



ANALYTICAL REPORT

For:

OMI - Farmington - Animas River - Post plume

ASL Report #: P2854

Project ID: 402544.A6.16.00.00

Attn: Monica Peterson/FAR

cc:

Ron Rosen/FAR

Authorized and Released By:

Laboratory Project Manager

Doug Hardy

(541) 758-0235 ext.23107

August 17, 2015

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:
Oregon (100022)
Louisiana (05031)

ASL Report #: P2854

Sample Receipt Comments

We certify that the test results meet all NELAP requirements.

Sample Cross-Reference

| ASL Sample ID | Client Sample ID | Date/Time Collected | Date Received |
|--------------------------|-------------------------|--------------------------------|--------------------------|
| P285401 | APS#2 - 20150814-1 | 08/14/15 10:46 | 08/15/15 |
| P285402 | APS#2 - 20150814-2 | 08/14/15 10:47 | 08/15/15 |
| P285403 | APS#2 - 20150814-3 | 08/14/15 10:45 | 08/15/15 |

CASE NARRATIVE METALS ANALYSIS

Lab Name: CH2M HILL ASL

ASL SDG#: P2854

Project: OMI - Farmington

Project #: 402544.A6.16.00.00

With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

Method(s):

E200.7: E200.2, FLDFLT

E200.8: E200.2, FLDFLT

E245.1

Matrix Spike/Matrix Spike Duplicate(s):

E200.7: Total: Matrix spike/matrix spike duplicate recoveries for aluminum (148/152%) exceeded acceptance criteria (70-130%).

Dissolved: The matrix spike recoveries for calcium and magnesium and the matrix spike duplicate recovery for calcium were outside acceptance criteria because the analyte concentrations in the sample were significantly higher than the added spike concentrations.

E200.8: MS recovery of barium (55%) in sample APS#2 - 20150814-2 (P285402F) did not meet acceptance criteria of 70-130%.

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | | | Lab Information | | | |
|--------------------------------------|--|--|--|-------------------------|--|--|--|
| Client Sample ID: APS#2 - 20150814-1 | | | | Lab Sample ID: P285401 | | | |
| Project Name: OMI - Farmington | | | | Date Received: 08/15/15 | | | |
| Sample Date: 08/14/15 | | | | Report Revision No: 0 | | | |
| Sample Time: 10:46 | | | | | | | |
| Type: Grab | | | | | | | |
| Matrix: Water | | | | | | | |

| Analyte | Dilution Factor | DL | RL | Result | Qual | Units | Analysis Method | Prep Method | Date Analyzed |
|---------------|-----------------|-------|------|--------|------|-------|-----------------|-------------|---------------|
| Metals | | | | | | | | | |
| Aluminum | 1 | 20.0 | 100 | 571 | | ug/L | E200.7 | E200.2 | 08/17/15 |
| Antimony | 1 | 0.031 | 0.50 | 0.50 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Arsenic | 1 | 0.030 | 0.50 | 0.93 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Barium | 1 | 0.25 | 2.00 | 70.2 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Beryllium | 1 | 0.50 | 4.00 | 4.00 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Cadmium | 1 | 0.030 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Calcium | 1 | 200 | 500 | 75700 | | ug/L | E200.7 | E200.2 | 08/17/15 |
| Chromium | 1 | 0.10 | 1.00 | 0.37 | J | ug/L | E200.8 | E200.2 | 08/17/15 |
| Cobalt | 1 | 0.025 | 0.50 | 0.42 | J | ug/L | E200.8 | E200.2 | 08/17/15 |
| Copper | 1 | 0.50 | 2.00 | 2.78 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Iron | 1 | 10.0 | 100 | 849 | | ug/L | E200.7 | E200.2 | 08/17/15 |
| Lead | 1 | 0.041 | 0.50 | 8.50 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Magnesium | 1 | 50.0 | 500 | 11100 | | ug/L | E200.7 | E200.2 | 08/17/15 |
| Manganese | 1 | 0.50 | 10.0 | 110 | | ug/L | E200.7 | E200.2 | 08/17/15 |
| Mercury | 1 | 0.045 | 0.10 | 0.048 | J | ug/L | E245.1 | METHOD | 08/17/15 |
| Molybdenum | 1 | 0.050 | 1.00 | 1.48 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Nickel | 1 | 0.025 | 0.50 | 1.64 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Potassium | 1 | 100 | 1000 | 2360 | | ug/L | E200.7 | E200.2 | 08/17/15 |
| Selenium | 1 | 0.069 | 0.50 | 0.61 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Silver | 1 | 0.025 | 0.50 | 0.052 | J | ug/L | E200.8 | E200.2 | 08/17/15 |
| Sodium | 1 | 250 | 1000 | 24200 | | ug/L | E200.7 | E200.2 | 08/17/15 |
| Thallium | 1 | 0.025 | 0.20 | 0.037 | J | ug/L | E200.8 | E200.2 | 08/17/15 |
| Vanadium | 1 | 0.025 | 0.50 | 1.28 | | ug/L | E200.8 | E200.2 | 08/17/15 |
| Zinc | 1 | 2.50 | 20.0 | 34.7 | | ug/L | E200.7 | E200.2 | 08/17/15 |

