



Laboratory Report

July 10, 2014

Elsbeth Hearn - Mail Code OSRR02-2
US EPA New England R1

Project Number: 14060012
Project: Fay Street - Lowell, MA
Analysis: Metals in Soil Medium Level by ICP
EPA Chemist: Michael Dowling

Date Samples Received by the Laboratory: 06/13/2014

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIASOP-OPTIMAS0.

Samples were prepared following the EPA Region I SOP, EIASOP-INGMETALSPREP8

Preparation and analysis SOP's are based on "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, Revision 2, Final Update III, Methods 3050B and 6010B," respectively. Samples were analyzed using a Perkin Elmer Dual View Inductively Coupled Plasma - Optical Emission Spectrometer.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340 .

Sincerely,

Digitally signed by Dan Boudreau
DN: cn=Dan Boudreau, o=EPA, ou=EIA,
email=boudreau.dan@epa.gov, c=US
Date: 2014.07.10 08:23:27 -04'00'

14060012\$METMS_PE

Qualifiers:

| | |
|-----------|---|
| RL | Reporting limit |
| ND | Not Detected above reporting limit |
| NA | Not Applicable |
| NC | Not calculated since analyte concentration is ND |
| J1 | Estimated value due to MS recovery outside acceptance criteria |
| J2 | Estimated value due to LFB result outside acceptance criteria |
| J3 | Estimated value due to RPD result outside acceptance criteria |
| J4 | Estimated value due to LCS result outside acceptance criteria |
| B | Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank. |
| R | No recovery was calculated since the analyte concentration is greater than four times the spike level. |

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0158
Date of Collection: 6/10/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48800
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 2
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 2.0 | |
| 7429-90-5 | Aluminum | 7400 | 22 | |
| 7440-38-2 | Arsenic | 14 | 3.9 | |
| 7440-39-3 | Barium | 390 | 3.9 | J1 |
| 7440-41-7 | Beryllium | ND | 1.6 | |
| 7440-70-2 | Calcium | 26000 | 20 | |
| 7440-43-9 | Cadmium | ND | 2.0 | |
| 7440-48-4 | Cobalt | ND | 3.9 | |
| 7440-47-3 | Chromium | 23 | 3.9 | |
| 7440-50-8 | Copper | 55 | 3.9 | |
| 7439-89-6 | Iron | 11000 | 7.8 | |
| 7439-95-4 | Magnesium | 4700 | 20 | |
| 7439-96-5 | Manganese | 330 | 3.9 | J1 |
| 7440-02-0 | Nickel | 15 | 3.9 | |
| 7439-92-1 | Lead | 3600 | 3.9 | |
| 7440-36-0 | Antimony | ND | 3.9 | J1 |
| 7782-49-2 | Selenium | ND | 7.8 | |
| 7440-28-0 | Thallium | ND | 3.9 | |
| 7440-62-2 | Vanadium | 25 | 3.9 | |
| 7440-66-6 | Zinc | 410 | 3.9 | |

Comments:

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0168
Date of Collection: 6/10/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48801
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 1.0 | |
| 7429-90-5 | Aluminum | 10000 | 11 | |
| 7440-38-2 | Arsenic | 13 | 2.0 | |
| 7440-39-3 | Barium | 94 | 2.0 | |
| 7440-41-7 | Beryllium | ND | 0.80 | |
| 7440-70-2 | Calcium | 1200 | 10 | |
| 7440-43-9 | Cadmium | ND | 1.0 | |
| 7440-48-4 | Cobalt | 4.6 | 2.0 | |
| 7440-47-3 | Chromium | 24 | 2.0 | |
| 7440-50-8 | Copper | 49 | 2.0 | |
| 7439-89-6 | Iron | 13000 | 4.0 | |
| 7439-95-4 | Magnesium | 2500 | 10 | |
| 7439-96-5 | Manganese | 200 | 2.0 | |
| 7440-02-0 | Nickel | 16 | 2.0 | |
| 7439-92-1 | Lead | 420 | 2.0 | |
| 7440-36-0 | Antimony | ND | 2.0 | |
| 7782-49-2 | Selenium | ND | 4.0 | |
| 7440-28-0 | Thallium | ND | 6.0 | |
| 7440-62-2 | Vanadium | 25 | 2.0 | |
| 7440-66-6 | Zinc | 150 | 2.0 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0179
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48802
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 2
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 2.0 | |
| 7429-90-5 | Aluminum | 8300 | 22 | |
| 7440-38-2 | Arsenic | 18 | 3.9 | |
| 7440-39-3 | Barium | 800 | 3.9 | |
| 7440-41-7 | Beryllium | ND | 1.6 | |
| 7440-70-2 | Calcium | 3300 | 20 | |
| 7440-43-9 | Cadmium | ND | 2.0 | |
| 7440-48-4 | Cobalt | 5.9 | 3.9 | |
| 7440-47-3 | Chromium | 96 | 3.9 | |
| 7440-50-8 | Copper | 350 | 3.9 | |
| 7439-89-6 | Iron | 39000 | 7.8 | |
| 7439-95-4 | Magnesium | 1500 | 20 | |
| 7439-96-5 | Manganese | 380 | 3.9 | |
| 7440-02-0 | Nickel | 24 | 3.9 | |
| 7439-92-1 | Lead | 1500 | 3.9 | |
| 7440-36-0 | Antimony | ND | 3.9 | |
| 7782-49-2 | Selenium | ND | 7.8 | |
| 7440-28-0 | Thallium | ND | 5.9 | |
| 7440-62-2 | Vanadium | 28 | 3.9 | |
| 7440-66-6 | Zinc | 590 | 3.9 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0188
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48803
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 1.0 | |
| 7429-90-5 | Aluminum | 6500 | 11 | |
| 7440-38-2 | Arsenic | 8.2 | 2.0 | |
| 7440-39-3 | Barium | 50 | 2.0 | |
| 7440-41-7 | Beryllium | ND | 0.80 | |
| 7440-70-2 | Calcium | 1100 | 10 | |
| 7440-43-9 | Cadmium | ND | 1.0 | |
| 7440-48-4 | Cobalt | 3.1 | 2.0 | |
| 7440-47-3 | Chromium | 13 | 2.0 | |
| 7440-50-8 | Copper | 23 | 2.0 | |
| 7439-89-6 | Iron | 7600 | 4.0 | |
| 7439-95-4 | Magnesium | 1700 | 10 | |
| 7439-96-5 | Manganese | 200 | 2.0 | |
| 7440-02-0 | Nickel | 10 | 2.0 | |
| 7439-92-1 | Lead | 130 | 2.0 | |
| 7440-36-0 | Antimony | ND | 2.0 | |
| 7782-49-2 | Selenium | ND | 4.0 | |
| 7440-28-0 | Thallium | ND | 6.0 | |
| 7440-62-2 | Vanadium | 13 | 2.0 | |
| 7440-66-6 | Zinc | 130 | 2.0 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0196
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48804
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 0.98 | |
| 7429-90-5 | Aluminum | 6300 | 11 | |
| 7440-38-2 | Arsenic | 7.5 | 2.0 | |
| 7440-39-3 | Barium | 23 | 2.0 | |
| 7440-41-7 | Beryllium | ND | 0.78 | |
| 7440-70-2 | Calcium | 780 | 9.8 | |
| 7440-43-9 | Cadmium | ND | 0.98 | |
| 7440-48-4 | Cobalt | 2.7 | 2.0 | |
| 7440-47-3 | Chromium | 11 | 2.0 | |
| 7440-50-8 | Copper | 8.8 | 2.0 | |
| 7439-89-6 | Iron | 6200 | 3.9 | |
| 7439-95-4 | Magnesium | 1700 | 9.8 | |
| 7439-96-5 | Manganese | 91 | 2.0 | |
| 7440-02-0 | Nickel | 9.9 | 2.0 | |
| 7439-92-1 | Lead | 43 | 2.0 | |
| 7440-36-0 | Antimony | ND | 2.0 | |
| 7782-49-2 | Selenium | ND | 3.9 | |
| 7440-28-0 | Thallium | ND | 5.9 | |
| 7440-62-2 | Vanadium | 10 | 2.0 | |
| 7440-66-6 | Zinc | 35 | 2.0 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0202
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48805
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 2
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 2.0 | |
| 7429-90-5 | Aluminum | 8100 | 22 | |
| 7440-38-2 | Arsenic | 14 | 4.0 | |
| 7440-39-3 | Barium | 180 | 4.0 | |
| 7440-41-7 | Beryllium | ND | 1.6 | |
| 7440-70-2 | Calcium | 1800 | 20 | |
| 7440-43-9 | Cadmium | ND | 2.0 | |
| 7440-48-4 | Cobalt | 4.5 | 4.0 | |
| 7440-47-3 | Chromium | 23 | 4.0 | |
| 7440-50-8 | Copper | 80 | 4.0 | |
| 7439-89-6 | Iron | 31000 | 8.0 | |
| 7439-95-4 | Magnesium | 2300 | 20 | |
| 7439-96-5 | Manganese | 220 | 4.0 | |
| 7440-02-0 | Nickel | 17 | 4.0 | |
| 7439-92-1 | Lead | 560 | 4.0 | |
| 7440-36-0 | Antimony | ND | 4.0 | |
| 7782-49-2 | Selenium | ND | 8.0 | |
| 7440-28-0 | Thallium | ND | 4.0 | |
| 7440-62-2 | Vanadium | 25 | 4.0 | |
| 7440-66-6 | Zinc | 440 | 4.0 | |

