



## TABLE OF CONTENTS FOR QC III+ DATA PACKAGE

LABORATORY IDENTIFICATION NUMBER: 1510580

### SECTION 1.

3440 South 700 West  
Salt Lake City, UT 84119

CASE NARRATIVE  
CHAIN-OF-CUSTODIES

### SECTION 2.

Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)

ANALYTICAL REPORTS

### SECTION 3.

web: [www.awal-labs.com](http://www.awal-labs.com)

BATCH QC REPORTS

### SECTION 4.

Kyle F. Gross  
Laboratory Director

INSTRUMENT QC SUMMARIES

Jose Rocha  
QA Officer

### SECTION 5.

LOGBOOKS, RUNLOGS AND RAW DATA PER  
ANALYSIS

Assembled by:

Reviewed by:

**Melissa  
Connolly**  
Digitally signed by Melissa  
Connolly  
DN: cn=Melissa Connolly,  
o=American West Analytical  
Laboratories, ou,  
email=melissa@awal-labs.com,  
c=US  
Date: 2015.12.02 10:26:31 -07'00'

**Kyle F.  
Gross**  
Digitally signed  
by Kyle F. Gross  
Date: 2015.12.02  
12:28:29 -07'00'



## SECTION 1.

- ❑ CASE NARRATIVE
- ❑ AWAL CHAIN-OF-CUSTODY
- ❑ CLIENT CHAIN-OF-CUSTODY

3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)

web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

Jim Harris  
Utah Division of Water Quality  
PO Box 144870  
SLC, UT 84114  
TEL: (801) 538-6329

RE: San Juan

Dear Jim Harris:

Lab Set ID: 1510580

American West Analytical Laboratories received sample(s) on 10/28/2015 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by:

**Kyle F. Gross**  
Digitally signed  
by Kyle F. Gross  
Date:  
2015.12.02  
12:28:54 -07'00'

Laboratory Director or designee

# American West Analytical Laboratories

D

## WORK ORDER SUMMARY

Work Order: **1510580** Page 1 of 5

**Client:** Utah Division of Water Quality

**Client ID:** UTD200

**Contact:** Jim Harris

**Project:** San Juan

**QC Level:** III+

**Comments:** Email to lenoras@utah.gov, cc: Brad Martin. QC 3+, Samples for Dissolved Metals and Dissolved TOC were field filtered. Dissolved TOC is on Fraction E of Sample #s 1, 3, 5 and 7. cc: Brad Martin. Email to lenoras@utah.gov;

**WO Type:** Standard

DB

| Sample ID    | Client Sample ID | Collected Date   | Received Date    | Test Code   | Matrix   | Sel Storage      |
|--------------|------------------|------------------|------------------|---|----------|------------------|
| 1510580-001A | SJMC-SW          | 10/26/2015 1400h | 10/28/2015 1130h | 200.7-W<br>6 SEL Analytes: AL CA FE MG K NA                           | Aqueous  | df - metals<br>1 |
|              |                  |                  |                  | 200.7-W-PR  |          | df - metals      |
|              |                  |                  |                  | 200.8-W   |          | df - metals      |
|              |                  |                  |                  | 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN |          |                  |
|              |                  |                  |                  | 200.8-W-PR  |          | df - metals      |
|              |                  |                  |                  | HARD-2340B  |          | df - metals      |
|              |                  |                  |                  | HG-DW-245.1   |          | df - metals      |
|              |                  |                  |                  | HG-DW-PR  |          | df - metals      |
|              |                  |                  |                  | 200.7-DIS   |          | df - dis metals  |
|              |                  |                  |                  | 6 SEL Analytes: AL CA FE MG K NA                                      |          |                  |
|              |                  |                  |                  | 200.7-DIS-PR  |          | df - dis metals  |
|              |                  |                  |                  | 200.8-DIS   |          | df - dis metals  |
|              |                  |                  |                  | 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN |          |                  |
|              |                  |                  |                  | 200.8-DIS-PR  |          | df - dis metals  |
|              |                  |                  |                  | HG-DW-DIS-245.1   |          | df - dis metals  |
|              |                  |                  |                  | HG-DW-DIS-PR  |          | df - dis metals  |
|              |                  |                  |                  | 300.0-W   |          | df - alk         |
|              |                  |                  |                  | 2 SEL Analytes: CL SO4  |          |                  |
|              |                  |                  |                  | ALK-W-2320B   |          | df - alk         |
|              |                  |                  |                  | 3 SEL Analytes: ALK ALKB ALKC   |          |                  |
|              |                  |                  |                  | NO2/NO3-W-353.2   |          | df - alk         |
|              |                  |                  |                  | TSS-W-2540D   |          | df - alk         |
|              |                  |                  |                  | TOC-W-5310B   |          | df - toc         |
|              |                  |                  |                  | TOC-W-5310B   |          | df - dis toc     |
|              |                  |                  |                  | 1 SEL Analytes: TOC   |          |                  |
|              |                  |                  |                  | 3051A-ICPMS-PR  | Sediment | df - metals<br>1 |
|              |                  |                  |                  | 6010C-S   |          | df - metals      |
|              |                  |                  |                  | 6 SEL Analytes: AL CA FE MG K NA                                      |          |                  |

1510580-001D  
1510580-001E

1510580-002A

Printed: 10/29/2015 FOR LABORATORY USE ONLY (fill out on page 1):  
 %M  RT  CN  TAT  QC  HOK  HOK  HOK  HOK  
 COC Emailled: SB 10/29/15  
 to Rachel Ireland



**WORK ORDER SUMMARY**

Work Order: **1510580**

Client: Utah Division of Water Quality

Due Date: 11/11/2015

| Sample ID    | Client Sample ID  | Collected Date   | Received Date    | Test Code   | Matrix   | Sel | Storage         |
|--------------|---|------------------|------------------|---|----------|-----|-----------------|
| 1510580-004A | SJBB-SW - Sediment  | 10/26/2015 1615h | 10/28/2015 1130h | 6020-S<br>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN | Sediment |     | df - metals     |
|              | HG-S-7471B  |                  |                  |   |          |     | df - metals     |
|              | HG-S-PR-B   |                  |                  |   |          |     | df - metals     |
|              | PMOISI  |                  |                  |   |          |     | df - metals     |
| 1510580-005A | SJCH-SW   | 10/27/2015 1445h | 10/28/2015 1130h | 200.7-W<br>6 SEL Analytes: AL CA FE MG K NA                                     | Aqueous  |     | df - metals     |
|              | 200.7-W-PR  |                  |                  |   |          |     | df - metals     |
|              | 200.8-W   |                  |                  |   |          |     | df - metals     |
|              | 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN |                  |                  |   |          |     | df - metals     |
|              | 200.8-W-PR  |                  |                  |   |          |     | df - metals     |
|              | HARD-2340B  |                  |                  |   |          |     | df - metals     |
|              | HG-DW-245.1   |                  |                  |   |          |     | df - metals     |
|              | HG-DW-PR  |                  |                  |   |          |     | df - metals     |
|              | 200.7-DIS   |                  |                  |   |          |     | df - dis metals |
|              | 6 SEL Analytes: AL CA FE MG K NA                                      |                  |                  |   |          |     | df - dis metals |
| 1510580-005B | 200.7-DIS-PR  |                  |                  |   |          |     | df - dis metals |
|              | 200.8-DIS   |                  |                  |   |          |     | df - dis metals |
|              | 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN |                  |                  |   |          |     | df - dis metals |
|              | 200.8-DIS-PR  |                  |                  |   |          |     | df - dis metals |
|              | HG-DW-DIS-245.1   |                  |                  |   |          |     | df - dis metals |
|              | HG-DW-DIS-PR  |                  |                  |   |          |     | df - dis metals |
|              | 300.0-W   |                  |                  |   |          |     | df - alk        |
|              | 2 SEL Analytes: CL SO4  |                  |                  |   |          |     | df - alk        |
|              | ALK-W-2320B   |                  |                  |   |          |     | df - alk        |
|              | 3 SEL Analytes: ALK ALKB ALKC   |                  |                  |   |          |     | df - alk        |
|              | N02/N03-W-353.2   |                  |                  |   |          |     | df - alk        |
|              | TSS-W-2540D   |                  |                  |   |          |     | df - toe        |
|              | TOC-W-5310B   |                  |                  |   |          |     | df - dis toc    |
|              | TOC-W-5310B   |                  |                  |   |          |     | df - dis toc    |
|              | 1 SEL Analytes: TOC   |                  |                  |   |          |     | df - dis toc    |
| 1510580-006A | SJCH-SW - Sediment  | 10/27/2015 1445h | 10/28/2015 1130h | 3051A-ICPMS-PR<br>6010C-S<br>6 SEL Analytes: AL CA FE MG K NA                   | Sediment |     | df - metals     |
|              | 6010C-S   |                  |                  |   |          |     | df - metals     |

# WORK ORDER SUMMARY

Work Order: **1510580**

Page 4 of 5

Client: Utah Division of Water Quality

Due Date: 11/11/2015

| Sample ID    | Client Sample ID  | Collected Date   | Received Date    | Test Code   | Matrix   | Sel             | Storage |
|--------------|---|------------------|------------------|---|----------|-----------------|---------|
| 1510580-006A | SJCH-SW - Sediment  | 10/27/2015 1445h | 10/28/2015 1130h | 6020-S<br>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN | Sediment | df - metals     | 1       |
|              | HG-S-7471B  |                  |                  |   |          | df - metals     |         |
|              | HG-S-PR-B   |                  |                  |   |          | df - metals     |         |
|              | PMOIST  |                  |                  |   |          | df - metals     |         |
| 1510580-007A | <b>Dup</b>  | 10/27/2015 1500h | 10/28/2015 1130h | 200.7-W<br>6 SEL Analytes: AL CA FE MG K NA                                     | Aqueous  | df - metals     | 1       |
|              | 200.7-W-PR  |                  |                  |   |          | df - metals     |         |
|              | 200.8-W   |                  |                  |   |          | df - metals     |         |
|              | 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN |                  |                  |   |          | df - metals     |         |
|              | 200.8-W-PR  |                  |                  |   |          | df - metals     |         |
|              | HARD-2340B  |                  |                  |   |          | df - metals     |         |
|              | HG-DW-245.1   |                  |                  |   |          | df - metals     |         |
|              | HG-DW-PR  |                  |                  |   |          | df - metals     |         |
| 1510580-007B | <b>Dup</b>  |                  |                  | 200.7-DIS<br>6 SEL Analytes: AL CA FE MG K NA                                   |          | df - dis metals |         |
|              | 200.7-DIS-PR  |                  |                  |   |          | df - dis metals |         |
|              | 200.8-DIS   |                  |                  |   |          | df - dis metals |         |
|              | 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE<br>AG TL V ZN |                  |                  |   |          | df - dis metals |         |
|              | 200.8-DIS-PR  |                  |                  |   |          | df - dis metals |         |
|              | HG-DW-DIS-245.1   |                  |                  |   |          | df - dis metals |         |
|              | HG-DW-DIS-PR  |                  |                  |   |          | df - dis metals |         |
| 1510580-007C | <b>Dup</b>  |                  |                  | 300.0-W<br>2 SEL Analytes: CL SO4   |          | df - alk        |         |
|              | ALK-W-2320B   |                  |                  |   |          | df - alk        |         |
|              | 3 SEL Analytes: ALK ALKB ALKC   |                  |                  |   |          | df - alk        |         |
|              | NO2/NO3-W-353.2   |                  |                  |   |          | df - alk        |         |
|              | TSS-W-2540D   |                  |                  |   |          | df - toc        |         |
| 1510580-007D | <b>Dup</b>  |                  |                  | TOC-W-5310B   |          | df - dis toc    | 3       |
| 1510580-007E | <b>Dup</b>  |                  |                  | TOC-W-5310B<br>1 SEL Analytes: TOC  |          | df - dis toc    |         |
| 1510580-008A | <b>Dup - Sediment</b>   | 10/27/2015 1500h | 10/28/2015 1130h | 3051A-ICPMS-PR<br>6010C-S<br>6 SEL Analytes: AL CA FE MG K NA                   | Sediment | df - metals     | 1       |
|              | 6010C-S   |                  |                  |   |          | df - metals     |         |

Printed: 10/29/2015

FOR LABORATORY USE ONLY (fill out on page 1):

%M  RT  CN  TAT  QC

HOK

HOK  COC Emailed

**WORK ORDER SUMMARY**

Work Order: **1510580** Page 5 of 5

Client: Utah Division of Water Quality

Due Date: 11/11/2015

| Sample ID   | Client Sample ID | Collected Date   | Received Date    | Test Code | Matrix   | Sel Storage |
|---|------------------|------------------|------------------|-----------|----------|-------------|
| 1510580-008A  | Dup - Sediment   | 10/27/2015 1500h | 10/28/2015 1130h | 6020-S    | Sediment | df - metals |
| 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE |                  |                  |                  |           |          |             |
| AG TL V ZN  |                  |                  |                  |           |          |             |
| HG-S-747IB  |                  |                  |                  |           |          |             |
| df - metals   |                  |                  |                  |           |          |             |
| HG-S-PR-B   |                  |                  |                  |           |          |             |
| df - metals   |                  |                  |                  |           |          |             |
| PMOIST  |                  |                  |                  |           |          |             |
| df - metals   |                  |                  |                  |           |          |             |





**American West Analytical Laboratories**  
 3440 S. 700 W. Salt Lake City, UT 84119  
 Phone # (801) 263-6686 Toll Free # (888) 263-6686  
 Fax # (801) 263-6687 Email awal@awal-labs.com  
 www.awal-labs.com

**CHAIN OF CUSTODY**

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analytical lists and reporting limits (PCL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

Page 1510580 of AWAL Lab Sample Set #

Client: STATE OF UTAH Address: \_\_\_\_\_ Contact: \_\_\_\_\_ Phone #: \_\_\_\_\_ Cell #: \_\_\_\_\_ Email: \_\_\_\_\_ Project Name: SAN JUAN Project #: \_\_\_\_\_ PO #: \_\_\_\_\_ Sampler Name: \_\_\_\_\_

| Sample ID:      | Date Sampled    | Time Sampled | # of Containers | QC Level: |          |          |           | Turn Around Time: |          |          |          |          | Unless other arrangements have been made, signed reports will be emailed by <b>5:00 pm</b> on the day they are due. | Due Date: |
|-----------------|-----------------|--------------|-----------------|-----------|----------|----------|-----------|-------------------|----------|----------|----------|----------|---|-----------|
|                 |                 |              |                 | 1         | 2        | 3        | 3+        | 1                 | 2        | 3        | 4        | 5        |   |           |
| <u>SSMC-SW</u>  | <u>10/26/15</u> | <u>1400</u>  | <u>10</u>       | <u>1</u>  | <u>1</u> | <u>3</u> | <u>3+</u> | <u>1</u>          | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>Stnd</u>   |           |
| <u>SS BB-SW</u> | <u>10/26/15</u> | <u>1615</u>  | <u>10</u>       | <u>1</u>  | <u>1</u> | <u>3</u> | <u>3+</u> | <u>1</u>          | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>Stnd</u>   |           |
| <u>SS CH-SW</u> | <u>10/27/15</u> | <u>1445</u>  | <u>10</u>       | <u>1</u>  | <u>1</u> | <u>3</u> | <u>3+</u> | <u>1</u>          | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>Stnd</u>   |           |
| <u>(Dup) SS</u> | <u>10/27/15</u> | <u>1500</u>  | <u>10</u>       | <u>1</u>  | <u>1</u> | <u>3</u> | <u>3+</u> | <u>1</u>          | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>Stnd</u>   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |
|                 |                 |              |                 |           |          |          |           |                   |          |          |          |          |   |           |

Requisitioned by: [Signature] Signature Date: 10/28/15 Time: 11:30  
 Relinquished by: Ryan Morahan Signature Date: 10/28/15 Time: 11:30

Received by: [Signature] Signature Date: 10/28/15 Time: 11:30  
 Relinquished by: Denise Brown Signature Date: 10/28/15 Time: 11:30

Print Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Signature \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Signature \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Signature \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Signature \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Laboratory Use Only**  
 Samples Were:  
 1 Shipped or Hand Delivered (checked)  
 2 Ambient or Chilled 1.8 °C  
 3 Temperature 1.8 °C  
 4 Received Broken/Leaking (Improperly Sealed) (checked)  
 5 Properly Preserved (checked) Y N Checked at bench  
 6 Received Within (checked) Washing Times Y N  
 COC Taps Was:  
 1 Present on Outer Package (checked) Y N NA  
 2 Unbroken on Outer Package (checked) Y N NA  
 3 Present on Sample (checked) Y N NA  
 4 Unbroken on Sample (checked) Y N NA  
 Discrepancies Between Sample Labels and COC Records: (checked) Y N

Special Instructions:  
 \* TSS added per Rachel Ireland - DB 10/29/15  
 \*\* TOC per Rachel Ireland - DB 10/29/15

**QAPP WORKSHEET #15: SCREENING LEVELS AND LABORATORY-SPECIFIC DETECTION/QUANTITATION LIMITS (SURFACE WATER)**

This Worksheet lists the Screening levels, laboratory-specific quantitation limits and laboratory-specific detection limits for each of the analytes being monitored. As shown in the table below, screening values (SVs) have been established by Utah DEQ. These SVs are included in Table 2 below and can be found here

<http://www.deq.utah.gov/Topics/Water/goldkingmine/docs/2015/08Aug/StatementEvaluationSJR81915%20Final.pdf>. Sources for the SVs are listed on this web page.

Matrix: Surface Water (total and dissolved)

Analytical Method: Metals by 200.7/200.8 and 245.1

Concentration level (if applicable): Low

| Metals Analyte (mg/L) | Screening Levels (SLs) | SL Reference   | Laboratory-specific quantitation limit <sup>1</sup> | Laboratory-specific detection limit <sup>2</sup> |
|-----------------------|------------------------|----------------|---|--|
| Aluminum              | See Table 15-1         | See Table 15-1 | 1.0/0.1 <sup>3</sup>                                | 0.237/0.0237 <sup>3</sup>                        |
| <i>Antimony</i>       |                        |                | 0.002   | 0.0000366  |
| <i>Arsenic</i>        |                        |                | 0.002   | 0.000092   |
| <i>Barium</i>         |                        |                | 0.01/0.002  | 0.00269/0.000538                                 |
| <i>Beryllium</i>      |                        |                | 0.002   | 0.0000288  |
| <i>Cadmium</i>        |                        |                | 0.0005  | 0.000193   |
| Calcium               |                        |                | 10.0/1.0  | 0.401/0.0401                                     |
| <i>Chromium</i>       |                        |                | 0.002   | 0.00154  |
| <i>Cobalt</i>         |                        |                | 0.004   | 0.0000434  |
| <i>Copper</i>         |                        |                | 0.002   | 0.000692   |
| <i>Iron</i>           |                        |                | 0.1   | 0.0767   |
| <i>Lead</i>           |                        |                | 0.002   | 0.000264   |
| Magnesium             |                        |                | 10.0/1.0  | 0.294/0.0294                                     |
| <i>Manganese</i>      |                        |                | 0.01/0.002  | 0.00764/0.00153                                  |
| Mercury               |                        |                | 0.00015   | 0.00000892                                       |
| <i>Molybdenum</i>     |                        |                | 0.002   | 0.000206   |
| <i>Nickel</i>         |                        |                | 0.002   | 0.000754   |
| Potassium             |                        |                | 1.0   | 0.247  |
| <i>Selenium</i>       |                        |                | 0.002   | 0.0000634  |
| <i>Silver</i>         |                        |                | 0.002   | 0.0000244  |

<sup>1</sup> Laboratory PQL, see Appendix A

<sup>2</sup> Laboratory MDL, see Appendix A

<sup>3</sup> When two values are listed, the first is that for total metals and the second is that for dissolved metals.