U=Not detected at specified reporting limit
 J=Estimated value below reporting limit
 E=Estimated value above calibration range
 *=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | | | Lab Information | | | |
|--------------------------------------|--|--|--|-------------------------|--|--|--|
| Client Sample ID: APS#2 - 20150814-2 | | | | Lab Sample ID: P285402F | | | |
| Project Name: OMI - Farmington | | | | Date Received: 08/15/15 | | | |
| Sample Date: 08/14/15 | | | | Report Revision No: 0 | | | |
| Sample Time: 10:47 | | | | | | | |
| Type: Grab | | | | | | | |
| Matrix: Water | | | | | | | |

| Analyte | Dilution Factor | DL | RL | Result | Qual | Units | Analysis Method | Prep Method | Date Analyzed |
|-------------------------|-----------------|-------|------|--------|------|-------|-----------------|-------------|---------------|
| Dissolved Metals | | | | | | | | | |
| Aluminum | 1 | 20.0 | 100 | 28.3 | J | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Antimony | 1 | 0.031 | 0.50 | 0.29 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Arsenic | 1 | 0.030 | 0.50 | 0.48 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Barium | 1 | 0.25 | 2.00 | 68.3 | | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Beryllium | 1 | 0.50 | 4.00 | 4.00 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Cadmium | 1 | 0.030 | 0.50 | 0.50 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Calcium | 1 | 200 | 500 | 64000 | | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Chromium | 1 | 0.10 | 1.00 | 0.28 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Cobalt | 1 | 0.025 | 0.50 | 0.15 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Copper | 1 | 0.50 | 2.00 | 0.78 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Iron | 1 | 10.0 | 100 | 25.0 | J | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Lead | 1 | 0.041 | 0.50 | 0.30 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Magnesium | 1 | 50.0 | 500 | 8950 | | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Manganese | 1 | 0.50 | 10.0 | 28.3 | | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Mercury | 1 | 0.045 | 0.10 | 0.060 | J | ug/L | E245.1 | FLDFLT | 08/17/15 |
| Molybdenum | 1 | 0.050 | 1.00 | 1.30 | | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Nickel | 1 | 0.025 | 0.50 | 1.17 | | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Potassium | 1 | 100 | 1000 | 2120 | | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Selenium | 1 | 0.069 | 0.50 | 0.59 | | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Silver | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Sodium | 1 | 250 | 1000 | 17800 | | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Thallium | 1 | 0.025 | 0.20 | 0.20 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Vanadium | 1 | 0.025 | 0.50 | 0.32 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Zinc | 1 | 2.50 | 20.0 | 13.9 | J | ug/L | E200.7 | FLDFLT | 08/17/15 |