Comments:

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0211
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48806
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 1.0 | |
| 7429-90-5 | Aluminum | 8100 | 11 | |
| 7440-38-2 | Arsenic | 8.8 | 2.0 | |
| 7440-39-3 | Barium | 49 | 2.0 | |
| 7440-41-7 | Beryllium | ND | 0.80 | |
| 7440-70-2 | Calcium | 970 | 10 | |
| 7440-43-9 | Cadmium | ND | 1.0 | |
| 7440-48-4 | Cobalt | 3.2 | 2.0 | |
| 7440-47-3 | Chromium | 15 | 2.0 | |
| 7440-50-8 | Copper | 25 | 2.0 | |
| 7439-89-6 | Iron | 7500 | 4.0 | |
| 7439-95-4 | Magnesium | 1800 | 10 | |
| 7439-96-5 | Manganese | 120 | 2.0 | |
| 7440-02-0 | Nickel | 12 | 2.0 | |
| 7439-92-1 | Lead | 160 | 2.0 | |
| 7440-36-0 | Antimony | ND | 2.0 | |
| 7782-49-2 | Selenium | ND | 4.0 | |
| 7440-28-0 | Thallium | ND | 6.0 | |
| 7440-62-2 | Vanadium | 15 | 2.0 | |
| 7440-66-6 | Zinc | 110 | 2.0 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0216
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48807
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 0.96 | |
| 7429-90-5 | Aluminum | 8800 | 11 | |
| 7440-38-2 | Arsenic | 9.5 | 1.9 | |
| 7440-39-3 | Barium | 160 | 1.9 | |
| 7440-41-7 | Beryllium | ND | 0.77 | |
| 7440-70-2 | Calcium | 5400 | 9.6 | |
| 7440-43-9 | Cadmium | ND | 0.96 | |
| 7440-48-4 | Cobalt | 6.1 | 1.9 | |
| 7440-47-3 | Chromium | 35 | 1.9 | |
| 7440-50-8 | Copper | 67 | 1.9 | |
| 7439-89-6 | Iron | 13000 | 3.8 | |
| 7439-95-4 | Magnesium | 4400 | 9.6 | |
| 7439-96-5 | Manganese | 460 | 1.9 | |
| 7440-02-0 | Nickel | 21 | 1.9 | |
| 7439-92-1 | Lead | 600 | 1.9 | |
| 7440-36-0 | Antimony | ND | 1.9 | |
| 7782-49-2 | Selenium | ND | 3.8 | |
| 7440-28-0 | Thallium | ND | 5.8 | |
| 7440-62-2 | Vanadium | 30 | 1.9 | |
| 7440-66-6 | Zinc | 230 | 1.9 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0219
Date of Collection: 6/10/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48808
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 1.1 | |
| 7429-90-5 | Aluminum | 6800 | 12 | |
| 7440-38-2 | Arsenic | 8.6 | 2.2 | |
| 7440-39-3 | Barium | 49 | 2.2 | |
| 7440-41-7 | Beryllium | ND | 0.87 | |
| 7440-70-2 | Calcium | 1500 | 11 | |
| 7440-43-9 | Cadmium | ND | 1.1 | |
| 7440-48-4 | Cobalt | 3.3 | 2.2 | |
| 7440-47-3 | Chromium | 21 | 2.2 | |
| 7440-50-8 | Copper | 39 | 2.2 | |
| 7439-89-6 | Iron | 12000 | 4.4 | |
| 7439-95-4 | Magnesium | 2000 | 11 | |
| 7439-96-5 | Manganese | 260 | 2.2 | |
| 7440-02-0 | Nickel | 11 | 2.2 | |
| 7439-92-1 | Lead | 290 | 2.2 | |
| 7440-36-0 | Antimony | ND | 2.2 | |
| 7782-49-2 | Selenium | ND | 4.4 | |
| 7440-28-0 | Thallium | ND | 2.2 | |
| 7440-62-2 | Vanadium | 20 | 2.2 | |
| 7440-66-6 | Zinc | 120 | 2.2 | |

Comments:

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0242
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48809
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 0.98 | |
| 7429-90-5 | Aluminum | 6400 | 11 | |
| 7440-38-2 | Arsenic | 2.0 | 2.0 | |
| 7440-39-3 | Barium | 14 | 2.0 | |
| 7440-41-7 | Beryllium | ND | 0.78 | |
| 7440-70-2 | Calcium | 520 | 9.8 | |
| 7440-43-9 | Cadmium | ND | 0.98 | |
| 7440-48-4 | Cobalt | ND | 2.0 | |
| 7440-47-3 | Chromium | 9.1 | 2.0 | |
| 7440-50-8 | Copper | 2.3 | 2.0 | |
| 7439-89-6 | Iron | 3900 | 3.9 | |
| 7439-95-4 | Magnesium | 1200 | 9.8 | |
| 7439-96-5 | Manganese | 53 | 2.0 | |
| 7440-02-0 | Nickel | 5.2 | 2.0 | |
| 7439-92-1 | Lead | 6.9 | 2.0 | |
| 7440-36-0 | Antimony | ND | 2.0 | |
| 7782-49-2 | Selenium | ND | 3.9 | |
| 7440-28-0 | Thallium | ND | 5.9 | |
| 7440-62-2 | Vanadium | 8.2 | 2.0 | |
| 7440-66-6 | Zinc | 21 | 2.0 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0243
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48810
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 1.0 | |
| 7429-90-5 | Aluminum | 7500 | 11 | |
| 7440-38-2 | Arsenic | 9.2 | 2.0 | |
| 7440-39-3 | Barium | 51 | 2.0 | |
| 7440-41-7 | Beryllium | ND | 0.80 | |
| 7440-70-2 | Calcium | 1300 | 10 | |
| 7440-43-9 | Cadmium | ND | 1.0 | |
| 7440-48-4 | Cobalt | 3.1 | 2.0 | |
| 7440-47-3 | Chromium | 15 | 2.0 | |
| 7440-50-8 | Copper | 53 | 2.0 | |
| 7439-89-6 | Iron | 8200 | 4.0 | |
| 7439-95-4 | Magnesium | 1600 | 10 | |
| 7439-96-5 | Manganese | 120 | 2.0 | |
| 7440-02-0 | Nickel | 12 | 2.0 | |
| 7439-92-1 | Lead | 130 | 2.0 | |
| 7440-36-0 | Antimony | ND | 2.0 | |
| 7782-49-2 | Selenium | ND | 4.0 | |
| 7440-28-0 | Thallium | ND | 6.0 | |
| 7440-62-2 | Vanadium | 14 | 2.0 | |
| 7440-66-6 | Zinc | 130 | 2.0 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Metals in Soil Medium Level by ICP

Client Sample ID: 0881-0246
Date of Collection: 6/12/2014
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: AB48811
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration mg/Kg | RL mg/Kg | Qualifier |
|------------|-----------|------------------------|-------------|-----------|
| 7440-22-4 | Silver | ND | 1.0 | |
| 7429-90-5 | Aluminum | 8200 | 11 | |
| 7440-38-2 | Arsenic | 8.5 | 2.0 | |
| 7440-39-3 | Barium | 49 | 2.0 | |
| 7440-41-7 | Beryllium | ND | 0.80 | |
| 7440-70-2 | Calcium | 810 | 10 | |
| 7440-43-9 | Cadmium | ND | 1.0 | |
| 7440-48-4 | Cobalt | 3.2 | 2.0 | |
| 7440-47-3 | Chromium | 15 | 2.0 | |
| 7440-50-8 | Copper | 25 | 2.0 | |
| 7439-89-6 | Iron | 7800 | 4.0 | |
| 7439-95-4 | Magnesium | 1900 | 10 | |
| 7439-96-5 | Manganese | 120 | 2.0 | |
| 7440-02-0 | Nickel | 12 | 2.0 | |
| 7439-92-1 | Lead | 180 | 2.0 | |
| 7440-36-0 | Antimony | ND | 2.0 | |
| 7782-49-2 | Selenium | ND | 4.0 | |
| 7440-28-0 | Thallium | ND | 6.0 | |
| 7440-62-2 | Vanadium | 15 | 2.0 | |
| 7440-66-6 | Zinc | 110 | 2.0 | |

Comments: Thallium reported from the 3x dilution of 7/2/2014.

Fay Street - Lowell, MA

Laboratory Reagent Blank

Client Sample ID: N/A
Date of Collection: N/A
Date of Preparation: 6/26/2014
Date of Analysis: 7/02/2014
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A

Lab Sample ID: N/A
Matrix: Soil
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A

| CAS Number | Compound | Concentration ug/L | RL ug/L | Qualifier |
|------------|-----------|-----------------------|------------|-----------|
| 7440-22-4 | Silver | ND | 10 | |
| 7429-90-5 | Aluminum | ND | 110 | |
| 7440-38-2 | Arsenic | ND | 20 | |
| 7440-39-3 | Barium | ND | 20 | |
| 7440-41-7 | Beryllium | ND | 8.0 | |
| 7440-70-2 | Calcium | ND | 100 | |
| 7440-43-9 | Cadmium | ND | 10 | |
| 7440-48-4 | Cobalt | ND | 20 | |
| 7440-47-3 | Chromium | ND | 20 | |
| 7440-50-8 | Copper | ND | 20 | |
| 7439-89-6 | Iron | ND | 40 | |
| 7439-95-4 | Magnesium | ND | 100 | |
| 7439-96-5 | Manganese | ND | 20 | |
| 7440-02-0 | Nickel | ND | 20 | |
| 7439-92-1 | Lead | ND | 20 | |
| 7440-36-0 | Antimony | ND | 20 | |
| 7782-49-2 | Selenium | ND | 40 | |
| 7440-28-0 | Thallium | ND | 20 | |
| 7440-62-2 | Vanadium | ND | 20 | |
| 7440-66-6 | Zinc | ND | 20 | |

Comments:

Fay Street - Lowell, MA

MATRIX SPIKE (MS) RECOVERY

Sample ID: AB48800

| PARAMETER | SPIKE ADDED mg/Kg | SAMPLE CONCENTRATION mg/Kg | MS CONCENTRATION mg/Kg | MS % REC | QC LIMITS (% REC) |
|-----------|-------------------------|----------------------------------|------------------------------|----------------|-------------------------|
| Antimony | 98 | ND | 33.3 | 34 | 75 - 125 |
| Arsenic | 98 | 14 | 117 | 105 | 75 - 125 |
| Barium | 98 | 390 | 552 | 165 | 75 - 125 |
| Beryllium | 38 | ND | 41.0 | 107 | 75 - 125 |
| Cadmium | 49 | ND | 50.3 | 103 | 75 - 125 |
| Chromium | 98 | 23 | 125 | 104 | 75 - 125 |
| Cobalt | 98 | ND | 98.9 | 101 | 75 - 125 |
| Copper | 98 | 55 | 163 | 110 | 75 - 125 |
| Lead | 98 | 3600 | 4730 | R | 75 - 125 |
| Manganese | 98 | 330 | 475 | 148 | 75 - 125 |
| Nickel | 98 | 15 | 112 | 99 | 75 - 125 |
| Selenium | 98 | ND | 102 | 104 | 75 - 125 |
| Silver | 20 | ND | 19.9 | 102 | 75 - 125 |
| Thallium | 98 | ND | 94.7 | 97 | 75 - 125 |
| Vanadium | 98 | 25 | 128 | 105 | 75 - 125 |
| Zinc | 98 | 410 | 567 | R | 75 - 125 |

Fay Street - Lowell, MA

Laboratory Duplicate Results

Sample ID: AB48801

| PARAMETER | SAMPLE RESULT mg/Kg | SAMPLE DUPLICATE RESULT mg/Kg | PRECISION RPD % | QC LIMITS |
|-----------|---------------------------|-------------------------------------|-----------------------|--------------|
| Aluminum | 10000 | 10000 | 0 | 30 |
| Antimony | ND | ND | NC | 30 |
| Arsenic | 13 | 13 | 0 | 30 |
| Barium | 94 | 87 | 7.7 | 30 |
| Beryllium | ND | ND | NC | 30 |
| Cadmium | ND | ND | NC | 30 |
| Calcium | 1200 | 1100 | 8.7 | 30 |
| Chromium | 24 | 25 | 4.1 | 30 |
| Cobalt | 4.6 | 4.6 | 0 | 30 |
| Copper | 49 | 48 | 2.1 | 30 |
| Iron | 13000 | 12000 | 8.0 | 30 |
| Lead | 420 | 410 | 2.4 | 30 |
| Magnesium | 2500 | 2500 | 0 | 30 |
| Manganese | 200 | 190 | 5.1 | 30 |
| Nickel | 16 | 17 | 6.1 | 30 |
| Selenium | ND | ND | NC | 30 |
| Silver | ND | ND | NC | 30 |
| Thallium | ND | ND | NC | 30 |
| Vanadium | 25 | 27 | 7.7 | 30 |
| Zinc | 150 | 140 | 6.9 | 30 |

Fay Street - Lowell, MA

Laboratory Fortified Blank (LFB) Results

| PARAMETER | LFB AMOUNT SPIKED ug/L | LFB RESULT ug/L | LFB RECOVERY % | QC LIMITS % |
|-----------|------------------------------|-----------------------|----------------------|-------------------|
| Aluminum | 1000 | 993 | 99 | 85 - 115 |
| Antimony | 1000 | 1000 | 100 | 85 - 115 |
| Arsenic | 1000 | 1010 | 101 | 85 - 115 |
| Barium | 1000 | 988 | 99 | 85 - 115 |
| Beryllium | 400 | 400 | 100 | 85 - 115 |
| Cadmium | 500 | 503 | 101 | 85 - 115 |
| Calcium | 10000 | 10000 | 100 | 85 - 115 |
| Chromium | 1000 | 1040 | 104 | 85 - 115 |
| Cobalt | 1000 | 991 | 99 | 85 - 115 |
| Copper | 1000 | 1050 | 105 | 85 - 115 |
| Iron | 1000 | 1030 | 103 | 85 - 115 |
| Lead | 1000 | 974 | 97 | 85 - 115 |
| Magnesium | 10000 | 10200 | 102 | 85 - 115 |
| Manganese | 1000 | 1010 | 101 | 85 - 115 |
| Nickel | 1000 | 1000 | 100 | 85 - 115 |
| Selenium | 1000 | 977 | 98 | 85 - 115 |
| Silver | 200 | 200 | 100 | 85 - 115 |
| Thallium | 1000 | 1000 | 100 | 85 - 115 |
| Vanadium | 1000 | 1040 | 104 | 85 - 115 |
| Zinc | 1000 | 991 | 99 | 85 - 115 |

Comments:

Fay Street - Lowell, MA

Solid Laboratory Control Sample (LCS) Results

| PARAMETER | LCS RESULTS mg/Kg | CONTROL LIMITS mg/Kg |
|-----------|-------------------------|----------------------------|
| Aluminum | 10900 | 3640 - 13800 |
| Antimony | 92.5 | 24.8 - 275 |
| Arsenic | 156 | 107 - 196 |
| Barium | 264 | 193 - 331 |
| Beryllium | 138 | 99.9 - 166 |
| Cadmium | 150 | 111 - 192 |
| Calcium | 6540 | 4730 - 8060 |
| Chromium | 122 | 81.5 - 152 |
| Cobalt | 69.1 | 51.1 - 86.4 |
| Copper | 74.7 | 50.2 - 88.6 |
| Iron | 13900 | 3750 - 20900 |
| Lead | 249 | 192 - 317 |
| Magnesium | 3840 | 2460 - 4740 |
| Manganese | 578 | 436 - 690 |
| Nickel | 318 | 234 - 399 |
| Selenium | 164 | 109 - 214 |
| Silver | 44.8 | 29.4 - 59.3 |
| Thallium | 254 | 180 - 338 |
| Vanadium | 126 | 78.3 - 153 |
| Zinc | 310 | 220 - 393 |

Comments:

Samples in Batch: AB48800, AB48801, AB48802, AB48803, AB48804, AB48805, AB48806, AB48807, AB48808, AB48809, AB48810, AB48811

PN 14060012

Page 1 of 1

START Region 1
Weston Solutions
3 Riverside Drive
Andover, MA 01810

CHAIN OF CUSTODY RECORD
Fay Street/MA
Lab: EPA OEME
Lab Address: 11 Technology Drive

No: 1-061314-074353-0006

Date Shipped: 2014-06-13

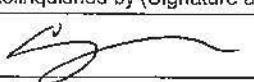
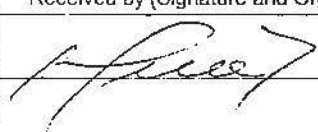
Contact Name: Chris Dupree

Contact Phone: 978-621-1210

| Lab # | Sample # | Location | Analyses | Matrix | Collected | Sample Time | Numb Cont | Container | Preservative | MS/MSD |
|-------|-----------|------------|------------------|--------|------------|-------------|-----------|------------|--------------|--------|
| | 0881-0158 | F01-SB22C | Metals (\$METMS) | Soil | 2014-06-10 | 11:10 | 1 | 4 oz Jar | | |
| | 0881-0168 | F03-SB21A | Metals (\$METMS) | Soil | 2014-06-10 | 14:05 | 1 | 4 oz Jar | | |
| | 0881-0179 | F03-SB24C | Metals (\$METMS) | Soil | 2014-06-12 | 10:05 | 1 | 4 oz Jar | | |
| | 0881-0188 | F03-SB27C | Metals (\$METMS) | Soil | 2014-06-12 | 13:05 | 1 | 4 oz Jar | | Y |
| | 0881-0196 | F03-SB30B | Metals (\$METMS) | Soil | 2014-06-12 | 10:00 | 1 | 4 oz Jar | | |
| | 0881-0202 | F03-SB32B | Metals (\$METMS) | Soil | 2014-06-12 | 10:20 | 1 | 4 oz Jar | | |
| | 0881-0211 | F03-SB35B | Metals (\$METMS) | Soil | 2014-06-12 | 11:40 | 1 | 4 oz Jar | | |
| | 0881-0216 | F03-SB37A | Metals (\$METMS) | Soil | 2014-06-12 | 15:25 | 1 | 4 oz Jar | | |
| | 0881-0219 | F03-SB38A | Metals (\$METMS) | Soil | 2014-06-10 | 14:10 | 1 | 4 oz Jar | | |
| | 0881-0242 | F03-SB45C | Metals (\$METMS) | Soil | 2014-06-12 | 14:40 | 1 | 4 oz Jar | | |
| | 0881-0243 | F03-SB46A | Metals (\$METMS) | Soil | 2014-06-12 | 15:20 | 1 | 4 oz Jar | | |
| | 0881-0246 | F03-SB135B | Metals (\$METMS) | Soil | 2014-06-12 | 11:40 | 1 | 4 oz Jar | | |
| | 0881-0247 | RB-20 | Metals (\$METW) | Water | 2014-06-12 | 09:00 | 1 | 0.5 L Poly | HNO3 | |
| | 0881-0248 | RB-21 | Metals (\$METW) | Water | 2014-06-12 | 16:30 | 1 | 0.5 L Poly | HNO3 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Special Instructions: Please forward results to OSC Elsbeth Hearn

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

| Items/Reason | Relinquished by (Signature and Organization) | Date/Time | Received by (Signature and Organization) | Date/Time | Sample Condition Upon Receipt |
|--------------|---|------------------|---|------------------|-------------------------------|
| |  | 6/13/14 11:55 |  ESAT | 6/13/14 11:55 | 40C |
| | | | | | |
| | | | | | |
| | | | | | |