*Italics* metals are run by method 200.8. Other metals will be analyzed by 200.7. Mercury will be analyzed by 245.1

| Metals Analyte (mg/L) | Screening Levels (SLs) | SL Reference | Laboratory-specific quantitation limit <sup>1</sup> | Laboratory-specific detection limit <sup>2</sup> |
|-----------------------|------------------------|--------------|---|--|
| Sodium                |                        |              | 10.0/1.0  | 0.33/0.033                                       |
| <i>Thallium</i>       |                        |              | 0.002   | 0.0000242  |
| <i>Vanadium</i>       |                        |              | 0.0044  | 0.000438   |
| <i>Zinc</i>           |                        |              | 0.005   | 0.00476  |

Matrix: Sediments

Analytical Method: Metals by 6020A/6010C and 7471B

Concentration level (if applicable): Low

| Metals Analyte (mg/kg) | Screening Levels (SLs) | SL Reference <sup>4</sup> | Laboratory-specific quantitation limit <sup>5</sup> | Laboratory-specific detection limit <sup>6</sup> |
|------------------------|------------------------|---------------------------|---|--|
| Aluminum               | 14,000                 | Eco                       | 10  | 1.72   |
| <i>Antimony</i>        | 12                     | Eco                       | 4   | 0.3635   |
| <i>Arsenic</i>         | 0.68                   | Human health              | 2.5   | 0.081  |
| <i>Barium</i>          | 48                     | Eco                       | 4.5   | 2.705  |
| <i>Beryllium</i>       | 160                    | Human health              | 2   | 0.00595  |
| <i>Cadmium</i>         | 0.99                   | Eco                       | 0.85  | 0.01685  |
| Calcium                | -                      |                           | 100   | 2.37   |
| <i>Chromium</i>        | 43.4                   | Eco                       | 10  | 2.43   |
| <i>Cobalt</i>          | 23                     | Human health              | 1.35  | 0.152  |
| <i>Copper</i>          | 31.6                   | Eco                       | 15.5  | 1.535  |
| Iron                   | 20,000                 | Eco                       | 5   | 1.14   |
| <i>Lead</i>            | 35.8                   | Eco                       | 6.5   | 2.995  |
| Magnesium              | -                      |                           | 100   | 10.5   |
| <i>Manganese</i>       | 460                    | Eco                       | 4   | 0.67   |
| <i>Mercury</i>         | 0.174                  | Eco                       | 0.04  | 0.00135  |
| <i>Molybdenum</i>      | 8.3                    | Eco                       | 20  | 0.356  |
| <i>Nickel</i>          | 22.7                   | Eco                       | 20  | 2.185  |
| Potassium              | 55                     | Human health              | 100   | 20.3   |
| <i>Selenium</i>        | 0.9                    | Eco                       | 8.5   | 0.545  |

<sup>4</sup> SLs are the lowest values of risk screening criteria for human health (i.e., EPA Regional Screening Levels for Residential Soil and selected ecological screening levels). See Table 15-2 for references for selected Ecological Screening Levels.

<sup>5</sup> Laboratory PQL, see Appendix A

<sup>6</sup> Laboratory MDL, see Appendix A

Italics metals are run by Method 6020A. Other metals will be analyzed by Method 6010C. Mercury will be analyzed by Method 7471B.

| <b>Metals Analyte (mg/kg)</b> | <b>Screening Levels (SLs)</b> | <b>SL Reference<sup>4</sup></b> | <b>Laboratory-specific quantitation limit<sup>5</sup></b> | <b>Laboratory-specific detection limit<sup>6</sup></b> |
|-------------------------------|-------------------------------|---------------------------------|---|--|
| <i>Silver</i>                 | 0.5                           | Eco                             | 1.5   | 0.0224   |
| Sodium                        | -                             |                                 | 100   | 7.71   |
| <i>Thallium</i>               | 0.78                          | Human health                    | 4   | 0.00505  |
| <i>Vanadium</i>               | 27.3                          | Eco                             | 10  | 0.515  |
| <i>Zinc</i>                   | 121                           | Eco                             | 50  | 5.05   |

If the laboratory cannot meet the quantitation limits in this worksheet due to matrix interferences or high levels of non-COCs, UDEQ and TechLaw must be immediately notified.

For any compound where the quantitation limit exceeds the screening level, further evaluation of that compound will be conducted in the risk assessment.

Lab Set ID: 1510580

Preservation Check Sheet

Sample Set Extension and pH

| Analysis                          | Preservative                         | -001 | -003 | -005 | -007 |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|--------------------------------------|------|------|------|------|--|--|--|--|--|--|--|--|--|--|
| Ammonia                           | pH <2 H <sub>2</sub> SO <sub>4</sub> |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| COD                               | pH <2 H <sub>2</sub> SO <sub>4</sub> |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| Cyanide                           | pH >12<br>NaOH                       |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| Metals                            | pH <2 HNO <sub>3</sub>               | yes  | yes  | yes  | yes  |  |  |  |  |  |  |  |  |  |  |
| NO <sub>2</sub> & NO <sub>3</sub> | pH <2 H <sub>2</sub> SO <sub>4</sub> |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| O & G                             | pH <2 HCL                            |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| Phenols                           | pH <2 H <sub>2</sub> SO <sub>4</sub> |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| Sulfide                           | pH > 9NaOH,<br>Zn Acetate            |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| TKN                               | pH <2 H <sub>2</sub> SO <sub>4</sub> |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
| T PO <sub>4</sub>                 | pH <2 H <sub>2</sub> SO <sub>4</sub> |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|                                   |                                      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |

- Procedure:
- 1) Pour a small amount of sample in the sample lid
  - 2) Pour sample from Lid gently over wide range pH paper
  - 3) Do Not dip the pH paper in the sample bottle or lid
  - 4) If sample is not preserved, properly list its extension and receiving pH in the appropriate column above
  - 5) Flag COC, notify client if requested
  - 6) Place client conversation on COC
  - 7) Samples may be adjusted

Frequency: All samples requiring preservation

- \* The sample required additional preservative upon receipt.
- + The sample was received unpreserved.
- ▲ The sample was received unpreserved and therefore preserved upon receipt.
- # The sample pH was unadjustable to a pH < 2 due to the sample matrix.
- The sample pH was unadjustable to a pH > \_\_\_ due to the sample matrix interference.



# Inorganic Case Narrative

**Client:** Utah Division of Water Quality  
**Contact:** Jim Harris  
**Project:** San Juan  
**Lab Set ID:** 1510580

3440 South 700 West  
 Salt Lake City, UT 84119

Phone: (801) 263-8686  
 Toll Free: (888) 263-8686  
 Fax: (801) 263-8687  
 e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)

web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
 Laboratory Director

Jose Rocha  
 QA Officer

## Sample Receipt Information:

**Date of Receipt:** 10/28/2015  
**Dates of Collection:** 10/26-10/27/2015  
**Sample Condition:** Intact  
**C-O-C Discrepancies:** None

**Holding Time and Preservation Requirements:** The analysis and preparation of all samples were performed within the method holding times. All samples were properly preserved.

**Preparation and Analysis Requirements:** The samples were analyzed following the methods stated on the analytical reports.

**Analytical QC Requirements:** All instrument calibration and calibration check requirements were met. All internal standard recoveries met method criterion.

**Batch QC Requirements:** MB, LCS, MS, MSD, RPD, DUP, PDS, SD:

**Method Blanks (MBs):** No target analytes were detected above the reporting limits, indicating that the procedure was free from contamination. Sodium and Magnesium on MB-40012, Sodium on MB-40016, Lead on MB-40017, Calcium and Aluminum on MB-40040, and Iron on MB-40202 were observed between the MDL and reporting limit.

**Laboratory Control Sample (LCSs):** All LCS recoveries were within control limits, indicating that the preparation and analysis were in control.

**Matrix Spike / Matrix Spike Duplicate (MS/MSD):** All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, with the following exceptions:

| Sample ID    | Analyte   | QC         | Explanation  |
|--------------|-----------|------------|--|
| 1510563-007A | Aluminum  | MS/MSD     | High analyte concentration                               |
| 1510563-007A | Antimony  | MS/MSD     | Sample matrix interference                               |
| 1510563-007A | Arsenic   | MSD        | Sample matrix interference                               |
| 1510563-007A | Barium    | MS/MSD/RPD | Sample matrix interference and/or sample non-homogeneity |
| 1510563-007A | Calcium   | MS         | High analyte concentration                               |
| 1510563-007A | Iron      | MS/MSD     | High analyte concentration                               |
| 1510563-007A | Magnesium | MS         | High analyte concentration                               |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)

web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

|              |                                  |            |                                  |
|--------------|----------------------------------|------------|----------------------------------|
| 1510563-007A | Manganese                        | MS/MSD/RPD | High analyte concentration       |
| 1510563-007A | Molybdenum                       | MS/MSD     | Sample matrix interference       |
| 1510563-007A | Selenium                         | MS/MSD     | Sample matrix interference       |
| 1510580-001A | Aluminum                         | MS/MSD     | High analyte concentration       |
| 1510580-001A | Antimony                         | MS/MSD     | Sample matrix interference       |
| 1510580-001A | Iron                             | MS         | High analyte concentration       |
| 1510580-001A | Molybdenum                       | MS/MSD     | Sample matrix interference       |
| 1510580-001B | Calcium                          | MS/MSD     | High analyte concentration       |
| 1510580-001E | Total, Organic Carbon, Dissolved | MS/MSD     | Suspected sample non-homogeneity |
| 1510580-002A | Aluminum                         | MS/MSD     | High analyte concentration       |
| 1510580-002A | Barium                           | MS/MSD     | High analyte concentration       |
| 1510280-002A | Calcium                          | MS         | High analyte concentration       |
| 1510280-002A | Iron                             | MS/MSD     | High analyte concentration       |
| 1510280-002A | Magnesium                        | MS         | High analyte concentration       |

**Duplicate (DUP):** The parameters that require a duplicate analysis had RPDs within the control limits, with the following exceptions: the RPDs were outside of the control limits on samples 1510561-018A and 1510566-012A for Total Suspended Solids due to suspected sample non-homogeneity or matrix interference.

**Post Digestion Spike (PDS):** The PDS percent recoveries were within the control limits, with the following exceptions: the PDS percent recoveries for Aluminum, Calcium, and Iron on sample 1510563-007APDS, for Aluminum, Calcium, Iron, Potassium, and Sodium on sample 1510580-001APDS, for Calcium, Magnesium, Potassium, and Sodium on sample 1510580-001BPDS, for Aluminum, Calcium, iron, Magnesium, Potassium, and Sodium on sample 1510580-002APDS were outside of the control limits due to sample matrix interference.

**Serial Dilution (SD):** The serial dilution RPDs were within the control limits, with the following exceptions: The RPDs for Antimony, Molybdenum, Selenium, Silver, and Thallium on sample 1510563-007A5X, for Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Mercury, Molybdenum, Selenium, Silver, Thallium, Vanadium, and Zinc on sample 1510580-001B5X and for Antimony, Mercury, Molybdenum, Selenium, and Silver on 1510580-002A5X were outside of the control limits due to low analyte concentration. The RPD for Iron on sample 1510580-002A5X was outside of the control limit due to sample matrix interference. The analyte concentrations for Antimony, Cadmium, Molybdenum, Selenium, and Silver on sample 1510580-001A5X were too low for serial dilution evaluation.

**Corrective Action:** None required.



## SAMPLE SUMMARY

**Client:** Utah Division of Water Quality  
**Project:** San Juan  
**Lab Set ID:** 1510580  
**Date Received:** 10/28/2015 1130h

**Contact:** Jim Harris

3440 South 700 West  
Salt Lake City, UT 84119  
  
Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)  
web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director  
  
Jose Rocha  
QA Officer

| Lab Sample ID | Client Sample ID   | Date Collected   | Matrix   | Analysis                                   |
|---------------|--------------------|------------------|----------|--|
| 1510580-001A  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Mercury, Drinking Water                    |
| 1510580-001A  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | ICP Metals, Total                          |
| 1510580-001A  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Hardness                                   |
| 1510580-001A  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | ICPMS Metals, Total                        |
| 1510580-001B  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | ICPMS Metals, Dissolved                    |
| 1510580-001B  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | ICP Metals, Dissolved                      |
| 1510580-001B  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Mercury, Drinking Water Dissolved          |
| 1510580-001C  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Anions, E300.0                             |
| 1510580-001C  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Nitrite/Nitrate (as N), E353.2             |
| 1510580-001C  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Alkalinity/ Bicarbonate/ Carbonate, A2320B |
| 1510580-001C  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | TSS  |
| 1510580-001D  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-001E  | SJMC-SW            | 10/26/2015 1400h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-002A  | SJMC-SW - Sediment | 10/26/2015 1400h | Sediment | Mercury, Solid                             |
| 1510580-002A  | SJMC-SW - Sediment | 10/26/2015 1400h | Sediment | ICP Metals, Solid                          |
| 1510580-002A  | SJMC-SW - Sediment | 10/26/2015 1400h | Sediment | ICPMS Metals, Solid                        |
| 1510580-002A  | SJMC-SW - Sediment | 10/26/2015 1400h | Sediment | Percent Moisture by SM2540B                |
| 1510580-003A  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | ICP Metals, Total                          |
| 1510580-003A  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Hardness                                   |
| 1510580-003A  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | ICPMS Metals, Total                        |
| 1510580-003A  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Mercury, Drinking Water                    |
| 1510580-003B  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | ICPMS Metals, Dissolved                    |
| 1510580-003B  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | ICP Metals, Dissolved                      |
| 1510580-003B  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Mercury, Drinking Water Dissolved          |
| 1510580-003C  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Alkalinity/ Bicarbonate/ Carbonate, A2320B |
| 1510580-003C  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Anions, E300.0                             |
| 1510580-003C  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Nitrite/Nitrate (as N), E353.2             |
| 1510580-003C  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | TSS  |
| 1510580-003D  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-003E  | SJBB-SW            | 10/26/2015 1615h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-004A  | SJBB-SW - Sediment | 10/26/2015 1615h | Sediment | Percent Moisture by SM2540B                |
| 1510580-004A  | SJBB-SW - Sediment | 10/26/2015 1615h | Sediment | ICP Metals, Solid                          |
| 1510580-004A  | SJBB-SW - Sediment | 10/26/2015 1615h | Sediment | ICPMS Metals, Solid                        |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.





**Client:** Utah Division of Water Quality  
**Project:** San Juan  
**Lab Set ID:** 1510580  
**Date Received:** 10/28/2015 1130h

**Contact:** Jim Harris

3440 South 700 West  
 Salt Lake City, UT 84119

Phone: (801) 263-8686  
 Toll Free: (888) 263-8686  
 Fax: (801) 263-8687  
 e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)  
 web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
 Laboratory Director

Jose Rocha  
 QA Officer

| Lab Sample ID | Client Sample ID   | Date Collected   | Matrix   | Analysis                                   |
|---------------|--------------------|------------------|----------|--|
| 1510580-004A  | SJBB-SW - Sediment | 10/26/2015 1615h | Sediment | Mercury, Solid                             |
| 1510580-005A  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Mercury, Drinking Water                    |
| 1510580-005A  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | ICP Metals, Total                          |
| 1510580-005A  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Hardness                                   |
| 1510580-005A  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | ICPMS Metals, Total                        |
| 1510580-005B  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | ICPMS Metals, Dissolved                    |
| 1510580-005B  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | ICP Metals, Dissolved                      |
| 1510580-005B  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Mercury, Drinking Water Dissolved          |
| 1510580-005C  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Anions, E300.0                             |
| 1510580-005C  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Nitrite/Nitrate (as N), E353.2             |
| 1510580-005C  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Alkalinity/ Bicarbonate/ Carbonate, A2320B |
| 1510580-005C  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | TSS  |
| 1510580-005D  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-005E  | SJCH-SW            | 10/27/2015 1445h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-006A  | SJCH-SW - Sediment | 10/27/2015 1445h | Sediment | Mercury, Solid                             |
| 1510580-006A  | SJCH-SW - Sediment | 10/27/2015 1445h | Sediment | ICP Metals, Solid                          |
| 1510580-006A  | SJCH-SW - Sediment | 10/27/2015 1445h | Sediment | ICPMS Metals, Solid                        |
| 1510580-006A  | SJCH-SW - Sediment | 10/27/2015 1445h | Sediment | Percent Moisture by SM2540B                |
| 1510580-007A  | Dup                | 10/27/2015 1500h | Aqueous  | Hardness                                   |
| 1510580-007A  | Dup                | 10/27/2015 1500h | Aqueous  | ICP Metals, Total                          |
| 1510580-007A  | Dup                | 10/27/2015 1500h | Aqueous  | ICPMS Metals, Total                        |
| 1510580-007A  | Dup                | 10/27/2015 1500h | Aqueous  | Mercury, Drinking Water                    |
| 1510580-007B  | Dup                | 10/27/2015 1500h | Aqueous  | ICPMS Metals, Dissolved                    |
| 1510580-007B  | Dup                | 10/27/2015 1500h | Aqueous  | ICP Metals, Dissolved                      |
| 1510580-007B  | Dup                | 10/27/2015 1500h | Aqueous  | Mercury, Drinking Water Dissolved          |
| 1510580-007C  | Dup                | 10/27/2015 1500h | Aqueous  | Alkalinity/ Bicarbonate/ Carbonate, A2320B |
| 1510580-007C  | Dup                | 10/27/2015 1500h | Aqueous  | Anions, E300.0                             |
| 1510580-007C  | Dup                | 10/27/2015 1500h | Aqueous  | Nitrite/Nitrate (as N), E353.2             |
| 1510580-007C  | Dup                | 10/27/2015 1500h | Aqueous  | TSS  |
| 1510580-007D  | Dup                | 10/27/2015 1500h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-007E  | Dup                | 10/27/2015 1500h | Aqueous  | Total Organic Carbon, A5310B               |
| 1510580-008A  | Dup - Sediment     | 10/27/2015 1500h | Sediment | Mercury, Solid                             |
| 1510580-008A  | Dup - Sediment     | 10/27/2015 1500h | Sediment | ICP Metals, Solid                          |
| 1510580-008A  | Dup - Sediment     | 10/27/2015 1500h | Sediment | ICPMS Metals, Solid                        |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



**Client:** Utah Division of Water Quality  
**Project:** San Juan  
**Lab Set ID:** 1510580  
**Date Received:** 10/28/2015 1130h

**Contact:** Jim Harris

| Lab Sample ID | Client Sample ID | Date Collected   | Matrix   | Analysis                    |
|---------------|------------------|------------------|----------|-----------------------------|
| 1510580-008A  | Dup - Sediment   | 10/27/2015 1500h | Sediment | Percent Moisture by SM2540B |

3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)

web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



## SECTION 2.

### □ ANALYTICAL REPORTS

- The contract required detection limits (CRDL's) were met.
- There is an analytical report for each sample on the chain-of-custody.
- The results and dates on the analytical reports match the raw data.
- The information on the header of the analytical reports including the field ID's, the sample dates, and the received date match the chain-of-custody.