U=Not detected at specified reporting limit
 J=Estimated value below reporting limit
 E=Estimated value above calibration range
 *=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | Lab Information |
|--------------------------------|---------------------------|
| Project Name: OMI - Farmington | Method Blank ID: WB1-0816 |
| Sample Date: N/A | Date Received: N/A |
| Sample Time: N/A | Report Revision No: 0 |
| Type: QC | |
| Matrix: Water | |

| Analyte | Dilution Factor | DL | RL | Result | Qual | Units | Analysis Method | Prep Method | Date Analyzed |
|---------------|-----------------|-------|------|--------|------|-------|-----------------|-------------|---------------|
| Metals | | | | | | | | | |
| Aluminum | 1 | 20.0 | 100 | 100 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Antimony | 1 | 0.031 | 0.50 | 0.072 | J | ug/L | E200.8 | E200.2 | 08/17/15 |
| Arsenic | 1 | 0.030 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Barium | 1 | 0.25 | 2.00 | 2.00 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Beryllium | 1 | 0.50 | 4.00 | 4.00 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Cadmium | 1 | 0.030 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Calcium | 1 | 200 | 500 | 500 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Chromium | 1 | 0.10 | 1.00 | 1.00 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Cobalt | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Copper | 1 | 0.50 | 2.00 | 2.00 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Iron | 1 | 10.0 | 100 | 100 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Lead | 1 | 0.041 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Magnesium | 1 | 50.0 | 500 | 500 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Manganese | 1 | 0.50 | 10.0 | 10.0 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Molybdenum | 1 | 0.050 | 1.00 | 0.11 | J | ug/L | E200.8 | E200.2 | 08/17/15 |
| Nickel | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Potassium | 1 | 100 | 1000 | 1000 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Selenium | 1 | 0.069 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Silver | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Sodium | 1 | 250 | 1000 | 1000 | U | ug/L | E200.7 | E200.2 | 08/17/15 |
| Thallium | 1 | 0.025 | 0.20 | 0.20 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Vanadium | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | E200.2 | 08/17/15 |
| Zinc | 1 | 2.50 | 20.0 | 20.0 | U | ug/L | E200.7 | E200.2 | 08/17/15 |

U=Not detected at specified reporting limit
 J=Estimated value below reporting limit
 E=Estimated value above calibration range
 *=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | Lab Information | |
|--------------------------------|--|---------------------------|--|
| Project Name: OMI - Farmington | | Method Blank ID: WB1-0817 | |
| Sample Date: N/A | | Date Received: N/A | |
| Sample Time: N/A | | Report Revision No: 0 | |
| Type: QC | | | |
| Matrix: Water | | | |

| Analyte | Dilution Factor | DL | RL | Result | Qual | Units | Analysis Method | Prep Method | Date Analyzed |
|---------------|-----------------|-------|------|--------|------|-------|-----------------|-------------|---------------|
| Metals | | | | | | | | | |
| Mercury | 1 | 0.045 | 0.10 | 0.056 | J | ug/L | E245.1 | METHOD | 08/17/15 |

U=Not detected at specified reporting limit
 J=Estimated value below reporting limit
 E=Estimated value above calibration range
 *=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | | | Lab Information | | | |
|--------------------------------|--|--|--|----------------------------|--|--|--|
| Project Name: OMI - Farmington | | | | Method Blank ID: WB10-0817 | | | |
| Sample Date: N/A | | | | Date Received: N/A | | | |
| Sample Time: N/A | | | | Report Revision No: 0 | | | |
| Type: QC | | | | | | | |
| Matrix: Water | | | | | | | |

