.229 |
| %RSD | .0961527 | .0626733 | .2233691 | .4011123 | .1608135 |
| #1 | 3647.760 | 79541.79 | 16844.51 | 3344.968 | 5109.371 |
| #2 | 3651.162 | 79448.46 | 16794.55 | 3320.072 | 5116.301 |
| #3 | 3654.781 | 79464.92 | 16868.22 | 3341.010 | 5125.764 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-06 Acquired: 3/4/2025 18:45:35 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E3 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001950** | **.0019779** | **.0017261** | **.0008782** | **.0005282** | **.0080998** |
| Stddev | .000820 | .0012046 | .0006800 | .0029857 | .0004723 | .0021525 |
| %RSD | 42.03199 | 60.90233 | 39.39718 | 339.9580 | 89.41388 | 26.57523 |
| #1 | -.002651 | .0007605 | .0010965 | .0040717 | .0002565 | .0063799 |
| #2 | -.001049 | .0020041 | .0024472 | .0004065 | .0002546 | .0074057 |
| #3 | -.002150 | .0031693 | .0016345 | -.001843 | .0010736 | .0105137 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2244081** | **.0000394** | **.0000709** | **10.51109** | **-.000327** | **.0011233** |
| Stddev | .0020755 | .0000315 | .0000868 | .06389 | .000077 | .0002329 |
| %RSD | .9249015 | 80.13820 | 122.4275 | .6078246 | 23.56534 | 20.73109 |
| #1 | .2221742 | .0000467 | .0001446 | 10.43810 | -.000343 | .0009259 |
| #2 | .2247733 | .0000665 | -.000025 | 10.55691 | -.000244 | .0013802 |
| #3 | .2262768 | .0000048 | .000093 | 10.53825 | -.000396 | .0010639 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0638279** | **.1130931** | **.0457415** | **2.815161** | **.0064358** | **-.000282** |
| Stddev | .0008445 | .0064563 | .0004362 | .002474 | .0004246 | .000220 |
| %RSD | 1.323070 | 5.708850 | .9535012 | .0878819 | 6.598036 | 78.03435 |
| #1 | .0643733 | .1073948 | .0452436 | 2.817942 | .0069164 | -.000534 |
| #2 | .0642551 | .1201053 | .0459254 | 2.814337 | .0061111 | -.000174 |
| #3 | .0628551 | .1117792 | .0460556 | 2.813204 | .0062801 | -.000136 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.068907** | **.0001375** | **.1009236** | **2.401737** | **.0070323** | **.0930860** |
| Stddev | .033586 | .0012991 | .0010912 | .048336 | .0015002 | .0007629 |
| %RSD | .8254419 | 945.1377 | 1.081248 | 2.012548 | 21.33229 | .8195326 |
| #1 | 4.050407 | -.000109 | .0998533 | 2.346908 | .0056681 | .0938792 |
| #2 | 4.107676 | -.001021 | .1020346 | 2.420114 | .0067899 | .0930212 |
| #3 | 4.048638 | .001542 | .1008829 | 2.438190 | .0086389 | .0923576 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-06 Acquired: 3/4/2025 18:45:35 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E3 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0000332 | F 12.52599 | 4.262223 | .0004434 | -.000564 | -.000593 |
| Stddev | .0001878 | .03142 | .021120 | .0001877 | .000244 | .000884 |
| %RSD | 565.6601 | .2508157 | .4955065 | 42.33646 | 43.37870 | 149.0416 |
| #1 | -.000103 | 12.56167 | 4.266133 | .0003617 | -.000313 | -.001320 |
| #2 | -.000045 | 12.50248 | 4.281114 | .0003103 | -.000802 | -.000850 |
| #3 | .000247 | 12.51381 | 4.239421 | .0006581 | -.000576 | .000391 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0775730 |
| Stddev | .0006490 |
| %RSD | .8366872 |
| #1 | .0770052 |
| #2 | .0774333 |
| #3 | .0782806 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3681.958 | 80090.60 | 16754.33 | 3350.990 | 5153.061 |
| Stddev | 7.810 | 267.95 | 121.36 | 14.235 | 11.920 |
| %RSD | .2121225 | .3345549 | .7243655 | .4247936 | .2313213 |
| #1 | 3687.376 | 80325.92 | 16679.81 | 3361.359 | 5150.048 |
| #2 | 3685.493 | 79798.97 | 16688.81 | 3334.760 | 5166.199 |
| #3 | 3673.005 | 80146.92 | 16894.37 | 3356.850 | 5142.937 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-07 Acquired: 3/4/2025 18:49:42 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E4 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0028771** | **.0006836** | **.0026253** | **.0005884** | **.0026577** | **2.263554** |
| Stddev | .0008690 | .0005004 | .0013094 | .0028183 | .0007383 | .025697 |
| %RSD | 30.20344 | 73.20306 | 49.87546 | 478.9359 | 27.77984 | 1.135259 |
| #1 | .0038433 | .0011988 | .0016742 | .0031046 | .0028320 | 2.234030 |
| #2 | .0021596 | .0006526 | .0020830 | -.002457 | .0018479 | 2.275745 |
| #3 | .0026284 | .0001994 | .0041187 | .001118 | .0032933 | 2.280886 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2963460** | **.0000949** | **.0000497** | **8.713595** | **.0044895** | **.0011692** |
| Stddev | .0045401 | .0000153 | .0000131 | .094204 | .0002107 | .0001820 |
| %RSD | 1.532033 | 16.14786 | 26.39803 | 1.081113 | 4.692467 | 15.56257 |
| #1 | .2911490 | .0000996 | .0000527 | 8.608477 | .0045026 | .0009697 |
| #2 | .2995411 | .0001072 | .0000354 | 8.790383 | .0042726 | .0012119 |
| #3 | .2983479 | .0000777 | .0000611 | 8.741924 | .0046934 | .0013261 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0200767** | **4.560862** | **.0536513** | **5.196772** | **.0067936** | **-.000143** |
| Stddev | .0007941 | .048162 | .0006673 | .023990 | .0002360 | .000355 |
| %RSD | 3.955272 | 1.055980 | 1.243773 | .4616357 | 3.474149 | 247.4692 |
| #1 | .0193697 | 4.505254 | .0528849 | 5.184830 | .0065843 | .000266 |
| #2 | .0199245 | 4.589238 | .0541037 | 5.224390 | .0070494 | -.000326 |
| #3 | .0209358 | 4.588095 | .0539652 | 5.181097 | .0067470 | -.000370 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **17.04695** | **.0087211** | **.1471100** | **-.653826** | **.0793028** | **.2597965** |
| Stddev | .04031 | .0011860 | .0009049 | .011616 | .0029653 | .0017041 |
| %RSD | .2364826 | 13.59912 | .6151507 | 1.776644 | 3.739279 | .6559202 |
| #1 | 17.07316 | .0075334 | .1465136 | -.663086 | .0777597 | .2617311 |
| #2 | 17.00053 | .0087246 | .1466650 | -.657600 | .0827215 | .2591406 |
| #3 | 17.06716 | .0099054 | .1481513 | -.640792 | .0774271 | .2585179 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-07 Acquired: 3/4/2025 18:49:42 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E4 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0006315 | F 14.22080 | 5.954356 | -.001173 | .0256354 | .0009987 |
| Stddev | .0003268 | .03715 | .024296 | .000145 | .0001604 | .0001970 |
| %RSD | 51.74795 | .2612366 | .4080354 | 12.37605 | .6255900 | 19.72933 |
| #1 | .0004017 | 14.17808 | 5.939666 | -.001006 | .0256135 | .0010720 |
| #2 | .0004872 | 14.24552 | 5.941003 | -.001248 | .0258056 | .0011486 |
| #3 | .0010056 | 14.23880 | 5.982400 | -.001267 | .0254871 | .0007755 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0780896 |
| Stddev | .0008146 |
| %RSD | 1.043094 |
| #1 | .0771544 |
| #2 | .0786442 |
| #3 | .0784701 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3680.030 | 79744.11 | 16787.41 | 3349.196 | 5085.890 |
| Stddev | 10.146 | 467.36 | 95.42 | 21.130 | 7.173 |
| %RSD | .2756934 | .5860802 | .5683864 | .6309030 | .1410377 |
| #1 | 3691.005 | 80281.26 | 16680.84 | 3369.563 | 5094.072 |
| #2 | 3670.993 | 79430.49 | 16864.92 | 3327.378 | 5082.913 |
| #3 | 3678.093 | 79520.57 | 16816.47 | 3350.647 | 5080.685 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-08 Acquired: 3/4/2025 18:53:43 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E5 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0089852** | **.0005120** | **.0020455** | **-.000441** | **.0014553** | **3.556112** |
| Stddev | .0010206 | .0002112 | .0020186 | .001786 | .0011558 | .016255 |
| %RSD | 11.35886 | 41.24963 | 98.68653 | 404.6334 | 79.41467 | .4571138 |
| #1 | .0098527 | .0007385 | .0006692 | -.001570 | .0027712 | 3.553814 |
| #2 | .0092423 | .0003204 | .0011044 | .001618 | .0006048 | 3.541128 |
| #3 | .0078606 | .0004772 | .0043628 | -.001372 | .0009900 | 3.573395 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2072981** | **.0000641** | **.0001296** | **7.061671** | **.0070667** | **.0005759** |
| Stddev | .0008520 | .0000140 | .0000065 | .023433 | .0000643 | .0002313 |
| %RSD | .4109825 | 21.90397 | 5.016582 | .3318295 | .9099219 | 40.16799 |
| #1 | .2082332 | .0000712 | .0001256 | 7.080786 | .0071222 | .0006535 |
| #2 | .2065659 | .0000732 | .0001371 | 7.035529 | .0069962 | .0003157 |
| #3 | .2070951 | .0000479 | .0001260 | 7.068700 | .0070816 | .0007584 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0269217** | **10.01719** | **.0143468** | **5.250453** | **.0061975** | **-.000079** |
| Stddev | .0008887 | .01753 | .0001697 | .018127 | .0002888 | .000072 |
| %RSD | 3.301022 | .1749757 | 1.182735 | .3452445 | 4.659949 | 92.23738 |
| #1 | .0278758 | 10.03378 | .0145303 | 5.266377 | .0059941 | .000004 |
| #2 | .0261174 | 9.99885 | .0141956 | 5.230726 | .0060704 | -.000131 |
| #3 | .0267719 | 10.01893 | .0143144 | 5.254255 | .0065281 | -.000108 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **16.84171** | **.0084212** | **.1451805** | **-.779276** | **.1696207** | **.3462104** |
| Stddev | .18200 | .0006910 | .0020908 | .032718 | .0017309 | .0018481 |
| %RSD | 1.080643 | 8.205846 | 1.440166 | 4.198531 | 1.020466 | .5337992 |
| #1 | 16.72872 | .0079858 | .1440038 | -.807205 | .1712929 | .3448428 |
| #2 | 16.74474 | .0092180 | .1475945 | -.743278 | .1678365 | .3483129 |
| #3 | 17.05166 | .0080598 | .1439431 | -.787345 | .1697327 | .3454756 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-08 Acquired: 3/4/2025 18:53:43 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E5 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0013525 | F 12.34218 | F 12.88746 | -.002553 | .0150619 | -.001174 |
| Stddev | .0000475 | .01131 | .03924 | .000461 | .0007803 | .001268 |
| %RSD | 3.511260 | .0916695 | .3044604 | 18.06852 | 5.180515 | 107.9964 |
| #1 | .0013718 | 12.33305 | 12.93174 | -.002024 | .0146892 | -.000814 |
| #2 | .0013873 | 12.33866 | 12.85701 | -.002874 | .0159586 | -.000125 |
| #3 | .0012984 | 12.35484 | 12.87362 | -.002760 | .0145378 | -.002584 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0525010 |
| Stddev | .0002088 |
| %RSD | .3977300 |
| #1 | .0523076 |
| #2 | .0524730 |
| #3 | .0527224 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3618.319 | 77606.25 | 16371.39 | 3294.532 | 5016.215 |
| Stddev | 11.617 | 24.19 | 11.51 | 8.168 | 16.305 |
| %RSD | .3210515 | .0311651 | .0702859 | .2479257 | .3250371 |
| #1 | 3626.385 | 77633.57 | 16368.68 | 3297.795 | 5026.347 |
| #2 | 3623.567 | 77597.60 | 16361.47 | 3285.237 | 5024.891 |
| #3 | 3605.004 | 77587.57 | 16384.00 | 3300.564 | 4997.407 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-09 Acquired: 3/4/2025 18:57:46 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E6 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0179781** | **.0008715** | **-.000692** | **-.000573** | **.0051743** | **.0248737** |
| Stddev | .0021969 | .0016400 | .001157 | .002940 | .0014407 | .0024997 |
| %RSD | 12.21983 | 188.1855 | 167.2540 | 513.3037 | 27.84377 | 10.04947 |
| #1 | .0154483 | -.000969 | .000514 | .002043 | .0035515 | .0220293 |
| #2 | .0190803 | .002179 | -.000797 | -.000007 | .0056687 | .0258713 |
| #3 | .0194057 | .001404 | -.001792 | -.003755 | .0063028 | .0267205 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2572652** | **.0000735** | **.0121531** | **8.775677** | **-.000658** | **.0189388** |
| Stddev | .0012696 | .0000281 | .0000295 | .016666 | .000236 | .0000479 |
| %RSD | .4935066 | 38.21931 | .2425813 | .1899147 | 35.84962 | .2527117 |
| #1 | .2586367 | .0000866 | .0121221 | 8.786034 | -.000553 | .0189319 |
| #2 | .2561310 | .0000926 | .0121808 | 8.756452 | -.000493 | .0189898 |
| #3 | .2570278 | .0000412 | .0121563 | 8.784545 | -.000929 | .0188948 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0916875** | **.2341841** | **.2932943** | **4.419433** | **.1905679** | **-.000055** |
| Stddev | .0012745 | .0014002 | .0017671 | .008455 | .0002889 | .000141 |
| %RSD | 1.390103 | .5978867 | .6025027 | .1913154 | .1515797 | 255.3938 |
| #1 | .0917890 | .2343237 | .2949411 | 4.426940 | .1902456 | .000008 |
| #2 | .0903652 | .2327194 | .2914275 | 4.410273 | .1906550 | .000043 |
| #3 | .0929082 | .2355093 | .2935144 | 4.421085 | .1908033 | -.000216 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.499423** | **-.000130** | **.3272578** | **.9973908** | **.0075032** | **.1787714** |
| Stddev | .155214 | .000710 | .0049981 | .0331020 | .0008082 | .0024279 |
| %RSD | 2.822376 | 545.9401 | 1.527274 | 3.318859 | 10.77201 | 1.358119 |
| #1 | 5.597325 | .000570 | .3306472 | 1.033955 | .0066833 | .1769005 |
| #2 | 5.320461 | -.000850 | .3296084 | .969463 | .0082992 | .1815151 |
| #3 | 5.580483 | -.000110 | .3215177 | .988755 | .0075270 | .1778986 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-09 Acquired: 3/4/2025 18:57:46 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E6 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0044288 | F 12.30294 | 3.119909 | .0002057 | -.000793 | .0000751 |
| Stddev | .0003001 | .00391 | .011225 | .0006798 | .000478 | .0004164 |
| %RSD | 6.776450 | .0317474 | .3597961 | 330.4093 | 60.32614 | 554.0673 |
| #1 | .0043990 | 12.30068 | 3.132864 | -.000579 | -.000906 | .0005475 |
| #2 | .0041446 | 12.30069 | 3.113793 | .000573 | -.000268 | -.000083 |
| #3 | .0047426 | 12.30745 | 3.113069 | .000623 | -.001205 | -.000239 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0671135 |
| Stddev | .0002671 |
| %RSD | .3980144 |
| #1 | .0673923 |
| #2 | .0668599 |
| #3 | .0670881 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3629.743 | 78821.07 | 16533.37 | 3306.874 | 5123.368 |
| Stddev | 7.072 | 161.83 | 28.07 | 3.725 | 10.190 |
| %RSD | .1948389 | .2053105 | .1698048 | .1126395 | .1989021 |
| #1 | 3630.881 | 78913.14 | 16564.06 | 3310.667 | 5127.902 |
| #2 | 3636.177 | 78915.85 | 16527.07 | 3303.221 | 5130.504 |
| #3 | 3622.171 | 78634.21 | 16508.98 | 3306.736 | 5111.697 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-10 Acquired: 3/4/2025 19:01:48 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E7 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002594** | **.0010407** | **-.000195** | **.0003082** | **.0006883** | **.1213552** |
| Stddev | .000799 | .0018458 | .001062 | .0005217 | .0014131 | .0037065 |
| %RSD | 30.80488 | 177.3646 | 544.4120 | 169.2571 | 205.3070 | 3.054262 |
| #1 | -.003196 | .0009272 | .000458 | -.000071 | .0004842 | .1225274 |
| #2 | -.001687 | -.000746 | -.001420 | .000093 | .0021923 | .1243339 |
| #3 | -.002897 | .002941 | .000377 | .000903 | -.000612 | .1172044 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2423809** | **.0000562** | **.0000599** | **8.702707** | **-.000449** | **.0100130** |
| Stddev | .0018562 | .0000818 | .0000211 | .033172 | .000301 | .0001365 |
| %RSD | .7658065 | 145.4084 | 35.28512 | .3811632 | 67.02687 | 1.362981 |
| #1 | .2440467 | .0000006 | .0000455 | 8.739287 | -.000335 | .0098577 |
| #2 | .2427161 | .0000180 | .0000500 | 8.694256 | -.000790 | .0100673 |
| #3 | .2403800 | .0001501 | .0000841 | 8.674579 | -.000222 | .0101140 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0045496** | **.2366423** | **.4837634** | **4.682626** | **.0124773** | **.0000208** |
| Stddev | .0014379 | .0042207 | .0039288 | .020502 | .0001581 | .0001394 |
| %RSD | 31.60441 | 1.783562 | .8121407 | .4378273 | 1.267383 | 670.4989 |
| #1 | .0032842 | .2324661 | .4880382 | 4.706062 | .0123563 | .0001156 |
| #2 | .0061132 | .2365549 | .4829416 | 4.668012 | .0126562 | -.000139 |
| #3 | .0042515 | .2409060 | .4803105 | 4.673805 | .0124193 | .000086 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.621666** | **.0006980** | **.1077113** | **.4150637** | **.0083415** | **.1120411** |
| Stddev | .089623 | .0001722 | .0015282 | .0120416 | .0015801 | .0007336 |
| %RSD | 1.594247 | 24.67382 | 1.418779 | 2.901137 | 18.94239 | .6547805 |
| #1 | 5.695447 | .0005225 | .1074772 | .4076454 | .0076866 | .1128840 |
| #2 | 5.647623 | .0008668 | .1093430 | .4085884 | .0101438 | .1115467 |
| #3 | 5.521930 | .0007048 | .1063136 | .4289575 | .0071942 | .1116925 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-10 Acquired: 3/4/2025 19:01:48 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E7 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0032772 | F 11.65353 | 6.200803 | -.002006 | .0120678 | .0006016 |
| Stddev | .0000805 | .01734 | .044737 | .000263 | .0003529 | .0007979 |
| %RSD | 2.454850 | .1487567 | .7214748 | 13.13128 | 2.924669 | 132.6170 |
| #1 | .0032622 | 11.65513 | 6.244066 | -.001967 | .0124586 | -.000127 |
| #2 | .0033640 | 11.63545 | 6.203619 | -.002286 | .0119724 | .001454 |
| #3 | .0032052 | 11.67001 | 6.154724 | -.001763 | .0117723 | .000478 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0600433 |
| Stddev | .0000448 |
| %RSD | .0746550 |
| #1 | .0600459 |
| #2 | .0599973 |
| #3 | .0600868 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3607.645 | 79420.18 | 16476.35 | 3325.838 | 5053.649 |
| Stddev | 2.275 | 123.81 | 38.76 | 3.970 | 5.235 |
| %RSD | .0630505 | .1558939 | .2352428 | .1193640 | .1035847 |
| #1 | 3605.607 | 79295.65 | 16433.43 | 3329.728 | 5054.665 |
| #2 | 3607.228 | 79543.26 | 16508.81 | 3325.992 | 5058.300 |
| #3 | 3610.099 | 79421.62 | 16486.80 | 3321.793 | 5047.980 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCV002 Acquired: 3/4/2025 19:10:12 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV002 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.755896** | **4.587989** | **24.00093** | **4.729530** | **4.788339** | **379.8439** |
| Stddev | .019184 | .018107 | .02845 | .020427 | .025246 | 3.0559 |
| %RSD | .4033819 | .3946683 | .1185332 | .4318935 | .5272315 | .8045182 |
| #1 | 4.761353 | 4.568297 | 23.98886 | 4.714176 | 4.767643 | 377.2385 |
| #2 | 4.734574 | 4.591748 | 23.98050 | 4.721701 | 4.780908 | 383.2075 |
| #3 | 4.771760 | 4.603921 | 24.03342 | 4.752713 | 4.816466 | 379.0856 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **10.05931** | **.4987569** | **2.442195** | **392.1501** | **15.20272** | **2.441246** |
| Stddev | .08680 | .0032750 | .004580 | 2.3692 | .05805 | .003848 |
| %RSD | .8628359 | .6566285 | .1875243 | .6041559 | .3818643 | .1576259 |
| #1 | 9.97733 | .5023397 | 2.438101 | 390.0285 | 15.13611 | 2.439264 |
| #2 | 10.15023 | .4980134 | 2.441345 | 391.7151 | 15.22949 | 2.438792 |
| #3 | 10.05036 | .4959175 | 2.447141 | 394.7066 | 15.24255 | 2.445680 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **14.88332** | **391.3229** | **15.03568** | **388.8268** | **2.439884** | **1.263020** |
| Stddev | .04406 | 2.8423 | .14140 | 2.6521 | .004682 | .002844 |
| %RSD | .2960324 | .7263231 | .9404217 | .6820704 | .1918860 | .2251449 |
| #1 | 14.90386 | 388.1173 | 14.87241 | 385.7681 | 2.438917 | 1.259997 |
| #2 | 14.83274 | 392.3163 | 15.11891 | 390.2263 | 2.435761 | 1.263422 |
| #3 | 14.91337 | 393.5352 | 15.11571 | 390.4860 | 2.444974 | 1.265641 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **394.3437** | **2.469730** | **14.90992** | **149.5045** | **5.030191** | F **5.903684** |
| Stddev | .2917 | .006572 | .01640 | 1.3231 | .010916 | .015579 |
| %RSD | .0739777 | .2661002 | .1099634 | .8850091 | .2170193 | .2638885 |
| #1 | 394.6739 | 2.474185 | 14.89132 | 148.0806 | 5.036706 | 5.921672 |
| #2 | 394.1207 | 2.472824 | 14.91618 | 149.7369 | 5.036279 | 5.894495 |
| #3 | 394.2366 | 2.462183 | 14.92227 | 150.6960 | 5.017588 | 5.894885 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCV002 Acquired: 3/4/2025 19:10:12 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV002 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.768266** | **4.902772** | **5.004950** | **4.834159** | **4.976191** | **4.967891** |
| Stddev | .013831 | .010454 | .004451 | .005631 | .004769 | .062511 |
| %RSD | .2900561 | .2132280 | .0889265 | .1164743 | .0958385 | 1.258304 |
| #1 | 4.761137 | 4.906389 | 5.002046 | 4.830683 | 4.972370 | 4.896928 |
| #2 | 4.759454 | 4.910937 | 5.002730 | 4.831139 | 4.974666 | 4.991935 |
| #3 | 4.784207 | 4.890989 | 5.010074 | 4.840655 | 4.981536 | 5.014810 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | **4.908750** |
| Stddev | .066507 |
| %RSD | 1.354863 |
| #1 | 4.833228 |
| #2 | 4.934449 |
| #3 | 4.958573 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2807.709** | **63998.98** | **14984.83** | **2659.972** | **3519.707** |
| Stddev | 9.162 | 263.60 | 78.38 | 2.880 | 7.278 |
| %RSD | .3263015 | .4118819 | .5230432 | .1082729 | .2067675 |
| #1 | 2811.940 | 64298.44 | 14895.58 | 2656.709 | 3523.292 |
| #2 | 2813.990 | 63896.45 | 15016.49 | 2662.159 | 3524.497 |
| #3 | 2797.196 | 63802.05 | 15042.43 | 2661.048 | 3511.332 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCB002 Acquired: 3/4/2025 19:14:29 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **-.000880** | **.0012578** | **-.000358** | **-.000523** | **-.000785** | **-.000869** | **.0002063** |
| Stddev | .000673 | .0008810 | .000694 | .001375 | .000133 | .003176 | .0004696 |
| %RSD | 76.53336 | 70.04383 | 193.8948 | 262.6238 | 16.98067 | 365.4333 | 227.6709 |
| #1 | -.000356 | .0002405 | -.001085 | .001057 | -.000665 | -.000775 | .0007106 |
| #2 | -.001639 | .0017613 | -.000286 | -.001182 | -.000763 | -.004091 | .0001266 |
| #3 | -.000643 | .0017716 | .000297 | -.001445 | -.000929 | .002259 | -.000218 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000051** | **-.000025** | **.0068577** | **.0002989** | **.0002538** | **.0015030** | **.0068148** |
| Stddev | .0000717 | .000043 | .0004203 | .0002743 | .0001117 | .0015468 | .0018850 |
| %RSD | 1410.771 | 168.4062 | 6.129058 | 91.76367 | 44.00831 | 102.9159 | 27.66033 |
| #1 | .0000861 | -.000071 | .0069725 | .0005688 | .0001471 | .0007031 | .0089718 |
| #2 | -.000020 | -.000017 | .0063919 | .0000203 | .0003699 | .0005199 | .0059885 |
| #3 | -.000051 | .000013 | .0072086 | .0003077 | .0002445 | .0032860 | .0054841 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001799** | **.0091036** | **.0001189** | **-.000051** | **.1604646** | **.0008247** | **.0004940** |
| Stddev | .0002267 | .0045791 | .0000538 | .000278 | .1027192 | .0017539 | .0013121 |
| %RSD | 126.0559 | 50.30027 | 45.24001 | 545.6206 | 64.01361 | 212.6740 | 265.6243 |
| #1 | .0001908 | .0124928 | .0001774 | .000260 | .0419070 | -.000779 | .0015721 |
| #2 | .0004010 | .0038943 | .0000715 | -.000275 | .2166928 | .000556 | -.000967 |
| #3 | -.000052 | .0109236 | .0001079 | -.000138 | .2227941 | .002697 | .000877 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0328211** | **-.000035** | **.0014947** | **.0002298** | **.0017523** | **.0068487** | **-.000488** |
| Stddev | .0238270 | .001694 | .0003589 | .0001269 | .0049342 | .0020860 | .000249 |
| %RSD | 72.59643 | 4890.481 | 24.01200 | 55.20895 | 281.5850 | 30.45776 | 50.99547 |
| #1 | .0362447 | -.001875 | .0018929 | .0003119 | .0056335 | .0090340 | -.000216 |
| #2 | .0547511 | .001461 | .0011962 | .0000837 | -.003801 | .0048788 | -.000544 |
| #3 | .0074675 | .000310 | .0013950 | .0002938 | .003424 | .0066334 | -.000703 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCB002 Acquired: 3/4/2025 19:14:29 Type: Unk
Method: EPA SFAM01.0(v66) 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 | -.001164 | .0001902 | .0000784 |
| Stddev | .000580 | .0012004 | .0000126 |
| %RSD | 49.80266 | 631.2592 | 16.11835 |
| #1 | -.000706 | .0014715 | .0000872 |
| #2 | -.001815 | .0000072 | .0000639 |
| #3 | -.000970 | -.000908 | .0000840 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3642.130 | 78159.06 | 16064.86 | 3311.722 | 5116.611 |
| Stddev | .238 | 171.25 | 45.26 | 5.058 | 7.183 |
| %RSD | .0065243 | .2191040 | .2817370 | .1527218 | .1403859 |
| #1 | 3642.187 | 78095.46 | 16023.23 | 3310.657 | 5115.157 |
| #2 | 3641.869 | 78353.01 | 16113.04 | 3307.282 | 5110.266 |
| #3 | 3642.334 | 78028.70 | 16058.30 | 3317.228 | 5124.409 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-11 Acquired: 3/4/2025 19:18:38 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E8 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002025** | **.0015828** | **.0006566** | **.0000413** | **.0012062** | **.0173128** |
| Stddev | .0008299 | .0014462 | .0004720 | .0015845 | .0004790 | .0024798 |
| %RSD | 409.7721 | 91.36988 | 71.88727 | 3837.124 | 39.70928 | 14.32346 |
| #1 | -.000273 | -.000009 | .0004129 | -.000397 | .0010273 | .0192256 |
| #2 | -.000281 | .002816 | .0003562 | .001799 | .0008424 | .0145111 |
| #3 | .001161 | .001942 | .0012006 | -.001278 | .0017488 | .0182016 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2381084** | **.0001814** | **.0020718** | **8.089723** | **-.000615** | **.0343585** |
| Stddev | .0019640 | .0000644 | .0000481 | .033939 | .000329 | .0001607 |
| %RSD | .8248265 | 35.48110 | 2.321628 | .4195268 | 53.48255 | .4676003 |
| #1 | .2397585 | .0001339 | .0020342 | 8.095577 | -.000786 | .0345241 |
| #2 | .2386305 | .0002547 | .0021260 | 8.120353 | -.000236 | .0342033 |
| #3 | .2359361 | .0001556 | .0020553 | 8.053238 | -.000824 | .0343480 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0033954** | **.5092572** | **.2201384** | **3.875011** | **.2594269** | **-.000066** |
| Stddev | .0012078 | .0090971 | .0011283 | .019504 | .0008039 | .000244 |
| %RSD | 35.57248 | 1.786344 | .5125269 | .5033154 | .3098831 | 366.5928 |
| #1 | .0039883 | .5096495 | .2204974 | 3.883989 | .2590598 | -.000270 |
| #2 | .0020057 | .5181518 | .2210434 | 3.888408 | .2588721 | .000203 |
| #3 | .0041922 | .4999704 | .2188742 | 3.852635 | .2603489 | -.000133 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.248973** | **.0012397** | **.3065723** | **1.537485** | **.0047309** | **.1192484** |
| Stddev | .062017 | .0012483 | .0015735 | .028869 | .0013400 | .0009450 |
| %RSD | 1.181509 | 100.6998 | .5132552 | 1.877686 | 28.32532 | .7924925 |
| #1 | 5.294173 | .0026806 | .3069122 | 1.560664 | .0035804 | .1193907 |
| #2 | 5.178271 | .0004867 | .3079481 | 1.546643 | .0044101 | .1182403 |
| #3 | 5.274475 | .0005516 | .3048566 | 1.505147 | .0062022 | .1201142 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-11 Acquired: 3/4/2025 19:18:38 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8E8 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0044738 | F 11.61721 | 3.751897 | -.001670 | -.001487 | .0015473 |
| Stddev | .0002116 | .03612 | .007434 | .000329 | .000276 | .0001745 |
| %RSD | 4.729552 | .3108798 | .1981479 | 19.73115 | 18.58305 | 11.28077 |
| #1 | .0045426 | 11.61136 | 3.760186 | -.001991 | -.001359 | .0013460 |
| #2 | .0042364 | 11.58437 | 3.745820 | -.001685 | -.001297 | .0016377 |
| #3 | .0046425 | 11.65589 | 3.749684 | -.001333 | -.001804 | .0016580 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0505466 |
| Stddev | .0001711 |
| %RSD | .3384046 |
| #1 | .0504552 |
| #2 | .0507439 |
| #3 | .0504406 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3646.934 | 80819.63 | 16803.84 | 3411.160 | 5100.520 |
| Stddev | 15.347 | 234.51 | 70.20 | 10.858 | 21.890 |
| %RSD | .4208222 | .2901624 | .4177401 | .3183045 | .4291759 |
| #1 | 3652.625 | 81018.77 | 16838.32 | 3418.961 | 5115.939 |
| #2 | 3658.623 | 80561.15 | 16850.12 | 3398.760 | 5110.157 |
| #3 | 3629.555 | 80878.96 | 16723.07 | 3415.761 | 5075.465 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-12 Acquired: 3/4/2025 19:22:41 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D1 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002262** | **.0000594** | **.0001166** | **-.001258** | **.0002504** | **.0482274** | **.2587949** |
| Stddev | .000699 | .0012547 | .0003270 | .002586 | .0008725 | .0041551 | .0008875 |
| %RSD | 30.91956 | 2111.228 | 280.3419 | 205.4915 | 348.4971 | 8.615717 | .3429289 |
| #1 | -.002913 | -.001291 | .0001068 | -.004242 | -.000304 | .0438109 | .2597935 |
| #2 | -.002349 | .001189 | -.000205 | .000345 | -.000201 | .0520593 | .2580961 |
| #3 | -.001523 | .000280 | .000448 | .000122 | .001256 | .0488121 | .2584952 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000394** | **.0000040** | **8.506318** | **-.000647** | **.0023714** | **.0017544** | **.0751349** |
| Stddev | .0000074 | .0000335 | .024749 | .000146 | .0000838 | .0008326 | .0015784 |
| %RSD | 18.78070 | 838.5354 | .2909497 | 22.61436 | 3.532056 | 47.46044 | 2.100761 |
| #1 | .0000450 | .0000406 | 8.496030 | -.000625 | .0023926 | .0010245 | .0747695 |
| #2 | .0000420 | -.000004 | 8.488372 | -.000802 | .0022791 | .0026613 | .0768639 |
| #3 | .0000310 | -.000025 | 8.534552 | -.000512 | .0024426 | .0015774 | .0737711 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1111728** | **3.877597** | **.0033498** | **-.000006** | **5.070063** | **.0001641** | **.0859968** |
| Stddev | .0005337 | .020849 | .0002462 | .000118 | .055524 | .0019258 | .0012001 |
| %RSD | .4800633 | .5376764 | 7.348539 | 1819.419 | 1.095132 | 1173.661 | 1.395518 |
| #1 | .1106370 | 3.872158 | .0033858 | -.000050 | 5.118049 | .0023421 | .0857364 |
| #2 | .1117043 | 3.860006 | .0035760 | -.000097 | 5.009247 | -.001313 | .0849483 |
| #3 | .1111770 | 3.900626 | .0030876 | .000127 | 5.082893 | -.000536 | .0873057 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.777501** | **.0058810** | **.0994937** | **.0004463** | **9.759994** | **5.843194** | **-.001807** |
| Stddev | .016067 | .0020986 | .0012624 | .0002120 | .022899 | .038669 | .000337 |
| %RSD | 2.066534 | 35.68439 | 1.268779 | 47.51087 | .2346236 | .6617833 | 18.67141 |
| #1 | -.763334 | .0037475 | .1006373 | .0002298 | 9.786433 | 5.856229 | -.001644 |
| #2 | -.774211 | .0059526 | .0981392 | .0004554 | 9.747118 | 5.799692 | -.001582 |
| #3 | -.794959 | .0079428 | .0997046 | .0006536 | 9.746432 | 5.873662 | -.002195 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-12 Acquired: 3/4/2025 19:22:41 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D1 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0001322 | .0063730 | .0619261 |
| Stddev | .0003307 | .0006343 | .0000749 |
| %RSD | 250.0728 | 9.953190 | .1209651 |
| #1 | -.000079 | .0070624 | .0619918 |
| #2 | .000513 | .0058141 | .0618445 |
| #3 | -.000038 | .0062426 | .0619419 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3590.714 | 78773.81 | 16783.88 | 3311.086 | 5050.596 |
| Stddev | 9.809 | 222.54 | 35.51 | 26.218 | 11.633 |
| %RSD | .2731665 | .2825036 | .2115511 | .7918190 | .2303203 |
| #1 | 3586.693 | 78931.99 | 16767.04 | 3333.747 | 5053.203 |
| #2 | 3601.894 | 78870.10 | 16824.67 | 3317.142 | 5060.704 |
| #3 | 3583.555 | 78519.35 | 16759.92 | 3282.371 | 5037.881 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-13 Acquired: 3/4/2025 19:26:47 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D2 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002590** | **.0005974** | **.0003207** | **.0046598** | **.0026125** | **.0276886** |
| Stddev | .001429 | .0016778 | .0002771 | .0009406 | .0006214 | .0043399 |
| %RSD | 55.15726 | 280.8410 | 86.40169 | 20.18429 | 23.78530 | 15.67389 |
| #1 | -.000945 | .0023025 | .0005016 | .0036793 | .0033295 | .0264237 |
| #2 | -.003306 | -.001052 | .0004588 | .0047458 | .0022317 | .0241217 |
| #3 | -.003519 | .000542 | .0000017 | .0055545 | .0022762 | .0325204 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2420635** | **.0001414** | **.0024043** | **8.492583** | **-.000615** | **.0103589** |
| Stddev | .0022046 | .0000485 | .0000578 | .033596 | .000143 | .0001282 |
| %RSD | .9107594 | 34.31537 | 2.405426 | .3955943 | 23.23845 | 1.237245 |
| #1 | .2425815 | .0001848 | .0023669 | 8.523068 | -.000596 | .0103413 |
| #2 | .2396460 | .0000890 | .0023750 | 8.456563 | -.000482 | .0104950 |
| #3 | .2439630 | .0001504 | .0024709 | 8.498118 | -.000766 | .0102404 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0656888** | **.6898815** | **.0650745** | **3.367595** | **.0111163** | **.0000055** |
| Stddev | .0013821 | .0066380 | .0004292 | .017200 | .0002751 | .0001223 |
| %RSD | 2.104032 | .9621902 | .6594725 | .5107544 | 2.474898 | 2241.878 |
| #1 | .0670547 | .6908142 | .0655642 | 3.381161 | .0111447 | .0000735 |
| #2 | .0642911 | .6828266 | .0648955 | 3.348249 | .0108281 | -.000136 |
| #3 | .0657206 | .6960038 | .0647639 | 3.373373 | .0113762 | .000079 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.546452** | **.0004012** | **.2979823** | **.6920148** | **.0058585** | **.1363707** |
| Stddev | .053397 | .0004661 | .0039987 | .0502917 | .0021050 | .0022844 |
| %RSD | 1.174472 | 116.1797 | 1.341926 | 7.267430 | 35.93055 | 1.675151 |
| #1 | 4.488941 | -.000032 | .2986935 | .7490419 | .0082734 | .1372134 |
| #2 | 4.555958 | .000895 | .2936758 | .6540045 | .0048907 | .1381141 |
| #3 | 4.594457 | .000341 | .3015777 | .6729979 | .0044115 | .1337846 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-13 Acquired: 3/4/2025 19:26:47 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D2 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0010101 | F 10.53001 | 3.179247 | -.002146 | -.001532 | .0007925 |
| Stddev | .0003028 | .02425 | .033897 | .000212 | .000629 | .0005720 |
| %RSD | 29.97911 | .2302845 | 1.066186 | 9.858836 | 41.07979 | 72.16970 |
| #1 | .0013552 | 10.53965 | 3.193774 | -.002262 | -.002203 | .0006376 |
| #2 | .0008868 | 10.50242 | 3.203459 | -.002276 | -.001438 | .0003140 |
| #3 | .0007884 | 10.54795 | 3.140508 | -.001902 | -.000955 | .0014260 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0583536 |
| Stddev | .0006585 |
| %RSD | 1.128441 |
| #1 | .0584385 |
| #2 | .0576568 |
| #3 | .0589655 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3648.774 | 80656.75 | 16836.34 | 3377.994 | 5120.935 |
| Stddev | 5.938 | 45.37 | 179.10 | 2.797 | 1.703 |
| %RSD | .1627431 | .0562536 | 1.063753 | .0827925 | .0332529 |
| #1 | 3655.253 | 80703.01 | 16868.74 | 3374.861 | 5122.775 |
| #2 | 3643.592 | 80612.32 | 16643.25 | 3378.882 | 5120.615 |
| #3 | 3647.476 | 80654.91 | 16997.02 | 3380.239 | 5119.415 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-14 Acquired: 3/4/2025 19:30:52 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D4 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0057961** | **.0012704** | **.0012555** | **-.000149** | **.0018046** | **1.069618** |
| Stddev | .0014029 | .0006928 | .0004007 | .000677 | .0004429 | .003377 |
| %RSD | 24.20369 | 54.53213 | 31.91147 | 456.0141 | 24.54407 | .3156782 |
| #1 | .0050698 | .0012645 | .0015191 | .000573 | .0015878 | 1.069027 |
| #2 | .0074132 | .0019661 | .0014529 | -.000247 | .0023141 | 1.073252 |
| #3 | .0049053 | .0005806 | .0007945 | -.000771 | .0015118 | 1.066577 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2097282** | **.0000695** | **.0000108** | **7.491368** | **.0025304** | **.0012362** |
| Stddev | .0009177 | .0000512 | .0000534 | .030840 | .0001680 | .0001315 |
| %RSD | .4375869 | 73.74747 | 496.7308 | .4116677 | 6.640476 | 10.63758 |
| #1 | .2107177 | .0001071 | .0000625 | 7.526222 | .0026698 | .0011056 |
| #2 | .2089050 | .0000902 | .0000140 | 7.480264 | .0025776 | .0012345 |
| #3 | .2095617 | .0000111 | -.000044 | 7.467618 | .0023438 | .0013686 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0131572** | **2.805938** | **.0508097** | **5.317882** | **.0057820** | **-.000288** |
| Stddev | .0016376 | .010177 | .0001545 | .008165 | .0002958 | .000185 |
| %RSD | 12.44613 | .3627039 | .3040257 | .1535463 | 5.116557 | 64.42641 |
| #1 | .0112913 | 2.809097 | .0507896 | 5.325595 | .0058474 | -.000230 |
| #2 | .0143556 | 2.814161 | .0506662 | 5.318721 | .0060396 | -.000138 |
| #3 | .0138248 | 2.794556 | .0509732 | 5.309329 | .0054589 | -.000495 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.547137** | **.0043795** | **.0988095** | **-1.00038** | **.1869724** | **.2032238** |
| Stddev | .098664 | .0007447 | .0010044 | .02386 | .0012746 | .0011964 |
| %RSD | 1.154351 | 17.00399 | 1.016489 | 2.385293 | .6816952 | .5887248 |
| #1 | 8.436844 | .0037925 | .0998039 | -.98054 | .1857957 | .2045582 |
| #2 | 8.627004 | .0052172 | .0988293 | -1.02686 | .1883263 | .2028665 |
| #3 | 8.577564 | .0041289 | .0977954 | -.99373 | .1867951 | .2022468 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-14 Acquired: 3/4/2025 19:30:52 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D4 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0007939 | F 11.06196 | 4.031250 | -.001127 | .0179961 | -.000396 |
| Stddev | .0001462 | .02118 | .024160 | .000301 | .0002445 | .000716 |
| %RSD | 18.41552 | .1914274 | .5993111 | 26.73252 | 1.358586 | 180.6885 |
| #1 | .0007687 | 11.06430 | 4.059086 | -.001172 | .0177632 | -.001048 |
| #2 | .0009510 | 11.08186 | 4.018928 | -.001403 | .0182508 | .000370 |
| #3 | .0006619 | 11.03971 | 4.015735 | -.000806 | .0179742 | -.000510 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0593078 |
| Stddev | .0000944 |
| %RSD | .1590931 |
| #1 | .0593673 |
| #2 | .0593571 |
| #3 | .0591990 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3703.463 | 79978.15 | 16788.26 | 3364.415 | 5182.310 |
| Stddev | 11.345 | 175.05 | 35.21 | 8.156 | 14.244 |
| %RSD | .3063230 | .2188750 | .2097121 | .2424249 | .2748634 |
| #1 | 3714.696 | 79837.10 | 16789.95 | 3361.626 | 5197.562 |
| #2 | 3703.684 | 80174.06 | 16822.60 | 3358.019 | 5180.017 |
| #3 | 3692.010 | 79923.29 | 16752.24 | 3373.600 | 5169.351 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-15 Acquired: 3/4/2025 19:34:56 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C3 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003330** | **.0013357** | **-.000839** | **-.001652** | **.0008571** | **.0603679** |
| Stddev | .0009668 | .0007350 | .000669 | .000857 | .0019597 | .0023347 |
| %RSD | 290.2918 | 55.02826 | 79.77224 | 51.85808 | 228.6502 | 3.867411 |
| #1 | .0013892 | .0013034 | -.000485 | -.001294 | -.000940 | .0612233 |
| #2 | .0001181 | .0020864 | -.000421 | -.002629 | .002946 | .0621542 |
| #3 | -.000508 | .0006174 | -.001611 | -.001032 | .000565 | .0577261 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2630779** | **-.000000** | **-.000016** | **8.452840** | **-.000513** | **.0019757** |
| Stddev | .0016260 | .000066 | .000026 | .017793 | .000061 | .0002070 |
| %RSD | .6180596 | 14735.20 | 159.9533 | .2104973 | 11.83454 | 10.47822 |
| #1 | .2632177 | -.000075 | -.000046 | 8.453768 | -.000583 | .0017391 |
| #2 | .2646294 | .000023 | -.000007 | 8.470151 | -.000486 | .0021234 |
| #3 | .2613864 | .000051 | .000004 | 8.434601 | -.000471 | .0020646 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017470** | **.1094741** | **.0964879** | **3.867381** | **.0022221** | **-.000052** |
| Stddev | .0009952 | .0039698 | .0006726 | .012746 | .0002849 | .000575 |
| %RSD | 56.96715 | 3.626223 | .6970893 | .3295781 | 12.82251 | 1104.222 |
| #1 | .0028887 | .1134674 | .0962764 | 3.853819 | .0018962 | .000415 |
| #2 | .0012900 | .1094268 | .0972408 | 3.869210 | .0023462 | .000123 |
| #3 | .0010624 | .1055282 | .0959464 | 3.879113 | .0024240 | -.000694 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.469406** | **.0007492** | **.0813499** | **-.823950** | **.0072698** | **.1061806** |
| Stddev | .336697 | .0014919 | .0005661 | .021036 | .0019714 | .0006337 |
| %RSD | 6.156000 | 199.1302 | .6959479 | 2.553020 | 27.11713 | .5968490 |
| #1 | 5.093243 | -.000917 | .0811117 | -.803037 | .0072798 | .1054729 |
| #2 | 5.742579 | .001960 | .0819963 | -.845106 | .0092362 | .1063733 |
| #3 | 5.572396 | .001205 | .0809418 | -.823708 | .0052935 | .1066957 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-15 Acquired: 3/4/2025 19:34:56 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C3 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0005139 | F 10.03026 | 6.152652 | -.001021 | .0000683 | .0057976 |
| Stddev | .0003043 | .03862 | .006148 | .000242 | .0001574 | .0000914 |
| %RSD | 59.20501 | .3850758 | .0999238 | 23.68396 | 230.4354 | 1.576269 |
| #1 | .0008100 | 10.03273 | 6.146440 | -.001088 | -.000045 | .0057221 |
| #2 | .0005296 | 9.99046 | 6.158734 | -.000753 | .000002 | .0058992 |
| #3 | .0002021 | 10.06759 | 6.152781 | -.001222 | .000248 | .0057715 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0609153 |
| Stddev | .0004206 |
| %RSD | .6903909 |
| #1 | .0605319 |
| #2 | .0613651 |
| #3 | .0608488 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3634.106 | 79555.21 | 16193.22 | 3347.066 | 5113.900 |
| Stddev | 13.702 | 246.97 | 25.39 | 8.250 | 19.326 |
| %RSD | .3770471 | .3104424 | .1567900 | .2464827 | .3779055 |
| #1 | 3646.750 | 79837.94 | 16207.96 | 3343.410 | 5133.031 |
| #2 | 3636.022 | 79381.57 | 16207.81 | 3341.276 | 5114.284 |
| #3 | 3619.547 | 79446.11 | 16163.91 | 3356.513 | 5094.385 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-17 Acquired: 3/4/2025 19:39:02 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D5 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003028** | **-.000147** | **-.000499** | **-.000134** | **.0021223** | **-.014116** |
| Stddev | .0021310 | .001477 | .000477 | .001959 | .0014667 | .008859 |
| %RSD | 703.8749 | 1004.532 | 95.60062 | 1456.193 | 69.10707 | 62.75913 |
| #1 | .0026569 | -.001618 | -.000891 | -.000788 | .0020261 | -.021724 |
| #2 | -.001494 | .001337 | .000032 | .002067 | .0036347 | -.016235 |
| #3 | -.000254 | -.000161 | -.000639 | -.001683 | .0007061 | -.004390 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2910617** | **.0000788** | **-.000039** | **29.35032** | **-.000762** | **.0005915** |
| Stddev | .0013003 | .0000565 | .000030 | .07787 | .000346 | .0000754 |
| %RSD | .4467335 | 71.71707 | 77.56951 | .2653023 | 45.45238 | 12.75166 |
| #1 | .2904389 | .0000757 | -.000005 | 29.40769 | -.000367 | .0006783 |
| #2 | .2925562 | .0001368 | -.000050 | 29.38158 | -.000904 | .0005424 |
| #3 | .2901900 | .0000239 | -.000062 | 29.26167 | -.001015 | .0005537 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0022121** | **.0241866** | **.4877495** | **7.918821** | **.0033753** | **-.000062** |
| Stddev | .0011619 | .0030110 | .0020221 | .032159 | .0003771 | .000132 |
| %RSD | 52.52143 | 12.44921 | .4145685 | .4061078 | 11.17279 | 212.1612 |
| #1 | .0021721 | .0275854 | .4881897 | 7.924985 | .0032817 | -.000097 |
| #2 | .0010708 | .0231218 | .4895152 | 7.947451 | .0037904 | .000084 |
| #3 | .0033935 | .0218527 | .4855436 | 7.884026 | .0030538 | -.000173 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.477987** | **.0012114** | **.0562989** | **-.609224** | **.0021764** | **.0709834** |
| Stddev | .117159 | .0008006 | .0016066 | .014427 | .0014418 | .0015315 |
| %RSD | 2.616321 | 66.08712 | 2.853626 | 2.368098 | 66.24870 | 2.157512 |
| #1 | 4.348406 | .0010892 | .0558702 | -.595636 | .0029861 | .0697373 |
| #2 | 4.576433 | .0004790 | .0549501 | -.607672 | .0005117 | .0705198 |
| #3 | 4.509122 | .0020661 | .0580763 | -.624364 | .0030314 | .0726931 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1136-17 Acquired: 3/4/2025 19:39:02 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D5 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0203371 | F 11.46782 | 2.117003 | -.002682 | -.001707 | -.000624 |
| Stddev | .0004045 | .01876 | .002905 | .000341 | .000316 | .000529 |
| %RSD | 1.988830 | .1636050 | .1372302 | 12.71063 | 18.54292 | 84.70280 |
| #1 | .0200090 | 11.48220 | 2.119210 | -.002342 | -.001931 | -.001196 |
| #2 | .0202132 | 11.44660 | 2.118087 | -.002681 | -.001844 | -.000525 |
| #3 | .0207890 | 11.47467 | 2.113712 | -.003024 | -.001345 | -.000152 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2977080 |
| Stddev | .0015046 |
| %RSD | .5054073 |
| #1 | .2970380 |
| #2 | .2994312 |
| #3 | .2966547 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3552.419 | 77598.43 | 16608.86 | 3275.442 | 4921.260 |
| Stddev | 15.107 | 146.24 | 87.64 | 2.191 | 15.713 |
| %RSD | .4252697 | .1884594 | .5276568 | .0669038 | .3192926 |
| #1 | 3567.467 | 77725.86 | 16648.48 | 3276.511 | 4930.480 |
| #2 | 3552.538 | 77438.76 | 16669.69 | 3272.921 | 4930.184 |
| #3 | 3537.253 | 77630.66 | 16508.41 | 3276.894 | 4903.117 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-01 Acquired: 3/4/2025 19:43:07 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G3 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.004271** | **-.003353** | **.0050829** | **-.011939** | **.0007727** | **-.099465** | **2.107845** |
| Stddev | .002103 | .001782 | .0007062 | .003046 | .0016331 | .006601 | .014464 |
| %RSD | 49.24231 | 53.14941 | 13.89421 | 25.50996 | 211.3543 | 6.636130 | .6862131 |
| #1 | -.002772 | -.003599 | .0058887 | -.009901 | .0005444 | -.097476 | 2.099629 |
| #2 | -.006676 | -.005000 | .0045714 | -.010476 | -.000734 | -.094088 | 2.124546 |
| #3 | -.003367 | -.001461 | .0047887 | -.015440 | .002508 | -.106832 | 2.099358 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000010** | **-.000110** | **722.6976** | **.0205767** | **-.000887** | **.0011876** | **.0042759** |
| Stddev | .000029 | .000083 | 2.1457 | .0004413 | .000134 | .0018698 | .0048198 |
| %RSD | 279.3211 | 75.75232 | .2969045 | 2.144699 | 15.07125 | 157.4493 | 112.7186 |
| #1 | .000017 | -.000169 | 720.3966 | .0210615 | -.001017 | .0033448 | .0020916 |
| #2 | -.000040 | -.000015 | 724.6438 | .0201982 | -.000893 | .0000328 | .0009350 |
| #3 | -.000007 | -.000147 | 723.0524 | .0204705 | -.000750 | .0001851 | .0098011 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017754** | **.0110386** | **-.000303** | **-.000933** | **31.27681** | **.0001935** | **.0682801** |
| Stddev | .0002200 | .0118973 | .000162 | .000371 | .20171 | .0010755 | .0017270 |
| %RSD | 12.38918 | 107.7788 | 53.47745 | 39.78553 | .6449217 | 555.8220 | 2.529232 |
| #1 | .0016431 | .0246204 | -.000483 | -.000505 | 31.41211 | .0001980 | .0684049 |
| #2 | .0020293 | .0060357 | -.000257 | -.001131 | 31.04497 | -.000884 | .0664941 |
| #3 | .0016538 | .0024598 | -.000169 | -.001163 | 31.37336 | .001267 | .0699413 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **130.2680** | **-.000924** | **.0321197** | **.0208497** | **4.385763** | **.1830852** | **-.005103** |
| Stddev | .9168 | .001644 | .0004556 | .0002359 | .007858 | .0010077 | .000812 |
| %RSD | .7037441 | 177.8768 | 1.418455 | 1.131589 | .1791768 | .5503907 | 15.90917 |
| #1 | 129.5448 | .000973 | .0316830 | .0210847 | 4.394219 | .1833582 | -.006027 |
| #2 | 131.2991 | -.001823 | .0320840 | .0206128 | 4.378685 | .1819692 | -.004774 |
| #3 | 129.9602 | -.001922 | .0325921 | .0208515 | 4.384385 | .1839283 | -.004507 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-01 Acquired: 3/4/2025 19:43:07 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G3 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.023459 | .3140041 | 6.251195 |
| Stddev | .001427 | .0016975 | .032967 |
| %RSD | 6.081217 | .5406059 | .5273752 |
| #1 | -.022960 | .3127379 | 6.215872 |
| #2 | -.025068 | .3159330 | 6.256569 |
| #3 | -.022348 | .3133415 | 6.281146 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3097.716 | 68985.47 | 15589.14 | 2882.420 | 3895.725 |
| Stddev | 4.530 | 248.22 | 44.61 | 16.984 | 6.589 |
| %RSD | .1462436 | .3598091 | .2861291 | .5892312 | .1691263 |
| #1 | 3102.890 | 69261.95 | 15581.60 | 2892.542 | 3902.609 |
| #2 | 3095.793 | 68781.82 | 15637.03 | 2862.812 | 3889.478 |
| #3 | 3094.464 | 68912.64 | 15548.78 | 2891.907 | 3895.088 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-02 Acquired: 3/4/2025 19:47:30 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G5 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001748** | **.0000969** | **.0001022** | **-.001288** | **.0015906** | **.2486769** |
| Stddev | .000619 | .0004647 | .0009514 | .003474 | .0011555 | .0033576 |
| %RSD | 35.43160 | 479.6062 | 930.8665 | 269.6379 | 72.64603 | 1.350174 |
| #1 | -.002055 | -.000309 | -.000233 | -.000588 | .0002576 | .2525490 |
| #2 | -.002154 | -.000004 | .001176 | -.005060 | .0023083 | .2469091 |
| #3 | -.001035 | .000604 | -.000636 | .001782 | .0022058 | .2465726 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2293876** | **-.000030** | **-.000020** | **11.78678** | **-.000106** | **.0013455** |
| Stddev | .0014807 | .000057 | .000027 | .02480 | .000129 | .0001138 |
| %RSD | .6455147 | 185.9367 | 132.6845 | .2103896 | 122.1184 | 8.456477 |
| #1 | .2299487 | -.000095 | -.000039 | 11.81286 | -.000050 | .0014567 |
| #2 | .2305058 | -.000006 | .000011 | 11.78399 | -.000013 | .0012293 |
| #3 | .2277083 | .000009 | -.000033 | 11.76350 | -.000253 | .0013507 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0040021** | **.5225496** | **.6097828** | **5.216223** | **.0012293** | **-.000153** |
| Stddev | .0006723 | .0041291 | .0045502 | .045682 | .0003131 | .000250 |
| %RSD | 16.79825 | .7901745 | .7461935 | .8757731 | 25.47204 | 162.9152 |
| #1 | .0032644 | .5252347 | .6134856 | 5.253685 | .0008695 | .000071 |
| #2 | .0041615 | .5246191 | .6111595 | 5.229654 | .0013787 | -.000422 |
| #3 | .0045803 | .5177951 | .6047032 | 5.165331 | .0014398 | -.000108 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.109301** | **.0022122** | **.0866162** | **-.375954** | **.0271043** | **.0915949** |
| Stddev | .112089 | .0008886 | .0006888 | .012704 | .0020746 | .0013028 |
| %RSD | 1.834732 | 40.16878 | .7952451 | 3.379258 | 7.654264 | 1.422405 |
| #1 | 6.215967 | .0021083 | .0866158 | -.366486 | .0292189 | .0909179 |
| #2 | 6.119458 | .0013801 | .0873053 | -.370984 | .0270220 | .0907700 |
| #3 | 5.992480 | .0031481 | .0859276 | -.390392 | .0250721 | .0930969 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-02 Acquired: 3/4/2025 19:47:30 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G5 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0181185 | F 11.74983 | 2.861912 | -.002112 | .0145089 | -.002118 |
| Stddev | .0001375 | .02647 | .008169 | .000198 | .0002047 | .000150 |
| %RSD | .7591151 | .2252992 | .2854322 | 9.371588 | 1.410634 | 7.079231 |
| #1 | .0182762 | 11.73602 | 2.871337 | -.002312 | .0143092 | -.001972 |
| #2 | .0180557 | 11.73312 | 2.857523 | -.002107 | .0147182 | -.002272 |
| #3 | .0180235 | 11.78035 | 2.856875 | -.001916 | .0144995 | -.002109 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .1639635 |
| Stddev | .0006379 |
| %RSD | .3890762 |
| #1 | .1645109 |
| #2 | .1641167 |
| #3 | .1632629 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3622.611 | 81716.66 | 16961.12 | 3384.483 | 5056.483 |
| Stddev | 2.723 | 20.29 | 67.63 | 7.248 | 7.836 |
| %RSD | .0751669 | .0248321 | .3987567 | .2141570 | .1549596 |
| #1 | 3623.782 | 81733.15 | 17023.42 | 3381.704 | 5057.235 |
| #2 | 3624.553 | 81694.00 | 16970.76 | 3392.709 | 5063.915 |
| #3 | 3619.499 | 81722.83 | 16889.19 | 3379.036 | 5048.298 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-03 Acquired: 3/4/2025 19:51:34 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001395** | **.0013484** | **.0000302** | **-.001768** | **.0008529** | **.3694371** |
| Stddev | .000456 | .0005078 | .0011020 | .001437 | .0012087 | .0048866 |
| %RSD | 32.69087 | 37.66221 | 3654.479 | 81.26339 | 141.7213 | 1.322722 |
| #1 | -.000884 | .0007860 | -.001048 | -.002380 | .0000774 | .3651511 |
| #2 | -.001540 | .0014857 | -.000016 | -.002797 | .0002357 | .3747584 |
| #3 | -.001761 | .0017735 | .001154 | -.000127 | .0022456 | .3684019 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2212465** | **-.000038** | **-.000086** | **119.4155** | **.0237495** | **-.000119** |
| Stddev | .0007320 | .000019 | .000066 | .0570 | .0002106 | .000145 |
| %RSD | .3308655 | 49.01000 | 76.33624 | .0477276 | .8869007 | 121.5753 |
| #1 | .2208723 | -.000019 | -.000019 | 119.4686 | .0235143 | -.000234 |
| #2 | .2207773 | -.000056 | -.000151 | 119.3553 | .0238132 | -.000168 |
| #3 | .2220900 | -.000041 | -.000089 | 119.4227 | .0239209 | .000044 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024956** | **.0038056** | **.0033956** | **.0329474** | **.0001594** | **-.000521** |
| Stddev | .0009594 | .0033156 | .0001567 | .0049216 | .0003009 | .000043 |
| %RSD | 38.44356 | 87.12456 | 4.615687 | 14.93786 | 188.7327 | 8.196970 |
| #1 | .0015073 | .0017370 | .0032977 | .0354414 | .0004755 | -.000543 |
| #2 | .0034233 | .0076299 | .0035764 | .0272780 | -.000123 | -.000472 |
| #3 | .0025563 | .0020499 | .0033127 | .0361227 | .000126 | -.000548 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.742430** | **.0031925** | **.0252846** | **-.084738** | **.0034212** | **.0289601** |
| Stddev | .120277 | .0006405 | .0007272 | .019224 | .0009930 | .0003591 |
| %RSD | 3.213875 | 20.06212 | 2.876203 | 22.68587 | 29.02544 | 1.240119 |
| #1 | 3.701866 | .0038676 | .0260718 | -.092732 | .0044795 | .0286509 |
| #2 | 3.647679 | .0031165 | .0246378 | -.098674 | .0032744 | .0288752 |
| #3 | 3.877744 | .0025934 | .0251442 | -.062807 | .0025098 | .0293540 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-03 Acquired: 3/4/2025 19:51:34 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0515143 | F 11.98998 | 3.379312 | -.003692 | -.005511 | .0023666 |
| Stddev | .0002650 | .01070 | .014264 | .001022 | .000383 | .0004007 |
| %RSD | .5145041 | .0892380 | .4220969 | 27.68112 | 6.955508 | 16.93163 |
| #1 | .0514521 | 12.00229 | 3.394611 | -.004862 | -.005444 | .0028241 |
| #2 | .0512859 | 11.98472 | 3.366379 | -.002973 | -.005924 | .0021977 |
| #3 | .0518049 | 11.98292 | 3.376945 | -.003242 | -.005166 | .0020780 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2687582 |
| Stddev | .0010141 |
| %RSD | .3773154 |
| #1 | .2684092 |
| #2 | .2699006 |
| #3 | .2679646 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3481.474 | 76973.66 | 16486.48 | 3174.475 | 4734.238 |
| Stddev | 1.931 | 74.07 | 52.63 | 10.235 | 1.285 |
| %RSD | .0554548 | .0962215 | .3192400 | .3224301 | .0271496 |
| #1 | 3479.685 | 77029.28 | 16483.41 | 3186.122 | 4734.181 |
| #2 | 3483.520 | 77002.11 | 16540.58 | 3166.912 | 4732.983 |
| #3 | 3481.215 | 76889.59 | 16435.45 | 3170.390 | 4735.551 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-04 Acquired: 3/4/2025 19:55:40 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6D Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000684** | **.0007024** | **-.000309** | **-.002791** | **.0014474** | **.5687996** |
| Stddev | .002170 | .0006662 | .001071 | .002700 | .0021055 | .0055723 |
| %RSD | 317.3069 | 94.84145 | 346.4115 | 96.74766 | 145.4754 | .9796605 |
| #1 | .000664 | .0006753 | .000914 | -.005805 | .0011815 | .5636406 |
| #2 | -.003188 | .0013818 | -.001079 | -.000592 | -.000513 | .5747091 |
| #3 | .000471 | .0000502 | -.000763 | -.001977 | .003673 | .5680492 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1576696** | **.0000097** | **-.000025** | **76.23037** | **.0180372** | **-.000046** |
| Stddev | .0008431 | .0001053 | .000010 | .08582 | .0002869 | .000204 |
| %RSD | .5347326 | 1086.643 | 39.24251 | .1125760 | 1.590513 | 440.9069 |
| #1 | .1586415 | -.000062 | -.000035 | 76.32834 | .0177235 | .000187 |
| #2 | .1572330 | .000131 | -.000026 | 76.16851 | .0181020 | -.000190 |
| #3 | .1571343 | -.000040 | -.000015 | 76.19427 | .0182861 | -.000136 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0032182** | **.0071554** | **.0002900** | **.0335900** | **.0001217** | **-.000206** |
| Stddev | .0017943 | .0023359 | .0001031 | .0100855 | .0003952 | .000141 |
| %RSD | 55.75286 | 32.64489 | 35.55378 | 30.02538 | 324.6821 | 68.27618 |
| #1 | .0036604 | .0064597 | .0003575 | .0371981 | .0005595 | -.000332 |
| #2 | .0012442 | .0052463 | .0001713 | .0413753 | .0000146 | -.000231 |
| #3 | .0047501 | .0097600 | .0003410 | .0221967 | -.000209 | -.000055 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.577863** | **.0076089** | **.0216259** | **.1989980** | **.0044906** | **.0323969** |
| Stddev | .178132 | .0006357 | .0008195 | .0036096 | .0011501 | .0008664 |
| %RSD | 4.978726 | 8.354927 | 3.789578 | 1.813862 | 25.61248 | 2.674367 |
| #1 | 3.724045 | .0071875 | .0219200 | .1970098 | .0040045 | .0333371 |
| #2 | 3.379456 | .0072991 | .0222579 | .2031645 | .0058039 | .0322230 |
| #3 | 3.630088 | .0083401 | .0207000 | .1968197 | .0036633 | .0316307 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-04 Acquired: 3/4/2025 19:55:40 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6D Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0442660 | F 12.61940 | 6.256289 | -.003623 | -.003942 | -.000359 |
| Stddev | .0002800 | .04276 | .010881 | .000424 | .000386 | .000361 |
| %RSD | .6325973 | .3388210 | .1739246 | 11.71429 | 9.798237 | 100.5045 |
| #1 | .0442692 | 12.64105 | 6.268687 | -.004077 | -.003572 | -.000775 |
| #2 | .0445444 | 12.57015 | 6.248324 | -.003556 | -.003911 | -.000175 |
| #3 | .0439843 | 12.64701 | 6.251856 | -.003236 | -.004343 | -.000127 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .1921196 |
| Stddev | .0005215 |
| %RSD | .2714385 |
| #1 | .1922096 |
| #2 | .1915590 |
| #3 | .1925903 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3548.968 | 78162.68 | 16545.86 | 3244.160 | 4894.859 |
| Stddev | 5.391 | 102.74 | 18.52 | 16.532 | 14.164 |
| %RSD | .1519096 | .1314458 | .1119325 | .5095998 | .2893580 |
| #1 | 3553.395 | 78224.91 | 16563.00 | 3245.064 | 4899.341 |
| #2 | 3550.544 | 78219.04 | 16548.36 | 3260.222 | 4906.239 |
| #3 | 3542.964 | 78044.09 | 16526.22 | 3227.194 | 4878.997 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-03LX5 Acquired: 3/4/2025 19:59:46 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6L Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000510** | **-.000650** | **.0022433** | **-.001121** | **.0006563** | **.1101030** | **.0306254** |
| Stddev | .001106 | .001795 | .0003239 | .000430 | .0011858 | .0057640 | .0006834 |
| %RSD | 216.8011 | 275.9166 | 14.43782 | 38.37760 | 180.6917 | 5.235102 | 2.231444 |
| #1 | -.001650 | -.002555 | .0025979 | -.001583 | .0016078 | .1110967 | .0309072 |
| #2 | -.000440 | -.000406 | .0021688 | -.000732 | -.000672 | .1039068 | .0298462 |
| #3 | .000559 | .001010 | .0019631 | -.001048 | .001033 | .1153056 | .0311229 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000007** | **-.000067** | **15.00038** | **.0036632** | **.0002267** | **.0009709** | **.0035069** |
| Stddev | .0000369 | .000027 | .05681 | .0001722 | .0002693 | .0005849 | .0012815 |
| %RSD | 5366.833 | 40.08511 | .3787150 | 4.701390 | 118.7921 | 60.24882 | 36.54197 |
| #1 | -.000016 | -.000056 | 15.02709 | .0036323 | .0005279 | .0005960 | .0041145 |
| #2 | .000043 | -.000097 | 15.03892 | .0035086 | .0000091 | .0006718 | .0020346 |
| #3 | -.000025 | -.000047 | 14.93514 | .0038489 | .0001432 | .0016449 | .0043717 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004035** | **-.002177** | **.0001692** | **-.000264** | **.9230137** | **.0006769** | **.0057797** |
| Stddev | .0000537 | .007241 | .0001758 | .000104 | .0862887 | .0007554 | .0012914 |
| %RSD | 13.30382 | 332.6403 | 103.8675 | 39.55612 | 9.348580 | 111.6009 | 22.34362 |
| #1 | .0003582 | -.010181 | -.000033 | -.000148 | .8233928 | .0005040 | .0046590 |
| #2 | .0003895 | -.000267 | .000254 | -.000350 | .9712466 | .0015037 | .0071919 |
| #3 | .0004628 | .003918 | .000287 | -.000294 | .9744017 | .0000229 | .0054881 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0083948** | **.0010322** | **.0027852** | **.0088586** | **2.451294** | **1.233452** | **-.001321** |
| Stddev | .0129668 | .0016481 | .0002329 | .0002316 | .006977 | .003767 | .000345 |
| %RSD | 154.4630 | 159.6697 | 8.362680 | 2.614917 | .2846113 | .3053700 | 26.08554 |
| #1 | .0206325 | -.000071 | .0026799 | .0087706 | 2.448015 | 1.231599 | -.000932 |
| #2 | -.005195 | .002927 | .0026234 | .0091213 | 2.446561 | 1.230971 | -.001442 |
| #3 | .009747 | .000241 | .0030521 | .0086838 | 2.459306 | 1.237787 | -.001588 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-03LX5 Acquired: 3/4/2025 19:59:46 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6L Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.001422 | -.000241 | .0388660 |
| Stddev | .000602 | .000262 | .0002495 |
| %RSD | 42.37472 | 108.6760 | .6419427 |
| #1 | -.001290 | -.000165 | .0390440 |
| #2 | -.002079 | -.000533 | .0389732 |
| #3 | -.000896 | -.000026 | .0385808 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3617.083 | 78590.53 | 16507.51 | 3304.266 | 5039.591 |
| Stddev | 8.069 | 202.88 | 37.26 | 15.066 | 5.982 |
| %RSD | .2230860 | .2581482 | .2257153 | .4559448 | .1186926 |
| #1 | 3622.531 | 78410.03 | 16527.03 | 3287.797 | 5043.087 |
| #2 | 3620.905 | 78551.45 | 16530.96 | 3307.644 | 5043.001 |
| #3 | 3607.813 | 78810.11 | 16464.55 | 3317.355 | 5032.684 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-05 Acquired: 3/4/2025 20:03:53 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6S Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0449262** | **.0553658** | **.0180667** | **.0975554** | **.1061907** | **1.830659** |
| Stddev | .0021731 | .0020274 | .0014191 | .0016708 | .0017710 | .007645 |
| %RSD | 4.836943 | 3.661898 | 7.854676 | 1.712626 | 1.667752 | .4175968 |
| #1 | .0473955 | .0550172 | .0196452 | .0994701 | .1068481 | 1.831500 |
| #2 | .0433053 | .0575449 | .0168967 | .0968031 | .1041850 | 1.837849 |
| #3 | .0440780 | .0535352 | .0176582 | .0963931 | .1075391 | 1.822629 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.035941** | **.0523836** | **.0483010** | **31.77856** | **.2230342** | **.4861064** |
| Stddev | .010959 | .0001637 | .0001225 | .09792 | .0006988 | .0002926 |
| %RSD | .5383011 | .3124681 | .2535352 | .3081178 | .3133177 | .0601911 |
| #1 | 2.043151 | .0525089 | .0481756 | 31.77813 | .2233175 | .4860164 |
| #2 | 2.041343 | .0521984 | .0484203 | 31.87669 | .2235469 | .4858694 |
| #3 | 2.023329 | .0524435 | .0483070 | 31.68086 | .2222382 | .4864334 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2572586** | **.9976160** | **.8226300** | **8.901739** | **.5155940** | **.0381078** |
| Stddev | .0009331 | .0038839 | .0034823 | .003521 | .0010510 | .0001415 |
| %RSD | .3627113 | .3893225 | .4233175 | .0395584 | .2038350 | .3713818 |
| #1 | .2563415 | 1.000134 | .8250887 | 8.897761 | .5146825 | .0381196 |
| #2 | .2572273 | .993143 | .8241562 | 8.902997 | .5153560 | .0382430 |
| #3 | .2582070 | .999571 | .8186452 | 8.904458 | .5167436 | .0379607 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.063413** | **.5220936** | **.5133842** | **1.533253** | **.0057086** | **.0676193** |
| Stddev | .111766 | .0034098 | .0045622 | .018033 | .0002583 | .0003088 |
| %RSD | 2.750550 | .6530934 | .8886600 | 1.176129 | 4.525046 | .4567046 |
| #1 | 4.188803 | .5202903 | .5129886 | 1.513461 | .0057758 | .0679480 |
| #2 | 3.974267 | .5199641 | .5090327 | 1.537544 | .0059267 | .0675748 |
| #3 | 4.027168 | .5260263 | .5181314 | 1.548753 | .0054234 | .0673352 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-05 Acquired: 3/4/2025 20:03:53 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G6S Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0278492 | F 14.89283 | 1.589699 | -.002538 | -.003023 | .0008075 |
| Stddev | .0000786 | .05491 | .009868 | .000804 | .000701 | .0002316 |
| %RSD | .2822797 | .3686755 | .6207643 | 31.67673 | 23.18772 | 28.68473 |
| #1 | .0279067 | 14.84672 | 1.593081 | -.003398 | -.003636 | .0010657 |
| #2 | .0277596 | 14.95357 | 1.578584 | -.001806 | -.003176 | .0007386 |
| #3 | .0278813 | 14.87818 | 1.597432 | -.002410 | -.002259 | .0006181 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2502540 |
| Stddev | .0010248 |
| %RSD | .4095186 |
| #1 | .2502092 |
| #2 | .2513005 |
| #3 | .2492523 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3572.615 | 77942.07 | 16542.65 | 3264.401 | 4957.686 |
| Stddev | 7.901 | 111.60 | 69.33 | 18.041 | 6.844 |
| %RSD | .2211653 | .1431772 | .4191171 | .5526673 | .1380567 |
| #1 | 3572.339 | 78038.94 | 16564.76 | 3285.214 | 4963.104 |
| #2 | 3580.650 | 77820.04 | 16598.23 | 3254.776 | 4959.961 |
| #3 | 3564.855 | 77967.24 | 16464.96 | 3253.213 | 4949.994 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-06 Acquired: 3/4/2025 20:07:52 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H0 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007137** | **-.000145** | **.0016760** | **-.000050** | **.0018953** | **2.129688** |
| Stddev | .0006767 | .000317 | .0016236 | .001663 | .0016312 | .017778 |
| %RSD | 94.81217 | 219.2743 | 96.87412 | 3315.635 | 86.06546 | .8347580 |
| #1 | .0004924 | -.000507 | .0028317 | -.001584 | .0001874 | 2.150164 |
| #2 | .0001754 | -.000015 | -.000180 | -.000284 | .0034371 | 2.118188 |
| #3 | .0014734 | .000087 | .002377 | .001717 | .0020614 | 2.120712 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2622759** | **.0000826** | **.0001618** | **15.28822** | **.0053665** | **.0013742** |
| Stddev | .0005232 | .0000962 | .0000128 | .02835 | .0001843 | .0001776 |
| %RSD | .1994642 | 116.4297 | 7.918236 | .1854577 | 3.433774 | 12.92614 |
| #1 | .2627945 | .0000032 | .0001527 | 15.32046 | .0054329 | .0015380 |
| #2 | .2622849 | .0000550 | .0001765 | 15.26714 | .0051582 | .0011854 |
| #3 | .2617483 | .0001895 | .0001562 | 15.27707 | .0055083 | .0013994 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0121358** | **3.995950** | **.0725177** | **6.536069** | **.0020397** | **-.000187** |
| Stddev | .0001549 | .025489 | .0001490 | .028828 | .0001571 | .000212 |
| %RSD | 1.276320 | .6378825 | .2054833 | .4410586 | 7.699835 | 113.5413 |
| #1 | .0123144 | 4.024905 | .0725653 | 6.568971 | .0019029 | -.000021 |
| #2 | .0120379 | 3.986044 | .0726372 | 6.515245 | .0022112 | -.000425 |
| #3 | .0120550 | 3.976900 | .0723508 | 6.523990 | .0020050 | -.000113 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **14.32266** | **.0127612** | **.1190200** | **-.599903** | **.1412918** | **.1653304** |
| Stddev | .06127 | .0009252 | .0018272 | .053254 | .0028575 | .0012515 |
| %RSD | .4278002 | 7.250239 | 1.535229 | 8.877059 | 2.022449 | .7569878 |
| #1 | 14.35542 | .0129620 | .1187380 | -.626440 | .1445024 | .1639574 |
| #2 | 14.36059 | .0135695 | .1173501 | -.634674 | .1390272 | .1664073 |
| #3 | 14.25198 | .0117521 | .1209718 | -.538595 | .1403458 | .1656264 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-06 Acquired: 3/4/2025 20:07:52 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H0 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0242357 | F 13.32944 | 5.934358 | -.001969 | .1075997 | -.001879 |
| Stddev | .0002048 | .03752 | .007868 | .000978 | .0005781 | .000317 |
| %RSD | .8450901 | .2814521 | .1325893 | 49.68479 | .5372427 | 16.86895 |
| #1 | .0241780 | 13.36030 | 5.929314 | -.002325 | .1071249 | -.001590 |
| #2 | .0240660 | 13.28768 | 5.930335 | -.002719 | .1074307 | -.002218 |
| #3 | .0244632 | 13.34033 | 5.943424 | -.000862 | .1082434 | -.001828 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0967994 |
| Stddev | .0006811 |
| %RSD | .7036277 |
| #1 | .0975628 |
| #2 | .0965814 |
| #3 | .0962539 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3566.249 | 78292.97 | 16907.90 | 3283.502 | 4913.726 |
| Stddev | 10.254 | 186.18 | 82.46 | 6.663 | 13.430 |
| %RSD | .2875357 | .2377993 | .4877085 | .2029285 | .2733183 |
| #1 | 3573.214 | 78116.98 | 16992.57 | 3290.429 | 4924.240 |
| #2 | 3571.058 | 78487.89 | 16903.26 | 3282.937 | 4918.340 |
| #3 | 3554.474 | 78274.05 | 16827.85 | 3277.139 | 4898.596 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-07 Acquired: 3/4/2025 20:11:55 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H1 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0085101** | **.0003042** | **.0047653** | **-.001748** | **.0030367** | **5.292980** |
| Stddev | .0018819 | .0015898 | .0001526 | .002301 | .0013763 | .021111 |
| %RSD | 22.11374 | 522.5911 | 3.202429 | 131.6135 | 45.32399 | .3988452 |
| #1 | .0068011 | -.001445 | .0048732 | -.003014 | .0044409 | 5.284044 |
| #2 | .0082023 | .001661 | .0045907 | -.003139 | .0016900 | 5.317089 |
| #3 | .0105270 | .000697 | .0048319 | .000908 | .0029791 | 5.277807 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3383171** | **.0002338** | **.0002073** | **12.93730** | **.0249348** | **.0045851** |
| Stddev | .0021740 | .0000775 | .0000221 | .03798 | .0001445 | .0001122 |
| %RSD | .6425979 | 33.15762 | 10.65752 | .2935971 | .5796411 | 2.447633 |
| #1 | .3366570 | .0003232 | .0001863 | 12.94002 | .0249133 | .0046727 |
| #2 | .3407779 | .0001864 | .0002304 | 12.97385 | .0248022 | .0046239 |
| #3 | .3375164 | .0001916 | .0002052 | 12.89803 | .0250889 | .0044586 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0444571** | **10.27491** | **.3552002** | **6.653912** | **.0070433** | **-.000233** |
| Stddev | .0010988 | .05101 | .0018605 | .013289 | .0001600 | .000054 |
| %RSD | 2.471596 | .4964228 | .5237948 | .1997111 | 2.271246 | 23.06047 |
| #1 | .0456142 | 10.25776 | .3536471 | 6.657020 | .0071756 | -.000263 |
| #2 | .0434278 | 10.33228 | .3572622 | 6.665372 | .0068655 | -.000266 |
| #3 | .0443294 | 10.23468 | .3546913 | 6.639345 | .0070889 | -.000171 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **13.19245** | **.0479253** | **.3031333** | **1.112054** | **.3267381** | **.3032523** |
| Stddev | .24429 | .0011244 | .0021759 | .040881 | .0021726 | .0011832 |
| %RSD | 1.851710 | 2.346262 | .7177899 | 3.676144 | .6649341 | .3901836 |
| #1 | 12.99324 | .0466314 | .3008516 | 1.138254 | .3247039 | .3026160 |
| #2 | 13.46500 | .0484788 | .3051850 | 1.132960 | .3264837 | .3025233 |
| #3 | 13.11910 | .0486657 | .3033635 | 1.064948 | .3290267 | .3046175 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-07 Acquired: 3/4/2025 20:11:55 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H1 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0067777 | F 12.62374 | 9.787744 | -.001157 | .4060755 | -.000074 |
| Stddev | .0002101 | .04377 | .029967 | .000739 | .0009129 | .000616 |
| %RSD | 3.100022 | .3467611 | .3061637 | 63.84146 | .2248115 | 838.2384 |
| #1 | .0066123 | 12.67355 | 9.782692 | -.001995 | .4052802 | -.000689 |
| #2 | .0070141 | 12.59136 | 9.760625 | -.000600 | .4058740 | .000544 |
| #3 | .0067068 | 12.60632 | 9.819916 | -.000877 | .4070723 | -.000076 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .1248853 |
| Stddev | .0009883 |
| %RSD | .7913844 |
| #1 | .1251749 |
| #2 | .1256965 |
| #3 | .1237845 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3633.839 | 78450.31 | 16590.63 | 3267.731 | 5018.867 |
| Stddev | 4.624 | 76.28 | 115.45 | 6.087 | 1.743 |
| %RSD | .1272516 | .0972389 | .6958523 | .1862890 | .0347353 |
| #1 | 3634.227 | 78362.23 | 16550.33 | 3265.371 | 5016.989 |
| #2 | 3638.256 | 78495.29 | 16720.82 | 3274.645 | 5020.433 |
| #3 | 3629.032 | 78493.41 | 16500.73 | 3263.177 | 5019.179 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-08 Acquired: 3/4/2025 20:15:56 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H2 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0684677** | **.0001786** | **.0028515** | **.0002712** | **.0014985** | **.1582025** |
| Stddev | .0016377 | .0020245 | .0002217 | .0022754 | .0010963 | .0011531 |
| %RSD | 2.391935 | 1133.414 | 7.775355 | 839.1046 | 73.15524 | .7289091 |
| #1 | .0700692 | .0016754 | .0028410 | -.002184 | .0025330 | .1590250 |
| #2 | .0685378 | -.002125 | .0026353 | .000689 | .0016131 | .1586982 |
| #3 | .0667961 | .000985 | .0030783 | .002309 | .0003495 | .1568844 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1965261** | **-.000008** | **.0000592** | **30.33147** | **.0021495** | **.0019592** |
| Stddev | .0004250 | .000054 | .0000525 | .01824 | .0001706 | .0000470 |
| %RSD | .2162365 | 640.3300 | 88.59946 | .0601224 | 7.938031 | 2.397405 |
| #1 | .1964117 | .000047 | .0000043 | 30.31708 | .0021350 | .0019544 |
| #2 | .1961701 | -.000012 | .0001088 | 30.32534 | .0023269 | .0020085 |
| #3 | .1969966 | -.000060 | .0000646 | 30.35198 | .0019866 | .0019149 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0084905** | **1.074415** | **.2811776** | **22.98931** | **.0040710** | **-.000257** |
| Stddev | .0009918 | .004595 | .0013614 | .04170 | .0001800 | .000211 |
| %RSD | 11.68125 | .4276924 | .4841706 | .1813716 | 4.422272 | 82.09331 |
| #1 | .0089353 | 1.074108 | .2817270 | 23.02299 | .0042770 | -.000489 |
| #2 | .0073542 | 1.069981 | .2796274 | 23.00226 | .0039436 | -.000078 |
| #3 | .0091820 | 1.079156 | .2821785 | 22.94267 | .0039925 | -.000203 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.051162** | **.0036266** | **.2133471** | **.3711532** | **.0524884** | **.2032105** |
| Stddev | .181216 | .0006385 | .0033832 | .0603142 | .0030889 | .0004358 |
| %RSD | 2.250812 | 17.60577 | 1.585750 | 16.25049 | 5.884889 | .2144565 |
| #1 | 7.843181 | .0033207 | .2106971 | .3569315 | .0557284 | .2031245 |
| #2 | 8.175084 | .0043606 | .2171578 | .3192208 | .0521599 | .2036829 |
| #3 | 8.135222 | .0031987 | .2121863 | .4373074 | .0495769 | .2028242 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-08 Acquired: 3/4/2025 20:15:56 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H2 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0059589 | F 56.68751 | 1.124207 | -.002971 | .0121563 | -.002222 |
| Stddev | .0001824 | .13019 | .008601 | .000198 | .0002353 | .000805 |
| %RSD | 3.061249 | .2296674 | .7651008 | 6.666042 | 1.935433 | 36.25012 |
| #1 | .0057631 | 56.58500 | 1.123331 | -.003139 | .0121913 | -.001780 |
| #2 | .0061240 | 56.83400 | 1.133213 | -.002752 | .0123720 | -.001735 |
| #3 | .0059895 | 56.64355 | 1.116077 | -.003021 | .0119054 | -.003152 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .4389643 |
| Stddev | .0016901 |
| %RSD | .3850211 |
| #1 | .4393528 |
| #2 | .4371138 |
| #3 | .4404264 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3623.522 | 78858.76 | 16733.87 | 3263.301 | 5018.121 |
| Stddev | 4.216 | 145.47 | 23.36 | 12.073 | 2.759 |
| %RSD | .1163522 | .1844709 | .1395788 | .3699615 | .0549818 |
| #1 | 3626.048 | 78816.09 | 16728.50 | 3277.231 | 5021.296 |
| #2 | 3625.864 | 79020.79 | 16713.67 | 3256.822 | 5016.305 |
| #3 | 3618.655 | 78739.39 | 16759.45 | 3255.851 | 5016.762 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-09 Acquired: 3/4/2025 20:20:00 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H3 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0071398** | **.0002173** | **-.000029** | **-.001040** | **.0015146** | **.1326946** |
| Stddev | .0013092 | .0010364 | .000812 | .000650 | .0019784 | .0037339 |
| %RSD | 18.33628 | 476.9567 | 2792.380 | 62.47494 | 130.6267 | 2.813921 |
| #1 | .0073488 | -.000501 | .000684 | -.000752 | .0000884 | .1352336 |
| #2 | .0057386 | -.000253 | .000142 | -.001783 | .0006821 | .1344430 |
| #3 | .0083318 | .001405 | -.000913 | -.000584 | .0037732 | .1284073 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1470222** | **.0000370** | **.0001200** | **13.23195** | **-.000231** | **.0111362** |
| Stddev | .0011584 | .0000420 | .0000380 | .01830 | .000134 | .0000811 |
| %RSD | .7878714 | 113.4374 | 31.61379 | .1383284 | 58.08259 | .7281485 |
| #1 | .1478171 | .0000854 | .0000988 | 13.24960 | -.000229 | .0111606 |
| #2 | .1456931 | .0000091 | .0001638 | 13.21305 | -.000098 | .0110457 |
| #3 | .1475562 | .0000166 | .0000974 | 13.23320 | -.000367 | .0112023 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0079307** | **.3726357** | **.1230107** | **11.61747** | **.0154366** | **-.000104** |
| Stddev | .0006036 | .0027318 | .0006712 | .02580 | .0001887 | .000281 |
| %RSD | 7.611044 | .7330914 | .5456091 | .2220427 | 1.222224 | 270.4602 |
| #1 | .0076811 | .3704277 | .1237854 | 11.60102 | .0155641 | -.000413 |
| #2 | .0086191 | .3717887 | .1226045 | 11.64720 | .0155258 | .000134 |
| #3 | .0074920 | .3756906 | .1226423 | 11.60420 | .0152198 | -.000032 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.594824** | **.0013370** | **.1771484** | **-.240467** | **.0230603** | **.1055261** |
| Stddev | .071989 | .0012534 | .0016857 | .029624 | .0009063 | .0003092 |
| %RSD | .9478727 | 93.75099 | .9515733 | 12.31921 | 3.930229 | .2929765 |
| #1 | 7.567759 | .0019611 | .1754942 | -.274671 | .0229833 | .1052482 |
| #2 | 7.540289 | .0021558 | .1788640 | -.223715 | .0221950 | .1058591 |
| #3 | 7.676423 | -.000106 | .1770869 | -.223015 | .0240027 | .1054710 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-09 Acquired: 3/4/2025 20:20:00 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H3 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0015728 | F 24.78102 | 2.628714 | -.002261 | .0163350 | -.001601 |
| Stddev | .0000767 | .04001 | .002409 | .000775 | .0010683 | .000558 |
| %RSD | 4.875701 | .1614738 | .0916263 | 34.28133 | 6.539763 | 34.82838 |
| #1 | .0015937 | 24.73483 | 2.628472 | -.001405 | .0152668 | -.002227 |
| #2 | .0014879 | 24.80336 | 2.631234 | -.002462 | .0163346 | -.001422 |
| #3 | .0016369 | 24.80488 | 2.626435 | -.002916 | .0174034 | -.001155 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2535974 |
| Stddev | .0007317 |
| %RSD | .2885182 |
| #1 | .2529690 |
| #2 | .2544006 |
| #3 | .2534225 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3615.675 | 80148.95 | 16780.06 | 3343.642 | 5029.369 |
| Stddev | 9.825 | 80.84 | 25.14 | 10.054 | 10.414 |
| %RSD | .2717390 | .1008638 | .1498061 | .3006924 | .2070702 |
| #1 | 3625.972 | 80239.98 | 16808.38 | 3354.081 | 5041.368 |
| #2 | 3614.649 | 80085.54 | 16771.42 | 3342.822 | 5024.061 |
| #3 | 3606.402 | 80121.32 | 16760.38 | 3334.023 | 5022.678 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-10 Acquired: 3/4/2025 20:24:04 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H4 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027262** | **.0010480** | **.0010504** | **-.000799** | **.0014003** | **4.456569** |
| Stddev | .0008580 | .0009519 | .0005836 | .001167 | .0005659 | .018656 |
| %RSD | 31.47148 | 90.83199 | 55.55892 | 146.1927 | 40.41147 | .4186235 |
| #1 | .0033682 | .0000354 | .0016066 | -.002117 | .0017936 | 4.470255 |
| #2 | .0030586 | .0011840 | .0004428 | -.000381 | .0007518 | 4.435318 |
| #3 | .0017517 | .0019245 | .0011017 | .000103 | .0016555 | 4.464133 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3003492** | **.0001270** | **.0001201** | **9.728378** | **.0150438** | **.0032204** |
| Stddev | .0004499 | .0000246 | .0000145 | .037742 | .0003741 | .0001071 |
| %RSD | .1498051 | 19.36260 | 12.06475 | .3879574 | 2.486994 | 3.324224 |
| #1 | .3004009 | .0001046 | .0001181 | 9.734391 | .0146121 | .0033313 |
| #2 | .2998756 | .0001231 | .0001355 | 9.687991 | .0152460 | .0032121 |
| #3 | .3007710 | .0001534 | .0001067 | 9.762753 | .0152733 | .0031177 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0187769** | **9.602517** | **.1592425** | **5.245061** | **.0042337** | **-.000073** |
| Stddev | .0009303 | .049253 | .0004930 | .038114 | .0001699 | .000110 |
| %RSD | 4.954332 | .5129135 | .3096228 | .7266684 | 4.012862 | 150.8008 |
| #1 | .0195681 | 9.633201 | .1586828 | 5.269796 | .0040429 | -.000004 |
| #2 | .0177521 | 9.545706 | .1594318 | 5.201169 | .0043688 | -.000015 |
| #3 | .0190104 | 9.628645 | .1596128 | 5.264219 | .0042893 | -.000200 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **13.93613** | **.0274260** | **.1900426** | **-.467800** | **.2346456** | **.2269170** |
| Stddev | .10064 | .0016843 | .0013306 | .027019 | .0006958 | .0011907 |
| %RSD | .7221380 | 6.141341 | .7001617 | 5.775756 | .2965240 | .5247188 |
| #1 | 14.01558 | .0257193 | .1885901 | -.492575 | .2344891 | .2256450 |
| #2 | 13.82296 | .0290870 | .1912026 | -.438991 | .2354063 | .2280049 |
| #3 | 13.96986 | .0274716 | .1903352 | -.471833 | .2340414 | .2271011 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-10 Acquired: 3/4/2025 20:24:04 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H4 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0050301 | F 12.49620 | 9.884043 | -.001221 | .2683167 | -.001731 |
| Stddev | .0000702 | .03773 | .037716 | .000027 | .0017966 | .000401 |
| %RSD | 1.395172 | .3019266 | .3815835 | 2.228982 | .6695640 | 23.16903 |
| #1 | .0050398 | 12.47999 | 9.845695 | -.001235 | .2668211 | -.001700 |
| #2 | .0050950 | 12.46929 | 9.921093 | -.001238 | .2703095 | -.001346 |
| #3 | .0049556 | 12.53933 | 9.885341 | -.001189 | .2678196 | -.002146 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0826694 |
| Stddev | .0006546 |
| %RSD | .7918529 |
| #1 | .0830220 |
| #2 | .0819140 |
| #3 | .0830720 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3654.718 | 80322.75 | 16986.01 | 3354.961 | 5045.897 |
| Stddev | 3.256 | 228.31 | 76.33 | 2.989 | 6.702 |
| %RSD | .0890883 | .2842383 | .4493668 | .0890837 | .1328304 |
| #1 | 3657.423 | 80147.88 | 17028.78 | 3352.976 | 5050.789 |
| #2 | 3655.626 | 80581.04 | 16897.89 | 3353.508 | 5048.645 |
| #3 | 3651.104 | 80239.34 | 17031.37 | 3358.398 | 5038.257 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-11 Acquired: 3/4/2025 20:28:04 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H5 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0101754** | **.0002552** | **.0012206** | **-.000817** | **.0021299** | **1.125518** |
| Stddev | .0012240 | .0002621 | .0004275 | .003076 | .0010153 | .011546 |
| %RSD | 12.02931 | 102.7029 | 35.02522 | 376.4149 | 47.66850 | 1.025878 |
| #1 | .0092437 | .0002714 | .0007282 | -.003899 | .0011117 | 1.133239 |
| #2 | .0115616 | .0005087 | .0014975 | .002253 | .0021357 | 1.131070 |
| #3 | .0097207 | -.000015 | .0014361 | -.000806 | .0031423 | 1.112244 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1969393** | **.0000080** | **.0000417** | **11.15573** | **.0024485** | **.0013340** |
| Stddev | .0013925 | .0000044 | .0000743 | .02267 | .0001569 | .0000637 |
| %RSD | .7070506 | 55.12125 | 178.1383 | .2032309 | 6.406500 | 4.771555 |
| #1 | .1967693 | .0000065 | -.000043 | 11.16846 | .0024736 | .0013037 |
| #2 | .1984089 | .0000045 | .000093 | 11.16917 | .0025913 | .0014072 |
| #3 | .1956396 | .0000129 | .000075 | 11.12955 | .0022806 | .0012912 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0163329** | **2.414590** | **.0464482** | **9.773104** | **.0023571** | **-.000172** |
| Stddev | .0000340 | .006741 | .0000313 | .038289 | .0001890 | .000217 |
| %RSD | .2082195 | .2791586 | .0674663 | .3917792 | 8.019046 | 126.3577 |
| #1 | .0163594 | 2.417287 | .0464267 | 9.789233 | .0025462 | -.000409 |
| #2 | .0163447 | 2.419565 | .0464336 | 9.800690 | .0021681 | .000017 |
| #3 | .0162946 | 2.406919 | .0464841 | 9.729389 | .0023569 | -.000123 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **13.41920** | **.0137780** | **.1514060** | **-.260342** | **.0649384** | **.1702381** |
| Stddev | .06410 | .0010010 | .0009368 | .044141 | .0010265 | .0007593 |
| %RSD | .4776976 | 7.265033 | .6187525 | 16.95498 | 1.580731 | .4460008 |
| #1 | 13.34718 | .0127170 | .1524608 | -.260761 | .0653954 | .1694345 |
| #2 | 13.44037 | .0139113 | .1510862 | -.215993 | .0637628 | .1709435 |
| #3 | 13.47003 | .0147056 | .1506709 | -.304272 | .0656570 | .1703363 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-11 Acquired: 3/4/2025 20:28:04 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H5 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0066810 | F 20.47791 | 4.187005 | -.001629 | .0639014 | -.001420 |
| Stddev | .0002211 | .03548 | .019851 | .000695 | .0005236 | .000452 |
| %RSD | 3.309795 | .1732705 | .4741124 | 42.69055 | .8194198 | 31.85422 |
| #1 | .0064331 | 20.51024 | 4.203206 | -.001427 | .0639068 | -.000953 |
| #2 | .0067520 | 20.43995 | 4.164861 | -.001057 | .0644223 | -.001857 |
| #3 | .0068579 | 20.48355 | 4.192947 | -.002403 | .0633751 | -.001451 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2010470 |
| Stddev | .0004522 |
| %RSD | .2249244 |
| #1 | .2010798 |
| #2 | .2014819 |
| #3 | .2005793 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3614.940 | 79692.73 | 16865.20 | 3324.134 | 5024.942 |
| Stddev | 2.485 | 91.95 | 58.50 | 6.353 | 5.039 |
| %RSD | .0687400 | .1153788 | .3468972 | .1911262 | .1002827 |
| #1 | 3612.255 | 79681.49 | 16855.51 | 3317.703 | 5030.730 |
| #2 | 3617.158 | 79789.78 | 16927.95 | 3330.407 | 5022.561 |
| #3 | 3615.408 | 79606.92 | 16812.14 | 3324.293 | 5021.533 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-12 Acquired: 3/4/2025 20:32:07 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H6 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000067** | **-.001470** | **-.000140** | **.0005907** | **.0007105** | **.2664971** |
| Stddev | .001476 | .000536 | .000373 | .0020620 | .0015673 | .0014991 |
| %RSD | 2210.757 | 36.49560 | 266.0753 | 349.0742 | 220.6016 | .5625042 |
| #1 | .001398 | -.001308 | -.000218 | -.001581 | .0018327 | .2682274 |
| #2 | -.001554 | -.002068 | .000266 | .000830 | -.001080 | .2655901 |
| #3 | -.000045 | -.001032 | -.000467 | .002523 | .001379 | .2656739 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2012675** | **.0000927** | **.0000476** | **7.917881** | **-.000633** | **.0027482** |
| Stddev | .0008241 | .0000718 | .0000627 | .036004 | .000083 | .0001043 |
| %RSD | .4094578 | 77.44582 | 131.6801 | .4547132 | 13.02809 | 3.794156 |
| #1 | .2009937 | .0000515 | -.000022 | 7.882737 | -.000622 | .0028168 |
| #2 | .2006152 | .0000510 | .000064 | 7.916220 | -.000557 | .0027997 |
| #3 | .2021937 | .0001757 | .000100 | 7.954686 | -.000721 | .0026282 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0040708** | **.7287381** | **1.155689** | **4.204993** | **.0019004** | **.0000614** |
| Stddev | .0010046 | .0028859 | .003549 | .011791 | .0002731 | .0002909 |
| %RSD | 24.67673 | .3960094 | .3070915 | .2803938 | 14.36819 | 473.9216 |
| #1 | .0030246 | .7284934 | 1.153365 | 4.192353 | .0022100 | -.000273 |
| #2 | .0041603 | .7317386 | 1.153927 | 4.206935 | .0017973 | .000255 |
| #3 | .0050277 | .7259824 | 1.159774 | 4.215693 | .0016939 | .000202 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.307414** | **.0014847** | **.0691972** | **-.907546** | **.0221954** | **.0868314** |
| Stddev | .070363 | .0003809 | .0012461 | .027503 | .0004332 | .0003897 |
| %RSD | .9628978 | 25.65339 | 1.800838 | 3.030471 | 1.951945 | .4488467 |
| #1 | 7.288383 | .0018089 | .0681848 | -.884567 | .0217136 | .0872475 |
| #2 | 7.385335 | .0010653 | .0688179 | -.938020 | .0225530 | .0867718 |
| #3 | 7.248524 | .0015799 | .0705889 | -.900052 | .0223197 | .0864749 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-12 Acquired: 3/4/2025 20:32:07 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H6 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0064637 | F 11.13212 | 5.257271 | -.001683 | .0351622 | -.000198 |
| Stddev | .0000952 | .03105 | .023824 | .000534 | .0007608 | .000589 |
| %RSD | 1.472932 | .2789592 | .4531622 | 31.70803 | 2.163819 | 297.9794 |
| #1 | .0063758 | 11.13186 | 5.247064 | -.002191 | .0358004 | -.000117 |
| #2 | .0064506 | 11.10119 | 5.240252 | -.001126 | .0343202 | -.000823 |
| #3 | .0065648 | 11.16330 | 5.284498 | -.001733 | .0353659 | .000347 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .1354059 |
| Stddev | .0003823 |
| %RSD | .2823435 |
| #1 | .1358274 |
| #2 | .1350815 |
| #3 | .1353088 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3600.971 | 80283.10 | 17008.81 | 3335.661 | 5048.175 |
| Stddev | 7.392 | 167.13 | 48.85 | 9.853 | 9.523 |
| %RSD | .2052670 | .2081733 | .2871762 | .2953833 | .1886349 |
| #1 | 3609.401 | 80416.20 | 17065.02 | 3344.250 | 5058.682 |
| #2 | 3597.913 | 80337.57 | 16984.69 | 3337.827 | 5045.728 |
| #3 | 3595.599 | 80095.53 | 16976.71 | 3324.905 | 5040.115 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-13 Acquired: 3/4/2025 20:36:12 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F6 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0098448** | **-.000363** | **.0005647** | **-.000447** | **.0019589** | **.9798661** |
| Stddev | .0014796 | .001386 | .0004235 | .000991 | .0019418 | .0025814 |
| %RSD | 15.02870 | 381.3031 | 75.00104 | 221.4200 | 99.12800 | .2634420 |
| #1 | .0113921 | -.001720 | .0003225 | -.001228 | -.000283 | .9785804 |
| #2 | .0084438 | -.000420 | .0003178 | -.000781 | .003051 | .9828379 |
| #3 | .0096985 | .001050 | .0010538 | .000667 | .003108 | .9781801 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2533437** | **.0000328** | **.0001237** | **20.20680** | **.0026007** | **.0020263** |
| Stddev | .0015909 | .0000104 | .0000505 | .02233 | .0002520 | .0001648 |
| %RSD | .6279474 | 31.73087 | 40.84163 | .1104835 | 9.690439 | 8.134391 |
| #1 | .2551792 | .0000370 | .0000951 | 20.23095 | .0026588 | .0021446 |
| #2 | .2524906 | .0000209 | .0001821 | 20.18692 | .0028185 | .0020963 |
| #3 | .2523613 | .0000404 | .0000940 | 20.20251 | .0023247 | .0018380 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0185907** | **3.579401** | **.0629555** | **4.720156** | **.0095602** | **-.000020** |
| Stddev | .0013843 | .013860 | .0003203 | .013210 | .0003056 | .000082 |
| %RSD | 7.446232 | .3872257 | .5087620 | .2798600 | 3.196962 | 400.9456 |
| #1 | .0169924 | 3.581825 | .0633234 | 4.733892 | .0099130 | -.000086 |
| #2 | .0193728 | 3.564488 | .0628047 | 4.707544 | .0093770 | -.000047 |
| #3 | .0194069 | 3.591889 | .0627385 | 4.719033 | .0093906 | .000071 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.774856** | **.0068547** | **.1704243** | **-.341693** | **.0847896** | **.1645759** |
| Stddev | .008808 | .0000907 | .0030710 | .026331 | .0014678 | .0004702 |
| %RSD | .0901080 | 1.323372 | 1.801961 | 7.706163 | 1.731167 | .2857235 |
| #1 | 9.769291 | .0068152 | .1726643 | -.321705 | .0847177 | .1651186 |
| #2 | 9.785011 | .0067905 | .1716850 | -.371529 | .0833590 | .1643191 |
| #3 | 9.770265 | .0069585 | .1669236 | -.331844 | .0862921 | .1642899 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: Q1106-13 Acquired: 3/4/2025 20:36:12 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F6 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0094911 | F 13.70528 | 4.314732 | -.001522 | .0807129 | -.001010 |
| Stddev | .0000839 | .04253 | .043840 | .000470 | .0005215 | .001023 |
| %RSD | .8842483 | .3103050 | 1.016047 | 30.86662 | .6460620 | 101.2310 |
| #1 | .0094427 | 13.71881 | 4.365225 | -.001533 | .0801389 | .000157 |
| #2 | .0095880 | 13.65763 | 4.292603 | -.001987 | .0811574 | -.001750 |
| #3 | .0094426 | 13.73939 | 4.286367 | -.001047 | .0808424 | -.001437 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .1223303 |
| Stddev | .0007021 |
| %RSD | .5739021 |
| #1 | .1216436 |
| #2 | .1223004 |
| #3 | .1230468 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3580.967 | 78811.00 | 17092.04 | 3260.112 | 4958.212 |
| Stddev | 11.303 | 69.17 | 70.22 | 4.459 | 7.072 |
| %RSD | .3156532 | .0877651 | .4108636 | .1367601 | .1426335 |
| #1 | 3589.001 | 78795.96 | 17031.97 | 3255.368 | 4964.998 |
| #2 | 3585.860 | 78886.45 | 17074.90 | 3264.216 | 4958.753 |
| #3 | 3568.042 | 78750.59 | 17169.25 | 3260.754 | 4950.885 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCV003 Acquired: 3/4/2025 20:40:15 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV003 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.726090** | **4.513728** | **23.78173** | **4.700724** | **4.742152** | **376.3899** |
| Stddev | .011394 | .017772 | .01976 | .012762 | .013749 | 1.8790 |
| %RSD | .2410855 | .3937357 | .0830695 | .2714934 | .2899292 | .4992285 |
| #1 | 4.738384 | 4.528265 | 23.80006 | 4.715225 | 4.737683 | 376.4748 |
| #2 | 4.715885 | 4.519005 | 23.76081 | 4.691201 | 4.731193 | 374.4698 |
| #3 | 4.723999 | 4.493916 | 23.78432 | 4.695747 | 4.757579 | 378.2250 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **10.15828** | **.4898919** | **2.415943** | **393.2144** | **14.98288** | **2.422810** |
| Stddev | .08746 | .0035264 | .003182 | 1.2686 | .04288 | .000952 |
| %RSD | .8610182 | .7198229 | .1317065 | .3226268 | .2861796 | .0392752 |
| #1 | 10.06654 | .4860639 | 2.418420 | 394.5471 | 15.01653 | 2.421915 |
| #2 | 10.16758 | .4906041 | 2.417056 | 392.0214 | 14.93460 | 2.423810 |
| #3 | 10.24072 | .4930079 | 2.412354 | 393.0749 | 14.99750 | 2.422706 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **14.70306** | **389.6944** | **15.12838** | **386.2387** | **2.420497** | **1.256258** |
| Stddev | .02755 | 2.3944 | .11487 | 2.0436 | .000433 | .001673 |
| %RSD | .1873457 | .6144307 | .7592922 | .5291149 | .0178686 | .1331725 |
| #1 | 14.73106 | 392.4504 | 15.25489 | 388.5019 | 2.420081 | 1.258157 |
| #2 | 14.70213 | 388.1253 | 15.03062 | 384.5283 | 2.420944 | 1.255003 |
| #3 | 14.67599 | 388.5075 | 15.09961 | 385.6858 | 2.420466 | 1.255613 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **393.7167** | **2.461645** | **14.88838** | **148.8766** | **5.019476** | F **5.857300** |
| Stddev | .4199 | .002714 | .10650 | 1.3338 | .015060 | .024041 |
| %RSD | .1066521 | .1102387 | .7153212 | .8959115 | .3000292 | .4104372 |
| #1 | 394.1760 | 2.458993 | 15.00958 | 150.3736 | 5.005034 | 5.830197 |
| #2 | 393.3525 | 2.461527 | 14.84578 | 148.4414 | 5.035085 | 5.865652 |
| #3 | 393.6215 | 2.464416 | 14.80977 | 147.8147 | 5.018308 | 5.876051 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCV003 Acquired: 3/4/2025 20:40:15 Type: Unk
Method: EPA SFAM01.0(v66) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV003 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.744694** | **4.895404** | **4.990853** | **4.800402** | **4.995427** | **5.008811** |
| Stddev | .003775 | .021529 | .013061 | .006405 | .011923 | .055491 |
| %RSD | .0795572 | .4397828 | .2617084 | .1334348 | .2386693 | 1.107877 |
| #1 | 4.748156 | 4.881429 | 4.999888 | 4.807768 | 5.005911 | 5.071386 |
| #2 | 4.745255 | 4.920197 | 4.975877 | 4.797293 | 4.982458 | 4.989466 |
| #3 | 4.740670 | 4.884587 | 4.996793 | 4.796144 | 4.997914 | 4.965581 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | **4.927389** |
| Stddev | .065602 |
| %RSD | 1.331383 |
| #1 | 4.981529 |
| #2 | 4.854435 |
| #3 | 4.946203 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2826.999** | **64899.19** | **15315.71** | **2655.026** | **3551.947** |
| Stddev | 2.446 | 244.29 | 78.74 | 9.354 | 4.496 |
| %RSD | .0865286 | .3764083 | .5140843 | .3523295 | .1265654 |
| #1 | 2826.734 | 64683.12 | 15380.27 | 2644.306 | 3551.460 |
| #2 | 2829.566 | 65164.26 | 15338.87 | 2661.531 | 3556.667 |
| #3 | 2824.695 | 64850.18 | 15227.99 | 2659.241 | 3547.715 |

Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCB003 Acquired: 3/4/2025 20:48:52 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **-.000135** | **.0024092** | **-.000317** | **.0002701** | **-.000235** | **.0073081** | **-.000401** |
| Stddev | .000778 | .0012576 | .000547 | .0015375 | .001413 | .0017551 | .000424 |
| %RSD | 575.1495 | 52.20221 | 172.5870 | 569.1886 | 601.9701 | 24.01611 | 105.7207 |
| #1 | -.000784 | .0029093 | -.000913 | -.001379 | -.000885 | .0052921 | -.000281 |
| #2 | .000727 | .0009784 | .000161 | .000526 | .001386 | .0084955 | -.000872 |
| #3 | -.000348 | .0033398 | -.000198 | .001663 | -.001205 | .0081367 | -.000050 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000007** | **-.000022** | **.0087861** | **.0002266** | **.0003355** | **.0009210** | **.0086561** |
| Stddev | .000035 | .000017 | .0017310 | .0001804 | .0001238 | .0017092 | .0058412 |
| %RSD | 504.2865 | 76.69919 | 19.70114 | 79.64019 | 36.90837 | 185.5744 | 67.48109 |
| #1 | -.000008 | -.000004 | .0106861 | .0000932 | .0002145 | -.000962 | .0127602 |
| #2 | .000028 | -.000025 | .0083737 | .0004319 | .0004620 | .002374 | .0112396 |
| #3 | -.000042 | -.000037 | .0072987 | .0001546 | .0003299 | .001351 | .0019686 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002925** | **.0026437** | **.0000386** | **-.000165** | **.1329592** | **.0011787** | **.0007295** |
| Stddev | .0000642 | .0100018 | .0004301 | .000124 | .1747887 | .0018551 | .0003718 |
| %RSD | 21.93453 | 378.3340 | 1114.201 | 75.01572 | 131.4605 | 157.3901 | 50.95935 |
| #1 | .0002234 | -.006667 | -.000379 | -.000294 | .1334369 | .0001278 | .0003763 |
| #2 | .0003501 | .001381 | .000015 | -.000048 | .3075085 | .0033206 | .0006948 |
| #3 | .0003041 | .013217 | .000480 | -.000153 | -.042068 | .0000876 | .0011174 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.012762** | **.0018326** | **.0005389** | **.0002609** | **.0028406** | **.0074652** | **-.000236** |
| Stddev | .015336 | .0018285 | .0004477 | .0000301 | .0031441 | .0021999 | .000349 |
| %RSD | 120.1665 | 99.77864 | 83.08273 | 11.55568 | 110.6853 | 29.46862 | 147.5786 |
| #1 | -.017476 | -.000261 | .0001726 | .0002594 | .0038378 | .0099972 | -.000544 |
| #2 | -.025187 | .003118 | .0010380 | .0002315 | .0053651 | .0063751 | .000143 |
| #3 | .004377 | .002640 | .0004061 | .0002917 | -.000681 | .0060231 | -.000308 |

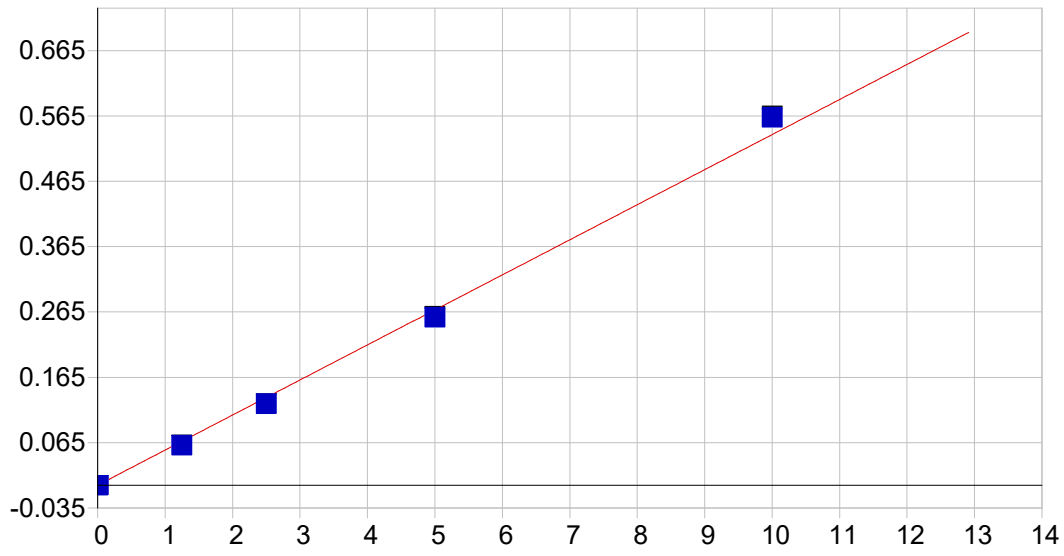
Reviewed By:kareem
On:3/7/2025 12:25:37 PM
Inst Id :P4

Sample Name: CCB003 Acquired: 3/4/2025 20:48:52 Type: Unk
Method: EPA SFAM01.0(v66) 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 | **-.000802** | **.0000938** | **.0000743** |
| Stddev | .000736 | .0008025 | .0000325 |
| %RSD | 91.77745 | 855.2208 | 43.79483 |
| #1 | -.000216 | -.000346 | .0000661 |
| #2 | -.000562 | -.000393 | .0001101 |
| #3 | -.001628 | .001020 | .0000466 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3654.927** | **80064.34** | **16449.11** | **3364.540** | **5147.399** |
| Stddev | 8.094 | 67.33 | 12.65 | 11.441 | 5.063 |
| %RSD | .2214584 | .0840888 | .0768957 | .3400530 | .0983639 |
| #1 | 3651.903 | 80111.07 | 16442.17 | 3364.180 | 5142.818 |
| #2 | 3648.780 | 80094.77 | 16441.45 | 3376.157 | 5146.545 |
| #3 | 3664.097 | 79987.17 | 16463.71 | 3353.283 | 5152.835 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



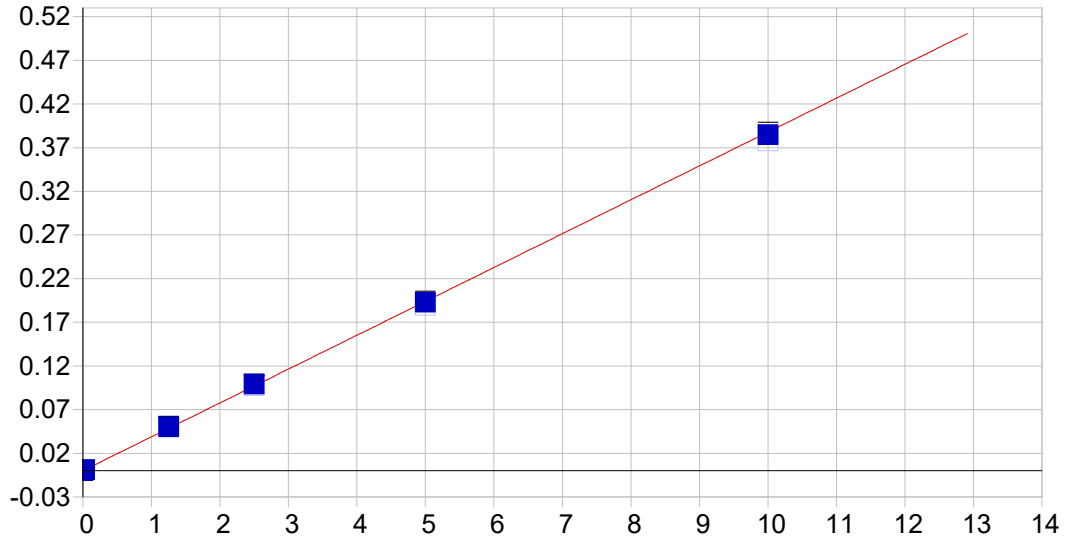

**As 189.042 {479}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000175 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.053674 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998523 | Status: | OK. |
| Std Error of Est: | 0.000049 | | |
| Predicted MDL: | 0.002746 | | |
| Predicted MQL: | 0.009153 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00018 | .000 | 1 |
| S1 | .01000 | .01080 | .001 | 8.00 | .00040 | .000 | 1 |
| S3 | 2.5000 | 2.3243 | -.176 | -7.03 | .12434 | .000 | 1 |
| S4 | 5.0000 | 4.7897 | -.210 | -4.21 | .25643 | .002 | 1 |
| S5 | 10.000 | 10.495 | .495 | 4.95 | .56216 | .002 | 1 |
| S2 | 1.2500 | 1.1405 | -.110 | -8.76 | .06092 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



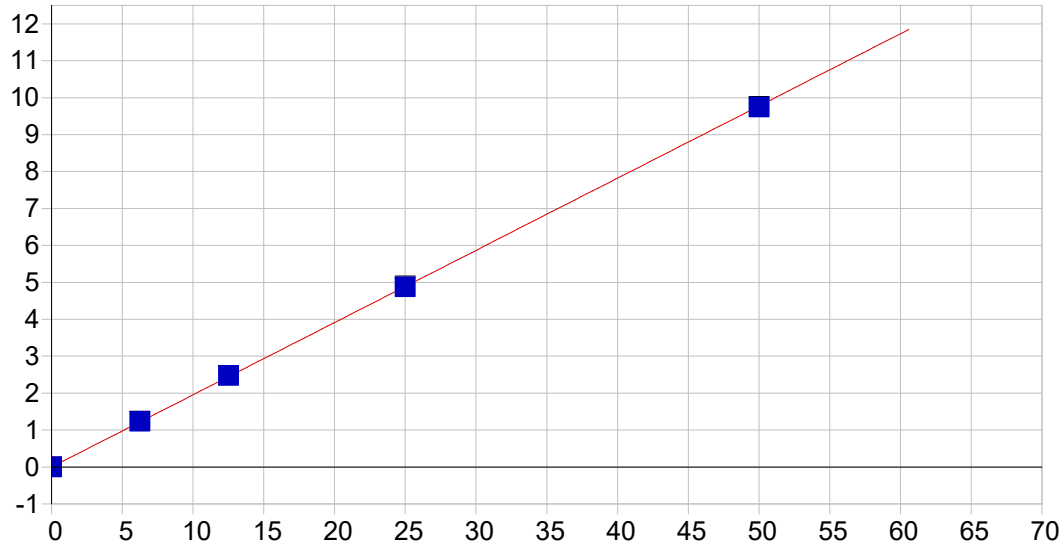

**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.038784 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999883 | Status: | OK. |
| Std Error of Est: | 0.000015 | | |
| Predicted MDL: | 0.002879 | | |
| Predicted MQL: | 0.009595 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00002 | .000 | 1 |
| S1 | .02500 | .02878 | .004 | 15.1 | .00109 | .000 | 1 |
| S3 | 2.5000 | 2.5519 | .052 | 2.08 | .09712 | .000 | 1 |
| S4 | 5.0000 | 4.9715 | -.028 | -.569 | .18908 | .001 | 1 |
| S5 | 10.000 | 9.9248 | -.075 | -.752 | .37744 | .003 | 1 |
| S2 | 1.2500 | 1.2981 | .048 | 3.84 | .04942 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



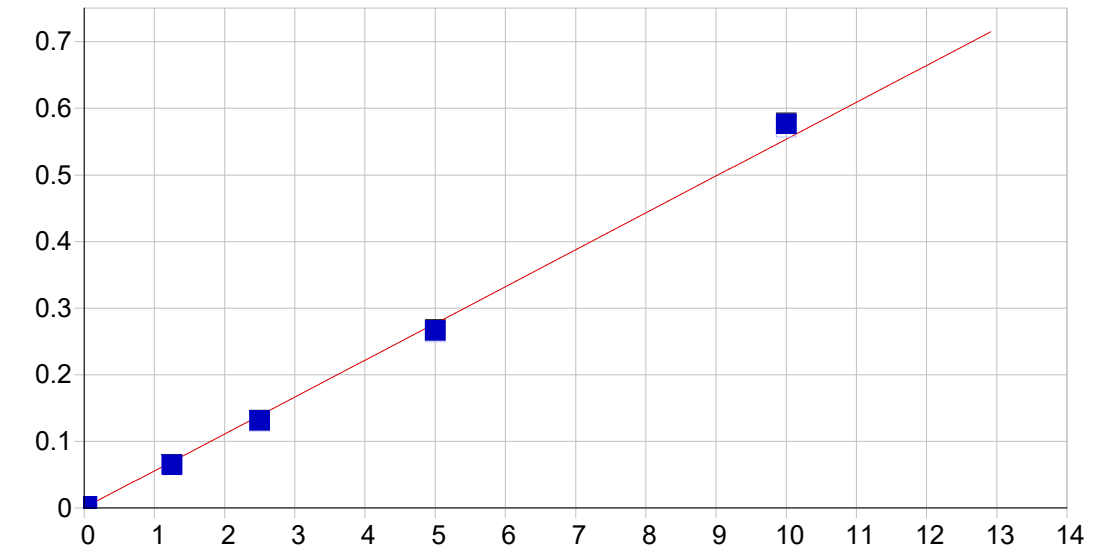

**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000254 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.195513 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000046 | | |
| Predicted MDL: | 0.001478 | | |
| Predicted MQL: | 0.004926 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00025 | .000 | 1 |
| S1 | .01000 | .01052 | .001 | 5.20 | .00179 | .000 | 1 |
| S3 | 12.500 | 12.641 | .141 | 1.12 | 2.4691 | .007 | 1 |
| S4 | 25.000 | 24.945 | -.055 | -.219 | 4.8728 | .021 | 1 |
| S5 | 50.000 | 49.824 | -.176 | -.353 | 9.7327 | .019 | 1 |
| S2 | 6.2500 | 6.3402 | .090 | 1.44 | 1.2383 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



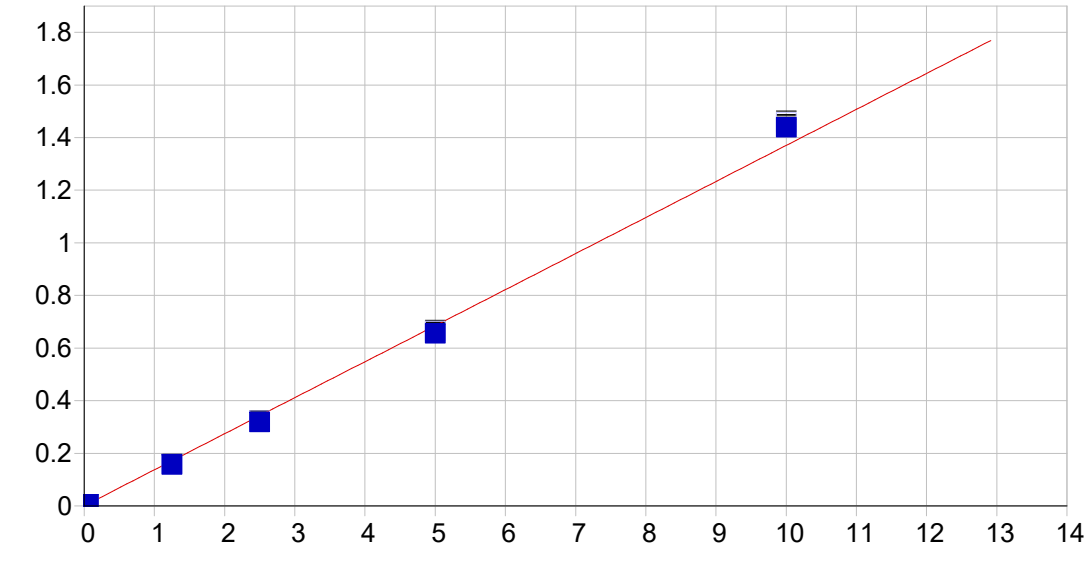

**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000324 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.055335 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998994 | Status: | OK. |
| Std Error of Est: | 0.000077 | | |
| Predicted MDL: | 0.003238 | | |
| Predicted MQL: | 0.010792 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00032 | .000 | 1 |
| S1 | .03500 | .03155 | -.003 | -9.86 | .00207 | .000 | 1 |
| S3 | 2.5000 | 2.3621 | -.138 | -5.52 | .12975 | .001 | 1 |
| S4 | 5.0000 | 4.8094 | -.191 | -3.81 | .26390 | .001 | 1 |
| S5 | 10.000 | 10.411 | .411 | 4.11 | .57133 | .002 | 1 |
| S2 | 1.2500 | 1.1706 | -.079 | -6.35 | .06446 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



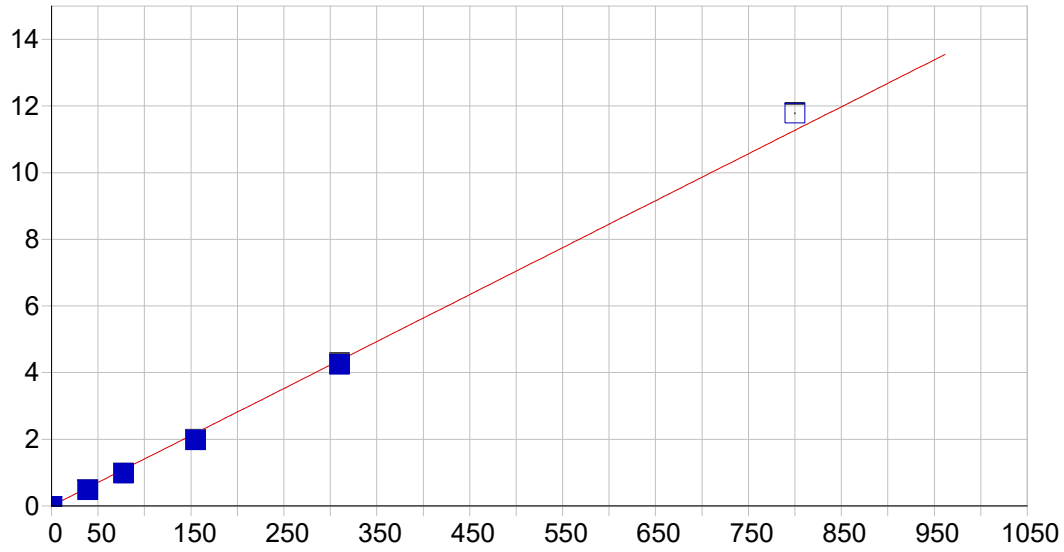

**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000252 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.136982 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998555 | Status: | OK. |
| Std Error of Est: | 0.000307 | | |
| Predicted MDL: | 0.001644 | | |
| Predicted MQL: | 0.005479 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00025 | .000 | 1 |
| S1 | .06000 | .05492 | -.005 | -8.46 | .00776 | .000 | 1 |
| S3 | 2.5000 | 2.3282 | -.172 | -6.87 | .32375 | .001 | 1 |
| S4 | 5.0000 | 4.7834 | -.217 | -4.33 | .66462 | .003 | 1 |
| S5 | 10.000 | 10.501 | .501 | 5.01 | 1.4569 | .006 | 1 |
| S2 | 1.2500 | 1.1426 | -.107 | -8.59 | .15906 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



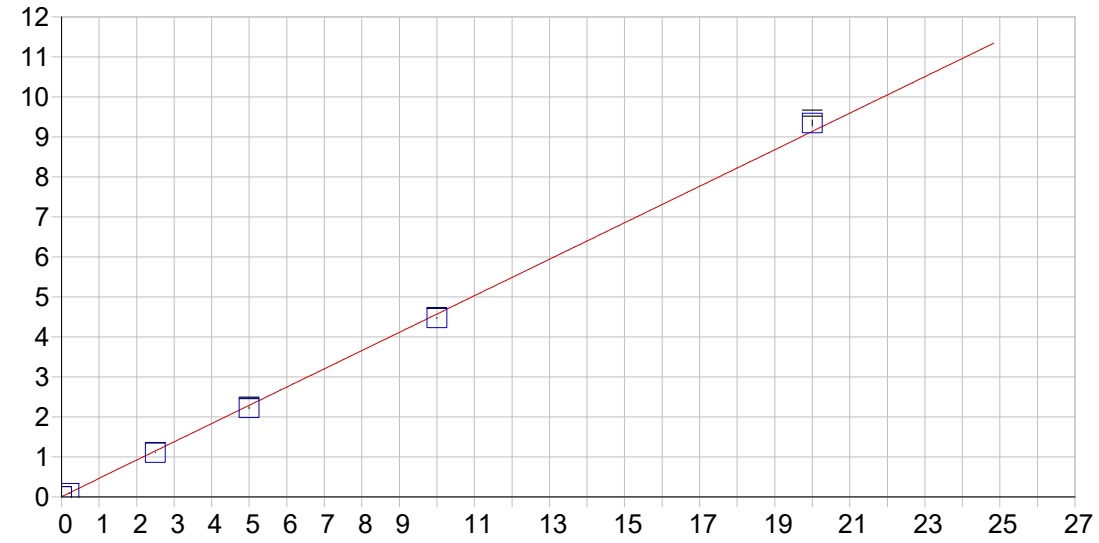

**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000123 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.014091 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998299 | Status: | OK. |
| Std Error of Est: | 0.000512 | | |
| Predicted MDL: | 0.007776 | | |
| Predicted MQL: | 0.025921 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00010 | .000 | .000 | .00012 | .000 | 1 |
| S1 | .20000 | .15898 | -.041 | -20.5 | .00237 | .000 | 1 |
| S3 | 77.500 | 69.319 | -8.18 | -10.6 | .97817 | .004 | 1 |
| S4 | 155.00 | 140.41 | -14.6 | -9.41 | 1.9812 | .015 | 1 |
| S5 | 310.00 | 301.46 | -8.54 | -2.75 | 4.2531 | .036 | 1 |
| S2 | 38.750 | 33.933 | -4.82 | -12.4 | .47890 | .001 | 1 |
| S6 | 800.00 | 836.21 | 36.2 | 4.53 | 11.783 | .020 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



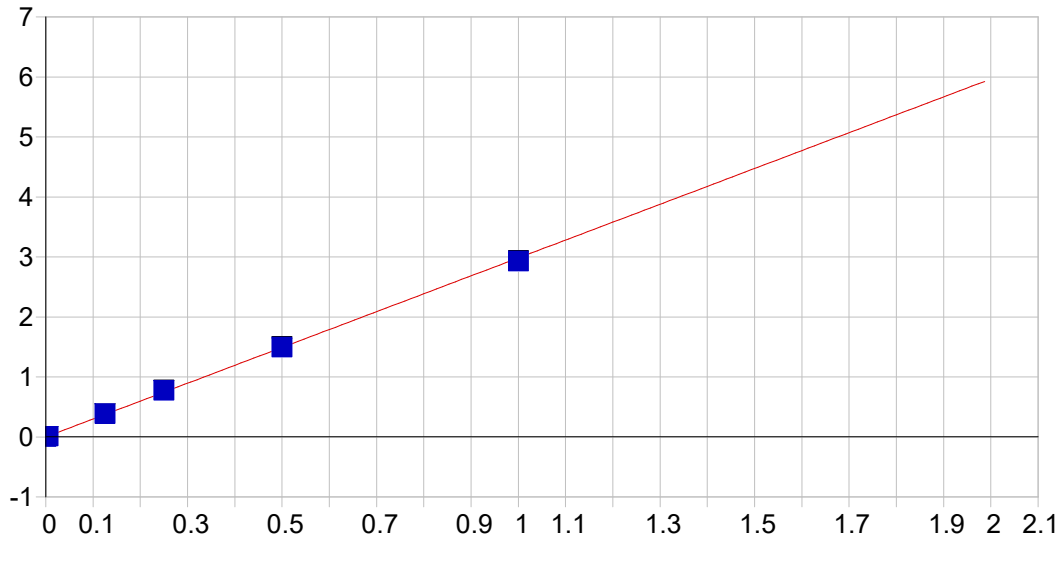

**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.007602 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.456430 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999673 | Status: | OK. |
| Std Error of Est: | 0.001242 | | |
| Predicted MDL: | 0.000847 | | |
| Predicted MQL: | 0.002823 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00004 | .000 | .000 | .00762 | .000 | 1 |
| S1 | .20000 | .17705 | -.023 | -11.5 | .08842 | .000 | 1 |
| S3 | 5.0000 | 4.8641 | -.136 | -2.72 | 2.2277 | .023 | 1 |
| S4 | 10.000 | 9.7878 | -.212 | -2.12 | 4.4751 | .010 | 1 |
| S5 | 20.000 | 20.461 | .461 | 2.31 | 9.3466 | .074 | 1 |
| S2 | 2.5000 | 2.4100 | -.090 | -3.60 | 1.1076 | .004 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



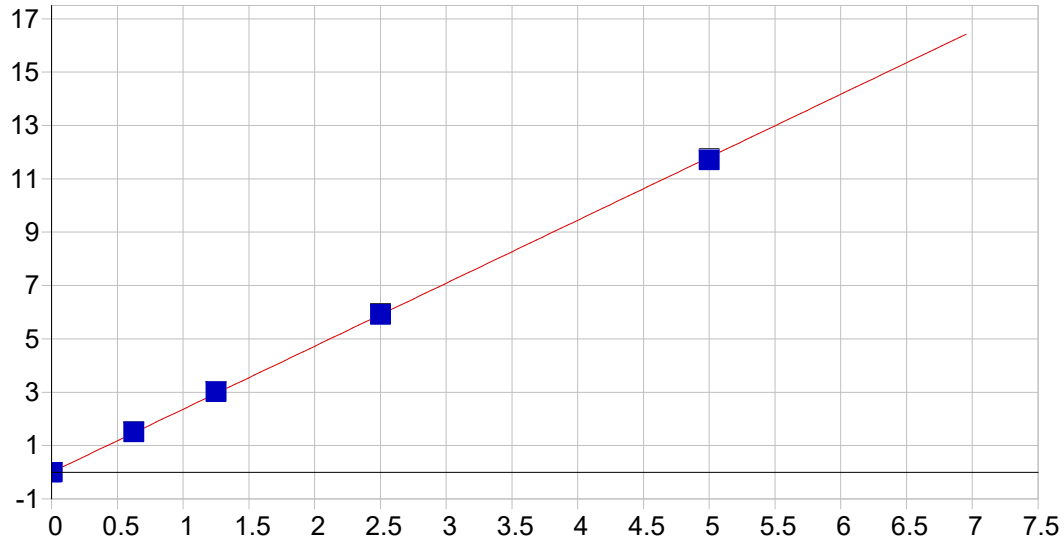

**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000074 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.982524 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999757 | Status: | OK. |
| Std Error of Est: | 0.000246 | | |
| Predicted MDL: | 0.000081 | | |
| Predicted MQL: | 0.000269 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00008 | .000 | 1 |
| S1 | .00500 | .00521 | .000 | 4.11 | .01543 | .000 | 1 |
| S3 | .25000 | .26023 | .010 | 4.09 | .77271 | .003 | 1 |
| S4 | .50000 | .50126 | .001 | .252 | 1.4882 | .013 | 1 |
| S5 | 1.0000 | .98332 | -.017 | -1.67 | 2.9193 | .008 | 1 |
| S2 | .12500 | .12998 | .005 | 3.98 | .38591 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



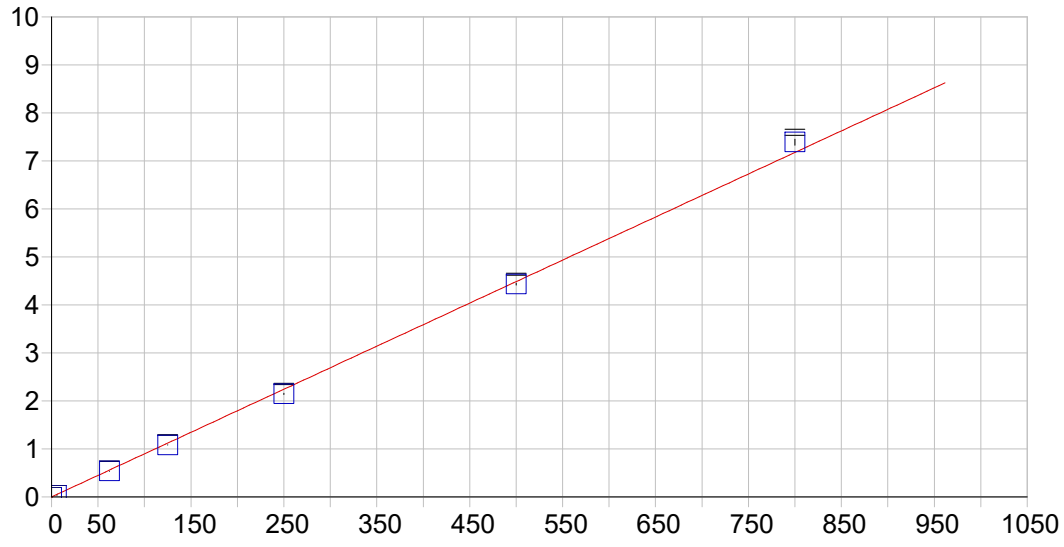

**Cd 214.438 {457}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000037 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.362019 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999939 | Status: | OK. |
| Std Error of Est: | 0.000219 | | |
| Predicted MDL: | 0.000079 | | |
| Predicted MQL: | 0.000263 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00004 | .000 | 1 |
| S1 | .00500 | .00492 | -.000 | -1.56 | .01160 | .000 | 1 |
| S3 | 1.2500 | 1.2763 | .026 | 2.11 | 3.0205 | .006 | 1 |
| S4 | 2.5000 | 2.5036 | .004 | .144 | 5.9252 | .020 | 1 |
| S5 | 5.0000 | 4.9580 | -.042 | -.840 | 11.734 | .017 | 1 |
| S2 | .62500 | .63713 | .012 | 1.94 | 1.5078 | .002 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



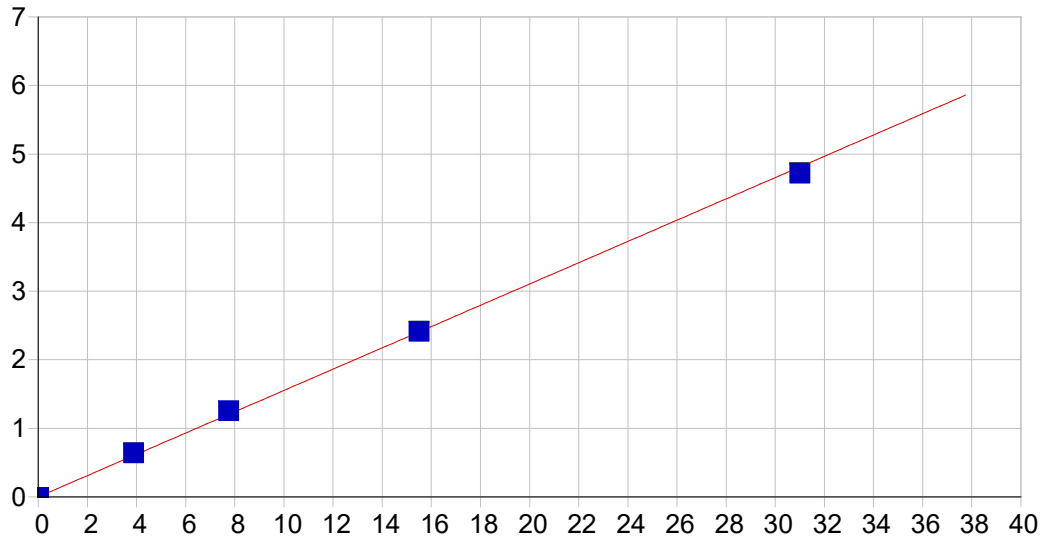

**Ca 373.690 { 90}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000071 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.008971 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999558 | Status: | OK. |
| Std Error of Est: | 0.000931 | | |
| Predicted MDL: | 0.009393 | | |
| Predicted MQL: | 0.031311 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00096 | .001 | .000 | .00008 | .000 | 1 |
| S2 | 62.500 | 59.940 | -2.56 | -4.10 | .53779 | .001 | 1 |
| S3 | 125.00 | 120.65 | -4.35 | -3.48 | 1.0824 | .003 | 1 |
| S4 | 250.00 | 239.24 | -10.8 | -4.31 | 2.1463 | .013 | 1 |
| S5 | 500.00 | 494.23 | -5.77 | -1.15 | 4.4338 | .021 | 1 |
| S1 | 5.0000 | 4.5468 | -.453 | -9.06 | .04086 | .000 | 1 |
| S6 | 800.00 | 823.90 | 23.9 | 2.99 | 7.3912 | .063 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



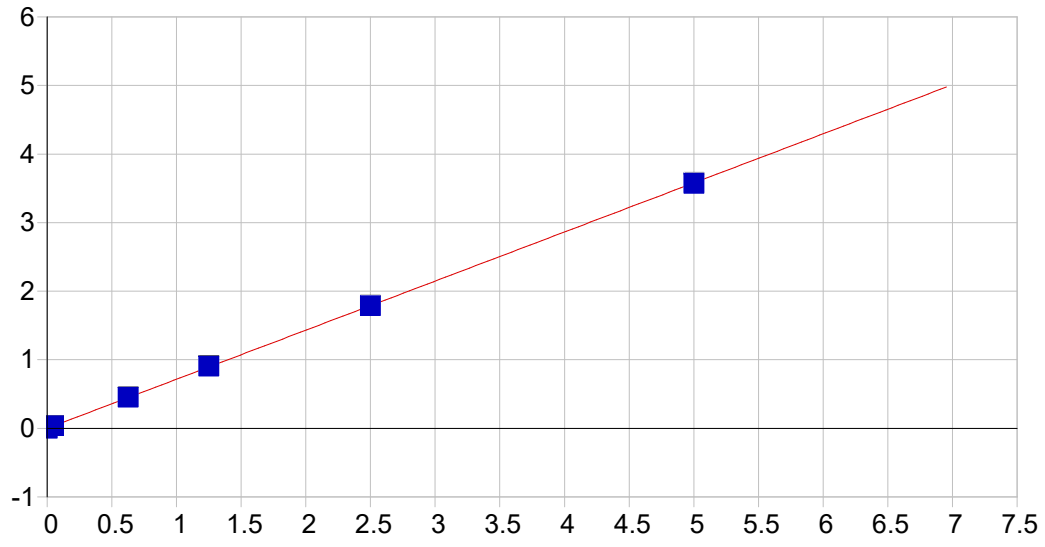

**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000112 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.155242 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999635 | Status: | OK. |
| Std Error of Est: | 0.000124 | | |
| Predicted MDL: | 0.000432 | | |
| Predicted MQL: | 0.001438 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00011 | .000 | 1 |
| S1 | .01000 | .01066 | .001 | 6.64 | .00177 | .000 | 1 |
| S3 | 7.7500 | 8.0934 | .343 | 4.43 | 1.2580 | .000 | 1 |
| S4 | 15.500 | 15.531 | .031 | .201 | 2.4141 | .003 | 1 |
| S5 | 31.000 | 30.384 | -.616 | -1.99 | 4.7228 | .010 | 1 |
| S2 | 3.8750 | 4.1159 | .241 | 6.22 | .63980 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



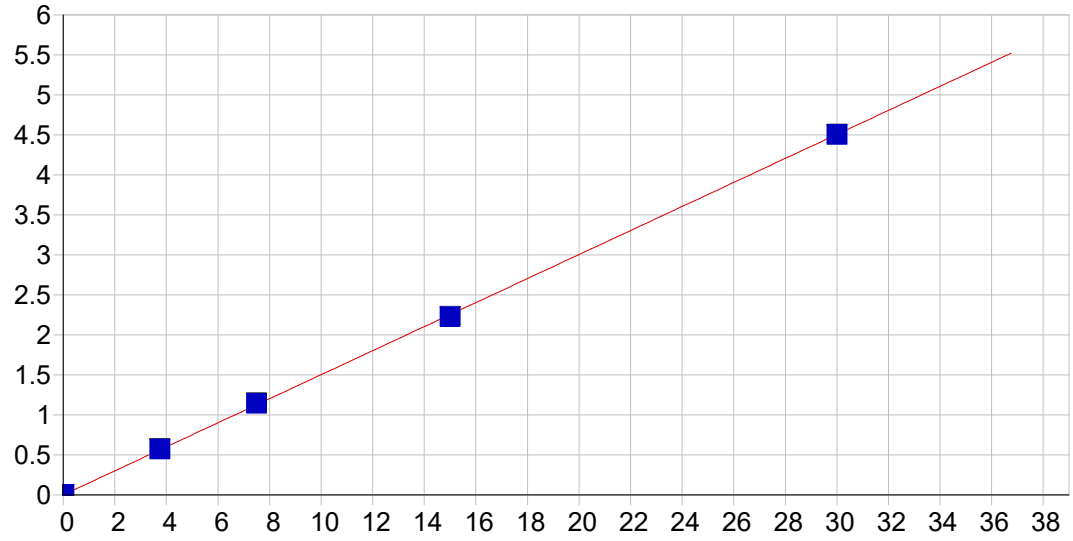

**Co 228.616 {448}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000083 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.715878 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999980 | Status: | OK. |
| Std Error of Est: | 0.000120 | | |
| Predicted MDL: | 0.000281 | | |
| Predicted MQL: | 0.000936 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00008 | .000 | 1 |
| S1 | .05000 | .04918 | -.001 | -1.65 | .03526 | .000 | 1 |
| S3 | 1.2500 | 1.2659 | .016 | 1.27 | .90952 | .002 | 1 |
| S4 | 2.5000 | 2.4924 | -.008 | -.306 | 1.7909 | .007 | 1 |
| S5 | 5.0000 | 4.9851 | -.015 | -.298 | 3.5822 | .007 | 1 |
| S2 | .62500 | .63250 | .007 | 1.20 | .45441 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



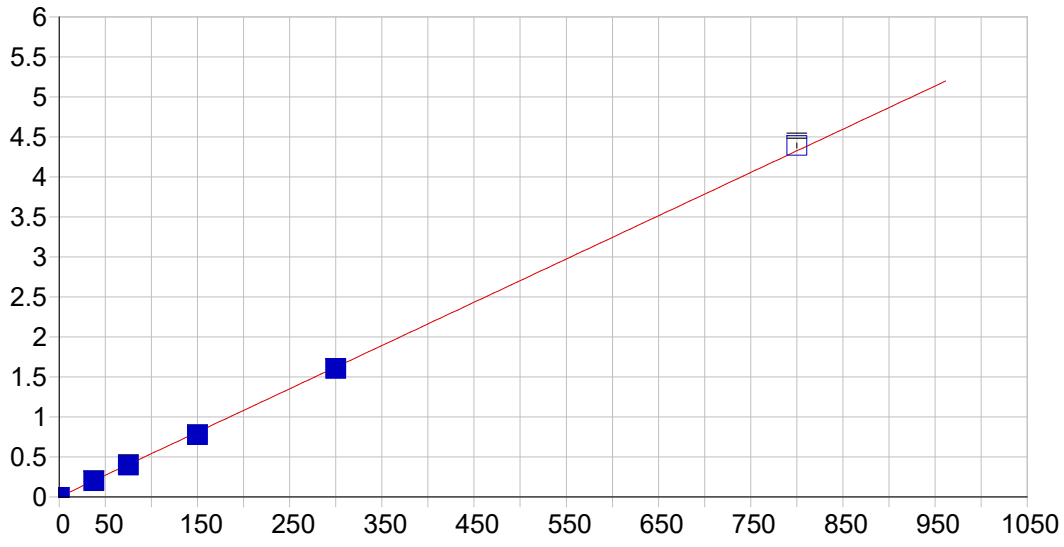

**Cu 324.754 {104}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000471 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.150201 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999952 | Status: | OK. |
| Std Error of Est: | 0.000068 | | |
| Predicted MDL: | 0.002093 | | |
| Predicted MQL: | 0.006976 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00047 | .000 | 1 |
| S1 | .02500 | .02860 | .004 | 14.4 | .00477 | .000 | 1 |
| S3 | 7.5000 | 7.6223 | .122 | 1.63 | 1.1452 | .002 | 1 |
| S4 | 15.000 | 14.826 | -.174 | -1.16 | 2.2271 | .003 | 1 |
| S5 | 30.000 | 29.991 | -.009 | -.030 | 4.5047 | .004 | 1 |
| S2 | 3.7500 | 3.8073 | .057 | 1.53 | .57228 | .002 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



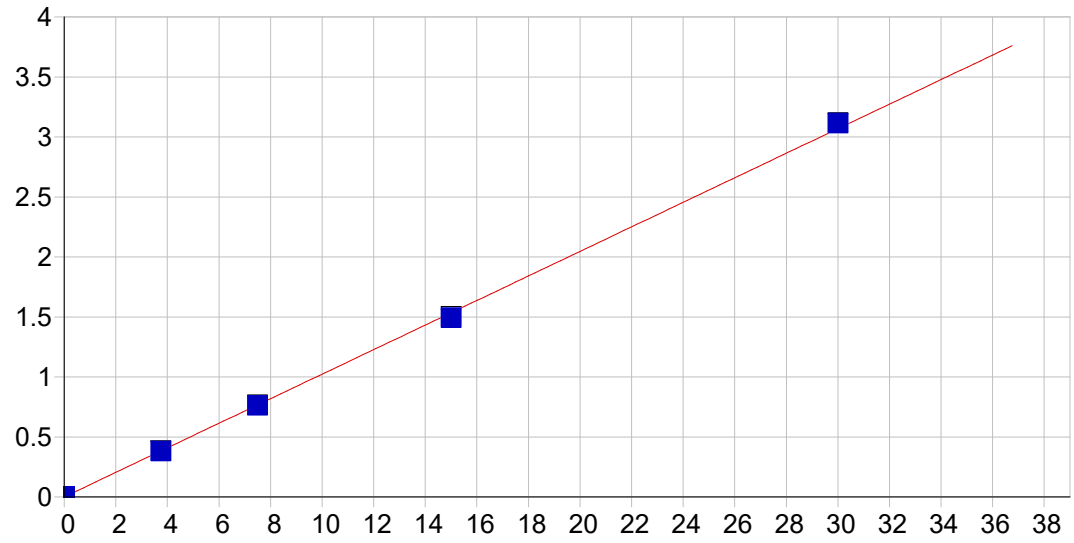

**Fe 259.837 {130}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000048 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.005406 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999796 | Status: | OK. |
| Std Error of Est: | 0.000048 | | |
| Predicted MDL: | 0.006240 | | |
| Predicted MQL: | 0.020800 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00005 | .000 | 1 |
| S1 | .10000 | .09457 | -.005 | -5.43 | .00055 | .000 | 1 |
| S3 | 75.000 | 73.522 | -1.48 | -1.97 | .39712 | .001 | 1 |
| S4 | 150.00 | 143.40 | -6.60 | -4.40 | .77451 | .005 | 1 |
| S5 | 300.00 | 296.42 | -3.58 | -1.19 | 1.6010 | .002 | 1 |
| S2 | 37.500 | 36.968 | -.532 | -1.42 | .19970 | .001 | 1 |
| S6 | 800.00 | 812.18 | 12.2 | 1.52 | 4.3909 | .031 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



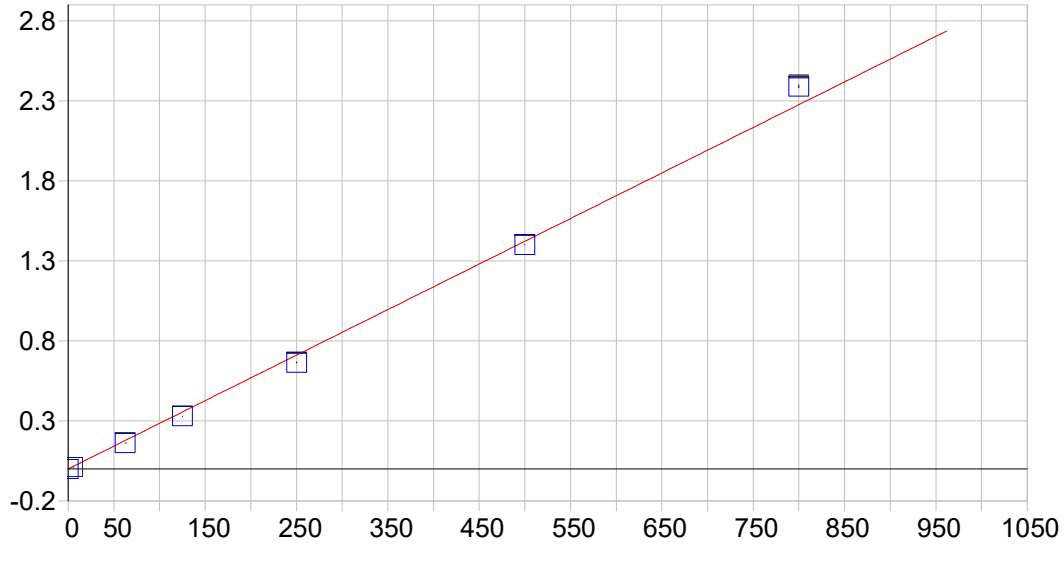

**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000019 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.102283 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999847 | Status: | OK. |
| Std Error of Est: | 0.000064 | | |
| Predicted MDL: | 0.000328 | | |
| Predicted MQL: | 0.001093 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00002 | .000 | 1 |
| S1 | .01500 | .01439 | -.001 | -4.07 | .00149 | .000 | 1 |
| S3 | 7.5000 | 7.4660 | -.034 | -.453 | .76313 | .002 | 1 |
| S4 | 15.000 | 14.603 | -.397 | -2.65 | 1.4926 | .010 | 1 |
| S5 | 30.000 | 30.441 | .441 | 1.47 | 3.1115 | .003 | 1 |
| S2 | 3.7500 | 3.7409 | -.009 | -.241 | .38239 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



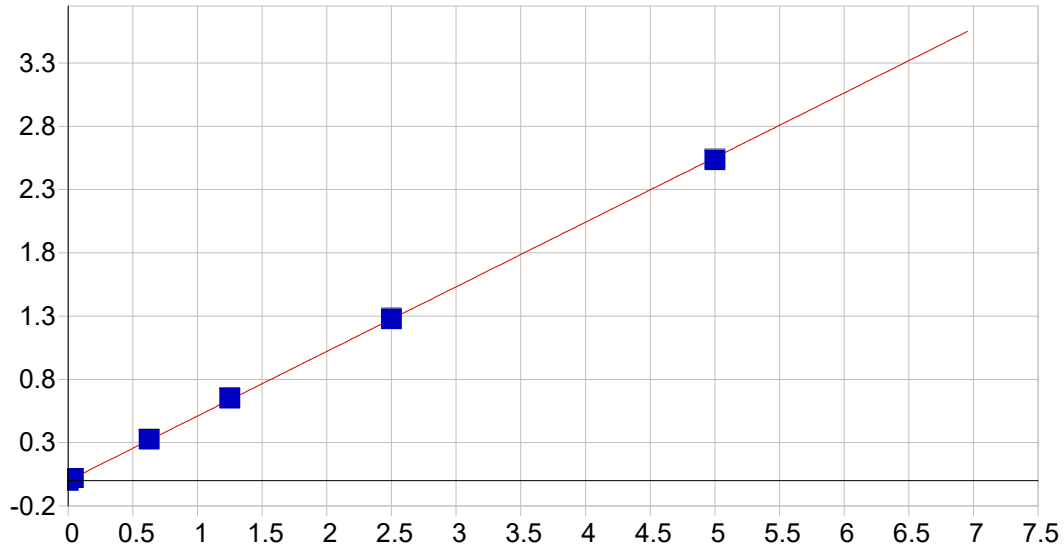

**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000060 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.002846 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998681 | Status: | OK. |
| Std Error of Est: | 0.000511 | | |
| Predicted MDL: | 0.015551 | | |
| Predicted MQL: | 0.051835 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00191 | .002 | .000 | -.00005 | .000 | 1 |
| S2 | 62.500 | 56.740 | -5.76 | -9.22 | .16141 | .000 | 1 |
| S3 | 125.00 | 115.71 | -9.29 | -7.43 | .32922 | .001 | 1 |
| S4 | 250.00 | 233.54 | -16.5 | -6.58 | .66454 | .003 | 1 |
| S5 | 500.00 | 492.28 | -7.72 | -1.54 | 1.4008 | .002 | 1 |
| S1 | 5.0000 | 4.0823 | -.918 | -18.4 | .01156 | .000 | 1 |
| S6 | 800.00 | 840.14 | 40.1 | 5.02 | 2.3907 | .009 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



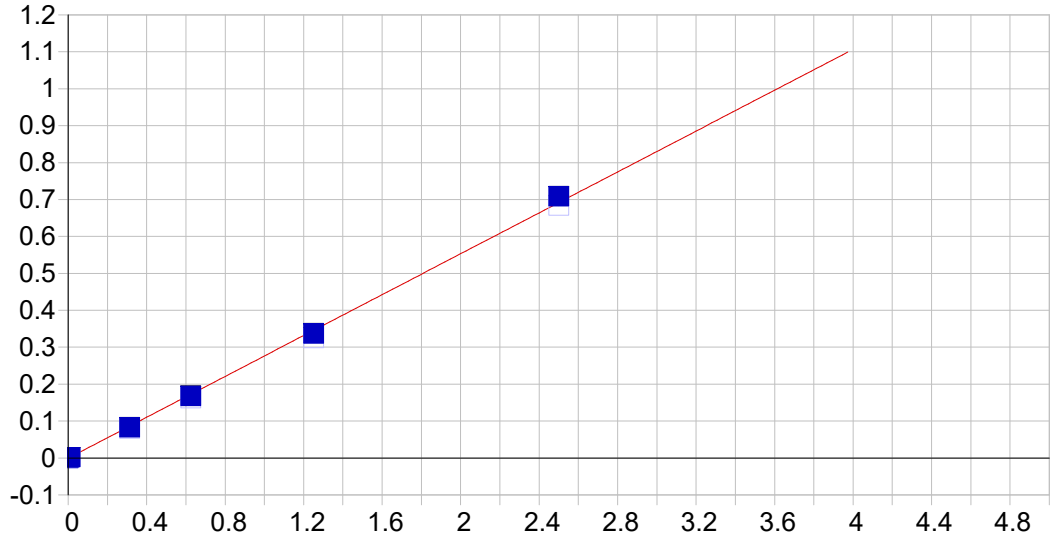

**Ni 231.604 {446}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000052 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.510539 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999944 | Status: | OK. |
| Std Error of Est: | 0.000129 | | |
| Predicted MDL: | 0.000440 | | |
| Predicted MQL: | 0.001466 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00005 | .000 | 1 |
| S1 | .04000 | .03971 | -.000 | -.737 | .02024 | .000 | 1 |
| S3 | 1.2500 | 1.2747 | .025 | 1.97 | .65221 | .002 | 1 |
| S4 | 2.5000 | 2.4997 | -.000 | -.011 | 1.2791 | .005 | 1 |
| S5 | 5.0000 | 4.9625 | -.038 | -.750 | 2.5395 | .003 | 1 |
| S2 | .62500 | .63842 | .013 | 2.15 | .32663 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



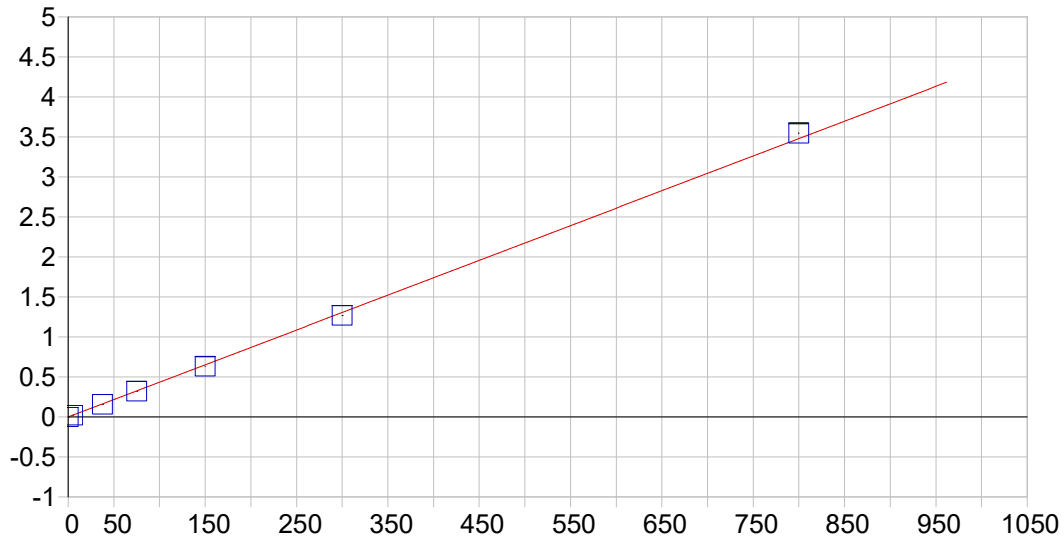

**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000514 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.276836 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999642 | Status: | OK. |
| Std Error of Est: | 0.000060 | | |
| Predicted MDL: | 0.000396 | | |
| Predicted MQL: | 0.001320 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00051 | .000 | 1 |
| S1 | .01000 | .00948 | -.001 | -5.19 | .00209 | .000 | 1 |
| S3 | .62500 | .60819 | -.017 | -2.69 | .16176 | .000 | 1 |
| S4 | 1.2500 | 1.2189 | -.031 | -2.49 | .32474 | .000 | 1 |
| S5 | 2.5000 | 2.5601 | .060 | 2.40 | .68382 | .001 | 1 |
| S2 | .31250 | .30082 | -.012 | -3.74 | .07971 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



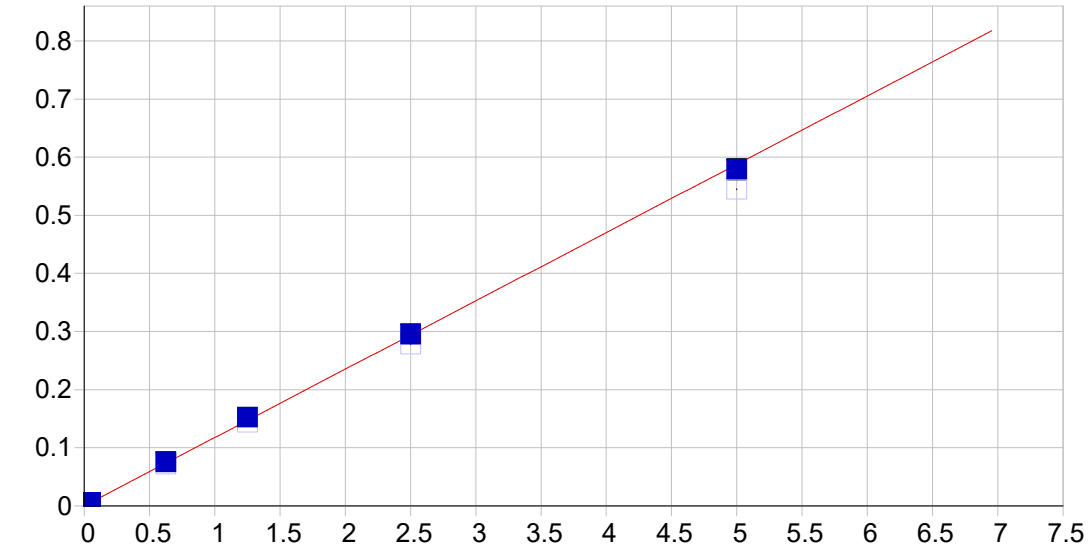

**Na 818.326 { 41}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.001100 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.004351 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999735 | Status: | OK. |
| Std Error of Est: | 0.000310 | | |
| Predicted MDL: | 0.218728 | | |
| Predicted MQL: | 0.729094 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00046 | .000 | .000 | -.00110 | .001 | 1 |
| S2 | 37.500 | 36.351 | -1.15 | -3.06 | .15705 | .001 | 1 |
| S3 | 75.000 | 73.949 | -1.05 | -1.40 | .32063 | .000 | 1 |
| S4 | 150.00 | 145.27 | -4.73 | -3.16 | .63090 | .002 | 1 |
| S5 | 300.00 | 291.66 | -8.34 | -2.78 | 1.2678 | .001 | 1 |
| S1 | 5.0000 | 4.9611 | -.039 | -.779 | .02048 | .000 | 1 |
| S6 | 800.00 | 815.31 | 15.3 | 1.91 | 3.5460 | .004 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



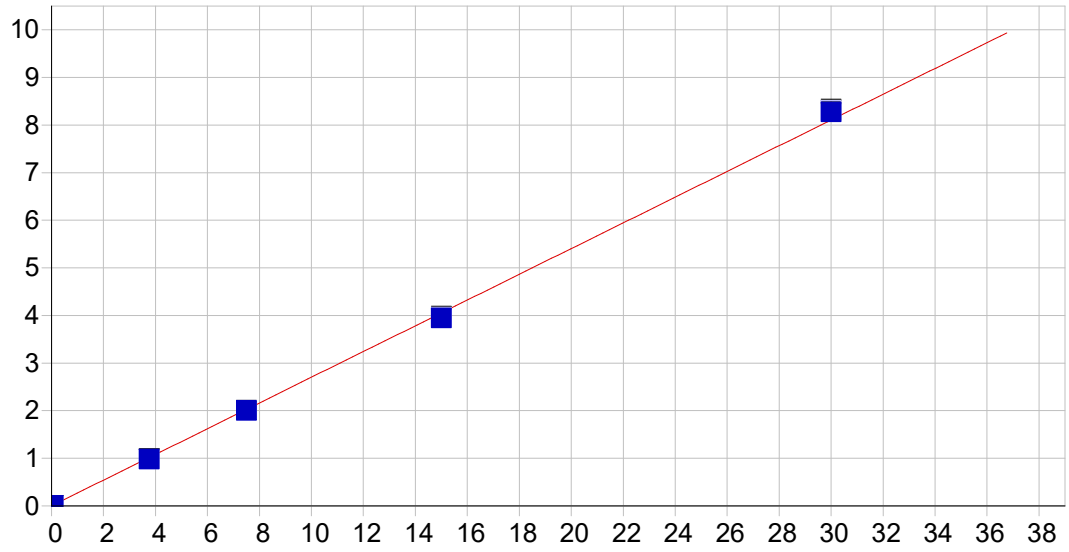

**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000196 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.117517 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999807 | Status: | OK. |
| Std Error of Est: | 0.000058 | | |
| Predicted MDL: | 0.001990 | | |
| Predicted MQL: | 0.006632 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00020 | .000 | 1 |
| S1 | .05000 | .05093 | .001 | 1.85 | .00617 | .000 | 1 |
| S3 | 1.2500 | 1.2948 | .045 | 3.58 | .14376 | .000 | 1 |
| S4 | 2.5000 | 2.5102 | .010 | .408 | .27801 | .001 | 1 |
| S5 | 5.0000 | 4.9266 | -.073 | -1.47 | .54479 | .001 | 1 |
| S2 | .62500 | .64250 | .018 | 2.80 | .07141 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



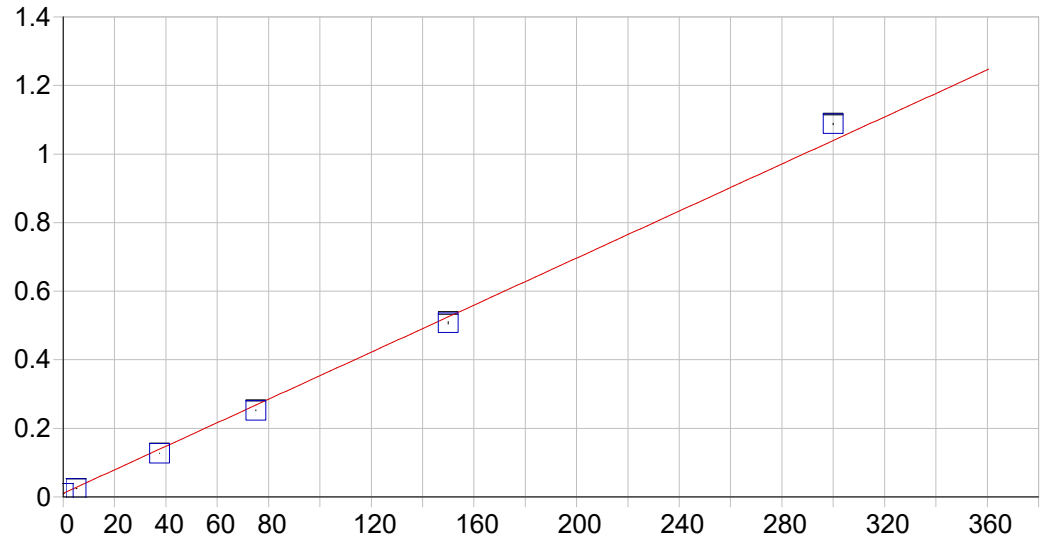

**Zn 213.856 {158}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000811 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.270214 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999742 | Status: | OK. |
| Std Error of Est: | 0.000438 | | |
| Predicted MDL: | 0.001518 | | |
| Predicted MQL: | 0.005059 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00081 | .000 | 1 |
| S1 | .06000 | .05310 | -.007 | -11.5 | .01525 | .000 | 1 |
| S3 | 7.5000 | 7.4041 | -.096 | -1.28 | 2.0091 | .003 | 1 |
| S4 | 15.000 | 14.609 | -.391 | -2.61 | 3.9635 | .026 | 1 |
| S5 | 30.000 | 30.620 | .620 | 2.07 | 8.3053 | .030 | 1 |
| S2 | 3.7500 | 3.6240 | -.126 | -3.36 | .98388 | .008 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



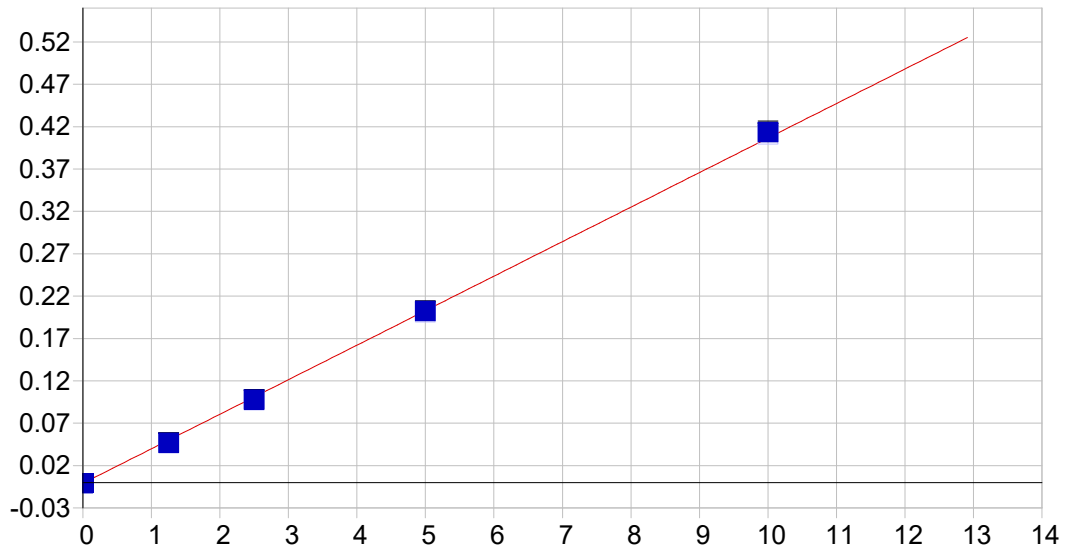

**K 769.896 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.010471 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.003430 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998565 | Status: | OK. |
| Std Error of Est: | 0.000379 | | |
| Predicted MDL: | 0.060283 | | |
| Predicted MQL: | 0.200943 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00170 | .002 | .000 | .01048 | .000 | 1 |
| S2 | 37.500 | 34.057 | -3.44 | -9.18 | .12730 | .001 | 1 |
| S3 | 75.000 | 70.461 | -4.54 | -6.05 | .25218 | .001 | 1 |
| S4 | 150.00 | 144.86 | -5.14 | -3.42 | .50741 | .004 | 1 |
| S5 | 300.00 | 314.12 | 14.1 | 4.71 | 1.0880 | .002 | 1 |
| S1 | 5.0000 | 4.0004 | -1.000 | -20.0 | .02419 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



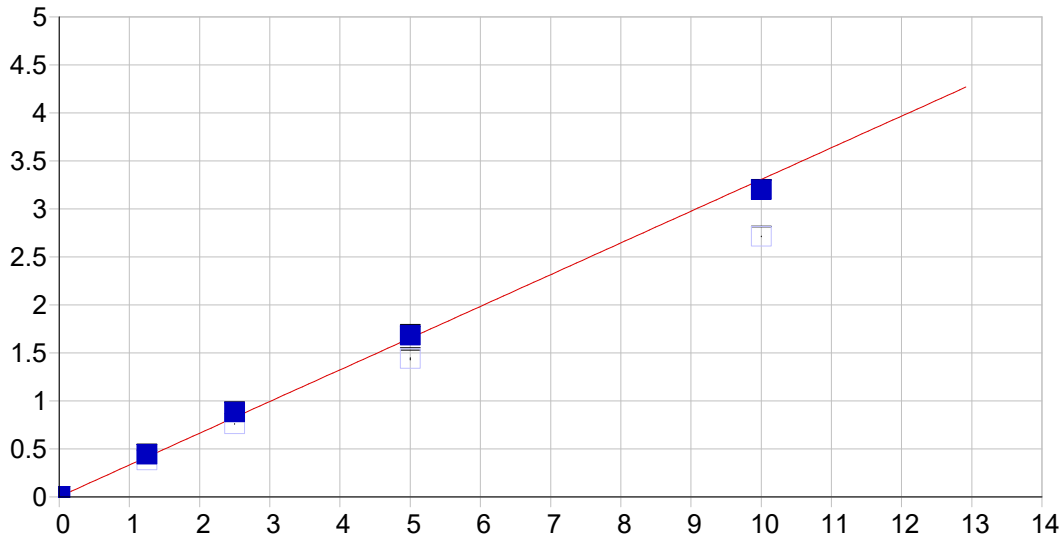

**P 177.495 {490}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000925 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.040747 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999716 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 0.002385 | | |
| Predicted MQL: | 0.007949 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00092 | .000 | 1 |
| S1 | .01000 | .01033 | .000 | 3.30 | -.00051 | .000 | 1 |
| S3 | 2.5000 | 2.4191 | -.081 | -3.24 | .09692 | .001 | 1 |
| S4 | 5.0000 | 4.9868 | -.013 | -.264 | .20082 | .000 | 1 |
| S5 | 10.000 | 10.172 | .172 | 1.72 | .41064 | .001 | 1 |
| S2 | 1.2500 | 1.1718 | -.078 | -6.26 | .04646 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



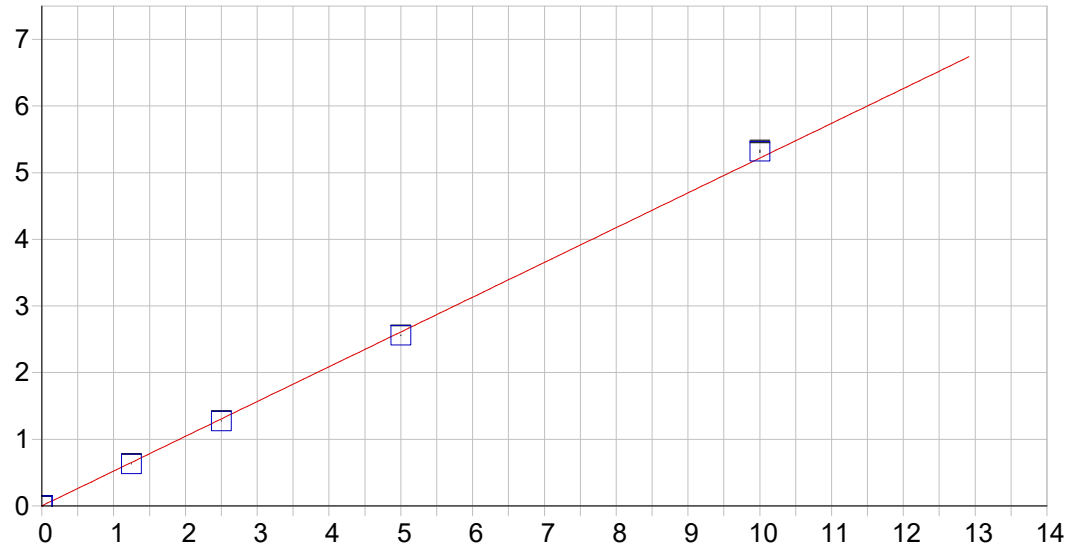

**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002409 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.330375 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998539 | Status: | OK. |
| Std Error of Est: | 0.000256 | | |
| Predicted MDL: | 0.000782 | | |
| Predicted MQL: | 0.002606 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00241 | .000 | 1 |
| S1 | .01000 | -.00063 | -.011 | -106. | .00203 | .000 | 1 |
| S3 | 2.5000 | 2.6623 | .162 | 6.49 | .76047 | .003 | 1 |
| S4 | 5.0000 | 5.0830 | .083 | 1.66 | 1.4387 | .011 | 1 |
| S5 | 10.000 | 9.6776 | -.322 | -3.22 | 2.7137 | .004 | 1 |
| S2 | 1.2500 | 1.3390 | .089 | 7.12 | .38402 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



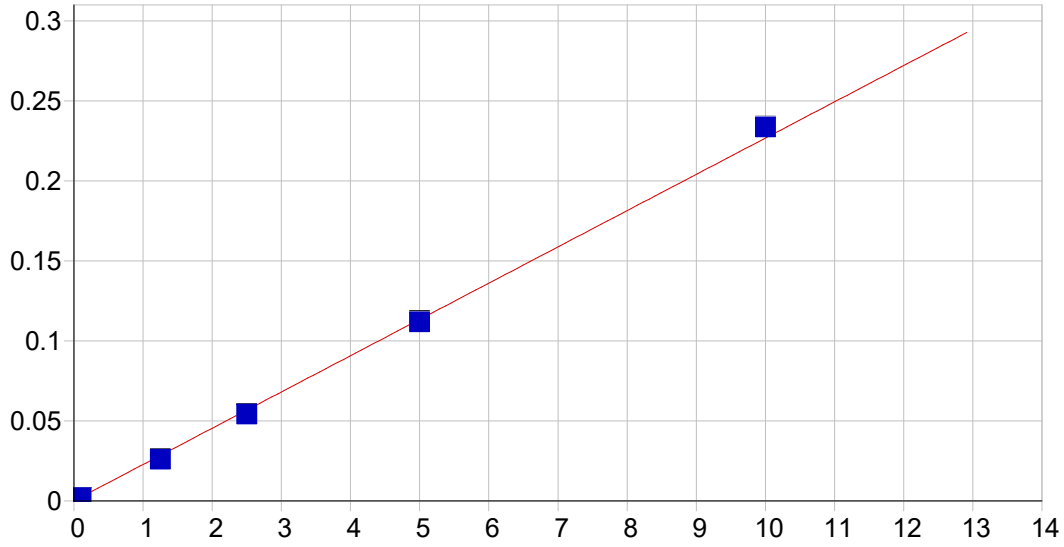

**Mo 202.030 {467}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000484 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.521828 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999779 | Status: | OK. |
| Std Error of Est: | 0.000184 | | |
| Predicted MDL: | 0.000384 | | |
| Predicted MQL: | 0.001279 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00048 | .000 | 1 |
| S1 | .01000 | .00936 | -.001 | -6.36 | .00537 | .000 | 1 |
| S3 | 2.5000 | 2.4408 | -.059 | -2.37 | 1.2742 | .003 | 1 |
| S4 | 5.0000 | 4.9067 | -.093 | -1.87 | 2.5609 | .005 | 1 |
| S5 | 10.000 | 10.194 | .194 | 1.94 | 5.3200 | .020 | 1 |
| S2 | 1.2500 | 1.2090 | -.041 | -3.28 | .63140 | .003 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



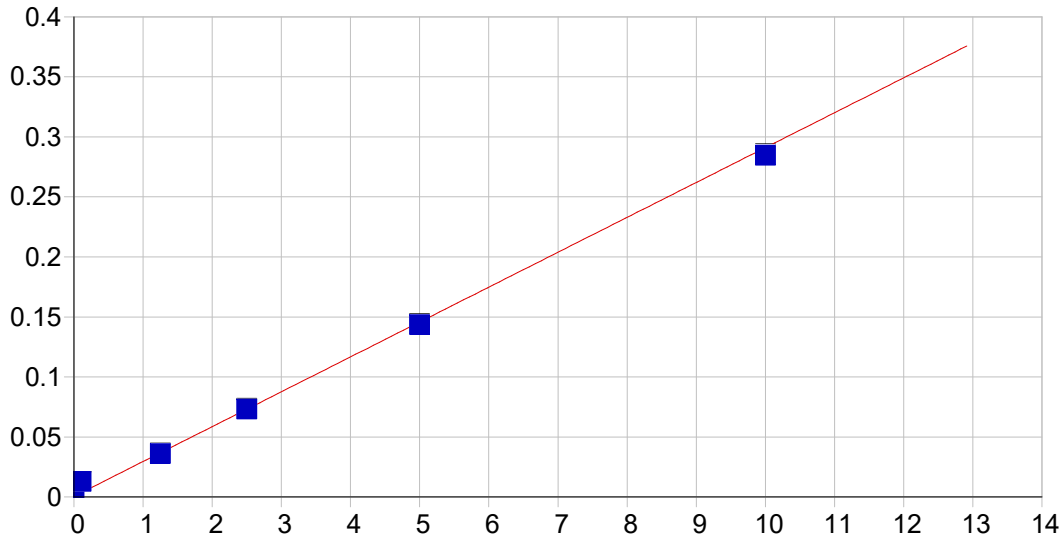

**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000103 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.022665 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999300 | Status: | OK. |
| Std Error of Est: | 0.000045 | | |
| Predicted MDL: | 0.004282 | | |
| Predicted MQL: | 0.014273 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00002 | .000 | .000 | .00010 | .000 | 1 |
| S1 | .10000 | .08683 | -.013 | -13.2 | .00207 | .000 | 1 |
| S3 | 2.5000 | 2.3841 | -.116 | -4.64 | .05421 | .000 | 1 |
| S4 | 5.0000 | 4.9309 | -.069 | -1.38 | .11201 | .001 | 1 |
| S5 | 10.000 | 10.305 | .305 | 3.05 | .23395 | .000 | 1 |
| S2 | 1.2500 | 1.1433 | -.107 | -8.53 | .02605 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



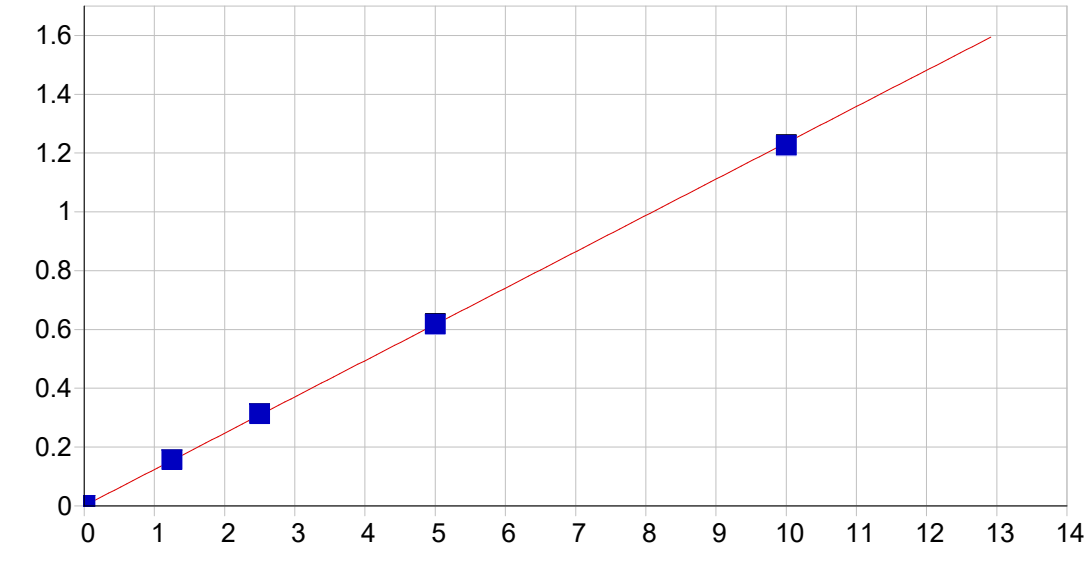

**Si 251.611 {134}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000438 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.029063 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.972822 | Status: | OK. |
| Std Error of Est: | 0.000369 | | |
| Predicted MDL: | 0.005239 | | |
| Predicted MQL: | 0.017463 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00032 | -.000 | .000 | .00043 | .000 | 1 |
| S1 | .10000 | .42655 | .327 | 327. | .01284 | .000 | 1 |
| S3 | 2.5000 | 2.5026 | .003 | .106 | .07339 | .001 | 1 |
| S4 | 5.0000 | 4.9195 | -.080 | -1.61 | .14385 | .000 | 1 |
| S5 | 10.000 | 9.7743 | -.226 | -2.26 | .28538 | .000 | 1 |
| S2 | 1.2500 | 1.2278 | -.022 | -1.77 | .03623 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



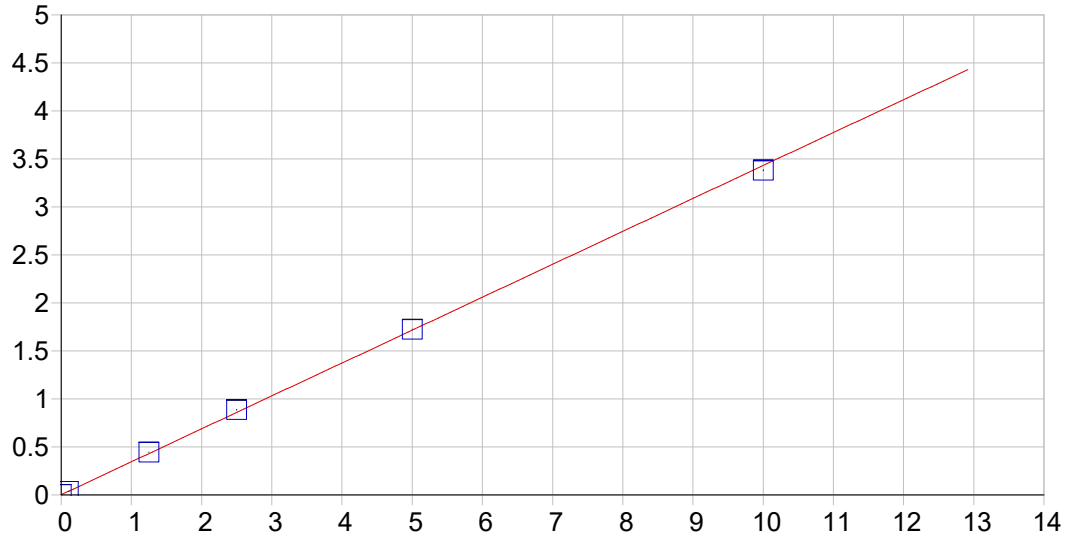

**Sn 189.989 {478}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000222 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.123445 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999965 | Status: | OK. |
| Std Error of Est: | 0.000014 | | |
| Predicted MDL: | 0.000886 | | |
| Predicted MQL: | 0.002955 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00022 | .000 | 1 |
| S1 | .00700 | .00673 | -.000 | -3.84 | .00101 | .000 | 1 |
| S3 | 2.5000 | 2.5383 | .038 | 1.53 | .31260 | .001 | 1 |
| S4 | 5.0000 | 5.0075 | .007 | .150 | .61646 | .002 | 1 |
| S5 | 10.000 | 9.9360 | -.064 | -.640 | 1.2229 | .002 | 1 |
| S2 | 1.2500 | 1.2685 | .018 | 1.48 | .15633 | .000 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



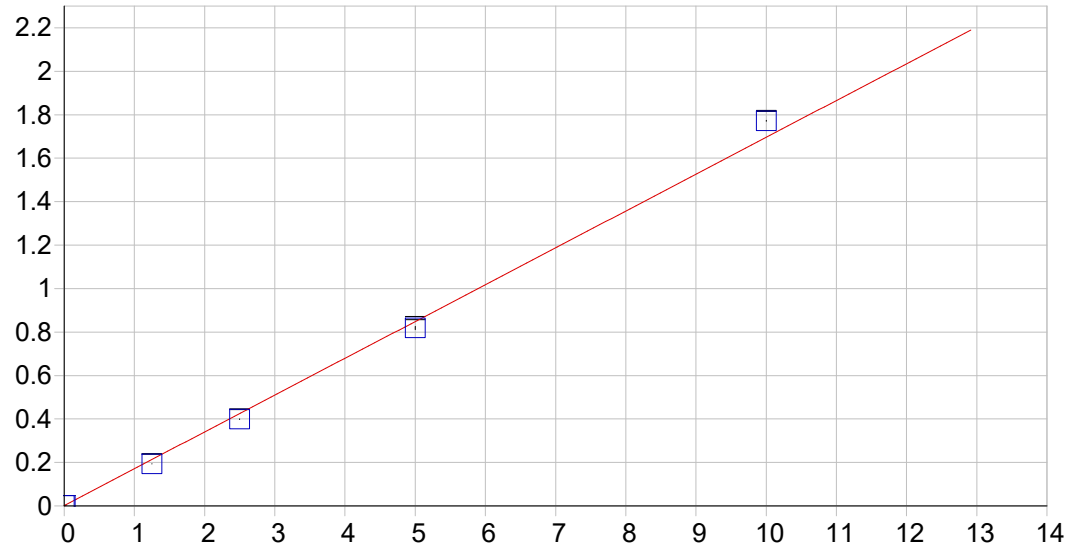

**Ti 336.121 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002191 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.342873 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999842 | Status: | OK. |
| Std Error of Est: | 0.000324 | | |
| Predicted MDL: | 0.000929 | | |
| Predicted MQL: | 0.003097 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00001 | -.000 | .000 | .00219 | .000 | 1 |
| S1 | .10000 | .10242 | .002 | 2.42 | .03731 | .000 | 1 |
| S3 | 2.5000 | 2.5783 | .078 | 3.13 | .88622 | .002 | 1 |
| S4 | 5.0000 | 5.0241 | .024 | .482 | 1.7248 | .003 | 1 |
| S5 | 10.000 | 9.8557 | -.144 | -1.44 | 3.3814 | .004 | 1 |
| S2 | 1.2500 | 1.2895 | .039 | 3.16 | .44431 | .002 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



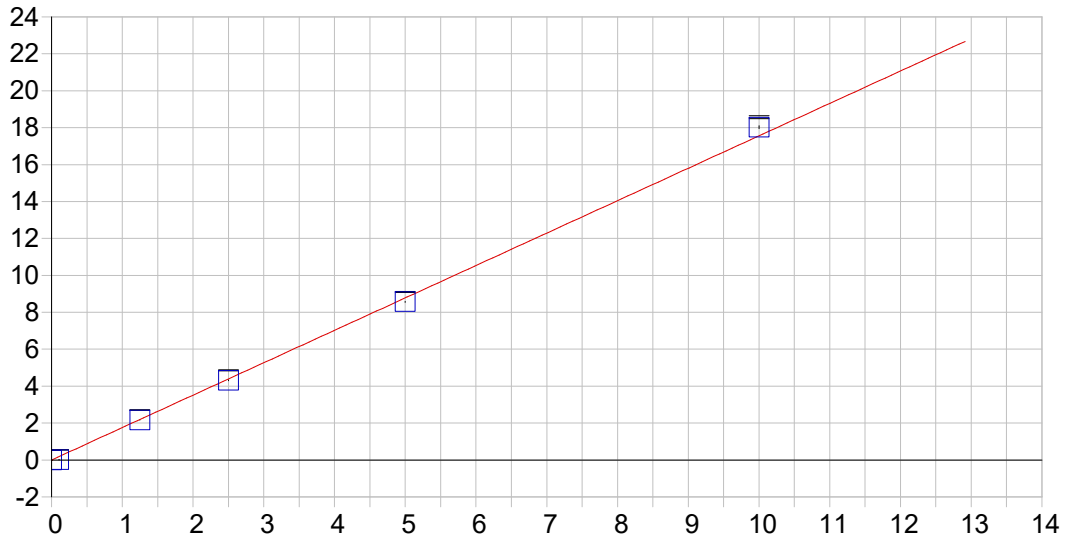

**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001529 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.169419 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.998727 | Status: | OK. |
| Std Error of Est: | 0.000176 | | |
| Predicted MDL: | 0.001248 | | |
| Predicted MQL: | 0.004160 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00001 | .000 | .000 | .00153 | .000 | 1 |
| S5 | 10.000 | 10.450 | .450 | 4.50 | 1.7720 | .003 | 1 |
| S4 | 5.0000 | 4.8231 | -.177 | -3.54 | .81866 | .007 | 1 |
| S3 | 2.5000 | 2.3479 | -.152 | -6.08 | .39932 | .002 | 1 |
| S1 | .01500 | .01103 | -.004 | -26.5 | .00340 | .000 | 1 |
| S2 | 1.2500 | 1.1326 | -.117 | -9.39 | .19341 | .001 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4



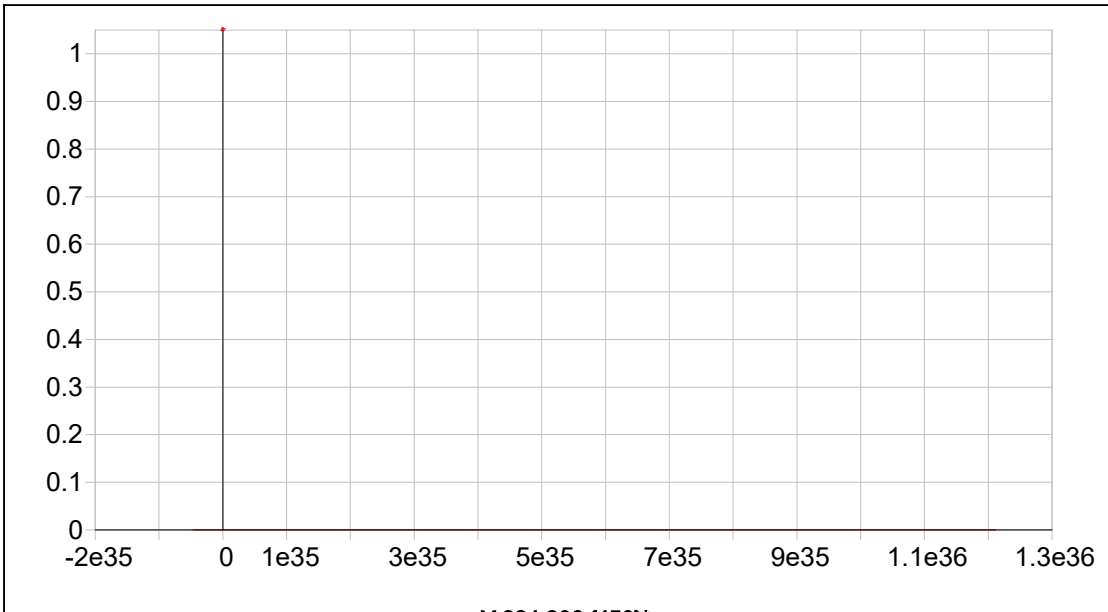

**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000080 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.755791 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.997527 | Status: | OK. |
| Std Error of Est: | 0.006574 | | |
| Predicted MDL: | 0.000065 | | |
| Predicted MQL: | 0.000215 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00009 | .000 | .000 | .00008 | .000 | 1 |
| S1 | .10000 | .00917 | -.091 | -90.8 | .01603 | .000 | 1 |
| S3 | 2.5000 | 2.4578 | -.042 | -1.69 | 4.3152 | .020 | 1 |
| S4 | 5.0000 | 4.8799 | -.120 | -2.40 | 8.5680 | .024 | 1 |
| S5 | 10.000 | 10.268 | .268 | 2.68 | 18.029 | .073 | 1 |
| S2 | 1.2500 | 1.2350 | -.015 | -1.20 | 2.1683 | .007 | 1 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

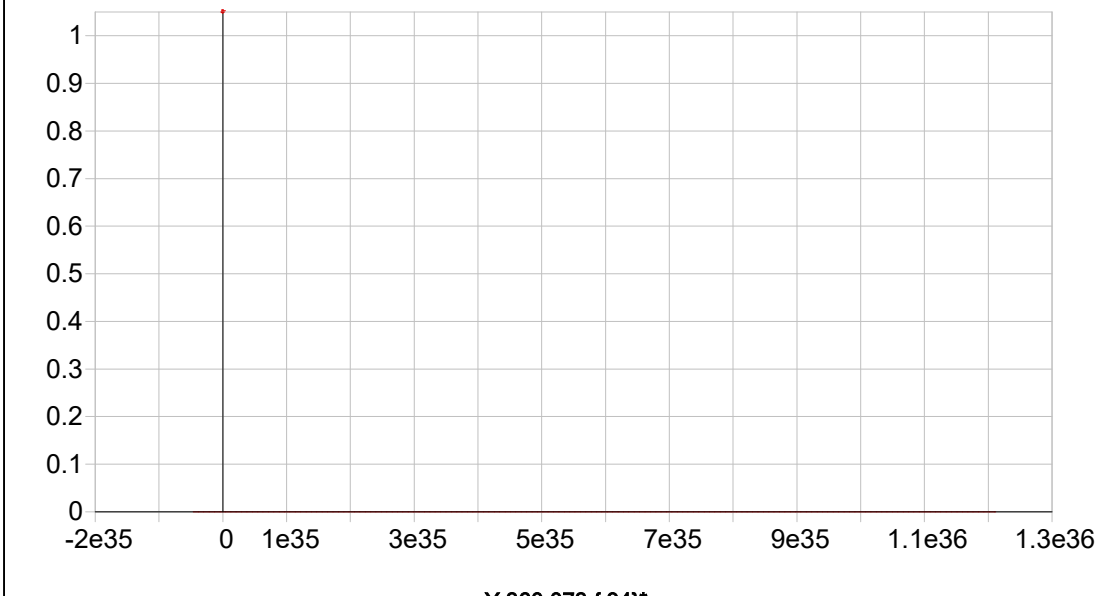



**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 3/5/2025 17:08:41 | Type of Fit: | Linear | Weighting: | 1/Conc |

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

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




**Y 360.073 { 94}***

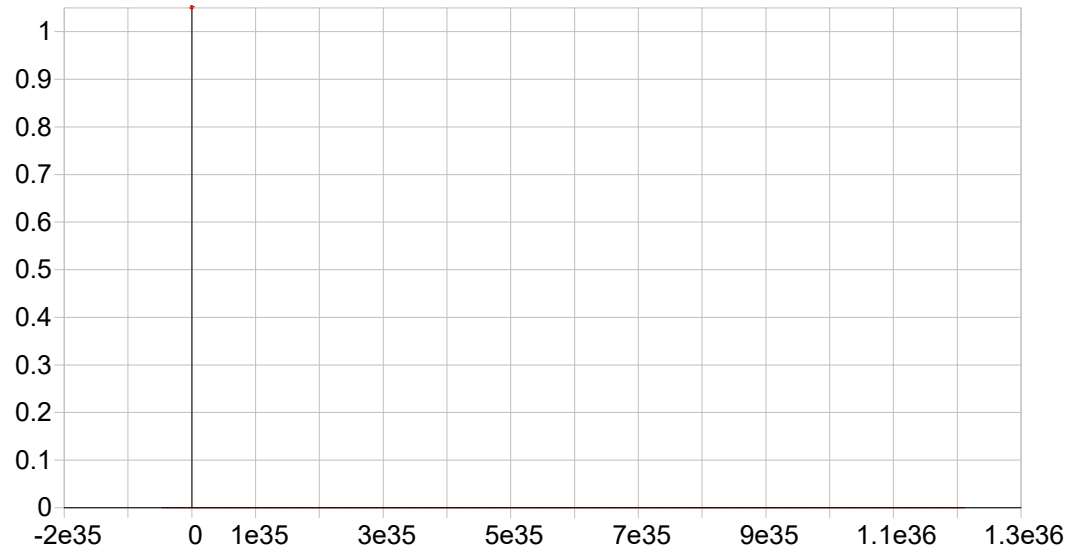
| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | <not fit> | Type of Fit: | Linear | Weighting: | 1/Conc |

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

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

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

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



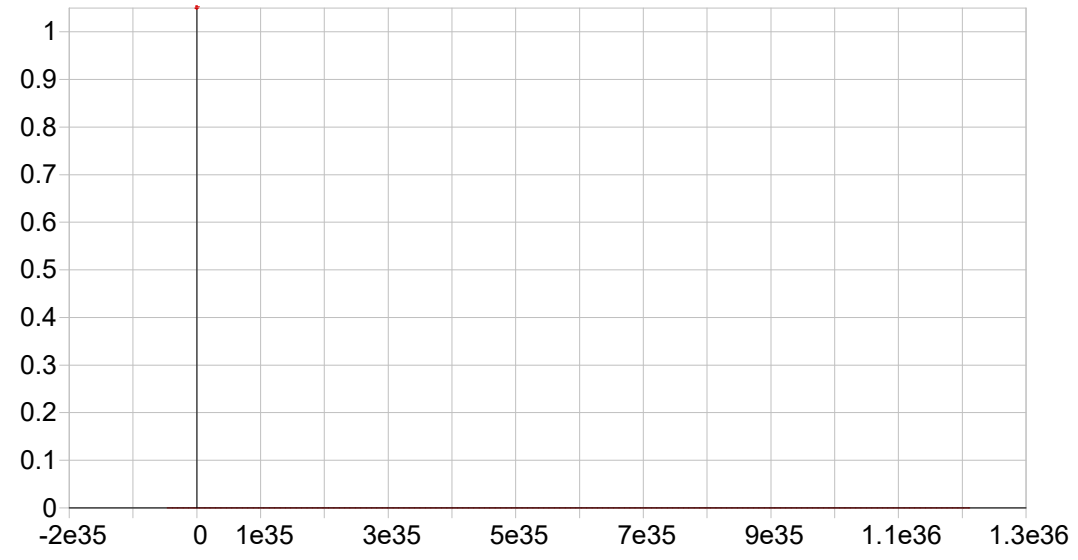

**Y 371.030 { 91}***

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

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

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

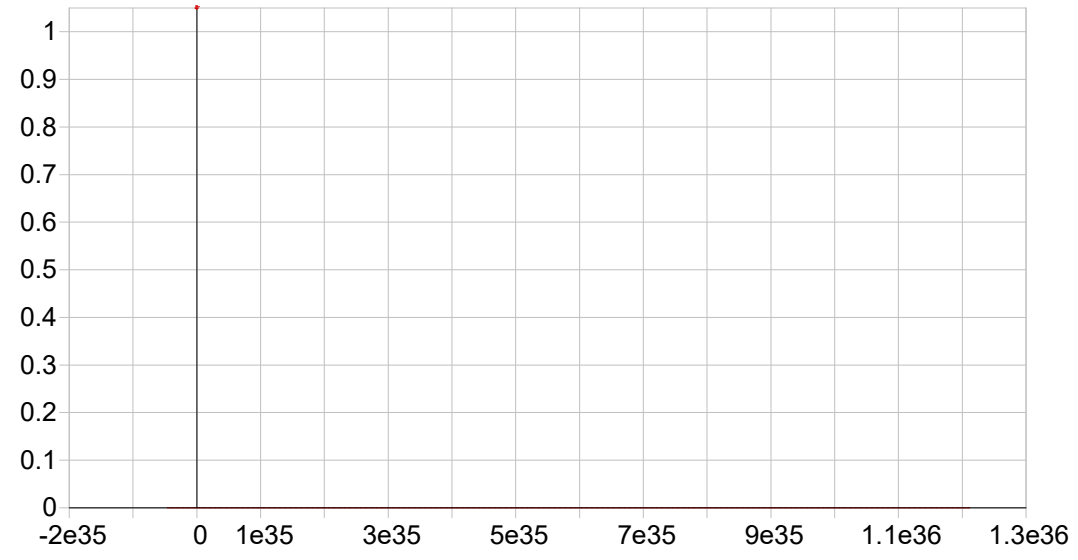
Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4




**Y 224.306 {150}***

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

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




**In 230.606 {446}***

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

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

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

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

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S0 Acquired: 3/5/2025 14:34:28 Type: Cal
Method: EPA SFAM01.0(v68) 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 | **-.00018** | **.00002** | **-.00025** | **.00032** | **.00025** | **.00012** | **.00762** | **-.00008** |
| Stddev | .00002 | .00008 | .00011 | .00008 | .00013 | .00008 | .00025 | .00015 |
| %RSD | 10.984 | 465.57 | 42.381 | 24.470 | 51.083 | 67.753 | 3.2427 | 201.83 |
| #1 | -.00016 | .00009 | -.00018 | .00023 | .00012 | .00003 | .00787 | -.00023 |
| #2 | -.00020 | .00003 | -.00020 | .00038 | .00037 | .00020 | .00738 | .00007 |
| #3 | -.00017 | -.00007 | -.00038 | .00036 | .00027 | .00014 | .00761 | -.00007 |

| 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 | **-.00004** | **.00008** | **.00011** | **-.00008** | **.00047** | **.00005** | **.00002** | **-.00005** |
| Stddev | .00008 | .00003 | .00002 | .00006 | .00022 | .00003 | .00002 | .00003 |
| %RSD | 218.75 | 32.079 | 15.340 | 70.578 | 47.739 | 55.305 | 86.237 | 50.211 |
| #1 | -.00013 | .00010 | .00011 | -.00002 | .00056 | .00002 | .00003 | -.00006 |
| #2 | .00002 | .00005 | .00013 | -.00010 | .00064 | .00008 | .00003 | -.00008 |
| #3 | -.00000 | .00008 | .00009 | -.00013 | .00022 | .00004 | .00000 | -.00002 |

| 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 | **-.00005** | **-.00051** | **-.00110** | **.00020** | **.00081** | **.01048** | **-.00092** | **.00241** |
| Stddev | .00019 | .00007 | .00056 | .00016 | .00015 | .00011 | .00008 | .00007 |
| %RSD | 368.67 | 13.828 | 51.437 | 80.736 | 18.354 | 1.0624 | 8.7800 | 2.7404 |
| #1 | -.00022 | -.00045 | -.00118 | .00006 | .00088 | .01055 | -.00100 | .00234 |
| #2 | .00016 | -.00059 | -.00050 | .00037 | .00064 | .01053 | -.00084 | .00244 |
| #3 | -.00009 | -.00050 | -.00162 | .00016 | .00092 | .01035 | -.00093 | .00246 |

| 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 | **.00048** | **.00010** | **.00043** | **.00022** | **.00219** | **.00153** | **.00008** |
| Stddev | .00012 | .00005 | .00005 | .00005 | .00008 | .00016 | .00006 |
| %RSD | 23.719 | 44.630 | 11.040 | 20.528 | 3.8452 | 10.760 | 67.657 |
| #1 | .00043 | .00010 | .00042 | .00018 | .00218 | .00138 | .00006 |
| #2 | .00041 | .00015 | .00038 | .00021 | .00211 | .00150 | .00015 |
| #3 | .00062 | .00006 | .00048 | .00027 | .00228 | .00171 | .00004 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S0 Acquired: 3/5/2025 14:34:28 Type: Cal
Method: EPA SFAM01.0(v68) 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 | 3474.3 | 72469. | 14441. | 3095.1 | 4792.9 |
| Stddev | 9.6 | 285. | 70. | 13.6 | 15.8 |
| %RSD | .27572 | .39373 | .48692 | .43895 | .32994 |
| | | | | | |
| #1 | 3466.6 | 72198. | 14374. | 3082.2 | 4778.5 |
| #2 | 3471.2 | 72442. | 14435. | 3093.9 | 4790.5 |
| #3 | 3485.0 | 72767. | 14515. | 3109.3 | 4809.9 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S1 Acquired: 3/5/2025 14:38:40 Type: Cal
Method: EPA SFAM01.0(v68) 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 | **.00040** | **.00109** | **.00179** | **.00207** | **.00776** | **.00237** | **.08842** | **.01543** |
| Stddev | .00009 | .00008 | .00019 | .00027 | .00006 | .00005 | .00019 | .00020 |
| %RSD | 21.208 | 7.6932 | 10.871 | 12.852 | .78720 | 2.2151 | .21910 | 1.3230 |
| #1 | .00043 | .00111 | .00162 | .00184 | .00769 | .00232 | .08860 | .01521 |
| #2 | .00031 | .00100 | .00200 | .00236 | .00778 | .00243 | .08843 | .01549 |
| #3 | .00047 | .00117 | .00175 | .00200 | .00781 | .00235 | .08821 | .01561 |

| 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 | **.01160** | **.04086** | **.00177** | **.03526** | **.00477** | **.00055** | **.00149** | **.01156** |
| Stddev | .00010 | .00016 | .00002 | .00017 | .00023 | .00003 | .00002 | .00006 |
| %RSD | .83424 | .39477 | 1.2956 | .47463 | 4.7576 | 5.4023 | 1.0869 | .54776 |
| #1 | .01168 | .04094 | .00176 | .03518 | .00453 | .00058 | .00151 | .01162 |
| #2 | .01162 | .04096 | .00176 | .03545 | .00499 | .00055 | .00149 | .01150 |
| #3 | .01149 | .04067 | .00180 | .03514 | .00478 | .00052 | .00147 | .01155 |

| 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 | **.02024** | **.00209** | **.02048** | **.00617** | **.01525** | **.02419** | **-.00051** | **.00203** |
| Stddev | .00025 | .00011 | .00038 | .00024 | .00041 | .00020 | .00005 | .00010 |
| %RSD | 1.2499 | 5.4197 | 1.8672 | 3.9207 | 2.6985 | .84717 | 10.130 | 5.0481 |
| #1 | .02019 | .00221 | .02089 | .00599 | .01478 | .02439 | -.00045 | .00214 |
| #2 | .02052 | .00207 | .02044 | .00608 | .01549 | .02421 | -.00054 | .00202 |
| #3 | .02002 | .00199 | .02012 | .00644 | .01549 | .02398 | -.00053 | .00194 |

| 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 | **.00537** | **.00207** | **.01284** | **.00101** | **.03731** | **.00340** | **.01603** |
| Stddev | .00008 | .00005 | .00029 | .00004 | .00038 | .00017 | .00003 |
| %RSD | 1.4946 | 2.6092 | 2.2668 | 3.7757 | 1.0094 | 4.9778 | .15926 |
| #1 | .00545 | .00202 | .01250 | .00106 | .03688 | .00357 | .01601 |
| #2 | .00538 | .00213 | .01297 | .00098 | .03750 | .00340 | .01602 |
| #3 | .00529 | .00206 | .01304 | .00100 | .03756 | .00323 | .01605 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S1 Acquired: 3/5/2025 14:38:40 Type: Cal
Method: EPA SFAM01.0(v68) 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 | 3421.8 | 73211. | 14501. | 3139.0 | 4597.8 |
| Stddev | 3.2 | 215. | 93. | 10.5 | 5.8 |
| %RSD | .09228 | .29415 | .64060 | .33532 | .12681 |
| #1 | 3418.3 | 72985. | 14598. | 3150.2 | 4591.9 |
| #2 | 3422.6 | 73234. | 14491. | 3137.5 | 4597.8 |
| #3 | 3424.5 | 73414. | 14413. | 3129.3 | 4603.6 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S2 Acquired: 3/5/2025 14:42:51 Type: Cal
Method: EPA SFAM01.0(v68) 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 | **.06092** | **.04942** | **1.2383** | **.06446** | **.15906** | **.47890** | **1.1076** | **.38591** |
| Stddev | .00008 | .00074 | .0001 | .00018 | .00056 | .00091 | .0044 | .00136 |
| %RSD | .13846 | 1.4932 | .01222 | .28594 | .35358 | .19025 | .39896 | .35128 |
| #1 | .06101 | .04926 | 1.2382 | .06443 | .15936 | .47995 | 1.1127 | .38553 |
| #2 | .06084 | .04878 | 1.2383 | .06430 | .15841 | .47844 | 1.1044 | .38478 |
| #3 | .06091 | .05023 | 1.2385 | .06466 | .15940 | .47832 | 1.1058 | .38741 |

| 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 | **1.5078** | **.53779** | **.63980** | **.45441** | **.57228** | **.19970** | **.38239** | **.16141** |
| Stddev | .0023 | .00140 | .00037 | .00055 | .00225 | .00062 | .00066 | .00028 |
| %RSD | .15458 | .26079 | .05745 | .12050 | .39389 | .30895 | .17170 | .17400 |
| #1 | 1.5083 | .53927 | .63940 | .45503 | .57426 | .20041 | .38310 | .16141 |
| #2 | 1.5053 | .53649 | .64011 | .45401 | .56983 | .19938 | .38180 | .16112 |
| #3 | 1.5098 | .53760 | .63990 | .45418 | .57277 | .19931 | .38227 | .16168 |

| 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 | **.32663** | **.07971** | **.15705** | **.07141** | **.98388** | **.12730** | **.04646** | **.38402** |
| Stddev | .00059 | .00021 | .00078 | .00050 | .00806 | .00056 | .00022 | .00051 |
| %RSD | .17953 | .26672 | .49444 | .70644 | .81916 | .44103 | .46842 | .13312 |
| #1 | .32721 | .07965 | .15794 | .07196 | .99319 | .12786 | .04667 | .38343 |
| #2 | .32665 | .07995 | .15648 | .07097 | .97945 | .12674 | .04623 | .38428 |
| #3 | .32604 | .07954 | .15673 | .07129 | .97901 | .12729 | .04647 | .38436 |

| 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 | **.63140** | **.02605** | **.03623** | **.15633** | **.44431** | **.19341** | **2.1683** |
| Stddev | .00322 | .00012 | .00025 | .00017 | .00171 | .00077 | .0068 |
| %RSD | .51056 | .45389 | .69234 | .10823 | .38538 | .39815 | .31354 |
| #1 | .63171 | .02593 | .03625 | .15653 | .44576 | .19425 | 2.1756 |
| #2 | .62803 | .02617 | .03597 | .15622 | .44242 | .19324 | 2.1673 |
| #3 | .63446 | .02606 | .03647 | .15625 | .44476 | .19274 | 2.1621 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S2 Acquired: 3/5/2025 14:42:51 Type: Cal
Method: EPA SFAM01.0(v68) 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 | **3242.1** | **67362.** | **14390.** | **2922.5** | **4109.7** |
| Stddev | 8.8 | 126. | 57. | 18.6 | 11.5 |
| %RSD | .27074 | .18773 | .39688 | .63679 | .27875 |
| | | | | | |
| #1 | 3233.6 | 67274. | 14376. | 2903.4 | 4096.5 |
| #2 | 3251.2 | 67507. | 14453. | 2940.5 | 4115.6 |
| #3 | 3241.6 | 67305. | 14342. | 2923.5 | 4116.9 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S3 Acquired: 3/5/2025 14:46:42 Type: Cal
Method: EPA SFAM01.0(v68) 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 | .12434 | .09712 | 2.4691 | .12975 | .32375 | .97817 | 2.2277 | .77271 |
| Stddev | .00014 | .00034 | .0070 | .00054 | .00080 | .00358 | .0230 | .00286 |
| %RSD | .11636 | .35058 | .28519 | .41715 | .24763 | .36555 | 1.0315 | .37002 |
| #1 | .12418 | .09751 | 2.4670 | .12993 | .32391 | .98171 | 2.2499 | .77022 |
| #2 | .12436 | .09692 | 2.4633 | .12914 | .32288 | .97823 | 2.2040 | .77209 |
| #3 | .12447 | .09691 | 2.4769 | .13018 | .32445 | .97456 | 2.2292 | .77583 |

| Elem | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 | Mn2576 | Mg2790 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3.0205 | 1.0824 | 1.2580 | .90952 | 1.1452 | .39712 | .76313 | .32922 |
| Stddev | .0062 | .0032 | .0005 | .00153 | .0015 | .00101 | .00174 | .00067 |
| %RSD | .20442 | .29387 | .03820 | .16807 | .13133 | .25409 | .22770 | .20389 |
| #1 | 3.0220 | 1.0857 | 1.2585 | .90957 | 1.1470 | .39791 | .76401 | .32959 |
| #2 | 3.0138 | 1.0823 | 1.2576 | .90797 | 1.1445 | .39747 | .76426 | .32962 |
| #3 | 3.0258 | 1.0793 | 1.2580 | .91103 | 1.1442 | .39598 | .76113 | .32845 |

| 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 | .65221 | .16176 | .32063 | .14376 | 2.0091 | .25218 | .09692 | .76047 |
| Stddev | .00154 | .00023 | .00037 | .00027 | .0027 | .00124 | .00055 | .00313 |
| %RSD | .23539 | .14468 | .11609 | .18862 | .13457 | .49219 | .56328 | .41122 |
| #1 | .65208 | .16164 | .32100 | .14359 | 2.0112 | .25325 | .09639 | .75741 |
| #2 | .65074 | .16203 | .32062 | .14362 | 2.0101 | .25248 | .09687 | .76033 |
| #3 | .65381 | .16160 | .32026 | .14407 | 2.0061 | .25082 | .09748 | .76366 |

| 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 | 1.2742 | .05421 | .07339 | .31260 | .88622 | .39932 | 4.3152 |
| Stddev | .0026 | .00021 | .00053 | .00064 | .00239 | .00187 | .0201 |
| %RSD | .20750 | .38407 | .72497 | .20606 | .26948 | .46891 | .46583 |
| #1 | 1.2750 | .05425 | .07383 | .31291 | .88806 | .40130 | 4.2987 |
| #2 | 1.2712 | .05398 | .07280 | .31186 | .88353 | .39906 | 4.3376 |
| #3 | 1.2763 | .05439 | .07355 | .31303 | .88708 | .39759 | 4.3095 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S3 Acquired: 3/5/2025 14:46:42 Type: Cal
Method: EPA SFAM01.0(v68) 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 | 3093.7 | 65273. | 14030. | 2809.6 | 3884.8 |
| Stddev | 6.5 | 45. | 50. | 6.2 | 8.1 |
| %RSD | .21002 | .06870 | .35786 | .21934 | .20816 |
| | | | | | |
| #1 | 3090.4 | 65276. | 14056. | 2809.0 | 3879.6 |
| #2 | 3101.2 | 65317. | 14062. | 2816.1 | 3894.1 |
| #3 | 3089.6 | 65227. | 13972. | 2803.8 | 3880.7 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S4 Acquired: 3/5/2025 14:50:38 Type: Cal
Method: EPA SFAM01.0(v68) 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 | .25643 | .18908 | 4.8728 | .26390 | .66462 | 1.9812 | 4.4751 | 1.4882 |
| Stddev | .00160 | .00132 | .0214 | .00122 | .00347 | .0152 | .0098 | .0125 |
| %RSD | .62290 | .69721 | .43939 | .46275 | .52244 | .76631 | .21958 | .84134 |
| #1 | .25580 | .18884 | 4.8533 | .26330 | .66369 | 1.9982 | 4.4864 | 1.4739 |
| #2 | .25524 | .18790 | 4.8694 | .26310 | .66172 | 1.9761 | 4.4690 | 1.4968 |
| #3 | .25824 | .19051 | 4.8957 | .26531 | .66847 | 1.9692 | 4.4697 | 1.4941 |

| 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 | 5.9252 | 2.1463 | 2.4141 | 1.7909 | 2.2271 | .77451 | 1.4926 | .66454 |
| Stddev | .0195 | .0132 | .0028 | .0065 | .0033 | .00541 | .0101 | .00323 |
| %RSD | .32938 | .61250 | .11535 | .36319 | .14998 | .69821 | .67871 | .48531 |
| #1 | 5.9073 | 2.1612 | 2.4155 | 1.7846 | 2.2292 | .78031 | 1.5031 | .66800 |
| #2 | 5.9224 | 2.1408 | 2.4160 | 1.7906 | 2.2289 | .77361 | 1.4916 | .66399 |
| #3 | 5.9460 | 2.1367 | 2.4109 | 1.7976 | 2.2233 | .76961 | 1.4829 | .66162 |

| 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 | 1.2791 | .32474 | .63090 | .27801 | 3.9635 | .50741 | .20082 | 1.4387 |
| Stddev | .0048 | .00048 | .00151 | .00078 | .0259 | .00383 | .00040 | .0111 |
| %RSD | .37770 | .14824 | .23940 | .28053 | .65224 | .75515 | .19936 | .76959 |
| #1 | 1.2743 | .32520 | .63261 | .27714 | 3.9929 | .51174 | .20086 | 1.4260 |
| #2 | 1.2792 | .32477 | .63034 | .27822 | 3.9533 | .50444 | .20040 | 1.4460 |
| #3 | 1.2840 | .32424 | .62975 | .27866 | 3.9444 | .50606 | .20119 | 1.4442 |

| 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 | 2.5609 | .11201 | .14385 | .61646 | 1.7248 | .81866 | 8.5680 |
| Stddev | .0055 | .00058 | .00035 | .00212 | .0026 | .00699 | .0238 |
| %RSD | .21459 | .51644 | .24532 | .34431 | .15246 | .85412 | .27721 |
| #1 | 2.5622 | .11143 | .14367 | .61495 | 1.7275 | .82672 | 8.5940 |
| #2 | 2.5549 | .11199 | .14362 | .61554 | 1.7222 | .81430 | 8.5475 |
| #3 | 2.5657 | .11259 | .14426 | .61888 | 1.7248 | .81495 | 8.5625 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S4 Acquired: 3/5/2025 14:50:38 Type: Cal
Method: EPA SFAM01.0(v68) 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 | 2863.7 | 63425. | 13901. | 2699.3 | 3599.8 |
| Stddev | 11.6 | 216. | 79. | 7.9 | 10.9 |
| %RSD | .40391 | .34050 | .57058 | .29321 | .30345 |
| | | | | | |
| #1 | 2864.8 | 63269. | 13988. | 2690.5 | 3605.5 |
| #2 | 2874.6 | 63334. | 13832. | 2701.8 | 3606.7 |
| #3 | 2851.6 | 63672. | 13881. | 2705.7 | 3587.2 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S5 Acquired: 3/5/2025 14:54:40 Type: Cal
Method: EPA SFAM01.0(v68) 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 | **.56216** | **.37744** | **9.7327** | **.57133** | **1.4569** | **4.2531** | **9.3466** | **2.9193** |
| Stddev | .00172 | .00302 | .0191 | .00180 | .0064 | .0363 | .0738 | .0076 |
| %RSD | .30682 | .79980 | .19579 | .31448 | .43959 | .85381 | .78976 | .26207 |
| #1 | .56090 | .37598 | 9.7311 | .56956 | 1.4511 | 4.2736 | 9.4211 | 2.9279 |
| #2 | .56145 | .38091 | 9.7145 | .57129 | 1.4560 | 4.2112 | 9.2734 | 2.9166 |
| #3 | .56413 | .37543 | 9.7525 | .57315 | 1.4638 | 4.2745 | 9.3454 | 2.9134 |

| 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 | **11.734** | **4.4338** | **4.7228** | **3.5822** | **4.5047** | **1.6010** | **3.1115** | **1.4008** |
| Stddev | .017 | .0206 | .0097 | .0070 | .0040 | .0020 | .0032 | .0018 |
| %RSD | .14347 | .46379 | .20534 | .19534 | .08841 | .12613 | .10157 | .13077 |
| #1 | 11.725 | 4.4546 | 4.7340 | 3.5803 | 4.5001 | 1.6003 | 3.1083 | 1.4026 |
| #2 | 11.724 | 4.4331 | 4.7163 | 3.5765 | 4.5072 | 1.5994 | 3.1114 | 1.3989 |
| #3 | 11.754 | 4.4135 | 4.7183 | 3.5900 | 4.5068 | 1.6032 | 3.1147 | 1.4010 |

| 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 | **2.5395** | **.68382** | **1.2678** | **.54479** | **8.3053** | **1.0880** | **.41064** | **2.7137** |
| Stddev | .0027 | .00063 | .0011 | .00098 | .0303 | .0021 | .00132 | .0044 |
| %RSD | .10733 | .09190 | .08977 | .18006 | .36475 | .19427 | .32141 | .16257 |
| #1 | 2.5395 | .68441 | 1.2676 | .54590 | 8.3177 | 1.0881 | .41178 | 2.7181 |
| #2 | 2.5367 | .68316 | 1.2668 | .54444 | 8.2708 | 1.0859 | .41095 | 2.7136 |
| #3 | 2.5422 | .68389 | 1.2690 | .54403 | 8.3275 | 1.0901 | .40920 | 2.7093 |

| 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 | **5.3200** | **.23395** | **.28538** | **1.2229** | **3.3814** | **1.7720** | **18.029** |
| Stddev | .0197 | .00019 | .00038 | .0016 | .0044 | .0028 | .073 |
| %RSD | .37087 | .08205 | .13484 | .12808 | .13021 | .15554 | .40377 |
| #1 | 5.3001 | .23401 | .28582 | 1.2215 | 3.3865 | 1.7730 | 18.004 |
| #2 | 5.3204 | .23410 | .28509 | 1.2227 | 3.3783 | 1.7689 | 17.971 |
| #3 | 5.3396 | .23373 | .28523 | 1.2246 | 3.3796 | 1.7742 | 18.110 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S5 Acquired: 3/5/2025 14:54:40 Type: Cal
Method: EPA SFAM01.0(v68) 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 | **2481.3** | **58576.** | **13632.** | **2474.3** | **3235.2** |
| Stddev | 6.5 | 21. | 23. | 9.0 | 3.7 |
| %RSD | .26007 | .03601 | .16756 | .36188 | .11520 |
| | | | | | |
| #1 | 2486.0 | 58561. | 13634. | 2470.0 | 3235.5 |
| #2 | 2483.9 | 58568. | 13609. | 2484.5 | 3238.8 |
| #3 | 2473.9 | 58601. | 13655. | 2468.2 | 3231.3 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: S6 Acquired: 3/5/2025 14:59:06 Type: Cal
Method: EPA SFAM01.0(v68) 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 | **11.783** | **7.3912** | **4.3909** | **2.3907** | **3.5460** |
| Stddev | .020 | .0626 | .0312 | .0086 | .0042 |
| %RSD | .17252 | .84732 | .71132 | .35803 | .11779 |
| #1 | 11.805 | 7.3232 | 4.3605 | 2.3831 | 3.5451 |
| #2 | 11.765 | 7.4465 | 4.4229 | 2.4000 | 3.5506 |
| #3 | 11.778 | 7.4039 | 4.3894 | 2.3891 | 3.5424 |

| Int. Std. | Y_3600 | Y_3710 |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **54988.** | **13253.** |
| Stddev | 154. | 21. |
| %RSD | .27975 | .16105 |
| #1 | 55159. | 13248. |
| #2 | 54861. | 13276. |
| #3 | 54944. | 13234. |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICV002 Acquired: 3/5/2025 15:23:45 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV002 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.017953** | **1.086542** | **1.008888** | **.9491856** | **.9021604** | **2.331069** |
| Stddev | .000302 | .012682 | .001857 | .0023774 | .0021723 | .004856 |
| %RSD | .0296520 | 1.167197 | .1840815 | .2504663 | .2407828 | .2083149 |
| #1 | 1.017775 | 1.097598 | 1.010394 | .9497503 | .9036895 | 2.327307 |
| #2 | 1.018301 | 1.072698 | 1.006813 | .9465768 | .8996739 | 2.329349 |
| #3 | 1.017782 | 1.089331 | 1.009456 | .9512299 | .9031178 | 2.336551 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4807985** | **.5286550** | **.5001740** | **9.204995** | **.5630205** | **.5069390** |
| Stddev | .0037186 | .0003526 | .0007154 | .018494 | .0010046 | .0006083 |
| %RSD | .7734127 | .0667036 | .1430367 | .2009080 | .1784366 | .1199941 |
| #1 | .4823905 | .5285920 | .5000693 | 9.211440 | .5624709 | .5073811 |
| #2 | .4765490 | .5290348 | .4995166 | 9.184142 | .5624106 | .5062452 |
| #3 | .4834560 | .5283380 | .5009360 | 9.219404 | .5641801 | .5071906 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5289641** | **9.647678** | **.4981502** | **6.164677** | **.5148806** | **.2387577** |
| Stddev | .0009708 | .034354 | .0010644 | .011875 | .0005245 | .0003674 |
| %RSD | .1835368 | .3560871 | .2136651 | .1926219 | .1018765 | .1538629 |
| #1 | .5278630 | 9.631789 | .4974997 | 6.177129 | .5148910 | .2384256 |
| #2 | .5293324 | 9.624146 | .4975725 | 6.153479 | .5153998 | .2391523 |
| #3 | .5296969 | 9.687101 | .4993786 | 6.163425 | .5143509 | .2386953 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.912988** | **.5260871** | **1.010611** | **9.403473** | F **.0024426** | F **.0420760** |
| Stddev | .153377 | .0024421 | .006708 | .019476 | .0015042 | .0009903 |
| %RSD | 1.547229 | .4642076 | .6637598 | .2071157 | 61.57934 | 2.353696 |
| #1 | 9.974070 | .5285798 | 1.007469 | 9.383179 | .0013465 | .0411826 |
| #2 | 9.738481 | .5236989 | 1.006051 | 9.405226 | .0018239 | .0419045 |
| #3 | 10.02641 | .5259825 | 1.018313 | 9.422013 | .0041575 | .0431409 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICV002 Acquired: 3/5/2025 15:23:45 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV002 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F -.000677 | F .0058548 | F .0058681 | F -.001254 | F -.001493 | F -.001128 |
| Stddev | .000347 | .0011948 | .0038393 | .000179 | .000534 | .000267 |
| %RSD | 51.23241 | 20.40756 | 65.42654 | 14.27127 | 35.78232 | 23.71303 |
| #1 | -.000831 | .0053044 | .0083577 | -.001332 | -.000978 | -.000821 |
| #2 | -.000280 | .0050343 | .0078000 | -.001380 | -.002045 | -.001250 |
| #3 | -.000921 | .0072256 | .0014466 | -.001049 | -.001457 | -.001313 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F .0012535 |
| Stddev | .0000106 |
| %RSD | .8475435 |
| #1 | .0012636 |
| #2 | .0012545 |
| #3 | .0012424 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3456.797 | 71653.18 | 14659.94 | 3058.027 | 4621.188 |
| Stddev | 3.309 | 144.95 | 47.84 | 10.181 | 2.015 |
| %RSD | .0957328 | .2022974 | .3263640 | .3329344 | .0435955 |
| #1 | 3454.758 | 71795.16 | 14685.54 | 3065.544 | 4620.226 |
| #2 | 3460.615 | 71505.43 | 14604.74 | 3046.441 | 4623.503 |
| #3 | 3455.018 | 71658.95 | 14689.54 | 3062.097 | 4619.834 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICB002 Acquired: 3/5/2025 15:27:41 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB002 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0023455** | **.0012899** | **.0000739** | **-.000190** | **.0006203** | **-.000007** | **.0001446** |
| Stddev | .0013807 | .0013212 | .0002347 | .001151 | .0005778 | .003280 | .0005091 |
| %RSD | 58.86803 | 102.4197 | 317.4901 | 605.2975 | 93.14868 | 44624.44 | 352.1234 |
| #1 | .0007604 | .0025598 | .0002091 | -.000300 | .0001634 | .003689 | .0007271 |
| #2 | .0029896 | .0013873 | .0002097 | .001012 | .0004276 | -.002572 | -.000216 |
| #3 | .0032864 | -.000077 | -.000197 | -.001283 | .0012697 | -.001139 | -.000078 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000284** | **.0000097** | **.0031356** | **-.000228** | **.0000161** | **-.000681** | **-.002619** |
| Stddev | .0000632 | .0000541 | .0016914 | .000175 | .0002478 | .000725 | .007683 |
| %RSD | 222.9256 | 558.5520 | 53.93986 | 76.99400 | 1543.217 | 106.3826 | 293.3161 |
| #1 | .0000161 | .0000465 | .0023221 | -.000425 | .0002705 | -.000959 | -.011480 |
| #2 | .0000968 | -.000052 | .0050801 | -.000088 | .0000022 | -.001226 | .002202 |
| #3 | -.000028 | .000035 | .0020048 | -.000171 | -.000225 | .000141 | .001419 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000145** | **.0030339** | **-.000158** | **.0001146** | **-.120899** | **-.001057** | **-.000642** |
| Stddev | .000165 | .0077733 | .000417 | .0001712 | .114820 | .001605 | .000834 |
| %RSD | 114.1274 | 256.2134 | 264.6636 | 149.4758 | 94.97195 | 151.9176 | 129.9549 |
| #1 | -.000045 | .0009689 | .000316 | .0002746 | -.236666 | -.001008 | -.000399 |
| #2 | -.000335 | -.003498 | -.000318 | -.000066 | -.007051 | .000524 | -.001570 |
| #3 | -.000053 | .011631 | -.000471 | .000135 | -.118979 | -.002686 | .000044 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.037758** | **.0006146** | **-.000196** | **-.000259** | **.0007855** | **.0040497** | **-.000139** |
| Stddev | .051227 | .0012459 | .000705 | .000306 | .0068893 | .0036342 | .000477 |
| %RSD | 135.6719 | 202.7195 | 359.3060 | 118.4382 | 877.1023 | 89.73953 | 341.8176 |
| #1 | -.068324 | -.000366 | .000306 | -.000339 | .0058039 | -.000140 | -.000383 |
| #2 | -.066333 | .000194 | .000108 | .000080 | .0036218 | .005947 | -.000445 |
| #3 | .021383 | .002016 | -.001002 | -.000516 | -.007069 | .006343 | .000410 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICB002 Acquired: 3/5/2025 15:27:41 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB002 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.000497** | **-.001340** | **.0000823** |
| Stddev | .000707 | .000689 | .0000492 |
| %RSD | 142.1388 | 51.44778 | 59.75905 |
| #1 | -.001053 | -.001943 | .0000273 |
| #2 | -.000737 | -.001489 | .0000977 |
| #3 | .000298 | -.000588 | .0001220 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3492.602** | **73305.40** | **14514.43** | **3134.409** | **4798.352** |
| Stddev | 2.514 | 107.94 | 77.58 | 9.393 | 2.730 |
| %RSD | .0719798 | .1472513 | .5344686 | .2996771 | .0568872 |
| #1 | 3491.346 | 73202.91 | 14439.10 | 3141.723 | 4796.566 |
| #2 | 3490.963 | 73418.07 | 14510.12 | 3123.816 | 4796.995 |
| #3 | 3495.496 | 73295.22 | 14594.07 | 3137.688 | 4801.494 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICSA002 Acquired: 3/5/2025 15:31:50 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA002 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0037769** | **-.005160** | **.0023437** | **.0119705** | **.0065746** | **216.7620** |
| Stddev | .0017425 | .002725 | .0012897 | .0022582 | .0012914 | 1.3997 |
| %RSD | 46.13609 | 52.80683 | 55.02873 | 18.86514 | 19.64210 | .6457502 |
| #1 | .0023042 | -.006995 | .0022007 | .0132251 | .0071551 | 216.2091 |
| #2 | .0057006 | -.002029 | .0011315 | .0093635 | .0050948 | 215.7232 |
| #3 | .0033260 | -.006455 | .0036990 | .0133228 | .0074738 | 218.3538 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0070671** | **-.000190** | **.0001556** | **235.2950** | **.0526549** | **.0014303** |
| Stddev | .0005195 | .000107 | .0000934 | .3086 | .0005767 | .0001354 |
| %RSD | 7.350972 | 56.44135 | 60.07342 | .1311477 | 1.095215 | 9.463462 |
| #1 | .0075956 | -.000176 | .0001776 | 235.6133 | .0526214 | .0013404 |
| #2 | .0065571 | -.000303 | .0002361 | 234.9972 | .0520958 | .0015859 |
| #3 | .0070485 | -.000090 | .0000531 | 235.2745 | .0532477 | .0013644 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002539** | **96.77429** | **.0111126** | **229.3974** | **.0046920** | **-.002315** |
| Stddev | .000874 | .07229 | .0001348 | .1748 | .0000400 | .000391 |
| %RSD | 34.43164 | .0747006 | 1.212603 | .0762120 | .8533053 | 16.90265 |
| #1 | -.002113 | 96.81936 | .0111819 | 229.3667 | .0047202 | -.002583 |
| #2 | -.001960 | 96.69091 | .0111986 | 229.5856 | .0046461 | -.002496 |
| #3 | -.003544 | 96.81260 | .0109573 | 229.2400 | .0047096 | -.001866 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0813398** | **-.008235** | **-.007386** | **-.199845** | **.0022862** | F **.4066362** |
| Stddev | .3353192 | .001542 | .000530 | .048426 | .0018276 | .0006211 |
| %RSD | 412.2450 | 18.72695 | 7.181652 | 24.23201 | 79.94248 | .1527367 |
| #1 | -.303051 | -.009647 | -.007926 | -.197807 | .0037060 | .4073522 |
| #2 | .313805 | -.006589 | -.007367 | -.152469 | .0002241 | .4063137 |
| #3 | .233266 | -.008470 | -.006865 | -.249257 | .0029284 | .4062426 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICSA002 Acquired: 3/5/2025 15:31:50 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA002 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0004898 | .0207503 | .0020592 | -.004832 | -.002715 | .0042300 |
| Stddev | .0002493 | .0058034 | .0047185 | .001746 | .000754 | .0013494 |
| %RSD | 50.90827 | 27.96780 | 229.1367 | 36.14132 | 27.77528 | 31.89993 |
| #1 | .0003543 | .0140491 | -.002111 | -.005601 | -.001912 | .0032855 |
| #2 | .0003375 | .0241004 | .001108 | -.002833 | -.003408 | .0057755 |
| #3 | .0007775 | .0241013 | .007181 | -.006062 | -.002826 | .0036291 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F .1000162 |
| Stddev | .0002865 |
| %RSD | .2864051 |
| #1 | .0999714 |
| #2 | .0997547 |
| #3 | .1003223 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3116.633 | 64511.51 | 14132.27 | 2803.519 | 3792.651 |
| Stddev | 6.132 | 117.24 | 12.88 | 11.808 | 12.712 |
| %RSD | .1967579 | .1817411 | .0911464 | .4211945 | .3351806 |
| #1 | 3115.885 | 64376.18 | 14131.06 | 2800.939 | 3794.881 |
| #2 | 3123.105 | 64575.76 | 14120.03 | 2793.214 | 3804.101 |
| #3 | 3110.909 | 64582.58 | 14145.71 | 2816.404 | 3778.971 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICSAB002 Acquired: 3/5/2025 15:36:04 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB002 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0970928** | **.0937214** | **.0523289** | **.0548482** | **.5439589** | **221.7099** |
| Stddev | .0027207 | .0024679 | .0023631 | .0023280 | .0015348 | 2.0776 |
| %RSD | 2.802193 | 2.633264 | 4.515801 | 4.244375 | .2821567 | .9370922 |
| #1 | .0949170 | .0922677 | .0546140 | .0535984 | .5428292 | 221.8329 |
| #2 | .0962181 | .0923256 | .0524777 | .0534121 | .5457063 | 219.5735 |
| #3 | .1001433 | .0965709 | .0498949 | .0575342 | .5433411 | 223.7233 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4948349** | **.5086568** | **.9925617** | **234.4833** | **.5912165** | **.4988430** |
| Stddev | .0016746 | .0002494 | .0002633 | .5009 | .0013427 | .0004543 |
| %RSD | .3384211 | .0490360 | .0265276 | .2136152 | .2271131 | .0910644 |
| #1 | .4962732 | .5089108 | .9926510 | 234.3982 | .5926755 | .4983356 |
| #2 | .4952349 | .5084122 | .9927687 | 235.0213 | .5900326 | .4989813 |
| #3 | .4929964 | .5086473 | .9922654 | 234.0305 | .5909414 | .4992120 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5026221** | **97.38144** | **.5189971** | **229.7069** | **1.002110** | **.1983804** |
| Stddev | .0020021 | .11720 | .0019738 | .4954 | .001788 | .0008797 |
| %RSD | .3983287 | .1203492 | .3803189 | .2156867 | .1783898 | .4434233 |
| #1 | .5016833 | 97.29831 | .5168131 | 229.2949 | 1.000123 | .1973919 |
| #2 | .5012620 | 97.51548 | .5206536 | 230.2567 | 1.003588 | .1990771 |
| #3 | .5049211 | 97.33053 | .5195246 | 229.5691 | 1.002619 | .1986723 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.046131** | **.4889379** | **.9799523** | **-.526446** | **.0059862** | F **1.414832** |
| Stddev | .275860 | .0028754 | .0069805 | .070767 | .0022281 | .000294 |
| %RSD | 597.9990 | .5880983 | .7123331 | 13.44244 | 37.22017 | .0207789 |
| #1 | -.363481 | .4886657 | .9719628 | -.483572 | .0043693 | 1.414728 |
| #2 | .088767 | .4919397 | .9848711 | -.608127 | .0050615 | 1.415164 |
| #3 | .136322 | .4862081 | .9830229 | -.487639 | .0085277 | 1.414605 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: ICSAB002 Acquired: 3/5/2025 15:36:04 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB002 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F 1.062896 | .0298267 | F .8886964 | F 1.109835 | F 1.127515 | .0039716 |
| Stddev | .000980 | .0069715 | .0048500 | .002480 | .005326 | .0007213 |
| %RSD | .0921706 | 23.37323 | .5457448 | .2234846 | .4723615 | 18.16199 |
| #1 | 1.062119 | .0319316 | .8930165 | 1.109048 | 1.127032 | .0044086 |
| #2 | 1.063997 | .0355032 | .8896228 | 1.112613 | 1.133066 | .0043671 |
| #3 | 1.062572 | .0220454 | .8834501 | 1.107844 | 1.122447 | .0031390 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F .1020303 |
| Stddev | .0005256 |
| %RSD | .5151538 |
| #1 | .1014312 |
| #2 | .1022457 |
| #3 | .1024140 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3106.012 | 63610.71 | 14105.34 | 2757.996 | 3803.729 |
| Stddev | 5.096 | 114.50 | 23.60 | 9.362 | 1.847 |
| %RSD | .1640579 | .1799936 | .1673115 | .3394599 | .0485446 |
| #1 | 3108.530 | 63594.35 | 14081.89 | 2768.415 | 3804.769 |
| #2 | 3109.359 | 63505.26 | 14105.05 | 2750.289 | 3804.821 |
| #3 | 3100.148 | 63732.50 | 14129.09 | 2755.284 | 3801.597 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCV004 Acquired: 3/5/2025 15:40:06 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV004 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.784442** | **4.641491** | **24.13149** | **4.761084** | **4.810445** | **380.6601** |
| Stddev | .020995 | .031628 | .04448 | .014358 | .009961 | 2.8918 |
| %RSD | .4388171 | .6814159 | .1843163 | .3015662 | .2070658 | .7596815 |
| #1 | 4.797801 | 4.630669 | 24.09118 | 4.770430 | 4.818028 | 383.9959 |
| #2 | 4.760243 | 4.616696 | 24.12410 | 4.744552 | 4.799164 | 379.1222 |
| #3 | 4.795283 | 4.677110 | 24.17921 | 4.768270 | 4.814142 | 378.8621 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **10.20924** | **.4869148** | **2.448287** | **390.0573** | **15.34238** | **2.450297** |
| Stddev | .07998 | .0023597 | .005940 | 1.3188 | .02696 | .003710 |
| %RSD | .7833857 | .4846292 | .2426127 | .3381127 | .1757062 | .1514153 |
| #1 | 10.28709 | .4844557 | 2.442874 | 390.8653 | 15.36715 | 2.449820 |
| #2 | 10.21332 | .4871280 | 2.447344 | 390.7711 | 15.34631 | 2.446848 |
| #3 | 10.12729 | .4891607 | 2.454641 | 388.5354 | 15.31367 | 2.454222 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **14.97889** | **394.8225** | **15.28973** | **389.6361** | **2.450685** | **1.264723** |
| Stddev | .02300 | 2.1897 | .08009 | 1.9133 | .004167 | .001759 |
| %RSD | .1535201 | .5546055 | .5238236 | .4910561 | .1700141 | .1391164 |
| #1 | 14.99500 | 397.1993 | 15.37023 | 391.5205 | 2.447937 | 1.265951 |
| #2 | 14.98912 | 394.3812 | 15.28890 | 389.6928 | 2.448639 | 1.265510 |
| #3 | 14.95256 | 392.8871 | 15.21005 | 387.6951 | 2.455479 | 1.262707 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **389.8428** | **2.441783** | **15.38187** | **157.1729** | **4.876232** | F **5.869769** |
| Stddev | .3987 | .005445 | .07391 | 1.1758 | .017942 | .011335 |
| %RSD | .1022643 | .2229978 | .4804830 | .7480933 | .3679441 | .1931127 |
| #1 | 389.7882 | 2.440857 | 15.46589 | 158.1308 | 4.856868 | 5.856905 |
| #2 | 390.2659 | 2.436859 | 15.35281 | 157.5272 | 4.879535 | 5.874111 |
| #3 | 389.4742 | 2.447631 | 15.32691 | 155.8607 | 4.892293 | 5.878292 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCV004 Acquired: 3/5/2025 15:40:06 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV004 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.780271** | **4.911754** | **4.882538** | **4.874401** | **4.909130** | **5.195051** |
| Stddev | .017082 | .018034 | .009394 | .018444 | .009159 | .040343 |
| %RSD | .3573417 | .3671571 | .1923961 | .3783923 | .1865727 | .7765665 |
| #1 | 4.778399 | 4.921162 | 4.872036 | 4.863618 | 4.912708 | 5.240604 |
| #2 | 4.764203 | 4.890962 | 4.885441 | 4.863887 | 4.898722 | 5.180714 |
| #3 | 4.798212 | 4.923139 | 4.890138 | 4.895698 | 4.915960 | 5.163834 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | **5.189237** |
| Stddev | .036102 |
| %RSD | .6957182 |
| #1 | 5.172491 |
| #2 | 5.230672 |
| #3 | 5.164549 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2723.741** | **59670.57** | **13828.85** | **2531.550** | **3358.568** |
| Stddev | 4.388 | 192.01 | 44.48 | 4.727 | 2.422 |
| %RSD | .1610942 | .3217868 | .3216807 | .1867126 | .0721185 |
| #1 | 2722.676 | 59519.32 | 13880.18 | 2526.092 | 3360.579 |
| #2 | 2728.563 | 59605.79 | 13804.87 | 2534.259 | 3359.248 |
| #3 | 2719.983 | 59886.59 | 13801.50 | 2534.299 | 3355.879 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCB004 Acquired: 3/5/2025 15:44:24 Type: Unk
Method: EPA SFAM01.0(v68) 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 | **.0006488** | **.0017241** | **.0007093** | **-.001589** | **-.000045** | **-.003132** | **.0001028** |
| Stddev | .0031932 | .0018801 | .0002931 | .000772 | .001386 | .004052 | .0006257 |
| %RSD | 492.1532 | 109.0488 | 41.32083 | 48.54906 | 3087.243 | 129.3403 | 608.9826 |
| #1 | .0043269 | .0031516 | .0009966 | -.001640 | -.001586 | -.000412 | -.000424 |
| #2 | -.001414 | .0024269 | .0007204 | -.000794 | .001099 | -.001196 | .000794 |
| #3 | -.000966 | -.000406 | .0004108 | -.002335 | .000353 | -.007789 | -.000062 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000007** | **.0000575** | **-.000119** | **.0002269** | **.0001274** | **.0008159** | **.0031150** |
| Stddev | .000015 | .0000436 | .005708 | .0000386 | .0002155 | .0018033 | .0027241 |
| %RSD | 217.7650 | 75.91330 | 4808.310 | 17.01284 | 169.2309 | 221.0133 | 87.45128 |
| #1 | -.000010 | .0000976 | .006148 | .0001908 | .0003701 | .0028039 | .0043694 |
| #2 | -.000019 | .0000110 | -.005022 | .0002676 | -.000041 | -.000715 | .0049859 |
| #3 | .000009 | .0000638 | -.001482 | .0002225 | .000053 | .000358 | -.000010 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000092** | **.0091592** | **-.000222** | **.0003308** | **-.051490** | **-.001026** | **-.001720** |
| Stddev | .000075 | .0044629 | .000415 | .0002619 | .385934 | .001164 | .000892 |
| %RSD | 80.94844 | 48.72586 | 186.8259 | 79.14500 | 749.5250 | 113.4907 | 51.83480 |
| #1 | -.000156 | .0140807 | -.000090 | .0000444 | .012656 | .000236 | -.002116 |
| #2 | -.000010 | .0053749 | -.000687 | .0005579 | .298351 | -.001254 | -.000699 |
| #3 | -.000111 | .0080221 | .000110 | .0003902 | -.465478 | -.002059 | -.002346 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.082181** | **-.000686** | **.0045131** | **.0002714** | **.0029328** | **.0075030** | **-.000719** |
| Stddev | .010165 | .002064 | .0003145 | .0000734 | .0012846 | .0021582 | .000555 |
| %RSD | 12.36947 | 300.7973 | 6.969038 | 27.05664 | 43.80079 | 28.76415 | 77.21107 |
| #1 | -.093282 | -.001878 | .0047860 | .0002325 | .0015394 | .0071018 | -.000287 |
| #2 | -.073326 | -.001879 | .0045843 | .0002255 | .0031891 | .0055736 | -.000525 |
| #3 | -.079936 | .001697 | .0041691 | .0003561 | .0040699 | .0098336 | -.001346 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCB004 Acquired: 3/5/2025 15:44:24 Type: Unk
Method: EPA SFAM01.0(v68) 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 | .0002575 | -.001033 | .0001221 |
| Stddev | .0002384 | .001074 | .0000286 |
| %RSD | 92.55814 | 103.9983 | 23.42398 |
| #1 | -.000009 | -.002247 | .0001117 |
| #2 | .000333 | -.000645 | .0001545 |
| #3 | .000449 | -.000206 | .0001002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3499.564 | 72694.89 | 14540.80 | 3128.837 | 4801.282 |
| Stddev | 2.729 | 99.51 | 84.02 | 9.197 | 2.452 |
| %RSD | .0779802 | .1368905 | .5778507 | .2939500 | .0510615 |
| #1 | 3496.413 | 72777.09 | 14571.01 | 3123.852 | 4800.091 |
| #2 | 3501.113 | 72723.33 | 14605.54 | 3123.209 | 4799.654 |
| #3 | 3501.166 | 72584.26 | 14445.85 | 3139.451 | 4804.102 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: PB166911TB Acquired: 3/5/2025 15:48:33 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB911 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019726** | **-.000109** | **-.000209** | **-.002614** | **.0002936** | **-.003387** | **.0002611** |
| Stddev | .0021024 | .001631 | .000588 | .000956 | .0005332 | .002251 | .0005390 |
| %RSD | 106.5826 | 1491.048 | 281.8289 | 36.58403 | 181.6032 | 66.45071 | 206.4112 |
| #1 | .0031569 | -.001913 | .000291 | -.001521 | -.000223 | -.000797 | -.000100 |
| #2 | .0032156 | .001260 | -.000856 | -.003023 | .000842 | -.004867 | .000003 |
| #3 | -.000455 | .000326 | -.000061 | -.003298 | .000261 | -.004498 | .000881 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000252** | **.0000159** | **-.002212** | **.0000486** | **.0001025** | **-.000328** | **.0011851** |
| Stddev | .0000247 | .0001031 | .006534 | .0000482 | .0002280 | .000858 | .0025235 |
| %RSD | 97.80693 | 649.9610 | 295.4101 | 99.22612 | 222.4177 | 261.5241 | 212.9372 |
| #1 | .0000207 | .0001321 | -.007065 | -.000007 | .0003595 | .000386 | -.001183 |
| #2 | .0000518 | -.000020 | -.004787 | .000075 | .0000233 | -.001279 | .003839 |
| #3 | .0000031 | -.000065 | .005217 | .000078 | -.000075 | -.000090 | .000899 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000025** | **-.001154** | **-.000076** | **-.000017** | **.0550964** | **-.000656** | **-.002014** |
| Stddev | .000085 | .011258 | .000246 | .000079 | .1653868 | .001828 | .000932 |
| %RSD | 343.0391 | 975.8393 | 324.4326 | 467.0727 | 300.1772 | 278.7441 | 46.30007 |
| #1 | .000040 | -.013185 | .000143 | -.000054 | .0424088 | -.000784 | -.002429 |
| #2 | .000007 | .000600 | -.000028 | .000074 | .2264616 | .001233 | -.000946 |
| #3 | -.000121 | .009124 | -.000343 | -.000071 | -.103581 | -.002416 | -.002667 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.047515** | **-.000501** | **.0015069** | **-.000252** | **.0014522** | **.0023354** | **-.000240** |
| Stddev | .097894 | .000784 | .0004622 | .000191 | .0047465 | .0044635 | .000638 |
| %RSD | 206.0282 | 156.3385 | 30.67047 | 75.96686 | 326.8378 | 191.1229 | 265.6920 |
| #1 | -.113513 | .000393 | .0019752 | -.000096 | .0059982 | .0020430 | -.000261 |
| #2 | -.093991 | -.000827 | .0014945 | -.000195 | -.003472 | -.001975 | -.000868 |
| #3 | .064960 | -.001070 | .0010511 | -.000466 | .001831 | .006938 | .000408 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: PB166911TB Acquired: 3/5/2025 15:48:33 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB911 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.000149** | **-.001944** | **.0000570** |
| Stddev | .000189 | .000815 | .0000371 |
| %RSD | 126.8733 | 41.93608 | 65.08263 |
| #1 | .000043 | -.001014 | .0000792 |
| #2 | -.000334 | -.002534 | .0000142 |
| #3 | -.000155 | -.002284 | .0000777 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3528.898** | **72353.98** | **14455.08** | **3109.866** | **4875.918** |
| Stddev | 2.721 | 1560.10 | 51.73 | 64.996 | 2.611 |
| %RSD | .0771147 | 2.156202 | .3578875 | 2.090002 | .0535590 |
| #1 | 3531.967 | 73483.77 | 14402.33 | 3156.281 | 4872.981 |
| #2 | 3526.780 | 73004.24 | 14457.17 | 3137.733 | 4877.977 |
| #3 | 3527.947 | 70573.94 | 14505.73 | 3035.582 | 4876.797 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: PB166912TB Acquired: 3/5/2025 15:52:42 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB912 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0017705 | .0001682 | .0002583 | .0005032 | -.000538 | -.007545 | -.001126 |
| Stddev | .0005322 | .0020328 | .0016828 | .0020435 | .001282 | .007038 | .000245 |
| %RSD | 30.06053 | 1208.395 | 651.4933 | 406.0782 | 238.3101 | 93.29172 | 21.75310 |
| #1 | .0014162 | .0024258 | -.001525 | -.001809 | .000932 | .000577 | -.001112 |
| #2 | .0015128 | -.001517 | .000480 | .002067 | -.001424 | -.011343 | -.000888 |
| #3 | .0023825 | -.000404 | .001819 | .001252 | -.001122 | -.011868 | -.001378 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.000055 | -.000040 | -.003607 | -.000109 | .0000820 | -.001436 | -.004265 |
| Stddev | .000111 | .000033 | .003852 | .000438 | .0000727 | .000653 | .006640 |
| %RSD | 202.6555 | 83.06878 | 106.7916 | 402.5628 | 88.68721 | 45.47762 | 155.6919 |
| #1 | -.000181 | -.000075 | -.003632 | -.000431 | .0000315 | -.000984 | -.008576 |
| #2 | -.000012 | -.000008 | .000257 | .000389 | .0000492 | -.002185 | -.007602 |
| #3 | .000029 | -.000037 | -.007447 | -.000284 | .0001654 | -.001140 | .003382 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.000326 | -.004335 | .0001077 | .0002317 | -.062402 | -.002289 | -.001585 |
| Stddev | .000094 | .005494 | .0002746 | .0001581 | .287011 | .001335 | .000783 |
| %RSD | 28.69953 | 126.7508 | 255.0361 | 68.23532 | 459.9370 | 58.33410 | 49.39345 |
| #1 | -.000384 | .001914 | -.000194 | .0001971 | -.377280 | -.003697 | -.002352 |
| #2 | -.000376 | -.006509 | .000175 | .0000937 | .005515 | -.001040 | -.001614 |
| #3 | -.000218 | -.008409 | .000343 | .0004042 | .184559 | -.002130 | -.000787 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.188130 | -.001240 | -.000006 | -.000094 | -.000954 | .0038213 | .0000175 |
| Stddev | .029555 | .001803 | .000227 | .000221 | .003195 | .0020139 | .0005615 |
| %RSD | 15.70974 | 145.4054 | 4102.111 | 234.8228 | 334.7077 | 52.70214 | 3205.895 |
| #1 | -.177280 | .000575 | -.000216 | .000041 | -.003967 | .0015929 | -.000605 |
| #2 | -.165534 | -.001264 | -.000036 | .000026 | -.001291 | .0055113 | .000486 |
| #3 | -.221577 | -.003032 | .000236 | -.000350 | .002395 | .0043597 | .000172 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: PB166912TB Acquired: 3/5/2025 15:52:42 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB912 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0001620 | -.002692 | .0000534 |
| Stddev | .0005198 | .000783 | .0000579 |
| %RSD | 320.8630 | 29.09679 | 108.5935 |
| | | | |
| #1 | -.000154 | -.001872 | .0000523 |
| #2 | -.000122 | -.002773 | .0001118 |
| #3 | .000762 | -.003432 | -.000004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3476.097 | 73491.91 | 14250.39 | 3166.529 | 4771.338 |
| Stddev | 1.456 | 188.35 | 41.18 | 16.296 | 6.342 |
| %RSD | .0418739 | .2562863 | .2889951 | .5146447 | .1329261 |
| | | | | | |
| #1 | 3474.507 | 73319.15 | 14206.69 | 3149.233 | 4764.021 |
| #2 | 3476.418 | 73692.71 | 14288.48 | 3181.597 | 4775.264 |
| #3 | 3477.365 | 73463.87 | 14256.02 | 3168.756 | 4774.729 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: PB166913TB Acquired: 3/5/2025 15:56:52 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB913 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0015733** | **.0016516** | **-.000163** | **.0006842** | **.0011148** | **-.007052** | **-.000822** |
| Stddev | .0017023 | .0005766 | .000732 | .0035988 | .0009650 | .008257 | .000619 |
| %RSD | 108.1973 | 34.91364 | 450.4731 | 526.0124 | 86.56365 | 117.0951 | 75.27620 |
| #1 | -.000325 | .0015106 | -.000696 | -.000388 | .0000008 | -.009879 | -.000205 |
| #2 | .002083 | .0011585 | .000672 | -.002256 | .0016933 | .002248 | -.000819 |
| #3 | .002963 | .0022856 | -.000464 | .004697 | .0016505 | -.013523 | -.001442 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000022** | **-.000068** | **-.002264** | **-.000297** | **.0001351** | **-.000690** | **-.001735** |
| Stddev | .000048 | .000102 | .005638 | .000040 | .0000502 | .001520 | .001998 |
| %RSD | 219.6244 | 150.3906 | 249.0301 | 13.57672 | 37.17694 | 220.2424 | 115.1692 |
| #1 | -.000024 | -.000010 | .001381 | -.000250 | .0001930 | -.000976 | -.003488 |
| #2 | -.000068 | -.000185 | .000584 | -.000322 | .0001088 | -.002048 | -.002158 |
| #3 | .000027 | -.000008 | -.008758 | -.000318 | .0001035 | .000953 | .000441 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000266** | **-.003268** | **-.000177** | **.0002585** | **-.143464** | **-.001718** | **-.000884** |
| Stddev | .0001613 | .014129 | .000154 | .0000440 | .059492 | .000707 | .000996 |
| %RSD | 607.0844 | 432.3599 | 87.18714 | 17.02657 | 41.46830 | 41.17000 | 112.6261 |
| #1 | -.000098 | .006736 | -.000169 | .0002624 | -.204794 | -.002304 | -.000050 |
| #2 | -.000031 | -.019431 | -.000027 | .0003004 | -.085999 | -.001918 | -.001986 |
| #3 | .000209 | .002892 | -.000334 | .0002127 | -.139597 | -.000932 | -.000616 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.180834** | **.0005044** | **-.001140** | **-.000013** | **.0015188** | **.0046431** | **-.000776** |
| Stddev | .035866 | .0015649 | .000817 | .000035 | .0018012 | .0013216 | .000584 |
| %RSD | 19.83344 | 310.2498 | 71.69034 | 278.6267 | 118.5903 | 28.46324 | 75.31413 |
| #1 | -.205985 | .0014017 | -.000809 | -.000038 | .0007528 | .0031423 | -.000798 |
| #2 | -.196752 | .0014140 | -.000540 | -.000027 | .0035764 | .0051545 | -.000181 |
| #3 | -.139764 | -.001303 | -.002071 | .000028 | .0002273 | .0056326 | -.001349 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: PB166913TB Acquired: 3/5/2025 15:56:52 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LEB913 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0004045 | -.002391 | .0000582 |
| Stddev | .0008019 | .000860 | .0000306 |
| %RSD | 198.2656 | 35.94970 | 52.56419 |
| #1 | .0009549 | -.001403 | .0000789 |
| #2 | .0007741 | -.002801 | .0000727 |
| #3 | -.000516 | -.002969 | .0000231 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3466.514 | 73025.54 | 14596.48 | 3140.256 | 4773.655 |
| Stddev | 7.658 | 218.36 | 49.82 | 9.863 | 13.895 |
| %RSD | .2209187 | .2990137 | .3413191 | .3140701 | .2910725 |
| #1 | 3470.826 | 72774.96 | 14569.61 | 3130.285 | 4789.400 |
| #2 | 3471.044 | 73175.05 | 14653.97 | 3140.478 | 4768.457 |
| #3 | 3457.672 | 73126.61 | 14565.86 | 3150.006 | 4763.109 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-14 Acquired: 3/5/2025 16:01:00 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F9 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014481** | **.0007229** | **-.000021** | **-.002073** | **-.000459** | **.0096734** |
| Stddev | .0010202 | .0007156 | .001436 | .002465 | .000585 | .0060633 |
| %RSD | 70.44972 | 98.98166 | 6911.403 | 118.9109 | 127.4531 | 62.67992 |
| #1 | .0005369 | .0005336 | -.000429 | -.004434 | -.000185 | .0108163 |
| #2 | .0025503 | .0001211 | -.001209 | -.002270 | -.000061 | .0031200 |
| #3 | .0012571 | .0015142 | .001576 | .000485 | -.001130 | .0150838 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1982158** | **.0000468** | **-.000017** | **11.32541** | **-.000507** | **.0007791** |
| Stddev | .0006610 | .0000443 | .000012 | .02356 | .000163 | .0002100 |
| %RSD | .3334862 | 94.53659 | 75.70895 | .2079986 | 32.08177 | 26.95777 |
| #1 | .1989403 | .0000303 | -.000003 | 11.34705 | -.000443 | .0008282 |
| #2 | .1976455 | .0000970 | -.000028 | 11.30031 | -.000691 | .0009603 |
| #3 | .1980616 | .0000132 | -.000019 | 11.32886 | -.000386 | .0005489 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014331** | **.0162522** | **.0622093** | **2.771226** | **.0020774** | **.0003846** |
| Stddev | .0018823 | .0009852 | .0003787 | .003962 | .0002238 | .0002382 |
| %RSD | 131.3483 | 6.062030 | .6088053 | .1429766 | 10.77404 | 61.94673 |
| #1 | -.000737 | .0173256 | .0621046 | 2.770609 | .0019620 | .0005771 |
| #2 | .002621 | .0153892 | .0618938 | 2.775460 | .0019348 | .0004585 |
| #3 | .002416 | .0160417 | .0626293 | 2.767608 | .0023353 | .0001182 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.309943** | **-.001820** | **.0962680** | **-.894073** | **.0053961** | **.0963191** |
| Stddev | .018796 | .000310 | .0004095 | .028756 | .0014908 | .0004489 |
| %RSD | .4360972 | 17.04341 | .4253876 | 3.216262 | 27.62680 | .4660789 |
| #1 | 4.293156 | -.002176 | .0957957 | -.917240 | .0070589 | .0958019 |
| #2 | 4.306424 | -.001615 | .0964854 | -.903089 | .0041790 | .0965478 |
| #3 | 4.330250 | -.001668 | .0965231 | -.861890 | .0049504 | .0966077 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-14 Acquired: 3/5/2025 16:01:00 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8F9 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.000058 | F 10.57786 | 5.559839 | -.002259 | -.000207 | -.001979 |
| Stddev | .000102 | .03208 | .010938 | .000510 | .000416 | .001135 |
| %RSD | 175.4427 | .3032916 | .1967346 | 22.58701 | 200.5333 | 57.33433 |
| #1 | .000032 | 10.61295 | 5.554035 | -.002848 | .000091 | -.001126 |
| #2 | -.000169 | 10.55003 | 5.572456 | -.001942 | -.000683 | -.003266 |
| #3 | -.000037 | 10.57060 | 5.553027 | -.001988 | -.000030 | -.001544 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0847194 |
| Stddev | .0002564 |
| %RSD | .3026866 |
| #1 | .0844985 |
| #2 | .0846590 |
| #3 | .0850006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3549.761 | 74983.73 | 15074.61 | 3227.919 | 4870.396 |
| Stddev | 3.985 | 163.50 | 45.73 | 9.464 | 12.059 |
| %RSD | .1122588 | .2180409 | .3033626 | .2931887 | .2475973 |
| #1 | 3553.864 | 74815.48 | 15044.17 | 3235.901 | 4869.219 |
| #2 | 3545.906 | 75142.01 | 15052.46 | 3230.393 | 4858.968 |
| #3 | 3549.513 | 74993.71 | 15127.20 | 3217.464 | 4883.000 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-15 Acquired: 3/5/2025 16:05:06 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G0 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003819** | **-.000207** | **-.000795** | **.0011995** | **-.000263** | **.0042347** |
| Stddev | .0037596 | .000160 | .002082 | .0020620 | .000890 | .0077350 |
| %RSD | 984.4946 | 77.09362 | 261.7956 | 171.9019 | 338.7729 | 182.6596 |
| #1 | -.003944 | -.000029 | -.001303 | .0015596 | -.000340 | .0056860 |
| #2 | .002228 | -.000255 | .001494 | .0030579 | -.001112 | .0111412 |
| #3 | .002861 | -.000337 | -.002577 | -.001019 | .000664 | -.004123 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1723676** | **.0000610** | **.0001554** | **9.294944** | **-.000760** | **.0120175** |
| Stddev | .0003011 | .0000299 | .0000209 | .027078 | .000059 | .0002723 |
| %RSD | .1746798 | 49.07916 | 13.47383 | .2913192 | 7.765470 | 2.266321 |
| #1 | .1722017 | .0000581 | .0001796 | 9.278812 | -.000813 | .0118910 |
| #2 | .1721859 | .0000922 | .0001433 | 9.279814 | -.000769 | .0118314 |
| #3 | .1727151 | .0000326 | .0001434 | 9.326205 | -.000696 | .0123301 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013095** | **.0192684** | **.3265044** | **6.310364** | **.0093566** | **.0002157** |
| Stddev | .0011794 | .0036841 | .0021474 | .012687 | .0002782 | .0005568 |
| %RSD | 90.06244 | 19.11965 | .6576889 | .2010499 | 2.973485 | 258.1539 |
| #1 | .0020383 | .0194623 | .3257143 | 6.324907 | .0092306 | -.000392 |
| #2 | -.000051 | .0154913 | .3248639 | 6.301568 | .0096755 | .000339 |
| #3 | .001942 | .0228518 | .3289349 | 6.304615 | .0091636 | .000701 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.574548** | **-.002265** | **.0984608** | **2.688438** | **.0047328** | **.0861580** |
| Stddev | .104111 | .002139 | .0011447 | .025978 | .0013708 | .0012354 |
| %RSD | 2.275881 | 94.43771 | 1.162562 | .9662880 | 28.96477 | 1.433900 |
| #1 | 4.686780 | -.000531 | .0979150 | 2.681476 | .0033511 | .0875433 |
| #2 | 4.481122 | -.001608 | .0976913 | 2.666650 | .0060925 | .0857604 |
| #3 | 4.555741 | -.004656 | .0997762 | 2.717187 | .0047547 | .0851703 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-15 Acquired: 3/5/2025 16:05:06 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G0 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0004591 | F 16.16807 | 7.147419 | -.002224 | -.000530 | .0036062 |
| Stddev | .0001850 | .04719 | .017477 | .000059 | .000496 | .0003276 |
| %RSD | 40.28467 | .2918624 | .2445181 | 2.671121 | 93.54980 | 9.083382 |
| #1 | .0002556 | 16.13795 | 7.158873 | -.002234 | -.001102 | .0032729 |
| #2 | .0005048 | 16.14381 | 7.156081 | -.002278 | -.000235 | .0039277 |
| #3 | .0006169 | 16.22245 | 7.127303 | -.002160 | -.000253 | .0036180 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0709716 |
| Stddev | .0003536 |
| %RSD | .4981733 |
| #1 | .0708601 |
| #2 | .0706872 |
| #3 | .0713675 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3521.585 | 73263.33 | 15036.03 | 3157.909 | 4807.920 |
| Stddev | 4.121 | 130.57 | 57.33 | 4.554 | 7.897 |
| %RSD | .1170134 | .1782193 | .3812635 | .1442140 | .1642556 |
| #1 | 3524.447 | 73125.70 | 14979.76 | 3160.349 | 4812.964 |
| #2 | 3523.446 | 73385.46 | 15033.99 | 3160.722 | 4811.977 |
| #3 | 3516.862 | 73278.82 | 15094.36 | 3152.654 | 4798.819 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-16 Acquired: 3/5/2025 16:09:11 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G1 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000145** | **.0000124** | **.0016334** | **.0005239** | **.0013184** | **.0223487** |
| Stddev | .000193 | .0047786 | .0008242 | .0021936 | .0016804 | .0021225 |
| %RSD | 132.5062 | 38556.03 | 50.45693 | 418.7094 | 127.4623 | 9.497353 |
| #1 | -.000359 | .0002146 | .0019136 | .0030297 | -.000473 | .0227254 |
| #2 | .000014 | -.004864 | .0022810 | -.000409 | .001568 | .0200631 |
| #3 | -.000091 | .004687 | .0007057 | -.001049 | .002860 | .0242577 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2105119** | **.0000761** | **-.000022** | **28.27313** | **-.000857** | **.0001660** |
| Stddev | .0019965 | .0000703 | .000035 | .12022 | .000236 | .0002188 |
| %RSD | .9483827 | 92.36066 | 162.0800 | .4251931 | 27.51948 | 131.7821 |
| #1 | .2094646 | .0000613 | -.000029 | 28.27412 | -.000949 | .0000494 |
| #2 | .2128141 | .0000144 | -.000052 | 28.39285 | -.001034 | .0000303 |
| #3 | .2092571 | .0001526 | .000017 | 28.15242 | -.000589 | .0004184 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011190** | **.1209693** | **.0168573** | **4.112027** | **.0006699** | **.0004437** |
| Stddev | .0012062 | .0055828 | .0002060 | .004380 | .0003860 | .0002285 |
| %RSD | 107.8019 | 4.615030 | 1.222260 | .1065226 | 57.62537 | 51.50126 |
| #1 | .0022629 | .1212295 | .0168191 | 4.110896 | .0006965 | .0006993 |
| #2 | -.000141 | .1264174 | .0170798 | 4.116863 | .0010420 | .0002592 |
| #3 | .001235 | .1152610 | .0166730 | 4.108324 | .0002713 | .0003726 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.145216** | **-.000495** | **.0453586** | **9.325681** | **.0041895** | **.0721348** |
| Stddev | .226997 | .001471 | .0015416 | .036247 | .0027947 | .0007624 |
| %RSD | 3.693882 | 297.1083 | 3.398789 | .3886845 | 66.70761 | 1.056929 |
| #1 | 5.928119 | -.002178 | .0451475 | 9.343924 | .0065666 | .0714361 |
| #2 | 6.126568 | .000547 | .0469950 | 9.349183 | .0011109 | .0720203 |
| #3 | 6.380962 | .000146 | .0439334 | 9.283937 | .0048910 | .0729480 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-16 Acquired: 3/5/2025 16:09:11 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G1 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0358285 | F 16.76881 | 2.119526 | -.002181 | .0051727 | -.001312 |
| Stddev | .0002476 | .04082 | .016478 | .000367 | .0005725 | .000359 |
| %RSD | .6909233 | .2434284 | .7774371 | 16.84935 | 11.06766 | 27.35967 |
| #1 | .0359106 | 16.81127 | 2.103268 | -.002196 | .0051526 | -.001626 |
| #2 | .0360246 | 16.72986 | 2.119095 | -.001806 | .0057550 | -.000921 |
| #3 | .0355504 | 16.76531 | 2.136216 | -.002541 | .0046105 | -.001391 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0978987 |
| Stddev | .0004606 |
| %RSD | .4705309 |
| #1 | .0981873 |
| #2 | .0981412 |
| #3 | .0973674 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3452.336 | 72678.26 | 14936.73 | 3141.445 | 4653.094 |
| Stddev | 6.907 | 166.47 | 76.44 | 11.455 | 1.575 |
| %RSD | .2000605 | .2290522 | .5117578 | .3646320 | .0338569 |
| #1 | 3460.220 | 72653.07 | 14993.60 | 3151.023 | 4654.118 |
| #2 | 3447.354 | 72525.82 | 14966.76 | 3128.756 | 4653.884 |
| #3 | 3449.433 | 72855.89 | 14849.84 | 3144.555 | 4651.280 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-17 Acquired: 3/5/2025 16:13:17 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G2 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0008770 | -.000986 | .0004875 | -.001742 | -.000469 | .0522927 | .2059101 |
| Stddev | .0017744 | .000915 | .0016659 | .002740 | .001687 | .0077713 | .0013098 |
| %RSD | 202.3379 | 92.83790 | 341.7374 | 157.3402 | 359.3985 | 14.86120 | .6361014 |
| #1 | -.000484 | -.000625 | .0010383 | .000815 | -.001713 | .0460348 | .2072166 |
| #2 | .000231 | -.002026 | .0018082 | -.001405 | -.001147 | .0609914 | .2045970 |
| #3 | .002884 | -.000306 | -.001384 | -.004635 | .001451 | .0498520 | .2059168 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0000810 | .0000323 | 7.956813 | -.000793 | .0056559 | -.000119 | .0871925 |
| Stddev | .0000285 | .0000328 | .033381 | .000189 | .0001368 | .000820 | .0053296 |
| %RSD | 35.21905 | 101.5413 | .4195266 | 23.87928 | 2.418271 | 688.9936 | 6.112491 |
| #1 | .0001134 | -.000000 | 7.967867 | -.000600 | .0055223 | -.001066 | .0843070 |
| #2 | .0000597 | .000065 | 7.919307 | -.000979 | .0056498 | .000376 | .0839279 |
| #3 | .0000699 | .000032 | 7.983265 | -.000800 | .0057956 | .000332 | .0933428 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .5226066 | 4.216160 | .0247420 | .0002902 | 4.407702 | -.001043 | .0866572 |
| Stddev | .0014694 | .014071 | .0000611 | .0001246 | .069874 | .001143 | .0006002 |
| %RSD | .2811599 | .3337472 | .2471433 | 42.95233 | 1.585262 | 109.5804 | .6926687 |
| #1 | .5239624 | 4.211872 | .0247322 | .0004309 | 4.406412 | .000234 | .0873502 |
| #2 | .5210453 | 4.204732 | .0248074 | .0002460 | 4.338483 | -.001970 | .0863244 |
| #3 | .5228120 | 4.231877 | .0246863 | .0001936 | 4.478212 | -.001394 | .0862971 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -1.81584 | .0046932 | .0945715 | .0000575 | 9.597184 | 5.773860 | -.001907 |
| Stddev | .03030 | .0004487 | .0003919 | .0000470 | .011559 | .026239 | .000759 |
| %RSD | 1.668502 | 9.560036 | .4144336 | 81.69143 | .1204426 | .4544398 | 39.81567 |
| #1 | -1.78355 | .0042865 | .0944537 | .0001042 | 9.588113 | 5.802797 | -.001066 |
| #2 | -1.84364 | .0051745 | .0942520 | .0000102 | 9.610199 | 5.751617 | -.002542 |
| #3 | -1.82033 | .0046185 | .0950088 | .0000581 | 9.593240 | 5.767166 | -.002115 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-17 Acquired: 3/5/2025 16:13:17 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8G2 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0025560 | .0012204 | .0563580 |
| Stddev | .0009932 | .0005543 | .0001731 |
| %RSD | 38.85638 | 45.41972 | .3071111 |
| #1 | .0014975 | .0018605 | .0562648 |
| #2 | .0034675 | .0009030 | .0562515 |
| #3 | .0027029 | .0008977 | .0565577 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3502.471 | 72894.76 | 15065.44 | 3154.125 | 4825.467 |
| Stddev | 10.856 | 164.36 | 61.42 | 15.581 | 17.626 |
| %RSD | .3099647 | .2254691 | .4076613 | .4939908 | .3652694 |
| #1 | 3510.254 | 73039.19 | 15109.15 | 3172.112 | 4839.126 |
| #2 | 3507.091 | 72929.16 | 14995.22 | 3145.492 | 4831.705 |
| #3 | 3490.069 | 72715.92 | 15091.94 | 3144.771 | 4805.570 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-18 Acquired: 3/5/2025 16:17:23 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H9 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027663** | **.0002609** | **.0020418** | **-.000212** | **.0001665** | **6.280752** |
| Stddev | .0023486 | .0011389 | .0013006 | .000639 | .0005777 | .007938 |
| %RSD | 84.90333 | 436.5545 | 63.69994 | 301.6526 | 346.9438 | .1263845 |
| #1 | .0000844 | .0009016 | .0007782 | -.000661 | .0001082 | 6.279518 |
| #2 | .0037579 | .0009350 | .0033765 | -.000494 | .0007711 | 6.289235 |
| #3 | .0044565 | -.001054 | .0019707 | .000520 | -.000380 | 6.273503 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2118234** | **.0001318** | **.0001271** | **16.24635** | **.0081491** | **.0029460** |
| Stddev | .0010177 | .0000724 | .0000308 | .06762 | .0000781 | .0001364 |
| %RSD | .4804375 | 54.92239 | 24.26492 | .4162127 | .9577699 | 4.631097 |
| #1 | .2117174 | .0002130 | .0001301 | 16.27285 | .0080693 | .0030296 |
| #2 | .2128899 | .0000739 | .0000948 | 16.29671 | .0082252 | .0030199 |
| #3 | .2108628 | .0001085 | .0001563 | 16.16949 | .0081529 | .0027886 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0458207** | **13.14169** | **.0340757** | **3.646024** | **.0177042** | **-.000470** |
| Stddev | .0021087 | .05707 | .0001706 | .017875 | .0004719 | .000303 |
| %RSD | 4.602120 | .4342440 | .5007005 | .4902668 | 2.665179 | 64.57147 |
| #1 | .0472081 | 13.15594 | .0340882 | 3.628745 | .0181801 | -.000454 |
| #2 | .0433941 | 13.19028 | .0338992 | 3.664441 | .0172366 | -.000174 |
| #3 | .0468599 | 13.07885 | .0342398 | 3.644886 | .0176958 | -.000780 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.464915** | **.0135580** | **.1213216** | **-2.08672** | **.0909052** | **.3359927** |
| Stddev | .096740 | .0012709 | .0019587 | .01682 | .0006571 | .0009389 |
| %RSD | 1.022096 | 9.373934 | 1.614495 | .8061990 | .7228466 | .2794529 |
| #1 | 9.500420 | .0144152 | .1211404 | -2.06730 | .0912290 | .3358824 |
| #2 | 9.538886 | .0120979 | .1194597 | -2.09645 | .0901491 | .3351138 |
| #3 | 9.355438 | .0141610 | .1233646 | -2.09642 | .0913376 | .3369820 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-18 Acquired: 3/5/2025 16:17:23 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8H9 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0000060 | F 11.80656 | F 20.08820 | -.001908 | .0689182 | .0003299 |
| Stddev | .0001130 | .01938 | .06564 | .000398 | .0009508 | .0004530 |
| %RSD | 1873.107 | .1641410 | .3267694 | 20.83576 | 1.379643 | 137.3428 |
| #1 | .0000012 | 11.78931 | 20.12787 | -.001508 | .0699682 | .0000270 |
| #2 | -.000104 | 11.80285 | 20.01244 | -.002303 | .0686712 | .0001119 |
| #3 | .000121 | 11.82753 | 20.12431 | -.001915 | .0681153 | .0008507 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0866197 |
| Stddev | .0000910 |
| %RSD | .1050514 |
| #1 | .0866522 |
| #2 | .0866899 |
| #3 | .0865169 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3488.390 | 72452.34 | 15133.48 | 3130.475 | 4736.137 |
| Stddev | 4.600 | 139.39 | 57.97 | 16.303 | 11.991 |
| %RSD | .1318617 | .1923836 | .3830678 | .5207855 | .2531707 |
| #1 | 3490.286 | 72292.87 | 15121.70 | 3139.925 | 4742.668 |
| #2 | 3491.738 | 72550.94 | 15196.43 | 3139.850 | 4743.445 |
| #3 | 3483.145 | 72513.21 | 15082.30 | 3111.650 | 4722.299 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-19 Acquired: 3/5/2025 16:21:27 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J0 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0078214** | **.0002683** | **.0025126** | **.0009404** | **.0013531** | **2.585577** |
| Stddev | .0013958 | .0004701 | .0007586 | .0018408 | .0007767 | .014292 |
| %RSD | 17.84578 | 175.2220 | 30.19363 | 195.7543 | 57.40059 | .5527583 |
| #1 | .0085297 | -.000191 | .0033158 | .0022218 | .0006743 | 2.569965 |
| #2 | .0062135 | .000248 | .0018082 | -.001169 | .0011850 | 2.588749 |
| #3 | .0087212 | .000748 | .0024138 | .001768 | .0022001 | 2.598016 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2388868** | **.0001473** | **.0001079** | **11.22501** | **.0031783** | **.0024455** |
| Stddev | .0013904 | .0000208 | .0000276 | .04872 | .0001941 | .0000618 |
| %RSD | .5820161 | 14.11406 | 25.58770 | .4340283 | 6.106783 | 2.525487 |
| #1 | .2386212 | .0001526 | .0000885 | 11.20019 | .0030586 | .0024195 |
| #2 | .2403908 | .0001648 | .0000958 | 11.28114 | .0030741 | .0025160 |
| #3 | .2376484 | .0001243 | .0001396 | 11.19369 | .0034022 | .0024011 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0122283** | **4.445778** | **.1277558** | **4.508342** | **.0047560** | **.0000747** |
| Stddev | .0017812 | .024575 | .0008490 | .009287 | .0001969 | .0001160 |
| %RSD | 14.56630 | .5527716 | .6645715 | .2059898 | 4.139670 | 155.3095 |
| #1 | .0135277 | 4.423591 | .1269954 | 4.497722 | .0049672 | .0000484 |
| #2 | .0101979 | 4.472193 | .1286719 | 4.514940 | .0045775 | .0002016 |
| #3 | .0129594 | 4.441549 | .1276001 | 4.512363 | .0047233 | -.000026 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.905939** | **.0115981** | **.2389384** | **-1.43159** | **1.546378** | **.2254010** |
| Stddev | .146761 | .0020516 | .0027788 | .04096 | .004942 | .0008691 |
| %RSD | 1.481543 | 17.68915 | 1.162962 | 2.861396 | .3195687 | .3855994 |
| #1 | 10.05205 | .0095842 | .2401409 | -1.46605 | 1.551808 | .2260775 |
| #2 | 9.75854 | .0115246 | .2357609 | -1.44242 | 1.542145 | .2257048 |
| #3 | 9.90723 | .0136855 | .2409133 | -1.38630 | 1.545182 | .2244208 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-19 Acquired: 3/5/2025 16:21:27 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J0 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0029969 | F 12.16589 | 4.901909 | -.002963 | .1106602 | -.002624 |
| Stddev | .0003047 | .02050 | .010091 | .001012 | .0011158 | .000719 |
| %RSD | 10.16734 | .1685240 | .2058588 | 34.15526 | 1.008341 | 27.41514 |
| #1 | .0027184 | 12.18474 | 4.913495 | -.004061 | .1102172 | -.003209 |
| #2 | .0029499 | 12.14406 | 4.895049 | -.002760 | .1119296 | -.002843 |
| #3 | .0033223 | 12.16887 | 4.897182 | -.002068 | .1098340 | -.001821 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0763112 |
| Stddev | .0004749 |
| %RSD | .6223001 |
| #1 | .0759115 |
| #2 | .0768362 |
| #3 | .0761860 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3535.585 | 74271.48 | 14797.77 | 3183.770 | 4786.618 |
| Stddev | 4.270 | 160.76 | 48.88 | 7.092 | 5.649 |
| %RSD | .1207612 | .2164498 | .3303494 | .2227597 | .1180178 |
| #1 | 3530.844 | 74318.28 | 14769.50 | 3176.501 | 4784.001 |
| #2 | 3539.128 | 74092.51 | 14854.22 | 3190.671 | 4793.101 |
| #3 | 3536.783 | 74403.64 | 14769.59 | 3184.140 | 4782.752 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-20 Acquired: 3/5/2025 16:25:30 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J1 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013196** | **.0023577** | **.0000996** | **.0003504** | **.0010784** | **.0399204** |
| Stddev | .0039668 | .0026892 | .0003423 | .0008227 | .0007322 | .0042643 |
| %RSD | 300.6062 | 114.0598 | 343.6504 | 234.7692 | 67.89503 | 10.68190 |
| #1 | .0058095 | .0012711 | .0001898 | -.000451 | .0011606 | .0361836 |
| #2 | -.000141 | .0003819 | -.000279 | .001192 | .0017660 | .0390118 |
| #3 | -.001710 | .0054202 | .000388 | .000310 | .0003086 | .0445657 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1880731** | **.0001060** | **.0000294** | **9.087789** | **-.000760** | **.0068893** |
| Stddev | .0018387 | .0000367 | .0000207 | .084589 | .000130 | .0002972 |
| %RSD | .9776229 | 34.62895 | 70.46273 | .9307967 | 17.05159 | 4.314386 |
| #1 | .1897405 | .0001249 | .0000511 | 9.166921 | -.000895 | .0069404 |
| #2 | .1883776 | .0001294 | .0000273 | 9.097809 | -.000637 | .0065698 |
| #3 | .1861012 | .0000637 | .0000098 | 8.998636 | -.000747 | .0071577 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011981** | **.0835628** | **.4044525** | **4.636337** | **.0081809** | **.0001870** |
| Stddev | .0007413 | .0017888 | .0018323 | .029310 | .0002722 | .0002107 |
| %RSD | 61.87465 | 2.140663 | .4530418 | .6321890 | 3.327830 | 112.6837 |
| #1 | .0012843 | .0842585 | .4054078 | 4.656839 | .0081313 | .0002670 |
| #2 | .0018925 | .0848992 | .4056098 | 4.649405 | .0084746 | .0003459 |
| #3 | .0004174 | .0815307 | .4023399 | 4.602765 | .0079369 | -.000052 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.894538** | **.0009223** | **.0761843** | **-1.17473** | **.0050162** | **.0967618** |
| Stddev | .165168 | .0016220 | .0009782 | .02993 | .0013670 | .0010375 |
| %RSD | 3.374536 | 175.8542 | 1.283946 | 2.548039 | 27.25254 | 1.072250 |
| #1 | 5.072347 | .0003520 | .0758825 | -1.17578 | .0036785 | .0959634 |
| #2 | 4.745898 | -.000337 | .0772778 | -1.20412 | .0049592 | .0963876 |
| #3 | 4.865370 | .002752 | .0753926 | -1.14429 | .0064108 | .0979346 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1106-20 Acquired: 3/5/2025 16:25:30 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8J1 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0030081 | F 11.38135 | 6.264019 | -.002429 | .0040992 | -.000004 |
| Stddev | .0002693 | .01774 | .025808 | .000317 | .0002974 | .001309 |
| %RSD | 8.953754 | .1558535 | .4120057 | 13.03776 | 7.254626 | 31811.00 |
| #1 | .0029765 | 11.36197 | 6.293820 | -.002081 | .0042282 | -.000951 |
| #2 | .0027559 | 11.38528 | 6.248982 | -.002505 | .0037591 | .001489 |
| #3 | .0032918 | 11.39679 | 6.249257 | -.002701 | .0043102 | -.000550 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0600286 |
| Stddev | .0002792 |
| %RSD | .4650555 |
| #1 | .0601483 |
| #2 | .0602279 |
| #3 | .0597095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3514.065 | 73845.43 | 15172.34 | 3176.375 | 4811.630 |
| Stddev | 9.299 | 282.94 | 36.64 | 5.374 | 11.840 |
| %RSD | .2646222 | .3831530 | .2414836 | .1691745 | .2460621 |
| #1 | 3521.734 | 73646.78 | 15187.10 | 3172.597 | 4819.440 |
| #2 | 3516.738 | 73720.13 | 15199.30 | 3174.002 | 4817.442 |
| #3 | 3503.722 | 74169.39 | 15130.63 | 3182.527 | 4798.007 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-01 Acquired: 3/5/2025 16:29:35 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0100188** | **-.000272** | **.0015647** | **-.000026** | **.0004417** | **1.717139** |
| Stddev | .0022199 | .001898 | .0005675 | .001405 | .0008612 | .012314 |
| %RSD | 22.15697 | 696.5591 | 36.26884 | 5419.135 | 194.9676 | .7171350 |
| #1 | .0121306 | -.001541 | .0021970 | -.000186 | .0007453 | 1.702960 |
| #2 | .0077047 | -.001186 | .0010993 | .001452 | -.000530 | 1.725149 |
| #3 | .0102212 | .001910 | .0013979 | -.001344 | .001110 | 1.723309 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2282163** | **.0001140** | **.0000069** | **7.191536** | **.0035814** | **.0030887** |
| Stddev | .0003739 | .0000354 | .0000101 | .008829 | .0003489 | .0000726 |
| %RSD | .1638466 | 31.06950 | 146.8325 | .1227690 | 9.741992 | 2.349973 |
| #1 | .2285808 | .0000743 | -.000000 | 7.181655 | .0031991 | .0030089 |
| #2 | .2282343 | .0001423 | .000003 | 7.198651 | .0038826 | .0031508 |
| #3 | .2278336 | .0001253 | .000018 | 7.194301 | .0036624 | .0031064 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0132798** | **4.045941** | **.0864706** | **5.753338** | **.0089164** | **.0001313** |
| Stddev | .0014460 | .007277 | .0004333 | .009697 | .0002764 | .0001321 |
| %RSD | 10.88839 | .1798640 | .5010581 | .1685480 | 3.100186 | 100.6360 |
| #1 | .0126888 | 4.043967 | .0859765 | 5.742251 | .0087787 | -.000002 |
| #2 | .0122230 | 4.039855 | .0867855 | 5.757524 | .0092346 | .000133 |
| #3 | .0149277 | 4.054002 | .0866499 | 5.760239 | .0087359 | .000262 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.884771** | **.0038472** | **.1956758** | **-2.19983** | **.1827427** | **.3312968** |
| Stddev | .196703 | .0021334 | .0012146 | .02789 | .0025561 | .0031782 |
| %RSD | 2.857073 | 55.45352 | .6207026 | 1.267891 | 1.398763 | .9593283 |
| #1 | 7.082394 | .0043140 | .1948129 | -2.17532 | .1856587 | .3336300 |
| #2 | 6.689001 | .0015191 | .1951498 | -2.23018 | .1816806 | .3276770 |
| #3 | 6.882918 | .0057086 | .1970647 | -2.19400 | .1808889 | .3325835 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-01 Acquired: 3/5/2025 16:29:35 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0004547 | F 10.72400 | 6.281685 | -.001521 | .0389178 | -.000635 |
| Stddev | .0002505 | .01266 | .011634 | .000343 | .0008730 | .001206 |
| %RSD | 55.08480 | .1180137 | .1852092 | 22.56855 | 2.243207 | 190.0246 |
| #1 | .0005141 | 10.71142 | 6.294591 | -.001140 | .0381057 | .000640 |
| #2 | .0006701 | 10.72386 | 6.272003 | -.001806 | .0398411 | -.000787 |
| #3 | .0001799 | 10.73673 | 6.278461 | -.001618 | .0388066 | -.001757 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0611160 |
| Stddev | .0003467 |
| %RSD | .5672495 |
| #1 | .0607167 |
| #2 | .0613404 |
| #3 | .0612908 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3529.689 | 73678.53 | 15218.21 | 3170.333 | 4844.082 |
| Stddev | 16.782 | 231.97 | 9.98 | 15.724 | 17.501 |
| %RSD | .4754426 | .3148414 | .0655567 | .4959837 | .3612861 |
| #1 | 3546.628 | 73895.82 | 15212.35 | 3170.608 | 4862.298 |
| #2 | 3529.371 | 73705.54 | 15229.73 | 3185.918 | 4842.551 |
| #3 | 3513.069 | 73434.24 | 15212.55 | 3154.473 | 4827.396 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-02 Acquired: 3/5/2025 16:33:38 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9D Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0096581** | **-.000266** | **.0019433** | **-.002915** | **.0003204** | **1.541497** |
| Stddev | .0031036 | .000285 | .0016550 | .001915 | .0003690 | .007395 |
| %RSD | 32.13417 | 107.0287 | 85.16573 | 65.68648 | 115.1955 | .4797133 |
| #1 | .0068115 | .000046 | .0013669 | -.003669 | .0000196 | 1.544983 |
| #2 | .0091961 | -.000511 | .0038094 | -.000738 | .0007321 | 1.546506 |
| #3 | .0129668 | -.000334 | .0006535 | -.004338 | .0002094 | 1.533004 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2310937** | **.0001144** | **-.000020** | **7.461494** | **.0030105** | **.0030499** |
| Stddev | .0002869 | .0000606 | .000046 | .017646 | .0002577 | .0001190 |
| %RSD | .1241429 | 53.04035 | 227.9979 | .2364997 | 8.559130 | 3.903085 |
| #1 | .2313326 | .0001683 | .000023 | 7.443140 | .0027751 | .0031129 |
| #2 | .2307755 | .0000487 | -.000015 | 7.478335 | .0032858 | .0029126 |
| #3 | .2311730 | .0001261 | -.000069 | 7.463008 | .0029707 | .0031242 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0132454** | **4.020428** | **.0845938** | **5.889529** | **.0083648** | **.0001569** |
| Stddev | .0000974 | .003921 | .0005950 | .023248 | .0001526 | .0000623 |
| %RSD | .7352401 | .0975355 | .7034055 | .3947272 | 1.824039 | 39.68737 |
| #1 | .0133469 | 4.021443 | .0840433 | 5.906799 | .0083115 | .0002278 |
| #2 | .0132368 | 4.023742 | .0852251 | 5.898692 | .0082461 | .0001112 |
| #3 | .0131527 | 4.016099 | .0845130 | 5.863096 | .0085369 | .0001317 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.692818** | **.0032632** | **.2012941** | **-2.23695** | **.1815121** | **.3356718** |
| Stddev | .167072 | .0014062 | .0030118 | .02848 | .0031591 | .0019058 |
| %RSD | 2.496287 | 43.09193 | 1.496237 | 1.273180 | 1.740450 | .5677524 |
| #1 | 6.561147 | .0033767 | .2027099 | -2.20520 | .1814771 | .3353126 |
| #2 | 6.880760 | .0018038 | .2033371 | -2.24543 | .1783706 | .3339712 |
| #3 | 6.636547 | .0046092 | .1978352 | -2.26023 | .1846886 | .3377317 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-02 Acquired: 3/5/2025 16:33:38 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9D Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0009502 | F 10.94834 | 5.896723 | -.001869 | .0233238 | -.000999 |
| Stddev | .0002182 | .02046 | .018262 | .000292 | .0009332 | .000819 |
| %RSD | 22.96028 | .1868420 | .3097054 | 15.62276 | 4.001217 | 81.96924 |
| #1 | .0011830 | 10.95100 | 5.876616 | -.002205 | .0222663 | -.000094 |
| #2 | .0007505 | 10.92669 | 5.912282 | -.001672 | .0236731 | -.001215 |
| #3 | .0009171 | 10.96734 | 5.901272 | -.001732 | .0240319 | -.001688 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0641450 |
| Stddev | .0003011 |
| %RSD | .4694123 |
| #1 | .0644485 |
| #2 | .0641401 |
| #3 | .0638464 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3499.715 | 72467.11 | 15228.58 | 3145.010 | 4795.434 |
| Stddev | 6.541 | 264.11 | 90.23 | 9.598 | 7.088 |
| %RSD | .1869147 | .3644486 | .5925283 | .3051715 | .1478146 |
| #1 | 3505.505 | 72505.09 | 15261.32 | 3146.972 | 4803.614 |
| #2 | 3501.023 | 72710.17 | 15297.87 | 3153.475 | 4791.591 |
| #3 | 3492.619 | 72186.07 | 15126.54 | 3134.583 | 4791.096 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-01LX5 Acquired: 3/5/2025 16:37:40 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9L Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0006144 | -.000681 | .0003671 | -.000460 | .0010456 | .3888220 | .0449716 |
| Stddev | .0032428 | .001532 | .0014652 | .003470 | .0011700 | .0028678 | .0007070 |
| %RSD | 527.8147 | 225.1521 | 399.1830 | 753.7554 | 111.8989 | .7375473 | 1.572150 |
| #1 | -.002289 | -.002300 | .0018991 | -.002193 | .0016281 | .3905846 | .0444985 |
| #2 | .000018 | -.000489 | -.001021 | .003535 | .0018100 | .3855130 | .0457843 |
| #3 | .004114 | .000747 | .000223 | -.002723 | -.000301 | .3903685 | .0446319 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0000496 | .0000048 | 1.444480 | .0005449 | .0006829 | .0023069 | .8275896 |
| Stddev | .0000341 | .0000641 | .003963 | .0003655 | .0002401 | .0007394 | .0030732 |
| %RSD | 68.66853 | 1343.429 | .2743802 | 67.07224 | 35.15797 | 32.05172 | .3713456 |
| #1 | .0000118 | .0000770 | 1.441715 | .0003995 | .0008622 | .0030556 | .8247683 |
| #2 | .0000780 | -.000045 | 1.449021 | .0002744 | .0007764 | .0015772 | .8308644 |
| #3 | .0000591 | -.000017 | 1.442703 | .0009606 | .0004101 | .0022880 | .8271362 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0179638 | 1.144113 | .0017402 | .0003165 | 1.471213 | .0004009 | .0379814 |
| Stddev | .0002738 | .009556 | .0001762 | .0002811 | .120172 | .0010381 | .0005350 |
| %RSD | 1.524219 | .8352717 | 10.12581 | 88.81704 | 8.168213 | 258.9525 | 1.408620 |
| #1 | .0176500 | 1.148059 | .0015400 | .0000428 | 1.496508 | .0012239 | .0383858 |
| #2 | .0181538 | 1.151065 | .0018717 | .0006044 | 1.576724 | .0007441 | .0381837 |
| #3 | .0180877 | 1.133215 | .0018089 | .0003022 | 1.340408 | -.000765 | .0373747 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.642741 | .0378440 | .0670520 | .0000191 | 2.199686 | 1.319920 | -.001104 |
| Stddev | .055063 | .0012244 | .0004673 | .0001008 | .004828 | .006585 | .000862 |
| %RSD | 8.566967 | 3.235456 | .6968678 | 526.7120 | .2194763 | .4988980 | 78.08015 |
| #1 | -.703177 | .0364324 | .0665237 | .0001068 | 2.204647 | 1.320781 | -.001246 |
| #2 | -.595418 | .0384803 | .0674111 | .0000416 | 2.199406 | 1.312947 | -.000180 |
| #3 | -.629626 | .0386193 | .0672211 | -.000091 | 2.195004 | 1.326033 | -.001885 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-01LX5 Acquired: 3/5/2025 16:37:40 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9L Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0104674 | -.002535 | .0126347 |
| Stddev | .0003799 | .001276 | .0001204 |
| %RSD | 3.629405 | 50.33626 | .9525163 |
| | | | |
| #1 | .0100986 | -.003965 | .0126557 |
| #2 | .0108575 | -.001514 | .0127431 |
| #3 | .0104461 | -.002125 | .0125052 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3469.363 | 73286.71 | 14853.93 | 3159.697 | 4726.813 |
| Stddev | 5.057 | 121.68 | 40.46 | 14.516 | 6.064 |
| %RSD | .1457509 | .1660268 | .2723589 | .4594119 | .1282989 |
| | | | | | |
| #1 | 3464.443 | 73152.09 | 14836.86 | 3143.091 | 4720.778 |
| #2 | 3474.546 | 73319.18 | 14900.13 | 3166.026 | 4732.906 |
| #3 | 3469.100 | 73388.85 | 14824.82 | 3169.975 | 4726.753 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-03 Acquired: 3/5/2025 16:41:49 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9S Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0420327 | .0550253 | .0216006 | .0834783 | .0763366 | 3.070804 |
| Stddev | .0020154 | .0003205 | .0011202 | .0014270 | .0017671 | .004160 |
| %RSD | 4.794871 | .5824388 | 5.185961 | 1.709472 | 2.314871 | .1354761 |
| #1 | .0397879 | .0553895 | .0227283 | .0835804 | .0744106 | 3.071257 |
| #2 | .0436866 | .0547863 | .0215857 | .0820029 | .0767161 | 3.066436 |
| #3 | .0426237 | .0549000 | .0204880 | .0848515 | .0778832 | 3.074720 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 2.016872 | .0507846 | .0471848 | 6.915406 | .2188844 | .4780842 |
| Stddev | .007186 | .0002670 | .0001074 | .011627 | .0006491 | .0008541 |
| %RSD | .3562857 | .5257623 | .2276911 | .1681316 | .2965628 | .1786510 |
| #1 | 2.018794 | .0505094 | .0472105 | 6.921369 | .2193375 | .4781365 |
| #2 | 2.008921 | .0510425 | .0472771 | 6.922841 | .2181407 | .4772052 |
| #3 | 2.022902 | .0508020 | .0470668 | 6.902007 | .2191750 | .4789110 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .2677424 | 4.880335 | .5532215 | 5.503581 | .4916829 | .0373694 |
| Stddev | .0009579 | .012499 | .0004736 | .020416 | .0005403 | .0002947 |
| %RSD | .3577563 | .2561082 | .0856016 | .3709569 | .1098912 | .7885442 |
| #1 | .2687727 | 4.894382 | .5537647 | 5.525320 | .4914655 | .0372100 |
| #2 | .2675758 | 4.870441 | .5530036 | 5.500609 | .4912851 | .0377094 |
| #3 | .2668788 | 4.876183 | .5528960 | 5.484814 | .4922980 | .0371887 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 6.483312 | .5101311 | .6370034 | -2.27143 | .1798596 | .3255358 |
| Stddev | .057504 | .0019956 | .0038356 | .02577 | .0024982 | .0009781 |
| %RSD | .8869596 | .3912033 | .6021374 | 1.134745 | 1.388995 | .3004589 |
| #1 | 6.531419 | .5096386 | .6386636 | -2.24188 | .1773454 | .3253546 |
| #2 | 6.498895 | .5123269 | .6397293 | -2.28314 | .1823416 | .3265919 |
| #3 | 6.419622 | .5084278 | .6326173 | -2.28927 | .1798917 | .3246610 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-03 Acquired: 3/5/2025 16:41:49 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8C9S Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0006467 | F 10.47021 | 5.963024 | -.002171 | .0237968 | -.002518 |
| Stddev | .0001607 | .01177 | .015565 | .000148 | .0004294 | .000773 |
| %RSD | 24.85128 | .1123898 | .2610223 | 6.837218 | 1.804377 | 30.68180 |
| #1 | .0005747 | 10.46894 | 5.945564 | -.002017 | .0242919 | -.003380 |
| #2 | .0005345 | 10.45913 | 5.968061 | -.002313 | .0235731 | -.002288 |
| #3 | .0008308 | 10.48256 | 5.975447 | -.002184 | .0235255 | -.001887 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0589244 |
| Stddev | .0001407 |
| %RSD | .2388552 |
| #1 | .0590869 |
| #2 | .0588426 |
| #3 | .0588436 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3495.859 | 74392.13 | 15111.69 | 3208.555 | 4752.662 |
| Stddev | 10.766 | 43.23 | 55.01 | 2.764 | 10.263 |
| %RSD | .3079608 | .0581088 | .3639948 | .0861346 | .2159437 |
| #1 | 3497.815 | 74419.87 | 15159.79 | 3210.082 | 4752.517 |
| #2 | 3505.514 | 74342.32 | 15051.72 | 3205.365 | 4762.996 |
| #3 | 3484.250 | 74414.19 | 15123.57 | 3210.219 | 4742.471 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-04 Acquired: 3/5/2025 16:45:45 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D0 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0012522 | .0004746 | .0008935 | .0009543 | -.000428 | .2029042 |
| Stddev | .0019667 | .0003300 | .0007767 | .0012393 | .000904 | .0018265 |
| %RSD | 157.0621 | 69.53000 | 86.91964 | 129.8662 | 211.3446 | .9001810 |
| #1 | .0028489 | .0008055 | .0001562 | .0020386 | -.001010 | .2031823 |
| #2 | .0018523 | .0001455 | .0008202 | .0012208 | .000614 | .2045757 |
| #3 | -.000945 | .0004728 | .0017043 | -.000397 | -.000887 | .2009546 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .2231388 | .0000829 | .0000366 | 7.523916 | -.000099 | .0019309 |
| Stddev | .0010836 | .0000069 | .0000364 | .003291 | .000351 | .0002529 |
| %RSD | .4856044 | 8.318850 | 99.54961 | .0437352 | 353.5758 | 13.09900 |
| #1 | .2243736 | .0000895 | -.000005 | 7.527136 | .000200 | .0016398 |
| #2 | .2226963 | .0000757 | .000061 | 7.520559 | -.000012 | .0020976 |
| #3 | .2223464 | .0000837 | .000054 | 7.524051 | -.000485 | .0020552 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0009110 | .3600723 | .0474480 | 5.990488 | .0033099 | .0001356 |
| Stddev | .0023688 | .0061022 | .0002696 | .021642 | .0005188 | .0002628 |
| %RSD | 260.0181 | 1.694714 | .5682290 | .3612780 | 15.67341 | 193.7210 |
| #1 | -.001789 | .3635542 | .0475803 | 5.983669 | .0039084 | .0004382 |
| #2 | .001883 | .3636365 | .0471378 | 5.973076 | .0029899 | .0000033 |
| #3 | .002639 | .3530263 | .0476260 | 6.014718 | .0030314 | -.000035 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 5.826539 | .0007027 | .1144020 | -2.43956 | .0258440 | .1312680 |
| Stddev | .055120 | .0004502 | .0012499 | .04640 | .0009482 | .0006897 |
| %RSD | .9460115 | 64.05732 | 1.092579 | 1.901942 | 3.668852 | .5254162 |
| #1 | 5.885444 | .0004315 | .1136888 | -2.46795 | .0269290 | .1310457 |
| #2 | 5.817964 | .0012224 | .1136719 | -2.46472 | .0251744 | .1307169 |
| #3 | 5.776209 | .0004544 | .1158453 | -2.38601 | .0254287 | .1320415 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-04 Acquired: 3/5/2025 16:45:45 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D0 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0004453 | F 11.79027 | 6.536879 | -.002020 | .0013554 | .0020415 |
| Stddev | .0001616 | .02945 | .004721 | .000207 | .0006246 | .0006106 |
| %RSD | 36.30050 | .2498218 | .0722173 | 10.22373 | 46.08385 | 29.90835 |
| #1 | .0002594 | 11.76389 | 6.537282 | -.001781 | .0006454 | .0017966 |
| #2 | .0005531 | 11.78485 | 6.541386 | -.002144 | .0016006 | .0027365 |
| #3 | .0005233 | 11.82205 | 6.531970 | -.002134 | .0018202 | .0015913 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0650356 |
| Stddev | .0002743 |
| %RSD | .4218323 |
| #1 | .0653373 |
| #2 | .0648011 |
| #3 | .0649684 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3532.998 | 73389.68 | 15090.56 | 3173.822 | 4852.584 |
| Stddev | 9.220 | 53.48 | 58.08 | 7.622 | 12.265 |
| %RSD | .2609784 | .0728770 | .3848785 | .2401657 | .2527530 |
| #1 | 3542.352 | 73449.86 | 15156.96 | 3175.495 | 4865.463 |
| #2 | 3532.724 | 73371.59 | 15049.24 | 3180.470 | 4851.246 |
| #3 | 3523.918 | 73347.59 | 15065.46 | 3165.503 | 4841.043 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-05 Acquired: 3/5/2025 16:49:51 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D3 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0120905** | **-.000162** | **.0001732** | **.0040099** | **.0139315** | **-.029126** |
| Stddev | .0010017 | .002892 | .0001646 | .0029266 | .0015502 | .008303 |
| %RSD | 8.284779 | 1781.184 | 95.05497 | 72.98332 | 11.12716 | 28.50600 |
| #1 | .0126596 | -.003094 | .0003525 | .0046479 | .0132091 | -.019872 |
| #2 | .0109339 | .002688 | .0001380 | .0065648 | .0128742 | -.031583 |
| #3 | .0126780 | -.000081 | .0000290 | .0008170 | .0157110 | -.035922 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1866617** | **.0000557** | **.0000398** | **31.74412** | **-.000705** | **.0015635** |
| Stddev | .0022712 | .0000591 | .0000184 | .21688 | .000464 | .0001005 |
| %RSD | 1.216765 | 106.0390 | 46.32544 | .6832031 | 65.80917 | 6.424447 |
| #1 | .1864163 | .0000097 | .0000186 | 31.80747 | -.000383 | .0015141 |
| #2 | .1890457 | .0000350 | .0000517 | 31.92226 | -.000495 | .0014974 |
| #3 | .1845232 | .0001223 | .0000490 | 31.50262 | -.001237 | .0016791 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000445** | **.0028673** | **.3495302** | **9.020532** | **.0209539** | **.0002452** |
| Stddev | .0008983 | .0018081 | .0016886 | .056508 | .0003557 | .0000438 |
| %RSD | 2017.181 | 63.05827 | .4830973 | .6264415 | 1.697368 | 17.86795 |
| #1 | -.000848 | .0044964 | .3480257 | 8.983423 | .0212664 | .0002739 |
| #2 | .000948 | .0031836 | .3513566 | 9.085566 | .0210284 | .0002670 |
| #3 | .000033 | .0009220 | .3492085 | 8.992606 | .0205669 | .0001948 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.100346** | **-.000238** | **.0426287** | **.1200979** | **.0047157** | **.0629625** |
| Stddev | .049483 | .000951 | .0019414 | .0297706 | .0023251 | .0011835 |
| %RSD | 1.206812 | 399.4908 | 4.554316 | 24.78857 | 49.30628 | 1.879726 |
| #1 | 4.121541 | .000402 | .0447726 | .1417672 | .0073913 | .0635326 |
| #2 | 4.043796 | -.001330 | .0421242 | .0861523 | .0035711 | .0616018 |
| #3 | 4.135702 | .000214 | .0409893 | .1323743 | .0031848 | .0637530 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: Q1160-05 Acquired: 3/5/2025 16:49:51 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: YE8D3 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0275117 | F 14.98930 | 1.577353 | -.003623 | -.001242 | -.002063 |
| Stddev | .0000417 | .04810 | .006992 | .001246 | .000652 | .000608 |
| %RSD | .1515865 | .3209052 | .4432968 | 34.38117 | 52.50982 | 29.46177 |
| #1 | .0274699 | 14.96544 | 1.569892 | -.003689 | -.001944 | -.001823 |
| #2 | .0275533 | 14.95780 | 1.578411 | -.004834 | -.001126 | -.001611 |
| #3 | .0275120 | 15.04467 | 1.583756 | -.002346 | -.000655 | -.002753 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2559100 |
| Stddev | .0013442 |
| %RSD | .5252518 |
| #1 | .2550037 |
| #2 | .2574544 |
| #3 | .2552719 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3454.016 | 72434.98 | 14991.13 | 3113.688 | 4678.652 |
| Stddev | 17.025 | 219.38 | 71.46 | 7.542 | 23.094 |
| %RSD | .4929018 | .3028615 | .4766505 | .2422174 | .4936127 |
| #1 | 3470.496 | 72274.25 | 14937.50 | 3111.171 | 4700.664 |
| #2 | 3455.057 | 72345.78 | 15072.25 | 3122.166 | 4680.683 |
| #3 | 3436.494 | 72684.90 | 14963.66 | 3107.727 | 4654.609 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCV005 Acquired: 3/5/2025 16:53:56 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV005 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.862150** | **4.675634** | **24.18608** | **4.858261** | **4.908140** | **380.2881** |
| Stddev | .008925 | .008774 | .03864 | .020485 | .012873 | 1.3034 |
| %RSD | .1835588 | .1876460 | .1597557 | .4216550 | .2622691 | .3427341 |
| #1 | 4.872197 | 4.684329 | 24.16600 | 4.837148 | 4.893322 | 381.6631 |
| #2 | 4.855139 | 4.675789 | 24.16162 | 4.878054 | 4.916557 | 379.0706 |
| #3 | 4.859115 | 4.666784 | 24.23063 | 4.859581 | 4.914542 | 380.1306 |

| Elem | Ba4934 | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **10.15894** | **.4842867** | **2.446603** | **388.8020** | **15.26282** | **2.465737** |
| Stddev | .12726 | .0036266 | .004183 | 2.5551 | .01720 | .004382 |
| %RSD | 1.252649 | .7488616 | .1709593 | .6571723 | .1126820 | .1777001 |
| #1 | 10.01270 | .4884593 | 2.442275 | 386.0330 | 15.24309 | 2.461463 |
| #2 | 10.24448 | .4825074 | 2.446910 | 389.3045 | 15.27466 | 2.465529 |
| #3 | 10.21964 | .4818933 | 2.450624 | 391.0686 | 15.27072 | 2.470219 |

| Elem | Cu3247 | Fe2598 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **15.09980** | **391.5785** | **15.19133** | **385.8059** | **2.463512** | **1.258514** |
| Stddev | .06495 | 2.9908 | .08664 | 2.8171 | .003805 | .000848 |
| %RSD | .4301428 | .7637714 | .5703310 | .7301981 | .1544551 | .0674020 |
| #1 | 15.17461 | 388.1322 | 15.09129 | 382.5533 | 2.459549 | 1.257755 |
| #2 | 15.06699 | 393.1095 | 15.24200 | 387.4735 | 2.463849 | 1.259429 |
| #3 | 15.05780 | 393.4938 | 15.24070 | 387.3909 | 2.467137 | 1.258357 |

| Elem | Na8183 | V_2924 | Zn2138 | K_7698 | P_1774 | B_2496 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **390.3731** | **2.453758** | **15.32465** | **156.1515** | **4.858480** | F **5.837848** |
| Stddev | .3952 | .004265 | .09571 | 1.0732 | .013002 | .019711 |
| %RSD | .1012428 | .1738350 | .6245579 | .6872602 | .2676112 | .3376453 |
| #1 | 390.8277 | 2.450722 | 15.21493 | 154.9145 | 4.869404 | 5.858961 |
| #2 | 390.1116 | 2.451918 | 15.36802 | 156.8336 | 4.844099 | 5.834654 |
| #3 | 390.1800 | 2.458635 | 15.39100 | 156.7062 | 4.861937 | 5.819929 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCV005 Acquired: 3/5/2025 16:53:56 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV005 Custom ID2: Custom ID3:
Comment:

| Elem | Mo2020 | S_1820 | Si2516 | Sn1899 | Ti3361 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.859731** | **4.953713** | **4.872912** | **4.897500** | **4.908733** | **5.131578** |
| Stddev | .006903 | .008748 | .005688 | .009801 | .003661 | .047506 |
| %RSD | .1420493 | .1765951 | .1167357 | .2001125 | .0745724 | .9257497 |
| #1 | 4.851793 | 4.963807 | 4.869705 | 4.888574 | 4.910113 | 5.079622 |
| #2 | 4.864336 | 4.948322 | 4.869552 | 4.895938 | 4.904583 | 5.142315 |
| #3 | 4.863062 | 4.949011 | 4.879480 | 4.907987 | 4.911503 | 5.172795 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | **5.187422** |
| Stddev | .020441 |
| %RSD | .3940561 |
| #1 | 5.207705 |
| #2 | 5.187736 |
| #3 | 5.166826 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2670.321** | **59932.86** | **13713.81** | **2530.710** | **3312.173** |
| Stddev | 3.390 | 124.83 | 103.98 | 5.249 | 4.647 |
| %RSD | .1269393 | .2082902 | .7582109 | .2074065 | .1402993 |
| #1 | 2673.006 | 60050.24 | 13598.54 | 2536.317 | 3315.019 |
| #2 | 2671.444 | 59801.71 | 13742.34 | 2529.898 | 3314.691 |
| #3 | 2666.512 | 59946.63 | 13800.54 | 2525.914 | 3306.811 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCB005 Acquired: 3/5/2025 16:58:15 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB005 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027862** | **.0002487** | **-.000642** | **-.001465** | **-.000523** | **-.001681** | **.0005971** |
| Stddev | .0024120 | .0009290 | .001692 | .003327 | .001254 | .006671 | .0005833 |
| %RSD | 86.56920 | 373.5590 | 263.3175 | 227.1605 | 239.9127 | 396.8074 | 97.69718 |
| #1 | .0007117 | -.000181 | -.001018 | -.003545 | -.000791 | -.000639 | .0008492 |
| #2 | .0054328 | .001315 | .001205 | .002373 | -.001621 | .004408 | -.000070 |
| #3 | .0022141 | -.000388 | -.002114 | -.003222 | .000844 | -.008812 | .001012 |

| Elem | Be2348 | Cd2144 | Ca3736 | Cr2677 | Co2286 | Cu3247 | Fe2598 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000354** | **-.000009** | **.0020627** | **-.000175** | **.0002047** | **-.000103** | **.0052106** |
| Stddev | .0000355 | .000031 | .0055796 | .000253 | .0001802 | .001789 | .0034158 |
| %RSD | 100.2044 | 359.0294 | 270.5027 | 144.7032 | 88.02806 | 1733.065 | 65.55465 |
| #1 | .0000155 | .000019 | .0052461 | -.000294 | .0003606 | -.000745 | .0083784 |
| #2 | .0000143 | -.000003 | .0053218 | -.000346 | .0000074 | -.001483 | .0015916 |
| #3 | .0000763 | -.000043 | -.004380 | .000116 | .0002460 | .001919 | .0056619 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na8183 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000303** | **.0097633** | **.0000667** | **-.000184** | **-.000117** | **-.003080** | **-.001740** |
| Stddev | .0001355 | .0066341 | .0001397 | .000060 | .241778 | .000125 | .001201 |
| %RSD | 447.3278 | 67.94962 | 209.5409 | 32.49347 | 205913.5 | 4.053939 | 69.01379 |
| #1 | .0001210 | .0155010 | -.000051 | -.000119 | .240096 | -.003220 | -.000838 |
| #2 | .0000953 | .0024989 | .000030 | -.000197 | .002983 | -.003038 | -.001278 |
| #3 | -.000125 | .0112900 | .000221 | -.000236 | -.243431 | -.002982 | -.003102 |

| Elem | K_7698 | P_1774 | B_2496 | Mo2020 | S_1820 | Si2516 | Sn1899 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.124716** | **.0016314** | **.0024691** | **-.000193** | **.0066566** | **.0081704** | **-.000148** |
| Stddev | .044625 | .0005019 | .0012428 | .000094 | .0025143 | .0014094 | .000613 |
| %RSD | 35.78126 | 30.76315 | 50.33202 | 48.76120 | 37.77218 | 17.24965 | 413.4050 |
| #1 | -.169336 | .0021707 | .0035892 | -.000155 | .0065999 | .0075960 | -.000850 |
| #2 | -.080086 | .0015454 | .0026861 | -.000299 | .0041711 | .0071389 | .000281 |
| #3 | -.124726 | .0011781 | .0011322 | -.000123 | .0091988 | .0097762 | .000124 |

Reviewed By:kareem
On:3/7/2025 12:26:46 PM
Inst Id :P4

Sample Name: CCB005 Acquired: 3/5/2025 16:58:15 Type: Unk
Method: EPA SFAM01.0(v68) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB005 Custom ID2: Custom ID3:
Comment:

| Elem | Ti3361 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.000295** | **-.001990** | **.0001002** |
| Stddev | .000187 | .000624 | .0000194 |
| %RSD | 63.36443 | 31.36706 | 19.39811 |
| #1 | -.000251 | -.002602 | .0001176 |
| #2 | -.000134 | -.001354 | .0000792 |
| #3 | -.000501 | -.002015 | .0001038 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3477.348** | **72132.64** | **14781.26** | **3121.311** | **4771.824** |
| Stddev | 7.584 | 361.72 | 109.67 | 10.108 | 6.485 |
| %RSD | .2181024 | .5014661 | .7419475 | .3238336 | .1359106 |
| #1 | 3473.009 | 71910.63 | 14808.90 | 3118.122 | 4771.094 |
| #2 | 3486.105 | 71937.25 | 14660.42 | 3113.183 | 4778.644 |
| #3 | 3472.929 | 72550.03 | 14874.47 | 3132.629 | 4765.735 |

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# Prep Standard - Chemical Standard Summary

**Order ID :** Q1136

**Test :** SPLP MetalGroup3

**Prepbatch ID :** PB166911,

**Sequence ID/Qc Batch ID:** LB134905,LB134916,

**Standard ID :**
MP84041,MP84297,MP84636,MP84649,MP84650,MP84651,MP84652,MP84653,MP84654,MP84655,MP84656,MP84657,MP84658,MP84659,MP84661,MP84663,MP84721,

**Chemical ID :**
M4884,M5019,M5020,M5218,M5289,M5296,M5393,M5429,M5467,M5472,M5473,M5476,M5496,M5497,M5498,M5513,M5519,M5565,M5658,M5697,M5768,M5789,M5792,M5798,M5799,M5800,M5801,M5802,M5806,M5811,M5815,M5817,M5875,M5942,M5959,M5961,M5962,M5970,M5977,M5985,M5990,M6021,M6023,M6025,M6028,M6030,M6032,M6077,M6121,M6126,M6127,M6128,M6144,M6145,M6150,M6152,M6155,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 | MP84041 | 01/14/2025 | 07/14/2025 | Eman Mughal | None | None | Sarabjit Jaswal 01/16/2025 |

**FROM** 1250.00000ml of M6126 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 170 | 1:1HCL | MP84297 | 01/31/2025 | 02/28/2025 | Eman Mughal | None | None | Sarabjit Jaswal 01/31/2025 |

**FROM** 1250.00000ml of M6121 + 1250.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 902 | ICP AES CAL BLK ( SO/ICB/CCB) | MP84636 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 125.00000ml of M5792 + 2350.00000ml of W3112 + 25.00000ml of M5789 = Final Quantity: 2500.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 919 | ICP AES INTERNAL STD | MP84649 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M5789 = 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 |
|---|---|---|---|---|---|---|---|---|
| 513 | RINSE SOLN | MP84650 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 200.00000ml of M5789 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2480 | ICP AES STD 6 ISM01.3 | MP84651 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 4.00000ml of M5289 + 4.00000ml of M5498 + 4.00000ml of M5768 + 4.00000ml of M5806 + 4.00000ml of M5811 + 4.00000ml of M6144 + 30.00000ml of MP84636 = 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) | MP84652 | 02/25/2025 | 03/09/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 0.25000ml of M5798 + 0.50000ml of M5429 + 0.50000ml of M5476 + 0.50000ml of M5815 + 0.50000ml of M5817 + 12.50000ml of M5519 + 12.50000ml of M6128 + 12.50000ml of M6144 + 12.50000ml of M6145 + 13.75000ml of M5697 + 14.50000ml of M5496 + 14.50000ml of M5658 + 14.50000ml of M5811 + 2.00000ml of M5513 + 22.50000ml of M5498 + 22.50000ml of M5768 + 5.00000ml of M4884 + 5.00000ml of M5393 + 5.00000ml of M5802 + 5.00000ml of M5875 + 5.00000ml of M6077 + 303.50000ml of MP84636 = Final Quantity: 500.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1005 | ICPAES ISM01.2(S4) | MP84653 | 02/25/2025 | 03/09/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 250.00000ml of MP84636 + 250.00000ml of MP84652 = Final Quantity: 500.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1007 | ICPAES ISM01.2(S3) | MP84654 | 02/25/2025 | 03/09/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 25.00000ml of MP84652 + 75.00000ml of MP84636 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1008 | ICPAES ISM01.2(S2) | MP84655 | 02/25/2025 | 03/09/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 12.50000ml of MP84652 + 87.50000ml of MP84636 = Final Quantity: 100.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 994 | ICPAES ISM01.2 S1 (CONC.) | MP84656 | 02/25/2025 | 03/09/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 0.02000ml of M5020 + 0.03000ml of M5429 + 0.10000ml of M5798 + 0.10000ml of M6028 + 0.14000ml of M5799 + 0.20000ml of M5473 + 0.20000ml of M5658 + 0.20000ml of M5801 + 0.20000ml of M5811 + 0.20000ml of M5817 + 0.20000ml of M5977 + 0.20000ml of M6025 + 0.20000ml of M6030 + 0.30000ml of M6128 + 0.40000ml of M5496 + 0.50000ml of M5697 + 0.50000ml of M6023 + 0.70000ml of M5962 + 0.80000ml of M5961 + 1.00000ml of M5800 + 1.00000ml of M6021 + 1.20000ml of M5802 + 1.20000ml of M6145 + 10.00000ml of M4884 + 10.00000ml of M5497 + 10.00000ml of M5519 + 10.00000ml of M5768 + 10.00000ml of M6144 + 2.00000ml of M5942 + 4.00000ml of M6032 + 34.24000ml of MP84636 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1003 | ICPAES ISM01.2 S1 | MP84657 | 02/25/2025 | 03/09/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 0.50000ml of MP84656 + 99.50000ml of MP84636 = 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 |
|---|---|---|---|---|---|---|---|---|
| 912 | ICP AES ICV SOLN | MP84658 | 02/25/2025 | 03/08/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 0.02500ml of M5019 + 0.02500ml of M5020 + 0.02500ml of M5815 + 0.10000ml of M5467 + 0.25000ml of M5218 + 0.25000ml of M5472 + 10.00000ml of M5429 + 10.00000ml of M6150 + 89.77500ml of MP84636 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 904 | ICP AES ICSA SOLN | MP84659 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 25.00000ml of M6152 + 225.00000ml of MP84636 = 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) | MP84661 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 0.75000ml of M5497 + 0.75000ml of M6127 + 1.22500ml of M5496 + 1.25000ml of M5811 + 1.25000ml of M6144 + 19.77500ml of MP84636 + 25.00000ml of MP84652 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 921 | ICPAES SPIKE SOL#6 | MP84663 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 2.50000ml of M5962 + 50.00000ml of M5565 + 50.00000ml of M5990 + 147.50000ml of MP84636 = Final Quantity: 250.000 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 |
|---|---|---|---|---|---|---|---|---|
| 3494 | ICP AES ICSAB SOLN-1 | MP84721 | 02/25/2025 | 03/25/2025 | Kareem Khairalla | None | None | Sarabjit Jaswal 02/28/2025 |

**FROM** 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5296 + 0.10000ml of M5472 + 0.10000ml of M5970 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.50000ml of MP84636 = Final Quantity: 100.000 ml

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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. | 57014 / Si, 1000 PPM, 125 ml | 030921 | 03/09/2025 | 08/06/2021 / jaswal | 08/05/2021 / jaswal | M4884 |

| 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 | 011421 | 03/04/2025 | 12/13/2021 / bin | 12/09/2021 / bin | M5019 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57115 / P, 10000 PPM, 125 ml | 032921 | 05/17/2025 | 12/13/2021 / bin | 12/09/2021 / bin | M5020 |

| 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 # |
|---|---|---|---|---|---|---|
| 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 # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | Z9651Q / CHEM-CLP-4/.25L | S2-MEB711673 | 11/02/2026 | 09/19/2022 / jaswal | 08/20/2022 / jaswal | M5296 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL | T2-MEB714159 | 01/13/2027 | 10/12/2022 / bin | 09/19/2022 / bin | M5393 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57103 / Li, 10000 PPM, 125 ml | 070622 | 07/06/2025 | 01/30/2023 / bin | 01/26/2023 / bin | M5429 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 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. | 57038 / Sr, 1000 PPM, 125 ml | 082922 | 08/29/2025 | 01/14/2025 / Jaswal | 03/16/2023 / jaswal | M5472 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57138 / Sr, 10000 PPM, 125 ml | 082922 | 08/29/2025 | 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 | 08/29/2025 | 07/29/2024 /jaswal | 03/16/2023 / jaswal | M5476 |

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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 | 08/15/2023 / jaswal | 03/17/2023 / bin | M5496 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58120 / Ca, 10000 PPM, 500 ml | 031523 | 03/15/2026 | 03/18/2023 / bin | 03/17/2023 / bin | M5497 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 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 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57119 / Potassium (K) 10,000PPM | 120822 | 12/08/2025 | 01/08/2024 / bin | 03/17/2023 / bin | M5519 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CLPP-SPK-1 / SOIL/WATER SPIKE SOLN 1, 125mL | T2-MEB721963 | 07/27/2027 | 05/30/2023 / jaswal | 05/26/2023 / jaswal | M5565 |

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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. | 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. | 58112 / Mg, 10000 PPM, 500 ml | 091823 | 09/18/2026 | 01/08/2024 / bin | 01/03/2024 / bin | M5768 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L) | 23G1262003 | 07/30/2025 | 02/08/2024 / Al-Terek | 06/26/2023 / Al-Terek | M5789 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L) | 22D1462006 | 08/05/2025 | 02/05/2024 / Al-Terek | 02/24/2022 / Al-Terek | M5792 |

| 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. | 58126 / Fe, 10000 PPM, 500 ml | 051523 | 05/15/2026 | 02/06/2025 / kareem | 01/03/2024 / jaswal | M5811 |

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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. | 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 # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL | T2-MEB714417 | 01/27/2027 | 04/19/2024 / jaswal | 02/22/2024 / jaswal | M5875 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CGTI1-1 / TITANIUM 125mL 1000ug/mL | T2-TI719972 | 06/17/2027 | 06/18/2024 / Jaswal | 02/22/2024 / Jaswal | M5942 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CGY10-1 / YTTRIUM 125mL 10,000ug/mL | V2-Y740548 | 02/20/2029 | 07/01/2024 / Jaswal | 06/14/2024 / Jaswal | M5959 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57028 / Ni, 1000 PPM, 125 ml | 041124 | 04/11/2027 | 07/02/2024 / Jaswal | 06/11/2024 / Jaswal | M5961 |

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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. | 57034 / Se, 1000 PPM, 125 ml | 060624 | 06/06/2027 | 07/02/2024 / Jaswal | 06/14/2024 / Jaswal | M5962 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57003 / Li, 1000 PPM, 125 ml | 061224 | 06/21/2027 | 07/01/2024 / Jaswal | 07/01/2024 / Jaswal | M5970 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CGMO1-1 / MOLYBDENUM 125mL 1000ug/mL | T2-MO720876 | 07/17/2027 | 01/16/2025 / JANVI | 02/22/2024 / Jaswal | M5977 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CGIN10-5 / INDIUM 1 x 500 ml | U2-IN729349 | 02/21/2028 | 10/08/2024 / Jaswal | 06/14/2024 / Jaswal | M5985 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CLPP-SPK-5 / CLP Spike Standard 5 | V2-MEB742037 | 03/12/2029 | 10/04/2024 / Jaswal | 02/22/2024 / Jaswal | M5990 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57023 / V, 1000 PPM, 125 ml | 062424 | 06/24/2027 | 09/28/2024 / jaswal | 08/05/2024 / Jaswal | M6021 |

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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. | 57081 / Tl, 1000 PPM, 125 ml | 0624724 | 06/27/2027 | 08/05/2024 / kareem | 08/05/2024 / Jaswal | M6023 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57082 / Pb, 1000 PPM, 125 ml | 061224 | 11/09/2026 | 08/05/2024 / Jaswal | 08/05/2024 / Jaswal | M6025 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57048 / Cd, 1000 PPM, 125 ml | 070124 | 07/01/2027 | 08/05/2024 / kareem | 08/05/2024 / Jaswal | M6028 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57047 / Ag, 1000 PPM, 125 ml | 122823 | 12/28/2026 | 08/05/2024 / kareem | 08/05/2024 / Jaswal | M6030 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57056 / Ba, 1000 PPM, 125 ml | 010924 | 01/09/2027 | 01/14/2025 / Jaswal | 08/05/2024 / Jaswal | M6032 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | Z9651Q / CHEM-CLP-4/.25L | V2-MEB746762 | 09/06/2029 | 01/23/2025 / kareem | 09/19/2024 / kareem | M6077 |

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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-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L) | 0000275677 | 05/13/2025 | 11/13/2024 / Eman | 10/13/2024 / Eman | M6121 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L) | 24D1062002 | 06/03/2025 | 12/03/2024 / Janvi | 11/12/2024 / Janvi | M6126 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58112 / Mg, 10000 PPM, 500 ml | 112124 | 11/21/2027 | 01/13/2025 / kareem | 01/13/2025 / kareem | M6127 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58025 / Mn, 1000 PPM, 500 ml | 101124 | 10/11/2027 | 01/13/2025 / kareem | 01/13/2025 / kareem | M6128 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58111 / Na, 10000 PPM, 500 ml | 072424 | 07/24/2027 | 01/23/2025 / kareem | 01/13/2025 / Jaswal | M6144 |

| 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 | 121724 | 12/17/2027 | 02/04/2025 /jaswal | 01/13/2025 / Jaswal | M6145 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| EPA | ICV-1 / ICV ( ICP/ICPMS ) STOCK SOLN | ICV1-1014 | 07/07/2025 | 02/07/2025 / JANVI | 04/20/2021 / JANVI | M6150 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| EPA | PART A / ICSA ( ICP ) STOCK SOLN | | 08/24/2025 | 02/24/2025 / kareem | 04/20/2021 / kareem | M6152 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| EPA | PART B / ICSAB ( ICP ) STOCK SOLN | ICSB-0710 | 06/20/2025 | 02/10/2025 / kareem | 02/09/2024 / kareem | M6155 |

| 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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# Certificate of Analysis

R: 02/22/24 M5986 M5987, M5988, M5989-M5990

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-SPK-5 |
| Lot Number: | V2-MEB742037 |
| Matrix: | 5% (v/v) HNO3 |
| Value / Analyte(s): | 100 µg/mL ea: Antimony, |
| | 50 µg/mL ea: Selenium, Cadmium, Thallium, |
| | 40 µg/mL ea: Arsenic, |
| | 20 µg/mL ea: Lead |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Antimony, Sb | 100.0 ± 0.7 µg/mL | Arsenic, As | 40.00 ± 0.26 µg/mL |
| Cadmium, Cd | 49.99 ± 0.22 µg/mL | Lead, Pb | 19.99 ± 0.09 µg/mL |
| Selenium, Se | 50.00 ± 0.23 µg/mL | Thallium, Tl | 50.00 ± 0.22 µg/mL |

**Density:** 1.025 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| As | ICP Assay | 3103a | 100818 |
| Cd | ICP Assay | 3108 | 130116 |
| Cd | EDTA | 928 | 928 |
| Cd | Calculated | | See Sec. 4.2 |
| Pb | ICP Assay | 3128 | 101026 |
| Pb | EDTA | 928 | 928 |
| Pb | Calculated | | See Sec. 4.2 |
| Sb | ICP Assay | 3102a | 140911 |
| Se | ICP Assay | 3149 | 100901 |
| Se | Calculated | | See Sec. 4.2 |
| Tl | ICP Assay | 3158 | 151215 |
| Tl | Calculated | | See Sec. 4.2 |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

### Characterization of CRM/RM by Two or More Methods

**Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

$X_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

$w_i$ = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

**Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:**

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

$X_a$ = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$**

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

## 5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

## 6.0 INTENDED USE

**6.1** This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

**6.2** For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

March 12, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

**- March 12, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Joseph Burns
Custom VS Manager

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

M6032

R: 8/5/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

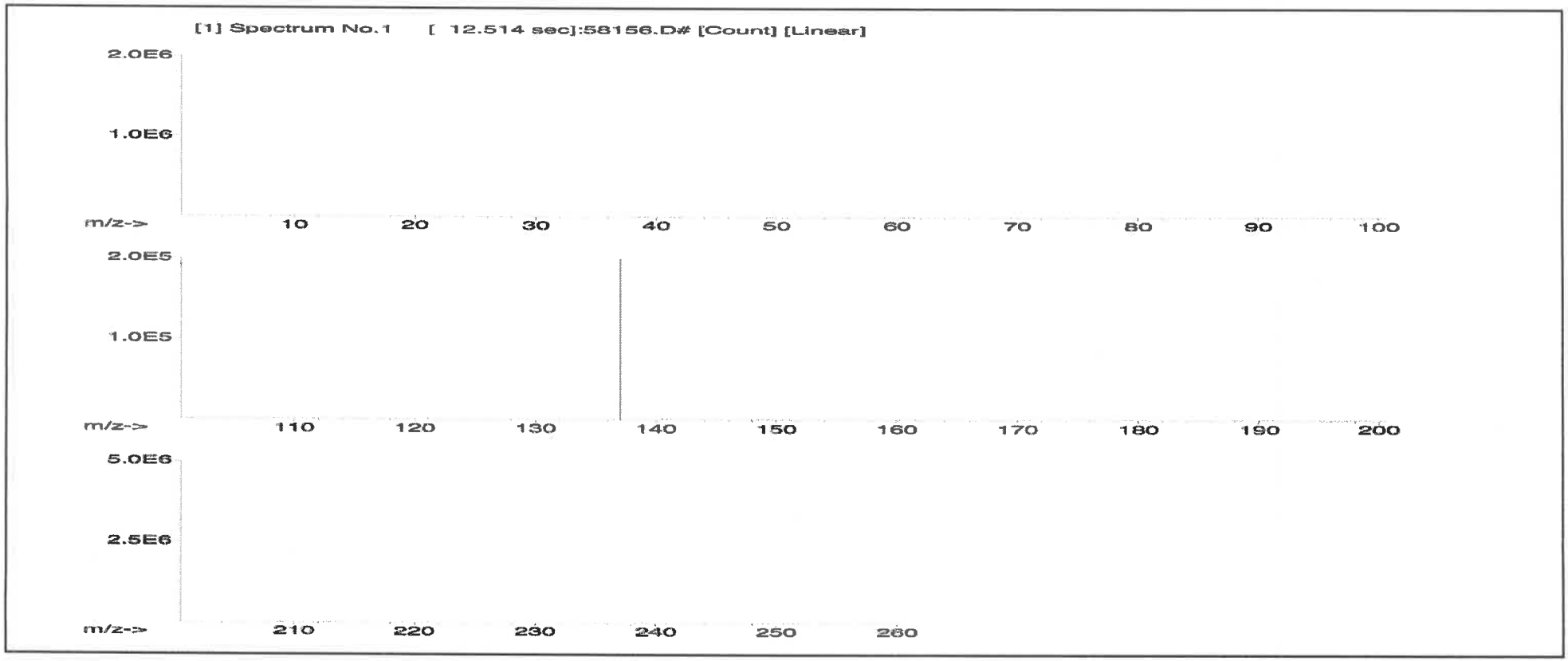
CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57056** | | **Lot #** | | |
| **Lot Number:** | **010924** | **Solvent:** | 24002546 | Nitric Acid | |
| **Description:** | **Barium (Ba)** | | | | |
| | | 2% | 40.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 010927 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | | |

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 010924 |
| Reviewed By: | Pedro L. Rentas | 010924 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Barium nitrate (Ba) | IN023 | BAD022019A1 | 1000 | 99.999 | 0.10 | 52.3 | 3.82417 | 3.82441 | **1000.1** | **2.0** | 10022-31-8 | 0.5 mg/m3 | orl-rat 355 mg/kg | 3104a |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

**Trace Metals Verification by ICP-MS (µg/mL)**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | T | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

R 8/5/24

M6028

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

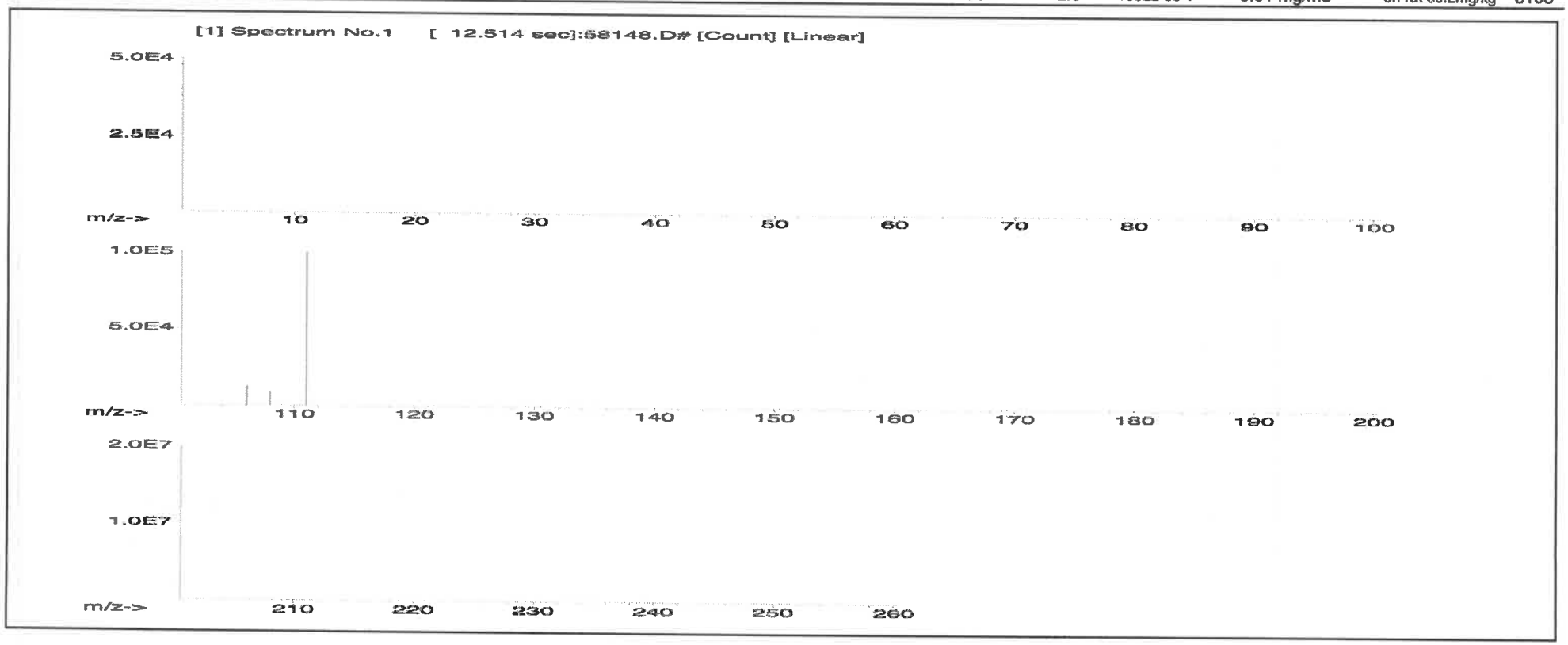
## CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **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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# 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-CLP-4 |
| Lot Number: | S2-MEB711673 |
| Matrix: | 3% (v/v) HNO3<br>3% (v/v) HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Boron, Molybdenum,<br>Silicon, Tin,<br>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

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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

November 02, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

- **November 02, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

### 11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Michael Booth
Director, Quality Control

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

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# Certificate of Analysis

300 Technology Drive
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## 1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CLPP-CAL-1 |
| Lot Number: | T2-MEB714417 |
| Matrix: | 5% (v/v) HNO3 |
| Value / Analyte(s): | 5 000 µg/mL ea:<br>Calcium, Potassium,<br>Magnesium, Sodium,<br>2 000 µg/mL ea:<br>Aluminum, Barium,<br>1 000 µg/mL ea:<br>Iron,<br>500 µg/mL ea:<br>Nickel, Vanadium,<br>Zinc, Cobalt,<br>Manganese,<br>250 µg/mL ea:<br>Silver, Copper,<br>200 µg/mL ea:<br>Chromium,<br>50 µg/mL ea:<br>Beryllium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| **Aluminum, Al** | **2 000 ± 7 µg/mL** | **Barium, Ba** | **2 000 ± 9 µg/mL** |
| **Beryllium, Be** | **50.00 ± 0.26 µg/mL** | **Calcium, Ca** | **5 000 ± 22 µg/mL** |
| **Chromium, Cr** | **200.0 ± 1.0 µg/mL** | **Cobalt, Co** | **500.0 ± 2.4 µg/mL** |
| **Copper, Cu** | **250.0 ± 1.0 µg/mL** | **Iron, Fe** | **1 000 ± 4 µg/mL** |
| **Magnesium, Mg** | **5 000 ± 20 µg/mL** | **Manganese, Mn** | **500.0 ± 2.0 µg/mL** |
| **Nickel, Ni** | **500.0 ± 2.2 µg/mL** | **Potassium, K** | **5 000 ± 19 µg/mL** |
| **Silver, Ag** | **250.0 ± 1.1 µg/mL** | **Sodium, Na** | **5 000 ± 18 µg/mL** |
| **Vanadium, V** | **499.7 ± 2.2 µg/mL** | **Zinc, Zn** | **500.0 ± 2.2 µg/mL** |

**Density:** 1.118 g/mL (measured at 20 ± 4 ºC)

## Assay Information:

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| Ag | ICP Assay | 3151 | 160729 |
| Ag | Volhard | 999c | 999c |
| Al | ICP Assay | 3101a | 140903 |
| Al | EDTA | 928 | 928 |
| Ba | ICP Assay | 3104a | 140909 |
| Ba | Gravimetric | | See Sec. 4.2 |
| Be | ICP Assay | 3105a | 090514 |
| Be | Calculated | | See Sec. 4.2 |
| Ca | ICP Assay | 3109a | 130213 |
| Ca | EDTA | 928 | 928 |
| Co | ICP Assay | 3113 | 190630 |
| Co | EDTA | 928 | 928 |
| Cr | ICP Assay | 3112a | 170630 |
| Cr | Calculated | | See Sec. 4.2 |
| Cu | ICP Assay | 3114 | 121207 |
| Cu | EDTA | 928 | 928 |
| Fe | ICP Assay | 3126a | 140812 |
| Fe | EDTA | 928 | 928 |
| K | ICP Assay | 3141a | 140813 |
| K | Gravimetric | | See Sec. 4.2 |
| Mg | ICP Assay | 3131a | 140110 |
| Mg | EDTA | 928 | 928 |
| Mn | ICP Assay | 3132 | 050429 |
| Mn | EDTA | 928 | 928 |
| Na | ICP Assay | 3152a | 120715 |
| Na | Gravimetric | | See Sec. 4.2 |
| Ni | ICP Assay | 3136 | 120619 |
| Ni | EDTA | 928 | 928 |
| V | IC Assay | 3165 | 160906 |
| V | EDTA | 928 | 928 |
| Zn | ICP Assay | 3168a | 120629 |
| Zn | EDTA | 928 | 928 |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

**Characterization of CRM/RM by Two or More Methods**

**Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

$X_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

$w_i$ = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

**Characterization of CRM/RM by One Method**

**Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:**

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

$X_a$ = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

## 5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

## 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

**Note**: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

### 11.3 Period of Validity

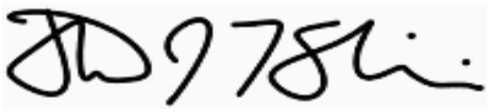
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Thomas Kozikowski
Manager, Quality Control



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CLPP-CAL-3 |
| Lot Number: | T2-MEB714159 |
| Matrix: | 7% (v/v) HNO3 |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Arsenic, Lead,<br>Selenium, Thallium,<br><br>500 µg/mL ea:<br>Cadmium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| **Arsenic, As** | **1 000 ± 8 µg/mL** | **Cadmium, Cd** | **500.0 ± 2.1 µg/mL** |
| **Lead, Pb** | **1 000 ± 5 µg/mL** | **Selenium, Se** | **1 000 ± 8 µg/mL** |
| **Thallium, Tl** | **1 000 ± 7 µg/mL** | | |

**Density:** 1.043 g/mL (measured at 20 ± 4 ºC)

### Assay Information:

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| As | ICP Assay | 3103a | 100818 |
| Cd | ICP Assay | 3108 | 130116 |
| Cd | EDTA | 928 | 928 |
| Pb | ICP Assay | 3128 | 101026 |
| Pb | EDTA | 928 | 928 |
| Se | ICP Assay | 3149 | 100901 |
| Tl | ICP Assay | 3158 | 151215 |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

### Characterization of CRM/RM by Two or More Methods

**Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

$X_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

$w_i$ = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

**Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:**

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

$X_a$ = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

## 5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

## 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

January 13, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

- **January 13, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

### 11.3 Period of Validity

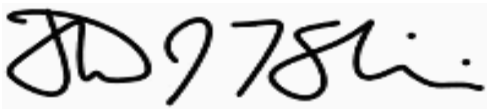
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Thomas Kozikowski
Manager, Quality Control



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

*Certified Reference Material CRM*

R : 01/03/24. M5810, M5811

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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

**Part Number:** 58126
**Lot Number:** 051523
**Description:** Iron (Fe)

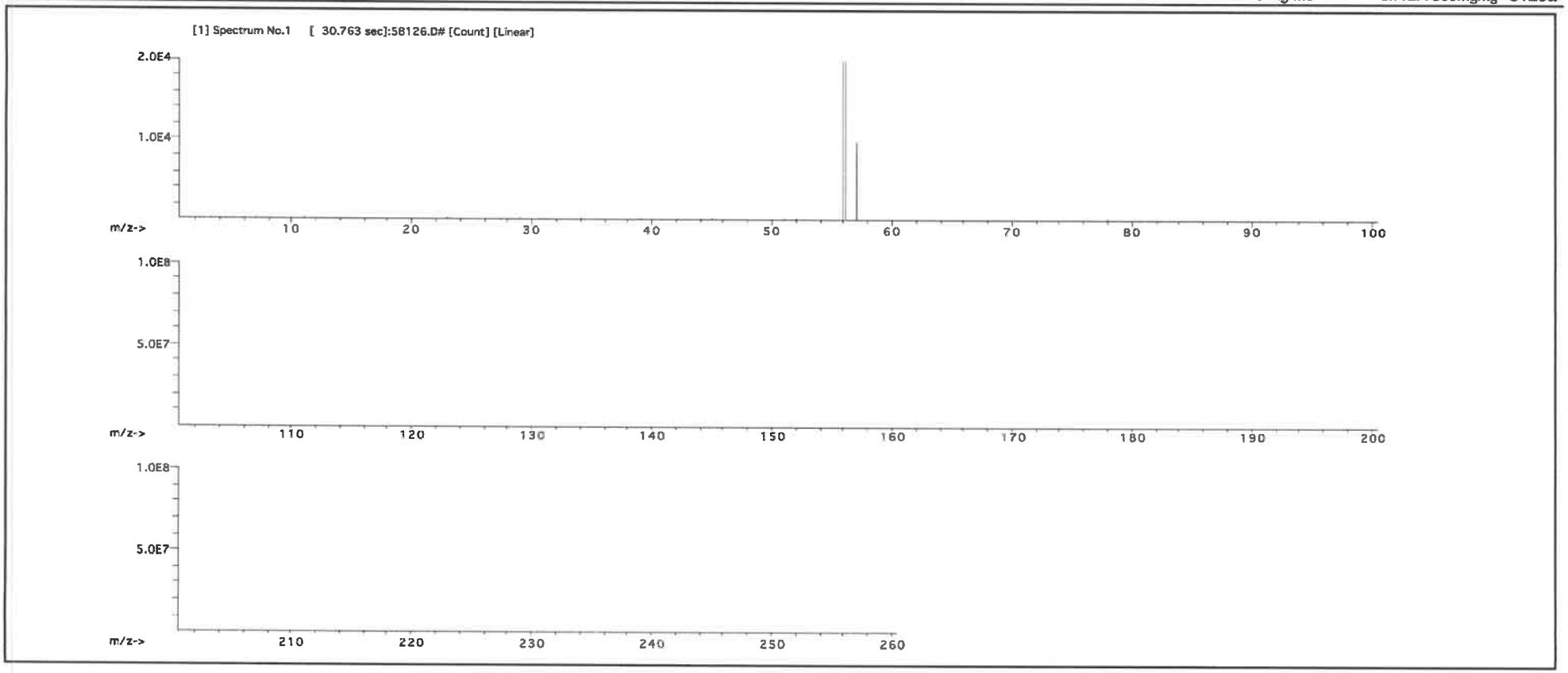
**Expiration Date:** 051526
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 5000.1 ± 0.12 Flask Uncertainty

| | | Lot # | |
|---|---|---|---|
| **Solvent:** | 21110221 | Nitric Acid | |
| | 5.0% | 250.0 (mL) | Nitric Acid |
| | 5E-05 | Balance Uncertainty | |

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 051523 |
| Reviewed By: | Pedro L. Rentas | 051523 |

| 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 | 2302010-500 | 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 | <0.10 |
| B | <0.02 | Cu | <0.10 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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***Certified Reference Material CRM***

R: 8/15/24 M6025

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CERTIFIED WEIGHT REPORT:

**Part Number:** 57182
**Lot Number:** 110923
**Description:** Lead (Pb)

**Expiration Date:** 110926
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB

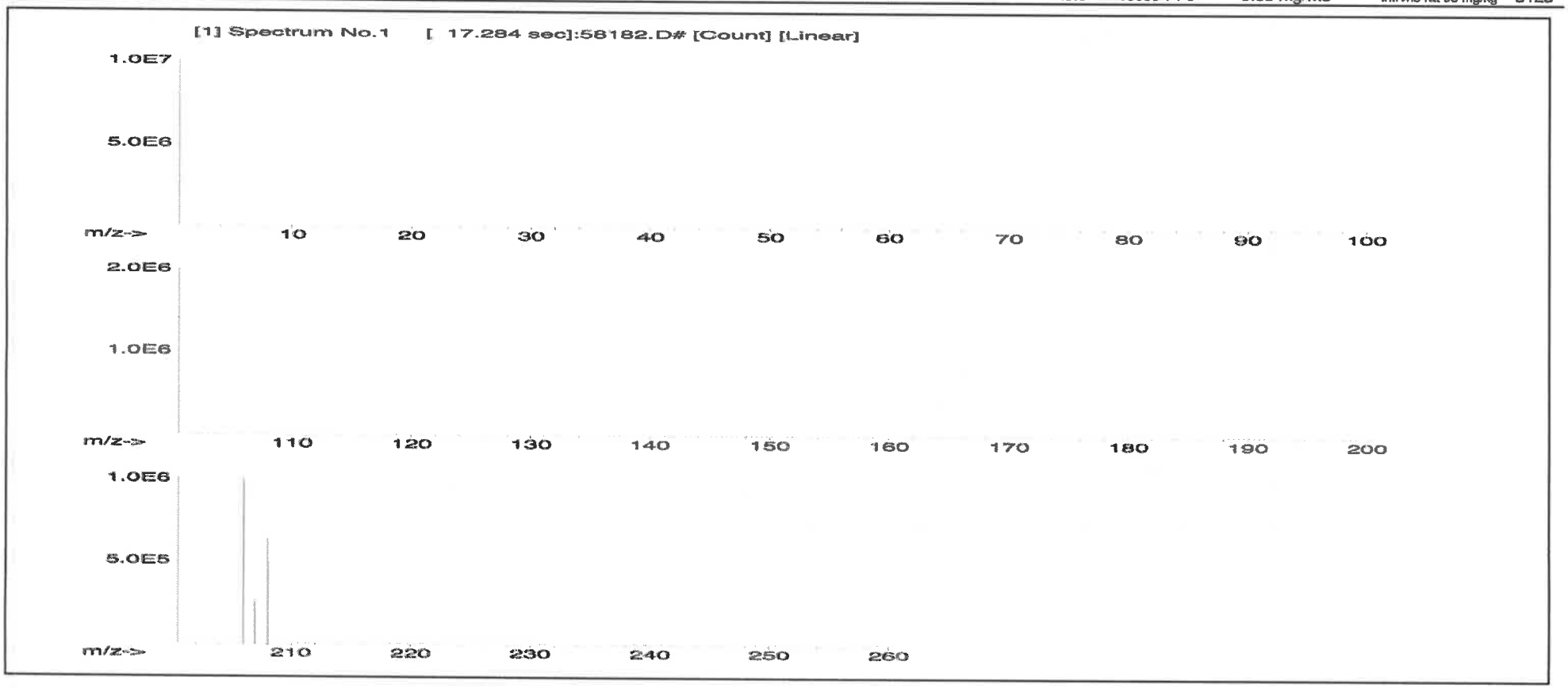
**Weight shown below was diluted to (mL):** 2000.02 0.058 Flask Uncertainty

| | | Lot # | |
|---|---|---|---|
| **Solvent:** | 24002546 | Nitric Acid | |
| 2% | 40.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty

| | | |
|---|---|---|
| Formulated By: | Lawence Barry | 110923 |
| Reviewed By: | Pedro L. Rentas | 110923 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Lead(II) nitrate (Pb) | IN029 | PBD122016A1 | 10000 | 99.999 | 0.10 | 62.5 | 32.0006 | 32.0040 | **10001.1** | **20.0** | 10099-74-8 | 0.05 mg/m3 | intrvns-rat 93 mg/kg | 3128 |



**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).

**Absolute Standards, Inc.**
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***Certified Reference Material CRM***

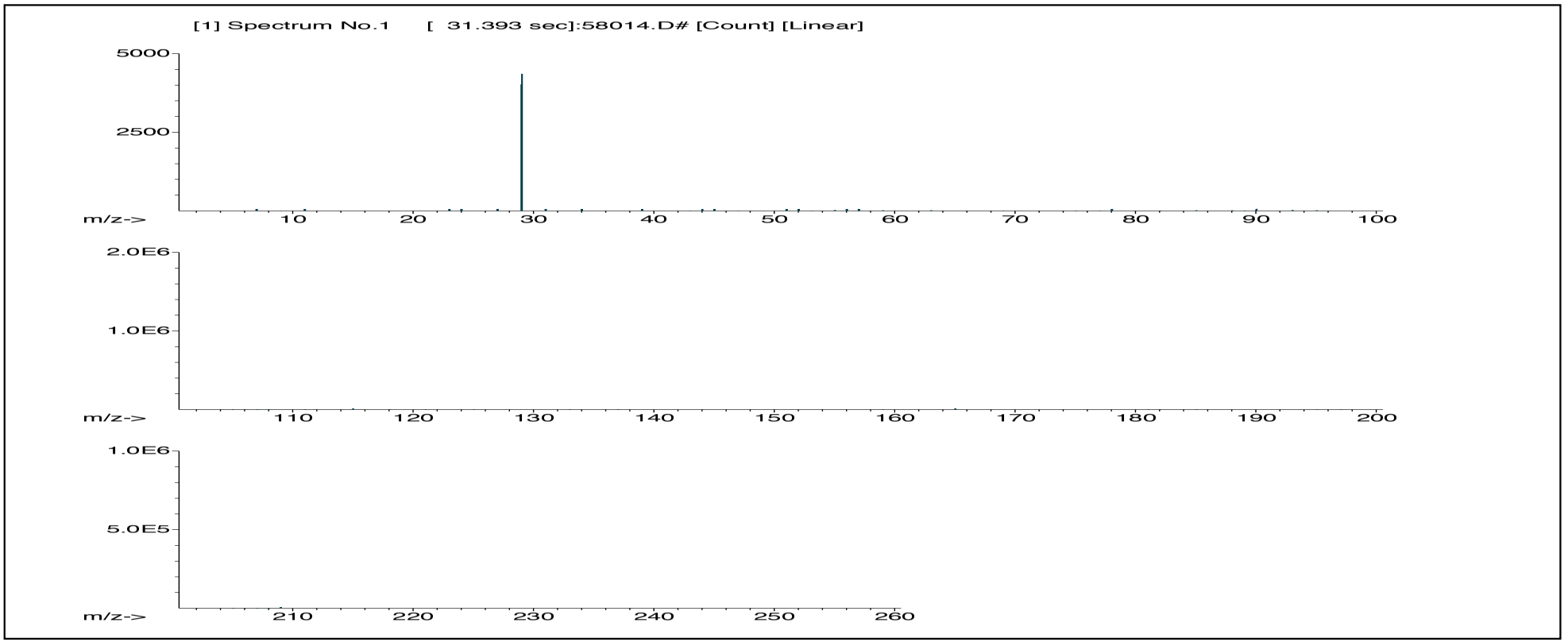
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **57014** | 19410105 | Nitric Acid | |
| **Lot Number:** | **030921** | | | |
| **Description:** | **Silicon (Si)** | | | |
| | | 2.0% | 60.0 | Nitric Acid |
| **Expiration Date:** | 030924 | | (mL) | |
| **Recommended Storage:** | Ambient (20 ºC) | | | |
| **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 | 030921 |
| Reviewed By: | Pedro L. Rentas | 030921 |

| | Part | Lot | Dilution | Initial | Uncertainty | Nominal | Initial | **Final** | Expanded Uncertainty | SDS Information (Solvent Safety Info. On Attached pg.) | | | NIST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Compound** | Number | Number | Factor | Vol. (mL) | Pipette (mL) | Conc. (µg/mL) | Conc. (µg/mL) | **Conc. (µg/mL)** | +/- (µg/mL) | CAS# | OSHA PEL (TWA) | LD50 | SRM |
| 1. Ammonium hexafluorosilicate (Si) | 58114 | 070120 | 0.1000 | 300.0 | 0.084 | 1000 | 10000.0 | **1000.0** | **2.1** | 16919-19-0 | 2.50 mg/m3 | orl-rat 70 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 | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | T | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T)= Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

**Certified by:**

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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***Certified Reference Material CRM***

IN 5019 R: 12/09/21 (BH)

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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

**Part Number:** 57116
**Lot Number:** 011421
**Description:** Sulfur (S)

**Expiration Date:** 011424
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 23060

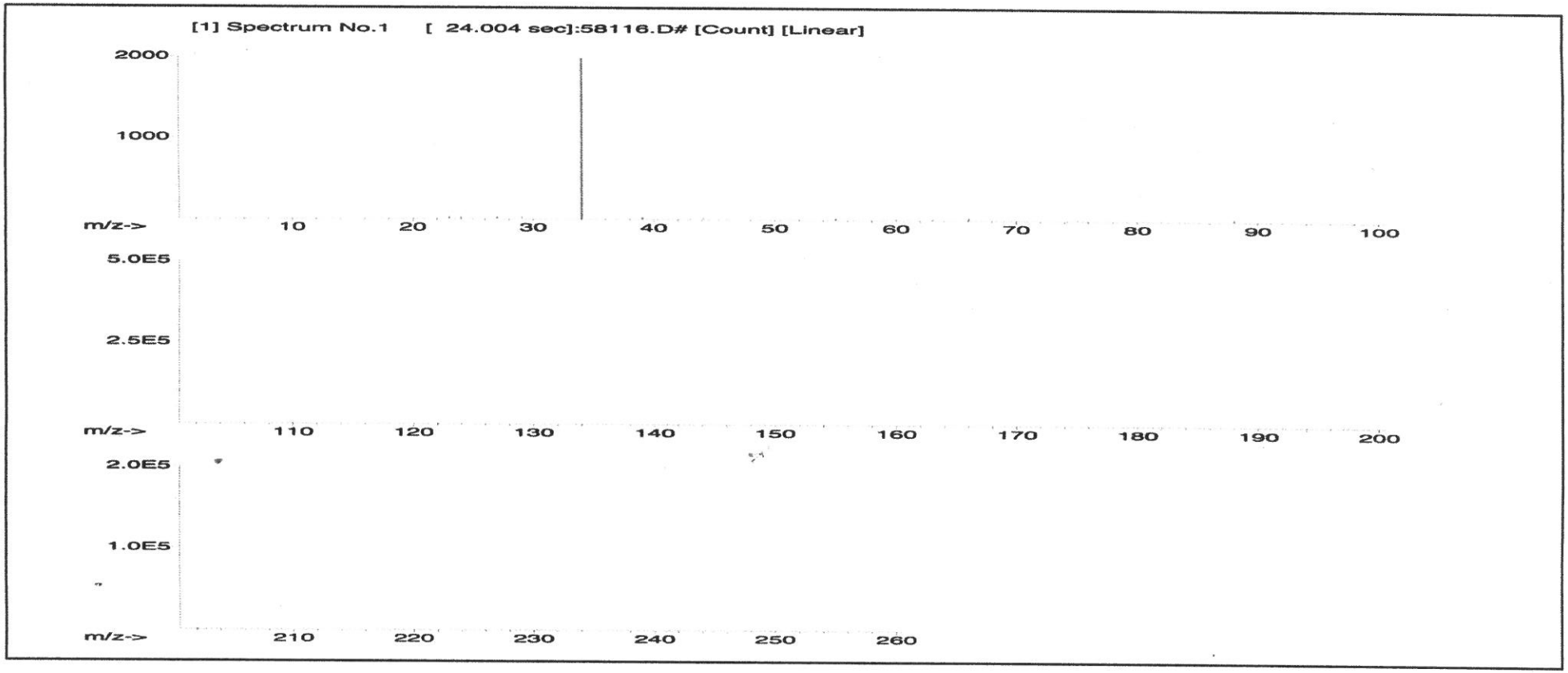
**Weight shown below was diluted to (mL):** 1999.53 0.100 Flask Uncertainty

**Lot #**
**Solvent:** 011421 ASTM Type 1 Water

| | | |
|---|---|---|
| Formulated By: | Lawrence Barry | 011421 |
| Reviewed By: | Pedro L. Rentas | 011421 |

5E-05 Balance Uncertainty

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Ammonium sulfate (S) | IN117 | SLBF9912V | 10000.0 | 99.0 | 0.10 | 24.3 | 83.2191 | 83.2206 | **10000.2** | **20.2** | 7783-20-2 | NA | NA | 3181 |



**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 | 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:**

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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***Certified Reference Material CRM***

BA

M5020

R: 12/09/21

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CERTIFIED WEIGHT REPORT:

**Part Number:** 57115
**Lot Number:** 032921
**Description:** Phosphorous (P)

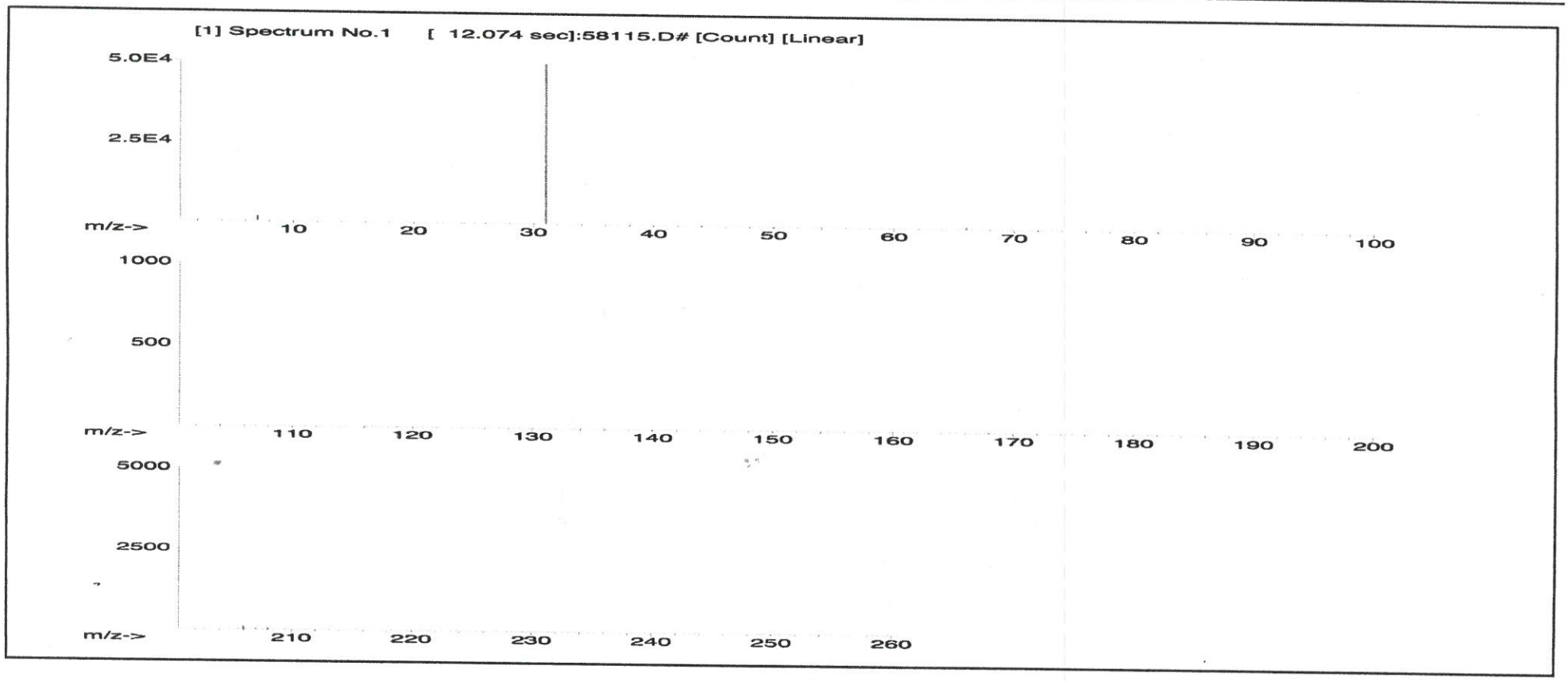
**Expiration Date:** 032924
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 3000.41

| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 20370011 | Nitric Acid | |
| 2% | 60.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

| | | |
|---|---|---|
| Formulated By: | Lawrence Barry | 032921 |
| Reviewed By: | Pedro L. Rentas | 032921 |

| 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 | PV052018A1 | 10000 | 99.999 | 0.10 | 27.3 | 109.9063 | 109.9093 | **10000.3** | **20.0** | 7722-76-1 | 5 mg/m3 | NA | 3186 |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):**

| Trace Metals Verification by ICP-MS (µg/mL) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | 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:**

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).
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# 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<br>3% (v/v) HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Boron, Molybdenum,<br>Silicon, Tin,<br>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

**Absolute Standards, Inc.**
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M5289 R: 07/12/22 (BH)

**Certified Reference Material CRM**

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AR-1539 Certificate Number
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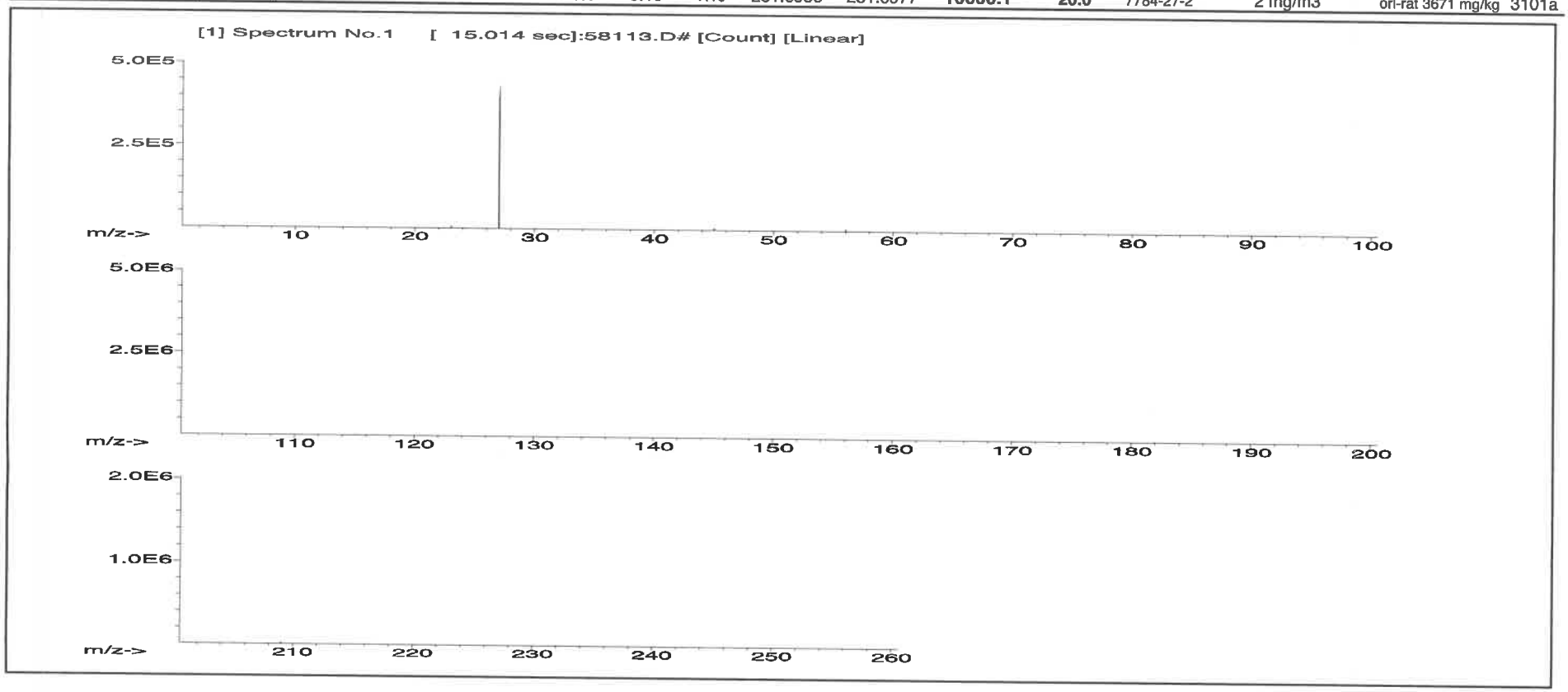
CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **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.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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*Certified Reference Material CRM*

M5429 R1 01/26/23 BH

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CERTIFIED WEIGHT REPORT:

**Part Number:** 57103
**Lot Number:** 070622
**Description:** Lithium (Li)

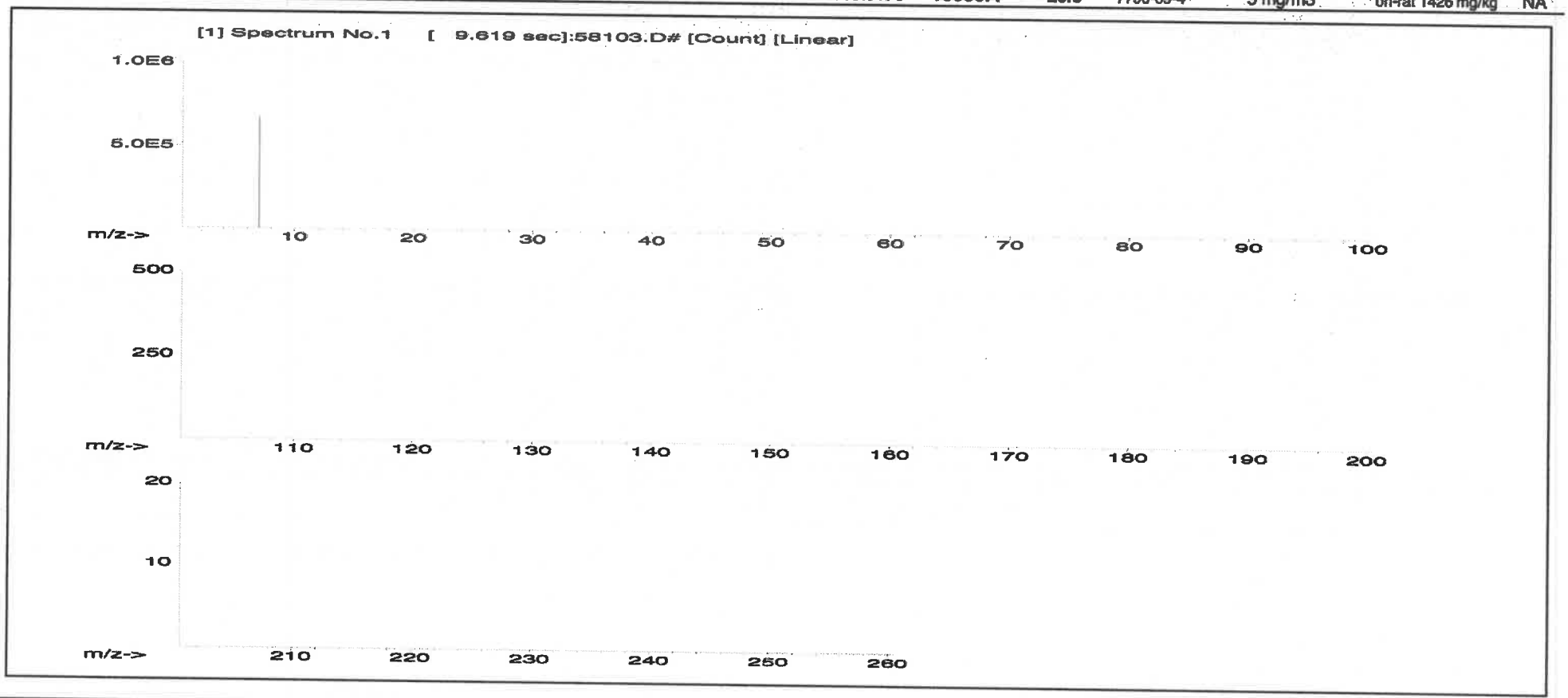
**Expiration Date:** 070625
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 1000.12

| | 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.

* 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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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

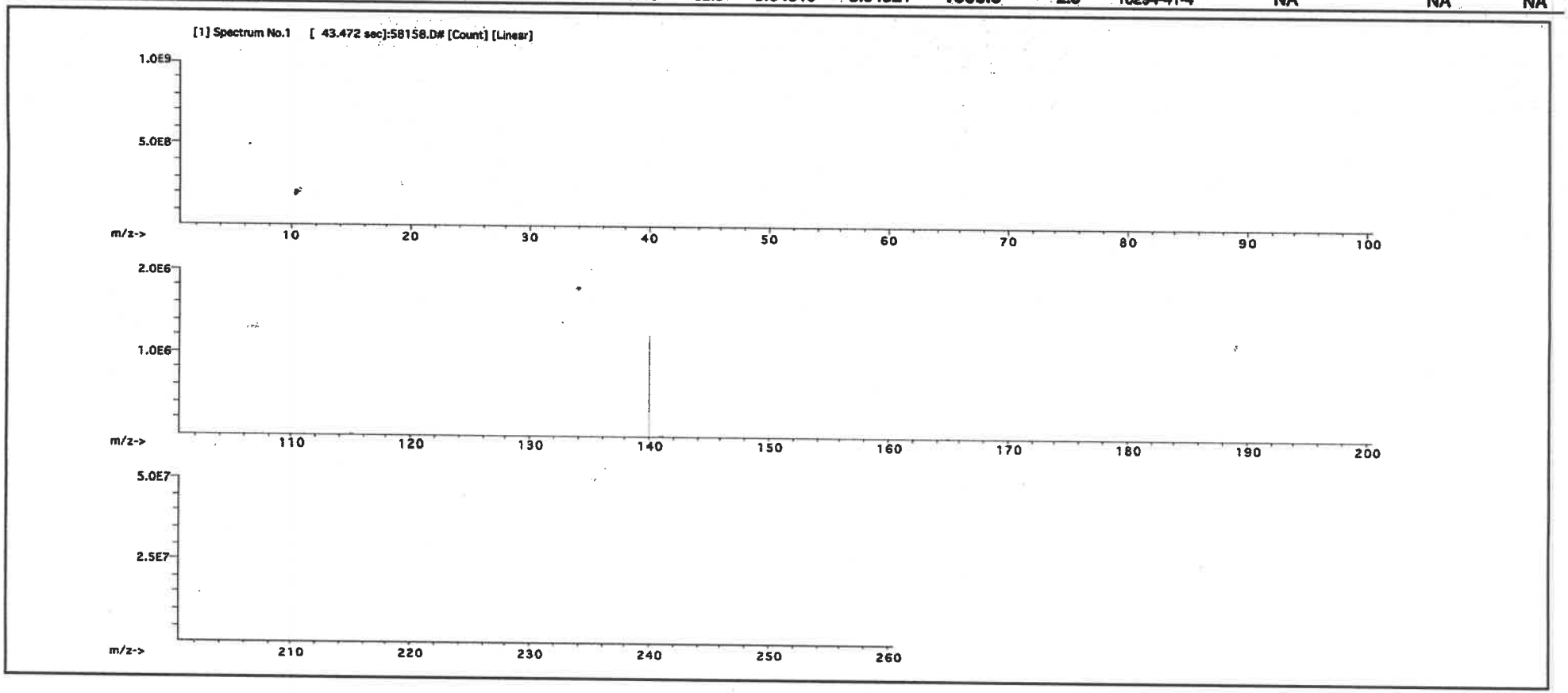
**Weight shown below was diluted to (mL):** 1000.12 0.058 Flask Uncertainty

| | | 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.

* 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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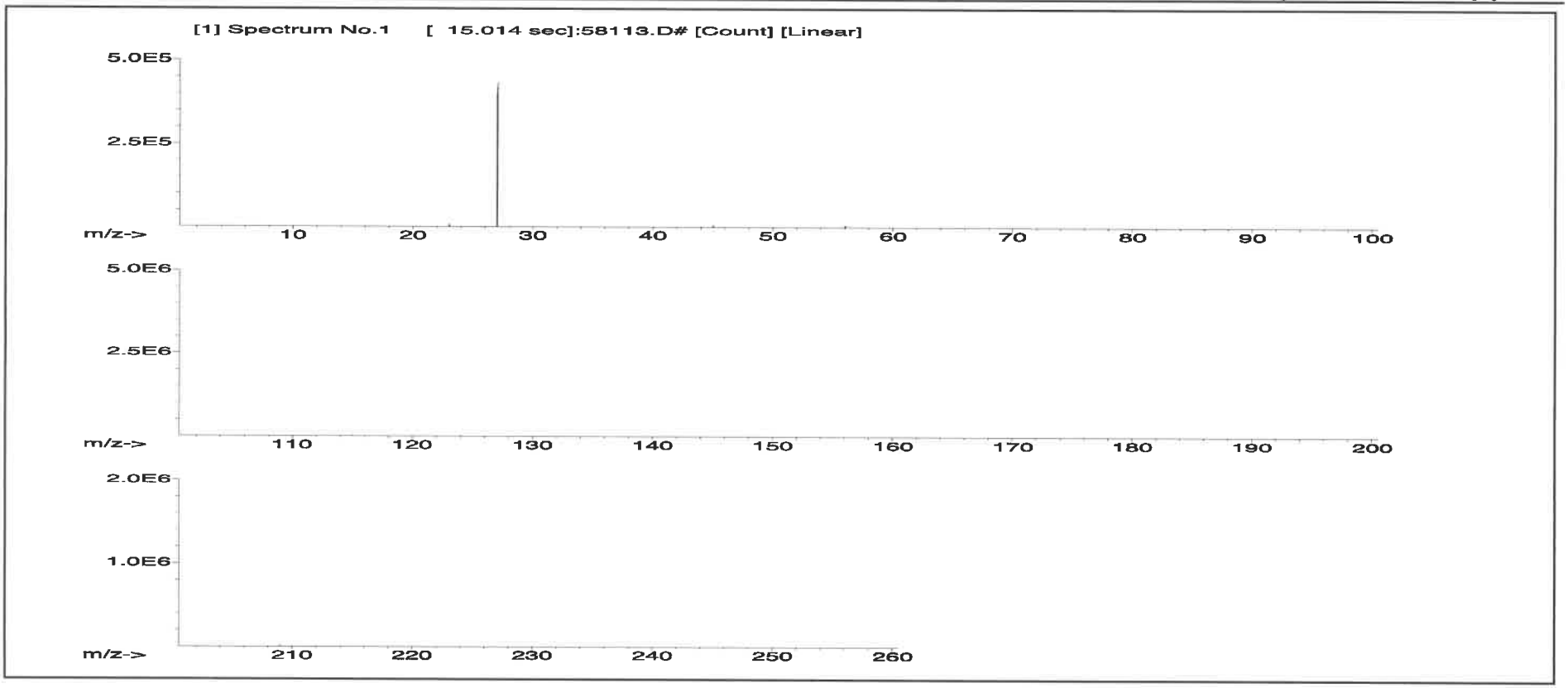
CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **58113** | | **Lot #** | | |
| **Lot Number:** | **011623** | **Solvent:** | 20510011 | Nitric Acid | |
| **Description:** | **Aluminum (Al)** | 2% | 40.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 011626 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **10000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | | |

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 011623 |
| Reviewed By: | Pedro L. Rentas | 011623 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Aluminum nitrate nonahydrate (Al) | IN022 | ALM112021A1 | 10000 | 99.999 | 0.10 | 7.30 | 273.9779 | 274.0078 | **10001.1** | **20.0** | 7784-27-2 | 2 mg/m3 | orl-rat 3671 mg/kg | 3101a |



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IN5497 - IN5498 R: 03/17/23 BH

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CERTIFIED WEIGHT REPORT:

**Part Number:** 58120
**Lot Number:** 031523
**Description:** Calcium (Ca)

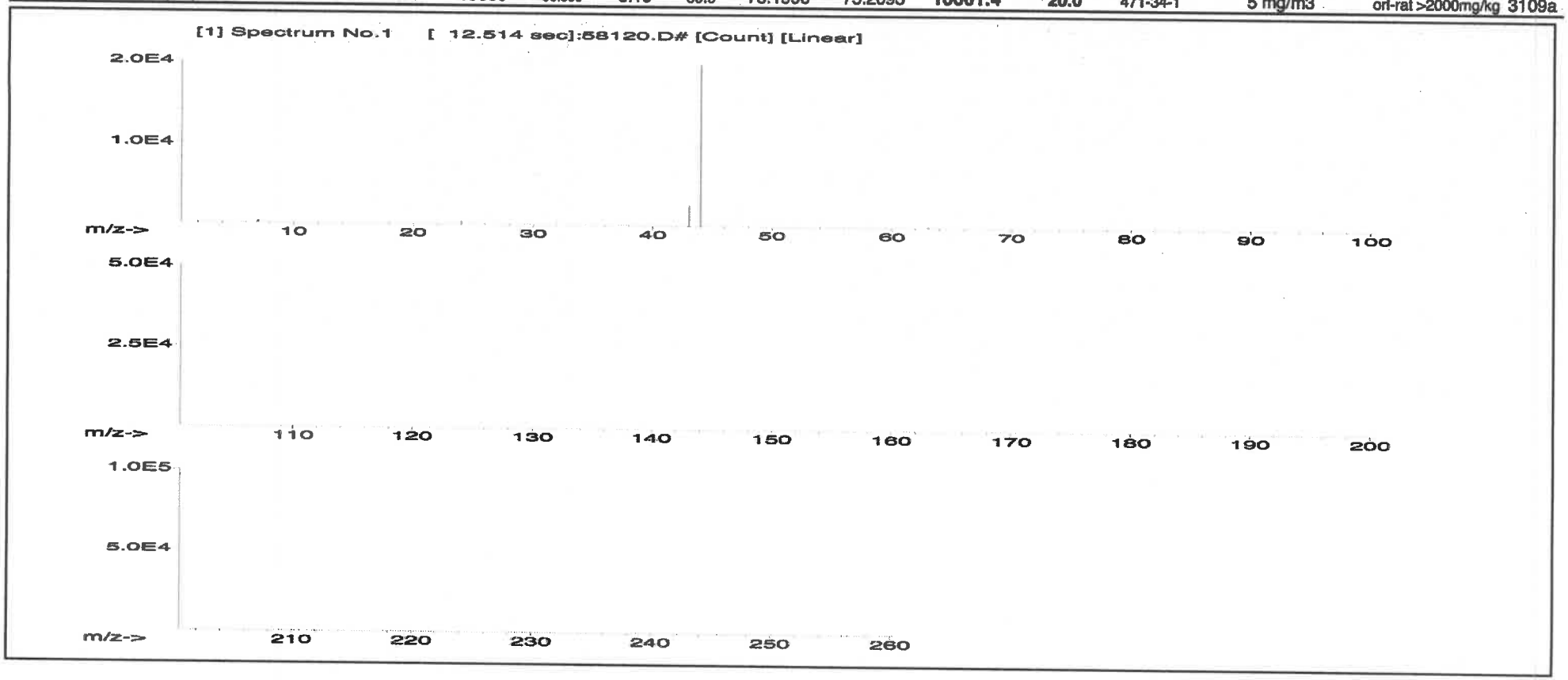
**Expiration Date:** 031526
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 3000.41 ± 0.058 Flask Uncertainty

| | | Lot # | |
|---|---|---|---|
| **Solvent:** | 21110221 | Nitric Acid | |
| 2% | 60.0 (mL) | Nitric Acid | |
| | 5E-05 | Balance Uncertainty | |

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 031523 |
| 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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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CERTIFIED WEIGHT REPORT:

**Part Number:** 58120
**Lot Number:** 031523
**Description:** Calcium (Ca)

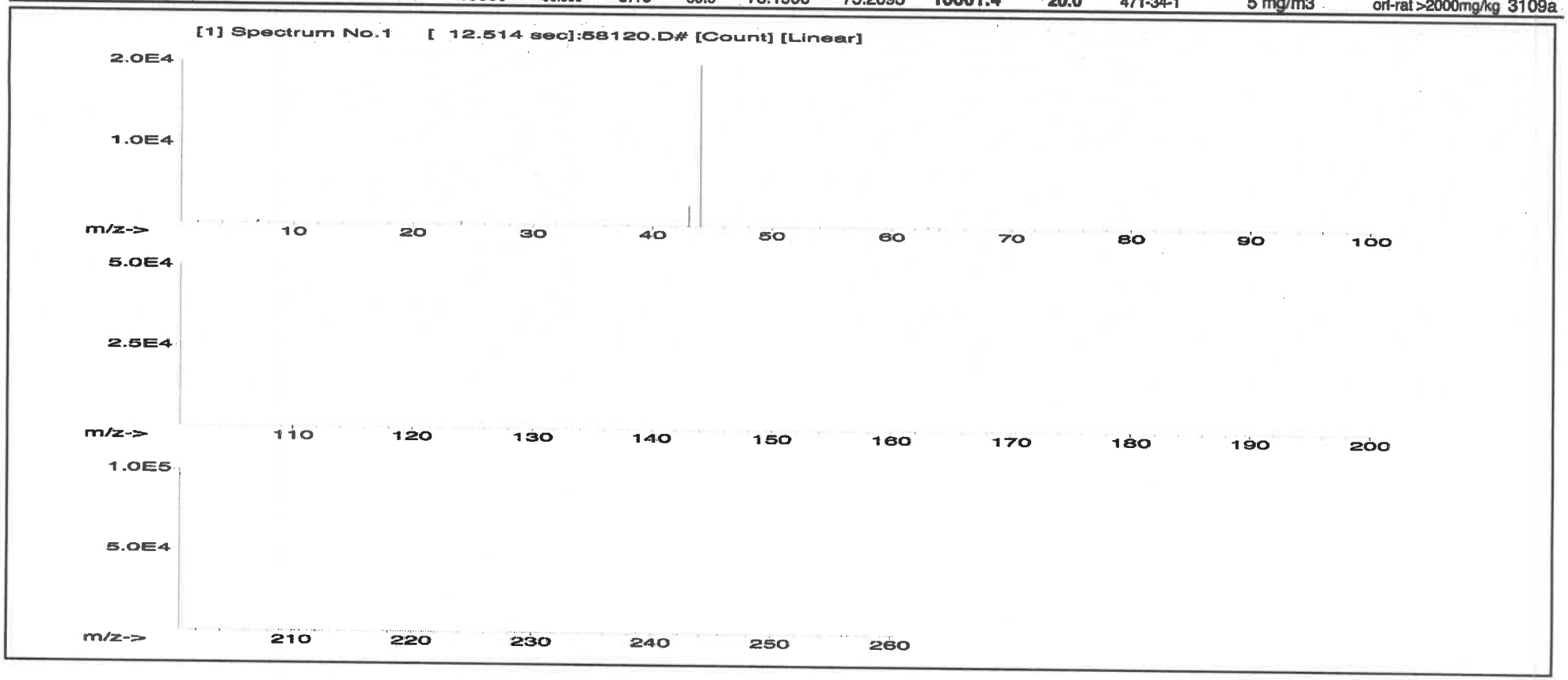
**Expiration Date:** 031526
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 3000.41 ± 0.058 Flask Uncertainty

| | | 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.

* 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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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

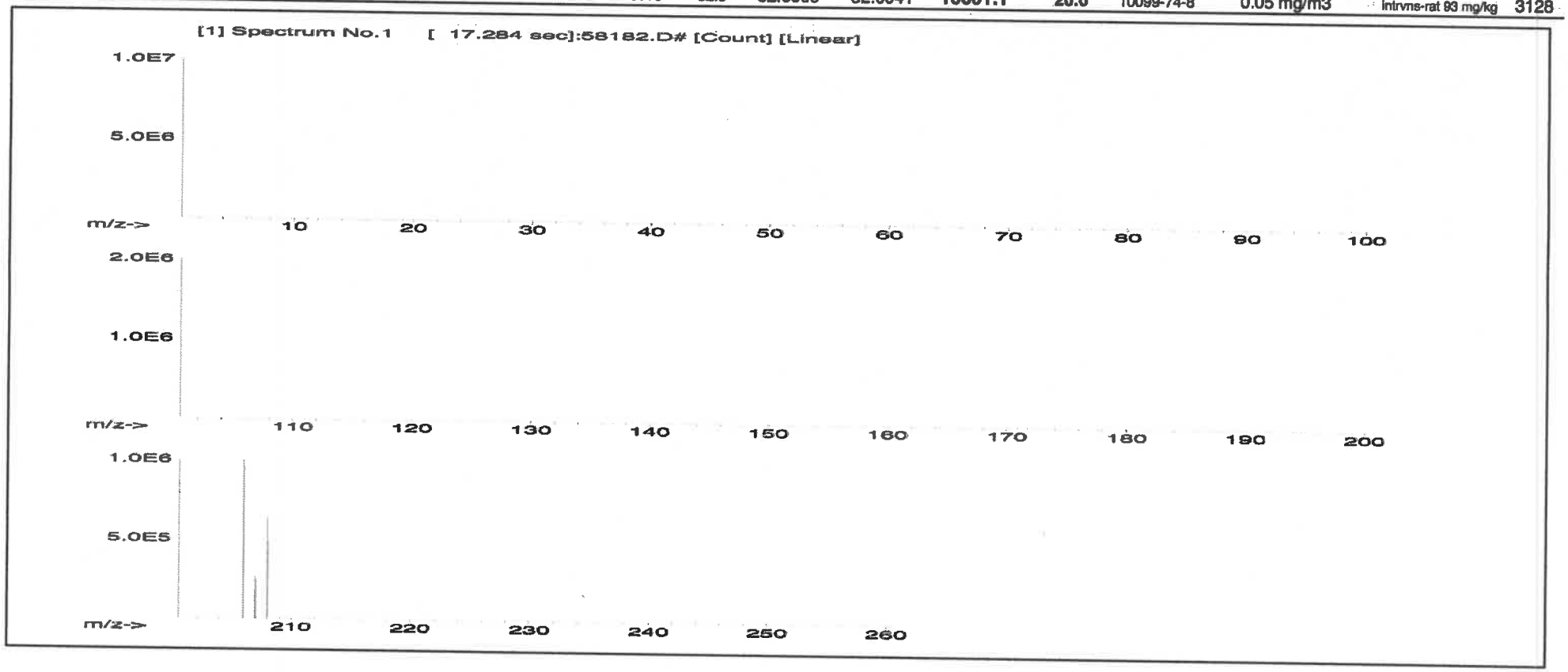
| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 20510011 | Nitric Acid | |
| 2% | 40.0 (mL) | Nitric Acid | |

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.**

* 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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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

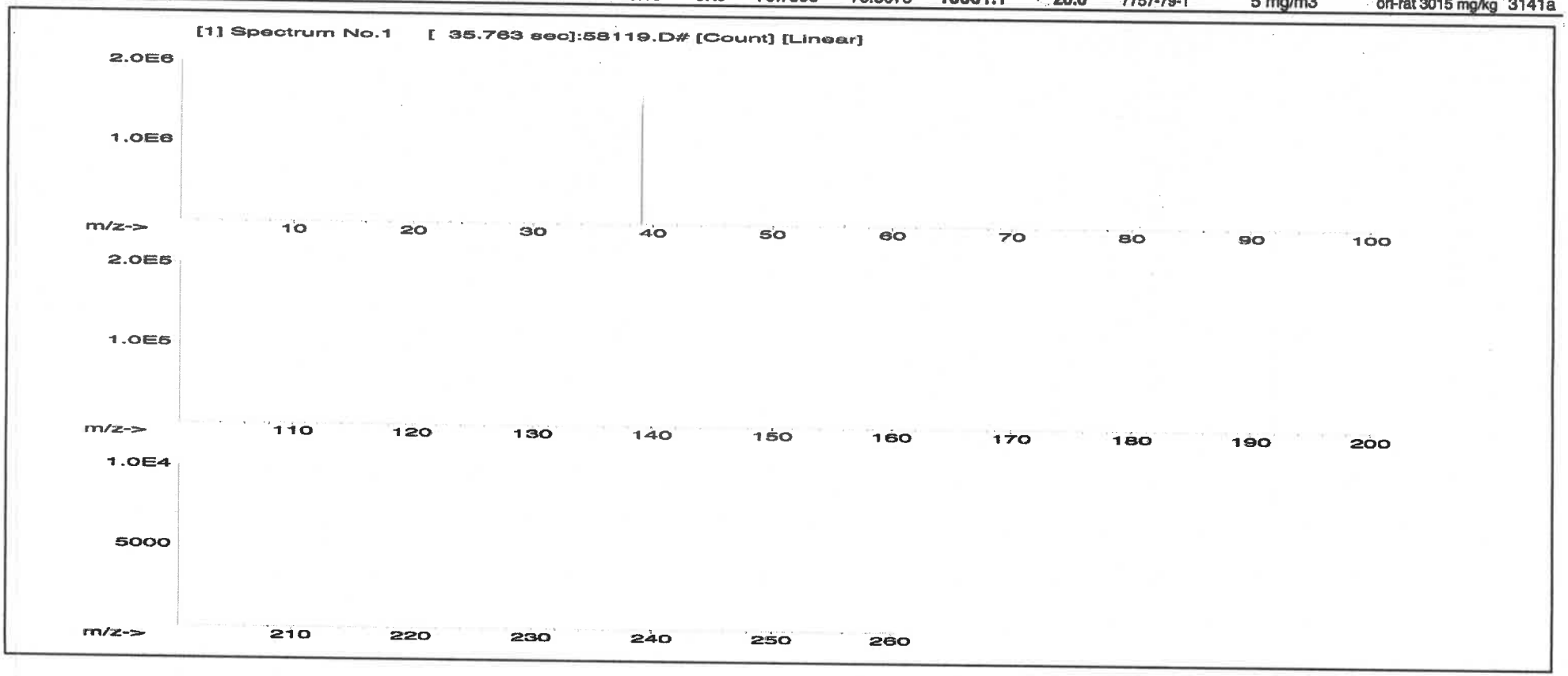
| Lot # | | |
|---|---|---|
| **Solvent:** 20510011 | | Nitric Acid |
| 2% | 60.0 (mL) | Nitric Acid |

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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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# Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CLPP-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.**
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www.absolutestandards.com

*Certified Reference Material CRM*

M5658 R ! 8/25/23

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AR-1539 Certificate Number
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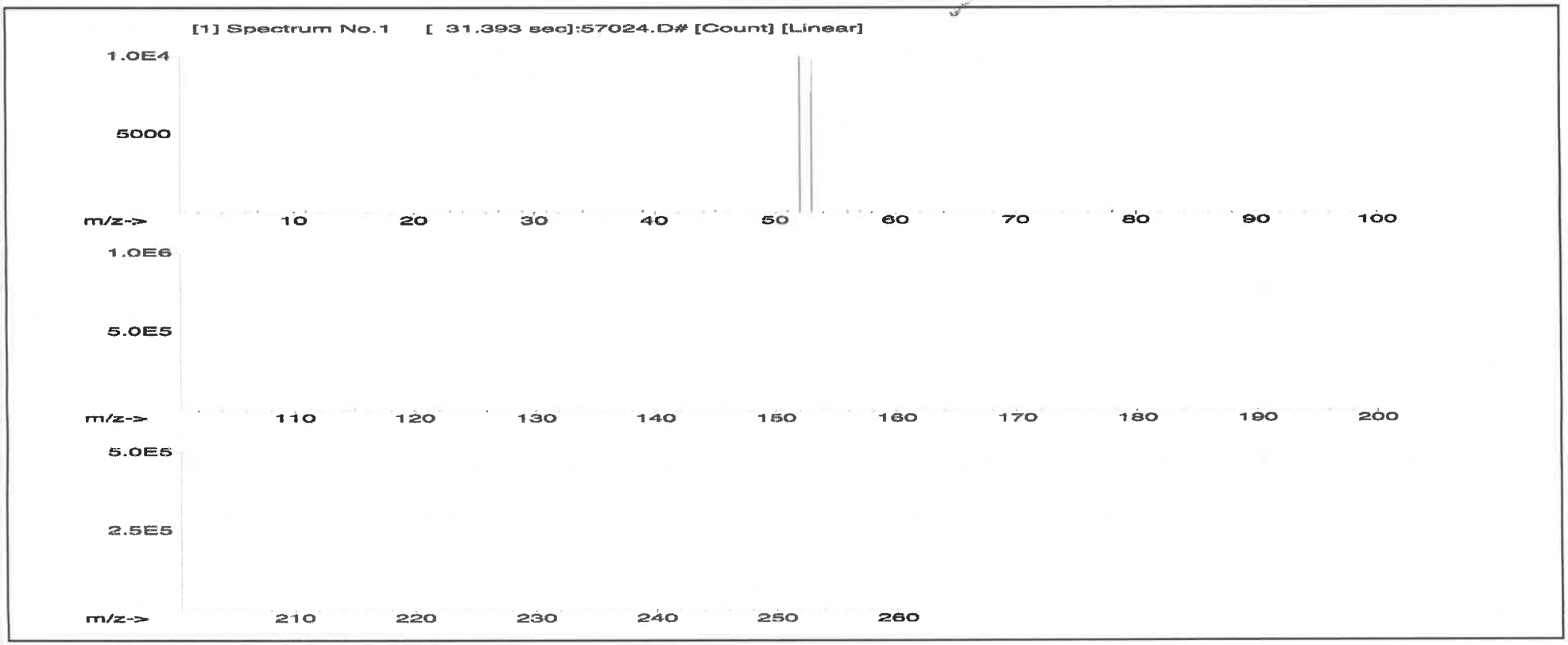
CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **58024** | 21110221 | Nitric Acid | |
| **Lot Number:** | **060523** | | | |
| **Description:** | **Chromium (Cr)** | | | |
| | | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 060526 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | |

| | | |
|---|---|---|
| Formulated By: | Lawrence Barry | 060523 |
| Reviewed By: | Pedro L. Rentas | 060523 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Chromium(III) nitrate nonahydrate (Cr) | 58124 | 071122 | 0.1000 | 200.0 | 0.084 | 1000 | 10000.1 | **1000.0** | **2.2** | 7789-02-8 | 0.5 mg(Cr)/m3 | orl-rat 3250 mg/kg | 3112a |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

| Trace Metals Verification by ICP-MS (µg/mL) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | T | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T)= Target analyte

**Physical Characterization:**

**Certified by:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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***Certified Reference Material CRM***

M5697 R: 10/27/23

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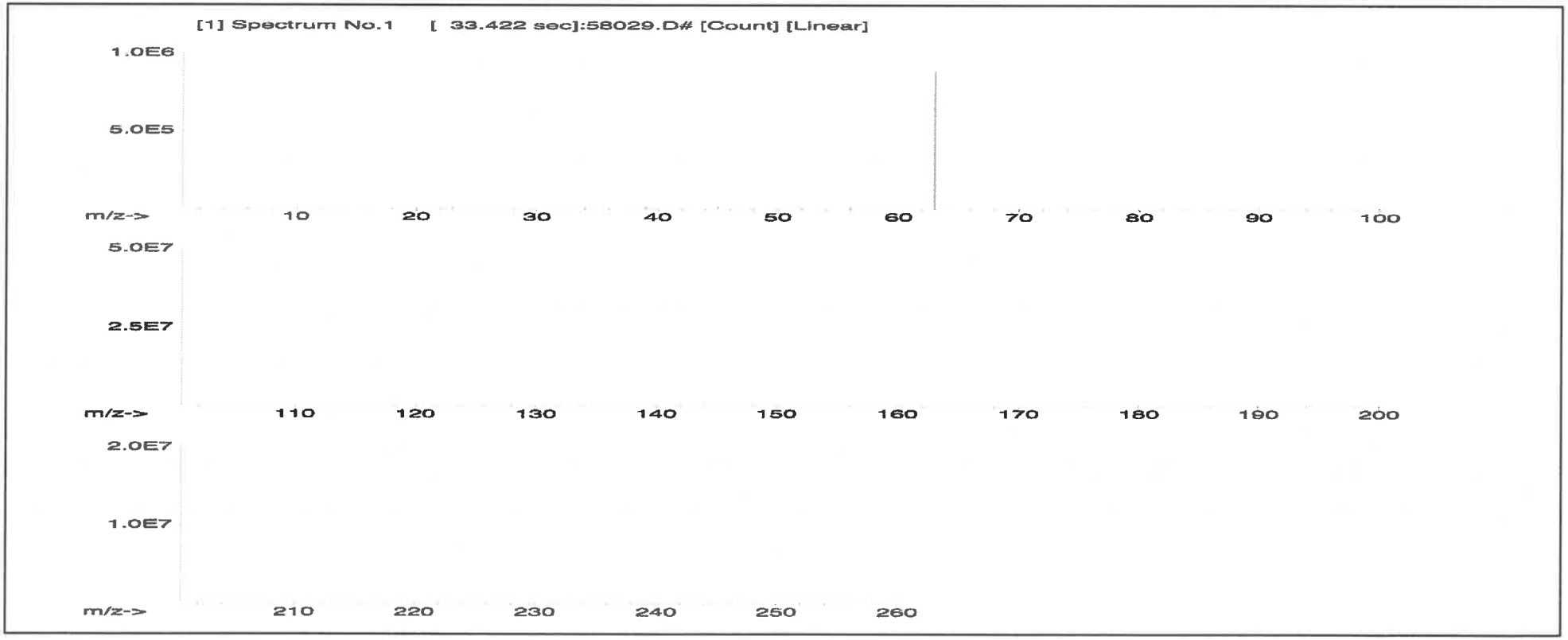
CERTIFIED WEIGHT REPORT:

| | | 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:**

* 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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M5768 M5769 (BP) R:1/3/24

*Certified Reference Material CRM*

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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

**Part Number:** 58112
**Lot Number:** 091823
**Description:** Magnesium (Mg)

**Expiration Date:** 091826
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB

M5768, M5769 (BP) R: 1/3/24

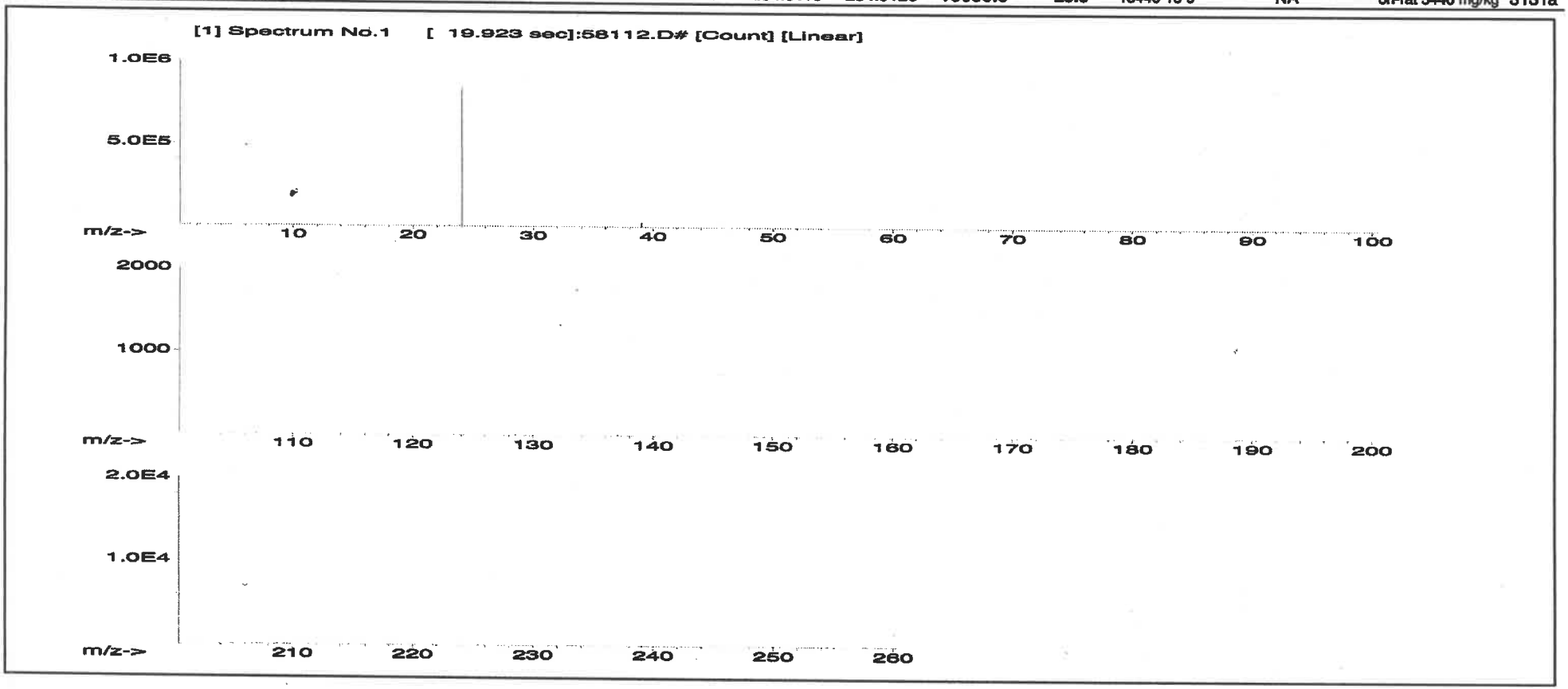
**Weight shown below was diluted to (mL):** 2000.02 0.058 Flask Uncertainty

| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 24002546 | Nitric Acid | |
| | 2% | 40.0 (mL) | Nitric Acid |
| | | 5E-05 | Balance Uncertainty |

Formulated By: Lawrence Barry 091823

Reviewed By: Pedro L. Rentas 091823

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Magnesium nitrate hexahydrate (Mg) | IN030 | MGD052023A1 | 10000 | 99.999 | 0.10 | 8.51 | 234.9118 | 234.9126 | **10000.0** | **20.0** | 13446-18-9 | NA | ori-rat 5440 mg/kg | 3131a |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

| Trace Metals Verification by ICP-MS (µg/mL) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | T | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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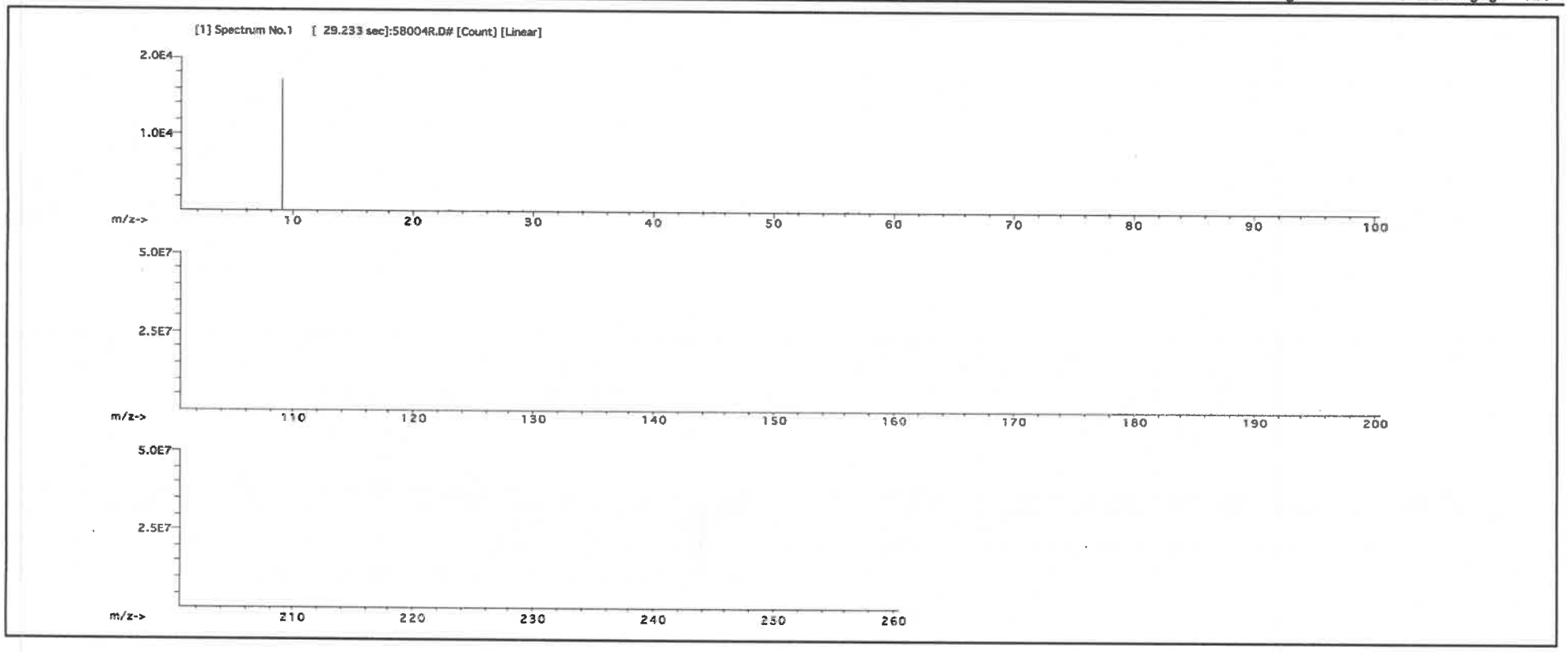
CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **57004** | 24002546 | Nitric Acid | |
| **Lot Number:** | **102523** | | | |
| **Description:** | **Beryllium (Be)** | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 102526 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | |

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 102523 |
| Reviewed By: | Pedro L. Rentas | 102523 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Beryllium nitrate (Be) | 58104 | 091423 | 0.1000 | 200.0 | 0.084 | 1000 | 10001.5 | **1000.0** | **2.2** | 13597-99-4 | 0.2ug/m3 | intrvns-rat 3.16mg/kg | NA |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

| Trace Metals Verification by ICP-MS (µg/mL) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | T | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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**CERTIFIED WEIGHT REPORT:**

**Part Number:** 57050
**Lot Number:** 071123
**Description:** Tin (Sn)

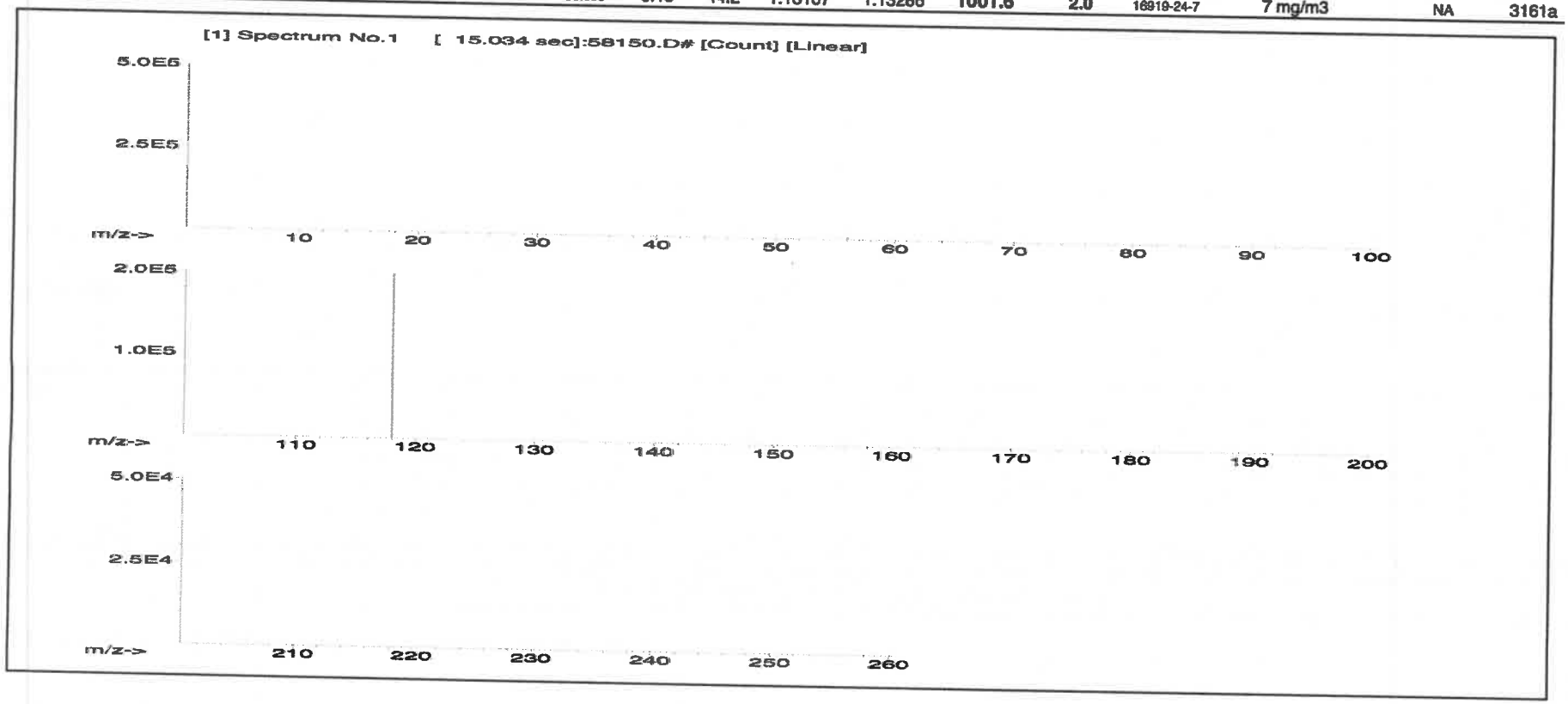
**Expiration Date:** 071126
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 1000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 499.93

| | 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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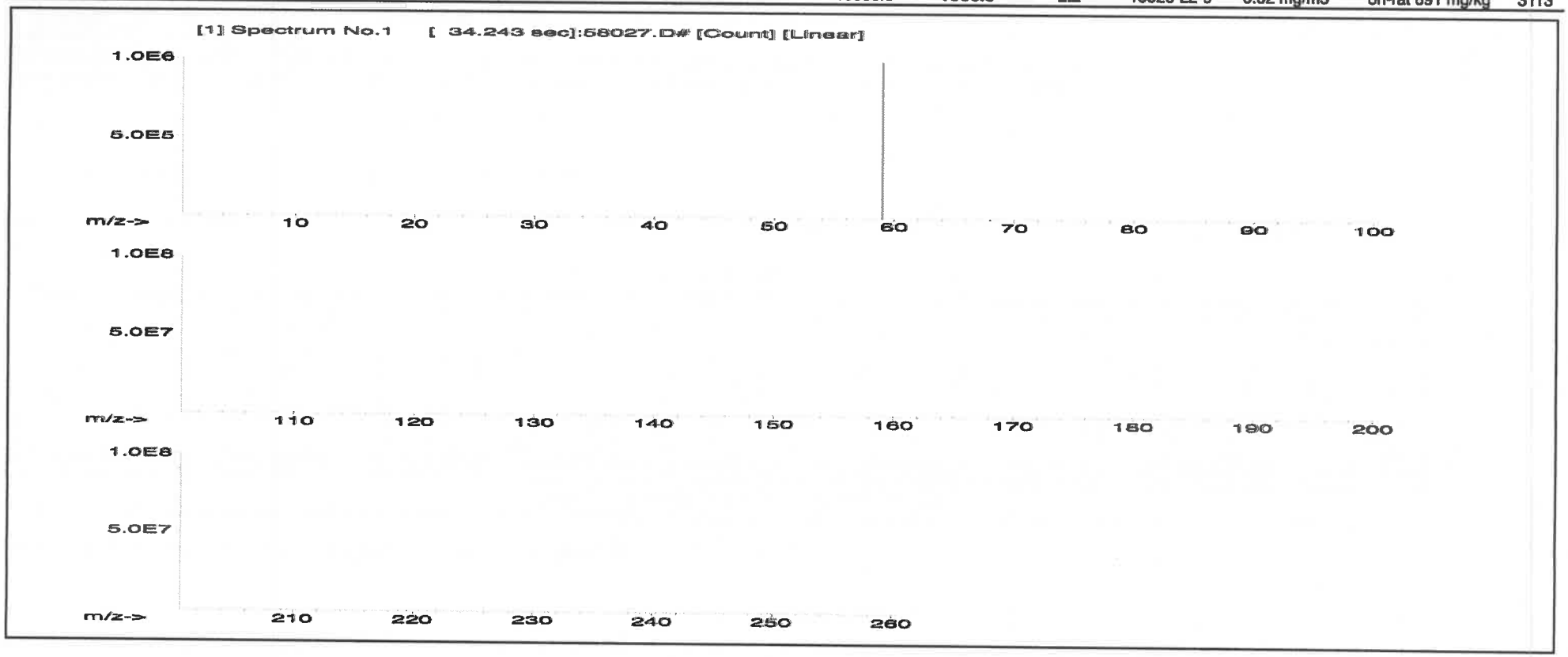
CERTIFIED WEIGHT REPORT:

| | | 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.

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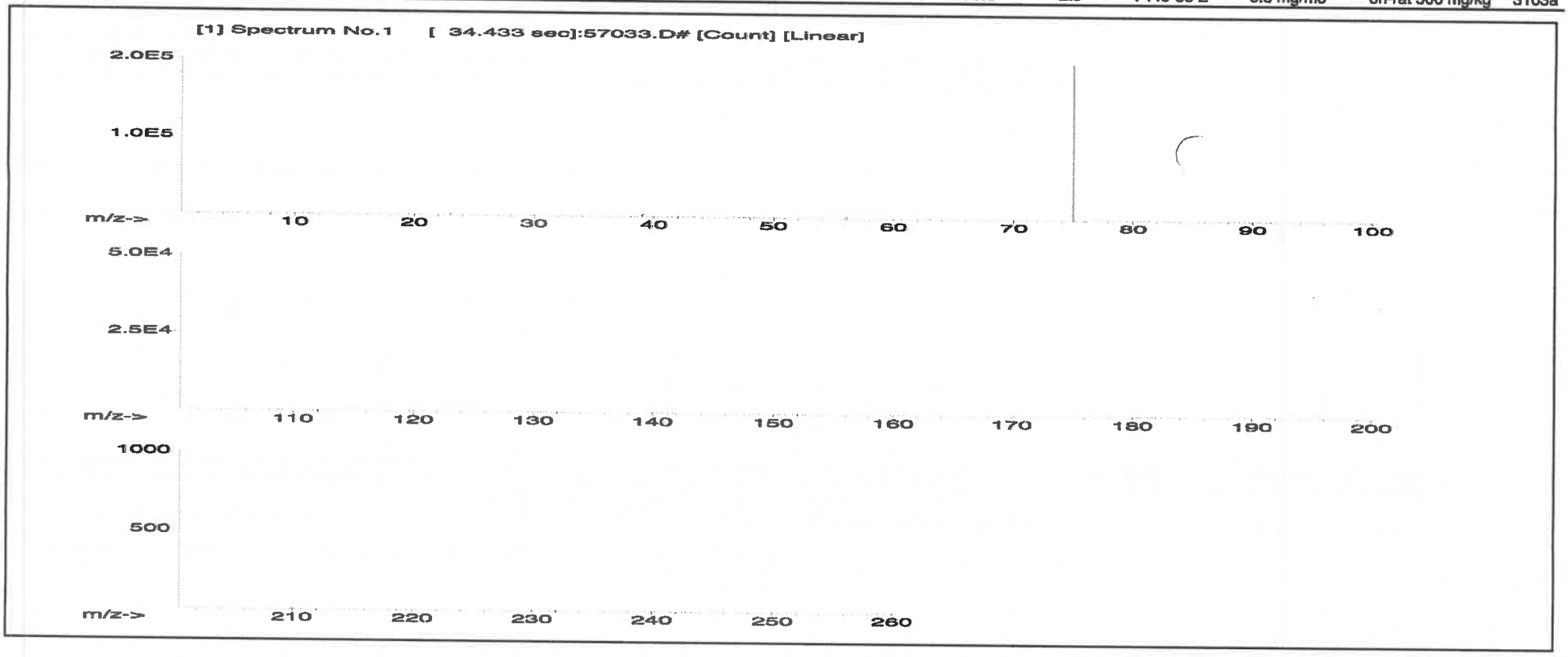
CERTIFIED **WEIGHT** REPORT:

| | | 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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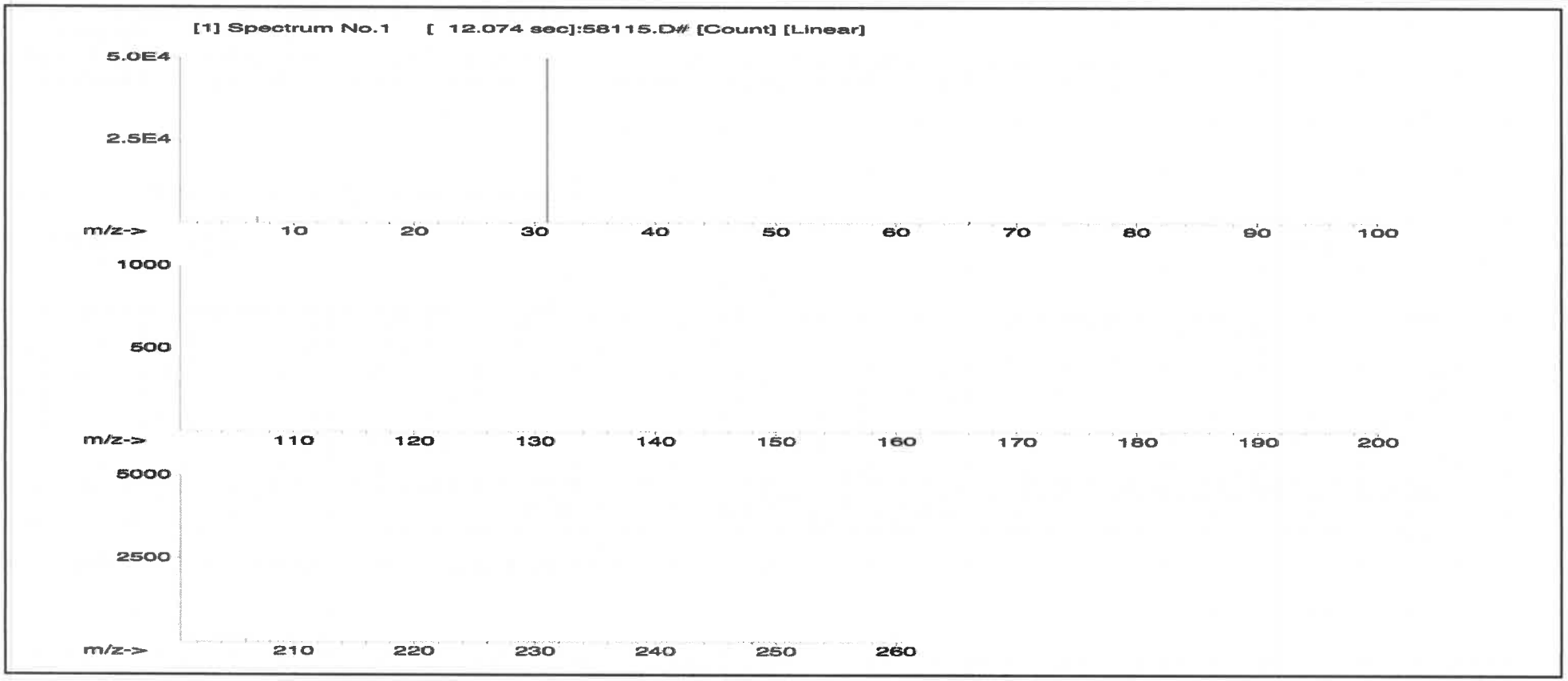
CERTIFIED WEIGHT REPORT:

| | | | 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:**

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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).

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

*Certified Reference Material CRM*

R: 02/09/24 M5817

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

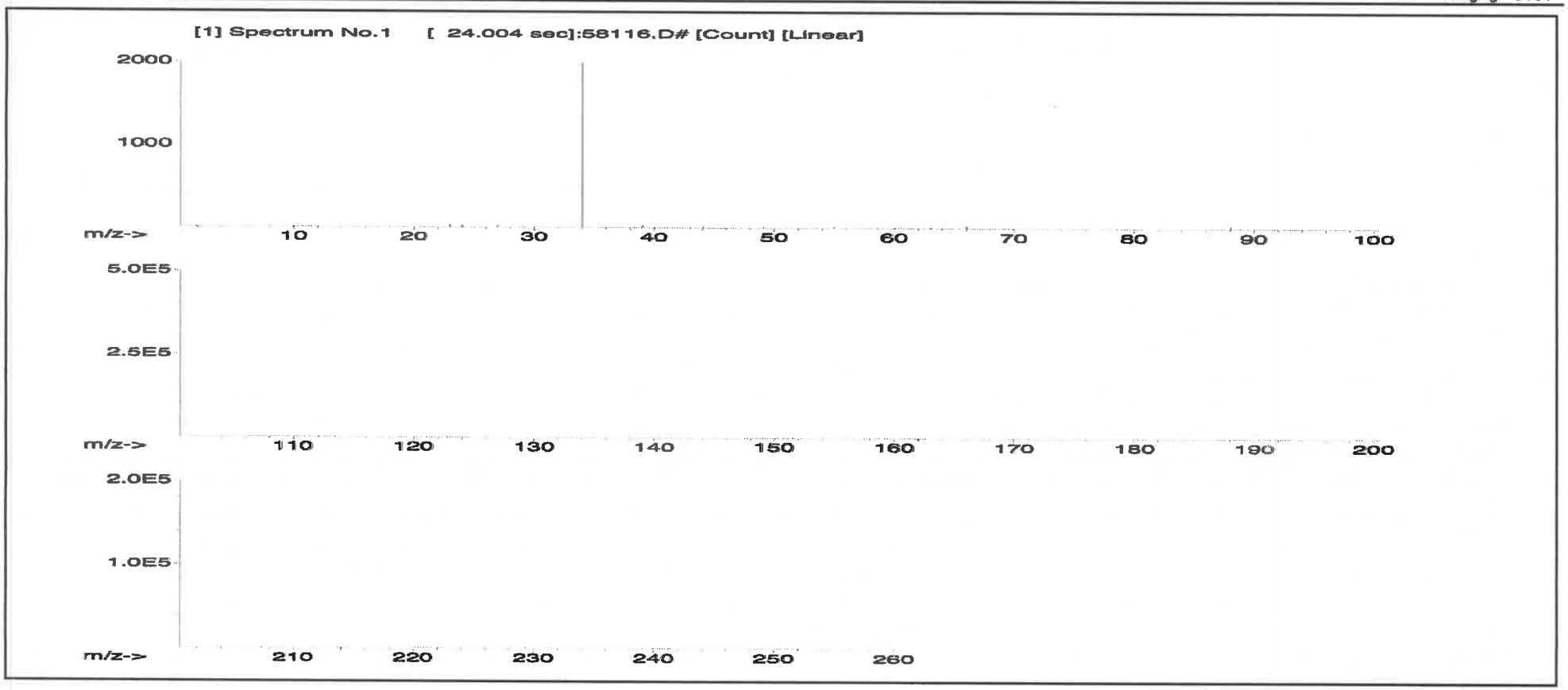
**Part Number:** 57116
**Lot Number:** 071123
**Description:** Sulfur (S)

**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:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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# Certificate of Analysis

R: 02/22/24 M5942

300 Technology Drive
Christiansburg, VA 24073 USA
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P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGTI1 |
| Lot Number: | T2-TI719972 |
| Matrix: | 2% (v/v) HNO3<br>tr. HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>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

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# Certificate of Analysis

M5959 R: 6/14/24.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGY10 |
| Lot Number: | V2-Y740548 |
| Matrix: | 2% (v/v) HNO3 |
| Value / Analyte(s): | 10 000 µg/mL ea:<br>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**<br>EDTA NIST SRM 928 Lot Number: 928 |
| **Assay Method #2** | **9997 ± 50 µg/mL**<br>ICP Assay NIST SRM 3167a Lot Number: 190730 |
| **Assay Method #3** | **9984 ± 31 µg/mL**<br>Calculated NIST SRM Lot Number: See Sec. 4.2 |

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

### Characterization of CRM/RM by Two or More Methods

**Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

$X_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

$w_i$ = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

**Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:**

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

$X_a$ = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$**

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

## 5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | Ag | < | 0.004600 | M | Eu | | 0.009037 | M | Na | | 0.086360 | M | Se | < | 0.005200 | M | Zn | | 0.030125 |
| M | Al | | 0.014862 | O | Fe | | 0.002410 | M | Nb | < | 0.000570 | O | Si | | 0.024100 | O | Zr | < | 0.002600 |
| M | As | < | 0.003500 | M | Ga | < | 0.000570 | M | Nd | | 0.000923 | M | Sm | | 0.000461 | | | | |
| M | Au | < | 0.001700 | M | Gd | < | 0.003500 | M | Ni | < | 0.005700 | M | Sn | < | 0.002300 | | | | |
| O | B | | 0.002209 | M | Ge | < | 0.005200 | M | Os | < | 0.001200 | M | Sr | < | 0.004600 | | | | |
| O | Ba | < | 0.002500 | M | Hf | < | 0.000570 | n | P | < | | M | Ta | < | 0.000570 | | | | |
| O | Be | < | 0.001400 | M | Hg | < | 0.000570 | M | Pb | | 0.005020 | M | Tb | | 0.001044 | | | | |
| M | Bi | < | 0.003500 | M | Ho | | 0.009037 | M | Pd | < | 0.005100 | M | Te | < | 0.002300 | | | | |
| O | Ca | | 0.009841 | M | In | < | 0.002300 | M | Pr | < | 0.002300 | M | Th | < | 0.000570 | | | | |
| M | Cd | < | 0.000570 | M | Ir | < | 0.000570 | M | Pt | < | 0.000570 | M | Ti | < | 0.003500 | | | | |
| M | Ce | < | 0.002300 | O | K | | 0.018677 | M | Rb | < | 0.000570 | M | Tl | < | 0.000570 | | | | |
| M | Co | < | 0.000570 | M | La | | 0.000461 | M | Re | < | 0.000570 | M | Tm | < | 0.003500 | | | | |
| M | Cr | < | 0.004000 | O | Li | < | 0.009300 | M | Rh | < | 0.008000 | M | U | < | 0.000570 | | | | |
| M | Cs | < | 0.000570 | M | Lu | | 0.000582 | M | Ru | < | 0.000570 | M | V | | 0.001265 | | | | |
| M | Cu | | 0.002610 | O | Mg | | 0.001486 | n | S | < | | M | W | < | 0.002300 | | | | |
| M | Dy | | 0.003815 | M | Mn | | 0.000582 | M | Sb | | 0.005422 | s | Y | < | | | | | |
| M | Er | | 0.003615 | M | Mo | < | 0.005700 | M | Sc | < | 0.001200 | M | Yb | | 0.001827 | | | | |

M - Checked by ICP-MS  O - Checked by ICP-OES  i - Spectral Interference
n - Not Checked For  s - Solution Standard Element

## 6.0 INTENDED USE

**6.1** This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

**6.2** For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

**Atomic Weight; Valence; Coordination Number; Chemical Form in Solution -** 88.91 +3 6 Y(OH)(H2O)x+2

**Chemical Compatibility -**Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

**Stability -** 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

**Y Containing Samples (Preparation and Solution) -** Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

**Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):**

| **Technique/Line** | **Estimated D.L.** | **Order** | **Interferences** (underlined indicates severe) |
|---|---|---|---|
| ICP-MS 89 amu | 0.8 ppt | N/A | 73Ge16O, 178Hf+2 |
| ICP-OES 360.073 nm | 0.005 / 0.000036 µg/mL | 1 | Ce, Th |
| ICP-OES 371.030 nm | 0.004 / 0.00007 µg/mL | 1 | Ce |
| ICP-OES 377.433 nm | 0.005 / 0.0009 µg/mL | 1 | Ta, Th |

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

**10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

**- February 20, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:**

Uyen Truong
Custom Processing Supervisor

**Certificate Approved By:**

Muzzammil Khan
Stock Laboratory Supervisor

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

M5961 R: 6/11/24

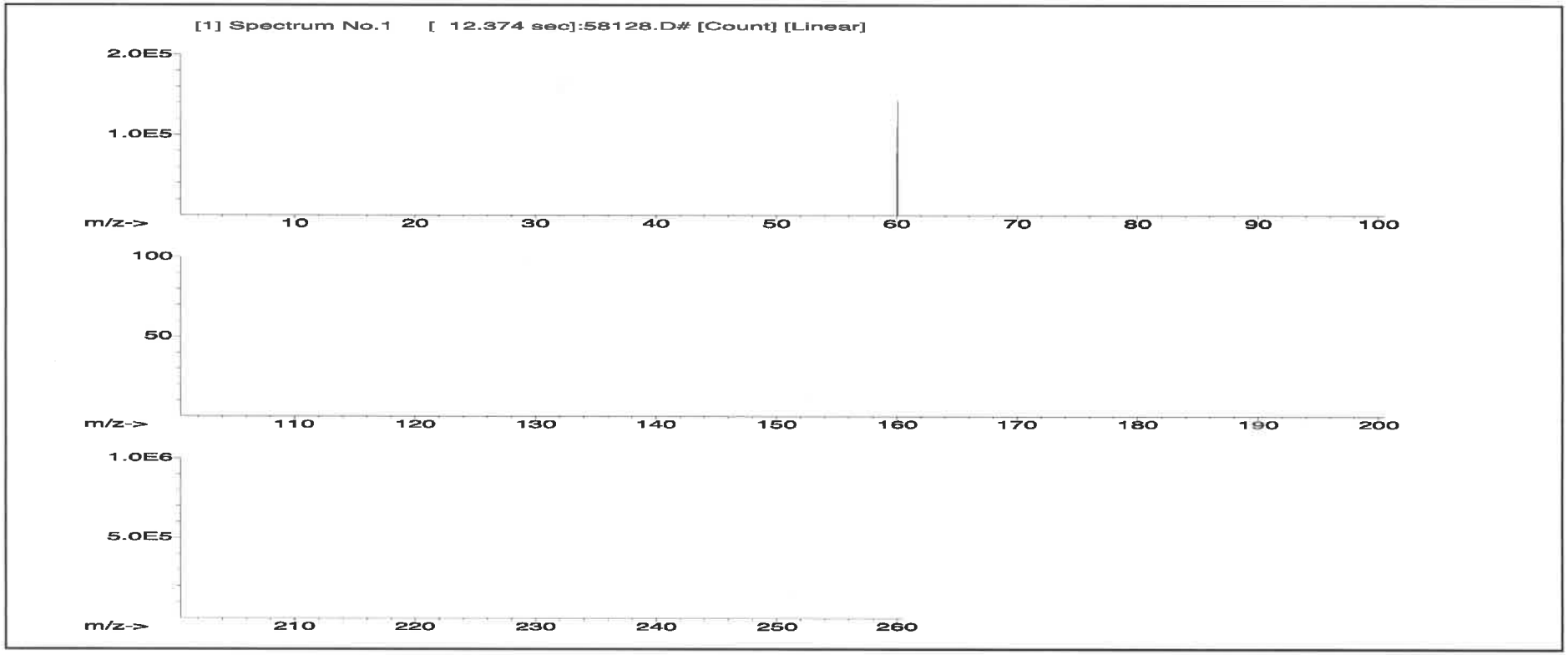
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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***Certified Reference Material CRM***

M5962 R! 06/14/24.

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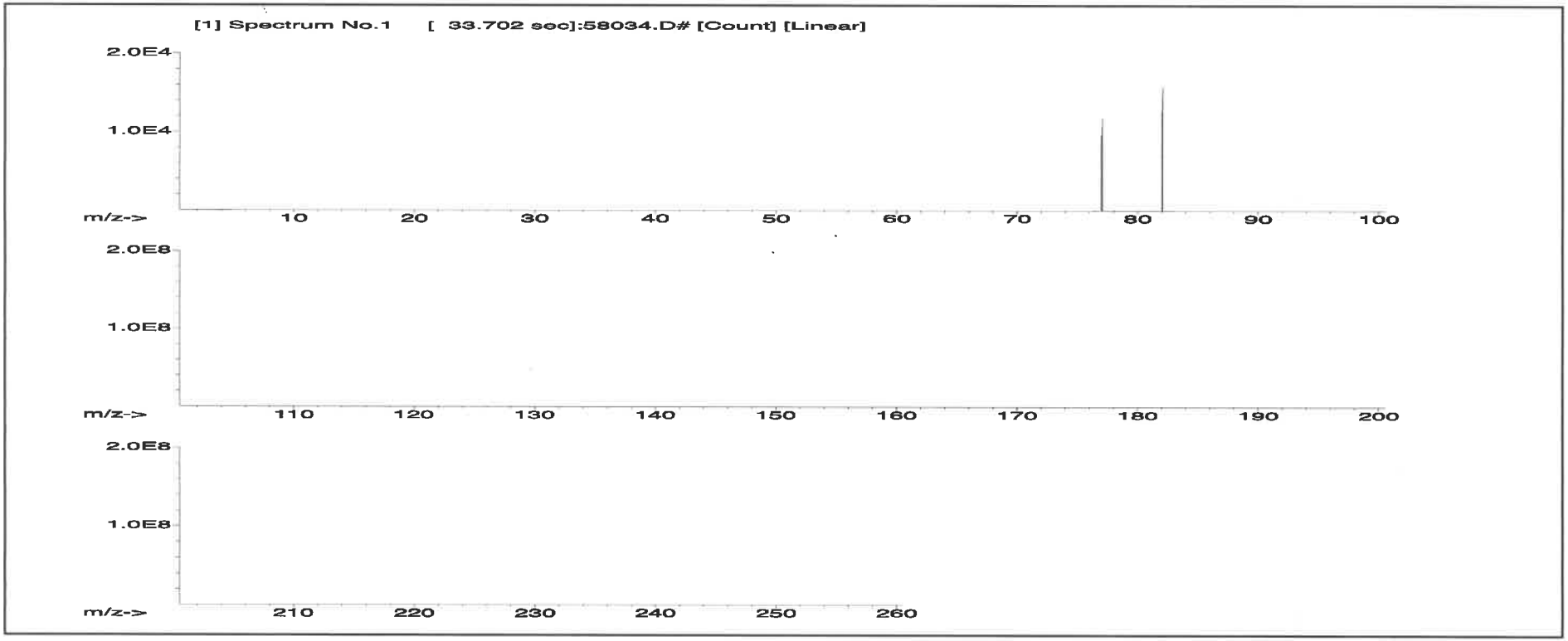
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **57034** | 24002546 | Nitric Acid | |
| **Lot Number:** | **060624** | | | |
| **Description:** | **Selenium (Se)** | | | |
| | | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 060627 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 2000.07 | 0.100 | Flask Uncertainty | |

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 060624 |
| Reviewed By: | Pedro L. Rentas | 060624 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Selenium (Se) | 58134 | 071223 | 0.1000 | 200.0 | 0.084 | 1000 | 10002.5 | **1000.0** | **2.2** | 7782-49-2 | 0.2 mg/m3 | orl-rat 6700 mg/kg | 3149 |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

| Trace Metals Verification by ICP-MS (µg/mL) | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | T | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

**Certified by:**

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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***Certified Reference Material CRM***

M5970, M5971 R: 7/01/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

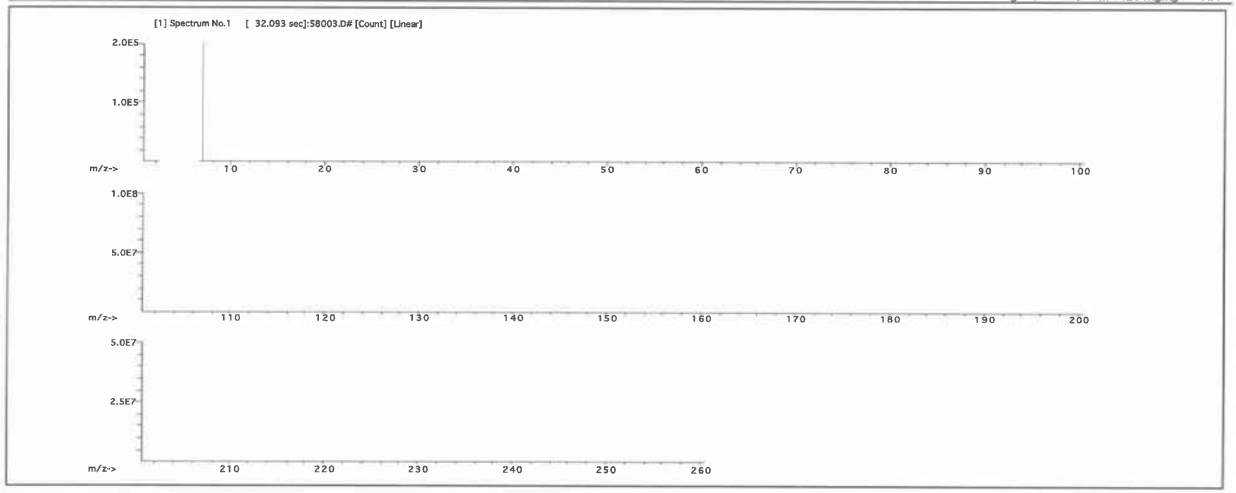
CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: |
|---|---|---|---|
| **Part Number:** | **57003** | 24002546 | Nitric Acid |
| **Lot Number:** | **062124** | | |
| **Description:** | **Lithium (Li)** | | |
| | | 2.0% | 5.0 (mL) Nitric Acid |
| **Expiration Date:** | 062127 | | |
| **Recommended Storage:** | Ambient (20 °C) | | |
| **Nominal Concentration (µg/mL):** | **1000** | | |
| **NIST Test Number:** | 6UTB | 5E-05 Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 250.11 | 0.016 Flask Uncertainty | |

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Lithium nitrate (Li) | 58103 | 070622 | 0.1000 | 25.0 | 0.004 | 1000 | 10000.4 | **1000.0** | **2.0** | 7790-69-4 | 5 mg/m3 | orl-rat 1426 mg/kg | NA |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

Trace Metals Verification by ICP-MS (µg/mL)

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | T | Ni | <0.02 | Pr | <0.02 | Sc | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

**Certified by:**

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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Refine your results. Redefine your industry.

# Certificate of Analysis

M5976, M5977
R: 02/22/24

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Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGMO1 |
| Lot Number: | T2-MO720876 |
| Matrix: | H2O<br>tr. NH4OH |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>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

INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

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MS985
R: 6/14/24

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGIN10 |
| Lot Number: | U2-IN729349 |
| Matrix: | 5% (v/v) HNO3 |
| Value / Analyte(s): | 10 000 µg/mL ea: Indium |
| Starting Material: | Indium Metal |
| Starting Material Lot#: | 2511 |
| Starting Material Purity: | 99.9995% |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

**Certified Value:** 10022 ± 30 µg/mL

**Density:** 1.044 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| | |
|---|---|
| **Assay Method #1** | **10021 ± 56 µg/mL**<br>ICP Assay NIST SRM 3124a Lot Number: 110516 |
| **Assay Method #2** | **10035 ± 25 µg/mL**<br>EDTA NIST SRM 928 Lot Number: 928 |
| **Assay Method #3** | **10001 ± 33 µg/mL**<br>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

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

**- February 21, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Thomas Kozikowski
Manager, Quality Control

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

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# Certificate of Analysis

M6074
M6075
M6076
M6077

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EXP.: 9/6/2029

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

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: | V2-MEB746762 |
| Matrix: | 3% (v/v) HNO3<br>3% (v/v) HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Boron, Molybdenum,<br>Silicon, Tin,<br>Titanium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| **Boron, B** | **1 000 ± 5 µg/mL** | **Molybdenum, Mo** | **1 000 ± 5 µg/mL** |
| **Silicon, Si** | **1 000 ± 7 µg/mL** | **Tin, Sn** | **1 000 ± 5 µg/mL** |
| **Titanium, Ti** | **1 000 ± 6 µg/mL** | | |

**Density:** 1.033 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| B | ICP Assay | 3107 | 190605 |
| B | Calculated | | See Sec. 4.2 |
| Mo | ICP Assay | traceable to 3134 | U2-MO739068 |
| Si | ICP Assay | Traceable to 3150 | S2-SI702546 |
| Sn | ICP Assay | 3161a | 140917 |
| Ti | ICP Assay | traceable to 3162a | T2-TI725816 |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

### Characterization of CRM/RM by Two or More Methods

**Certified Value, $X_{CRM/RM}$, 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

**6.1** This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

**6.2** For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

**HF Note:** This standard should not be prepared or stored in glass.

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

**- September 06, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Joseph Burns
Custom VS Manager

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

R → 10/13/24
Met dig

M 6/21

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| ACS - Assay (as HCl) (by acid-base titrn) | 36.5 - 38.0 % | 37.6 |
| ACS - Color (APHA) | <= 10 | 5 |
| ACS - Residue after Ignition | <= 3 ppm | 1 |
| ACS - Specific Gravity at 60°/60°F | 1.185 - 1.192 | 1.190 |
| ACS - Bromide (Br) | <= 0.005 % | < 0.005 |
| ACS - Extractable Organic Substances | <= 5 ppm | 1 |
| ACS - Free Chlorine (as $Cl_2$) | <= 0.5 ppm | < 0.5 |
| Phosphate ($PO_4$) | <= 0.05 ppm | < 0.03 |
| Sulfate ($SO_4$) | <= 0.5 ppm | < 0.3 |
| Sulfite ($SO_3$) | <= 0.8 ppm | 0.3 |
| Ammonium ($NH_4$) | <= 3 ppm | < 1 |
| Trace Impurities - Arsenic (As) | <= 0.010 ppm | < 0.003 |
| Trace Impurities - Aluminum (Al) | <= 10.0 ppb | < 0.2 |
| Arsenic and Antimony (as As) | <= 5 ppb | < 3 |
| Trace Impurities - Barium (Ba) | <= 1.0 ppb | < 0.2 |
| Trace Impurities - Beryllium (Be) | <= 1.0 ppb | < 0.2 |
| Trace Impurities - Bismuth (Bi) | <= 10.0 ppb | < 1.0 |
| Trace Impurities - Boron (B) | <= 20.0 ppb | < 5.0 |
| Trace Impurities - Cadmium (Cd) | <= 1.0 ppb | < 0.3 |
| Trace Impurities - Calcium (Ca) | <= 50.0 ppb | 29.7 |
| Trace Impurities - Chromium (Cr) | <= 1.0 ppb | < 0.4 |
| Trace Impurities - Cobalt (Co) | <= 1.0 ppb | < 0.3 |
| Trace Impurities - Copper (Cu) | <= 1.0 ppb | < 0.1 |
| Trace Impurities - Gallium (Ga) | <= 1.0 ppb | < 0.2 |

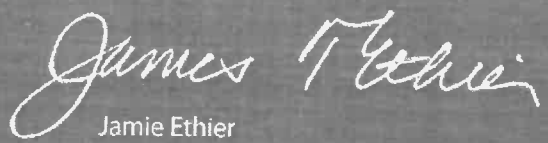
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33
Batch No.: 0000275677

| Test | Specification | Result |
|---|---|---|
| Trace Impurities - Germanium (Ge) | <= 3.0 ppb | < 2.0 |
| Trace Impurities - Gold (Au) | <= 4.0 ppb | < 0.2 |
| Heavy Metals (as Pb) | <= 100 ppb | < 50 |
| Trace Impurities - Iron (Fe) | <= 15.0 ppb | <1 |
| Trace Impurities - Lead (Pb) | <= 1.0 ppb | < 0.5 |
| Trace Impurities - Lithium (Li) | <= 1.0 ppb | 0.2 |
| Trace Impurities - Magnesium (Mg) | <= 10.0 ppb | 0.4 |
| Trace Impurities - Manganese (Mn) | <= 1.0 ppb | < 0.4 |
| Trace Impurities - Mercury (Hg) | <= 0.5 ppb | 0.1 |
| Trace Impurities - Molybdenum (Mo) | <= 10.0 ppb | < 5.0 |
| Trace Impurities - Nickel (Ni) | <= 4.0 ppb | < 0.3 |
| Trace Impurities - Niobium (Nb) | <= 1.0 ppb | < 0.2 |
| Trace Impurities - Potassium (K) | <= 9.0 ppb | < 2.0 |
| Trace Impurities - Selenium (Se), For Information Only | ppb | 1.0 |
| Trace Impurities - Silicon (Si) | <= 100.0 ppb | < 10.0 |
| Trace Impurities - Silver (Ag) | <= 1.0 ppb | < 0.3 |
| Trace Impurities - Sodium (Na) | <= 100.0 ppb | < 5.0 |
| Trace Impurities - Strontium (Sr) | <= 1.0 ppb | < 0.2 |
| Trace Impurities - Tantalum (Ta) | <= 1.0 ppb | < 0.9 |
| Trace Impurities - Thallium (Tl) | <= 5.0 ppb | < 2.0 |
| Trace Impurities - Tin (Sn) | <= 5.0 ppb | < 0.8 |
| Trace Impurities - Titanium (Ti) | <= 1.0 ppb | 0.2 |
| Trace Impurities - Vanadium (V) | <= 1.0 ppb | < 0.2 |
| Trace Impurities - Zinc (Zn) | <= 5.0 ppb | 0.3 |
| Trace Impurities - Zirconium (Zr) | <= 1.0 ppb | < 0.1 |

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R -> 11/12/24

M6126

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($HNO_3$) | 69.0 - 70.0 % | 69.7 % |
| Appearance | Passes Test | Passes Test |
| Color (APHA) | ≤ 10 | 5 |
| Residue after Ignition | ≤ 2 ppm | 1 ppm |
| Chloride (Cl) | ≤ 0.08 ppm | < 0.03 ppm |
| Phosphate ($PO_4$) | ≤ 0.10 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.2 ppm | < 0.2 ppm |
| Trace Impurities - Aluminum (Al) | ≤ 40.0 ppb | < 1.0 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities - Barium (Ba) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Beryllium (Be) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Bismuth (Bi) | ≤ 20.0 ppb | < 10.0 ppb |
| Trace Impurities - Boron (B) | ≤ 10.0 ppb | < 5.0 ppb |
| Trace Impurities - Cadmium (Cd) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities - Calcium (Ca) | ≤ 50.0 ppb | 2.3 ppb |
| Trace Impurities - Chromium (Cr) | ≤ 30.0 ppb | < 1.0 ppb |
| Trace Impurities - Cobalt (Co) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Copper (Cu) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Gallium (Ga) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Germanium (Ge) | ≤ 20 ppb | < 10 ppb |
| Trace Impurities - Gold (Au) | ≤ 20 ppb | < 5 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | 100 ppb |
| Trace Impurities - Iron (Fe) | ≤ 40.0 ppb | < 1.0 ppb |
| Trace Impurities - Lead (Pb) | ≤ 20.0 ppb | < 10.0 ppb |
| Trace Impurities - Lithium (Li) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Magnesium (Mg) | ≤ 20 ppb | < 1 ppb |
| Trace Impurities - Manganese (Mn) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Nickel (Ni) | ≤ 20.0 ppb | < 5.0 ppb |

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

| Test | Specification | Result |
|---|---|---|

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

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CERTIFIED WEIGHT REPORT:

R -> 1/13/25

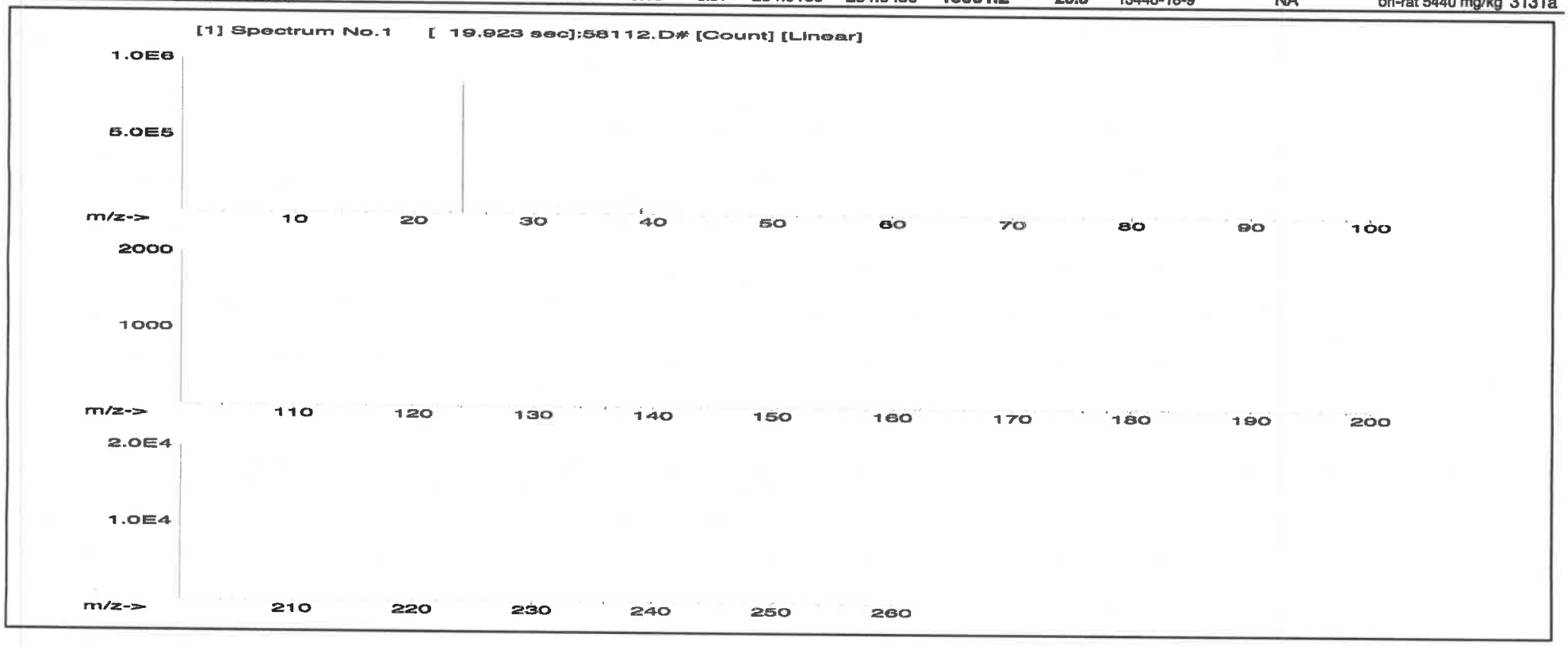
M 6127

| | | | Lot # | |
|---|---|---|---|---|
| **Part Number:** | **58112** | **Solvent:** | 24012496 | Nitric Acid |
| **Lot Number:** | **112124** | | | |
| **Description:** | **Magnesium (Mg)** | 2% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 112127 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **10000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Weight shown below was diluted to (mL):** | 2000.07 | 0.100 | Flask Uncertainty | |

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 112124 |
| Reviewed By: | Pedro L. Rentas | 112124 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Magnesium nitrate hexahydrate (Mg) | IN030 | MGD052023A1 | 10000 | 99.999 | 0.10 | 8.51 | 234.9183 | 234.9459 | **10001.2** | **20.0** | 13446-18-9 | NA | orl-rat 5440 mg/kg | 3131a |



## Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

**Trace Metals Verification by ICP-MS (µg/mL)**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | T | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

## Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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## CERTIFIED WEIGHT REPORT:

R->1/13/28

M6128

| | | | | |
|---|---|---|---|---|
| **Part Number:** | **58025** | **Solvent:** | **Lot #** 24002546 | Nitric Acid |
| **Lot Number:** | **101124** | | | |
| **Description:** | **Manganese (Mn)** | 2% | 80.0 (mL) | Nitric Acid |
| **Expiration Date:** | 101127 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Weight shown below was diluted to (mL):** | 4000.2 | 0.10 | Flask Uncertainty | |

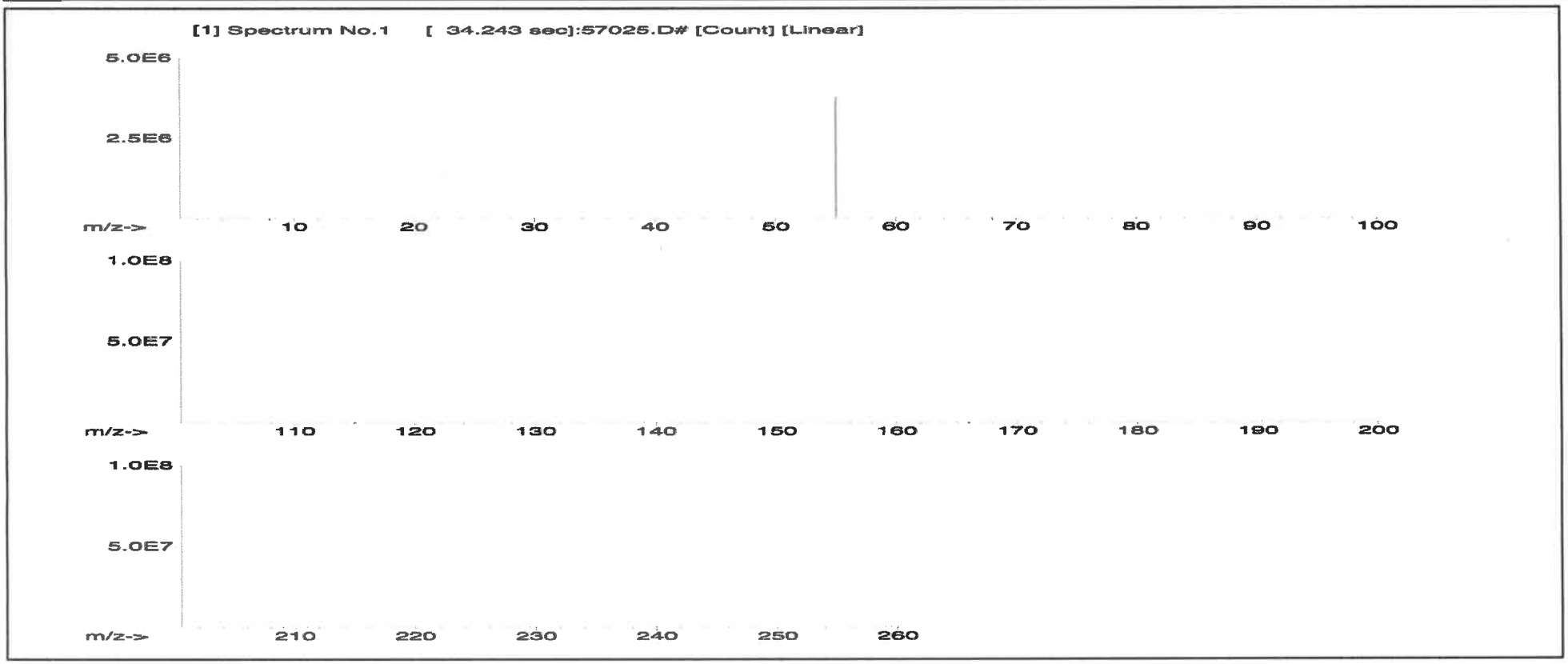
Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 101124 |

Pedro Rentas

| | | |
|---|---|---|
| Reviewed By: | Pedro L. Rentas | 101124 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | **Actual Conc. (µg/mL)** | Expanded Uncertainty +/- (µg/mL) | **SDS Information** (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Manganese(II) nitrate hydrate (Mn) | IN031 | MNM092020A1 | 1000 | 99.999 | 0.10 | 20.8 | 19.2322 | 19.2344 | **1000.1** | **2.0** | 15710-66-4 | 5 mg/m3 | orl-rat >300mg/kg | 3132 |



## Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

| Trace Metals Verification by ICP-MS (µg/mL) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | T | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

## Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

**Certified by:**

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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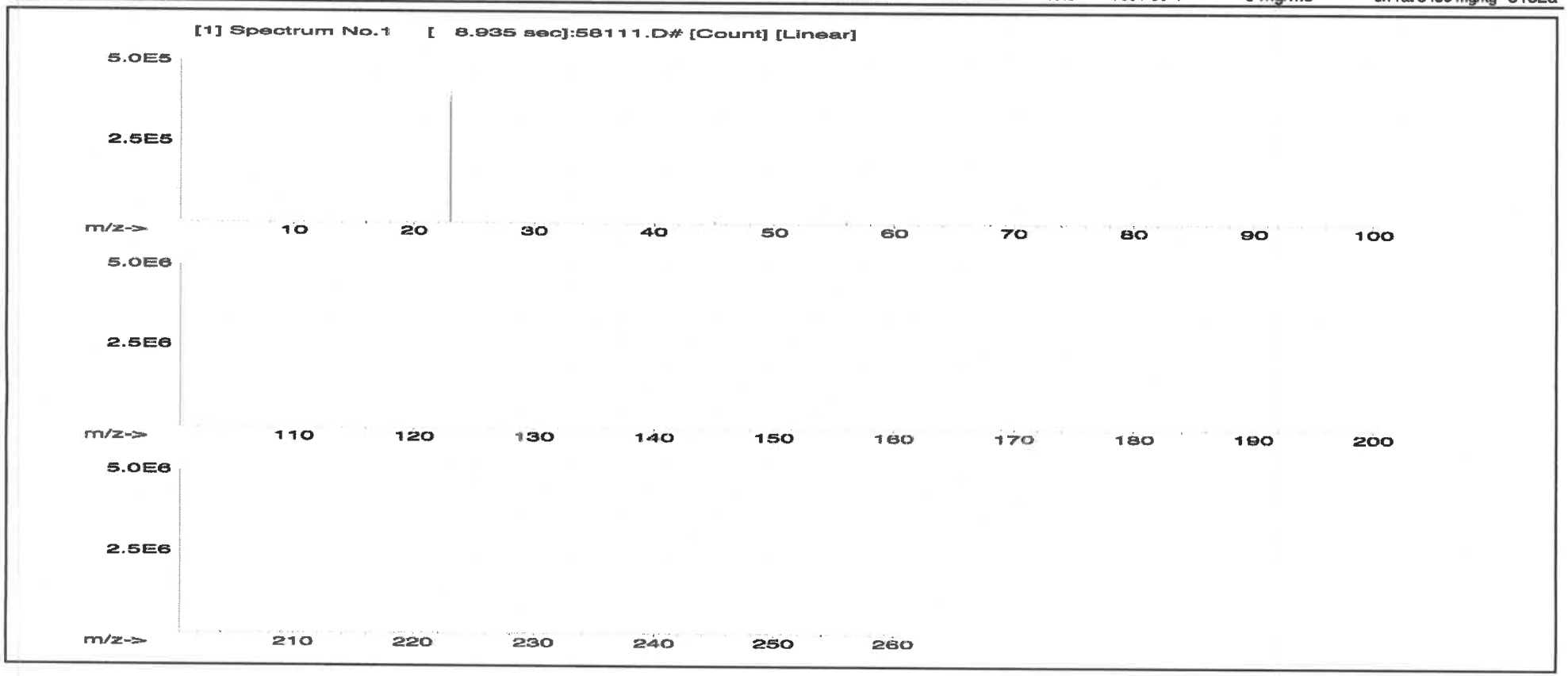
## CERTIFIED WEIGHT REPORT:

R->1/13/25

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **58111** | | **Lot #** | | |
| **Lot Number:** | **072424** | **Solvent:** | 24002546 | Nitric Acid | |
| **Description:** | **Sodium (Na)** | | | | |
| | | MG144 2% | 80.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 072427 | | | | |
| **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):** | 4000.2 | 0.10 | Flask Uncertainty | | |

| | |
|---|---|
| Formulated By: | Benson Chan 072424 |
| Reviewed By: | Pedro L. Rentas 072424 |

| 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 | 148.7096 | ###### | **10000.0** | **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 | 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 | T | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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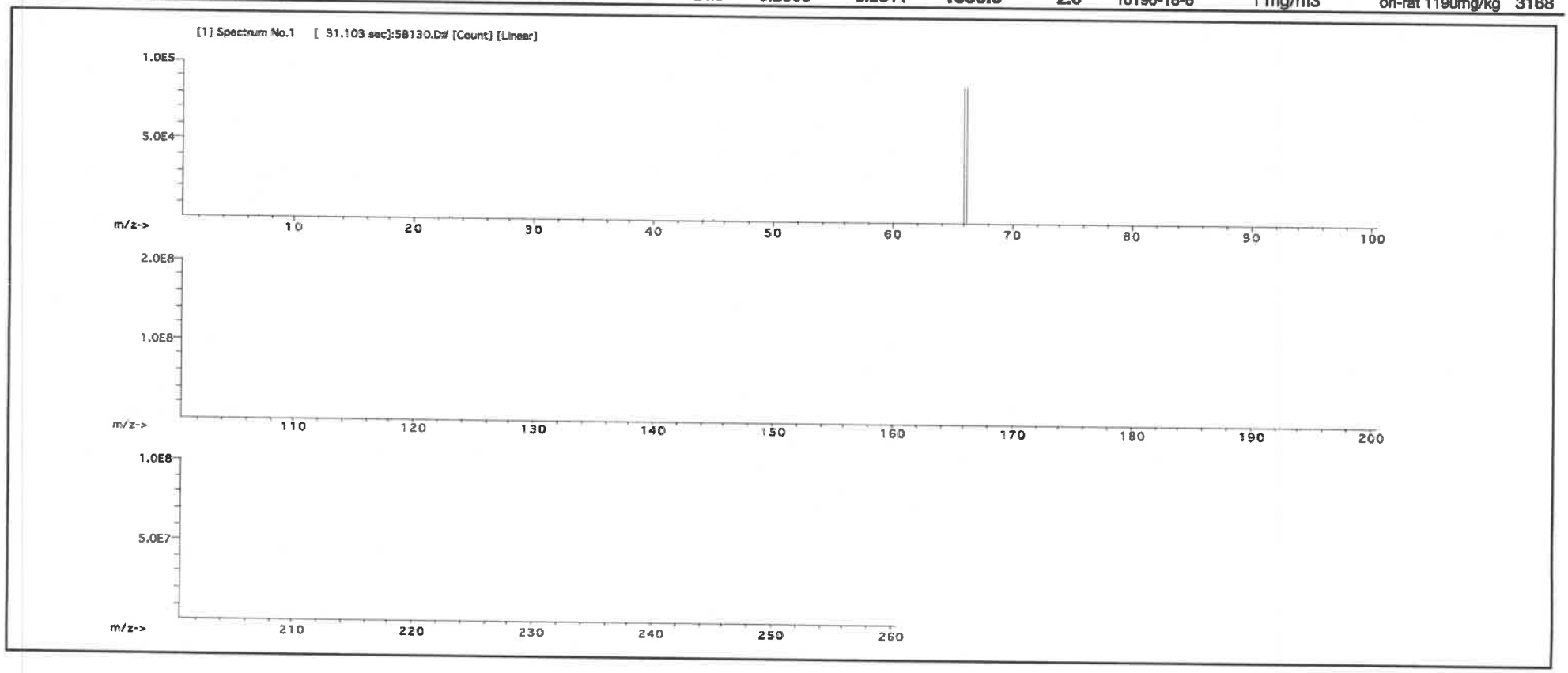
## CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **58030** | R → 1/13/25 | **Solvent:** | **Lot #** 24012496 | Nitric Acid |
| **Lot Number:** | **121724** | | | | |
| **Description:** | **Zinc (Zn)** | M6145 | 2% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 121727 | | | | |
| **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 | 121724 |
| Reviewed By: | Pedro L. Rentas | 121724 |

| 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 | 8.2308 | 8.2311 | **1000.0** | **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:**

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).

R : 4/20/21

## QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

M6150

**NOTE:** These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

***APPLICATION:*** For use with the CLP SFAM01.0 SOW and revisions.

***CAUTION:*** Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
**HAZARDOUS MATERIAL**

Safety Data Sheets
Available Upon Request

### (A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

### (B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

**QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY**
**APTIM Federal Services, LLC**
**2700 Chandler Avenue - Building C**
**Las Vegas, NV 89120**

### (C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

**ICV1-1014** For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.



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**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: 01/03/24 M5806, M5807

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CERTIFIED WEIGHT REPORT:

**Part Number:** 58111
**Lot Number:** 122223
**Description:** Sodium (Na)

**Expiration Date:** 122226
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB

**Weight shown below was diluted to (mL):** 3000.4 0.06 Flask Uncertainty

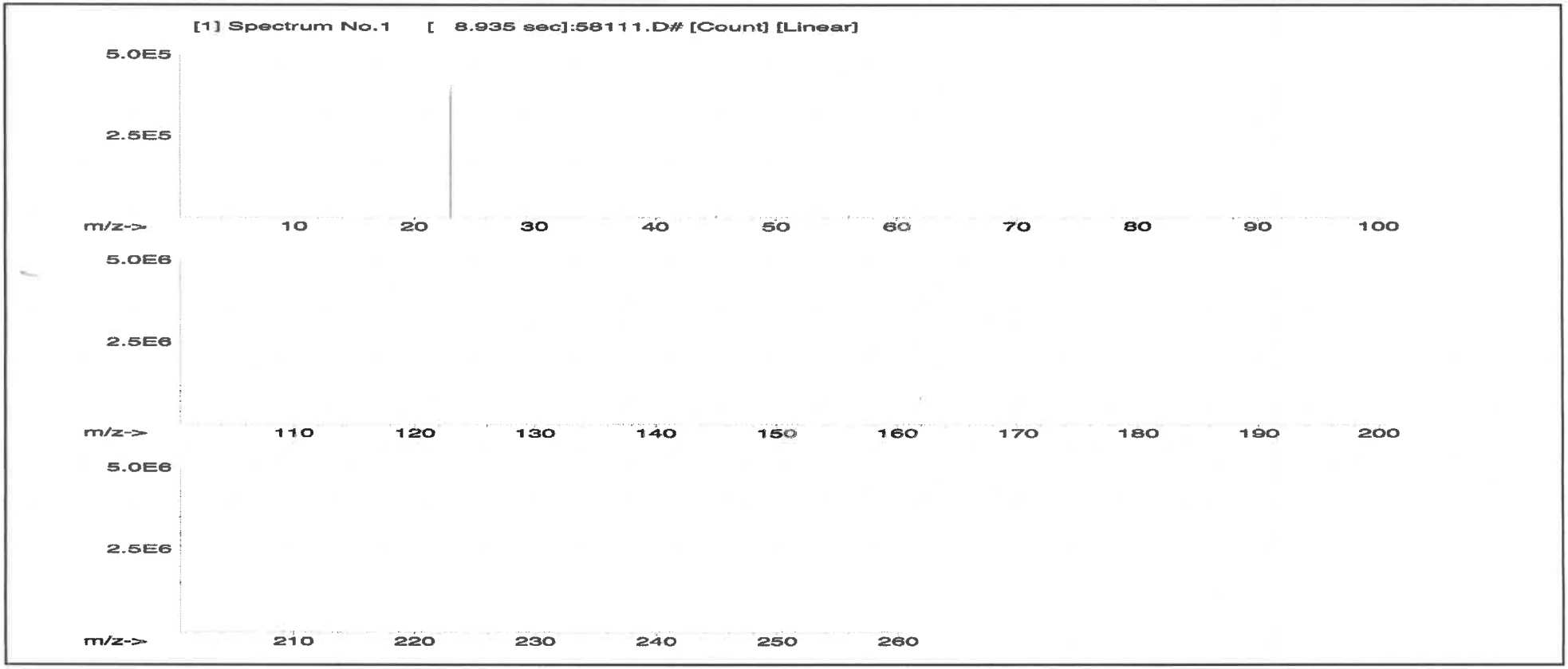
| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 24002546 | Nitric Acid | |
| 2% | 60.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty

Aleah O'Brady

| | | |
|---|---|---|
| Formulated By: | Aleah O'Brady | 122223 |
| Reviewed By: | Pedro L. Rentas | 122223 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Sodium nitrate (Na) | IN036 | NAV012015I1 | 10000 | 99.999 | 0.10 | 26.9 | 111.5406 | 111.5479 | **10000.7** | **20.0** | 7631-99-4 | 5 mg/m3 | orl-rat 3430 mg/kg | 3152a |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

**Trace Metals Verification by ICP-MS (µg/mL)**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | T | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

**Certified by:**

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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AR-1539 Certificate Number
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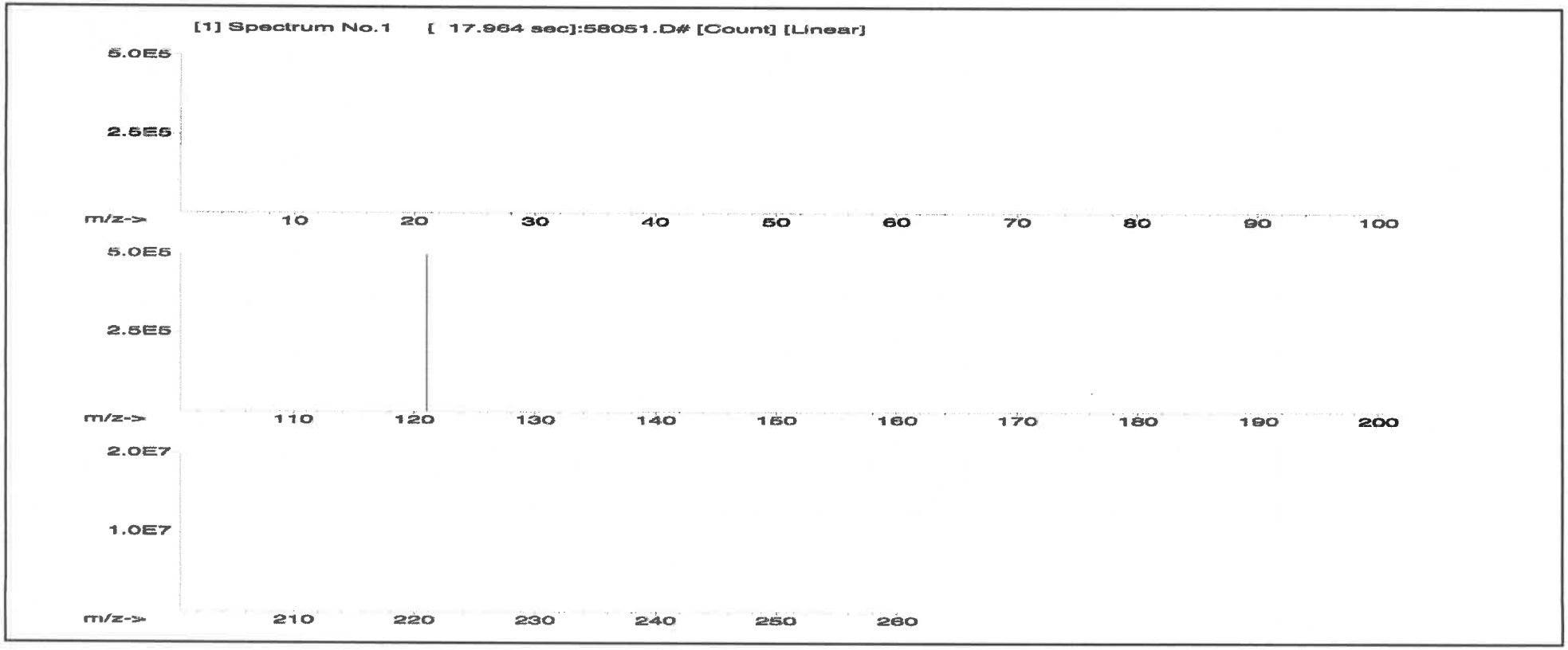
R: 01/03/24 M5802, M5803

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

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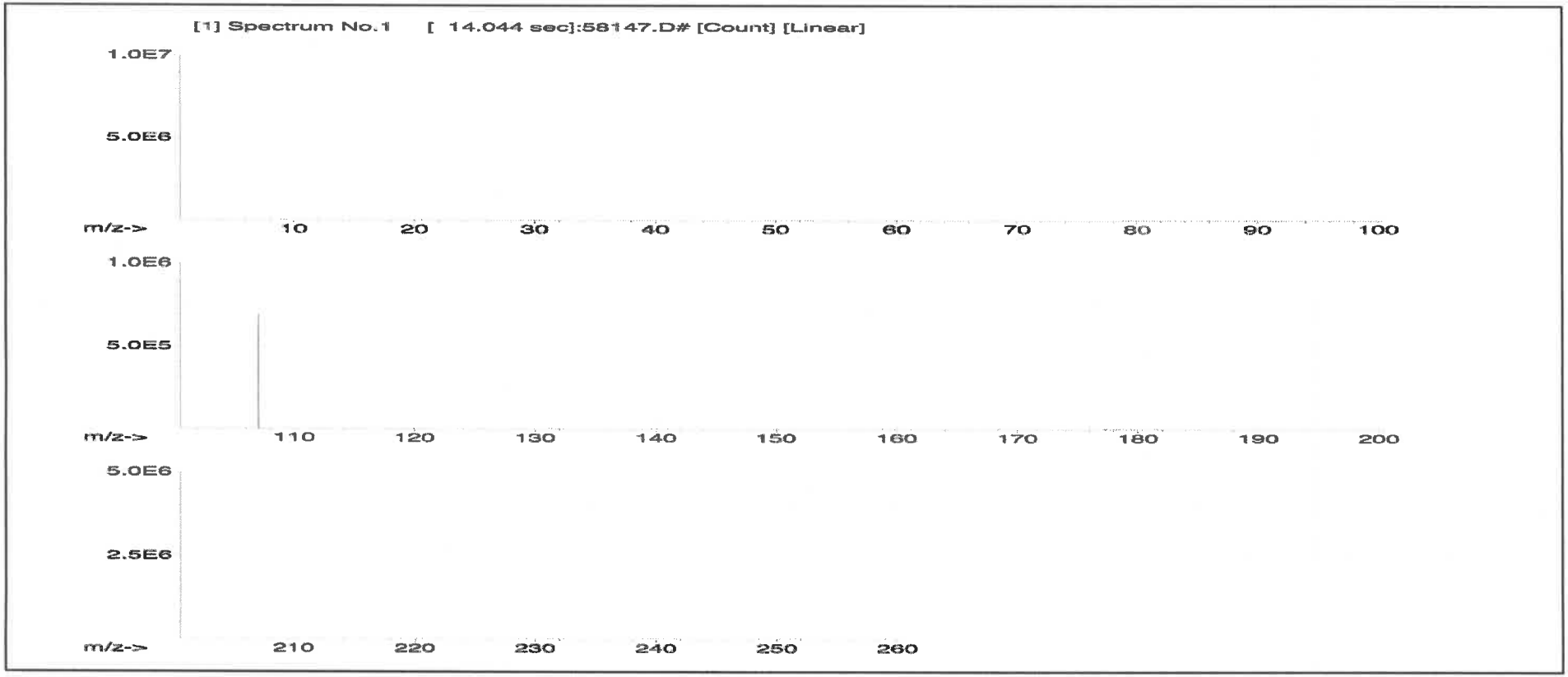
CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57047** | | **Lot #** | | |
| **Lot Number:** | **122823** | **Solvent:** | 24002546 | Nitric Acid | |
| **Description:** | **Silver (Ag)** | 2% | 80.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 122826 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 4000.30 | 0.058 | Flask Uncertainty | | |

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 122823 |
| Reviewed By: | Pedro L. Rentas | 122823 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Silver nitrate (Ag) | IN035 | J0612AGA1 | 1000.0 | 99.9999 | 0.10 | 63.7 | 6.27992 | 6.27998 | **1000.0** | **2.0** | 7761-88-8 | 10 ug/m3 | NA | 3151 |



**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

| Trace Metals Verification by ICP-MS (µg/mL) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | <0.02 | Cd | <0.02 | Dy | <0.02 | Hf | <0.02 | Li | <0.02 | Ni | <0.02 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | T | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T)= Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

**Certified by:**

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* 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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**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.

M6152

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 |

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.

**QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY**
***"An ISO 9001:2015 Certified Program"***

APTIM

**Instructions for QATS Reference Material: *ICP-AES ICS***

## QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

**NOTE:** These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

***APPLICATION:*** For use with the CLP SFAM01.0 SOW and revisions.

***CAUTION:*** Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6155

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 |

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

R: 8/5/24 M6019

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 888.01
ACCREDITED Reference Material Producer Certificate 888.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGSR1 |
| Lot Number: | U2-SR730227 |
| Matrix: | 0.1% (v/v) HNO3 |
| Value / Analyte(s): | 1 000 µg/mL ea: Strontium |
| Starting Material: | SrCO3 |
| Starting Material Lot#: | M2-2192 |
| Starting Material Purity: | 99.9993% |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

**Certified Value:** 1001 ± 3 µg/mL

**Density:** 1.000 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

**Assay Method #1** **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

**Assay Method #2** **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

**Assay Method #3** **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

### Characterization of CRM/RM by Two or More Methods

**Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

$X_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

$w_i$ = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

**Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:**

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

$X_a$ = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

## 5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | Ag | < | 0.001980 | M | Eu | < | 0.000495 | O | Na | | 0.000200 | M | Se | < | 0.013862 | O | Zn | | 0.000143 |
| O | Al | | 0.000370 | O | Fe | | 0.000410 | M | Nb | < | 0.000495 | i | Si | < | | M | Zr | < | 0.000495 |
| M | As | < | 0.000495 | M | Ga | < | 0.000495 | M | Nd | < | 0.000495 | M | Sm | < | 0.000495 | | | | |
| M | Au | < | 0.000989 | M | Gd | < | 0.000495 | O | Ni | < | 0.007631 | M | Sn | < | 0.000990 | | | | |
| M | B | < | 0.039606 | M | Ge | < | 0.000495 | M | Os | < | 0.000494 | s | Sr | < | | | | | |
| M | Ba | | 0.006486 | M | Hf | < | 0.000495 | i | P | < | | M | Ta | < | 0.000495 | | | | |
| M | Be | < | 0.000990 | M | Hg | < | 0.000989 | M | Pb | < | 0.002970 | M | Tb | < | 0.000495 | | | | |
| M | Bi | < | 0.000495 | M | Ho | < | 0.000495 | M | Pd | < | 0.003957 | M | Te | < | 0.027724 | | | | |
| O | Ca | | 0.004255 | M | In | < | 0.000495 | M | Pr | < | 0.000495 | M | Th | < | 0.000990 | | | | |
| M | Cd | | 0.001339 | M | Ir | < | 0.000494 | M | Pt | < | 0.002970 | M | Ti | < | 0.005940 | | | | |
| M | Ce | < | 0.004950 | O | K | < | 0.008184 | M | Rb | < | 0.002970 | M | Tl | < | 0.000495 | | | | |
| M | Co | < | 0.000495 | M | La | < | 0.000495 | M | Re | < | 0.000495 | M | Tm | < | 0.000495 | | | | |
| O | Cr | < | 0.003207 | O | Li | < | 0.000884 | O | Rh | < | 0.012829 | M | U | < | 0.001485 | | | | |
| M | Cs | < | 0.000990 | M | Lu | < | 0.002970 | M | Ru | < | 0.000989 | M | V | < | 0.001980 | | | | |
| M | Cu | | 0.000099 | O | Mg | | 0.000064 | i | S | < | | M | W | < | 0.003960 | | | | |
| M | Dy | < | 0.000495 | O | Mn | | 0.000066 | M | Sb | < | 0.014852 | O | Y | < | 0.000995 | | | | |
| M | Er | < | 0.000495 | M | Mo | < | 0.001980 | M | Sc | < | 0.001980 | M | Yb | < | 0.000495 | | | | |

M - Checked by ICP-MS  O - Checked by ICP-OES  i - Spectral Interference
n - Not Checked For  s - Solution Standard Element

## 6.0 INTENDED USE

**6.1** This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

**6.2** For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

**Atomic Weight; Valence; Coordination Number; Chemical Form in Solution** - 87.62 +2 6 $Sr(H_2O)_6^{+2}$

**Chemical Compatibility** - Soluble in HCl, and $HNO_3$. Avoid $H_2SO_4$, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

**Stability** - 2-100 ppb levels stable for months in 1% $HNO_3$ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% $HNO_3$ / LDPE container.

**Sr Containing Samples (Preparation and Solution)** -Metal (Best dissolved in diluted $HNO_3$ ); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

**Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):**

| **Technique/Line** | **Estimated D.L.** | **Order** | **Interferences** (underlined indicates severe) |
|---|---|---|---|
| ICP-MS 88 amu | 1200 ppt | N/A | 72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2 |
| ICP-OES 407.771 nm | 0.0004 / 0.00006 µg/mL | 1 | U, Ce |
| ICP-OES 421.552 nm | 0.0008 / 0.00004 µg/mL | 1 | Rb |
| ICP-OES 460.733 nm | 0.07 / 0.003 µg/mL | 1 | Ce |

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

**10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

- **March 03, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Thomas Kozikowski
Manager, Quality Control

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

R: 03/16/23 M5473, M5474, M5475, M5476

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

**Part Number:** 56138
**Lot Number:** 082922
**Description:** Strontium (Sr)

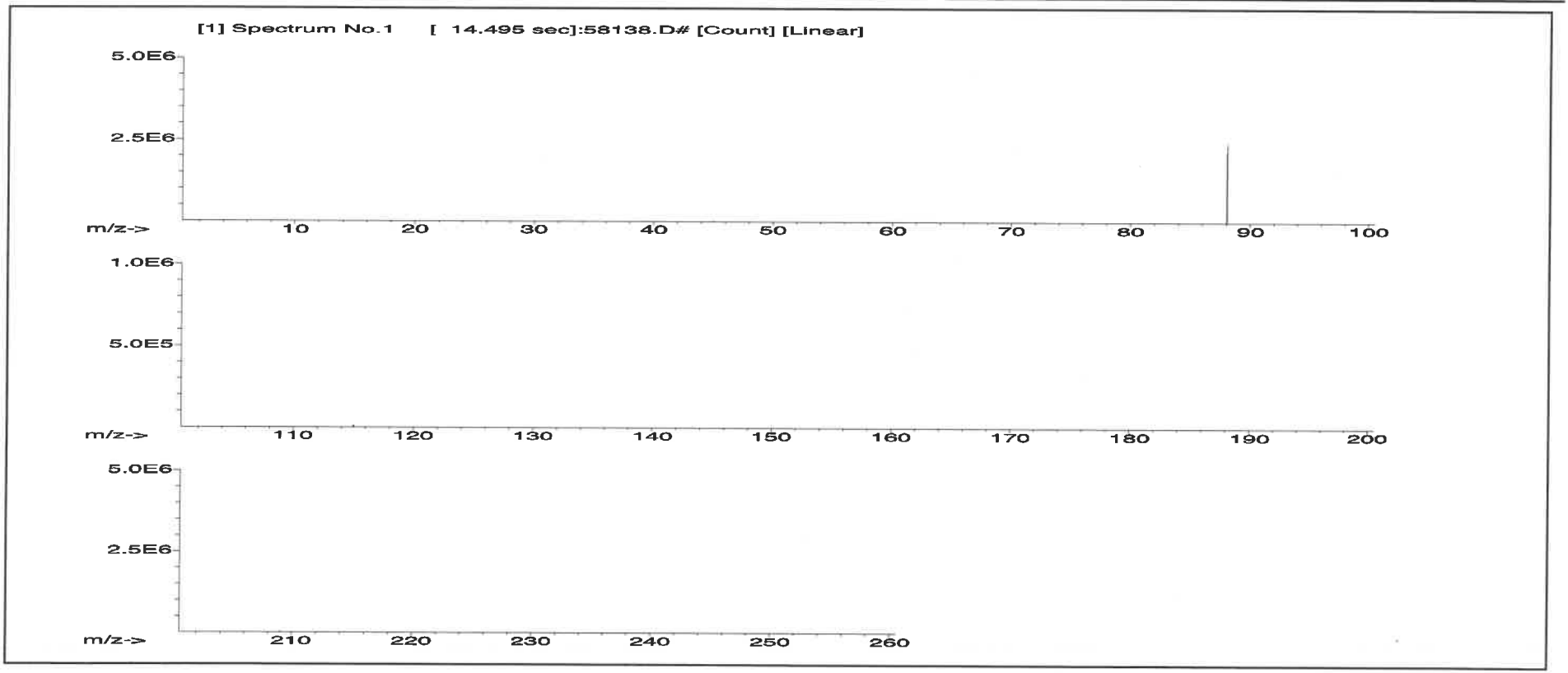
**Expiration Date:** 082925
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 1000.12

| | 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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

R: 03/16/23 M5473, M5474, M5475, M5476

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

**Part Number:** 56138
**Lot Number:** 082922
**Description:** Strontium (Sr)

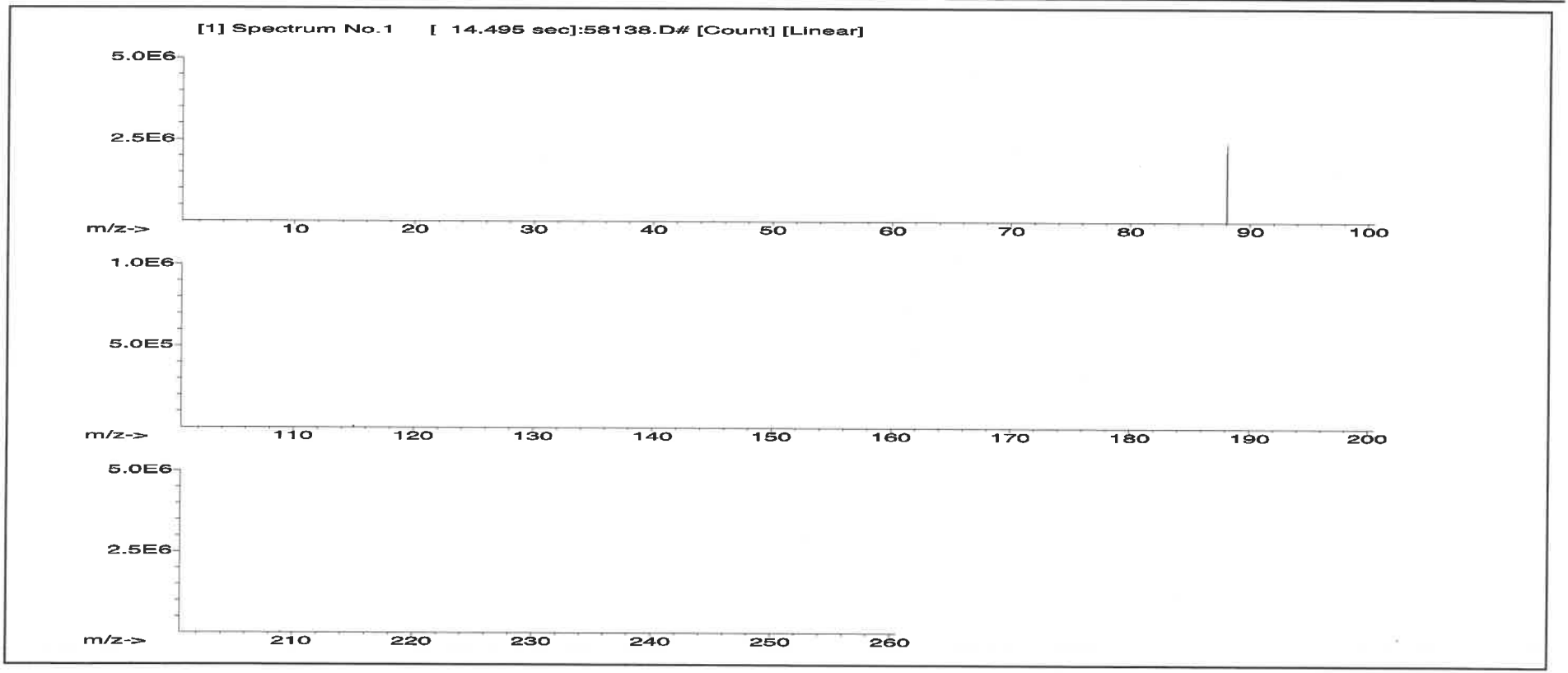
**Expiration Date:** 082925
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 1000.12

| | 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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

R ! 8/5/24

M6023

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

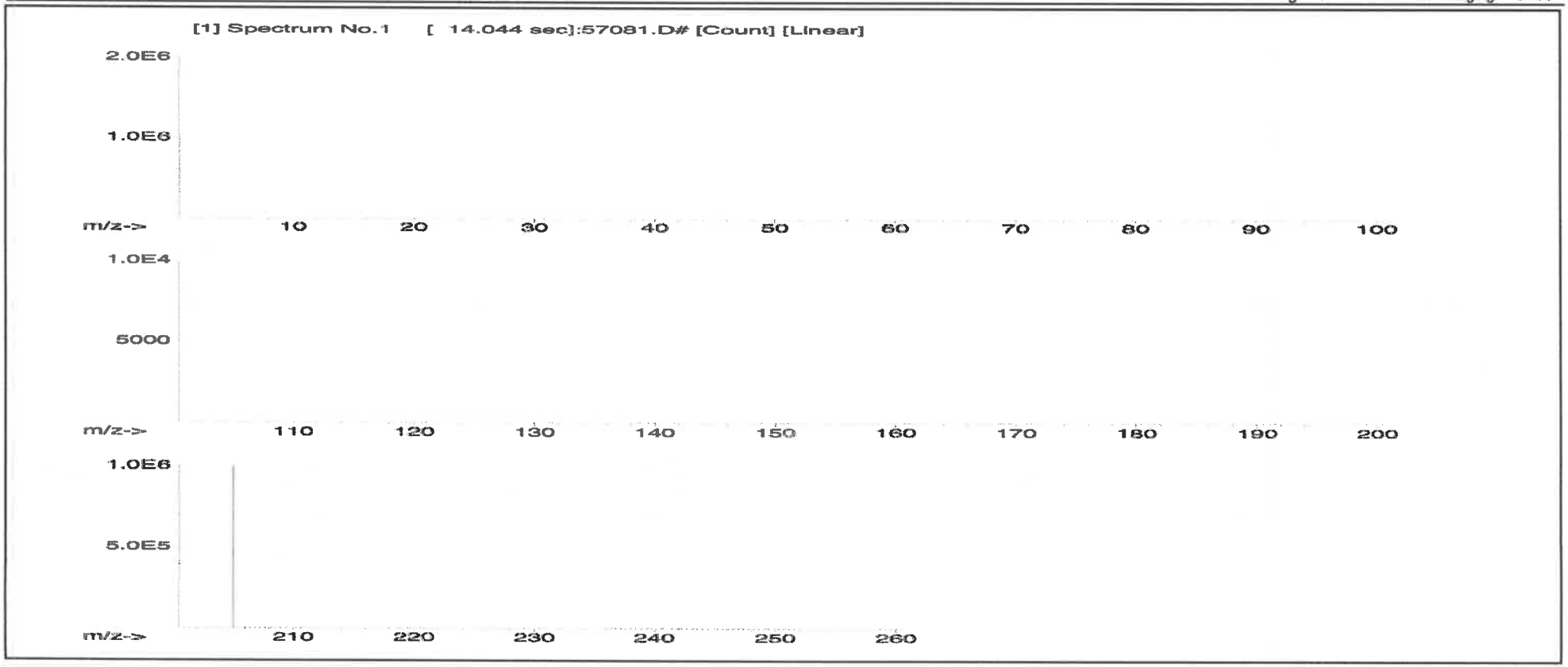
CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **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:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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***Certified Reference Material CRM***

M6021

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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 | |

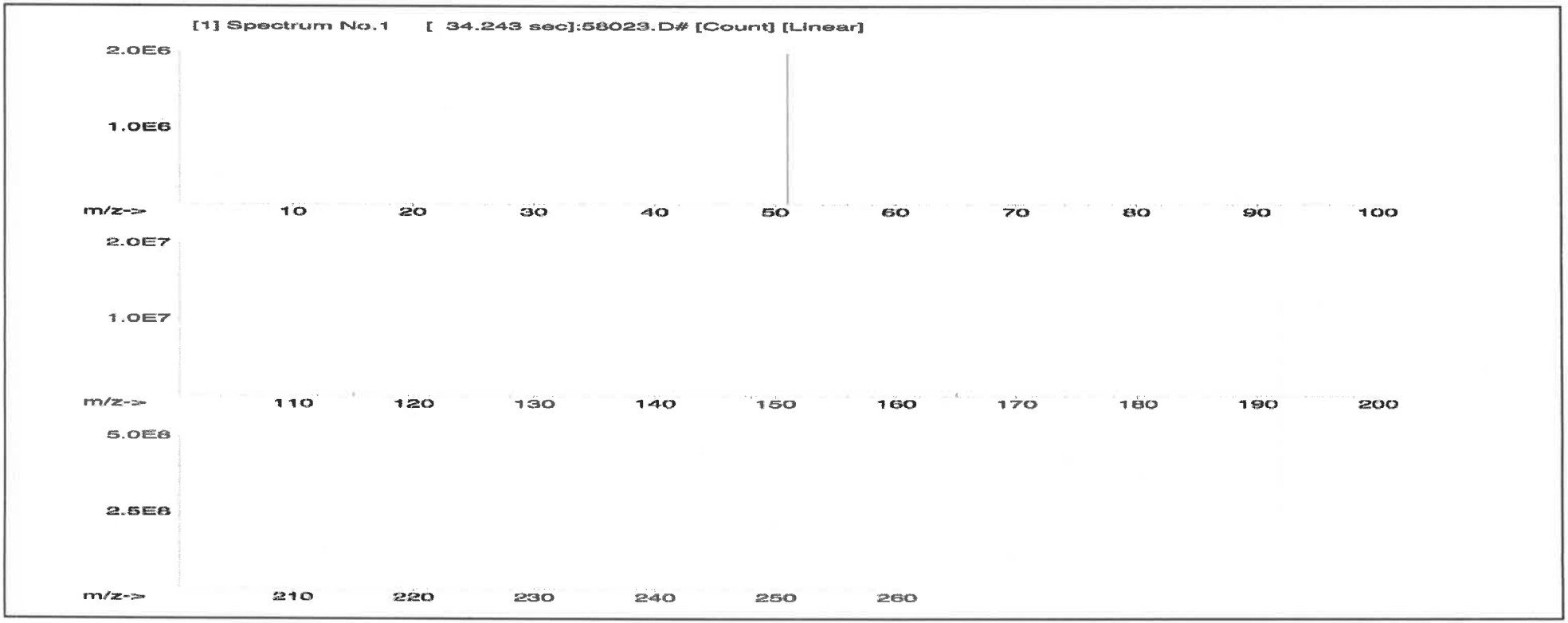
Aleah O'Brady

| 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:**

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).

Alliance TECHNICAL GROUP

**Water Metals Preparation Sheet**

PB166911

**SOP ID :** M200.7-Trace Elements-22, MSFAM01.1-Trace Metals-2

**SDG No :** YE8F7

**Matrix :** WATER

**Pippete ID:** ICP A

**Balance ID :** N/A

**Filter paper ID :** N/A

**pH Strip ID :** M6069

**Hood ID :** #3

**Block ID:** 1. HOT BLOCK #1 2. N/A

**Start Digest Date:** 02/27/2025 **Time :** 12:10 **Temp :** 96 °C

**End Digest Date:** 02/27/2025 **Time :** 14:15 **Temp :** 96 °C

**Digestion tube ID:** M5595

**Block thermometer ID:** MET-DIG. #1

**Dig Technician Signature:** SJB

**Supervisor Signature:**

**Temp :** 1. 96°C 2. N/A

| Standared Name | MLS USED | STD REF. # FROM LOG |
|---|---|---|
| LCSW | 0.50 | MP84656 |
| Spike Sol 6 | 0.25 | MP84663 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

| Chemical Used | ML/SAMPLE USED | Lot Number |
|---|---|---|
| 1:1 HNO3 | 1.00 | MP84041 |
| 1:1 HCL | 0.50 | MP84297 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

**Extraction Conformance/Non-Conformance Comments:**

HOT BLOCK#1 CELL#55 96 C

| Date / Time | Prepped Sample Relinquished By/Location | Received By/Location |
|---|---|---|
| 02/27/25 15:15 | SJB, MET-DIG. | Metals Lab |
| | Preparation Group | Analysis Group |

Alliance TECHNICAL GROUP

**Water Metals Preparation Sheet**

# PB166911

| Lab Sample ID | Client Sample ID | pH | Initial Vol (ml) | Final Vol (ml) | Color Before | Color After | Clarity Before | Clarity After | Comment | Prep Pos |
|---|---|---|---|---|---|---|---|---|---|---|
| PB166911BL | PBW911 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 22 |
| PB166911BS | LCS911 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | MP84656 | 23 |
| PB166911TB | LEB911 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 40 |
| Q1136-01 | YE8F5 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 24 |
| Q1136-02 | YE8F7 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 25 |
| Q1136-03 | YE8F7D | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 26 |
| Q1136-04 | YE8F7S | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | MP84663 | 27 |
| Q1136-05 | YE8F8 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 28 |
| Q1136-06 | YE8E3 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 29 |
| Q1136-07 | YE8E4 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 30 |
| Q1136-08 | YE8E5 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 31 |
| Q1136-09 | YE8E6 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 32 |
| Q1136-10 | YE8E7 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 33 |
| Q1136-11 | YE8E8 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 34 |
| Q1136-12 | YE8D1 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 35 |
| Q1136-13 | YE8D2 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 36 |
| Q1136-14 | YE8D4 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 37 |
| Q1136-15 | YE8C3 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 38 |
| Q1136-17 | YE8D5 | <2 | 50 | 50 | Colorless | Colorless | Clear | Clear | N/A | 39 |

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

**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB134905

| | | | |
|---|---|---|---|
| Review By | Sarabjit Jaswal | Review On | 3/7/2025 9:05:23 AM |
| Supervise By | Kareem Khairalla | Supervise On | 3/7/2025 12:25:37 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP84636,MP84657,MP84655,MP84654,MP84653,MP84652,MP84651 |
| ICV Standard | MP84658 |
| CCV Standard | MP84661 |
| ICSA Standard | MP84659,MP84721 |
| CRI Standard | |
| LCS Standard | MP84656 |
| Chk Standard | MP84649,MP84650 |

| Sr# | SampleId | ClientID | QcType | Date | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | S0 | S0 | CAL1 | 03/04/25 15:34 | | Kareem | OK |
| 2 | S1 | S01 | CAL2 | 03/04/25 15:38 | | Kareem | OK |
| 3 | S2 | S02 | CAL3 | 03/04/25 15:43 | | Kareem | OK |
| 4 | S3 | S03 | CAL4 | 03/04/25 15:47 | | Kareem | OK |
| 5 | S4 | S04 | CAL5 | 03/04/25 15:51 | | Kareem | OK |
| 6 | S5 | S05 | CAL6 | 03/04/25 15:55 | | Kareem | OK |
| 7 | S6 | S06 | CAL7 | 03/04/25 16:00 | | Kareem | OK |
| 8 | ICV001 | ICV001 | ICV | 03/04/25 17:17 | Instrument paused for calibration review | Kareem | OK |
| 9 | ICB001 | ICB001 | ICB | 03/04/25 17:23 | | Kareem | OK |
| 10 | ICSA001 | ICSA001 | ICSA | 03/04/25 17:27 | | Kareem | OK |
| 11 | ICSAB001 | ICSAB001 | ICSAB | 03/04/25 17:31 | | Kareem | OK |
| 12 | CCV001 | CCV001 | CCV | 03/04/25 17:35 | | Kareem | OK |
| 13 | CCB001 | CCB001 | CCB | 03/04/25 17:39 | | Kareem | OK |
| 14 | PB166911BL | PBW911 | MB | 03/04/25 17:43 | | Kareem | OK |
| 15 | PB166911BS | LCS911 | LCS | 03/04/25 17:48 | | Kareem | OK |
| 16 | PB166913BL | PBW913 | MB | 03/04/25 17:52 | | Kareem | OK |
| 17 | PB166913BS | LCS913 | LCS | 03/04/25 17:56 | | Kareem | OK |
| 18 | PB166912BL | PBW912 | MB | 03/04/25 18:00 | | Kareem | OK |

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Fax : 908 789 8922

**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB134905

| | | | |
|---|---|---|---|
| Review By | Sarabjit Jaswal | Review On | 3/7/2025 9:05:23 AM |
| Supervise By | Kareem Khairalla | Supervise On | 3/7/2025 12:25:37 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP84636,MP84657,MP84655,MP84654,MP84653,MP84652,MP84651 |
| ICV Standard | MP84658 |
| CCV Standard | MP84661 |
| ICSA Standard | MP84659,MP84721 |
| CRI Standard | |
| LCS Standard | MP84656 |
| Chk Standard | MP84649,MP84650 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 19 | PB166912BS | LCS912 | LCS | 03/04/25 18:04 | | Kareem | OK |
| 20 | Q1136-01 | YE8F5 | SAM | 03/04/25 18:21 | | Kareem | OK |
| 21 | Q1136-02 | YE8F7 | SAM | 03/04/25 18:25 | | Kareem | OK |
| 22 | Q1136-03 | YE8F7D | DUP | 03/04/25 18:29 | | Kareem | OK |
| 23 | Q1136-02L | YE8F7L | SD | 03/04/25 18:33 | | Kareem | OK |
| 24 | Q1136-04 | YE8F7S | MS | 03/04/25 18:37 | | Kareem | OK |
| 25 | Q1136-05 | YE8F8 | SAM | 03/04/25 18:41 | | Kareem | OK |
| 26 | Q1136-06 | YE8E3 | SAM | 03/04/25 18:45 | | Kareem | OK |
| 27 | Q1136-07 | YE8E4 | SAM | 03/04/25 18:49 | | Kareem | OK |
| 28 | Q1136-08 | YE8E5 | SAM | 03/04/25 18:53 | | Kareem | OK |
| 29 | Q1136-09 | YE8E6 | SAM | 03/04/25 18:57 | | Kareem | OK |
| 30 | Q1136-10 | YE8E7 | SAM | 03/04/25 19:01 | | Kareem | OK |
| 31 | CCV002 | CCV002 | CCV | 03/04/25 19:10 | | Kareem | OK |
| 32 | CCB002 | CCB002 | CCB | 03/04/25 19:14 | | Kareem | OK |
| 33 | Q1136-11 | YE8E8 | SAM | 03/04/25 19:18 | | Kareem | OK |
| 34 | Q1136-12 | YE8D1 | SAM | 03/04/25 19:22 | | Kareem | OK |
| 35 | Q1136-13 | YE8D2 | SAM | 03/04/25 19:26 | | Kareem | OK |
| 36 | Q1136-14 | YE8D4 | SAM | 03/04/25 19:30 | | Kareem | OK |
| 37 | Q1136-15 | YE8C3 | SAM | 03/04/25 19:34 | | Kareem | OK |
| 38 | Q1136-17 | YE8D5 | SAM | 03/04/25 19:39 | | Kareem | OK |

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Fax : 908 789 8922

**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB134905

| | | | |
|---|---|---|---|
| Review By | Sarabjit Jaswal | Review On | 3/7/2025 9:05:23 AM |
| Supervise By | Kareem Khairalla | Supervise On | 3/7/2025 12:25:37 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP84636,MP84657,MP84655,MP84654,MP84653,MP84652,MP84651 |
| ICV Standard | MP84658 |
| CCV Standard | MP84661 |
| ICSA Standard | MP84659,MP84721 |
| CRI Standard | |
| LCS Standard | MP84656 |
| Chk Standard | MP84649,MP84650 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 39 | Q1106-01 | YE8G3 | SAM | 03/04/25 19:43 | | Kareem | OK |
| 40 | Q1106-02 | YE8G5 | SAM | 03/04/25 19:47 | | Kareem | OK |
| 41 | Q1106-03 | YE8G6 | SAM | 03/04/25 19:51 | | Kareem | OK |
| 42 | Q1106-04 | YE8G6D | DUP | 03/04/25 19:55 | | Kareem | OK |
| 43 | Q1106-03L | YE8G6L | SD | 03/04/25 19:59 | | Kareem | OK |
| 44 | Q1106-05 | YE8G6S | MS | 03/04/25 20:03 | Fail for Al(568.7ppb), Mn(Below RL) | Kareem | OK |
| 45 | Q1106-06 | YE8H0 | SAM | 03/04/25 20:07 | | Kareem | OK |
| 46 | Q1106-07 | YE8H1 | SAM | 03/04/25 20:11 | | Kareem | OK |
| 47 | Q1106-08 | YE8H2 | SAM | 03/04/25 20:15 | | Kareem | OK |
| 48 | Q1106-09 | YE8H3 | SAM | 03/04/25 20:20 | | Kareem | OK |
| 49 | Q1106-10 | YE8H4 | SAM | 03/04/25 20:24 | | Kareem | OK |
| 50 | Q1106-11 | YE8H5 | SAM | 03/04/25 20:28 | | Kareem | OK |
| 51 | Q1106-12 | YE8H6 | SAM | 03/04/25 20:32 | | Kareem | OK |
| 52 | Q1106-13 | YE8F6 | SAM | 03/04/25 20:36 | | Kareem | OK |
| 53 | CCV003 | CCV003 | CCV | 03/04/25 20:40 | | Kareem | OK |
| 54 | CCB003 | CCB003 | CCB | 03/04/25 20:48 | Instrument paused for review | Kareem | OK |

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Fax : 908 789 8922

**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB134916

| | | | |
|---|---|---|---|
| Review By | Sarabjit Jaswal | Review On | 3/7/2025 9:07:23 AM |
| Supervise By | Kareem Khairalla | Supervise On | 3/7/2025 12:26:46 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP84636,MP84657,MP84655,MP84654,MP84653,MP84652,MP84651 |
| ICV Standard | MP84658 |
| CCV Standard | MP84661 |
| ICSA Standard | MP84659,MP84721 |
| CRI Standard | |
| LCS Standard | |
| Chk Standard | MP84649,MP84650 |

| Sr# | SampleId | ClientID | QcType | Date | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | S0 | S0 | CAL1 | 03/05/25 14:34 | | Kareem | OK |
| 2 | S1 | S01 | CAL2 | 03/05/25 14:38 | | Kareem | OK |
| 3 | S2 | S02 | CAL3 | 03/05/25 14:42 | | Kareem | OK |
| 4 | S3 | S03 | CAL4 | 03/05/25 14:46 | | Kareem | OK |
| 5 | S4 | S04 | CAL5 | 03/05/25 14:50 | | Kareem | OK |
| 6 | S5 | S05 | CAL6 | 03/05/25 14:54 | | Kareem | OK |
| 7 | S6 | S06 | CAL7 | 03/05/25 14:59 | | Kareem | OK |
| 8 | ICV002 | ICV002 | ICV | 03/05/25 15:23 | Instrument paused for calibration review | Kareem | OK |
| 9 | ICB002 | ICB002 | ICB | 03/05/25 15:27 | | Kareem | OK |
| 10 | ICSA002 | ICSA002 | ICSA | 03/05/25 15:31 | | Kareem | OK |
| 11 | ICSAB002 | ICSAB002 | ICSAB | 03/05/25 15:36 | | Kareem | OK |
| 12 | CCV004 | CCV004 | CCV | 03/05/25 15:40 | | Kareem | OK |
| 13 | CCB004 | CCB004 | CCB | 03/05/25 15:44 | | Kareem | OK |
| 14 | PB166911TB | LEB911 | MB | 03/05/25 15:48 | | Kareem | OK |
| 15 | PB166912TB | LEB912 | MB | 03/05/25 15:52 | | Kareem | OK |
| 16 | PB166913TB | LEB913 | MB | 03/05/25 15:56 | | Kareem | OK |
| 17 | Q1106-14 | YE8F9 | SAM | 03/05/25 16:01 | | Kareem | OK |
| 18 | Q1106-15 | YE8G0 | SAM | 03/05/25 16:05 | | Kareem | OK |

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

**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB134916

| | | | |
|---|---|---|---|
| Review By | Sarabjit Jaswal | Review On | 3/7/2025 9:07:23 AM |
| Supervise By | Kareem Khairalla | Supervise On | 3/7/2025 12:26:46 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP84636,MP84657,MP84655,MP84654,MP84653,MP84652,MP84651 |
| ICV Standard | MP84658 |
| CCV Standard | MP84661 |
| ICSA Standard | MP84659,MP84721 |
| CRI Standard | |
| LCS Standard | |
| Chk Standard | MP84649,MP84650 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 19 | Q1106-16 | YE8G1 | SAM | 03/05/25 16:09 | | Kareem | OK |
| 20 | Q1106-17 | YE8G2 | SAM | 03/05/25 16:13 | | Kareem | OK |
| 21 | Q1106-18 | YE8H9 | SAM | 03/05/25 16:17 | | Kareem | OK |
| 22 | Q1106-19 | YE8J0 | SAM | 03/05/25 16:21 | | Kareem | OK |
| 23 | Q1106-20 | YE8J1 | SAM | 03/05/25 16:25 | | Kareem | OK |
| 24 | Q1160-01 | YE8C9 | SAM | 03/05/25 16:29 | | Kareem | OK |
| 25 | Q1160-02 | YE8C9D | DUP | 03/05/25 16:33 | | Kareem | OK |
| 26 | Q1160-01L | YE8C9L | SD | 03/05/25 16:37 | | Kareem | OK |
| 27 | Q1160-03 | YE8C9S | MS | 03/05/25 16:41 | Fail for Al(1717.13ppb) | Kareem | OK |
| 28 | Q1160-04 | YE8D0 | SAM | 03/05/25 16:45 | | Kareem | OK |
| 29 | Q1160-05 | YE8D3 | SAM | 03/05/25 16:49 | | Kareem | OK |
| 30 | CCV005 | CCV005 | CCV | 03/05/25 16:53 | | Kareem | OK |
| 31 | CCB005 | CCB005 | CCB | 03/05/25 16:58 | | Kareem | OK |

Alliance TECHNICAL GROUP

## SPLP EXTRACTION LOGPAGE

pb166823

**SOP ID :** M1311-TCLP-15

**SDG No :** YE8F7

**Weigh By :** JP

**Balance ID :** WC SC-7

**pH Meter ID :** WC PH METER-1

**Extraction By :** JP

**Filter By :** JP

**Pippete ID :** WC

**Tumbler ID :** T-1 / T-2

**TCLP Filter ID :** 115525

**Start Prep Date :** 02/20/2025 **Time :** 14:00

**End Prep Date :** 02/21/2025 **Time :** 07:15

**Combination Ratio :** 20

**ZHE Cleaning Batch :** N/A

**Initial Room Temperature:** 23 °C

**Final Room Temperature:** 22 °C

**TCLP Technician Signature :** JP

**Supervisor By :** 12

| Standared Name | MLS USED | STD REF. # FROM LOG |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

| Chemical Used | ML/SAMPLE U | Lot Number |
|---|---|---|
| SPLP FLUID#2 | N/A | WP112058 |
| N/A | N/A | N/A |
| HNO3-TCLP,1N | N/A | WP110804 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| 120ml Plastic bottle | N/A | 405130101 |
| 1:1 HNO3 | N/A | MP84041 |

**Extraction Conformance/Non-Conformance Comments:**

Matrix spikes are added after fiftration and before preservation. TUMBLER T-1 /T-2 checked,30 rpm.

| Date / Time | Prepped Sample Relinquished By/Location | Received By/Location |
|---|---|---|
| 02/21/25 11:00 | JP / TCLP Room | S129. / IN4-D14 |
| | Preparation Group | Analysis Group |

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**SPLP EXTRACTION LOGPAGE**

pb166823

| Sample ID | ClientID | TCLP Vessel ID | Sample Wt (g) | Volume Extraction Fluid #1 (mL) | Multi phasic | Phase Miscible | Phases Combined | Final Leachate PH | Metals Leachate Adj. PH | Prep Pos |
|---|---|---|---|---|---|---|---|---|---|---|
| PB166823TB | LEB823 | 15 | N/A | 2000 | N/A | N/A | N/A | 5.03 | 1.03 | T-2 |
| Q1136-01 | YE8F5 | 01 | 100.02 | 2000 | N/A | N/A | N/A | 4.77 | 1.44 | T-1 |
| Q1136-02 | YE8F7 | 02 | 100.01 | 2000 | N/A | N/A | N/A | 5.33 | 1.52 | T-1 |
| Q1136-03 | YE8F7D | 02 | 100.01 | 2000 | N/A | N/A | N/A | 5.33 | 1.52 | T-1 |
| Q1136-04 | YE8F7S | 02 | 100.01 | 2000 | N/A | N/A | N/A | 5.33 | 1.52 | T-1 |
| Q1136-05 | YE8F8 | 03 | 100.02 | 2000 | N/A | N/A | N/A | 5.37 | 1.36 | T-1 |
| Q1136-06 | YE8E3 | 04 | 100.03 | 2000 | N/A | N/A | N/A | 3.77 | 1.23 | T-1 |
| Q1136-07 | YE8E4 | 05 | 100.03 | 2000 | N/A | N/A | N/A | 6.04 | 1.31 | T-1 |
| Q1136-08 | YE8E5 | 06 | 100.04 | 2000 | N/A | N/A | N/A | 6.54 | 1.40 | T-1 |
| Q1136-09 | YE8E6 | 07 | 100.03 | 2000 | N/A | N/A | N/A | 4.66 | 1.36 | T-1 |
| Q1136-10 | YE8E7 | 08 | 100.02 | 2000 | N/A | N/A | N/A | 5.54 | 1.31 | T-1 |
| Q1136-11 | YE8E8 | 09 | 100.02 | 2000 | N/A | N/A | N/A | 5.38 | 1.48 | T-1 |
| Q1136-12 | YE8D1 | 10 | 100.03 | 2000 | N/A | N/A | N/A | 5.72 | 1.58 | T-1 |
| Q1136-13 | YE8D2 | 11 | 100.02 | 2000 | N/A | N/A | N/A | 5.38 | 1.51 | T-2 |
| Q1136-14 | YE8D4 | 12 | 100.03 | 2000 | N/A | N/A | N/A | 6.30 | 1.63 | T-2 |
| Q1136-15 | YE8C3 | 13 | 100.03 | 2000 | N/A | N/A | N/A | 7.00 | 1.78 | T-2 |
| Q1136-17 | YE8D5 | 14 | 100.02 | 2000 | N/A | N/A | N/A | 7.22 | 1.72 | T-2 |

| SampleID | ClientID | Sample Weight (g) | Filter Weight (g) | Filtrate (mL) | Filter + Solid (After 100°C) | % solids | % Dry Solids |
|---|---|---|---|---|---|---|---|
| PB166823TB | LEB823 | N/A | N/A | N/A | N/A | N/A | N/A |
| Q1136-01 | YE8F5 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-02 | YE8F7 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-03 | YE8F7D | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-04 | YE8F7S | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-05 | YE8F8 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-06 | YE8E3 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-07 | YE8E4 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-08 | YE8E5 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-09 | YE8E6 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-10 | YE8E7 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-11 | YE8E8 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-12 | YE8D1 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-13 | YE8D2 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-14 | YE8D4 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-15 | YE8C3 | N/A | N/A | N/A | N/A | 100 | N/A |
| Q1136-17 | YE8D5 | N/A | N/A | N/A | N/A | 100 | N/A |

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**SPLP Fluid Determination**

pb166823

**Hot Block ID :** WC S-1 /WC S-2

**Thermometer ID :** FLASHPOINT

| SampleID | ClientID | Sample Weight (g) | Volume DI Water (mL) | PH after 5 min stir | PH after 10 min stir | Extraction Fluid 1 or 2 | pH Extraction Fluid |
|---|---|---|---|---|---|---|---|
| PB166823TB | LEB823 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-01 | YE8F5 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-02 | YE8F7 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-03 | YE8F7D | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-04 | YE8F7S | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-05 | YE8F8 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-06 | YE8E3 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-07 | YE8E4 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-08 | YE8E5 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-09 | YE8E6 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-10 | YE8E7 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-11 | YE8E8 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-12 | YE8D1 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-13 | YE8D2 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-14 | YE8D4 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-15 | YE8C3 | N/A | N/A | N/A | N/A | #2 | 5.03 |
| Q1136-17 | YE8D5 | N/A | N/A | N/A | N/A | #2 | 5.03 |