3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)

web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality

**Contact:** Jim Harris

**Project:** San Juan

**Lab Sample ID:** 1510580-002

**Client Sample ID:** SJMC-SW - Sediment

**Collection Date:** 10/26/2015 1400h

**Received Date:** 10/28/2015 1130h

### Analytical Results

### TOTAL METALS

| Compound   | CAS       | Units     | Date Prepared    | Date Analyzed    | Method Used | MDL     | Reporting Limit | Analytical Result | Qual             |
|------------|-----------|-----------|------------------|------------------|-------------|---------|-----------------|-------------------|------------------|
| Aluminum   | 7429-90-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1023h | SW6010C     | 24.1    | 140             | <b>10,400</b>     | <sup>2</sup> § B |
| Antimony   | 7440-36-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.407   | 4.48            | < 4.48            | US               |
| Arsenic    | 7440-38-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.0908  | 2.80            | <b>3.23</b>       |                  |
| Barium     | 7440-39-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 3.03    | 5.04            | <b>175</b>        | <sup>2</sup>     |
| Beryllium  | 7440-41-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.00667 | 2.24            | 0.540             | J                |
| Cadmium    | 7440-43-9 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.0189  | 0.953           | 0.242             | J                |
| Calcium    | 7440-70-2 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1023h | SW6010C     | 33.2    | 1,400           | <b>19,900</b>     | <sup>2</sup> § B |
| Chromium   | 7440-47-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 2.72    | 11.2            | 10.4              | J                |
| Cobalt     | 7440-48-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.170   | 1.51            | <b>4.35</b>       |                  |
| Copper     | 7440-50-8 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 1.72    | 17.4            | 7.69              | J                |
| Iron       | 7439-89-6 | mg/kg-dry | 11/11/2015 1058h | 11/11/2015 1454h | SW6010C     | 16.5    | 72.4            | <b>11,800</b>     | <sup>2</sup> §B  |
| Lead       | 7439-92-1 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 3.36    | 7.28            | <b>8.36</b>       |                  |
| Magnesium  | 7439-95-4 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1023h | SW6010C     | 147     | 1,400           | <b>5,550</b>      | <sup>2</sup> §   |
| Manganese  | 7439-96-5 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.751   | 4.48            | <b>267</b>        |                  |
| Mercury    | 7439-97-6 | mg/kg-dry | 11/5/2015 1728h  | 11/6/2015 918h   | SW7471B     | 0.00165 | 0.0489          | 0.00757           | JS               |
| Molybdenum | 7439-98-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.399   | 22.4            | 0.578             | JS               |
| Nickel     | 7440-02-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 2.45    | 22.4            | 7.98              | J                |
| Potassium  | 7440-09-7 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1048h | SW6010C     | 28.4    | 140             | <b>2,790</b>      | §                |
| Selenium   | 7782-49-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.611   | 9.53            | < 9.53            | US               |
| Silver     | 7440-22-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.0251  | 1.68            | 0.0367            | JS               |
| Sodium     | 7440-23-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1048h | SW6010C     | 10.8    | 140             | <b>400</b>        |                  |
| Thallium   | 7440-28-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.00566 | 4.48            | 0.144             | J                |
| Vanadium   | 7440-62-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 0.577   | 11.2            | <b>21.4</b>       |                  |
| Zinc       | 7440-66-6 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1858h  | SW6020A     | 5.66    | 56.0            | 26.7              | J                |

§ - Sample concentration too low for serial dilution evaluation.

ϩ - Serial dilution RPD indicates matrix interference.

§ - Post digestion spike (PDS) recovery indicates matrix interference.

<sup>2</sup> - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality      **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-003  
**Client Sample ID:** SJBB-SW  
**Collection Date:** 10/26/2015 1615h  
**Received Date:** 10/28/2015 1130h

### Analytical Results

### TOTAL METALS

| <u>Compound</u> | <u>CAS</u> | <u>Units</u> | <u>Date Prepared</u> | <u>Date Analyzed</u> | <u>Method Used</u> | <u>MDL</u> | <u>Reporting Limit</u> | <u>Analytical Result</u> | <u>Qual</u> |
|-----------------|------------|--------------|----------------------|----------------------|--------------------|------------|------------------------|--------------------------|-------------|
| Aluminum        | 7429-90-5  | mg/L         | 10/30/2015 1208h     | 11/9/2015 1110h      | E200.7             | 0.237      | 1.00                   | <b>43.7</b>              |             |
| Antimony        | 7440-36-0  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.0000366  | 0.00200                | 0.000119                 | J           |
| Arsenic         | 7440-38-2  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.0000920  | 0.00200                | <b>0.00992</b>           |             |
| Barium          | 7440-39-3  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.000538   | 0.00200                | <b>0.676</b>             |             |
| Beryllium       | 7440-41-7  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.0000288  | 0.00200                | <b>0.00280</b>           |             |
| Cadmium         | 7440-43-9  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.000193   | 0.000500               | <b>0.000751</b>          |             |
| Calcium         | 7440-70-2  | mg/L         | 10/30/2015 1208h     | 11/9/2015 1110h      | E200.7             | 0.401      | 10.0                   | <b>131</b>               |             |
| Chromium        | 7440-47-3  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.00154    | 0.00200                | <b>0.0239</b>            |             |
| Cobalt          | 7440-48-4  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.0000434  | 0.00400                | <b>0.0204</b>            |             |
| Copper          | 7440-50-8  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.000692   | 0.00200                | <b>0.0566</b>            |             |
| Iron            | 7439-89-6  | mg/L         | 10/30/2015 1208h     | 11/9/2015 1110h      | E200.7             | 0.767      | 1.00                   | <b>39.8</b>              |             |
| Lead            | 7439-92-1  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.000264   | 0.00200                | <b>0.0392</b>            | B           |
| Magnesium       | 7439-95-4  | mg/L         | 10/30/2015 1208h     | 11/9/2015 1355h      | E200.7             | 0.0294     | 1.00                   | <b>28.0</b>              |             |
| Manganese       | 7439-96-5  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.00153    | 0.00200                | <b>1.06</b>              |             |
| Mercury         | 7439-97-6  | mg/L         | 11/3/2015 1710h      | 11/4/2015 1229h      | E245.1             | 0.0000892  | 0.000150               | 0.0000717                | J           |
| Molybdenum      | 7439-98-7  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.000206   | 0.00200                | 0.000747                 | J           |
| Nickel          | 7440-02-0  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.000754   | 0.00200                | <b>0.0288</b>            |             |
| Potassium       | 7440-09-7  | mg/L         | 10/30/2015 1208h     | 11/9/2015 1355h      | E200.7             | 0.247      | 1.00                   | <b>9.06</b>              |             |
| Selenium        | 7782-49-2  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.0000634  | 0.00200                | 0.00102                  | J           |
| Silver          | 7440-22-4  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.0000244  | 0.00200                | 0.000287                 | J           |
| Sodium          | 7440-23-5  | mg/L         | 10/30/2015 1208h     | 11/9/2015 1110h      | E200.7             | 0.330      | 10.0                   | <b>46.0</b>              | B           |
| Thallium        | 7440-28-0  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.0000242  | 0.00200                | 0.000612                 | J           |
| Vanadium        | 7440-62-2  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.000438   | 0.00440                | <b>0.0518</b>            |             |
| Zinc            | 7440-66-6  | mg/L         | 10/30/2015 1208h     | 11/4/2015 2111h      | E200.8             | 0.00476    | 0.00500                | <b>0.140</b>             |             |

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-004  
**Client Sample ID:** SJBB-SW - Sediment  
**Collection Date:** 10/26/2015 1615h  
**Received Date:** 10/28/2015 1130h

### Analytical Results

### TOTAL METALS

| Compound   | CAS       | Units     | Date Prepared    | Date Analyzed    | Method Used | MDL     | Reporting Limit | Analytical Result | Qual |
|------------|-----------|-----------|------------------|------------------|-------------|---------|-----------------|-------------------|------|
| Aluminum   | 7429-90-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1034h | SW6010C     | 21.5    | 125             | <b>5,300</b>      | B    |
| Antimony   | 7440-36-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.364   | 4.00            | < 4.00            | U    |
| Arsenic    | 7440-38-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.0811  | 2.50            | 2.49              | J    |
| Barium     | 7440-39-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 2.71    | 4.51            | <b>171</b>        |      |
| Beryllium  | 7440-41-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.00596 | 2.00            | 0.327             | J    |
| Cadmium    | 7440-43-9 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.0169  | 0.851           | 0.166             | J    |
| Calcium    | 7440-70-2 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1034h | SW6010C     | 29.7    | 1,250           | <b>17,300</b>     | B    |
| Chromium   | 7440-47-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 2.43    | 10.0            | 5.23              | J    |
| Cobalt     | 7440-48-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.152   | 1.35            | <b>2.71</b>       |      |
| Copper     | 7440-50-8 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 1.54    | 15.5            | 4.40              | J    |
| Iron       | 7439-89-6 | mg/kg-dry | 11/11/2015 1058h | 11/11/2015 1506h | SW6010C     | 14.1    | 61.8            | <b>7,790</b>      | B    |
| Lead       | 7439-92-1 | mg/kg-dry | 11/2/2015 1700h  | 11/5/2015 1347h  | SW6020A     | 3.75    | 8.13            | 5.19              | J    |
| Magnesium  | 7439-95-4 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1059h | SW6010C     | 13.1    | 125             | <b>4,120</b>      |      |
| Manganese  | 7439-96-5 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.671   | 4.00            | <b>207</b>        |      |
| Mercury    | 7439-97-6 | mg/kg-dry | 11/5/2015 1728h  | 11/6/2015 923h   | SW7471B     | 0.00158 | 0.0469          | 0.00375           | J    |
| Molybdenum | 7439-98-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.356   | 20.0            | < 20.0            | U    |
| Nickel     | 7440-02-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 2.19    | 20.0            | 4.87              | J    |
| Potassium  | 7440-09-7 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1059h | SW6010C     | 25.4    | 125             | <b>1,590</b>      |      |
| Selenium   | 7782-49-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.546   | 8.51            | < 8.51            | U    |
| Silver     | 7440-22-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.0224  | 1.50            | < 1.50            | U    |
| Sodium     | 7440-23-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1059h | SW6010C     | 9.65    | 125             | <b>269</b>        |      |
| Thallium   | 7440-28-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.00506 | 4.00            | 0.0844            | J    |
| Vanadium   | 7440-62-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 0.516   | 10.0            | <b>12.7</b>       |      |
| Zinc       | 7440-66-6 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1923h  | SW6020A     | 5.06    | 50.1            | 17.6              | J    |

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-005  
**Client Sample ID:** SJCH-SW  
**Collection Date:** 10/27/2015 1445h  
**Received Date:** 10/28/2015 1130h

### Analytical Results

### TOTAL METALS

| Compound   | CAS       | Units | Date Prepared    | Date Analyzed   | Method Used | MDL        | Reporting Limit | Analytical Result | Qual |
|------------|-----------|-------|------------------|-----------------|-------------|------------|-----------------|-------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 10/30/2015 1208h | 11/9/2015 1113h | E200.7      | 0.237      | 1.00            | <b>130</b>        |      |
| Antimony   | 7440-36-0 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.0000366  | 0.00200         | 0.000139          | J    |
| Arsenic    | 7440-38-2 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.0000920  | 0.00200         | <b>0.0219</b>     |      |
| Barium     | 7440-39-3 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.000538   | 0.00200         | <b>1.79</b>       |      |
| Beryllium  | 7440-41-7 | mg/L  | 10/30/2015 1208h | 11/5/2015 1625h | E200.8      | 0.000144   | 0.0100          | 0.00891           | J*   |
| Cadmium    | 7440-43-9 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.000193   | 0.000500        | <b>0.00177</b>    |      |
| Calcium    | 7440-70-2 | mg/L  | 10/30/2015 1208h | 11/9/2015 1113h | E200.7      | 0.401      | 10.0            | <b>237</b>        |      |
| Chromium   | 7440-47-3 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.00154    | 0.00200         | <b>0.0616</b>     |      |
| Cobalt     | 7440-48-4 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.0000434  | 0.00400         | <b>0.0525</b>     |      |
| Copper     | 7440-50-8 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.000692   | 0.00200         | <b>0.131</b>      |      |
| Iron       | 7439-89-6 | mg/L  | 10/30/2015 1208h | 11/9/2015 1113h | E200.7      | 0.767      | 1.00            | <b>99.3</b>       |      |
| Lead       | 7439-92-1 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.000264   | 0.00200         | <b>0.0999</b>     | B    |
| Magnesium  | 7439-95-4 | mg/L  | 10/30/2015 1208h | 11/9/2015 1113h | E200.7      | 0.294      | 10.0            | <b>58.0</b>       |      |
| Manganese  | 7439-96-5 | mg/L  | 10/30/2015 1208h | 11/5/2015 1625h | E200.8      | 0.00764    | 0.0100          | <b>2.98</b>       |      |
| Mercury    | 7439-97-6 | mg/L  | 11/3/2015 1710h  | 11/4/2015 1234h | E245.1      | 0.00000892 | 0.000150        | <b>0.000215</b>   |      |
| Molybdenum | 7439-98-7 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.000206   | 0.00200         | 0.000623          | J    |
| Nickel     | 7440-02-0 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.000754   | 0.00200         | <b>0.0734</b>     |      |
| Potassium  | 7440-09-7 | mg/L  | 10/30/2015 1208h | 11/9/2015 1358h | E200.7      | 0.247      | 1.00            | <b>20.8</b>       |      |
| Selenium   | 7782-49-2 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.0000634  | 0.00200         | 0.00157           | J    |
| Silver     | 7440-22-4 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.0000244  | 0.00200         | 0.000590          | J    |
| Sodium     | 7440-23-5 | mg/L  | 10/30/2015 1208h | 11/9/2015 1113h | E200.7      | 0.330      | 10.0            | <b>62.4</b>       | B    |
| Thallium   | 7440-28-0 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.0000242  | 0.00200         | 0.00135           | J    |
| Vanadium   | 7440-62-2 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.000438   | 0.00440         | <b>0.117</b>      |      |
| Zinc       | 7440-66-6 | mg/L  | 10/30/2015 1208h | 11/4/2015 2114h | E200.8      | 0.00476    | 0.00500         | <b>0.315</b>      |      |

\* - The reporting limits were raised due to sample matrix interferences.

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-006  
**Client Sample ID:** SJCH-SW - Sediment  
**Collection Date:** 10/27/2015 1445h  
**Received Date:** 10/28/2015 1130h

### Analytical Results

### TOTAL METALS

| Compound   | CAS       | Units     | Date Prepared    | Date Analyzed    | Method Used | MDL     | Reporting Limit | Analytical Result | Qual |
|------------|-----------|-----------|------------------|------------------|-------------|---------|-----------------|-------------------|------|
| Aluminum   | 7429-90-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1101h | SW6010C     | 2.08    | 12.1            | <b>2,720</b>      | B    |
| Antimony   | 7440-36-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.351   | 3.86            | < 3.86            | U    |
| Arsenic    | 7440-38-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.0782  | 2.41            | 1.10              | J    |
| Barium     | 7440-39-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 2.61    | 4.34            | <b>163</b>        |      |
| Beryllium  | 7440-41-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.00574 | 1.93            | 0.178             | J    |
| Cadmium    | 7440-43-9 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.0163  | 0.820           | 0.0870            | J    |
| Calcium    | 7440-70-2 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1036h | SW6010C     | 28.6    | 1,210           | <b>13,300</b>     | B    |
| Chromium   | 7440-47-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 2.35    | 9.65            | 3.09              | J    |
| Cobalt     | 7440-48-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.147   | 1.30            | <b>1.48</b>       |      |
| Copper     | 7440-50-8 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 1.48    | 15.0            | 1.85              | J    |
| Iron       | 7439-89-6 | mg/kg-dry | 11/11/2015 1058h | 11/11/2015 1509h | SW6010C     | 14.0    | 61.3            | <b>5,190</b>      | B    |
| Lead       | 7439-92-1 | mg/kg-dry | 11/2/2015 1700h  | 11/5/2015 1350h  | SW6020A     | 3.61    | 7.84            | < 7.84            | U    |
| Magnesium  | 7439-95-4 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1101h | SW6010C     | 12.7    | 121             | <b>2,780</b>      |      |
| Manganese  | 7439-96-5 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.647   | 3.86            | <b>138</b>        |      |
| Mercury    | 7439-97-6 | mg/kg-dry | 11/5/2015 1728h  | 11/6/2015 925h   | SW7471B     | 0.00178 | 0.0529          | 0.00211           | J    |
| Molybdenum | 7439-98-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.344   | 19.3            | < 19.3            | U    |
| Nickel     | 7440-02-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 2.11    | 19.3            | 2.52              | J    |
| Potassium  | 7440-09-7 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1101h | SW6010C     | 24.5    | 121             | <b>787</b>        |      |
| Selenium   | 7782-49-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.526   | 8.20            | < 8.20            | U    |
| Silver     | 7440-22-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.0216  | 1.45            | < 1.45            | U    |
| Sodium     | 7440-23-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1101h | SW6010C     | 9.30    | 121             | 113               | J    |
| Thallium   | 7440-28-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.00487 | 3.86            | 0.0334            | J    |
| Vanadium   | 7440-62-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 0.497   | 9.65            | 6.74              | J    |
| Zinc       | 7440-66-6 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1927h  | SW6020A     | 4.87    | 48.3            | 10.4              | J    |

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-008  
**Client Sample ID:** Dup - Sediment  
**Collection Date:** 10/27/2015 1500h  
**Received Date:** 10/28/2015 1130h

### Analytical Results

### TOTAL METALS

| Compound   | CAS       | Units     | Date Prepared    | Date Analyzed    | Method Used | MDL     | Reporting Limit | Analytical Result | Qual |
|------------|-----------|-----------|------------------|------------------|-------------|---------|-----------------|-------------------|------|
| Aluminum   | 7429-90-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1103h | SW6010C     | 2.31    | 13.4            | <b>3,250</b>      | B    |
| Antimony   | 7440-36-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.390   | 4.29            | < 4.29            | U    |
| Arsenic    | 7440-38-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.0869  | 2.68            | 1.37              | J    |
| Barium     | 7440-39-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 2.90    | 4.83            | <b>221</b>        |      |
| Beryllium  | 7440-41-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.00638 | 2.15            | 0.195             | J    |
| Cadmium    | 7440-43-9 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.0181  | 0.912           | 0.0945            | J    |
| Calcium    | 7440-70-2 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1039h | SW6010C     | 31.8    | 1,340           | <b>14,300</b>     | B    |
| Chromium   | 7440-47-3 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 2.61    | 10.7            | 3.68              | J    |
| Cobalt     | 7440-48-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.163   | 1.45            | <b>1.71</b>       |      |
| Copper     | 7440-50-8 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 1.65    | 16.6            | 2.42              | J    |
| Iron       | 7439-89-6 | mg/kg-dry | 11/11/2015 1058h | 11/11/2015 1511h | SW6010C     | 13.8    | 60.4            | <b>5,030</b>      | B    |
| Lead       | 7439-92-1 | mg/kg-dry | 11/2/2015 1700h  | 11/5/2015 1353h  | SW6020A     | 4.02    | 8.72            | < 8.72            | U    |
| Magnesium  | 7439-95-4 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1103h | SW6010C     | 14.1    | 134             | <b>3,160</b>      |      |
| Manganese  | 7439-96-5 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.719   | 4.29            | <b>147</b>        |      |
| Mercury    | 7439-97-6 | mg/kg-dry | 11/5/2015 1728h  | 11/6/2015 927h   | SW7471B     | 0.00154 | 0.0456          | 0.00205           | J    |
| Molybdenum | 7439-98-7 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.382   | 21.5            | < 21.5            | U    |
| Nickel     | 7440-02-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 2.34    | 21.5            | 2.90              | J    |
| Potassium  | 7440-09-7 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1103h | SW6010C     | 27.2    | 134             | <b>965</b>        |      |
| Selenium   | 7782-49-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.585   | 9.12            | < 9.12            | U    |
| Silver     | 7440-22-4 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.0240  | 1.61            | 0.0778            | J    |
| Sodium     | 7440-23-5 | mg/kg-dry | 11/2/2015 1700h  | 11/10/2015 1103h | SW6010C     | 10.3    | 134             | 131               | J    |
| Thallium   | 7440-28-0 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.00542 | 4.29            | 0.0401            | J    |
| Vanadium   | 7440-62-2 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 0.552   | 10.7            | 8.55              | J    |
| Zinc       | 7440-66-6 | mg/kg-dry | 11/2/2015 1700h  | 11/4/2015 1930h  | SW6020A     | 5.42    | 53.6            | 11.9              | J    |

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

# INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-001  
**Client Sample ID:** SJMC-SW  
**Collection Date:** 10/26/2015 1400h  
**Received Date:** 10/28/2015 1130h

## Analytical Results

## DISSOLVED METALS

| Compound   | CAS       | Units | Date Prepared    | Date Analyzed    | Method Used | MDL       | Reporting Limit | Analytical Result | Qual           |
|------------|-----------|-------|------------------|------------------|-------------|-----------|-----------------|-------------------|----------------|
| Aluminum   | 7429-90-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1115h | E200.7      | 0.0237    | 0.100           | < 0.100           | US             |
| Antimony   | 7440-36-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.0000366 | 0.00200         | 0.000946          | JS             |
| Arsenic    | 7440-38-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.0000920 | 0.00200         | 0.00103           | JS             |
| Barium     | 7440-39-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.000538  | 0.00200         | <b>0.109</b>      |                |
| Beryllium  | 7440-41-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.0000288 | 0.00200         | < 0.00200         | US             |
| Cadmium    | 7440-43-9 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.000193  | 0.000500        | < 0.000500        | US             |
| Calcium    | 7440-70-2 | mg/L  | 10/30/2015 1115h | 11/10/2015 1033h | E200.7      | 0.401     | 10.0            | <b>74.9</b>       | § <sup>2</sup> |
| Chromium   | 7440-47-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.00154   | 0.00200         | < 0.00200         | US             |
| Cobalt     | 7440-48-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.0000434 | 0.00400         | 0.000557          | JS             |
| Copper     | 7440-50-8 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.000692  | 0.00200         | 0.00130           | JS             |
| Iron       | 7439-89-6 | mg/L  | 10/30/2015 1115h | 11/10/2015 1115h | E200.7      | 0.0767    | 0.100           | < 0.100           | US             |
| Lead       | 7439-92-1 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.000264  | 0.00200         | < 0.00200         | US             |
| Magnesium  | 7439-95-4 | mg/L  | 10/30/2015 1115h | 11/10/2015 1115h | E200.7      | 0.0294    | 1.00            | <b>15.2</b>       | §B             |
| Manganese  | 7439-96-5 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.00153   | 0.00200         | <b>0.00203</b>    |                |
| Mercury    | 7439-97-6 | mg/L  | 11/6/2015 1830h  | 11/9/2015 1052h  | E245.1      | 0.0000892 | 0.000150        | < 0.000150        | US             |
| Molybdenum | 7439-98-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.000206  | 0.00200         | 0.00180           | JS             |
| Nickel     | 7440-02-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.000754  | 0.00200         | 0.000756          | J              |
| Potassium  | 7440-09-7 | mg/L  | 10/30/2015 1115h | 11/10/2015 1115h | E200.7      | 0.247     | 1.00            | <b>3.25</b>       | §              |
| Selenium   | 7782-49-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.0000634 | 0.00200         | 0.000600          | JS             |
| Silver     | 7440-22-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.0000244 | 0.00200         | < 0.00200         | US             |
| Sodium     | 7440-23-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1033h | E200.7      | 0.330     | 10.0            | <b>41.0</b>       | §B             |
| Thallium   | 7440-28-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.0000242 | 0.00200         | < 0.00200         | US             |
| Vanadium   | 7440-62-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.000438  | 0.00440         | 0.00186           | JS             |
| Zinc       | 7440-66-6 | mg/L  | 10/30/2015 1115h | 11/4/2015 1811h  | E200.8      | 0.00476   | 0.00500         | < 0.00500         | US             |

§ - Sample concentration too low for serial dilution evaluation.

§ - Post digestion spike (PDS) recovery indicates matrix interference.

<sup>2</sup> - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-003  
**Client Sample ID:** SJBB-SW  
**Collection Date:** 10/26/2015 1615h  
**Received Date:** 10/28/2015 1130h

### Analytical Results

### DISSOLVED METALS

| Compound   | CAS       | Units | Date Prepared    | Date Analyzed    | Method Used | MDL       | Reporting Limit | Analytical Result | Qual |
|------------|-----------|-------|------------------|------------------|-------------|-----------|-----------------|-------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1128h | E200.7      | 0.0237    | 0.100           | < 0.100           | U    |
| Antimony   | 7440-36-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.0000366 | 0.00200         | 0.000597          | J    |
| Arsenic    | 7440-38-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.0000920 | 0.00200         | 0.00110           | J    |
| Barium     | 7440-39-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.000538  | 0.00200         | <b>0.114</b>      |      |
| Beryllium  | 7440-41-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.0000288 | 0.00200         | 0.0000329         | J    |
| Cadmium    | 7440-43-9 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.000193  | 0.000500        | < 0.000500        | U    |
| Calcium    | 7440-70-2 | mg/L  | 10/30/2015 1115h | 11/10/2015 1046h | E200.7      | 0.401     | 10.0            | <b>79.7</b>       |      |
| Chromium   | 7440-47-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.00154   | 0.00200         | < 0.00200         | U    |
| Cobalt     | 7440-48-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.0000434 | 0.00400         | 0.000154          | J    |
| Copper     | 7440-50-8 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.000692  | 0.00200         | 0.00127           | J    |
| Iron       | 7439-89-6 | mg/L  | 10/30/2015 1115h | 11/10/2015 1128h | E200.7      | 0.0767    | 0.100           | < 0.100           | U    |
| Lead       | 7439-92-1 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.000264  | 0.00200         | < 0.00200         | U    |
| Magnesium  | 7439-95-4 | mg/L  | 10/30/2015 1115h | 11/10/2015 1128h | E200.7      | 0.0294    | 1.00            | <b>15.0</b>       | B    |
| Manganese  | 7439-96-5 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.00153   | 0.00200         | < 0.00200         | U    |
| Mercury    | 7439-97-6 | mg/L  | 11/6/2015 1830h  | 11/9/2015 1057h  | E245.1      | 0.0000892 | 0.000150        | < 0.000150        | U    |
| Molybdenum | 7439-98-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.000206  | 0.00200         | 0.00188           | J    |
| Nickel     | 7440-02-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.000754  | 0.00200         | < 0.00200         | U    |
| Potassium  | 7440-09-7 | mg/L  | 10/30/2015 1115h | 11/10/2015 1128h | E200.7      | 0.247     | 1.00            | <b>3.48</b>       |      |
| Selenium   | 7782-49-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.0000634 | 0.00200         | 0.000750          | J    |
| Silver     | 7440-22-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.0000244 | 0.00200         | 0.0000517         | J    |
| Sodium     | 7440-23-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1046h | E200.7      | 0.330     | 10.0            | <b>44.0</b>       | B    |
| Thallium   | 7440-28-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.0000242 | 0.00200         | 0.0000293         | J    |
| Vanadium   | 7440-62-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.000438  | 0.00440         | 0.00253           | J    |
| Zinc       | 7440-66-6 | mg/L  | 10/30/2015 1115h | 11/4/2015 1827h  | E200.8      | 0.00476   | 0.00500         | < 0.00500         | U    |

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality      **Contact:** Jim Harris  
**Project:** San Juan  
**Lab Sample ID:** 1510580-005  
**Client Sample ID:** SJCH-SW  
**Collection Date:** 10/27/2015 1445h  
**Received Date:** 10/28/2015 1130h

### Analytical Results

### DISSOLVED METALS

| Compound   | CAS       | Units | Date Prepared    | Date Analyzed    | Method Used | MDL        | Reporting Limit | Analytical Result | Qual |
|------------|-----------|-------|------------------|------------------|-------------|------------|-----------------|-------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1131h | E200.7      | 0.0237     | 0.100           | <b>1.10</b>       |      |
| Antimony   | 7440-36-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.0000366  | 0.00200         | 0.000593          | J    |
| Arsenic    | 7440-38-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.0000920  | 0.00200         | 0.00157           | J    |
| Barium     | 7440-39-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.000538   | 0.00200         | <b>0.152</b>      |      |
| Beryllium  | 7440-41-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.0000288  | 0.00200         | 0.0000671         | J    |
| Cadmium    | 7440-43-9 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.000193   | 0.000500        | < 0.000500        | U    |
| Calcium    | 7440-70-2 | mg/L  | 10/30/2015 1115h | 11/10/2015 1056h | E200.7      | 0.401      | 10.0            | <b>75.8</b>       |      |
| Chromium   | 7440-47-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.00154    | 0.00200         | < 0.00200         | U    |
| Cobalt     | 7440-48-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.0000434  | 0.00400         | 0.00108           | J    |
| Copper     | 7440-50-8 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.000692   | 0.00200         | <b>0.00229</b>    |      |
| Iron       | 7439-89-6 | mg/L  | 10/30/2015 1115h | 11/10/2015 1131h | E200.7      | 0.0767     | 0.100           | <b>0.774</b>      |      |
| Lead       | 7439-92-1 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.000264   | 0.00200         | 0.000470          | J    |
| Magnesium  | 7439-95-4 | mg/L  | 10/30/2015 1115h | 11/10/2015 1131h | E200.7      | 0.0294     | 1.00            | <b>14.1</b>       | B    |
| Manganese  | 7439-96-5 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.00153    | 0.00200         | <b>0.0161</b>     |      |
| Mercury    | 7439-97-6 | mg/L  | 11/6/2015 1830h  | 11/9/2015 1059h  | E245.1      | 0.00000892 | 0.000150        | < 0.000150        | U    |
| Molybdenum | 7439-98-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.000206   | 0.00200         | <b>0.00238</b>    |      |
| Nickel     | 7440-02-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.000754   | 0.00200         | 0.00121           | J    |
| Potassium  | 7440-09-7 | mg/L  | 10/30/2015 1115h | 11/10/2015 1131h | E200.7      | 0.247      | 1.00            | <b>4.36</b>       |      |
| Selenium   | 7782-49-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.0000634  | 0.00200         | 0.000936          | J    |
| Silver     | 7440-22-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.0000244  | 0.00200         | < 0.00200         | U    |
| Sodium     | 7440-23-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1056h | E200.7      | 0.330      | 10.0            | <b>58.3</b>       | B    |
| Thallium   | 7440-28-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.0000242  | 0.00200         | < 0.00200         | U    |
| Vanadium   | 7440-62-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.000438   | 0.00440         | <b>0.00501</b>    |      |
| Zinc       | 7440-66-6 | mg/L  | 10/30/2015 1115h | 11/4/2015 1830h  | E200.8      | 0.00476    | 0.00500         | < 0.00500         | U    |

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.





3440 South 700 West

Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## INORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality

**Contact:** Jim Harris

**Project:** San Juan

**Lab Sample ID:** 1510580-007

**Client Sample ID:** Dup

**Collection Date:** 10/27/2015 1500h

**Received Date:** 10/28/2015 1130h

### Analytical Results

### DISSOLVED METALS

| Compound   | CAS       | Units | Date Prepared    | Date Analyzed    | Method Used | MDL       | Reporting Limit | Analytical Result | Qual |
|------------|-----------|-------|------------------|------------------|-------------|-----------|-----------------|-------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1134h | E200.7      | 0.0237    | 0.100           | 0.0980            | J    |
| Antimony   | 7440-36-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.0000366 | 0.00200         | 0.000275          | J    |
| Arsenic    | 7440-38-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.0000920 | 0.00200         | 0.00136           | J    |
| Barium     | 7440-39-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.000538  | 0.00200         | <b>0.143</b>      |      |
| Beryllium  | 7440-41-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.0000288 | 0.00200         | < 0.00200         | U    |
| Cadmium    | 7440-43-9 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.000193  | 0.000500        | < 0.000500        | U    |
| Calcium    | 7440-70-2 | mg/L  | 10/30/2015 1115h | 11/10/2015 1058h | E200.7      | 0.401     | 10.0            | <b>74.2</b>       |      |
| Chromium   | 7440-47-3 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.00154   | 0.00200         | < 0.00200         | U    |
| Cobalt     | 7440-48-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.0000434 | 0.00400         | 0.000232          | J    |
| Copper     | 7440-50-8 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.000692  | 0.00200         | 0.00174           | J    |
| Iron       | 7439-89-6 | mg/L  | 10/30/2015 1115h | 11/10/2015 1134h | E200.7      | 0.0767    | 0.100           | 0.0882            | J    |
| Lead       | 7439-92-1 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.000264  | 0.00200         | < 0.00200         | U    |
| Magnesium  | 7439-95-4 | mg/L  | 10/30/2015 1115h | 11/10/2015 1134h | E200.7      | 0.0294    | 1.00            | <b>13.6</b>       | B    |
| Manganese  | 7439-96-5 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.00153   | 0.00200         | <b>0.00320</b>    |      |
| Mercury    | 7439-97-6 | mg/L  | 11/6/2015 1830h  | 11/9/2015 1104h  | E245.1      | 0.0000892 | 0.000150        | < 0.000150        | U    |
| Molybdenum | 7439-98-7 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.000206  | 0.00200         | <b>0.00247</b>    |      |
| Nickel     | 7440-02-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.000754  | 0.00200         | 0.000762          | J    |
| Potassium  | 7440-09-7 | mg/L  | 10/30/2015 1115h | 11/10/2015 1134h | E200.7      | 0.247     | 1.00            | <b>4.01</b>       |      |
| Selenium   | 7782-49-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.0000634 | 0.00200         | 0.000810          | J    |
| Silver     | 7440-22-4 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.0000244 | 0.00200         | < 0.00200         | U    |
| Sodium     | 7440-23-5 | mg/L  | 10/30/2015 1115h | 11/10/2015 1058h | E200.7      | 0.330     | 10.0            | <b>57.6</b>       | B    |
| Thallium   | 7440-28-0 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.0000242 | 0.00200         | < 0.00200         | U    |
| Vanadium   | 7440-62-2 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.000438  | 0.00440         | 0.00340           | J    |
| Zinc       | 7440-66-6 | mg/L  | 10/30/2015 1115h | 11/4/2015 1843h  | E200.8      | 0.00476   | 0.00500         | < 0.00500         | U    |

*B - This analyte was also detected in the method blank below the PQL.*

*J - Estimated value between the MDL and the reporting limit (PQL).*

*U - This flag indicates the compound was analyzed for but not detected above the MDL.*













## SECTION 3.

### ❑ BATCH QC REPORTS

#### ❑ METHOD BLANK (MB) REPORTS

- ❑ Raw data matches method blank reports.
- ❑ Any results greater than the contract required detection limit are flagged.

#### ❑ LABORATORY CONTROL SAMPLE (LCS) REPORTS

- ❑ Raw data matches LCS reports.
- ❑ Any results outside the control limits are flagged.

#### ❑ MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD) REPORTS

- ❑ Raw data matches MS/MSD reports.
- ❑ Any results outside the control limits are flagged and qualified.

3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com)

web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** LCS

| Analyte                         | Result | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------|--------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: LCS-40012</b> |        | Date Analyzed: | 11/10/2015 1031h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.7-DIS            |        | Date Prepared: | 10/30/2015 1115h |           |                 |               |                   |      |          |              |       |           |      |
| Aluminum                        | 0.986  | mg/L           | E200.7           | 0.0237    | 0.100           | 1.000         | 0                 | 98.6 | 85 - 115 |              |       |           |      |
| Calcium                         | 10.1   | mg/L           | E200.7           | 0.0401    | 1.00            | 10.00         | 0                 | 101  | 85 - 115 |              |       |           |      |
| Iron                            | 0.980  | mg/L           | E200.7           | 0.0767    | 0.100           | 1.000         | 0                 | 98.0 | 85 - 115 |              |       |           |      |
| Magnesium                       | 10.2   | mg/L           | E200.7           | 0.0294    | 1.00            | 10.00         | 0                 | 102  | 85 - 115 |              |       |           |      |
| Potassium                       | 9.88   | mg/L           | E200.7           | 0.247     | 1.00            | 10.00         | 0                 | 98.8 | 85 - 115 |              |       |           |      |
| Sodium                          | 10.0   | mg/L           | E200.7           | 0.0330    | 1.00            | 10.00         | 0                 | 100  | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-40016</b> |        | Date Analyzed: | 11/09/2015 1020h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.7-W              |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Aluminum                        | 0.954  | mg/L           | E200.7           | 0.0237    | 0.100           | 1.000         | 0                 | 95.4 | 85 - 115 |              |       |           |      |
| Calcium                         | 9.92   | mg/L           | E200.7           | 0.0401    | 1.00            | 10.00         | 0                 | 99.2 | 85 - 115 |              |       |           |      |
| Iron                            | 0.934  | mg/L           | E200.7           | 0.0767    | 0.100           | 1.000         | 0                 | 93.4 | 85 - 115 |              |       |           |      |
| Magnesium                       | 9.97   | mg/L           | E200.7           | 0.0294    | 1.00            | 10.00         | 0                 | 99.7 | 85 - 115 |              |       |           |      |
| Potassium                       | 9.64   | mg/L           | E200.7           | 0.247     | 1.00            | 10.00         | 0                 | 96.4 | 85 - 115 |              |       |           |      |
| Sodium                          | 9.91   | mg/L           | E200.7           | 0.0330    | 1.00            | 10.00         | 0                 | 99.1 | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-40013</b> |        | Date Analyzed: | 11/04/2015 1808h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-DIS            |        | Date Prepared: | 10/30/2015 1115h |           |                 |               |                   |      |          |              |       |           |      |
| Antimony                        | 0.188  | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0                 | 93.9 | 85 - 115 |              |       |           |      |
| Arsenic                         | 0.197  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0                 | 98.5 | 85 - 115 |              |       |           |      |
| Barium                          | 0.196  | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0                 | 98.2 | 85 - 115 |              |       |           |      |
| Beryllium                       | 0.203  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0                 | 102  | 85 - 115 |              |       |           |      |
| Cadmium                         | 0.198  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0                 | 99.1 | 85 - 115 |              |       |           |      |
| Chromium                        | 0.202  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0                 | 101  | 85 - 115 |              |       |           |      |
| Cobalt                          | 0.200  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0                 | 99.9 | 85 - 115 |              |       |           |      |
| Copper                          | 0.203  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0                 | 102  | 85 - 115 |              |       |           |      |
| Lead                            | 0.198  | mg/L           | E200.8           | 0.000264  | 0.00200         | 0.2000        | 0                 | 99.0 | 85 - 115 |              |       |           |      |
| Manganese                       | 0.203  | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 0                 | 101  | 85 - 115 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** LCS

| Analyte                         | Result | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------|--------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: LCS-40013</b> |        | Date Analyzed: | 11/04/2015 1808h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-DIS            |        | Date Prepared: | 10/30/2015 1115h |           |                 |               |                   |      |          |              |       |           |      |
| Molybdenum                      | 0.200  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0                 | 100  | 85 - 115 |              |       |           |      |
| Nickel                          | 0.201  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0                 | 100  | 85 - 115 |              |       |           |      |
| Selenium                        | 0.194  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0                 | 96.9 | 85 - 115 |              |       |           |      |
| Silver                          | 0.196  | mg/L           | E200.8           | 0.0000244 | 0.00200         | 0.2000        | 0                 | 97.9 | 85 - 115 |              |       |           |      |
| Thallium                        | 0.193  | mg/L           | E200.8           | 0.0000242 | 0.00200         | 0.2000        | 0                 | 96.6 | 85 - 115 |              |       |           |      |
| Vanadium                        | 0.203  | mg/L           | E200.8           | 0.000438  | 0.00440         | 0.2000        | 0                 | 101  | 85 - 115 |              |       |           |      |
| Zinc                            | 0.981  | mg/L           | E200.8           | 0.00476   | 0.00500         | 1.000         | 0                 | 98.1 | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-40017</b> |        | Date Analyzed: | 11/04/2015 2008h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-W              |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Antimony                        | 0.178  | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0                 | 89.0 | 85 - 115 |              |       |           |      |
| Arsenic                         | 0.186  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0                 | 93.1 | 85 - 115 |              |       |           |      |
| Barium                          | 0.186  | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0                 | 92.9 | 85 - 115 |              |       |           |      |
| Beryllium                       | 0.201  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0                 | 100  | 85 - 115 |              |       |           |      |
| Cadmium                         | 0.190  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0                 | 94.8 | 85 - 115 |              |       |           |      |
| Chromium                        | 0.191  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0                 | 95.3 | 85 - 115 |              |       |           |      |
| Cobalt                          | 0.188  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0                 | 94.1 | 85 - 115 |              |       |           |      |
| Copper                          | 0.193  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0                 | 96.4 | 85 - 115 |              |       |           |      |
| Manganese                       | 0.192  | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 0                 | 95.8 | 85 - 115 |              |       |           |      |
| Molybdenum                      | 0.189  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0                 | 94.7 | 85 - 115 |              |       |           |      |
| Nickel                          | 0.188  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0                 | 94.0 | 85 - 115 |              |       |           |      |
| Selenium                        | 0.184  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0                 | 91.8 | 85 - 115 |              |       |           |      |
| Silver                          | 0.186  | mg/L           | E200.8           | 0.0000244 | 0.00200         | 0.2000        | 0                 | 93.1 | 85 - 115 |              |       |           |      |
| Thallium                        | 0.185  | mg/L           | E200.8           | 0.0000242 | 0.00200         | 0.2000        | 0                 | 92.4 | 85 - 115 |              |       |           |      |
| Vanadium                        | 0.190  | mg/L           | E200.8           | 0.000438  | 0.00440         | 0.2000        | 0                 | 94.9 | 85 - 115 |              |       |           |      |
| Zinc                            | 0.941  | mg/L           | E200.8           | 0.00476   | 0.00500         | 1.000         | 0                 | 94.1 | 85 - 115 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** LCS

| Analyte                         | Result | Units            | Method  | MDL      | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------|--------|------------------|---------|----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: LCS-40017</b> |        |                  |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Analyzed:                  |        | 11/05/2015 1506h |         |          |                 |               |                   |      |          |              |       |           |      |
| Test Code:                      |        | 200.8-W          |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Prepared:                  |        | 10/30/2015 1208h |         |          |                 |               |                   |      |          |              |       |           |      |
| Lead                            | 0.188  | mg/L             | E200.8  | 0.000264 | 0.00200         | 0.2000        | 0                 | 94.1 | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-40040</b> |        |                  |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Analyzed:                  |        | 11/10/2015 1019h |         |          |                 |               |                   |      |          |              |       |           |      |
| Test Code:                      |        | 6010C-S          |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Prepared:                  |        | 11/02/2015 1700h |         |          |                 |               |                   |      |          |              |       |           |      |
| Aluminum                        | 97.7   | mg/kg            | SW6010C | 1.72     | 10.0            | 100.0         | 0                 | 97.7 | 80 - 120 |              |       |           |      |
| Calcium                         | 988    | mg/kg            | SW6010C | 2.37     | 100             | 1,000         | 0                 | 98.8 | 80 - 120 |              |       |           |      |
| Magnesium                       | 1,000  | mg/kg            | SW6010C | 10.5     | 100             | 1,000         | 0                 | 100  | 80 - 120 |              |       |           |      |
| Potassium                       | 936    | mg/kg            | SW6010C | 20.3     | 100             | 1,000         | 0                 | 93.6 | 80 - 120 |              |       |           |      |
| Sodium                          | 955    | mg/kg            | SW6010C | 7.71     | 100             | 1,000         | 0                 | 95.5 | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: LCS-40202</b> |        |                  |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Analyzed:                  |        | 11/11/2015 1451h |         |          |                 |               |                   |      |          |              |       |           |      |
| Test Code:                      |        | 6010C-S          |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Prepared:                  |        | 11/11/2015 1058h |         |          |                 |               |                   |      |          |              |       |           |      |
| Iron                            | 103    | mg/kg            | SW6010C | 1.14     | 5.00            | 100.0         | 0                 | 103  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: LCS-40040</b> |        |                  |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Analyzed:                  |        | 11/05/2015 1344h |         |          |                 |               |                   |      |          |              |       |           |      |
| Test Code:                      |        | 6020-S           |         |          |                 |               |                   |      |          |              |       |           |      |
| Date Prepared:                  |        | 11/02/2015 1700h |         |          |                 |               |                   |      |          |              |       |           |      |
| Antimony                        | 18.6   | mg/kg            | SW6020A | 0.291    | 3.20            | 20.00         | 0                 | 93.2 | 85 - 115 |              |       |           |      |
| Arsenic                         | 19.2   | mg/kg            | SW6020A | 0.0648   | 2.00            | 20.00         | 0                 | 96.2 | 85 - 115 |              |       |           |      |
| Barium                          | 18.8   | mg/kg            | SW6020A | 2.16     | 3.60            | 20.00         | 0                 | 94.2 | 85 - 115 |              |       |           |      |
| Beryllium                       | 19.0   | mg/kg            | SW6020A | 0.00476  | 1.60            | 20.00         | 0                 | 95.2 | 85 - 115 |              |       |           |      |
| Cadmium                         | 18.4   | mg/kg            | SW6020A | 0.0135   | 0.680           | 20.00         | 0                 | 92.2 | 85 - 115 |              |       |           |      |
| Chromium                        | 19.8   | mg/kg            | SW6020A | 1.94     | 8.00            | 20.00         | 0                 | 99.0 | 85 - 115 |              |       |           |      |
| Cobalt                          | 18.9   | mg/kg            | SW6020A | 0.122    | 1.08            | 20.00         | 0                 | 94.6 | 85 - 115 |              |       |           |      |
| Copper                          | 19.7   | mg/kg            | SW6020A | 1.23     | 12.4            | 20.00         | 0                 | 98.3 | 85 - 115 |              |       |           |      |
| Lead                            | 19.2   | mg/kg            | SW6020A | 2.40     | 5.20            | 20.00         | 0                 | 96.0 | 85 - 115 |              |       |           |      |
| Manganese                       | 19.6   | mg/kg            | SW6020A | 0.536    | 3.20            | 20.00         | 0                 | 97.8 | 85 - 115 |              |       |           |      |
| Molybdenum                      | 18.9   | mg/kg            | SW6020A | 0.285    | 16.0            | 20.00         | 0                 | 94.4 | 85 - 115 |              |       |           |      |
| Nickel                          | 19.2   | mg/kg            | SW6020A | 1.75     | 16.0            | 20.00         | 0                 | 96.0 | 85 - 115 |              |       |           |      |
| Selenium                        | 18.4   | mg/kg            | SW6020A | 0.436    | 6.80            | 20.00         | 0                 | 91.9 | 85 - 115 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** LCS

| Analyte                         | Result  | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------|---------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: LCS-40040</b> |         | Date Analyzed: | 11/05/2015 1344h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 6020-S               |         | Date Prepared: | 11/02/2015 1700h |           |                 |               |                   |      |          |              |       |           |      |
| Silver                          | 18.6    | mg/kg          | SW6020A          | 0.0179    | 1.20            | 20.00         | 0                 | 93.0 | 85 - 115 |              |       |           |      |
| Thallium                        | 18.1    | mg/kg          | SW6020A          | 0.00404   | 3.20            | 20.00         | 0                 | 90.3 | 85 - 115 |              |       |           |      |
| Vanadium                        | 19.4    | mg/kg          | SW6020A          | 0.412     | 8.00            | 20.00         | 0                 | 96.9 | 85 - 115 |              |       |           |      |
| Zinc                            | 95.0    | mg/kg          | SW6020A          | 4.04      | 40.0            | 100.0         | 0                 | 95.0 | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-39981</b> |         | Date Analyzed: | 10/29/2015 839h  |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1          |         | Date Prepared: | 10/28/2015 1500h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                         | 0.00347 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0                 | 104  | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-40063</b> |         | Date Analyzed: | 11/04/2015 1149h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1          |         | Date Prepared: | 11/03/2015 1710h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                         | 0.00344 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0                 | 103  | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-40135</b> |         | Date Analyzed: | 11/09/2015 1047h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-DIS-245.1      |         | Date Prepared: | 11/06/2015 1830h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                         | 0.00353 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0                 | 106  | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID: LCS-40109</b> |         | Date Analyzed: | 11/06/2015 913h  |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-S-7471B           |         | Date Prepared: | 11/05/2015 1728h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                         | 0.429   | mg/kg          | SW7471B          | 0.00135   | 0.0400          | 0.4000        | 0                 | 107  | 80 - 120 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.





3440 South 700 West

Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MBLK

| Analyte                        | Result     | Units            | Method | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------|------------|------------------|--------|-----------|-----------------|---------------|-------------------|------|--------|--------------|-------|-----------|------|
| <b>Lab Sample ID: MB-40012</b> |            |                  |        |           |                 |               |                   |      |        |              |       |           |      |
| Date Analyzed:                 |            | 11/10/2015 1028h |        |           |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     |            | 200.7-DIS        |        |           |                 |               |                   |      |        |              |       |           |      |
| Date Prepared:                 |            | 10/30/2015 1115h |        |           |                 |               |                   |      |        |              |       |           |      |
| Aluminum                       | < 0.100    | mg/L             | E200.7 | 0.0237    | 0.100           |               |                   |      |        |              |       |           | U    |
| Calcium                        | < 1.00     | mg/L             | E200.7 | 0.0401    | 1.00            |               |                   |      |        |              |       |           | U    |
| Iron                           | < 0.100    | mg/L             | E200.7 | 0.0767    | 0.100           |               |                   |      |        |              |       |           | U    |
| Magnesium                      | 0.0323     | mg/L             | E200.7 | 0.0294    | 1.00            |               |                   |      |        |              |       |           | JB   |
| Potassium                      | < 1.00     | mg/L             | E200.7 | 0.247     | 1.00            |               |                   |      |        |              |       |           | U    |
| Sodium                         | 0.104      | mg/L             | E200.7 | 0.0330    | 1.00            |               |                   |      |        |              |       |           | JB   |
| <b>Lab Sample ID: MB-40016</b> |            |                  |        |           |                 |               |                   |      |        |              |       |           |      |
| Date Analyzed:                 |            | 11/09/2015 1018h |        |           |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     |            | 200.7-W          |        |           |                 |               |                   |      |        |              |       |           |      |
| Date Prepared:                 |            | 10/30/2015 1208h |        |           |                 |               |                   |      |        |              |       |           |      |
| Aluminum                       | < 0.100    | mg/L             | E200.7 | 0.0237    | 0.100           |               |                   |      |        |              |       |           | U    |
| Calcium                        | < 1.00     | mg/L             | E200.7 | 0.0401    | 1.00            |               |                   |      |        |              |       |           | U    |
| Iron                           | < 0.100    | mg/L             | E200.7 | 0.0767    | 0.100           |               |                   |      |        |              |       |           | U    |
| Magnesium                      | < 1.00     | mg/L             | E200.7 | 0.0294    | 1.00            |               |                   |      |        |              |       |           | U    |
| Potassium                      | < 1.00     | mg/L             | E200.7 | 0.247     | 1.00            |               |                   |      |        |              |       |           | U    |
| Sodium                         | 0.130      | mg/L             | E200.7 | 0.0330    | 1.00            |               |                   |      |        |              |       |           | JB   |
| <b>Lab Sample ID: MB-40013</b> |            |                  |        |           |                 |               |                   |      |        |              |       |           |      |
| Date Analyzed:                 |            | 11/04/2015 1805h |        |           |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     |            | 200.8-DIS        |        |           |                 |               |                   |      |        |              |       |           |      |
| Date Prepared:                 |            | 10/30/2015 1115h |        |           |                 |               |                   |      |        |              |       |           |      |
| Antimony                       | < 0.00200  | mg/L             | E200.8 | 0.0000366 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Arsenic                        | < 0.00200  | mg/L             | E200.8 | 0.0000920 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Barium                         | < 0.00200  | mg/L             | E200.8 | 0.000538  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Beryllium                      | < 0.00200  | mg/L             | E200.8 | 0.0000288 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Cadmium                        | < 0.000500 | mg/L             | E200.8 | 0.000193  | 0.000500        |               |                   |      |        |              |       |           | U    |
| Chromium                       | < 0.00200  | mg/L             | E200.8 | 0.00154   | 0.00200         |               |                   |      |        |              |       |           | U    |
| Cobalt                         | < 0.00400  | mg/L             | E200.8 | 0.0000434 | 0.00400         |               |                   |      |        |              |       |           | U    |
| Copper                         | < 0.00200  | mg/L             | E200.8 | 0.000692  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Lead                           | < 0.00200  | mg/L             | E200.8 | 0.000264  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Manganese                      | < 0.00200  | mg/L             | E200.8 | 0.00153   | 0.00200         |               |                   |      |        |              |       |           | U    |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MBLK

| Analyte                        | Result     | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------|------------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|--------|--------------|-------|-----------|------|
| <b>Lab Sample ID: MB-40013</b> |            | Date Analyzed: | 11/04/2015 1805h |           |                 |               |                   |      |        |              |       |           |      |
| Test Code: 200.8-DIS           |            | Date Prepared: | 10/30/2015 1115h |           |                 |               |                   |      |        |              |       |           |      |
| Molybdenum                     | < 0.00200  | mg/L           | E200.8           | 0.000206  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Nickel                         | < 0.00200  | mg/L           | E200.8           | 0.000754  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Selenium                       | < 0.00200  | mg/L           | E200.8           | 0.0000634 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Silver                         | < 0.00200  | mg/L           | E200.8           | 0.0000244 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Thallium                       | < 0.00200  | mg/L           | E200.8           | 0.0000242 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Vanadium                       | < 0.00440  | mg/L           | E200.8           | 0.000438  | 0.00440         |               |                   |      |        |              |       |           | U    |
| Zinc                           | < 0.00500  | mg/L           | E200.8           | 0.00476   | 0.00500         |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID: MB-40017</b> |            | Date Analyzed: | 11/04/2015 2005h |           |                 |               |                   |      |        |              |       |           |      |
| Test Code: 200.8-W             |            | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |        |              |       |           |      |
| Antimony                       | < 0.00200  | mg/L           | E200.8           | 0.0000366 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Arsenic                        | < 0.00200  | mg/L           | E200.8           | 0.0000920 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Barium                         | < 0.00200  | mg/L           | E200.8           | 0.000538  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Beryllium                      | < 0.00200  | mg/L           | E200.8           | 0.0000288 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Cadmium                        | < 0.000500 | mg/L           | E200.8           | 0.000193  | 0.000500        |               |                   |      |        |              |       |           | U    |
| Chromium                       | < 0.00200  | mg/L           | E200.8           | 0.00154   | 0.00200         |               |                   |      |        |              |       |           | U    |
| Cobalt                         | < 0.00400  | mg/L           | E200.8           | 0.0000434 | 0.00400         |               |                   |      |        |              |       |           | U    |
| Copper                         | < 0.00200  | mg/L           | E200.8           | 0.000692  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Manganese                      | < 0.00200  | mg/L           | E200.8           | 0.00153   | 0.00200         |               |                   |      |        |              |       |           | U    |
| Molybdenum                     | < 0.00200  | mg/L           | E200.8           | 0.000206  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Nickel                         | < 0.00200  | mg/L           | E200.8           | 0.000754  | 0.00200         |               |                   |      |        |              |       |           | U    |
| Selenium                       | < 0.00200  | mg/L           | E200.8           | 0.0000634 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Silver                         | < 0.00200  | mg/L           | E200.8           | 0.0000244 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Thallium                       | < 0.00200  | mg/L           | E200.8           | 0.0000242 | 0.00200         |               |                   |      |        |              |       |           | U    |
| Vanadium                       | < 0.00440  | mg/L           | E200.8           | 0.000438  | 0.00440         |               |                   |      |        |              |       |           | U    |
| Zinc                           | < 0.00500  | mg/L           | E200.8           | 0.00476   | 0.00500         |               |                   |      |        |              |       |           | U    |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MBLK

| Analyte                        | Result   | Units            | Method  | MDL      | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------|----------|------------------|---------|----------|-----------------|---------------|-------------------|------|--------|--------------|-------|-----------|------|
| <b>Lab Sample ID: MB-40017</b> |          |                  |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Analyzed:                 |          | 11/05/2015 1503h |         |          |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     |          | 200.8-W          |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Prepared:                 |          | 10/30/2015 1208h |         |          |                 |               |                   |      |        |              |       |           |      |
| Lead                           | 0.000326 | mg/L             | E200.8  | 0.000264 | 0.00200         |               |                   |      |        |              |       |           | JB   |
| <b>Lab Sample ID: MB-40040</b> |          |                  |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Analyzed:                 |          | 11/10/2015 1017h |         |          |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     |          | 6010C-S          |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Prepared:                 |          | 11/02/2015 1700h |         |          |                 |               |                   |      |        |              |       |           |      |
| Aluminum                       | 2.31     | mg/kg            | SW6010C | 1.72     | 10.0            |               |                   |      |        |              |       |           | JB   |
| Calcium                        | 8.63     | mg/kg            | SW6010C | 2.37     | 100             |               |                   |      |        |              |       |           | JB   |
| Magnesium                      | < 100    | mg/kg            | SW6010C | 10.5     | 100             |               |                   |      |        |              |       |           | U    |
| Potassium                      | < 100    | mg/kg            | SW6010C | 20.3     | 100             |               |                   |      |        |              |       |           | U    |
| Sodium                         | < 100    | mg/kg            | SW6010C | 7.71     | 100             |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID: MB-40202</b> |          |                  |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Analyzed:                 |          | 11/11/2015 1449h |         |          |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     |          | 6010C-S          |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Prepared:                 |          | 11/11/2015 1058h |         |          |                 |               |                   |      |        |              |       |           |      |
| Iron                           | 1.52     | mg/kg            | SW6010C | 1.14     | 5.00            |               |                   |      |        |              |       |           | JB   |
| <b>Lab Sample ID: MB-40040</b> |          |                  |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Analyzed:                 |          | 11/05/2015 1341h |         |          |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     |          | 6020-S           |         |          |                 |               |                   |      |        |              |       |           |      |
| Date Prepared:                 |          | 11/02/2015 1700h |         |          |                 |               |                   |      |        |              |       |           |      |
| Antimony                       | < 3.20   | mg/kg            | SW6020A | 0.291    | 3.20            |               |                   |      |        |              |       |           | U    |
| Arsenic                        | < 2.00   | mg/kg            | SW6020A | 0.0648   | 2.00            |               |                   |      |        |              |       |           | U    |
| Barium                         | < 3.60   | mg/kg            | SW6020A | 2.16     | 3.60            |               |                   |      |        |              |       |           | U    |
| Beryllium                      | < 1.60   | mg/kg            | SW6020A | 0.00476  | 1.60            |               |                   |      |        |              |       |           | U    |
| Cadmium                        | < 0.680  | mg/kg            | SW6020A | 0.0135   | 0.680           |               |                   |      |        |              |       |           | U    |
| Chromium                       | < 8.00   | mg/kg            | SW6020A | 1.94     | 8.00            |               |                   |      |        |              |       |           | U    |
| Cobalt                         | < 1.08   | mg/kg            | SW6020A | 0.122    | 1.08            |               |                   |      |        |              |       |           | U    |
| Copper                         | < 12.4   | mg/kg            | SW6020A | 1.23     | 12.4            |               |                   |      |        |              |       |           | U    |
| Lead                           | < 5.20   | mg/kg            | SW6020A | 2.40     | 5.20            |               |                   |      |        |              |       |           | U    |
| Manganese                      | < 3.20   | mg/kg            | SW6020A | 0.536    | 3.20            |               |                   |      |        |              |       |           | U    |
| Molybdenum                     | < 16.0   | mg/kg            | SW6020A | 0.285    | 16.0            |               |                   |      |        |              |       |           | U    |
| Nickel                         | < 16.0   | mg/kg            | SW6020A | 1.75     | 16.0            |               |                   |      |        |              |       |           | U    |
| Selenium                       | < 6.80   | mg/kg            | SW6020A | 0.436    | 6.80            |               |                   |      |        |              |       |           | U    |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MBLK

| Analyte                        | Result          | Units          | Method     | MDL        | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------|-----------------|----------------|------------|------------|-----------------|---------------|-------------------|------|--------|--------------|-------|-----------|------|
| <b>Lab Sample ID:</b> MB-40040 | Date Analyzed:  | 11/05/2015     | 1341h      |            |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     | 6020-S          | Date Prepared: | 11/02/2015 | 1700h      |                 |               |                   |      |        |              |       |           |      |
| Silver                         | < 1.20          | mg/kg          | SW6020A    | 0.0179     | 1.20            |               |                   |      |        |              |       |           | U    |
| Thallium                       | < 3.20          | mg/kg          | SW6020A    | 0.00404    | 3.20            |               |                   |      |        |              |       |           | U    |
| Vanadium                       | < 8.00          | mg/kg          | SW6020A    | 0.412      | 8.00            |               |                   |      |        |              |       |           | U    |
| Zinc                           | < 40.0          | mg/kg          | SW6020A    | 4.04       | 40.0            |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID:</b> MB-39981 | Date Analyzed:  | 10/29/2015     | 837h       |            |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     | HG-DW-245.1     | Date Prepared: | 10/28/2015 | 1500h      |                 |               |                   |      |        |              |       |           |      |
| Mercury                        | < 0.000150      | mg/L           | E245.1     | 0.00000892 | 0.000150        |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID:</b> MB-40063 | Date Analyzed:  | 11/04/2015     | 1148h      |            |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     | HG-DW-245.1     | Date Prepared: | 11/03/2015 | 1710h      |                 |               |                   |      |        |              |       |           |      |
| Mercury                        | < 0.000150      | mg/L           | E245.1     | 0.00000892 | 0.000150        |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID:</b> MB-40135 | Date Analyzed:  | 11/09/2015     | 1045h      |            |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     | HG-DW-DIS-245.1 | Date Prepared: | 11/06/2015 | 1830h      |                 |               |                   |      |        |              |       |           |      |
| Mercury                        | < 0.000150      | mg/L           | E245.1     | 0.00000892 | 0.000150        |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID:</b> MB-40109 | Date Analyzed:  | 11/06/2015     | 912h       |            |                 |               |                   |      |        |              |       |           |      |
| Test Code:                     | HG-S-7471B      | Date Prepared: | 11/05/2015 | 1728h      |                 |               |                   |      |        |              |       |           |      |
| Mercury                        | < 0.0400        | mg/kg          | SW7471B    | 0.00135    | 0.0400          |               |                   |      |        |              |       |           | U    |

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West

Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MS

| Analyte                              | Result | Units            | Method | MDL    | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC  | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------------|--------|------------------|--------|--------|-----------------|---------------|-------------------|-------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-001BMS</b> |        |                  |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/10/2015 1041h |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 200.7-DIS        |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 10/30/2015 1115h |        |        |                 |               |                   |       |          |              |       |           |      |
| Calcium                              | 88.6   | mg/L             | E200.7 | 0.401  | 10.0            | 10.00         | 74.9              | 137   | 70 - 130 |              |       |           | 2    |
| Sodium                               | 52.3   | mg/L             | E200.7 | 0.330  | 10.0            | 10.00         | 41                | 113   | 70 - 130 |              |       |           |      |
| <b>Lab Sample ID: 1510580-001BMS</b> |        |                  |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/10/2015 1123h |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 200.7-DIS        |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 10/30/2015 1115h |        |        |                 |               |                   |       |          |              |       |           |      |
| Aluminum                             | 0.986  | mg/L             | E200.7 | 0.0237 | 0.100           | 1.000         | 0                 | 98.6  | 70 - 130 |              |       |           |      |
| Iron                                 | 1.00   | mg/L             | E200.7 | 0.0767 | 0.100           | 1.000         | 0                 | 100   | 70 - 130 |              |       |           |      |
| Magnesium                            | 23.8   | mg/L             | E200.7 | 0.0294 | 1.00            | 10.00         | 15.2              | 85.8  | 70 - 130 |              |       |           |      |
| Potassium                            | 13.2   | mg/L             | E200.7 | 0.247  | 1.00            | 10.00         | 3.25              | 99.1  | 70 - 130 |              |       |           |      |
| <b>Lab Sample ID: 1510563-007AMS</b> |        |                  |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/09/2015 1030h |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 200.7-W          |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 10/30/2015 1208h |        |        |                 |               |                   |       |          |              |       |           |      |
| Calcium                              | 210    | mg/L             | E200.7 | 0.401  | 10.0            | 10.00         | 181               | 300   | 70 - 130 |              |       |           | 2    |
| Iron                                 | 46.6   | mg/L             | E200.7 | 0.767  | 1.00            | 1.000         | 38.1              | 847   | 70 - 130 |              |       |           | 2    |
| Magnesium                            | 48.0   | mg/L             | E200.7 | 0.294  | 10.0            | 10.00         | 31.1              | 168   | 70 - 130 |              |       |           | 2    |
| Sodium                               | 51.6   | mg/L             | E200.7 | 0.330  | 10.0            | 10.00         | 41.4              | 103   | 70 - 130 |              |       |           |      |
| <b>Lab Sample ID: 1510580-001AMS</b> |        |                  |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/09/2015 1105h |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 200.7-W          |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 10/30/2015 1208h |        |        |                 |               |                   |       |          |              |       |           |      |
| Aluminum                             | 58.4   | mg/L             | E200.7 | 0.237  | 1.00            | 1.000         | 45.8              | 1,260 | 70 - 130 |              |       |           | 2    |
| Calcium                              | 156    | mg/L             | E200.7 | 0.401  | 10.0            | 10.00         | 149               | 71.0  | 70 - 130 |              |       |           |      |
| Iron                                 | 44.5   | mg/L             | E200.7 | 0.767  | 1.00            | 1.000         | 42.5              | 200   | 70 - 130 |              |       |           | 2    |
| Magnesium                            | 44.6   | mg/L             | E200.7 | 0.294  | 10.0            | 10.00         | 34.3              | 103   | 70 - 130 |              |       |           |      |
| Sodium                               | 53.1   | mg/L             | E200.7 | 0.330  | 10.0            | 10.00         | 44.8              | 83.5  | 70 - 130 |              |       |           |      |
| <b>Lab Sample ID: 1510563-007AMS</b> |        |                  |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/09/2015 1321h |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 200.7-W          |        |        |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 10/30/2015 1208h |        |        |                 |               |                   |       |          |              |       |           |      |
| Aluminum                             | 45.5   | mg/L             | E200.7 | 0.0237 | 0.100           | 1.000         | 34.4              | 1,100 | 70 - 130 |              |       |           | 2    |
| Potassium                            | 19.5   | mg/L             | E200.7 | 0.247  | 1.00            | 10.00         | 9.22              | 103   | 70 - 130 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MS

| Analyte                              | Result | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------------|--------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-001AMS</b> |        | Date Analyzed: | 11/09/2015 1350h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.7-W                   |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Potassium                            | 19.6   | mg/L           | E200.7           | 0.247     | 1.00            | 10.00         | 9.46              | 101  | 70 - 130 |              |       |           |      |
| <b>Lab Sample ID: 1510580-001BMS</b> |        | Date Analyzed: | 11/04/2015 1821h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-DIS                 |        | Date Prepared: | 10/30/2015 1115h |           |                 |               |                   |      |          |              |       |           |      |
| Antimony                             | 0.195  | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0.000946          | 96.8 | 75 - 125 |              |       |           |      |
| Arsenic                              | 0.202  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0.00103           | 100  | 75 - 125 |              |       |           |      |
| Barium                               | 0.304  | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0.109             | 97.4 | 75 - 125 |              |       |           |      |
| Beryllium                            | 0.201  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0                 | 101  | 75 - 125 |              |       |           |      |
| Cadmium                              | 0.197  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0                 | 98.6 | 75 - 125 |              |       |           |      |
| Chromium                             | 0.198  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0                 | 99.0 | 75 - 125 |              |       |           |      |
| Cobalt                               | 0.195  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0.000557          | 97.1 | 75 - 125 |              |       |           |      |
| Copper                               | 0.198  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0.0013            | 98.6 | 75 - 125 |              |       |           |      |
| Lead                                 | 0.195  | mg/L           | E200.8           | 0.000264  | 0.00200         | 0.2000        | 0                 | 97.4 | 75 - 125 |              |       |           |      |
| Manganese                            | 0.201  | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 0.00203           | 99.3 | 75 - 125 |              |       |           |      |
| Molybdenum                           | 0.203  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0.0018            | 101  | 75 - 125 |              |       |           |      |
| Nickel                               | 0.196  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0.000756          | 97.4 | 75 - 125 |              |       |           |      |
| Selenium                             | 0.194  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0.0006            | 96.9 | 75 - 125 |              |       |           |      |
| Silver                               | 0.195  | mg/L           | E200.8           | 0.0000244 | 0.00200         | 0.2000        | 0                 | 97.3 | 75 - 125 |              |       |           |      |
| Thallium                             | 0.192  | mg/L           | E200.8           | 0.0000242 | 0.00200         | 0.2000        | 0                 | 95.8 | 75 - 125 |              |       |           |      |
| Vanadium                             | 0.201  | mg/L           | E200.8           | 0.000438  | 0.00440         | 0.2000        | 0.00186           | 99.6 | 75 - 125 |              |       |           |      |
| Zinc                                 | 0.989  | mg/L           | E200.8           | 0.00476   | 0.00500         | 1.000         | 0                 | 98.9 | 75 - 125 |              |       |           |      |
| <b>Lab Sample ID: 1510563-007AMS</b> |        | Date Analyzed: | 11/04/2015 2020h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-W                   |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Antimony                             | 0.0220 | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0.000771          | 10.6 | 75 - 125 |              |       |           | 1    |
| Arsenic                              | 0.168  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0.00994           | 79.2 | 75 - 125 |              |       |           |      |
| Barium                               | 1.09   | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0.751             | 170  | 75 - 125 |              |       |           | 1    |
| Beryllium                            | 0.175  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0.00255           | 86.2 | 75 - 125 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MS

| Analyte                              | Result | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------------|--------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510563-007AMS</b> |        | Date Analyzed: | 11/04/2015 2020h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-W                   |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Cadmium                              | 0.193  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0.00101           | 96.2 | 75 - 125 |              |       |           |      |
| Chromium                             | 0.214  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0.0226            | 95.9 | 75 - 125 |              |       |           |      |
| Cobalt                               | 0.211  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0.0223            | 94.1 | 75 - 125 |              |       |           |      |
| Copper                               | 0.256  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0.0595            | 98.5 | 75 - 125 |              |       |           |      |
| Manganese                            | 1.81   | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 1.28              | 263  | 75 - 125 |              |       |           | 2    |
| Molybdenum                           | 0.114  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0.000922          | 56.4 | 75 - 125 |              |       |           | 1    |
| Nickel                               | 0.281  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0.0737            | 104  | 75 - 125 |              |       |           |      |
| Selenium                             | 0.148  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0.000976          | 73.3 | 75 - 125 |              |       |           | 1    |
| Silver                               | 0.186  | mg/L           | E200.8           | 0.0000244 | 0.00200         | 0.2000        | 0.000365          | 92.6 | 75 - 125 |              |       |           |      |
| Thallium                             | 0.180  | mg/L           | E200.8           | 0.0000242 | 0.00200         | 0.2000        | 0.000683          | 89.4 | 75 - 125 |              |       |           |      |
| Vanadium                             | 0.241  | mg/L           | E200.8           | 0.000438  | 0.00440         | 0.2000        | 0.0497            | 95.8 | 75 - 125 |              |       |           |      |
| Zinc                                 | 1.11   | mg/L           | E200.8           | 0.00476   | 0.00500         | 1.000         | 0.176             | 93.6 | 75 - 125 |              |       |           |      |
| <b>Lab Sample ID: 1510580-001AMS</b> |        | Date Analyzed: | 11/04/2015 2105h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-W                   |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Antimony                             | 0.0151 | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0.000105          | 7.50 | 75 - 125 |              |       |           | 1    |
| Arsenic                              | 0.186  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0.0105            | 87.6 | 75 - 125 |              |       |           |      |
| Barium                               | 0.940  | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0.771             | 84.9 | 75 - 125 |              |       |           |      |
| Beryllium                            | 0.165  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0.00266           | 81.2 | 75 - 125 |              |       |           |      |
| Cadmium                              | 0.195  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0.000785          | 96.9 | 75 - 125 |              |       |           |      |
| Chromium                             | 0.209  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0.0249            | 92.0 | 75 - 125 |              |       |           |      |
| Cobalt                               | 0.200  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0.0213            | 89.3 | 75 - 125 |              |       |           |      |
| Copper                               | 0.234  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0.0549            | 89.8 | 75 - 125 |              |       |           |      |
| Lead                                 | 0.228  | mg/L           | E200.8           | 0.000264  | 0.00200         | 0.2000        | 0.0393            | 94.6 | 75 - 125 |              |       |           |      |
| Manganese                            | 1.29   | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 1.12              | 82.8 | 75 - 125 |              |       |           |      |
| Molybdenum                           | 0.128  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0.000593          | 63.7 | 75 - 125 |              |       |           | 1    |
| Nickel                               | 0.212  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0.0307            | 90.6 | 75 - 125 |              |       |           |      |
| Selenium                             | 0.171  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0.000909          | 84.9 | 75 - 125 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MS

| Analyte                              | Result | Units            | Method  | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC  | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------------|--------|------------------|---------|-----------|-----------------|---------------|-------------------|-------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-001AMS</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/04/2015 2105h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 200.8-W          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 10/30/2015 1208h |         |           |                 |               |                   |       |          |              |       |           |      |
| Silver                               | 0.184  | mg/L             | E200.8  | 0.0000244 | 0.00200         | 0.2000        | 0.000226          | 92.0  | 75 - 125 |              |       |           |      |
| Thallium                             | 0.184  | mg/L             | E200.8  | 0.0000242 | 0.00200         | 0.2000        | 0.000565          | 91.9  | 75 - 125 |              |       |           |      |
| Vanadium                             | 0.239  | mg/L             | E200.8  | 0.000438  | 0.00440         | 0.2000        | 0.0535            | 92.8  | 75 - 125 |              |       |           |      |
| Zinc                                 | 1.04   | mg/L             | E200.8  | 0.00476   | 0.00500         | 1.000         | 0.14              | 90.4  | 75 - 125 |              |       |           |      |
| <b>Lab Sample ID: 1510563-007AMS</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/05/2015 1531h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 200.8-W          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 10/30/2015 1208h |         |           |                 |               |                   |       |          |              |       |           |      |
| Lead                                 | 0.239  | mg/L             | E200.8  | 0.000264  | 0.00200         | 0.2000        | 0.044             | 97.7  | 75 - 125 |              |       |           |      |
| <b>Lab Sample ID: 1510580-002AMS</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/10/2015 1030h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 6010C-S          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 11/02/2015 1700h |         |           |                 |               |                   |       |          |              |       |           |      |
| Aluminum                             | 12,100 | mg/kg-dry        | SW6010C | 21.5      | 125             | 125.1         | 10400             | 1,420 | 75 - 125 |              |       |           | 2    |
| Calcium                              | 21,700 | mg/kg-dry        | SW6010C | 29.7      | 1,250           | 1,251         | 19900             | 140   | 75 - 125 |              |       |           | 2    |
| Magnesium                            | 7,140  | mg/kg-dry        | SW6010C | 131       | 1,250           | 1,251         | 5550              | 128   | 75 - 125 |              |       |           | 2    |
| <b>Lab Sample ID: 1510580-002AMS</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/10/2015 1055h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 6010C-S          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 11/02/2015 1700h |         |           |                 |               |                   |       |          |              |       |           |      |
| Potassium                            | 4,250  | mg/kg-dry        | SW6010C | 25.4      | 125             | 1,251         | 2790              | 117   | 75 - 125 |              |       |           |      |
| Sodium                               | 1,660  | mg/kg-dry        | SW6010C | 9.65      | 125             | 1,251         | 400               | 101   | 75 - 125 |              |       |           |      |
| <b>Lab Sample ID: 1510580-002AMS</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/11/2015 1501h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 6010C-S          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 11/11/2015 1058h |         |           |                 |               |                   |       |          |              |       |           |      |
| Iron                                 | 12,100 | mg/kg-dry        | SW6010C | 15.6      | 68.5            | 137.0         | 11800             | 162   | 75 - 125 |              |       |           | 2    |
| <b>Lab Sample ID: 1510580-002AMS</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                       |        | 11/04/2015 1908h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                           |        | 6020-S           |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                       |        | 11/02/2015 1700h |         |           |                 |               |                   |       |          |              |       |           |      |
| Antimony                             | 23.4   | mg/kg-dry        | SW6020A | 0.364     | 4.00            | 25.03         | 0                 | 93.5  | 75 - 125 |              |       |           |      |
| Arsenic                              | 27.7   | mg/kg-dry        | SW6020A | 0.0811    | 2.50            | 25.03         | 3.23              | 97.7  | 75 - 125 |              |       |           |      |
| Barium                               | 210    | mg/kg-dry        | SW6020A | 2.71      | 4.50            | 25.03         | 175               | 139   | 75 - 125 |              |       |           | 2    |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MS

| Analyte                              | Result  | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------------|---------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-002AMS</b> |         | Date Analyzed: | 11/04/2015 1908h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 6020-S                    |         | Date Prepared: | 11/02/2015 1700h |           |                 |               |                   |      |          |              |       |           |      |
| Beryllium                            | 24.9    | mg/kg-dry      | SW6020A          | 0.00596   | 2.00            | 25.03         | 0.54              | 97.4 | 75 - 125 |              |       |           |      |
| Cadmium                              | 25.1    | mg/kg-dry      | SW6020A          | 0.0169    | 0.851           | 25.03         | 0.242             | 99.4 | 75 - 125 |              |       |           |      |
| Chromium                             | 34.3    | mg/kg-dry      | SW6020A          | 2.43      | 10.0            | 25.03         | 10.4              | 95.7 | 75 - 125 |              |       |           |      |
| Cobalt                               | 28.2    | mg/kg-dry      | SW6020A          | 0.152     | 1.35            | 25.03         | 4.35              | 95.3 | 75 - 125 |              |       |           |      |
| Copper                               | 32.0    | mg/kg-dry      | SW6020A          | 1.54      | 15.5            | 25.03         | 7.69              | 97.0 | 75 - 125 |              |       |           |      |
| Lead                                 | 32.5    | mg/kg-dry      | SW6020A          | 3.00      | 6.51            | 25.03         | 8.36              | 96.4 | 75 - 125 |              |       |           |      |
| Manganese                            | 292     | mg/kg-dry      | SW6020A          | 0.671     | 4.00            | 25.03         | 267               | 99.7 | 75 - 125 |              |       |           |      |
| Molybdenum                           | 25.6    | mg/kg-dry      | SW6020A          | 0.356     | 20.0            | 25.03         | 0.578             | 99.9 | 75 - 125 |              |       |           |      |
| Nickel                               | 31.9    | mg/kg-dry      | SW6020A          | 2.19      | 20.0            | 25.03         | 7.98              | 95.6 | 75 - 125 |              |       |           |      |
| Selenium                             | 24.1    | mg/kg-dry      | SW6020A          | 0.546     | 8.51            | 25.03         | 0                 | 96.2 | 75 - 125 |              |       |           |      |
| Silver                               | 24.8    | mg/kg-dry      | SW6020A          | 0.0224    | 1.50            | 25.03         | 0.0367            | 99.0 | 75 - 125 |              |       |           |      |
| Thallium                             | 24.3    | mg/kg-dry      | SW6020A          | 0.00506   | 4.00            | 25.03         | 0.144             | 96.7 | 75 - 125 |              |       |           |      |
| Vanadium                             | 46.9    | mg/kg-dry      | SW6020A          | 0.516     | 10.0            | 25.03         | 21.4              | 102  | 75 - 125 |              |       |           |      |
| Zinc                                 | 142     | mg/kg-dry      | SW6020A          | 5.06      | 50.1            | 125.1         | 26.7              | 92.1 | 75 - 125 |              |       |           |      |
| <b>Lab Sample ID: 1510580-001AMS</b> |         | Date Analyzed: | 10/29/2015 846h  |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1               |         | Date Prepared: | 10/28/2015 1500h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                              | 0.00362 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0.0000717         | 107  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: 1510563-007AMS</b> |         | Date Analyzed: | 11/04/2015 1157h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1               |         | Date Prepared: | 11/03/2015 1710h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                              | 0.00376 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0.000147          | 109  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: 1510566-013AMS</b> |         | Date Analyzed: | 11/04/2015 1216h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1               |         | Date Prepared: | 11/03/2015 1710h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                              | 0.00357 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0.000165          | 102  | 80 - 120 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MS

| Analyte                              | Result          | Units          | Method     | MDL        | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------------|-----------------|----------------|------------|------------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID:</b> 1510567-013AMS | Date Analyzed:  | 11/04/2015     | 1221h      |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                           | HG-DW-245.1     | Date Prepared: | 11/03/2015 | 1710h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                              | 0.00345         | mg/L           | E245.1     | 0.00000892 | 0.000150        | 0.003330      | 0.0000133         | 103  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID:</b> 1510580-003AMS | Date Analyzed:  | 11/04/2015     | 1230h      |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                           | HG-DW-245.1     | Date Prepared: | 11/03/2015 | 1710h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                              | 0.00347         | mg/L           | E245.1     | 0.00000892 | 0.000150        | 0.003330      | 0.0000717         | 102  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID:</b> 1510580-001BMS | Date Analyzed:  | 11/09/2015     | 1054h      |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                           | HG-DW-DIS-245.1 | Date Prepared: | 11/06/2015 | 1830h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                              | 0.00350         | mg/L           | E245.1     | 0.00000892 | 0.000150        | 0.003330      | 0                 | 105  | 85 - 115 |              |       |           |      |
| <b>Lab Sample ID:</b> 1510580-002AMS | Date Analyzed:  | 11/06/2015     | 920h       |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                           | HG-S-7471B      | Date Prepared: | 11/05/2015 | 1728h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                              | 0.526           | mg/kg-dry      | SW7471B    | 0.00165    | 0.0489          | 0.4886        | 0.00757           | 106  | 80 - 120 |              |       |           |      |

<sup>1</sup> - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

<sup>2</sup> - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MSD

| Analyte   | Result | Units | Method | MDL    | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC  | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---|--------|-------|--------|--------|-----------------|---------------|-------------------|-------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-001BMSD</b> Date Analyzed: 11/10/2015 1043h |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code: 200.7-DIS      Date Prepared: 10/30/2015 1115h             |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Calcium   | 88.2   | mg/L  | E200.7 | 0.401  | 10.0            | 10.00         | 74.9              | 134   | 70 - 130 | 88.6         | 0.375 | 20        | 2    |
| Sodium  | 52.1   | mg/L  | E200.7 | 0.330  | 10.0            | 10.00         | 41                | 111   | 70 - 130 | 52.3         | 0.365 | 20        |      |
| <b>Lab Sample ID: 1510580-001BMSD</b> Date Analyzed: 11/10/2015 1126h |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code: 200.7-DIS      Date Prepared: 10/30/2015 1115h             |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Aluminum  | 0.989  | mg/L  | E200.7 | 0.0237 | 0.100           | 1.000         | 0                 | 98.9  | 70 - 130 | 0.986        | 0.321 | 20        |      |
| Iron  | 0.997  | mg/L  | E200.7 | 0.0767 | 0.100           | 1.000         | 0                 | 99.7  | 70 - 130 | 1            | 0.268 | 20        |      |
| Magnesium   | 23.8   | mg/L  | E200.7 | 0.0294 | 1.00            | 10.00         | 15.2              | 86.1  | 70 - 130 | 23.8         | 0.125 | 20        |      |
| Potassium   | 13.1   | mg/L  | E200.7 | 0.247  | 1.00            | 10.00         | 3.25              | 98.2  | 70 - 130 | 13.2         | 0.688 | 20        |      |
| <b>Lab Sample ID: 1510563-007AMSD</b> Date Analyzed: 11/09/2015 1033h |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code: 200.7-W      Date Prepared: 10/30/2015 1208h               |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Calcium   | 192    | mg/L  | E200.7 | 0.401  | 10.0            | 10.00         | 181               | 120   | 70 - 130 | 210          | 8.95  | 20        |      |
| Iron  | 39.5   | mg/L  | E200.7 | 0.767  | 1.00            | 1.000         | 38.1              | 141   | 70 - 130 | 46.6         | 16.4  | 20        | 2    |
| Magnesium   | 41.4   | mg/L  | E200.7 | 0.294  | 10.0            | 10.00         | 31.1              | 103   | 70 - 130 | 48           | 14.7  | 20        |      |
| Sodium  | 51.0   | mg/L  | E200.7 | 0.330  | 10.0            | 10.00         | 41.4              | 96.4  | 70 - 130 | 51.6         | 1.25  | 20        |      |
| <b>Lab Sample ID: 1510580-001AMSD</b> Date Analyzed: 11/09/2015 1108h |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code: 200.7-W      Date Prepared: 10/30/2015 1208h               |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Aluminum  | 56.5   | mg/L  | E200.7 | 0.237  | 1.00            | 1.000         | 45.8              | 1,060 | 70 - 130 | 58.4         | 3.39  | 20        | 2    |
| Calcium   | 158    | mg/L  | E200.7 | 0.401  | 10.0            | 10.00         | 149               | 87.4  | 70 - 130 | 156          | 1.04  | 20        |      |
| Iron  | 43.8   | mg/L  | E200.7 | 0.767  | 1.00            | 1.000         | 42.5              | 122   | 70 - 130 | 44.5         | 1.75  | 20        |      |
| Magnesium   | 45.2   | mg/L  | E200.7 | 0.294  | 10.0            | 10.00         | 34.3              | 109   | 70 - 130 | 44.6         | 1.34  | 20        |      |
| Sodium  | 54.0   | mg/L  | E200.7 | 0.330  | 10.0            | 10.00         | 44.8              | 91.8  | 70 - 130 | 53.1         | 1.55  | 20        |      |
| <b>Lab Sample ID: 1510563-007AMSD</b> Date Analyzed: 11/09/2015 1324h |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Test Code: 200.7-W      Date Prepared: 10/30/2015 1208h               |        |       |        |        |                 |               |                   |       |          |              |       |           |      |
| Aluminum  | 38.8   | mg/L  | E200.7 | 0.0237 | 0.100           | 1.000         | 34.4              | 436   | 70 - 130 | 45.5         | 15.8  | 20        | 2    |
| Potassium   | 17.6   | mg/L  | E200.7 | 0.247  | 1.00            | 10.00         | 9.22              | 84.1  | 70 - 130 | 19.5         | 10.2  | 20        |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MSD

| Analyte                               | Result | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual           |
|---------------------------------------|--------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|----------------|
| <b>Lab Sample ID: 1510580-001AMSD</b> |        | Date Analyzed: | 11/09/2015 1353h |           |                 |               |                   |      |          |              |       |           |                |
| Test Code: 200.7-W                    |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |                |
| Potassium                             | 19.3   | mg/L           | E200.7           | 0.247     | 1.00            | 10.00         | 9.46              | 98.3 | 70 - 130 | 19.6         | 1.44  | 20        |                |
| <b>Lab Sample ID: 1510580-001BMSD</b> |        | Date Analyzed: | 11/04/2015 1824h |           |                 |               |                   |      |          |              |       |           |                |
| Test Code: 200.8-DIS                  |        | Date Prepared: | 10/30/2015 1115h |           |                 |               |                   |      |          |              |       |           |                |
| Antimony                              | 0.198  | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0.000946          | 98.3 | 75 - 125 | 0.195        | 1.51  | 20        |                |
| Arsenic                               | 0.200  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0.00103           | 99.6 | 75 - 125 | 0.202        | 0.717 | 20        |                |
| Barium                                | 0.305  | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0.109             | 97.8 | 75 - 125 | 0.304        | 0.275 | 20        |                |
| Beryllium                             | 0.203  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0                 | 102  | 75 - 125 | 0.201        | 0.816 | 20        |                |
| Cadmium                               | 0.197  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0                 | 98.7 | 75 - 125 | 0.197        | 0.107 | 20        |                |
| Chromium                              | 0.200  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0                 | 99.8 | 75 - 125 | 0.198        | 0.780 | 20        |                |
| Cobalt                                | 0.197  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0.000557          | 98.2 | 75 - 125 | 0.195        | 1.12  | 20        |                |
| Copper                                | 0.200  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0.0013            | 99.2 | 75 - 125 | 0.198        | 0.584 | 20        |                |
| Lead                                  | 0.195  | mg/L           | E200.8           | 0.000264  | 0.00200         | 0.2000        | 0                 | 97.7 | 75 - 125 | 0.195        | 0.227 | 20        |                |
| Manganese                             | 0.203  | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 0.00203           | 101  | 75 - 125 | 0.201        | 1.23  | 20        |                |
| Molybdenum                            | 0.205  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0.0018            | 102  | 75 - 125 | 0.203        | 0.861 | 20        |                |
| Nickel                                | 0.197  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0.000756          | 98.2 | 75 - 125 | 0.196        | 0.887 | 20        |                |
| Selenium                              | 0.193  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0.0006            | 96.1 | 75 - 125 | 0.194        | 0.923 | 20        |                |
| Silver                                | 0.195  | mg/L           | E200.8           | 0.0000244 | 0.00200         | 0.2000        | 0                 | 97.5 | 75 - 125 | 0.195        | 0.225 | 20        |                |
| Thallium                              | 0.191  | mg/L           | E200.8           | 0.0000242 | 0.00200         | 0.2000        | 0                 | 95.7 | 75 - 125 | 0.192        | 0.170 | 20        |                |
| Vanadium                              | 0.203  | mg/L           | E200.8           | 0.000438  | 0.00440         | 0.2000        | 0.00186           | 101  | 75 - 125 | 0.201        | 0.992 | 20        |                |
| Zinc                                  | 0.986  | mg/L           | E200.8           | 0.00476   | 0.00500         | 1.000         | 0                 | 98.6 | 75 - 125 | 0.989        | 0.318 | 20        |                |
| <b>Lab Sample ID: 1510563-007AMSD</b> |        | Date Analyzed: | 11/04/2015 2024h |           |                 |               |                   |      |          |              |       |           |                |
| Test Code: 200.8-W                    |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |                |
| Antimony                              | 0.0252 | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0.000771          | 12.2 | 75 - 125 | 0.022        | 13.4  | 20        | <sup>1</sup>   |
| Arsenic                               | 0.156  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0.00994           | 72.9 | 75 - 125 | 0.168        | 7.78  | 20        | <sup>1</sup>   |
| Barium                                | 0.835  | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0.751             | 42.1 | 75 - 125 | 1.09         | 26.5  | 20        | <sup>1</sup> @ |
| Beryllium                             | 0.158  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0.00255           | 77.8 | 75 - 125 | 0.175        | 10.0  | 20        |                |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MSD

| Analyte                               | Result | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------------|--------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510563-007AMSD</b> |        | Date Analyzed: | 11/04/2015 2024h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-W                    |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Cadmium                               | 0.171  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0.00101           | 85.0 | 75 - 125 | 0.193        | 12.3  | 20        |      |
| Chromium                              | 0.188  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0.0226            | 82.9 | 75 - 125 | 0.214        | 12.9  | 20        |      |
| Cobalt                                | 0.184  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0.0223            | 80.6 | 75 - 125 | 0.211        | 13.7  | 20        |      |
| Copper                                | 0.216  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0.0595            | 78.4 | 75 - 125 | 0.256        | 17.0  | 20        |      |
| Manganese                             | 1.33   | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 1.28              | 21.9 | 75 - 125 | 1.81         | 30.8  | 20        | 2    |
| Molybdenum                            | 0.113  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0.000922          | 56.0 | 75 - 125 | 0.114        | 0.676 | 20        | 1    |
| Nickel                                | 0.231  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0.0737            | 78.4 | 75 - 125 | 0.281        | 19.8  | 20        |      |
| Selenium                              | 0.140  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0.000976          | 69.6 | 75 - 125 | 0.148        | 5.18  | 20        | 1    |
| Silver                                | 0.167  | mg/L           | E200.8           | 0.0000244 | 0.00200         | 0.2000        | 0.000365          | 83.5 | 75 - 125 | 0.186        | 10.4  | 20        |      |
| Thallium                              | 0.162  | mg/L           | E200.8           | 0.0000242 | 0.00200         | 0.2000        | 0.000683          | 80.8 | 75 - 125 | 0.18         | 10.1  | 20        |      |
| Vanadium                              | 0.210  | mg/L           | E200.8           | 0.000438  | 0.00440         | 0.2000        | 0.0497            | 80.0 | 75 - 125 | 0.241        | 14.1  | 20        |      |
| Zinc                                  | 0.966  | mg/L           | E200.8           | 0.00476   | 0.00500         | 1.000         | 0.176             | 79.0 | 75 - 125 | 1.11         | 14.0  | 20        |      |
| <b>Lab Sample ID: 1510580-001AMSD</b> |        | Date Analyzed: | 11/04/2015 2108h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 200.8-W                    |        | Date Prepared: | 10/30/2015 1208h |           |                 |               |                   |      |          |              |       |           |      |
| Antimony                              | 0.0148 | mg/L           | E200.8           | 0.0000366 | 0.00200         | 0.2000        | 0.000105          | 7.37 | 75 - 125 | 0.0151       | 1.80  | 20        | 1    |
| Arsenic                               | 0.191  | mg/L           | E200.8           | 0.0000920 | 0.00200         | 0.2000        | 0.0105            | 90.4 | 75 - 125 | 0.186        | 2.96  | 20        |      |
| Barium                                | 0.958  | mg/L           | E200.8           | 0.000538  | 0.00200         | 0.2000        | 0.771             | 93.6 | 75 - 125 | 0.94         | 1.83  | 20        |      |
| Beryllium                             | 0.170  | mg/L           | E200.8           | 0.0000288 | 0.00200         | 0.2000        | 0.00266           | 83.8 | 75 - 125 | 0.165        | 3.14  | 20        |      |
| Cadmium                               | 0.200  | mg/L           | E200.8           | 0.000193  | 0.000500        | 0.2000        | 0.000785          | 99.4 | 75 - 125 | 0.195        | 2.62  | 20        |      |
| Chromium                              | 0.216  | mg/L           | E200.8           | 0.00154   | 0.00200         | 0.2000        | 0.0249            | 95.8 | 75 - 125 | 0.209        | 3.54  | 20        |      |
| Cobalt                                | 0.208  | mg/L           | E200.8           | 0.0000434 | 0.00400         | 0.2000        | 0.0213            | 93.1 | 75 - 125 | 0.2          | 3.81  | 20        |      |
| Copper                                | 0.243  | mg/L           | E200.8           | 0.000692  | 0.00200         | 0.2000        | 0.0549            | 94.2 | 75 - 125 | 0.234        | 3.73  | 20        |      |
| Lead                                  | 0.234  | mg/L           | E200.8           | 0.000264  | 0.00200         | 0.2000        | 0.0393            | 97.5 | 75 - 125 | 0.228        | 2.52  | 20        |      |
| Manganese                             | 1.32   | mg/L           | E200.8           | 0.00153   | 0.00200         | 0.2000        | 1.12              | 102  | 75 - 125 | 1.29         | 2.88  | 20        |      |
| Molybdenum                            | 0.134  | mg/L           | E200.8           | 0.000206  | 0.00200         | 0.2000        | 0.000593          | 66.7 | 75 - 125 | 0.128        | 4.59  | 20        | 1    |
| Nickel                                | 0.219  | mg/L           | E200.8           | 0.000754  | 0.00200         | 0.2000        | 0.0307            | 94.1 | 75 - 125 | 0.212        | 3.34  | 20        |      |
| Selenium                              | 0.176  | mg/L           | E200.8           | 0.0000634 | 0.00200         | 0.2000        | 0.000909          | 87.6 | 75 - 125 | 0.171        | 3.08  | 20        |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MSD

| Analyte                               | Result | Units            | Method  | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC  | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------------|--------|------------------|---------|-----------|-----------------|---------------|-------------------|-------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-001AMSD</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                        |        | 11/04/2015 2108h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                            |        | 200.8-W          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                        |        | 10/30/2015 1208h |         |           |                 |               |                   |       |          |              |       |           |      |
| Silver                                | 0.187  | mg/L             | E200.8  | 0.0000244 | 0.00200         | 0.2000        | 0.000226          | 93.5  | 75 - 125 | 0.184        | 1.54  | 20        |      |
| Thallium                              | 0.188  | mg/L             | E200.8  | 0.0000242 | 0.00200         | 0.2000        | 0.000565          | 93.6  | 75 - 125 | 0.184        | 1.80  | 20        |      |
| Vanadium                              | 0.245  | mg/L             | E200.8  | 0.000438  | 0.00440         | 0.2000        | 0.0535            | 95.6  | 75 - 125 | 0.239        | 2.34  | 20        |      |
| Zinc                                  | 1.08   | mg/L             | E200.8  | 0.00476   | 0.00500         | 1.000         | 0.14              | 93.8  | 75 - 125 | 1.04         | 3.20  | 20        |      |
| <b>Lab Sample ID: 1510563-007AMSD</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                        |        | 11/05/2015 1534h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                            |        | 200.8-W          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                        |        | 10/30/2015 1208h |         |           |                 |               |                   |       |          |              |       |           |      |
| Lead                                  | 0.215  | mg/L             | E200.8  | 0.000264  | 0.00200         | 0.2000        | 0.044             | 85.4  | 75 - 125 | 0.239        | 10.8  | 20        |      |
| <b>Lab Sample ID: 1510580-002AMSD</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                        |        | 11/10/2015 1032h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                            |        | 6010C-S          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                        |        | 11/02/2015 1700h |         |           |                 |               |                   |       |          |              |       |           |      |
| Aluminum                              | 12,000 | mg/kg-dry        | SW6010C | 22.2      | 129             | 129.1         | 10400             | 1,230 | 75 - 125 | 12100        | 1.60  | 20        | 2    |
| Calcium                               | 21,000 | mg/kg-dry        | SW6010C | 30.6      | 1,290           | 1,291         | 19900             | 81.8  | 75 - 125 | 21700        | 3.25  | 20        |      |
| Magnesium                             | 6,990  | mg/kg-dry        | SW6010C | 136       | 1,290           | 1,291         | 5550              | 112   | 75 - 125 | 7140         | 2.13  | 20        |      |
| <b>Lab Sample ID: 1510580-002AMSD</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                        |        | 11/10/2015 1057h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                            |        | 6010C-S          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                        |        | 11/02/2015 1700h |         |           |                 |               |                   |       |          |              |       |           |      |
| Potassium                             | 4,270  | mg/kg-dry        | SW6010C | 26.2      | 129             | 1,291         | 2790              | 115   | 75 - 125 | 4250         | 0.444 | 20        |      |
| Sodium                                | 1,670  | mg/kg-dry        | SW6010C | 9.95      | 129             | 1,291         | 400               | 98.3  | 75 - 125 | 1660         | 0.312 | 20        |      |
| <b>Lab Sample ID: 1510580-002AMSD</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                        |        | 11/11/2015 1504h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                            |        | 6010C-S          |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                        |        | 11/11/2015 1058h |         |           |                 |               |                   |       |          |              |       |           |      |
| Iron                                  | 11,800 | mg/kg-dry        | SW6010C | 15.1      | 66.2            | 132.4         | 11800             | -40.1 | 75 - 125 | 12100        | 2.31  | 20        | 2    |
| <b>Lab Sample ID: 1510580-002AMSD</b> |        |                  |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Analyzed:                        |        | 11/04/2015 1911h |         |           |                 |               |                   |       |          |              |       |           |      |
| Test Code:                            |        | 6020-S           |         |           |                 |               |                   |       |          |              |       |           |      |
| Date Prepared:                        |        | 11/02/2015 1700h |         |           |                 |               |                   |       |          |              |       |           |      |
| Antimony                              | 24.4   | mg/kg-dry        | SW6020A | 0.375     | 4.13            | 25.81         | 0                 | 94.3  | 75 - 125 | 23.4         | 4.04  | 20        |      |
| Arsenic                               | 28.1   | mg/kg-dry        | SW6020A | 0.0836    | 2.58            | 25.81         | 3.23              | 96.4  | 75 - 125 | 27.7         | 1.52  | 20        |      |
| Barium                                | 235    | mg/kg-dry        | SW6020A | 2.79      | 4.65            | 25.81         | 175               | 232   | 75 - 125 | 210          | 11.3  | 20        | 2    |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MSD

| Analyte                               | Result  | Units          | Method           | MDL       | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------------|---------|----------------|------------------|-----------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-002AMSD</b> |         | Date Analyzed: | 11/04/2015 1911h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: 6020-S                     |         | Date Prepared: | 11/02/2015 1700h |           |                 |               |                   |      |          |              |       |           |      |
| Beryllium                             | 25.6    | mg/kg-dry      | SW6020A          | 0.00614   | 2.07            | 25.81         | 0.54              | 97.0 | 75 - 125 | 24.9         | 2.66  | 20        |      |
| Cadmium                               | 26.0    | mg/kg-dry      | SW6020A          | 0.0174    | 0.878           | 25.81         | 0.242             | 99.7 | 75 - 125 | 25.1         | 3.32  | 20        |      |
| Chromium                              | 35.0    | mg/kg-dry      | SW6020A          | 2.51      | 10.3            | 25.81         | 10.4              | 95.3 | 75 - 125 | 34.3         | 1.94  | 20        |      |
| Cobalt                                | 28.5    | mg/kg-dry      | SW6020A          | 0.157     | 1.39            | 25.81         | 4.35              | 93.6 | 75 - 125 | 28.2         | 1.02  | 20        |      |
| Copper                                | 32.1    | mg/kg-dry      | SW6020A          | 1.59      | 16.0            | 25.81         | 7.69              | 94.5 | 75 - 125 | 32           | 0.360 | 20        |      |
| Lead                                  | 33.0    | mg/kg-dry      | SW6020A          | 3.09      | 6.71            | 25.81         | 8.36              | 95.5 | 75 - 125 | 32.5         | 1.66  | 20        |      |
| Manganese                             | 288     | mg/kg-dry      | SW6020A          | 0.692     | 4.13            | 25.81         | 267               | 82.1 | 75 - 125 | 292          | 1.30  | 20        |      |
| Molybdenum                            | 26.3    | mg/kg-dry      | SW6020A          | 0.368     | 20.7            | 25.81         | 0.578             | 99.7 | 75 - 125 | 25.6         | 2.80  | 20        |      |
| Nickel                                | 32.2    | mg/kg-dry      | SW6020A          | 2.26      | 20.7            | 25.81         | 7.98              | 93.9 | 75 - 125 | 31.9         | 1.04  | 20        |      |
| Selenium                              | 25.0    | mg/kg-dry      | SW6020A          | 0.563     | 8.78            | 25.81         | 0                 | 96.9 | 75 - 125 | 24.1         | 3.82  | 20        |      |
| Silver                                | 25.6    | mg/kg-dry      | SW6020A          | 0.0231    | 1.55            | 25.81         | 0.0367            | 99.2 | 75 - 125 | 24.8         | 3.26  | 20        |      |
| Thallium                              | 25.1    | mg/kg-dry      | SW6020A          | 0.00521   | 4.13            | 25.81         | 0.144             | 96.5 | 75 - 125 | 24.3         | 2.88  | 20        |      |
| Vanadium                              | 47.6    | mg/kg-dry      | SW6020A          | 0.532     | 10.3            | 25.81         | 21.4              | 101  | 75 - 125 | 46.9         | 1.58  | 20        |      |
| Zinc                                  | 144     | mg/kg-dry      | SW6020A          | 5.21      | 51.6            | 129.1         | 26.7              | 91.0 | 75 - 125 | 142          | 1.52  | 20        |      |
| <b>Lab Sample ID: 1510580-001AMSD</b> |         | Date Analyzed: | 10/29/2015 848h  |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1                |         | Date Prepared: | 10/28/2015 1500h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                               | 0.00367 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0.0000717         | 108  | 80 - 120 | 0.00362      | 1.33  | 20        |      |
| <b>Lab Sample ID: 1510563-007AMSD</b> |         | Date Analyzed: | 11/04/2015 1158h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1                |         | Date Prepared: | 11/03/2015 1710h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                               | 0.00378 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0.000147          | 109  | 80 - 120 | 0.00376      | 0.574 | 20        |      |
| <b>Lab Sample ID: 1510566-013AMSD</b> |         | Date Analyzed: | 11/04/2015 1218h |           |                 |               |                   |      |          |              |       |           |      |
| Test Code: HG-DW-245.1                |         | Date Prepared: | 11/03/2015 1710h |           |                 |               |                   |      |          |              |       |           |      |
| Mercury                               | 0.00351 | mg/L           | E245.1           | 0.0000892 | 0.000150        | 0.003330      | 0.000165          | 101  | 80 - 120 | 0.00357      | 1.69  | 20        |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** ME  
**QC Type:** MSD

| Analyte                               | Result          | Units          | Method     | MDL        | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---------------------------------------|-----------------|----------------|------------|------------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID:</b> 1510567-013AMSD | Date Analyzed:  | 11/04/2015     | 1223h      |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                            | HG-DW-245.1     | Date Prepared: | 11/03/2015 | 1710h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                               | 0.00338         | mg/L           | E245.1     | 0.00000892 | 0.000150        | 0.003330      | 0.0000133         | 101  | 80 - 120 | 0.00345      | 1.90  | 20        |      |
| <b>Lab Sample ID:</b> 1510580-003AMSD | Date Analyzed:  | 11/04/2015     | 1232h      |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                            | HG-DW-245.1     | Date Prepared: | 11/03/2015 | 1710h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                               | 0.00366         | mg/L           | E245.1     | 0.00000892 | 0.000150        | 0.003330      | 0.0000717         | 108  | 80 - 120 | 0.00347      | 5.24  | 20        |      |
| <b>Lab Sample ID:</b> 1510580-001BMSD | Date Analyzed:  | 11/09/2015     | 1055h      |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                            | HG-DW-DIS-245.1 | Date Prepared: | 11/06/2015 | 1830h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                               | 0.00355         | mg/L           | E245.1     | 0.00000892 | 0.000150        | 0.003330      | 0                 | 107  | 85 - 115 | 0.0035       | 1.42  | 20        |      |
| <b>Lab Sample ID:</b> 1510580-002AMSD | Date Analyzed:  | 11/06/2015     | 922h       |            |                 |               |                   |      |          |              |       |           |      |
| Test Code:                            | HG-S-7471B      | Date Prepared: | 11/05/2015 | 1728h      |                 |               |                   |      |          |              |       |           |      |
| Mercury                               | 0.555           | mg/kg-dry      | SW7471B    | 0.00178    | 0.0526          | 0.5262        | 0.00757           | 104  | 80 - 120 | 0.526        | 5.35  | 20        |      |

@ - High RPD due to suspected sample non-homogeneity or matrix interference.  
<sup>1</sup> - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.  
<sup>2</sup> - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.





3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** WC  
**QC Type:** DUP

| Analyte   | Result | Units | Method  | MDL  | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---|--------|-------|---------|------|-----------------|---------------|-------------------|------|--------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510561-018ADUP</b> Date Analyzed: 10/29/2015 1430h |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Test Code: TSS-W-2540D  |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Total Suspended Solids  | 918    | mg/L  | SM2540D | 14.2 | 15.0            |               |                   |      |        | 1020         | 10.1  | 5         | H@   |
| <b>Lab Sample ID: 1510563-021ADUP</b> Date Analyzed: 10/29/2015 1430h |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Test Code: TSS-W-2540D  |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Total Suspended Solids  | 58,100 | mg/L  | SM2540D | 142  | 150             |               |                   |      |        | 59300        | 2.04  | 5         | H    |
| <b>Lab Sample ID: 1510566-012ADUP</b> Date Analyzed: 10/29/2015 1430h |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Test Code: TSS-W-2540D  |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Total Suspended Solids  | 16,100 | mg/L  | SM2540D | 47.2 | 50.0            |               |                   |      |        | 14500        | 10.6  | 5         | H@   |
| <b>Lab Sample ID: 1510567-012ADUP</b> Date Analyzed: 10/29/2015 1430h |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Test Code: TSS-W-2540D  |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Total Suspended Solids  | 1,840  | mg/L  | SM2540D | 35.4 | 37.5            |               |                   |      |        | 1930         | 4.79  | 5         | H    |
| <b>Lab Sample ID: 1510580-001CDUP</b> Date Analyzed: 10/29/2015 1430h |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Test Code: TSS-W-2540D  |        |       |         |      |                 |               |                   |      |        |              |       |           |      |
| Total Suspended Solids  | 2,960  | mg/L  | SM2540D | 70.8 | 75.0            |               |                   |      |        | 2820         | 4.84  | 5         |      |

@ - High RPD due to suspected sample non-homogeneity or matrix interference.

H - Sample was received outside of the holding time.

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** WC  
**QC Type:** LCS

| Analyte  | Result | Units | Method  | MDL     | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--|--------|-------|---------|---------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: LCS-R84681</b> Date Analyzed: 11/02/2015 1119h |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Test Code: 300.0-W   |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Chloride   | 4.92   | mg/L  | E300.0  | 0.00751 | 0.100           | 5.000         | 0                 | 98.5 | 90 - 110 |              |       |           |      |
| Sulfate  | 4.99   | mg/L  | E300.0  | 0.0211  | 0.750           | 5.000         | 0                 | 99.7 | 90 - 110 |              |       |           |      |
| <b>Lab Sample ID: LCS-R84502</b> Date Analyzed: 10/29/2015 824h  |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Test Code: ALK-W-2320B   |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Alkalinity (as CaCO3)  | 49,900 | mg/L  | SM2320B | 1.86    | 10.0            | 50,000        | 0                 | 99.7 | 90 - 110 |              |       |           |      |
| <b>Lab Sample ID: LCS-R84886</b> Date Analyzed: 11/06/2015 2036h |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Test Code: NO2/NO3-W-353.2                                       |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Nitrate/Nitrite (as N)   | 1.02   | mg/L  | E353.2  | 0.00833 | 0.0100          | 1.000         | 0                 | 102  | 90 - 110 |              |       |           |      |
| <b>Lab Sample ID: LCS-R84578</b> Date Analyzed: 10/29/2015 1521h |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Test Code: TOC-W-5310B   |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Total Organic Carbon, Dissolved                                  | 9.81   | mg/L  | SM5310B | 0.217   | 1.00            | 10.00         | 0                 | 98.1 | 90 - 110 |              |       |           |      |
| <b>Lab Sample ID: LCS-R84678</b> Date Analyzed: 11/02/2015 1349h |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Test Code: TOC-W-5310B   |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Total Organic Carbon   | 9.63   | mg/L  | SM5310B | 0.217   | 1.00            | 10.00         | 0                 | 96.3 | 90 - 110 |              |       |           |      |
| <b>Lab Sample ID: LCS-R84566</b> Date Analyzed: 10/29/2015 1430h |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Test Code: TSS-W-2540D   |        |       |         |         |                 |               |                   |      |          |              |       |           |      |
| Total Suspended Solids   | 95.0   | mg/L  | SM2540D | 2.83    | 3.00            | 100.0         | 0                 | 95.0 | 80 - 120 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** WC  
**QC Type:** MBLK

| Analyte   | Result   | Units | Method  | MDL     | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|---|----------|-------|---------|---------|-----------------|---------------|-------------------|------|--------|--------------|-------|-----------|------|
| <b>Lab Sample ID: MB-R84681</b> Date Analyzed: 11/02/2015 1102h |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Test Code: 300.0-W  |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Chloride  | < 0.100  | mg/L  | E300.0  | 0.00751 | 0.100           |               |                   |      |        |              |       |           | U    |
| Sulfate   | < 0.750  | mg/L  | E300.0  | 0.0211  | 0.750           |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID: MB-R84502</b> Date Analyzed: 10/29/2015 824h  |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Test Code: ALK-W-2320B  |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Alkalinity (as CaCO3)   | < 10.0   | mg/L  | SM2320B | 1.86    | 10.0            |               |                   |      |        |              |       |           | U    |
| Bicarbonate (as CaCO3)  | < 10.0   | mg/L  | SM2320B | 1.86    | 10.0            |               |                   |      |        |              |       |           | U    |
| Carbonate (as CaCO3)  | < 10.0   | mg/L  | SM2320B | 1.86    | 10.0            |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID: MB-R84886</b> Date Analyzed: 11/06/2015 2035h |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Test Code: NO2/NO3-W-353.2                                      |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Nitrate/Nitrite (as N)  | < 0.0100 | mg/L  | E353.2  | 0.00833 | 0.0100          |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID: MB-R84578</b> Date Analyzed: 10/29/2015 1501h |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Test Code: TOC-W-5310B  |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Total Organic Carbon, Dissolved                                 | < 1.00   | mg/L  | SM5310B | 0.217   | 1.00            |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID: MB-R84678</b> Date Analyzed: 11/02/2015 1330h |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Test Code: TOC-W-5310B  |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Total Organic Carbon  | < 1.00   | mg/L  | SM5310B | 0.217   | 1.00            |               |                   |      |        |              |       |           | U    |
| <b>Lab Sample ID: MB-R84566</b> Date Analyzed: 10/29/2015 1430h |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Test Code: TSS-W-2540D  |          |       |         |         |                 |               |                   |      |        |              |       |           |      |
| Total Suspended Solids  | < 3.00   | mg/L  | SM2540D | 2.83    | 3.00            |               |                   |      |        |              |       |           | U    |

U - This flag indicates the compound was analyzed for but not detected above the MDL.

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** WC  
**QC Type:** MS

| Analyte  | Result | Units | Method  | MDL   | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--|--------|-------|---------|-------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-001CMS</b> Date Analyzed: 11/02/2015 1153h |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: 300.0-W   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Chloride   | 505    | mg/L  | E300.0  | 0.751 | 10.0            | 500.0         | 13.8              | 98.2 | 90 - 110 |              |       |           |      |
| Sulfate  | 677    | mg/L  | E300.0  | 2.11  | 75.0            | 500.0         | 183               | 98.9 | 90 - 110 |              |       |           |      |
| <b>Lab Sample ID: 1510561-018AMS</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: ALK-W-2320B   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Alkalinity (as CaCO3)  | 193    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 94.6              | 98.1 | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: 1510563-006AMS</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: ALK-W-2320B   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Alkalinity (as CaCO3)  | 208    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 110               | 98.0 | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: 1510566-012AMS</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: ALK-W-2320B   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Alkalinity (as CaCO3)  | 260    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 156               | 105  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: 1510567-012AMS</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: ALK-W-2320B   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Alkalinity (as CaCO3)  | 189    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 87.9              | 101  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: 1510580-001CMS</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: ALK-W-2320B   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Alkalinity (as CaCO3)  | 238    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 137               | 101  | 80 - 120 |              |       |           |      |
| <b>Lab Sample ID: 1510563-021AMS</b> Date Analyzed: 11/06/2015 2057h |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: NO2/NO3-W-353.2   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Nitrate/Nitrite (as N)   | 122    | mg/L  | E353.2  | 0.833 | 1.00            | 100.0         | 18.6              | 103  | 90 - 110 |              |       |           |      |
| <b>Lab Sample ID: 1510580-001EMS</b> Date Analyzed: 10/29/2015 2107h |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Test Code: TOC-W-5310B   |        |       |         |       |                 |               |                   |      |          |              |       |           |      |
| Total Organic Carbon, Dissolved                                      | 15.4   | mg/L  | SM5310B | 0.434 | 2.00            | 10.00         | 2.85              | 126  | 80 - 120 |              |       |           |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West

Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** WC  
**QC Type:** MS

| Analyte                              | Result | Units | Method  | MDL  | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual |
|--------------------------------------|--------|-------|---------|------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|------|
| <b>Lab Sample ID: 1510580-001DMS</b> |        |       |         |      |                 |               |                   |      |          |              |       |           |      |
| Date Analyzed: 11/02/2015 1613h      |        |       |         |      |                 |               |                   |      |          |              |       |           |      |
| Test Code: TOC-W-5310B               |        |       |         |      |                 |               |                   |      |          |              |       |           |      |
| Total Organic Carbon                 | 27.2   | mg/L  | SM5310B | 1.08 | 5.00            | 25.00         | 3.53              | 94.8 | 80 - 120 |              |       |           |      |

<sup>3</sup> - Matrix spike recoveries and/or high RPDs indicate suspected sample non-homogeneity. The method is in control as indicated by the LCS.

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West  
Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687  
e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** WC  
**QC Type:** MSD

| Analyte   | Result | Units | Method  | MDL   | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD  | RPD Limit | Qual |
|---|--------|-------|---------|-------|-----------------|---------------|-------------------|------|----------|--------------|--------|-----------|------|
| <b>Lab Sample ID: 1510580-001CMSD</b> Date Analyzed: 11/02/2015 1209h |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: 300.0-W  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Chloride  | 503    | mg/L  | E300.0  | 0.751 | 10.0            | 500.0         | 13.8              | 97.8 | 90 - 110 | 505          | 0.449  | 20        |      |
| Sulfate   | 677    | mg/L  | E300.0  | 2.11  | 75.0            | 500.0         | 183               | 98.8 | 90 - 110 | 677          | 0.0446 | 20        |      |
| <b>Lab Sample ID: 1510626-011AMSD</b> Date Analyzed: 11/02/2015 2107h |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: 300.0-W  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Chloride  | 157    | mg/L  | E300.0  | 0.150 | 2.00            | 100.0         | 58.3              | 98.3 | 90 - 110 | 0            | 0      | 20        |      |
| <b>Lab Sample ID: 1510561-018AMSD</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: ALK-W-2320B  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Alkalinity (as CaCO <sub>3</sub> )                                    | 196    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 94.6              | 101  | 80 - 120 | 193          | 1.70   | 10        |      |
| <b>Lab Sample ID: 1510563-006AMSD</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: ALK-W-2320B  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Alkalinity (as CaCO <sub>3</sub> )                                    | 213    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 110               | 103  | 80 - 120 | 208          | 2.38   | 10        |      |
| <b>Lab Sample ID: 1510566-012AMSD</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: ALK-W-2320B  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Alkalinity (as CaCO <sub>3</sub> )                                    | 257    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 156               | 101  | 80 - 120 | 260          | 1.31   | 10        |      |
| <b>Lab Sample ID: 1510567-012AMSD</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: ALK-W-2320B  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Alkalinity (as CaCO <sub>3</sub> )                                    | 186    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 87.9              | 98.0 | 80 - 120 | 189          | 1.81   | 10        |      |
| <b>Lab Sample ID: 1510580-001CMSD</b> Date Analyzed: 10/29/2015 824h  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: ALK-W-2320B  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Alkalinity (as CaCO <sub>3</sub> )                                    | 237    | mg/L  | SM2320B | 1.86  | 10.0            | 100.0         | 137               | 99.7 | 80 - 120 | 238          | 0.716  | 10        |      |
| <b>Lab Sample ID: 1510563-021AMSD</b> Date Analyzed: 11/06/2015 2058h |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Test Code: NO2/NO3-W-353.2  |        |       |         |       |                 |               |                   |      |          |              |        |           |      |
| Nitrate/Nitrite (as N)  | 121    | mg/L  | E353.2  | 0.833 | 1.00            | 100.0         | 18.6              | 103  | 90 - 110 | 122          | 0.493  | 10        |      |

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



3440 South 700 West

Salt Lake City, UT 84119

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: [awal@awal-labs.com](mailto:awal@awal-labs.com), web: [www.awal-labs.com](http://www.awal-labs.com)

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

## QC SUMMARY REPORT

**Client:** Utah Division of Water Quality  
**Lab Set ID:** 1510580  
**Project:** San Juan

**Contact:** Jim Harris  
**Dept:** WC  
**QC Type:** MSD

| Analyte                               | Result | Units                           | Method  | MDL   | Reporting Limit | Amount Spiked | Spike Ref. Amount | %REC | Limits   | RPD Ref. Amt | % RPD | RPD Limit | Qual         |
|---------------------------------------|--------|---------------------------------|---------|-------|-----------------|---------------|-------------------|------|----------|--------------|-------|-----------|--------------|
| <b>Lab Sample ID: 1510580-001EMSD</b> |        | Date Analyzed: 10/29/2015 2127h |         |       |                 |               |                   |      |          |              |       |           |              |
| Test Code: TOC-W-5310B                |        |                                 |         |       |                 |               |                   |      |          |              |       |           |              |
| Total Organic Carbon, Dissolved       | 15.5   | mg/L                            | SM5310B | 0.434 | 2.00            | 10.00         | 2.85              | 126  | 80 - 120 | 15.4         | 0.422 | 20        | <sup>3</sup> |
| <b>Lab Sample ID: 1510580-001DMSD</b> |        | Date Analyzed: 11/02/2015 1632h |         |       |                 |               |                   |      |          |              |       |           |              |
| Test Code: TOC-W-5310B                |        |                                 |         |       |                 |               |                   |      |          |              |       |           |              |
| Total Organic Carbon                  | 26.9   | mg/L                            | SM5310B | 1.08  | 5.00            | 25.00         | 3.53              | 93.7 | 80 - 120 | 27.2         | 1.02  | 20        |              |

<sup>3</sup> - Matrix spike recoveries and/or high RPDs indicate suspected sample non-homogeneity. The method is in control as indicated by the LCS.

All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. Confidential Business Information: This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.