| Analyte | Dilution Factor | DL | RL | Result | Qual | Units | Analysis Method | Prep Method | Date Analyzed |
|-------------------------|-----------------|-------|------|--------|------|-------|-----------------|-------------|---------------|
| Dissolved Metals | | | | | | | | | |
| Aluminum | 1 | 20.0 | 100 | 100 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Antimony | 1 | 0.031 | 0.50 | 0.40 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Arsenic | 1 | 0.030 | 0.50 | 0.039 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Barium | 1 | 0.25 | 2.00 | 2.00 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Beryllium | 1 | 0.50 | 4.00 | 4.00 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Cadmium | 1 | 0.030 | 0.50 | 0.50 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Calcium | 1 | 200 | 500 | 500 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Chromium | 1 | 0.10 | 1.00 | 1.00 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Cobalt | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Copper | 1 | 0.50 | 2.00 | 2.00 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Iron | 1 | 10.0 | 100 | 100 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Lead | 1 | 0.041 | 0.50 | 0.50 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Magnesium | 1 | 50.0 | 500 | 500 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Manganese | 1 | 0.50 | 10.0 | 10.0 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Molybdenum | 1 | 0.050 | 1.00 | 0.10 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Nickel | 1 | 0.025 | 0.50 | 0.028 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Potassium | 1 | 100 | 1000 | 1000 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Selenium | 1 | 0.069 | 0.50 | 0.13 | J | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Silver | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Sodium | 1 | 250 | 1000 | 1000 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |
| Thallium | 1 | 0.025 | 0.20 | 0.20 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Vanadium | 1 | 0.025 | 0.50 | 0.50 | U | ug/L | E200.8 | FLDFLT | 08/17/15 |
| Zinc | 1 | 2.50 | 20.0 | 20.0 | U | ug/L | E200.7 | FLDFLT | 08/17/15 |

U=Not detected at specified reporting limit
 J=Estimated value below reporting limit
 E=Estimated value above calibration range
 *=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | | | Lab Information | | | |
|--------------------------------|--|--|--|---------------------------|--|--|--|
| Project Name: OMI - Farmington | | | | Blank Spike ID: BS10W0817 | | | |
| Type: QC | | | | Report Revision No: 0 | | | |
| Matrix: Water | | | | Dilution Factor: 1 | | | |

| Analyte | Spike Amount | Result | Units | %Recovery | Analysis Method | Prep Method | Date Analyzed |
|---------------|--------------|--------|-------|-----------|-----------------|-------------|---------------|
| Metals | | | | | | | |
| Aluminum | 1000 | 977 | ug/L | 98 | E200.7 | FLDFLT | 08/17/15 |
| Antimony | 20.0 | 19.7 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Arsenic | 20.0 | 19.9 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Barium | 20.0 | 20.0 | ug/L | 100 | E200.8 | FLDFLT | 08/17/15 |
| Beryllium | 1000 | 1050 | ug/L | 105 | E200.7 | FLDFLT | 08/17/15 |
| Cadmium | 20.0 | 19.6 | ug/L | 98 | E200.8 | FLDFLT | 08/17/15 |
| Calcium | 1000 | 1030 | ug/L | 103 | E200.7 | FLDFLT | 08/17/15 |
| Chromium | 20.0 | 19.8 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Cobalt | 20.0 | 19.7 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Copper | 20.0 | 19.9 | ug/L | 100 | E200.8 | FLDFLT | 08/17/15 |
| Iron | 1000 | 1130 | ug/L | 113 | E200.7 | FLDFLT | 08/17/15 |
| Lead | 20.0 | 19.7 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Magnesium | 1000 | 1030 | ug/L | 103 | E200.7 | FLDFLT | 08/17/15 |
| Manganese | 1000 | 1050 | ug/L | 105 | E200.7 | FLDFLT | 08/17/15 |
| Molybdenum | 20.0 | 19.7 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Nickel | 20.0 | 19.9 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Potassium | 10000 | 10400 | ug/L | 104 | E200.7 | FLDFLT | 08/17/15 |
| Selenium | 20.0 | 19.8 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Silver | 10.0 | 9.91 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Sodium | 1000 | 1100 | ug/L | 110 | E200.7 | FLDFLT | 08/17/15 |
| Thallium | 20.0 | 19.8 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Vanadium | 20.0 | 19.9 | ug/L | 99 | E200.8 | FLDFLT | 08/17/15 |
| Zinc | 1000 | 1070 | ug/L | 107 | E200.7 | FLDFLT | 08/17/15 |

*=See case narrative

U=Not detected at specified reporting limit

E=Estimated value above calibration range

J=Estimated value below reporting limit

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | | | Lab Information | | | |
|--------------------------------|--|--|--|--------------------------|--|--|--|
| Project Name: OMI - Farmington | | | | Blank Spike ID: BS1W0816 | | | |
| Type: QC | | | | Report Revision No: 0 | | | |
| Matrix: Water | | | | Dilution Factor: 1 | | | |

| Analyte | Spike Amount | Result | Units | %Recovery | Analysis Method | Prep Method | Date Analyzed |
|---------------|--------------|--------|-------|-----------|-----------------|-------------|---------------|
| Metals | | | | | | | |
| Aluminum | 500 | 478 | ug/L | 96 | E200.7 | E200.2 | 08/17/15 |
| Antimony | 50.0 | 47.1 | ug/L | 94 | E200.8 | E200.2 | 08/17/15 |
| Arsenic | 50.0 | 50.0 | ug/L | 100 | E200.8 | E200.2 | 08/17/15 |
| Barium | 50.0 | 51.0 | ug/L | 102 | E200.8 | E200.2 | 08/17/15 |
| Beryllium | 500 | 509 | ug/L | 102 | E200.7 | E200.2 | 08/17/15 |
| Cadmium | 50.0 | 50.0 | ug/L | 100 | E200.8 | E200.2 | 08/17/15 |
| Calcium | 10000 | 10500 | ug/L | 105 | E200.7 | E200.2 | 08/17/15 |
| Chromium | 50.0 | 50.8 | ug/L | 102 | E200.8 | E200.2 | 08/17/15 |
| Cobalt | 50.0 | 50.7 | ug/L | 101 | E200.8 | E200.2 | 08/17/15 |
| Copper | 50.0 | 49.1 | ug/L | 98 | E200.8 | E200.2 | 08/17/15 |
| Iron | 500 | 528 | ug/L | 106 | E200.7 | E200.2 | 08/17/15 |
| Lead | 50.0 | 49.7 | ug/L | 99 | E200.8 | E200.2 | 08/17/15 |
| Magnesium | 10000 | 10200 | ug/L | 102 | E200.7 | E200.2 | 08/17/15 |
| Manganese | 500 | 482 | ug/L | 96 | E200.7 | E200.2 | 08/17/15 |
| Molybdenum | 50.0 | 48.1 | ug/L | 96 | E200.8 | E200.2 | 08/17/15 |
| Nickel | 50.0 | 50.5 | ug/L | 101 | E200.8 | E200.2 | 08/17/15 |
| Potassium | 5000 | 4940 | ug/L | 99 | E200.7 | E200.2 | 08/17/15 |
| Selenium | 50.0 | 48.9 | ug/L | 98 | E200.8 | E200.2 | 08/17/15 |
| Silver | 25.0 | 23.4 | ug/L | 94 | E200.8 | E200.2 | 08/17/15 |
| Sodium | 10000 | 9930 | ug/L | 99 | E200.7 | E200.2 | 08/17/15 |
| Thallium | 50.0 | 51.3 | ug/L | 103 | E200.8 | E200.2 | 08/17/15 |
| Vanadium | 50.0 | 50.9 | ug/L | 102 | E200.8 | E200.2 | 08/17/15 |
| Zinc | 500 | 507 | ug/L | 101 | E200.7 | E200.2 | 08/17/15 |

*=See case narrative

U=Not detected at specified reporting limit

E=Estimated value above calibration range

J=Estimated value below reporting limit

CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

Lab Name: CH2M HILL ASL

ASL SDG#: P2854

Project: OMI - Farmington

Project #: 402544.A6.16.00.00

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All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

Method(s):

E335.4

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | | | Lab Information | | | |
|--------------------------------|--|--|--|-------------------------|--|--|--|
| Project Name: OMI - Farmington | | | | Lab Batch ID: P2854 | | | |
| Date Received: 08/15/15 | | | | Analysis Method: E335.4 | | | |
| Type: See C.O.C. | | | | Units: mg/L | | | |
| Matrix: Water | | | | Report Revision No.: 0 | | | |

| Client Sample ID | Lab Sample ID | Dilution Factor | DL | Cyanide, Total RL | Result | Qualifier | Date Analyzed |
|--------------------------|---------------|-----------------|--------|-------------------|--------|-----------|---------------|
| General Chemistry | | | | | | | |
| APS#2 - 20150814-3 | P285403 | 1 | 0.0015 | 0.0050 | 0.0050 | U | 08/17/15 |
| WB1-081715 | WB1-081715 | 1 | 0.0015 | 0.0050 | 0.0050 | U | 08/17/15 |

U=Not detected at specified reporting limit
 J=Estimated value below reporting limit
 E=Estimated value above calibration range
 *=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

| Client Information | | | | Lab Information | | | |
|--------------------------------|--|--|--|------------------------|--|--|--|
| Project Name: OMI - Farmington | | | | Lab Batch ID: P2854 | | | |
| Type: QC | | | | Report Revision No.: 0 | | | |
| Matrix: Water | | | | | | | |

| LCS ID | Analyte | Spike Amount | Sample Result | Units | % Recovery | Analysis Method | Date Analyzed |
|--------------------------|----------------|--------------|---------------|-------|------------|-----------------|---------------|
| General Chemistry | | | | | | | |
| BS1W0817 | Cyanide, Total | 0.10 | 0.091 | mg/L | 91 | E335.4 | 08/17/15 |

*=See case narrative

U=Not detected at specified reporting limit

E=Estimated value above calibration range

J=Estimated value below reporting limit



SDG ID: P2854

Date Received: 8/15/2015

Client/Project: OMI Farmington

Received By: PC

| | | | |
|--|---|---|--|
| Were custody seals intact and on the outside of the cooler? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Shipping Record: | <input type="checkbox"/> Hand Delivered | <input checked="" type="checkbox"/> On File | <input type="checkbox"/> COC |
| Radiological Screening for DoD | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| Packing Material: | <input type="checkbox"/> Hand Delivered | <input checked="" type="checkbox"/> Ice | <input type="checkbox"/> Blue Ice <input type="checkbox"/> Box |
| Temp OK? (<6C) Therm ID: TH173 Exp. | 0.1 °C | <input type="checkbox"/> Yes | <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Was a Chain of Custody (CoC) Provided? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Was the CoC correctly filled out (If No, document below) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Did sample labels agree with COC? (If No, document below) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Did the CoC list a correct bottle count and the preservative types (No=Correct on CoC) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Were the sample containers in good condition (broken or leaking)? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Was enough sample volume provided for analysis? (If No, document below) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Containers supplied by ASL? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Any sample with < 1/2 holding time remaining? If so contact LPM | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |
| Samples have multi-phase? If yes, document on SRER | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |
| All water VOCs free of air bubbles? No, document on SRER | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| pH of all samples met criteria on receipt? If "No", preserve and document below. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Dissolved/Soluble metals filtered in the field? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Dissolved/Soluble metals have sediment in bottom of container? If so document below. | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |

Preservation Adjustment

| Sample ID | Reagent | Reagent Lot Number | Volume Added | Initials/Time | 24 hour pH check Initials/Time |
|-----------|---------|--------------------|--------------|---------------|--------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |

Did pH of all metals samples preserved upon receipt meet criteria 24 hours after preservation? Yes No

Sample Exception Report (The following exceptions were noted)

Client was notified on: _____ Client contact: _____

Resolution to Exception: