

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, web: www.awal-labs.com Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

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

RE: Gold King Mine - San Juan River Sampling

Dear Lenora Sullivan:

Lab Set ID: 1508262

American West Analytical Laboratories received sample(s) on 8/13/2015 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.

This is a revision to a report originally issued 8/14/2015. Pages 1-13 have been revised to update collection times.

Thank You,

Approved by:

Laboratory Director or designee



Salt Lake City, UT 84119

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Jose Rocha QA Officer

Lenora Sullivan

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality                |  |  |  |  |  |  |  |
|--------------------------|-----------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling      |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-001                                   |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ Mexican Hat US163 Xing (4953000) |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 8/12/2015 1706h                               |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                               |  |  |  |  |  |  |  |
|                          |                                               |  |  |  |  |  |  |  |

### **Analytical Results**

## TOTAL METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual             |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------------------|
| Aluminum   | 7429-90-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2233h  | E200.7         | 0.237      | 1.00               | 54.7                 | 2                |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 1431h  | 8/14/2015 1945h  | E200.8         | 0.0000366  | 0.00200            | 0.000775             | $\mathbf{J}^{1}$ |
| Arsenic    | 7440-38-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.0000920  | 0.00200            | 0.0175               |                  |
| Barium     | 7440-39-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.000538   | 0.00200            | 1.35                 |                  |
| Beryllium  | 7440-41-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.0000288  | 0.00200            | 0.00677              |                  |
| Cadmium    | 7440-43-9 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.000193   | 0.000500           | 0.00117              |                  |
| Calcium    | 7440-70-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2233h  | E200.7         | 0.401      | 10.0               | 186                  | 2                |
| Chromium   | 7440-47-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.00154    | 0.00200            | 0.0232               |                  |
| Cobalt     | 7440-48-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.0000434  | 0.00400            | 0.0332               |                  |
| Copper     | 7440-50-8 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.000692   | 0.00200            | 0.0808               |                  |
| Iron       | 7439-89-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2310h  | E200.7         | 0.0767     | 0.100              | 37.5                 | 2                |
| Lead       | 7439-92-1 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.000264   | 0.00200            | 0.0829               |                  |
| Magnesium  | 7439-95-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2310h  | E200.7         | 0.0294     | 1.00               | 33.3                 |                  |
| Manganese  | 7439-96-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2337h  | E200.8         | 0.00764    | 0.0100             | 2.17                 | 2                |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 956h   | E245.1         | 0.00000892 | 0.000150           | 0.000143             | J                |
| Molybdenum | 7439-98-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.000206   | 0.00200            | 0.000312             | $\mathbf{J}^{1}$ |
| Nickel     | 7440-02-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.000754   | 0.00200            | 0.0389               |                  |
| Potassium  | 7440-09-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2310h  | E200.7         | 0.247      | 1.00               | 10.7                 |                  |
| Selenium   | 7782-49-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.0000634  | 0.00200            | 0.00122              | J                |
| Silver     | 7440-22-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.0000244  | 0.00200            | 0.000488             | J                |
| Sodium     | 7440-23-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2310h  | E200.7         | 0.0330     | 1.00               | 44.4                 |                  |
| Thallium   | 7440-28-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.0000242  | 0.00200            | 0.000604             | J                |
| Vanadium   | 7440-62-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.000438   | 0.00440            | 0.0637               |                  |
| Zinc       | 7440-66-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2231h  | E200.8         | 0.00476    | 0.00500            | 0.190                |                  |

<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.

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

### Report Date: 8/26/2015 Page 2 of 40



Salt Lake City, UT 84119

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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

Lenora Sullivan

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality           |  |  |  |  |  |  |  |
|--------------------------|------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-002                              |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ Sand Island (4953250)       |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 12/30/1899 1457h                         |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                          |  |  |  |  |  |  |  |

### **Analytical Results**

## TOTAL METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2317h  | E200.7         | 0.0237     | 0.100              | 30.6                 |      |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 1431h  | 8/14/2015 2002h  | E200.8         | 0.0000366  | 0.00200            | 0.000259             | J    |
| Arsenic    | 7440-38-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.0000920  | 0.00200            | 0.0103               |      |
| Barium     | 7440-39-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.000538   | 0.00200            | 0.718                |      |
| Beryllium  | 7440-41-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.0000288  | 0.00200            | 0.00361              |      |
| Cadmium    | 7440-43-9 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.000193   | 0.000500           | 0.000712             |      |
| Calcium    | 7440-70-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2244h  | E200.7         | 0.401      | 10.0               | 90.9                 |      |
| Chromium   | 7440-47-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.00154    | 0.00200            | 0.0136               |      |
| Cobalt     | 7440-48-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.0000434  | 0.00400            | 0.0192               |      |
| Copper     | 7440-50-8 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.000692   | 0.00200            | 0.0534               |      |
| Iron       | 7439-89-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2317h  | E200.7         | 0.0767     | 0.100              | 23.7                 |      |
| Lead       | 7439-92-1 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.000264   | 0.00200            | 0.0491               |      |
| Magnesium  | 7439-95-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2317h  | E200.7         | 0.0294     | 1.00               | 17.3                 |      |
| Manganese  | 7439-96-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.00153    | 0.00200            | 1.19                 |      |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 950h   | E245.1         | 0.00000892 | 0.000150           | 0.0000800            | J    |
| Molybdenum | 7439-98-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.000206   | 0.00200            | 0.000515             | J    |
| Nickel     | 7440-02-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.000754   | 0.00200            | 0.0217               |      |
| Potassium  | 7440-09-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2317h  | E200.7         | 0.247      | 1.00               | 6.84                 |      |
| Selenium   | 7782-49-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.0000634  | 0.00200            | 0.000923             | J    |
| Silver     | 7440-22-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.0000244  | 0.00200            | 0.000486             | J    |
| Sodium     | 7440-23-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2317h  | E200.7         | 0.0330     | 1.00               | 33.2                 |      |
| Thallium   | 7440-28-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.0000242  | 0.00200            | 0.000411             | J    |
| Vanadium   | 7440-62-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.000438   | 0.00440            | 0.0380               |      |
| Zinc       | 7440-66-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2257h  | E200.8         | 0.00476    | 0.00500            | 0.126                |      |

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

### Report Date: 8/26/2015 Page 3 of 40



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

Lenora Sullivan

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality               |  |  |  |  |  |  |
|--------------------------|----------------------------------------------|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling     |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-003                                  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan River @ Town of Montezuma (4953990) |  |  |  |  |  |  |
| Callestian Dates         | 10/20/1000 14041                             |  |  |  |  |  |  |
| Conection Date:          | 12/30/1899 1404h                             |  |  |  |  |  |  |
| Received Date:           | 12/30/1899 1404h<br>8/13/2015 1450h          |  |  |  |  |  |  |

### **Analytical Results**

TOTAL METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2326h  | E200.7         | 0.0237     | 0.100              | 35.0                 |      |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 1431h  | 8/14/2015 2005h  | E200.8         | 0.0000366  | 0.00200            | 0.000272             | J    |
| Arsenic    | 7440-38-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.0000920  | 0.00200            | 0.0107               |      |
| Barium     | 7440-39-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.000538   | 0.00200            | 0.725                |      |
| Beryllium  | 7440-41-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.0000288  | 0.00200            | 0.00397              |      |
| Cadmium    | 7440-43-9 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.000193   | 0.000500           | 0.000916             |      |
| Calcium    | 7440-70-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2246h  | E200.7         | 0.401      | 10.0               | 130                  |      |
| Chromium   | 7440-47-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.00154    | 0.00200            | 0.0170               |      |
| Cobalt     | 7440-48-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.0000434  | 0.00400            | 0.0195               |      |
| Copper     | 7440-50-8 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.000692   | 0.00200            | 0.0514               |      |
| Iron       | 7439-89-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2326h  | E200.7         | 0.0767     | 0.100              | 26.5                 |      |
| Lead       | 7439-92-1 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.000264   | 0.00200            | 0.0541               |      |
| Magnesium  | 7439-95-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2326h  | E200.7         | 0.0294     | 1.00               | 20.5                 |      |
| Manganese  | 7439-96-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.00153    | 0.00200            | 1.12                 |      |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 957h   | E245.1         | 0.00000892 | 0.000150           | 0.000112             | J    |
| Molybdenum | 7439-98-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.000206   | 0.00200            | 0.000397             | J    |
| Nickel     | 7440-02-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.000754   | 0.00200            | 0.0277               |      |
| Potassium  | 7440-09-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2326h  | E200.7         | 0.247      | 1.00               | 8.29                 |      |
| Selenium   | 7782-49-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.0000634  | 0.00200            | 0.00112              | J    |
| Silver     | 7440-22-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.0000244  | 0.00200            | 0.000305             | J    |
| Sodium     | 7440-23-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2326h  | E200.7         | 0.0330     | 1.00               | 34.5                 |      |
| Thallium   | 7440-28-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.0000242  | 0.00200            | 0.000561             | J    |
| Vanadium   | 7440-62-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.000438   | 0.00440            | 0.0408               |      |
| Zinc       | 7440-66-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2300h  | E200.8         | 0.00476    | 0.00500            | 0.144                |      |

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

### Report Date: 8/26/2015 Page 4 of 40



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Kyle F. Gross Laboratory Director

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Lenora Sullivan

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality           |  |  |  |  |  |  |  |
|--------------------------|------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-004                              |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ US160 Xing in CO (4954000)  |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 8/12/2015 1209h                          |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                          |  |  |  |  |  |  |  |

### **Analytical Results**

TOTAL METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2328h  | E200.7         | 0.0237     | 0.100              | 28.5                 |      |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 1431h  | 8/14/2015 2009h  | E200.8         | 0.0000366  | 0.00200            | 0.000252             | J    |
| Arsenic    | 7440-38-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.0000920  | 0.00200            | 0.00921              |      |
| Barium     | 7440-39-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.000538   | 0.00200            | 0.683                |      |
| Beryllium  | 7440-41-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.0000288  | 0.00200            | 0.00252              |      |
| Cadmium    | 7440-43-9 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.000193   | 0.000500           | 0.000641             |      |
| Calcium    | 7440-70-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2248h  | E200.7         | 0.401      | 10.0               | 146                  |      |
| Chromium   | 7440-47-3 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.00154    | 0.00200            | 0.0132               |      |
| Cobalt     | 7440-48-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.0000434  | 0.00400            | 0.0145               |      |
| Copper     | 7440-50-8 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.000692   | 0.00200            | 0.0343               |      |
| Iron       | 7439-89-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2328h  | E200.7         | 0.0767     | 0.100              | 18.1                 |      |
| Lead       | 7439-92-1 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.000264   | 0.00200            | 0.0358               |      |
| Magnesium  | 7439-95-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2328h  | E200.7         | 0.0294     | 1.00               | 24.5                 |      |
| Manganese  | 7439-96-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.00153    | 0.00200            | 1.13                 |      |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 1005h  | E245.1         | 0.00000892 | 0.000150           | 0.0000583            | J    |
| Molybdenum | 7439-98-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.000206   | 0.00200            | 0.000480             | J    |
| Nickel     | 7440-02-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.000754   | 0.00200            | 0.0220               |      |
| Potassium  | 7440-09-7 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2328h  | E200.7         | 0.247      | 1.00               | 7.37                 |      |
| Selenium   | 7782-49-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.0000634  | 0.00200            | 0.000751             | J    |
| Silver     | 7440-22-4 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.0000244  | 0.00200            | 0.000209             | J    |
| Sodium     | 7440-23-5 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2328h  | E200.7         | 0.0330     | 1.00               | 28.7                 |      |
| Thallium   | 7440-28-0 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.0000242  | 0.00200            | 0.000283             | J    |
| Vanadium   | 7440-62-2 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.000438   | 0.00440            | 0.0414               |      |
| Zinc       | 7440-66-6 | mg/L  | 8/13/2015 1632h  | 8/13/2015 2304h  | E200.8         | 0.00476    | 0.00500            | 0.0962               |      |

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

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Salt Lake City, UT 84119

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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality                |  |  |  |  |  |  |  |  |
|--------------------------|-----------------------------------------------|--|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling      |  |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-001                                   |  |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ Mexican Hat US163 Xing (4953000) |  |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 8/12/2015 1706h                               |  |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                               |  |  |  |  |  |  |  |  |
|                          |                                               |  |  |  |  |  |  |  |  |

### **Analytical Results**

DISSOLVED METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1336h  | E200.7         | 0.0237     | 0.100              | 0.125                |      |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.0000366  | 0.00200            | 0.00141              | J#B  |
| Arsenic    | 7440-38-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.0000920  | 0.00200            | 0.00159              | J    |
| Barium     | 7440-39-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.000538   | 0.00200            | 0.245                |      |
| Beryllium  | 7440-41-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.0000288  | 0.00200            | 0.0000328            | J    |
| Cadmium    | 7440-43-9 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.000193   | 0.000500           | < 0.000500           | U    |
| Calcium    | 7440-70-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1336h  | E200.7         | 0.0401     | 1.00               | 59.8                 |      |
| Chromium   | 7440-47-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.00154    | 0.00200            | < 0.00200            | U    |
| Cobalt     | 7440-48-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.0000434  | 0.00400            | 0.0000512            | J    |
| Copper     | 7440-50-8 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.000692   | 0.00200            | 0.00334              |      |
| Iron       | 7439-89-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1336h  | E200.7         | 0.0767     | 0.100              | < 0.100              | U    |
| Lead       | 7439-92-1 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.000264   | 0.00200            | < 0.00200            | U    |
| Magnesium  | 7439-95-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1336h  | E200.7         | 0.0294     | 1.00               | 7.86                 |      |
| Manganese  | 7439-96-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.00153    | 0.00200            | < 0.00200            | U    |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 1047h  | E245.1         | 0.00000892 | 0.000150           | < 0.000150           | U    |
| Molybdenum | 7439-98-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.000206   | 0.00200            | 0.00227              |      |
| Nickel     | 7440-02-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.000754   | 0.00200            | < 0.00200            | U    |
| Potassium  | 7440-09-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1336h  | E200.7         | 0.247      | 1.00               | 3.09                 |      |
| Selenium   | 7782-49-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.0000634  | 0.00200            | 0.000923             | JB   |
| Silver     | 7440-22-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.0000244  | 0.00200            | 0.000151             | J    |
| Sodium     | 7440-23-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1336h  | E200.7         | 0.0330     | 1.00               | 42.1                 |      |
| Thallium   | 7440-28-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.0000242  | 0.00200            | < 0.00200            | U    |
| Vanadium   | 7440-62-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.000438   | 0.00440            | 0.00307              | J    |
| Zinc       | 7440-66-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1426h  | E200.8         | 0.00476    | 0.00500            | 0.0142               |      |

# - Sb LCS recovery suggests analyte concentration may be biased low. Samples cannot be rerun due to insufficient sample volume.

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.

### Report Date: 8/26/2015 Page 6 of 40



Salt Lake City, UT 84119

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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

## **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality           |  |  |  |  |  |  |  |
|--------------------------|------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-002                              |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ Sand Island (4953250)       |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 12/30/1899 1457h                         |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                          |  |  |  |  |  |  |  |

### **Analytical Results**

DISSOLVED METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1339h  | E200.7         | 0.0237     | 0.100              | 0.605                |      |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.0000366  | 0.00200            | 0.00178              | J#   |
| Arsenic    | 7440-38-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.0000920  | 0.00200            | 0.00143              | J    |
| Barium     | 7440-39-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.000538   | 0.00200            | 0.260                |      |
| Beryllium  | 7440-41-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.0000288  | 0.00200            | 0.0000633            | J    |
| Cadmium    | 7440-43-9 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.000193   | 0.000500           | < 0.000500           | U    |
| Calcium    | 7440-70-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1339h  | E200.7         | 0.0401     | 1.00               | 46.6                 |      |
| Chromium   | 7440-47-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.00154    | 0.00200            | < 0.00200            | U    |
| Cobalt     | 7440-48-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.0000434  | 0.00400            | 0.000162             | J    |
| Copper     | 7440-50-8 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.000692   | 0.00200            | 0.00298              |      |
| Iron       | 7439-89-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1339h  | E200.7         | 0.0767     | 0.100              | 0.314                |      |
| Lead       | 7439-92-1 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.000264   | 0.00200            | < 0.00200            | U    |
| Magnesium  | 7439-95-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1339h  | E200.7         | 0.0294     | 1.00               | 7.07                 |      |
| Manganese  | 7439-96-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.00153    | 0.00200            | 0.00516              |      |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 1041h  | E245.1         | 0.00000892 | 0.000150           | < 0.000150           | U    |
| Molybdenum | 7439-98-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.000206   | 0.00200            | 0.00181              | J    |
| Nickel     | 7440-02-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.000754   | 0.00200            | 0.000913             | J    |
| Potassium  | 7440-09-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1339h  | E200.7         | 0.247      | 1.00               | 2.79                 |      |
| Selenium   | 7782-49-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.0000634  | 0.00200            | 0.000781             | JB   |
| Silver     | 7440-22-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.0000244  | 0.00200            | 0.000152             | J    |
| Sodium     | 7440-23-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1339h  | E200.7         | 0.0330     | 1.00               | 33.5                 |      |
| Thallium   | 7440-28-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.0000242  | 0.00200            | < 0.00200            | U    |
| Vanadium   | 7440-62-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.000438   | 0.00440            | 0.00232              | J    |
| Zinc       | 7440-66-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1433h  | E200.8         | 0.00476    | 0.00500            | 0.0132               |      |

# - Sb LCS recovery suggests analyte concentration may be biased low. Samples cannot be rerun due to insufficient sample volume.

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

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### Report Date: 8/26/2015 Page 7 of 40



Salt Lake City, UT 84119

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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality               |
|--------------------------|----------------------------------------------|
| Project:                 | Gold King Mine - San Juan River Sampling     |
| Lab Sample ID:           | 1508262-003                                  |
| <b>Client Sample ID:</b> | San Juan River @ Town of Montezuma (4953990) |
| <b>Collection Date:</b>  | 12/30/1899 1404h                             |
| <b>D I I D</b> <i>I</i>  |                                              |
| <b>Received Date:</b>    | 8/13/2015 1450h                              |

### **Analytical Results**

DISSOLVED METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1341h  | E200.7         | 0.0237     | 0.100              | 0.375                |      |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.0000366  | 0.00200            | 0.000822             | J#B  |
| Arsenic    | 7440-38-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.0000920  | 0.00200            | 0.000912             | J    |
| Barium     | 7440-39-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.000538   | 0.00200            | 0.176                |      |
| Beryllium  | 7440-41-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.0000288  | 0.00200            | < 0.00200            | U    |
| Cadmium    | 7440-43-9 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.000193   | 0.000500           | < 0.000500           | U    |
| Calcium    | 7440-70-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1341h  | E200.7         | 0.0401     | 1.00               | 48.9                 |      |
| Chromium   | 7440-47-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.00154    | 0.00200            | < 0.00200            | U    |
| Cobalt     | 7440-48-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.0000434  | 0.00400            | 0.0000898            | J    |
| Copper     | 7440-50-8 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.000692   | 0.00200            | 0.00434              |      |
| Iron       | 7439-89-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1341h  | E200.7         | 0.0767     | 0.100              | 0.296                |      |
| Lead       | 7439-92-1 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.000264   | 0.00200            | < 0.00200            | U    |
| Magnesium  | 7439-95-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1341h  | E200.7         | 0.0294     | 1.00               | 7.50                 |      |
| Manganese  | 7439-96-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.00153    | 0.00200            | 0.00228              |      |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 1048h  | E245.1         | 0.00000892 | 0.000150           | < 0.000150           | U    |
| Molybdenum | 7439-98-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.000206   | 0.00200            | 0.00164              | J    |
| Nickel     | 7440-02-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.000754   | 0.00200            | < 0.00200            | U    |
| Potassium  | 7440-09-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1341h  | E200.7         | 0.247      | 1.00               | 2.84                 |      |
| Selenium   | 7782-49-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.0000634  | 0.00200            | 0.000716             | JB   |
| Silver     | 7440-22-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.0000244  | 0.00200            | 0.0000343            | J    |
| Sodium     | 7440-23-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1341h  | E200.7         | 0.0330     | 1.00               | 33.8                 |      |
| Thallium   | 7440-28-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.0000242  | 0.00200            | < 0.00200            | U    |
| Vanadium   | 7440-62-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.000438   | 0.00440            | 0.00199              | J    |
| Zinc       | 7440-66-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1436h  | E200.8         | 0.00476    | 0.00500            | 0.0159               |      |

# - Sb LCS recovery suggests analyte concentration may be biased low. Samples cannot be rerun due to insufficient sample volume.

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### Report Date: 8/26/2015 Page 8 of 40



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality           |  |  |  |  |  |  |  |
|--------------------------|------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-004                              |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ US160 Xing in CO (4954000)  |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 8/12/2015 1209h                          |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                          |  |  |  |  |  |  |  |

### **Analytical Results**

DISSOLVED METALS

| Compound   | CAS       | Units | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL        | Reporting<br>Limit | Analytical<br>Result | Qual |
|------------|-----------|-------|------------------|------------------|----------------|------------|--------------------|----------------------|------|
| Aluminum   | 7429-90-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1343h  | E200.7         | 0.0237     | 0.100              | 0.155                |      |
| Antimony   | 7440-36-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.0000366  | 0.00200            | 0.000548             | J#B  |
| Arsenic    | 7440-38-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.0000920  | 0.00200            | 0.00121              | J    |
| Barium     | 7440-39-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.000538   | 0.00200            | 0.151                |      |
| Beryllium  | 7440-41-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.0000288  | 0.00200            | < 0.00200            | U    |
| Cadmium    | 7440-43-9 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.000193   | 0.000500           | < 0.000500           | U    |
| Calcium    | 7440-70-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1343h  | E200.7         | 0.0401     | 1.00               | 47.9                 |      |
| Chromium   | 7440-47-3 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.00154    | 0.00200            | < 0.00200            | U    |
| Cobalt     | 7440-48-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.0000434  | 0.00400            | 0.0000478            | J    |
| Copper     | 7440-50-8 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.000692   | 0.00200            | 0.00261              |      |
| Iron       | 7439-89-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1343h  | E200.7         | 0.0767     | 0.100              | < 0.100              | U    |
| Lead       | 7439-92-1 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.000264   | 0.00200            | < 0.00200            | U    |
| Magnesium  | 7439-95-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1343h  | E200.7         | 0.0294     | 1.00               | 6.97                 |      |
| Manganese  | 7439-96-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.00153    | 0.00200            | 0.00182              | J    |
| Mercury    | 7439-97-6 | mg/L  | 8/13/2015 1830h  | 8/14/2015 1050h  | E245.1         | 0.00000892 | 0.000150           | < 0.000150           | U    |
| Molybdenum | 7439-98-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.000206   | 0.00200            | 0.00148              | J    |
| Nickel     | 7440-02-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.000754   | 0.00200            | < 0.00200            | U    |
| Potassium  | 7440-09-7 | mg/L  | 8/14/2015 830h   | 8/14/2015 1343h  | E200.7         | 0.247      | 1.00               | 2.74                 |      |
| Selenium   | 7782-49-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.0000634  | 0.00200            | 0.000728             | JB   |
| Silver     | 7440-22-4 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.0000244  | 0.00200            | < 0.00200            | U    |
| Sodium     | 7440-23-5 | mg/L  | 8/14/2015 830h   | 8/14/2015 1343h  | E200.7         | 0.0330     | 1.00               | 27.3                 |      |
| Thallium   | 7440-28-0 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.0000242  | 0.00200            | < 0.00200            | U    |
| Vanadium   | 7440-62-2 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.000438   | 0.00440            | 0.00287              | J    |
| Zinc       | 7440-66-6 | mg/L  | 8/14/2015 830h   | 8/14/2015 1439h  | E200.8         | 0.00476    | 0.00500            | 0.0165               |      |

# - Sb LCS recovery suggests analyte concentration may be biased low. Samples cannot be rerun due to insufficient sample volume.

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.

### Report Date: 8/26/2015 Page 9 of 40



St.

Lenora Sullivan

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Jose Rocha

Kyle F. Gross

Laboratory Director

QA Officer

# **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality                |  |  |  |  |  |  |  |
|--------------------------|-----------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling      |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-001                                   |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ Mexican Hat US163 Xing (4953000) |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 8/12/2015 1706h                               |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                               |  |  |  |  |  |  |  |
|                          |                                               |  |  |  |  |  |  |  |

### **Analytical Results**

| Compound                       | CAS        | Units    | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL     | Reporting<br>Limit | Analytical<br>Result | Qual |
|--------------------------------|------------|----------|------------------|------------------|----------------|---------|--------------------|----------------------|------|
| Alkalinity (as CaCO3)          |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 108                  |      |
| Bicarbonate (as CaCO3)         |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 108                  |      |
| Carbonate (as CaCO3)           |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | < 10.0               | U    |
| Chloride                       | 16887-00-6 | mg/L     |                  | 8/13/2015 2134h  | E300.0         | 0.0751  | 1.00               | 8.70                 | В    |
| Conductivity                   |            | µmhos/cm |                  | 8/14/2015 601h   | SM2510B        | 0.436   | 2.00               | 617                  | В    |
| Hardness (as CaCO3)            |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 601                  |      |
| Hardness, Dissolved (as CaCO3) |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 182                  |      |
| Nitrate/Nitrite (as N)         | 7727-37-9  | mg/L     |                  | 8/13/2015 2353h  | E353.2         | 0.00833 | 0.0100             | 0.337                |      |
| pH @ 25° C                     |            | pH Units |                  | 8/13/2015 1840h  | SM4500-H+B     | 1.00    | 1.00               | 8.20                 | Н    |
| Phosphate, Total (as P)        | 7723-14-0  | mg/L     | 8/14/2015 1020h  | 8/14/2015 1235h  | SM4500-P-F     | 0.0212  | 0.0500             | 3.05                 | @1B  |
| Sulfate                        | 14808-79-8 | mg/L     |                  | 8/13/2015 2134h  | E300.0         | 0.211   | 7.50               | 157                  |      |
| Total Dissolved Solids         |            | mg/L     |                  | 8/13/2015 2100h  | SM2540C        | 30.6    | 50.0               | 450                  |      |
| Total Suspended Solids         | TSS        | mg/L     |                  | 8/13/2015 1610h  | SM2540D        | 142     | 150                | 5,780                |      |

@ - 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.

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

H - Sample was received outside of the holding time.

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



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Lenora Sullivan

## **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality           |  |  |  |  |  |  |  |
|--------------------------|------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-002                              |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ Sand Island (4953250)       |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 12/30/1899 1457h                         |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                          |  |  |  |  |  |  |  |

### **Analytical Results**

| Compound                       | CAS        | Units    | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL     | Reporting<br>Limit | Analytical<br>Result | Qual |
|--------------------------------|------------|----------|------------------|------------------|----------------|---------|--------------------|----------------------|------|
| Alkalinity (as CaCO3)          |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 103                  |      |
| Bicarbonate (as CaCO3)         |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 103                  |      |
| Carbonate (as CaCO3)           |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | < 10.0               | U    |
| Chloride                       | 16887-00-6 | mg/L     |                  | 8/13/2015 2224h  | E300.0         | 0.0751  | 1.00               | 8.72                 | В    |
| Conductivity                   |            | µmhos/cm |                  | 8/14/2015 601h   | SM2510B        | 0.436   | 2.00               | 541                  | В    |
| Hardness (as CaCO3)            |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 298                  |      |
| Hardness, Dissolved (as CaCO3) |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 146                  |      |
| Nitrate/Nitrite (as N)         | 7727-37-9  | mg/L     |                  | 8/13/2015 2356h  | E353.2         | 0.00833 | 0.0100             | 0.316                |      |
| pH @ 25° C                     |            | pH Units |                  | 8/13/2015 1840h  | SM4500-H+B     | 1.00    | 1.00               | 8.26                 | Н    |
| Phosphate, Total (as P)        | 7723-14-0  | mg/L     | 8/14/2015 1020h  | 8/14/2015 1237h  | SM4500-P-F     | 0.0212  | 0.0500             | 1.05                 | В    |
| Sulfate                        | 14808-79-8 | mg/L     |                  | 8/13/2015 2224h  | E300.0         | 0.211   | 7.50               | 109                  |      |
| Total Dissolved Solids         |            | mg/L     |                  | 8/13/2015 2100h  | SM2540C        | 30.6    | 50.0               | 410                  | @    |
| Total Suspended Solids         | TSS        | mg/L     |                  | 8/13/2015 1610h  | SM2540D        | 142     | 150                | 2,760                |      |

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

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

H - Sample was received outside of the holding time.

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



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## **INORGANIC ANALYTICAL REPORT**

| Utah Division of Water Quality               |  |  |  |  |  |  |
|----------------------------------------------|--|--|--|--|--|--|
| Gold King Mine - San Juan River Sampling     |  |  |  |  |  |  |
| 1508262-003                                  |  |  |  |  |  |  |
| San Juan River @ Town of Montezuma (4953990) |  |  |  |  |  |  |
| 12/30/1899 1404h                             |  |  |  |  |  |  |
| 8/13/2015 1450h                              |  |  |  |  |  |  |
|                                              |  |  |  |  |  |  |

### **Analytical Results**

| Compound                       | CAS        | Units    | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL     | Reporting<br>Limit | Analytical<br>Result | Qual |
|--------------------------------|------------|----------|------------------|------------------|----------------|---------|--------------------|----------------------|------|
| Alkalinity (as CaCO3)          |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 108                  |      |
| Bicarbonate (as CaCO3)         |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 108                  |      |
| Carbonate (as CaCO3)           |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | < 10.0               | U    |
| Chloride                       | 16887-00-6 | mg/L     |                  | 8/13/2015 2241h  | E300.0         | 0.0751  | 1.00               | 8.70                 | В    |
| Conductivity                   |            | µmhos/cm |                  | 8/14/2015 601h   | SM2510B        | 0.436   | 2.00               | 562                  | В    |
| Hardness (as CaCO3)            |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 409                  |      |
| Hardness, Dissolved (as CaCO3) |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 153                  |      |
| Nitrate/Nitrite (as N)         | 7727-37-9  | mg/L     |                  | 8/13/2015 2357h  | E353.2         | 0.00833 | 0.0100             | 0.384                |      |
| pH @ 25° C                     |            | pH Units |                  | 8/13/2015 1840h  | SM4500-H+B     | 1.00    | 1.00               | 8.24                 | Н    |
| Phosphate, Total (as P)        | 7723-14-0  | mg/L     | 8/14/2015 1020h  | 8/14/2015 1238h  | SM4500-P-F     | 0.0212  | 0.0500             | 1.44                 | В    |
| Sulfate                        | 14808-79-8 | mg/L     |                  | 8/13/2015 2241h  | E300.0         | 0.211   | 7.50               | 123                  |      |
| Total Dissolved Solids         |            | mg/L     |                  | 8/13/2015 2100h  | SM2540C        | 30.6    | 50.0               | 460                  |      |
| Total Suspended Solids         | TSS        | mg/L     |                  | 8/13/2015 1610h  | SM2540D        | 142     | 150                | 3,020                |      |

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

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## **INORGANIC ANALYTICAL REPORT**

| Client:                  | Utah Division of Water Quality           |  |  |  |  |  |  |  |
|--------------------------|------------------------------------------|--|--|--|--|--|--|--|
| Project:                 | Gold King Mine - San Juan River Sampling |  |  |  |  |  |  |  |
| Lab Sample ID:           | 1508262-004                              |  |  |  |  |  |  |  |
| <b>Client Sample ID:</b> | San Juan R @ US160 Xing in CO (4954000)  |  |  |  |  |  |  |  |
| <b>Collection Date:</b>  | 8/12/2015 1209h                          |  |  |  |  |  |  |  |
| <b>Received Date:</b>    | 8/13/2015 1450h                          |  |  |  |  |  |  |  |

### **Analytical Results**

| Compound                       | CAS        | Units    | Date<br>Prepared | Date<br>Analyzed | Method<br>Used | MDL     | Reporting<br>Limit | Analytical<br>Result | Qual |
|--------------------------------|------------|----------|------------------|------------------|----------------|---------|--------------------|----------------------|------|
| Alkalinity (as CaCO3)          |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 110                  |      |
| Bicarbonate (as CaCO3)         |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | 110                  |      |
| Carbonate (as CaCO3)           |            | mg/L     |                  | 8/14/2015 632h   | SM2320B        | 1.86    | 10.0               | < 10.0               | U    |
| Chloride                       | 16887-00-6 | mg/L     |                  | 8/13/2015 2258h  | E300.0         | 0.0751  | 1.00               | 9.64                 | В    |
| Conductivity                   |            | µmhos/cm |                  | 8/14/2015 601h   | SM2510B        | 0.436   | 2.00               | 521                  | В    |
| Hardness (as CaCO3)            |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 466                  |      |
| Hardness, Dissolved (as CaCO3) |            | mg/L     |                  | 8/14/2015 1507h  | SM2340B        | 10.0    | 10.0               | 148                  |      |
| Nitrate/Nitrite (as N)         | 7727-37-9  | mg/L     |                  | 8/13/2015 2355h  | E353.2         | 0.00833 | 0.0100             | 0.307                | 1    |
| pH @ 25° C                     |            | pH Units |                  | 8/13/2015 1840h  | SM4500-H+B     | 1.00    | 1.00               | 8.22                 | Н    |
| Phosphate, Total (as P)        | 7723-14-0  | mg/L     | 8/14/2015 1020h  | 8/14/2015 1239h  | SM4500-P-F     | 0.0212  | 0.0500             | 1.73                 | В    |
| Sulfate                        | 14808-79-8 | mg/L     |                  | 8/13/2015 2258h  | E300.0         | 0.211   | 7.50               | 102                  |      |
| Total Dissolved Solids         |            | mg/L     |                  | 8/13/2015 2100h  | SM2540C        | 30.6    | 50.0               | 450                  |      |
| Total Suspended Solids         | TSS        | mg/L     |                  | 8/13/2015 1610h  | SM2540D        | 142     | 150                | 2,260                |      |

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

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

H - Sample was received outside of the holding time.

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



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OC SUMMADV DEDODT

## Jose Rocha **QA** Officer

| ANALYTICAL L | ABORATORIES                        |         |        |     |                    |                  |                      |         |        |                 |       |              |      |
|--------------|------------------------------------|---------|--------|-----|--------------------|------------------|----------------------|---------|--------|-----------------|-------|--------------|------|
| Client:      | Utah Division of Water Quality     |         |        |     |                    | <b>Contact:</b>  | Lenora Su            | ıllivan |        |                 |       |              |      |
| Lab Set ID:  | : 1508262                          |         |        |     |                    | Dept:            | ME                   |         |        |                 |       |              |      |
| Project:     | Gold King Mine - San Juan River Sa | ampling |        |     |                    | QC Type          | e: LCS               |         |        |                 |       |              |      |
| Analyte      | Result                             | Units   | Method | MDL | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC    | Limits | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |

|                | QC SUMMART REFORT |                 |
|----------------|-------------------|-----------------|
| ality          | Contact:          | Lenora Sullivan |
|                | Dept:             | ME              |
| River Sampling | QC Type:          | LCS             |

| Lab Sample ID:         LCS-38557<br>2007-D18         Date Analyzed:         08/14/2015 3/34h<br>Date Prepared:           Test Code:         2007-D18         Date Prepared:         08/14/2015 3/34h           Alminium         952         ng7L         E2007         0.0237         0.100         1.000         0         95.2         85 - 115           Calcium         9.41         mg1L         E200.7         0.0767         0.100         1.000         0         95.5         85 - 115           Magnesium         9.79         mg1L         E200.7         0.0247         1.00         10.00         0         95.2         85 - 115           Paraschum         9.52         ng7.L         E200.7         0.0247         1.00         10.00         0         95.2         85 - 115           Sodium         9.24         mg1.L         E200.7         0.0237         0.100         10.00         0         95.2         85 - 115           Sodium         9.62         mg1.L         E200.7         0.0237         0.100         1.000         0         95.6         85 - 115           Isoan DD:         Date Prepared:         08/13/2015 2/21h         Test Code:         200.7-W         Date Prepared:         08/13/2015 16/3/21h         Test                                                                                                                                                                         | Analyte        |           | Result         | Units    | Method   | MDL       | Limit    | Spiked | Amount | %REC | Limits   | Amt | % RPD | RPD<br>Limit | Qual |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|----------------|----------|----------|-----------|----------|--------|--------|------|----------|-----|-------|--------------|------|
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lab Sample ID: | LCS-38557 | Date Analyzed: | 08/14/20 | 15 1334h |           |          |        |        |      |          |     |       |              |      |
| Cakium       9,41       mg/L       E200.7       0.0401       1.00       10.00       0       94.1       85 - 115         Iron       0.935       mg/L       E200.7       0.0767       1.000       10.00       0       93.5       85 - 115         Porassim       9.22       mg/L       E200.7       0.247       1.00       10.00       0       97.2       85 - 115         Sodium       9.24       mg/L       E200.7       0.033       1.00       10.00       0       92.4       85 - 115         Sodium       9.24       mg/L       E200.7       0.033       1.00       10.00       0       92.4       85 - 115         Lab Sample Di:       LCS-38535       Date Analyzei       08132015 : E32h         10.00       0       95.6       85 - 115         Aluminum       9.62       mg/L       E200.7       0.0277       0.100       1.000       0       95.6       85 - 115         Iron       9.61       mg/L       E200.7       0.0274       1.00       1.000       0       95.8       85 - 115         Sodium       9.57       mg/L       E200.7       0.0247       1.00       1.000       0       93.1                                                                                                                                                                                                                                                                                                                                 | Test Code:     | 200.7-DIS | Date Prepared: | 08/14/20 | 15 830h  |           |          |        |        |      |          |     |       |              |      |
| Iron       0.935       ng/L       E200.7       0.0767       0.100       1.000       0       93.5       85-115         Magnesium       9.75       ng/L       E200.7       0.0244       1.00       10.00       0       95.2       85-115         Sodium       9.52       ng/L       E200.7       0.0247       1.00       10.00       0       95.2       85-115         Sodium       9.24       ng/L       E200.7       0.033       1.00       10.00       0       95.2       85-115         Lab Sample ID:       LCS-38355       Date Analyse:       8132015 1231+       1.00       10.00       0       95.6       85-115         Aluminum       9.62       ng/L       E200.7       0.0017       1.00       1.000       0       96.6       85-115         Galuim       9.62       ng/L       E200.7       0.0024       1.000       10.00       0       95.6       85-115         Galuim       9.57       ng/L       E200.7       0.0247       1.00       1.000       0       95.7       85-115         Sodium       9.57       ng/L       E200.7       0.0247       1.00       1.000       0       95.7       85-115 <td>Aluminum</td> <td></td> <td>0.952</td> <td>mg/L</td> <td>E200.7</td> <td>0.0237</td> <td>0.100</td> <td>1.000</td> <td>0</td> <td>95.2</td> <td>85 - 115</td> <td></td> <td></td> <td></td> <td></td>                                                                                                              | Aluminum       |           | 0.952          | mg/L     | E200.7   | 0.0237    | 0.100    | 1.000  | 0      | 95.2 | 85 - 115 |     |       |              |      |
| Magnesium9.79ng/LE200.70.02941.0010.00097.985.115Potassium9.22ng/LE200.70.0301.0010.00092.285.115Sodium9.24ng/LE200.70.0301.0010.00092.685.115Las Sangu SDate Analyeo08/13/2015 / E2011.001.00095.685.115Tes Cole:200.7-W09.56mg/LE200.70.02370.1001.000095.685.115Calcium9.62ng/LE200.70.02370.1001.000095.685.115Ior0.916ng/LE200.70.02471.001.000095.885.115Magnesium9.62ng/LE200.70.02741.001.000095.885.115Magnesium9.58ng/LE200.70.02471.001.000095.885.115Sodium9.57ng/LE200.70.02471.001.000095.885.115Potassium9.58ng/LE200.70.02471.001.000095.885.115Sodium9.57ng/LE200.70.02471.001.000095.885.115Potassium9.58ng/LE200.70.02471.001.000095.785.115Autimony0.0540.02070.02000.020009.0285.115 <td< td=""><td>Calcium</td><td></td><td>9.41</td><td>mg/L</td><td>E200.7</td><td>0.0401</td><td>1.00</td><td>10.00</td><td>0</td><td>94.1</td><td>85 - 115</td><td></td><td></td><td></td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Calcium        |           | 9.41           | mg/L     | E200.7   | 0.0401    | 1.00     | 10.00  | 0      | 94.1 | 85 - 115 |     |       |              |      |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Iron           |           | 0.935          | mg/L     | E200.7   | 0.0767    | 0.100    | 1.000  | 0      | 93.5 | 85 - 115 |     |       |              |      |
| Sodium9.24ngLE200.0.03301.0010.0009.2485-115Lab Sample Di<br>Test Code:LCS-38535<br>2017-WDate Analyzei08/13/2015 - E231-Aluminum0.956mg/LE20070.02370.1001.00009.6285-115Calcium9.62mg/LE20070.02470.1001.00009.6285-115Ion0.916mg/LE20070.02470.1001.00009.6285-115Magnesium9.83mg/LE20070.02441.001.00009.5885-115Potassium9.57mg/LE20070.02471.001.00009.5885-115Sodium9.31mg/LE20070.02471.001.00009.5885-115Sodium9.31mg/LE20070.02471.001.00009.5885-115Sodium9.31mg/LE20070.02470.0000.0009.5185-115AssenicSodia9.31mg/LE20080.00009200.002000.200009.5885-115Assenic0.153mg/LE20080.00009200.002000.200009.5885-115Assenic0.163mg/LE20080.00009200.002000.200009.5885-115Barlum0.184mg/LE20080.0000280.002000.200009.588                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Magnesium      |           | 9.79           | mg/L     | E200.7   | 0.0294    | 1.00     | 10.00  | 0      | 97.9 | 85 - 115 |     |       |              |      |
| Lab Sample ID:         LCS-38535<br>200.7-W         Date Analyzed<br>Date Prepared:         08/13/2015 2231h<br>08/13/2015 1632h           Aluminum         0.956         mg/L         E200.7         0.0237         0.100         1.000         0         95.6         85 - 115           Calcium         9.62         mg/L         E200.7         0.0237         0.100         1.000         0         96.2         85 - 115           Calcium         9.62         mg/L         E200.7         0.0294         1.00         1.000         0         96.2         85 - 115           Magnesium         9.58         mg/L         E200.7         0.0294         1.00         10.00         0         95.8         85 - 115           Potassium         9.57         mg/L         E200.7         0.0330         1.00         10.00         0         95.7         85 - 115           Solium         9.31         mg/L         E200.7         0.0330         1.00         10.00         0         93.1         85 - 115           Lab Sample ID:         LCS-38558         Date Analyzed:         08/14/2015 1423h         100         10.00         0         76.3         85 - 115         #           Antimony         0.153         mg/L                                                                                                                                                                                                | Potassium      |           | 9.52           | mg/L     | E200.7   | 0.247     | 1.00     | 10.00  | 0      | 95.2 | 85 - 115 |     |       |              |      |
| Test Code:       200.7-W       Date Prepared:       08/13/2015 1632h         Aluminum       0.956       mg/L       E200.7       0.0237       0.100       1.000       0       95.6       85 - 115         Calcium       9.62       mg/L       E200.7       0.00767       0.100       10.00       0       96.2       85 - 115         Iron       9.58       mg/L       E200.7       0.0767       0.100       10.00       0       95.8       85 - 115         Potassium       9.58       mg/L       E200.7       0.0274       1.00       10.00       0       95.8       85 - 115         Sodium       9.51       mg/L       E200.7       0.2247       1.00       10.00       0       95.7       85 - 115         Sodium       9.31       mg/L       E200.7       0.330       1.00       10.00       0       95.1       85 - 115         Antimony       Date Prepared       08/14/2015 ¥23+       State       State       State       State       State       State         Antimony       0.040       mg/L       E200.8       0.000026       0.2000       0       10.2       85 - 115         Bariumoy       0.0200       mg/L       E200.8<                                                                                                                                                                                                                                                                                                 | Sodium         |           | 9.24           | mg/L     | E200.7   | 0.0330    | 1.00     | 10.00  | 0      | 92.4 | 85 - 115 |     |       |              |      |
| Aluminum         0.956         mg/L         E200.7         0.0237         0.100         1.000         0         95.6         85 - 115           Calcium         9.62         mg/L         E200.7         0.0401         1.00         10.00         0         96.2         85 - 115           Iron         0.916         mg/L         E200.7         0.0767         0.100         1.000         0         91.6         85 - 115           Magnesium         9.58         mg/L         E200.7         0.0244         1.00         10.00         0         95.8         85 - 115           Potassium         9.57         mg/L         E200.7         0.0330         1.00         10.00         0         95.8         85 - 115           Sodium         9.31         mg/L         E200.7         0.0330         1.00         10.00         0         95.7         85 - 115           Sodium         9.31         mg/L         E200.7         0.0330         1.00         10.00         0         95.7         85 - 115           Lab Sample D:         LCS-38558         Date Analyzed:         08/14/2015 820h         0.000200         0.2000         0         10.2         85 - 115         #           Arsen                                                                                                                                                                                                                           | Lab Sample ID: | LCS-38535 | Date Analyzed: | 08/13/20 | 15 2231h |           |          |        |        |      |          |     |       |              |      |
| Calcium       9.62       mg/L       E200.7       0.0401       1.00       10.00       0       96.2       85 - 115         Iron       0.916       mg/L       E200.7       0.0767       0.100       1.000       0       91.6       85 - 115         Magnesium       9.58       mg/L       E200.7       0.0294       1.00       10.00       0       95.8       85 - 115         Potasium       9.57       mg/L       E200.7       0.247       1.00       10.00       0       95.8       85 - 115         Sodium       9.57       mg/L       E200.7       0.247       1.00       10.00       0       95.8       85 - 115         Sodium       9.57       mg/L       E200.7       0.247       1.00       10.00       0       95.8       85 - 115         LabSample D:       LCS-38558       Date Analyze:       08/14/2015 83/*       2000       0.03030       1.00       10.00       0       95.3       85 - 115         Antimony       0.153       mg/L       E200.8       0.0000208       0.0200       0.2000       0       10.2       85 - 115         Barium       0.184       mg/L       E200.8       0.000208       0.0200       0.2000                                                                                                                                                                                                                                                                                                  | Test Code:     | 200.7-W   | Date Prepared: | 08/13/20 | 15 1632h |           |          |        |        |      |          |     |       |              |      |
| Iron       0.916       mg/L       E200.7       0.0767       0.100       1.000       0       91.6       85 - 115         Magnesium       9.58       mg/L       E200.7       0.0294       1.00       10.00       0       95.8       85 - 115         Potassium       9.57       mg/L       E200.7       0.247       1.00       10.00       0       95.7       85 - 115         Sodium       9.31       mg/L       E200.7       0.0330       1.00       10.00       0       95.7       85 - 115         Lab Sample D:       LCS-38558       Date Analyze:       08/14/2015 1423h               9.10       85 - 115         #        #        #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #       #<                                                                                                                                                                                                                                                                                                                                                                                                                                              | Aluminum       |           | 0.956          | mg/L     | E200.7   | 0.0237    | 0.100    | 1.000  | 0      | 95.6 | 85 - 115 |     |       |              |      |
| Magnesium       9.58       ng/L       E200.7       0.0294       1.00       10.00       0       95.8       85 - 115         Potassium       9.57       ng/L       E200.7       0.247       1.00       10.00       0       95.7       85 - 115         Sodium       9.31       ng/L       E200.7       0.030       1.00       10.00       0       95.7       85 - 115         Los sample ID:       LCS-38558       Date Analyzei       08/14/2015 +23h       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       7       5       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6                                                                                                                                                                                                                                                                                                                                                                                      | Calcium        |           | 9.62           | mg/L     | E200.7   | 0.0401    | 1.00     | 10.00  | 0      | 96.2 | 85 - 115 |     |       |              |      |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Iron           |           | 0.916          | mg/L     | E200.7   | 0.0767    | 0.100    | 1.000  | 0      | 91.6 | 85 - 115 |     |       |              |      |
| Sodium         9.31         mg/L         E20.7         0.0330         1.00         10.00         0         93.1         85 - 115           Lab Sample ID:         LCS-38558         Date Analyzed         08/14/2015 1423h                Test Code:         200.8-DIS         Date Prepared:         08/14/2015 830h                  Antimony         0.153         mg/L         E200.8         0.0000366         0.00200         0.2000         0         76.3         85 - 115         #           Arsenic         0.153         mg/L         E200.8         0.0000366         0.00200         0.2000         0         10.2         85 - 115           Barium         0.184         mg/L         E200.8         0.000288         0.00200         0         10.0         85 - 115           Cadmium         0.188         mg/L         E200.8         0.000134         0.00200         0         93.9         85 - 115           Chromium         0.189         mg/L         E200.8         0.000434         0.00400         0.2000         0         94.3         85 - 115           Cobalt         0.184<                                                                                                                                                                                                                                                                                                                           | Magnesium      |           | 9.58           | mg/L     | E200.7   | 0.0294    | 1.00     | 10.00  | 0      | 95.8 | 85 - 115 |     |       |              |      |
| Lab Sample ID:         LCS-38558         Date Analyzed:         08/14/2015 1423h           Test Code:         200.8-DIS         Date Prepared:         08/14/2015 830h           Antimony         0.153         mg/L         E200.8         0.0000366         0.00200         0.2000         0         76.3         85 - 115           Arsenic         0.204         mg/L         E200.8         0.0000386         0.00200         0.2000         0         102         85 - 115           Barium         0.184         mg/L         E200.8         0.00028         0.00200         0.2000         0         91.9         85 - 115           Cadmium         0.188         mg/L         E200.8         0.00028         0.00200         0.2000         0         93.9         85 - 115           Chromium         0.188         mg/L         E200.8         0.000434         0.00400         0.2000         94.3         85 - 115           Cobalt         0.184         mg/L         E200.8         0.000434         0.00400         0.2000         94.3         85 - 115           Cobalt         0.188         mg/L         E200.8         0.000692         0.00200         0.2000         94.2         85 - 115           Copper                                                                                                                                                                                                       | Potassium      |           | 9.57           | mg/L     | E200.7   | 0.247     | 1.00     | 10.00  | 0      | 95.7 | 85 - 115 |     |       |              |      |
| Test Code:200.8-DISDate Prepared:08/14/2015 830HAntimony0.153mg/LE200.80.00003660.002000.2000076.385 - 115#Arsenic0.204mg/LE200.80.00009200.002000.2000010285 - 115#Barium0.184mg/LE200.80.00002880.002000.2000091.985 - 115#Beryllium0.200mg/LE200.80.00002880.002000.2000093.985 - 115#Cadmium0.188mg/LE200.80.001930.0005000.2000093.985 - 115#Chromium0.189mg/LE200.80.0004340.004000.2000094.385 - 115#Cobalt0.184mg/LE200.80.0006920.002000.2000094.285 - 115#Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115#Lead0.185mg/LE200.80.0002640.002000.2000092.385 - 115#Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Sodium         |           | 9.31           | mg/L     | E200.7   | 0.0330    | 1.00     | 10.00  | 0      | 93.1 | 85 - 115 |     |       |              |      |
| Antimony       0.153       mg/L       E200.8       0.0000366       0.00200       0.2000       0       76.3       85 - 115       #         Arsenic       0.204       mg/L       E200.8       0.0000920       0.00200       0.2000       0       102       85 - 115       #         Barium       0.184       mg/L       E200.8       0.000538       0.00200       0.2000       0       91.9       85 - 115         Beryllium       0.200       mg/L       E200.8       0.000288       0.0200       0       100       85 - 115         Cadmium       0.188       mg/L       E200.8       0.000193       0.00200       0       93.9       85 - 115         Chromium       0.189       mg/L       E200.8       0.00154       0.2000       0       94.3       85 - 115         Cobalt       0.184       mg/L       E200.8       0.000434       0.2000       0       94.3       85 - 115         Cobalt       0.188       mg/L       E200.8       0.000692       0.0200       0       94.3       85 - 115         Lead       0.185       mg/L       E200.8       0.00200       0.2000       0       94.2       85 - 115         Mangane                                                                                                                                                                                                                                                                                                          | Lab Sample ID: | LCS-38558 | Date Analyzed: | 08/14/20 | 15 1423h |           |          |        |        |      |          |     |       |              |      |
| Arsenic0.204mg/LE200.80.00009200.002000.2000010285 - 115Barium0.184mg/LE200.80.0005380.002000.2000091.985 - 115Beryllium0.200mg/LE200.80.0002880.002000.2000010085 - 115Cadmium0.188mg/LE200.80.0001930.0005000.2000093.985 - 115Chromium0.189mg/LE200.80.001540.002000.2000094.385 - 115Cobalt0.184mg/LE200.80.0004340.004000.2000092.185 - 115Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115Lead0.185mg/LE200.80.0002640.002000.2000092.385 - 115Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Test Code:     | 200.8-DIS | Date Prepared: | 08/14/20 | 15 830h  |           |          |        |        |      |          |     |       |              |      |
| Barium0.184mg/LE200.80.0005380.002000.2000091.985 - 115Beryllium0.200mg/LE200.80.00002880.002000.2000010085 - 115Cadmium0.188mg/LE200.80.001930.0005000.2000093.985 - 115Chromium0.189mg/LE200.80.001540.002000.2000094.385 - 115Cobalt0.184mg/LE200.80.0004340.004000.2000092.185 - 115Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115Lead0.185mg/LE200.80.0002640.002000.2000092.385 - 115Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Antimony       |           | 0.153          | mg/L     | E200.8   | 0.0000366 | 0.00200  | 0.2000 | 0      | 76.3 | 85 - 115 |     |       |              | #    |
| Beryllium0.200mg/LE200.80.00002880.002000.2000010085 - 115Cadmium0.188mg/LE200.80.0001930.0005000.2000093.985 - 115Chromium0.189mg/LE200.80.001540.002000.2000094.385 - 115Cobalt0.184mg/LE200.80.0004340.004000.2000092.185 - 115Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115Lead0.185mg/LE200.80.002640.002000.2000092.385 - 115Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Arsenic        |           | 0.204          | mg/L     | E200.8   | 0.0000920 | 0.00200  | 0.2000 | 0      | 102  | 85 - 115 |     |       |              |      |
| Cadmium0.188mg/LE200.80.0001930.0005000.2000093.985 - 115Chromium0.189mg/LE200.80.001540.002000.2000094.385 - 115Cobalt0.184mg/LE200.80.00004340.004000.2000092.185 - 115Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115Lead0.185mg/LE200.80.002640.002000.2000092.385 - 115Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Barium         |           | 0.184          | mg/L     | E200.8   | 0.000538  | 0.00200  | 0.2000 | 0      | 91.9 | 85 - 115 |     |       |              |      |
| Chromium0.189mg/LE200.80.001540.002000.2000094.385 - 115Cobalt0.184mg/LE200.80.00004340.004000.2000092.185 - 115Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115Lead0.185mg/LE200.80.0002640.002000.2000092.385 - 115Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Beryllium      |           | 0.200          | mg/L     | E200.8   | 0.0000288 | 0.00200  | 0.2000 | 0      | 100  | 85 - 115 |     |       |              |      |
| Cobalt0.184mg/LE200.80.00004340.004000.2000092.185 - 115Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115Lead0.185mg/LE200.80.0002640.002000.2000092.385 - 115Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Cadmium        |           | 0.188          | mg/L     | E200.8   | 0.000193  | 0.000500 | 0.2000 | 0      | 93.9 | 85 - 115 |     |       |              |      |
| Copper0.188mg/LE200.80.0006920.002000.2000094.285 - 115Lead0.185mg/LE200.80.0002640.002000.2000092.385 - 115Manganese0.187mg/LE200.80.001530.002000.2000093.685 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Chromium       |           | 0.189          | mg/L     | E200.8   | 0.00154   | 0.00200  | 0.2000 | 0      | 94.3 | 85 - 115 |     |       |              |      |
| Induction       Description       Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<> | Cobalt         |           | 0.184          | mg/L     | E200.8   | 0.0000434 | 0.00400  | 0.2000 | 0      | 92.1 | 85 - 115 |     |       |              |      |
| Manganese         0.187         mg/L         E200.8         0.00153         0.00200         0.2000         0         93.6         85 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Copper         |           | 0.188          | mg/L     | E200.8   | 0.000692  | 0.00200  | 0.2000 | 0      | 94.2 | 85 - 115 |     |       |              |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Lead           |           | 0.185          | mg/L     | E200.8   | 0.000264  | 0.00200  | 0.2000 | 0      | 92.3 | 85 - 115 |     |       |              |      |
| Molybdenum 0.184 mg/L E200.8 0.000206 0.00200 0.2000 0 92.2 85 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Manganese      |           | 0.187          | mg/L     | E200.8   | 0.00153   | 0.00200  | 0.2000 | 0      | 93.6 | 85 - 115 |     |       |              |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Molybdenum     |           | 0.184          | mg/L     | E200.8   | 0.000206  | 0.00200  | 0.2000 | 0      | 92.2 | 85 - 115 |     |       |              |      |

Report Date: 8/14/2015 Page 14 of 40



Zinc

Test Code:

Arsenic

Barium

Beryllium

Cadmium

Chromium

Manganese

Molybdenum

Cobalt

Copper

Lead

Nickel

Silver

Zinc

Selenium

Thallium

Vanadium

Test Code:

Antimony

Lab Sample ID: LCS-38575

200.8-W

Lab Sample ID: LCS-38536

200.8-W

0.978

0.213

0.196

0.213

0.198

0.199

0.195

0.197

0.196

0.199

0.199

0.194

0.214

0.193

0.189

0.199

1.05

Date Analyzed:

Date Prepared:

0.175

Date Analyzed:

Date Prepared:

mg/L

08/14/2015 1942h

08/14/2015 1431h

08/13/2015 2214h

08/13/2015 1632h

E200.8

3440 South 700 West

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Kyle F. Gross Laboratory Director

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OC SUMMARY REPORT

## Jose Rocha QA Officer

| ANALYTICAL LA | BORATORIES          |                      |          |          |           |                    |                  |                      |         |          |                 |       |              |      |
|---------------|---------------------|----------------------|----------|----------|-----------|--------------------|------------------|----------------------|---------|----------|-----------------|-------|--------------|------|
| Client:       | Utah Division of Wa | ater Quality         |          |          |           |                    | <b>Contact:</b>  | Lenora Su            | ullivan |          |                 |       |              |      |
| Lab Set ID:   | 1508262             |                      |          |          |           |                    | Dept:            | ME                   |         |          |                 |       |              |      |
| Project:      | Gold King Mine - S  | an Juan River Sampli | ng       |          |           |                    | QC Type:         | LCS                  |         |          |                 |       |              |      |
| Analyte       |                     | Result               | Units    | Method   | MDL       | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC    | Limits   | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
| Lab Sample II | D: LCS-38558        | Date Analyzed:       | 08/14/20 | 15 1423h |           |                    |                  |                      |         |          |                 |       |              |      |
| Test Code:    | 200.8-DIS           | Date Prepared:       | 08/14/20 | 15 830h  |           |                    |                  |                      |         |          |                 |       |              |      |
| Nickel        |                     | 0.184                | mg/L     | E200.8   | 0.000754  | 0.00200            | 0.2000           | 0                    | 92.1    | 85 - 115 |                 |       |              |      |
| Selenium      |                     | 0.202                | mg/L     | E200.8   | 0.0000634 | 0.00200            | 0.2000           | 0                    | 101     | 85 - 115 |                 |       |              |      |
| Silver        |                     | 0.186                | mg/L     | E200.8   | 0.0000244 | 0.00200            | 0.2000           | 0                    | 92.9    | 85 - 115 |                 |       |              |      |
| Thallium      |                     | 0.182                | mg/L     | E200.8   | 0.0000242 | 0.00200            | 0.2000           | 0                    | 91.1    | 85 - 115 |                 |       |              |      |
| Vanadium      |                     | 0.187                | mg/L     | E200.8   | 0.000438  | 0.00440            | 0.2000           | 0                    | 93.7    | 85 - 115 |                 |       |              |      |

0.00500

0.00200

0.00200

0.00200

0.000500

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0.00400

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0.00200

0.00200

0.00200

0.00440

0.00500

0.00200

1.000

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97.8

106

98.0

106

99.1

99.5

97.3

98.7

98.0

99.3

99.4

97.2

107

96.3

99.5

105

87.4

85 - 115

85 - 115

85 - 115

85 - 115

85 - 115

85 - 115

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85 - 115

85 - 115

85 - 115

85 - 115

0.00476

0.0000920

0.000538

0.0000288

0.000193

0.00154

0.0000434

0.000692

0.000264

0.00153

0.000206

0.000754

0.0000634

0.0000244

0.0000242

0.000438

0.00476

0.0000366

### Report Date: 8/14/2015 Page 15 of 40 s report is provided for the exclusive use of the addressee. Privileges of subsequent use of

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0 94.7 85 - 115



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**QC SUMMARY REPORT** 

Kyle F. Gross Laboratory Director

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Jose Rocha QA Officer

### **Client:** Utah Division of Water Quality **Contact:** Lenora Sullivan Lab Set ID: 1508262 Dept: ME QC Type: LCS Gold King Mine - San Juan River Sampling **Project:** Reporting Spike Ref. **RPD Ref.** RPD Amount Method MDL %REC % RPD Result Units Limit Spiked Limits Limit Qual Analyte Amount Amt Lab Sample ID: LCS-38547 08/14/2015 945h Date Analyzed: Test Code: HG-DW-245.1 Date Prepared: 08/13/2015 1830h 0.00338 0.00000892 0.000150 0.003330 0 102 85 - 115 E245.1 Mercury mg/L Lab Sample ID: LCS-38546 08/14/2015 1019h Date Analyzed: HG-DW-DIS-245.1 Test Code: Date Prepared: 08/13/2015 1830h 0 0.00333 0.00000892 0.000150 0.003330 99.9 85 - 115 Mercury mg/L E245.1

# - Sb LCS recovery suggests analyte concentration may be biased low. Samples cannot be rerun due to insufficient sample volume.

Report Date: 8/14/2015 Page 16 of 40



Potassium

< 1.00

mg/L

E200.7

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Jose Rocha QA Officer

# QC SUMMARY REPORT

| Lab Set ID:                 |                           | 'ater Quality<br>San Juan River Sampl | ing                  |                     |        |                    | Contact<br>Dept:<br>QC Typ | : Lenora S<br>ME<br>e: MBLK | ullivan |        |                 |       |              |     |
|-----------------------------|---------------------------|---------------------------------------|----------------------|---------------------|--------|--------------------|----------------------------|-----------------------------|---------|--------|-----------------|-------|--------------|-----|
| Analyte                     |                           | Result                                | Units                | Method              | MDL    | Reporting<br>Limit | Amount<br>Spiked           | Spike Ref.<br>Amount        | %REC    | Limits | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qua |
| Lab Sample II<br>Test Code: | <b>MB-38557</b> 200.7-DIS | Date Analyzed:<br>Date Prepared:      | 08/14/20<br>08/14/20 | 15 1332h<br>15 830h |        |                    |                            |                             |         |        |                 |       |              |     |
| 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   |

0.247

| Sodium                                                               | < 1.00                           | mg/L | E200.7 | 0.0330 | 1.00  | U |
|----------------------------------------------------------------------|----------------------------------|------|--------|--------|-------|---|
| Lab Sample ID:         MB-38535           Test Code:         200.7-W | Date Analyzed:<br>Date Prepared: |      |        |        |       |   |
| 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                                                               | < 1.00                           | mg/L | E200.7 | 0.0330 | 1.00  | U |

1.00

| Lab Sample ID: | MB-38558  | Date Analyzed: | 08/14/20 | 015 1420h |           |          |
|----------------|-----------|----------------|----------|-----------|-----------|----------|
| Test Code:     | 200.8-DIS | Date Prepared: | 08/14/20 | 015 830h  |           |          |
| Antimony       |           | 0.000253       | mg/L     | E200.8    | 0.0000366 | 0.00200  |
| Arsenic        |           | < 0.00200      | mg/L     | E200.8    | 0.0000920 | 0.00200  |
| Barium         |           | < 0.00200      | mg/L     | E200.8    | 0.000538  | 0.00200  |
| Beryllium      |           | < 0.00200      | mg/L     | E200.8    | 0.0000288 | 0.00200  |
| Cadmium        |           | < 0.000500     | mg/L     | E200.8    | 0.000193  | 0.000500 |
| Chromium       |           | < 0.00200      | mg/L     | E200.8    | 0.00154   | 0.00200  |
| Cobalt         |           | < 0.00400      | mg/L     | E200.8    | 0.0000434 | 0.00400  |
| Copper         |           | < 0.00200      | mg/L     | E200.8    | 0.000692  | 0.00200  |
| Lead           |           | < 0.00200      | mg/L     | E200.8    | 0.000264  | 0.00200  |
| Manganese      |           | < 0.00200      | mg/L     | E200.8    | 0.00153   | 0.00200  |
| Molybdenum     |           | < 0.00200      | mg/L     | E200.8    | 0.000206  | 0.00200  |

Report Date: 8/14/2015 Page 17 of 40



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Kyle F. Gross Laboratory Director

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## Jose Rocha QA Officer

# American West ANALYTICAL LABORATORIES QC SUMMARY REPORT Client: Utah Division of Water Quality Contact: Lenora Sullivan Lab Set ID: 1508262 Dept: ME Project: Gold King Mine - San Juan River Sampling QC Type: MBLK

| Analyte        |           | Result         | Units     | Method  | MDL       | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC | Limits | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
|----------------|-----------|----------------|-----------|---------|-----------|--------------------|------------------|----------------------|------|--------|-----------------|-------|--------------|------|
| Lab Sample ID: | MB-38558  | Date Analyzed: | 08/14/201 | 5 1420h |           |                    |                  |                      |      |        |                 |       |              |      |
| Test Code:     | 200.8-DIS | Date Prepared: | 08/14/201 | 5 830h  |           |                    |                  |                      |      |        |                 |       |              |      |
| Nickel         |           | < 0.00200      | mg/L      | E200.8  | 0.000754  | 0.00200            |                  |                      |      |        |                 |       |              | U    |
| Selenium       |           | 0.0000681      | mg/L      | E200.8  | 0.0000634 | 0.00200            |                  |                      |      |        |                 |       |              | JB   |
| 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    |
| Lab Sample ID: | MB-38536  | Date Analyzed: | 08/13/201 | 5 2211h |           |                    |                  |                      |      |        |                 |       |              |      |
| Test Code:     | 200.8-W   | Date Prepared: | 08/13/201 | 5 1632h |           |                    |                  |                      |      |        |                 |       |              |      |
| 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    |
| 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    |
| Lab Sample ID: | MB-38575  | Date Analyzed: | 08/14/201 | 5 1939h |           |                    |                  |                      |      |        |                 |       |              |      |
| Test Code:     | 200.8-W   | Date Prepared: | 08/14/201 | 5 1431h |           |                    |                  |                      |      |        |                 |       |              |      |
| Antimony       |           | < 0.00200      | mg/L      | E200.8  | 0.0000366 | 0.00200            |                  |                      |      |        |                 |       |              | U    |

Report Date: 8/14/2015 Page 18 of 40

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Kyle F. Gross Laboratory Director

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Jose Rocha QA Officer

### **QC SUMMARY REPORT Client:** Utah Division of Water Quality **Contact:** Lenora Sullivan Lab Set ID: 1508262 Dept: ME QC Type: MBLK Gold King Mine - San Juan River Sampling **Project:** Reporting Spike Ref. **RPD Ref.** RPD Amount Method MDL %REC % RPD Result Units Limit Spiked Limits Limit Qual Analyte Amount Amt 08/14/2015 943h Lab Sample ID: MB-38547 Date Analyzed: Test Code: HG-DW-245.1 Date Prepared: 08/13/2015 1830h < 0.000150 0.00000892 0.000150 U E245.1 Mercury mg/L Lab Sample ID: MB-38546 Date Analyzed: 08/14/2015 1017h

 Test Code:
 HG-DW-DIS-245.1
 Date Prepared:
 08/13/2015 1830h

 Mercury
 < 0.000150</td>
 mg/L
 E245.1
 0.0000892
 0.000150

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.

Report Date: 8/14/2015 Page 19 of 40



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**OC SUMMARY REPORT** 

### Jose Rocha QA Officer

| ANALYTICAL L | LABORATORIES           |               |        |        |     |                    |                  |                      |         |        |                 |       |              |     |
|--------------|------------------------|---------------|--------|--------|-----|--------------------|------------------|----------------------|---------|--------|-----------------|-------|--------------|-----|
| Client:      | Utah Division of Water | Quality       |        |        |     |                    | Contact          | : Lenora Su          | ıllivan |        |                 |       |              |     |
| Lab Set ID   | : 1508262              |               |        |        |     |                    | Dept:            | ME                   |         |        |                 |       |              |     |
| Project:     | Gold King Mine - San J | uan River San | npling |        |     |                    | QC Type          | e: MS                |         |        |                 |       |              |     |
| Analyte      |                        | Result        | Units  | Method | MDL | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC    | Limits | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qua |

| Analyte        |                | Result         | Units     | Method   | MDL    | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC | Limits   | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
|----------------|----------------|----------------|-----------|----------|--------|--------------------|------------------|----------------------|------|----------|-----------------|-------|--------------|------|
| Lab Sample ID: | 1508262-004CMS | Date Analyzed: | 08/14/20  | 15 1349h |        |                    |                  |                      |      |          |                 |       |              |      |
| Test Code:     | 200.7-DIS      | Date Prepared: | 08/14/201 | 15 830h  |        |                    |                  |                      |      |          |                 |       |              |      |
| Aluminum       |                | 1.13           | mg/L      | E200.7   | 0.0237 | 0.100              | 1.000            | 0.155                | 97.0 | 70 - 130 |                 |       |              |      |
| Calcium        |                | 58.1           | mg/L      | E200.7   | 0.0401 | 1.00               | 10.00            | 47.9                 | 102  | 70 - 130 |                 |       |              |      |
| Iron           |                | 1.00           | mg/L      | E200.7   | 0.0767 | 0.100              | 1.000            | 0                    | 100  | 70 - 130 |                 |       |              |      |
| Magnesium      |                | 17.0           | mg/L      | E200.7   | 0.0294 | 1.00               | 10.00            | 6.97                 | 101  | 70 - 130 |                 |       |              |      |
| Potassium      |                | 12.4           | mg/L      | E200.7   | 0.247  | 1.00               | 10.00            | 2.74                 | 96.7 | 70 - 130 |                 |       |              |      |
| Sodium         |                | 37.6           | mg/L      | E200.7   | 0.0330 | 1.00               | 10.00            | 27.3                 | 103  | 70 - 130 |                 |       |              |      |
| Lab Sample ID: | 1508263-004CMS | Date Analyzed: | 08/14/20  | 15 1409h |        |                    |                  |                      |      |          |                 |       |              |      |
| Test Code:     | 200.7-DIS      | Date Prepared: | 08/14/201 | 15 830h  |        |                    |                  |                      |      |          |                 |       |              |      |
| Aluminum       |                | 1.07           | mg/L      | E200.7   | 0.0237 | 0.100              | 1.000            | 0.104                | 96.9 | 70 - 130 |                 |       |              |      |
| Iron           |                | 0.980          | mg/L      | E200.7   | 0.0767 | 0.100              | 1.000            | 0                    | 98.0 | 70 - 130 |                 |       |              |      |
| Magnesium      |                | 17.2           | mg/L      | E200.7   | 0.0294 | 1.00               | 10.00            | 7.2                  | 99.9 | 70 - 130 |                 |       |              |      |
| Potassium      |                | 12.7           | mg/L      | E200.7   | 0.247  | 1.00               | 10.00            | 2.79                 | 99.3 | 70 - 130 |                 |       |              |      |
| Sodium         |                | 41.4           | mg/L      | E200.7   | 0.0330 | 1.00               | 10.00            | 30.3                 | 111  | 70 - 130 |                 |       |              |      |
| Lab Sample ID: | 1508263-004CMS | Date Analyzed: | 08/14/20  | 15 1429h |        |                    |                  |                      |      |          |                 |       |              |      |
| Test Code:     | 200.7-DIS      | Date Prepared: | 08/14/201 | 15 830h  |        |                    |                  |                      |      |          |                 |       |              |      |
| Calcium        |                | 61.5           | mg/L      | E200.7   | 0.201  | 5.00               | 10.00            | 52.1                 | 94.7 | 70 - 130 |                 |       |              |      |
| Lab Sample ID: | 1508262-001BMS | Date Analyzed: | 08/13/20  | 15 2240h |        |                    |                  |                      |      |          |                 |       |              |      |
| Test Code:     | 200.7-W        | Date Prepared: | 08/13/201 | 15 1632h |        |                    |                  |                      |      |          |                 |       |              |      |
| Aluminum       |                | 60.6           | mg/L      | E200.7   | 0.237  | 1.00               | 1.000            | 54.7                 | 588  | 70 - 130 |                 |       |              | 2    |
| Calcium        |                | 188            | mg/L      | E200.7   | 0.401  | 10.0               | 10.00            | 186                  | 26.3 | 70 - 130 |                 |       |              | 2    |
| Lab Sample ID: | 1508263-002BMS | Date Analyzed: | 08/13/20  | 15 2302h |        |                    |                  |                      |      |          |                 |       |              |      |
| Test Code:     | 200.7-W        | Date Prepared: | 08/13/201 | 15 1632h |        |                    |                  |                      |      |          |                 |       |              |      |
| Calcium        |                | 114            | mg/L      | E200.7   | 0.401  | 10.0               | 10.00            | 109                  | 46.1 | 70 - 130 |                 |       |              | 2    |
|                |                |                |           |          |        |                    |                  |                      |      |          |                 |       |              |      |

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**OC SUMMARY REPORT** 

### Jose Rocha QA Officer

| ANALYTICAL LABC                                                                                                                    | RATORIES                         |                                                                                                          |                                                              | - <del>x</del> -                                                                                                                         |                                                                                                                                                |                                                                                                                        |                                                                                                                      |                                                                                                                  |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |       |              |        |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------|--------------|--------|
| Client: U                                                                                                                          | tah Division of Wate             | r Quality                                                                                                |                                                              |                                                                                                                                          |                                                                                                                                                |                                                                                                                        | Contact:                                                                                                             | Lenora Su                                                                                                        | ıllivan                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |       |              |        |
| Lab Set ID: 1                                                                                                                      | 508262                           |                                                                                                          |                                                              |                                                                                                                                          |                                                                                                                                                |                                                                                                                        | Dept:                                                                                                                | ME                                                                                                               |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |       |              |        |
| Project: G                                                                                                                         | old King Mine - San              | Juan River Sampl                                                                                         | ing                                                          |                                                                                                                                          |                                                                                                                                                |                                                                                                                        | QC Type                                                                                                              | : MS                                                                                                             |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |       |              |        |
| Analyte                                                                                                                            |                                  | Result                                                                                                   | Units                                                        | Method                                                                                                                                   | MDL                                                                                                                                            | Reporting<br>Limit                                                                                                     | Amount<br>Spiked                                                                                                     | Spike Ref.<br>Amount                                                                                             | %REC                                                                                       | Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual   |
| Lab Sample ID:<br>Test Code:                                                                                                       | <b>1508262-001BMS</b><br>200.7-W | Date Analyzed:<br>Date Prepared:                                                                         | 08/13/20<br>08/13/20                                         |                                                                                                                                          |                                                                                                                                                |                                                                                                                        |                                                                                                                      |                                                                                                                  |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |       |              |        |
| Iron<br>Magnesium<br>Potassium<br>Sodium                                                                                           |                                  | 39.2<br>43.4<br>20.3<br>53.3                                                                             | mg/L<br>mg/L<br>mg/L<br>mg/L                                 | E200.7<br>E200.7<br>E200.7<br>E200.7                                                                                                     | 0.0767<br>0.0294<br>0.247<br>0.0330                                                                                                            | 0.100<br>1.00<br>1.00<br>1.00                                                                                          | 1.000<br>10.00<br>10.00<br>10.00                                                                                     | 37.5<br>33.3<br>10.7<br>44.4                                                                                     | 163<br>101<br>95.3<br>89.3                                                                 | 70 - 130<br>70 - 130<br>70 - 130<br>70 - 130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |       |              | 2      |
| Lab Sample ID:<br>Test Code:                                                                                                       | <b>1508263-002BMS</b><br>200.7-W | Date Analyzed:<br>Date Prepared:                                                                         | 08/13/201<br>08/13/201                                       |                                                                                                                                          |                                                                                                                                                |                                                                                                                        |                                                                                                                      |                                                                                                                  |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |       |              |        |
| Aluminum<br>Iron<br>Magnesium<br>Potassium<br>Sodium                                                                               |                                  | 49.8<br>36.3<br>31.6<br>17.9<br>47.7                                                                     | mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L                         | E200.7<br>E200.7<br>E200.7<br>E200.7<br>E200.7                                                                                           | 0.0237<br>0.0767<br>0.0294<br>0.247<br>0.0330                                                                                                  | 0.100<br>0.100<br>1.00<br>1.00<br>1.00                                                                                 | 1.000<br>1.000<br>10.00<br>10.00<br>10.00                                                                            | 45.4<br>34.6<br>21.9<br>8.43<br>38.4                                                                             | 444<br>162<br>97.1<br>95.1<br>93.2                                                         | 70 - 130<br>70 - 130<br>70 - 130<br>70 - 130<br>70 - 130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |       |              | 2<br>2 |
| Lab Sample ID:<br>Test Code:                                                                                                       | 1508262-004CMS<br>200.8-DIS      | Date Analyzed:<br>Date Prepared:                                                                         | 08/14/20<br>08/14/20                                         |                                                                                                                                          |                                                                                                                                                |                                                                                                                        |                                                                                                                      |                                                                                                                  |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |       |              |        |
| Antimony<br>Arsenic<br>Barium<br>Beryllium<br>Cadmium<br>Chromium<br>Cobalt<br>Copper<br>Lead<br>Manganese<br>Molybdenum<br>Nickel |                                  | 0.158<br>0.202<br>0.333<br>0.202<br>0.186<br>0.187<br>0.184<br>0.190<br>0.184<br>0.189<br>0.188<br>0.183 | mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L | E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8 | 0.0000366<br>0.0000920<br>0.000538<br>0.0000288<br>0.000193<br>0.00154<br>0.0000434<br>0.000692<br>0.000264<br>0.00153<br>0.000206<br>0.000754 | 0.00200<br>0.00200<br>0.00200<br>0.000500<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200 | 0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000 | 0.000548<br>0.00121<br>0.151<br>0<br>0<br>0.0000478<br>0.000261<br>0<br>0.000182<br>0.00148<br>0<br>0<br>0.00148 | 78.6<br>100<br>90.9<br>101<br>92.9<br>93.6<br>92.0<br>93.7<br>92.2<br>93.8<br>93.4<br>91.7 | 75 - 125 $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ |                 |       |              |        |
| Selenium<br>Silver                                                                                                                 |                                  | 0.199<br>0.183                                                                                           | mg/L<br>mg/L                                                 | E200.8<br>E200.8                                                                                                                         | 0.0000634<br>0.0000244                                                                                                                         | 0.00200<br>0.00200                                                                                                     | 0.2000<br>0.2000                                                                                                     | 0.000728<br>0                                                                                                    | 99.2<br>91.3                                                                               | 75 - 125<br>75 - 125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |       |              |        |

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## Jose Rocha QA Officer

| American                                                                                                                                                             | Contact: Lenora Sullivan           |                                                                                                                                     |                                                              |                                                                                                                                                                        |                                                                                                                                                                                      |                                                                                                                                                         |                                                                                                                                                                        |                                                                                                                               |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |       |              |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------|--------------|------|
| Lab Set ID: 15                                                                                                                                                       |                                    | - •                                                                                                                                 | ing                                                          |                                                                                                                                                                        |                                                                                                                                                                                      |                                                                                                                                                         | Contact:<br>Dept:<br>QC Type:                                                                                                                                          | ME                                                                                                                            | ıllivan                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |       |              |      |
| Analyte                                                                                                                                                              |                                    | Result                                                                                                                              | Units                                                        | Method                                                                                                                                                                 | MDL                                                                                                                                                                                  | Reporting<br>Limit                                                                                                                                      | Amount<br>Spiked                                                                                                                                                       | Spike Ref.<br>Amount                                                                                                          | %REC                                                                                                               | Limits                                                                                                                                                                                                                                                                                                                                                                                                                                     | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
| Lab Sample ID:<br>Test Code:                                                                                                                                         | <b>1508262-004CMS</b><br>200.8-DIS | Date Analyzed:<br>Date Prepared:                                                                                                    | 08/14/201<br>08/14/201                                       |                                                                                                                                                                        |                                                                                                                                                                                      |                                                                                                                                                         |                                                                                                                                                                        |                                                                                                                               |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |       |              |      |
| Thallium<br>Vanadium<br>Zinc                                                                                                                                         |                                    | 0.182<br>0.191<br>0.996                                                                                                             | mg/L<br>mg/L<br>mg/L                                         | E200.8<br>E200.8<br>E200.8                                                                                                                                             | 0.0000242<br>0.000438<br>0.00476                                                                                                                                                     | 0.00200<br>0.00440<br>0.00500                                                                                                                           | 0.2000<br>0.2000<br>1.000                                                                                                                                              | 0<br>0.00287<br>0.0165                                                                                                        | 90.8<br>94.2<br>98.0                                                                                               | 75 - 125<br>75 - 125<br>75 - 125                                                                                                                                                                                                                                                                                                                                                                                                           |                 |       |              |      |
| Lab Sample ID:<br>Test Code:                                                                                                                                         | <b>1508263-004CMS</b><br>200.8-DIS | Date Analyzed:<br>Date Prepared:                                                                                                    | 08/14/201<br>08/14/201                                       |                                                                                                                                                                        |                                                                                                                                                                                      |                                                                                                                                                         |                                                                                                                                                                        |                                                                                                                               |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |       |              |      |
| Antimony<br>Arsenic<br>Barium<br>Beryllium<br>Cadmium<br>Chromium<br>Cobalt<br>Copper<br>Lead<br>Manganese<br>Molybdenum<br>Nickel<br>Selenium<br>Silver<br>Thallium |                                    | 0.158<br>0.202<br>0.355<br>0.200<br>0.185<br>0.187<br>0.183<br>0.190<br>0.181<br>0.190<br>0.186<br>0.183<br>0.201<br>0.182<br>0.178 | mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L | E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8<br>E200.8 | 0.0000366<br>0.000920<br>0.000538<br>0.0000288<br>0.000193<br>0.00154<br>0.0000434<br>0.000692<br>0.000264<br>0.00153<br>0.000206<br>0.000754<br>0.0000634<br>0.0000244<br>0.0000242 | 0.00200<br>0.00200<br>0.00200<br>0.000500<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200<br>0.00200 | 0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000<br>0.2000 | 0.000586<br>0.000879<br>0.178<br>0<br>0<br>0<br>0.0000614<br>0.00239<br>0<br>0<br>0.000147<br>0<br>0.000782<br>0.0000252<br>0 | 78.6<br>100<br>88.8<br>100<br>92.4<br>93.3<br>91.3<br>93.8<br>90.7<br>94.9<br>92.0<br>91.4<br>99.9<br>91.1<br>89.1 | 75 - 125 $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ $75 - 125$ |                 |       |              |      |
| Vanadium<br>Zinc<br>Lab Sample ID:                                                                                                                                   | 1508262-001BMS                     | 0.190<br>0.997<br>Date Analyzed:                                                                                                    | mg/L<br>mg/L<br>08/13/201                                    | E200.8<br>E200.8<br>5 2241h                                                                                                                                            | 0.000438<br>0.00476                                                                                                                                                                  | 0.00440<br>0.00500                                                                                                                                      | 0.2000<br>1.000                                                                                                                                                        | 0.0019<br>0.0148                                                                                                              | 94.1<br>98.3                                                                                                       | 75 - 125<br>75 - 125                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |       |              |      |
| Test Code:<br>Arsenic<br>Barium<br>Beryllium                                                                                                                         | 200.8-W                            | Date Prepared:<br>0.194<br>1.53<br>0.208                                                                                            | 08/13/201<br>mg/L<br>mg/L<br>mg/L                            | 5 1632h<br>E200.8<br>E200.8<br>E200.8                                                                                                                                  | 0.0000920<br>0.000538<br>0.0000288                                                                                                                                                   | 0.00200<br>0.00200<br>0.00200                                                                                                                           | 0.2000<br>0.2000<br>0.2000                                                                                                                                             | 0.0175<br>1.35<br>0.00677                                                                                                     | 88.2<br>87.4<br>101                                                                                                | 75 - 125<br>75 - 125<br>75 - 125                                                                                                                                                                                                                                                                                                                                                                                                           |                 |       |              |      |

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## Jose Rocha QA Officer

| NALYTICAL LAB                | ORATORIES                        |                                  |                      | <u>v</u> | SUMME     | ANINC              |                  |                      |         |          |                 |       |              |      |
|------------------------------|----------------------------------|----------------------------------|----------------------|----------|-----------|--------------------|------------------|----------------------|---------|----------|-----------------|-------|--------------|------|
| Client: U                    | Jtah Division of Wate            | r Quality                        |                      |          |           |                    | <b>Contact:</b>  | Lenora S             | ullivan |          |                 |       |              |      |
| Lab Set ID: 1                | 508262                           |                                  |                      |          |           |                    | Dept:            | ME                   |         |          |                 |       |              |      |
| Project: (                   | Gold King Mine - San             | Juan River Sampl                 | ing                  |          |           |                    | QC Type          | : MS                 |         |          |                 |       |              |      |
| Analyte                      |                                  | Result                           | Units                | Method   | MDL       | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC    | Limits   | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
| Lab Sample ID:<br>Test Code: | <b>1508262-001BMS</b><br>200.8-W | Date Analyzed:<br>Date Prepared: | 08/13/20<br>08/13/20 |          |           |                    |                  |                      |         |          |                 |       |              |      |
| Cadmium                      |                                  | 0.198                            | mg/L                 | E200.8   | 0.000193  | 0.000500           | 0.2000           | 0.00117              | 98.2    | 75 - 125 |                 |       |              |      |
| Chromium                     |                                  | 0.210                            | mg/L                 | E200.8   | 0.00154   | 0.00200            | 0.2000           | 0.0232               | 93.2    | 75 - 125 |                 |       |              |      |
| Cobalt                       |                                  | 0.221                            | mg/L                 | E200.8   | 0.0000434 | 0.00400            | 0.2000           | 0.0332               | 93.7    | 75 - 125 |                 |       |              |      |
| Copper                       |                                  | 0.257                            | mg/L                 | E200.8   | 0.000692  | 0.00200            | 0.2000           | 0.0808               | 88.3    | 75 - 125 |                 |       |              |      |
| Lead                         |                                  | 0.277                            | mg/L                 | E200.8   | 0.000264  | 0.00200            | 0.2000           | 0.0829               | 96.8    | 75 - 125 |                 |       |              |      |
| Molybdenum                   |                                  | 0.0996                           | mg/L                 | E200.8   | 0.000206  | 0.00200            | 0.2000           | 0.000312             | 49.6    | 75 - 125 |                 |       |              | 1    |
| Nickel                       |                                  | 0.228                            | mg/L                 | E200.8   | 0.000754  | 0.00200            | 0.2000           | 0.0389               | 94.6    | 75 - 125 |                 |       |              |      |
| Selenium                     |                                  | 0.167                            | mg/L                 | E200.8   | 0.0000634 | 0.00200            | 0.2000           | 0.00122              | 83.1    | 75 - 125 |                 |       |              |      |
| Silver                       |                                  | 0.192                            | mg/L                 | E200.8   | 0.0000244 | 0.00200            | 0.2000           | 0.000488             | 95.8    | 75 - 125 |                 |       |              |      |
| Thallium                     |                                  | 0.172                            | mg/L                 | E200.8   | 0.0000242 | 0.00200            | 0.2000           | 0.000604             | 85.7    | 75 - 125 |                 |       |              |      |
| Vanadium                     |                                  | 0.239                            | mg/L                 | E200.8   | 0.000438  | 0.00440            | 0.2000           | 0.0637               | 87.6    | 75 - 125 |                 |       |              |      |
| Zinc                         |                                  | 1.19                             | mg/L                 | E200.8   | 0.00476   | 0.00500            | 1.000            | 0.19                 | 99.6    | 75 - 125 |                 |       |              |      |
| Lab Sample ID:<br>Test Code: | <b>1508263-002BMS</b><br>200.8-W | Date Analyzed:<br>Date Prepared: | 08/13/20<br>08/13/20 |          |           |                    |                  |                      |         |          |                 |       |              |      |

| Test Code: | 200.8-W | Date Prepared: | 08/13/20 | 15 1632h |           |          |        |          |      |          |
|------------|---------|----------------|----------|----------|-----------|----------|--------|----------|------|----------|
| Arsenic    |         | 0.193          | mg/L     | E200.8   | 0.0000920 | 0.00200  | 0.2000 | 0.0149   | 89.3 | 75 - 125 |
| Barium     |         | 1.13           | mg/L     | E200.8   | 0.000538  | 0.00200  | 0.2000 | 0.971    | 79.0 | 75 - 125 |
| Beryllium  |         | 0.207          | mg/L     | E200.8   | 0.0000288 | 0.00200  | 0.2000 | 0.00516  | 101  | 75 - 125 |
| Cadmium    |         | 0.197          | mg/L     | E200.8   | 0.000193  | 0.000500 | 0.2000 | 0.00094  | 98.2 | 75 - 125 |
| Chromium   |         | 0.210          | mg/L     | E200.8   | 0.00154   | 0.00200  | 0.2000 | 0.02     | 94.9 | 75 - 125 |
| Cobalt     |         | 0.216          | mg/L     | E200.8   | 0.0000434 | 0.00400  | 0.2000 | 0.0279   | 94.2 | 75 - 125 |
| Copper     |         | 0.260          | mg/L     | E200.8   | 0.000692  | 0.00200  | 0.2000 | 0.0767   | 91.4 | 75 - 125 |
| Lead       |         | 0.260          | mg/L     | E200.8   | 0.000264  | 0.00200  | 0.2000 | 0.0674   | 96.4 | 75 - 125 |
| Manganese  |         | 1.82           | mg/L     | E200.8   | 0.00153   | 0.00200  | 0.2000 | 1.67     | 74.3 | 75 - 125 |
| Molybdenum |         | 0.119          | mg/L     | E200.8   | 0.000206  | 0.00200  | 0.2000 | 0.000344 | 59.2 | 75 - 125 |
| Nickel     |         | 0.220          | mg/L     | E200.8   | 0.000754  | 0.00200  | 0.2000 | 0.0303   | 94.7 | 75 - 125 |
| Selenium   |         | 0.175          | mg/L     | E200.8   | 0.0000634 | 0.00200  | 0.2000 | 0.0011   | 86.8 | 75 - 125 |
| Silver     |         | 0.192          | mg/L     | E200.8   | 0.0000244 | 0.00200  | 0.2000 | 0.000383 | 95.7 | 75 - 125 |
| Thallium   |         | 0.179          | mg/L     | E200.8   | 0.0000242 | 0.00200  | 0.2000 | 0.000565 | 89.2 | 75 - 125 |
|            |         |                |          |          |           |          |        |          |      |          |

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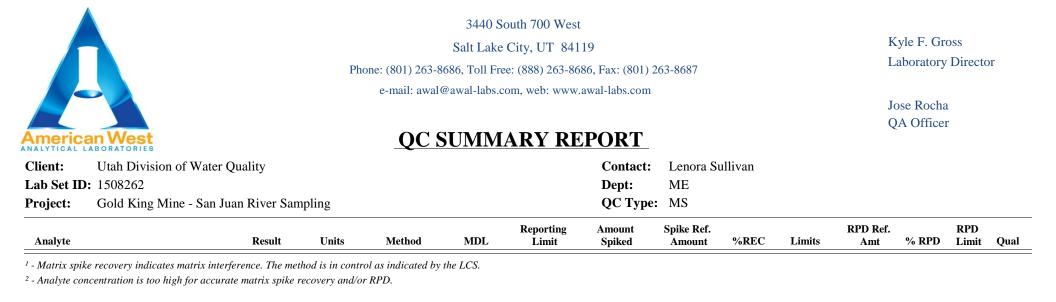
e-mail: awal@awal-labs.com, web: www.awal-labs.com

## Jose Rocha QA Officer

### **QC SUMMARY REPORT** Utah Division of Water Quality **Client:** Lenora Sullivan **Contact:** Lab Set ID: 1508262 Dept: ME QC Type: MS **Project:** Gold King Mine - San Juan River Sampling Reporting Spike Ref. **RPD Ref.** RPD Amount

| Lab Sample ID:         1508263-002BMS<br>200.8-W         Date Analyzed:         08/13/2015 1632h           Vanadium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Analyte   | Result  | Units | Method | MDL        | Limit    | Spiked   | Amount    | %REC | Limits   | Amt | % RPD | Limit | Qual |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|-------|--------|------------|----------|----------|-----------|------|----------|-----|-------|-------|------|
| Zinc       1.17       ng/L       E20.8       0.00476       0.00500       1.000       0.176       9.1       75 - 125         Lab Sample ID:       50826-001BMS<br>20.8-W       Date Analyzei       08/13/2015 I-52h       Second       0.0076       0.0100       0.2000       2.17       6.8.8       75 - 125         Maganee       2.30       mg/L       E20.8       0.0076       0.0100       0.2000       2.17       6.8.8       75 - 125         Lab Sample ID:       50826-001BMS<br>20.8-W       Date Analyzei       08/14/2015 1/53h       Second       0.00076       6.14       75 - 125         Antimony       0.0131       mg/L       E20.8       0.000366       0.0200       0.2000       0.00075       6.14       75 - 125         Lab Sample ID:       50826-002BMS<br>Date Preparei       Date Analyzei       0.0121 U-131H       Second       0.00076       0.2000       0.00075       6.14       75 - 125         Lab Sample ID:       50826-002BMS<br>Date Preparei       Date Analyzei       80/14/2015 U-3H       Second       0.000700       0.000700       0.000700       0.000700       0.00070       0.10       80 - 120         Eas Code:       BioSe2-002BMS<br>                                                                                  | -         | ,       |       |        |            |          |          |           |      |          |     |       |       |      |
| Test Code:       200.8-W       Date Prepared:       08/13/015 - 153-         Maganese       2.30       mg/L       E200.8       0.0076       0.100       0.2000       2.17       68.8       75 - 125         Lab Sample ID:       508262-001BMS       Date Analyze:       08/14/015 + 31-1       Vert Code:       0.2000       0.00075       6.14       75 - 125         Animony       0.013       mg/L       E20.8       0.000366       0.0200       0.2000       0.00075       6.14       75 - 125         Lab Sample ID:       508263-002BMS       Date Analyze:       0.010105       E20.8       0.000366       0.0200       0.2000       0.00075       6.14       75 - 125         Lab Sample ID:       508263-002BMS       Date Analyze:       0.0113       E20.8       0.000366       0.0200       0.2000       0.00020       10.2       75 - 125         Lab Sample ID:       508263-002BMS       Date Analyze:       60.01201       1.20       60.00201       0.000330       0.000783       11       80 - 120         Mercury       0.0207       Mg/L       E245.1       0.0000802       0.00150       0.00330       0.000783       11       80 - 120         Mercury       0.0374       Date Analyzei       0.0                                                  |           |         | •     |        |            |          |          |           |      |          |     |       |       |      |
| Lab Sample ID:         1508262-001BMS<br>200.8-W         Date Prepared:         08/14/2015 1451h           Antimony         0.0131         mg/L         E200.8         0.000036         0.0020         0.2000         0.00075         6.14         75 - 125           Lab Sample ID:         1508263-002BMS<br>200.8-W         Date Analyzed:         08/14/2015 1431h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -         |         |       |        |            |          |          |           |      |          |     |       |       |      |
| Test Code:       200.8-W       Date Prepared:       08/14/2015 1431h         Antimony       0.0131       mg/L       E200.8       0.000366       0.0200       0.2000       0.00075       6.14       75 - 125         Lab Sample Di<br>Set Code:       158263-002BMS<br>200.8-W       Date Analyzei<br>Date Prepared:       08/14/2015 1431h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Manganese | 2.30    | mg/L  | E200.8 | 0.00764    | 0.0100   | 0.2000   | 2.17      | 68.8 | 75 - 125 |     |       |       | 2    |
| Lab Sample ID:         1508263-002BMS<br>Date Analyzed:         OB(1/4/2015 1/431h           Antimony         Date Prepared:         08/14/2015 1/431h           Antimony         0.0206         mg/L         E200.8         0.0000366         0.00200         0.2000         0.00202         10.2         75 - 125           Lab Sample ID:         1508263-003BMS<br>Date Analyzed:         08/14/2015 1008h         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E         E                                                                                        | -         |         |       |        |            |          |          |           |      |          |     |       |       |      |
| Test Code:       200.8-W       Date Prepared:       0.8/14/2015 1431h         Antimony       0.0206       mg/L       E200.8       0.000366       0.0200       0.2000       0.000202       10.2       75 - 125         Lab Sample ID:       1508263-003BMS<br>HG-DW-245.1       Date Analyzei       08/14/2015 1008h       588         Mercury       0.00379       mg/L       E245.1       0.0000892       0.00150       0.00330       0.000783       11       80 - 120         Lab Sample ID:       1508262-002BMS<br>HG-DW-245.1       Date Analyzei       08/14/2015 92-1       580h       580h         Mercury       0.00374       mg/L       E245.1       0.0000892       0.000150       0.00330       0.00008       110       80 - 120         Mercury       0.00374       mg/L       E245.1       0.0000892       0.00150       0.00330       0.00008       110       80 - 120         Mercury       0.00374       mg/L       E245.1       0.0000892       0.00150       0.00330       0.00008       110       80 - 120         Lab Sample ID:       1508262-002CMS<br>HG-DW-DIS-245.1       Date Analyzei       08/14/2015 1433h       0.0000892       0.00150       0.00330       0       105       85 - 115         Mercury                                      | Antimony  | 0.0131  | mg/L  | E200.8 | 0.0000366  | 0.00200  | 0.2000   | 0.000775  | 6.14 | 75 - 125 |     |       |       | 1    |
| Lab Sample ID:       1508263-003BMS       Date Analyzed:       08/14/2015 1/830/h         Test Code:       HG-DW-245.1       Date Prepared:       08/13/2015 1/830/h         Mercury       0.00379       mg/L       E245.1       0.0000892       0.00150       0.00330       0.0000783       111       80 - 120         Lab Sample ID:       1508262-002BMS       Date Analyzed:       08/14/2015 952/              Mercury       0.00374       Date Analyzed:       08/14/2015 1/830/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -         | 5       |       |        |            |          |          |           |      |          |     |       |       |      |
| Test Code:       HG-DW-245.1       Date Prepared:       08/13/2015 1830h         Mercury       0.00379       mg/L       E245.1       0.0000892       0.00150       0.003330       0.000783       111       80 - 120         Lab Sample ID:       1508262-002BMS       Date Analyzed:       08/14/2015 952h $= = = = = = = = = = = = = = = = = = = $                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Antimony  | 0.0206  | mg/L  | E200.8 | 0.0000366  | 0.00200  | 0.2000   | 0.000202  | 10.2 | 75 - 125 |     |       |       | 1    |
| Lab Sample ID:       1508262-002BMS       Date Analyzed:       08/14/2015 952h         Test Code:       HG-DW-245.1       Date Prepared:       08/13/2015 1830h         Mercury       0.00374       mg/L       E245.1       0.0000892       0.000150       0.003330       0.00008       110       80 - 120         Lab Sample ID:       1508262-002CMS       Date Analyzed:       08/14/2015 1043h       E245.1       0.0000892       0.000150       0.003330       0.00008       110       80 - 120         Mercury       0.00348       mg/L       E245.1       0.0000892       0.000150       0.003330       0.00008       100       80 - 120         Mercury       0.00348       mg/L       E245.1       0.0000892       0.000150       0.003330       0       105       85 - 115         Mercury       0.00348       mg/L       E245.1       0.0000892       0.000150       0.003330       0       105       85 - 115         Lab Sample ID:       1508263-003CMS       Date Analyzed:       08/14/2015 1057h       EXECUTE                                       | •         | ,       |       |        |            |          |          |           |      |          |     |       |       |      |
| Test Code:       HG-DW-245.1       Date Prepared: $08/13/2015 + 330h$ Mercury       0.00374       mg/L       E245.1       0.0000892       0.00150       0.003330       0.00008       110       80 - 120         Lab Sample ID:       1508262-002CMS       Date Analyzed: $08/14/2015 + 330h$ V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V       V                                                                                                                                                                                                                                            | Mercury   | 0.00379 | mg/L  | E245.1 | 0.00000892 | 0.000150 | 0.003330 | 0.0000783 | 111  | 80 - 120 |     |       |       |      |
| Lab Sample ID:       1508262-002CMS       Date Analyzed:       08/14/2015 1043h         Test Code:       HG-DW-DIS-245.1       Date Prepared:       08/13/2015 1830h         Mercury       0.00348       mg/L       E245.1       0.0000892       0.000150       0.003330       0       105       85 - 115         Lab Sample ID:       1508263-003CMS       Date Analyzed:       08/14/2015 1057h       EXAMPLE       EXAMPLE | •         |         |       |        |            |          |          |           |      |          |     |       |       |      |
| Test Code:       HG-DW-DIS-245.1       Date Prepared:       08/13/2015 1830h         Mercury       0.00348       mg/L       E245.1       0.0000892       0.00150       0.003330       0       105       85 - 115         Lab Sample ID:       1508263-003CMS       Date Analyzed:       08/14/2015 1057h       EVANO       EVAN                                                       | Mercury   | 0.00374 | mg/L  | E245.1 | 0.00000892 | 0.000150 | 0.003330 | 0.00008   | 110  | 80 - 120 |     |       |       |      |
| Lab Sample ID:         1508263-003CMS         Date Analyzed:         08/14/2015 1057h           Test Code:         HG-DW-DIS-245.1         Date Prepared:         08/13/2015 1830h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | •         |         |       |        |            |          |          |           |      |          |     |       |       |      |
| Test Code:         HG-DW-DIS-245.1         Date Prepared:         08/13/2015 1830h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Mercury   | 0.00348 | mg/L  | E245.1 | 0.00000892 | 0.000150 | 0.003330 | 0         | 105  | 85 - 115 |     |       |       |      |
| Mercury 0.00372 mg/L E245.1 0.0000892 0.000150 0.003330 0 112 85 - 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | •         |         |       |        |            |          |          |           |      |          |     |       |       |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Mercury   | 0.00372 | mg/L  | E245.1 | 0.00000892 | 0.000150 | 0.003330 | 0         | 112  | 85 - 115 |     |       |       |      |

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**OC SUMMARY REPORT** 

## Jose Rocha QA Officer

| ANALYTICAL | ABORATORIES                         |        | <u> </u> |     |                    |                  |            |         |        |          |       |              |
|------------|-------------------------------------|--------|----------|-----|--------------------|------------------|------------|---------|--------|----------|-------|--------------|
| Client:    | Utah Division of Water Quality      |        |          |     |                    | Contact          | : Lenora S | ullivan |        |          |       |              |
| Lab Set ID | : 1508262                           |        |          |     |                    | Dept:            | ME         |         |        |          |       |              |
| Project:   | Gold King Mine - San Juan River San | npling |          |     |                    | QC Тур           | e: MSD     |         |        |          |       |              |
| Analyte    | Result                              | Units  | Method   | MDL | Reporting<br>Limit | Amount<br>Spiked | Spike Ref. | %REC    | Limits | RPD Ref. | % RPD | RPD<br>Limit |

| Analyte        |                 | Result         | Units     | Method   | MDL    | Limit | Spiked | Amount | %REC | Limits   | Amt  | % RPD | Limit | Qual |
|----------------|-----------------|----------------|-----------|----------|--------|-------|--------|--------|------|----------|------|-------|-------|------|
| Lab Sample ID: | 1508262-004CMSD | Date Analyzed: | 08/14/201 | 15 1351h |        |       |        |        |      |          |      |       |       |      |
| Test Code:     | 200.7-DIS       | Date Prepared: | 08/14/201 | 5 830h   |        |       |        |        |      |          |      |       |       |      |
| Aluminum       |                 | 1.15           | mg/L      | E200.7   | 0.0237 | 0.100 | 1.000  | 0.155  | 99.7 | 70 - 130 | 1.13 | 2.42  | 20    |      |
| Calcium        |                 | 58.8           | mg/L      | E200.7   | 0.0401 | 1.00  | 10.00  | 47.9   | 109  | 70 - 130 | 58.1 | 1.19  | 20    |      |
| Iron           |                 | 1.02           | mg/L      | E200.7   | 0.0767 | 0.100 | 1.000  | 0      | 102  | 70 - 130 | 1    | 1.62  | 20    |      |
| Magnesium      |                 | 17.2           | mg/L      | E200.7   | 0.0294 | 1.00  | 10.00  | 6.97   | 102  | 70 - 130 | 17   | 0.867 | 20    |      |
| Potassium      |                 | 12.6           | mg/L      | E200.7   | 0.247  | 1.00  | 10.00  | 2.74   | 98.8 | 70 - 130 | 12.4 | 1.67  | 20    |      |
| Sodium         |                 | 38.4           | mg/L      | E200.7   | 0.0330 | 1.00  | 10.00  | 27.3   | 111  | 70 - 130 | 37.6 | 2.22  | 20    |      |
| Lab Sample ID: | 1508263-004CMSD | Date Analyzed: | 08/14/201 | 15 1411h |        |       |        |        |      |          |      |       |       |      |
| Test Code:     | 200.7-DIS       | Date Prepared: | 08/14/201 | 5 830h   |        |       |        |        |      |          |      |       |       |      |
| Aluminum       |                 | 1.10           | mg/L      | E200.7   | 0.0237 | 0.100 | 1.000  | 0.104  | 99.4 | 70 - 130 | 1.07 | 2.25  | 20    |      |
| Iron           |                 | 1.00           | mg/L      | E200.7   | 0.0767 | 0.100 | 1.000  | 0      | 100  | 70 - 130 | 0.98 | 2.26  | 20    |      |
| Magnesium      |                 | 17.6           | mg/L      | E200.7   | 0.0294 | 1.00  | 10.00  | 7.2    | 104  | 70 - 130 | 17.2 | 2.33  | 20    |      |
| Potassium      |                 | 12.9           | mg/L      | E200.7   | 0.247  | 1.00  | 10.00  | 2.79   | 101  | 70 - 130 | 12.7 | 1.00  | 20    |      |
| Sodium         |                 | 41.6           | mg/L      | E200.7   | 0.0330 | 1.00  | 10.00  | 30.3   | 113  | 70 - 130 | 41.4 | 0.520 | 20    |      |
| Lab Sample ID: | 1508263-004CMSD | Date Analyzed: | 08/14/201 | 15 1431h |        |       |        |        |      |          |      |       |       |      |
| Test Code:     | 200.7-DIS       | Date Prepared: | 08/14/201 | 5 830h   |        |       |        |        |      |          |      |       |       |      |
| Calcium        |                 | 63.9           | mg/L      | E200.7   | 0.201  | 5.00  | 10.00  | 52.1   | 118  | 70 - 130 | 61.5 | 3.79  | 20    |      |
| Lab Sample ID: | 1508262-001BMSD | Date Analyzed: | 08/13/201 | 15 2242h |        |       |        |        |      |          |      |       |       |      |
| Test Code:     | 200.7-W         | Date Prepared: | 08/13/201 | 5 1632h  |        |       |        |        |      |          |      |       |       |      |
| Aluminum       |                 | 61.5           | mg/L      | E200.7   | 0.237  | 1.00  | 1.000  | 54.7   | 678  | 70 - 130 | 60.6 | 1.47  | 20    | 2    |
| Calcium        |                 | 195            | mg/L      | E200.7   | 0.401  | 10.0  | 10.00  | 186    | 97.7 | 70 - 130 | 188  | 3.72  | 20    |      |
| Lab Sample ID: | 1508263-002BMSD | Date Analyzed: | 08/13/201 | 15 2304h |        |       |        |        |      |          |      |       |       |      |
| Test Code:     | 200.7-W         | Date Prepared: | 08/13/201 | 15 1632h |        |       |        |        |      |          |      |       |       |      |
| Calcium        |                 | 116            | mg/L      | E200.7   | 0.401  | 10.0  | 10.00  | 109    | 63.4 | 70 - 130 | 114  | 1.51  | 20    | 2    |
|                |                 |                |           |          |        |       |        |        |      |          |      |       |       |      |

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Kyle F. Gross Laboratory Director

> RPD Limit Qual

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### Jose Rocha **QA** Officer

| INALYTICAL LABORATORIES             |                    |          |          |        |                    |                  |                      |         |          |                 |       |
|-------------------------------------|--------------------|----------|----------|--------|--------------------|------------------|----------------------|---------|----------|-----------------|-------|
| Client: Utah Division of Wat        | er Quality         |          |          |        |                    | <b>Contact:</b>  | Lenora Su            | ullivan |          |                 |       |
| Lab Set ID: 1508262                 |                    |          |          |        |                    | Dept:            | ME                   |         |          |                 |       |
| <b>Project:</b> Gold King Mine - Sa | n Juan River Sampl | ing      |          |        |                    | QC Type:         | MSD                  |         |          |                 |       |
| Analyte                             | Result             | Units    | Method   | MDL    | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC    | Limits   | RPD Ref.<br>Amt | % RPD |
| Lab Sample ID: 1508262-001BMSD      | Date Analyzed:     | 08/13/20 | 15 2315h |        |                    |                  |                      |         |          |                 |       |
| Test Code: 200.7-W                  | Date Prepared:     | 08/13/20 | 15 1632h |        |                    |                  |                      |         |          |                 |       |
| Iron                                | 39.4               | mg/L     | E200.7   | 0.0767 | 0.100              | 1.000            | 37.5                 | 185     | 70 - 130 | 39.2            | 0.559 |
| Magnesium                           | 43.8               | mg/L     | E200.7   | 0.0294 | 1.00               | 10.00            | 33.3                 | 105     | 70 - 130 | 43.4            | 0.988 |
| Potassium                           | 20.4               | mg/L     | E200.7   | 0.247  | 1.00               | 10.00            | 10.7                 | 96.8    | 70 - 130 | 20.3            | 0.699 |
| Sodium                              | 54.4               | mg/L     | E200.7   | 0.0330 | 1.00               | 10.00            | 44.4                 | 100     | 70 - 130 | 53.3            | 2.06  |
| Lab Sample ID: 1508263-002BMSD      | Date Analyzed:     | 08/13/20 | 15 2337h |        |                    |                  |                      |         |          |                 |       |

| Lab Sample ID. 1506205-002DMSD | Date Analyzeu. | 08/13/2013 2 | .55711 |        |       |       |      |      |          |      |        |    |   |
|--------------------------------|----------------|--------------|--------|--------|-------|-------|------|------|----------|------|--------|----|---|
| Test Code: 200.7-W             | Date Prepared: | 08/13/2015 1 | 632h   |        |       |       |      |      |          |      |        |    |   |
| Aluminum                       | 48.8           | mg/L         | E200.7 | 0.0237 | 0.100 | 1.000 | 45.4 | 339  | 70 - 130 | 49.8 | 2.14   | 20 | 2 |
| Iron                           | 34.7           | mg/L         | E200.7 | 0.0767 | 0.100 | 1.000 | 34.6 | 4.30 | 70 - 130 | 36.3 | 4.46   | 20 | 2 |
| Magnesium                      | 31.5           | mg/L         | E200.7 | 0.0294 | 1.00  | 10.00 | 21.9 | 96.9 | 70 - 130 | 31.6 | 0.0721 | 20 |   |
| Potassium                      | 17.7           | mg/L         | E200.7 | 0.247  | 1.00  | 10.00 | 8.43 | 92.2 | 70 - 130 | 17.9 | 1.63   | 20 |   |
| Sodium                         | 48.3           | mg/L         | E200.7 | 0.0330 | 1.00  | 10.00 | 38.4 | 98.6 | 70 - 130 | 47.7 | 1.13   | 20 |   |

| Lab Sample ID: 1508262 | 2-004CMSD Date Analyzed: | 08/14/201 | 5 1509h |           |          |        |           |      |          |       |       |    |
|------------------------|--------------------------|-----------|---------|-----------|----------|--------|-----------|------|----------|-------|-------|----|
| Test Code: 200.8-D     | IS Date Prepared:        | 08/14/201 | 5 830h  |           |          |        |           |      |          |       |       |    |
| Antimony               | 0.162                    | mg/L      | E200.8  | 0.0000366 | 0.00200  | 0.2000 | 0.000548  | 80.7 | 75 - 125 | 0.158 | 2.60  | 20 |
| Arsenic                | 0.218                    | mg/L      | E200.8  | 0.0000920 | 0.00200  | 0.2000 | 0.00121   | 109  | 75 - 125 | 0.202 | 7.67  | 20 |
| Barium                 | 0.340                    | mg/L      | E200.8  | 0.000538  | 0.00200  | 0.2000 | 0.151     | 94.7 | 75 - 125 | 0.333 | 2.24  | 20 |
| Beryllium              | 0.205                    | mg/L      | E200.8  | 0.0000288 | 0.00200  | 0.2000 | 0         | 102  | 75 - 125 | 0.202 | 1.43  | 20 |
| Cadmium                | 0.189                    | mg/L      | E200.8  | 0.000193  | 0.000500 | 0.2000 | 0         | 94.3 | 75 - 125 | 0.186 | 1.45  | 20 |
| Chromium               | 0.203                    | mg/L      | E200.8  | 0.00154   | 0.00200  | 0.2000 | 0         | 101  | 75 - 125 | 0.187 | 8.15  | 20 |
| Cobalt                 | 0.200                    | mg/L      | E200.8  | 0.0000434 | 0.00400  | 0.2000 | 0.0000478 | 99.8 | 75 - 125 | 0.184 | 8.16  | 20 |
| Copper                 | 0.205                    | mg/L      | E200.8  | 0.000692  | 0.00200  | 0.2000 | 0.00261   | 101  | 75 - 125 | 0.19  | 7.57  | 20 |
| Lead                   | 0.185                    | mg/L      | E200.8  | 0.000264  | 0.00200  | 0.2000 | 0         | 92.3 | 75 - 125 | 0.184 | 0.108 | 20 |
| Manganese              | 0.208                    | mg/L      | E200.8  | 0.00153   | 0.00200  | 0.2000 | 0.00182   | 103  | 75 - 125 | 0.189 | 9.24  | 20 |
| Molybdenum             | 0.191                    | mg/L      | E200.8  | 0.000206  | 0.00200  | 0.2000 | 0.00148   | 94.8 | 75 - 125 | 0.188 | 1.47  | 20 |
| Nickel                 | 0.197                    | mg/L      | E200.8  | 0.000754  | 0.00200  | 0.2000 | 0         | 98.4 | 75 - 125 | 0.183 | 7.10  | 20 |
| Selenium               | 0.202                    | mg/L      | E200.8  | 0.0000634 | 0.00200  | 0.2000 | 0.000728  | 101  | 75 - 125 | 0.199 | 1.51  | 20 |
| Silver                 | 0.187                    | mg/L      | E200.8  | 0.0000244 | 0.00200  | 0.2000 | 0         | 93.3 | 75 - 125 | 0.183 | 2.11  | 20 |

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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.

# **OC SUMMARY REPORT**



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Jose Rocha QA Officer

# QC SUMMARY REPORT Contact: Lenora

| Lab Set ID: 1                | tah Division of Water<br>508262<br>old King Mine - San J | •                                | ing                    |        |           |                    | Contact:<br>Dept:<br>QC Type | Lenora Su<br>ME<br>: MSD | ıllivan |          |                 |       |              |      |
|------------------------------|----------------------------------------------------------|----------------------------------|------------------------|--------|-----------|--------------------|------------------------------|--------------------------|---------|----------|-----------------|-------|--------------|------|
| Analyte                      |                                                          | Result                           | Units                  | Method | MDL       | Reporting<br>Limit | Amount<br>Spiked             | Spike Ref.<br>Amount     | %REC    | Limits   | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
| Lab Sample ID:<br>Test Code: | 1508262-004CMSD<br>200.8-DIS                             | Date Analyzed:<br>Date Prepared: | 08/14/201<br>08/14/201 |        |           |                    |                              |                          |         |          |                 |       |              |      |
| Thallium                     |                                                          | 0.181                            | mg/L                   | E200.8 | 0.0000242 | 0.00200            | 0.2000                       | 0                        | 90.4    | 75 - 125 | 0.182           | 0.420 | 20           |      |
| Vanadium                     |                                                          | 0.207                            | mg/L                   | E200.8 | 0.000438  | 0.00440            | 0.2000                       | 0.00287                  | 102     | 75 - 125 | 0.191           | 7.72  | 20           |      |
| Zinc                         |                                                          | 1.08                             | mg/L                   | E200.8 | 0.00476   | 0.00500            | 1.000                        | 0.0165                   | 106     | 75 - 125 | 0.996           | 7.81  | 20           |      |
| Lab Sample ID:<br>Test Code: | 1508263-004CMSD<br>200.8-DIS                             | Date Analyzed:<br>Date Prepared: | 08/14/201<br>08/14/201 |        |           |                    |                              |                          |         |          |                 |       |              |      |
| Antimony                     |                                                          | 0.164                            | mg/L                   | E200.8 | 0.0000366 | 0.00200            | 0.2000                       | 0.000586                 | 81.7    | 75 - 125 | 0.158           | 3.83  | 20           |      |
| Arsenic                      |                                                          | 0.206                            | mg/L                   | E200.8 | 0.0000920 | 0.00200            | 0.2000                       | 0.000879                 | 103     | 75 - 125 | 0.202           | 2.19  | 20           |      |
| Barium                       |                                                          | 0.367                            | mg/L                   | E200.8 | 0.000538  | 0.00200            | 0.2000                       | 0.178                    | 94.6    | 75 - 125 | 0.355           | 3.26  | 20           |      |
| Beryllium                    |                                                          | 0.207                            | mg/L                   | E200.8 | 0.0000288 | 0.00200            | 0.2000                       | 0                        | 103     | 75 - 125 | 0.2             | 3.13  | 20           |      |
| Cadmium                      |                                                          | 0.191                            | mg/L                   | E200.8 | 0.000193  | 0.000500           | 0.2000                       | 0                        | 95.6    | 75 - 125 | 0.185           | 3.35  | 20           |      |
| Chromium                     |                                                          | 0.193                            | mg/L                   | E200.8 | 0.00154   | 0.00200            | 0.2000                       | 0                        | 96.7    | 75 - 125 | 0.187           | 3.52  | 20           |      |
| Cobalt                       |                                                          | 0.189                            | mg/L                   | E200.8 | 0.0000434 | 0.00400            | 0.2000                       | 0.0000614                | 94.6    | 75 - 125 | 0.183           | 3.48  | 20           |      |
| Copper                       |                                                          | 0.196                            | mg/L                   | E200.8 | 0.000692  | 0.00200            | 0.2000                       | 0.00239                  | 96.9    | 75 - 125 | 0.19            | 3.16  | 20           |      |
| Lead                         |                                                          | 0.188                            | mg/L                   | E200.8 | 0.000264  | 0.00200            | 0.2000                       | 0                        | 93.8    | 75 - 125 | 0.181           | 3.33  | 20           |      |
| Manganese                    |                                                          | 0.196                            | mg/L                   | E200.8 | 0.00153   | 0.00200            | 0.2000                       | 0                        | 97.8    | 75 - 125 | 0.19            | 3.01  | 20           |      |
| Molybdenum                   |                                                          | 0.193                            | mg/L                   | E200.8 | 0.000206  | 0.00200            | 0.2000                       | 0.00147                  | 95.7    | 75 - 125 | 0.186           | 3.86  | 20           |      |
| Nickel                       |                                                          | 0.190                            | mg/L                   | E200.8 | 0.000754  | 0.00200            | 0.2000                       | 0                        | 95.2    | 75 - 125 | 0.183           | 4.10  | 20           |      |
| Selenium                     |                                                          | 0.206                            | mg/L                   | E200.8 | 0.0000634 | 0.00200            | 0.2000                       | 0.000782                 | 102     | 75 - 125 | 0.201           | 2.51  | 20           |      |
| Silver                       |                                                          | 0.188                            | mg/L                   | E200.8 | 0.0000244 | 0.00200            | 0.2000                       | 0.0000252                | 93.8    | 75 - 125 | 0.182           | 2.87  | 20           |      |
| Thallium                     |                                                          | 0.184                            | mg/L                   | E200.8 | 0.0000242 | 0.00200            | 0.2000                       | 0                        | 92.1    | 75 - 125 | 0.178           | 3.25  | 20           |      |
| Vanadium                     |                                                          | 0.197                            | mg/L                   | E200.8 | 0.000438  | 0.00440            | 0.2000                       | 0.0019                   | 97.7    | 75 - 125 | 0.19            | 3.71  | 20           |      |
| Zinc                         |                                                          | 1.03                             | mg/L                   | E200.8 | 0.00476   | 0.00500            | 1.000                        | 0.0148                   | 101     | 75 - 125 | 0.997           | 2.76  | 20           |      |
| Lab Sample ID:<br>Test Code: | <b>1508262-001BMSD</b><br>200.8-W                        | Date Analyzed:<br>Date Prepared: | 08/13/201<br>08/13/201 |        |           |                    |                              |                          |         |          |                 |       |              |      |
|                              | 200.0- ₩                                                 | 1                                |                        |        | 0.000000  | 0.00200            | 0.0000                       | 0.0175                   | 06.6    | 75 105   | 0.101           | 0.510 | 20           |      |
| Arsenic                      |                                                          | 0.195                            | mg/L                   | E200.8 | 0.0000920 | 0.00200            | 0.2000                       | 0.0175                   | 88.9    | 75 - 125 | 0.194           | 0.710 | 20           |      |
| Barium                       |                                                          | 1.55                             | mg/L                   | E200.8 | 0.000538  | 0.00200            | 0.2000                       | 1.35                     | 98.9    | 75 - 125 | 1.53            | 1.49  | 20           |      |
| Beryllium                    |                                                          | 0.213                            | mg/L                   | E200.8 | 0.0000288 | 0.00200            | 0.2000                       | 0.00677                  | 103     | 75 - 125 | 0.208           | 2.36  | 20           |      |

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## Jose Rocha QA Officer

## **QC SUMMARY REPORT**

|                              | Itah Division of Water            | Quality                          |                      |          |           |                    | Contact:         | Lenora Su            | ullivan |          |                 |       |              |      |
|------------------------------|-----------------------------------|----------------------------------|----------------------|----------|-----------|--------------------|------------------|----------------------|---------|----------|-----------------|-------|--------------|------|
| Lab Set ID: 1                | 508262                            |                                  |                      |          |           |                    | Dept:            | ME                   |         |          |                 |       |              |      |
| Project: C                   | old King Mine - San J             | uan River Sampl                  | ing                  |          |           |                    | QC Type:         | MSD                  |         |          |                 |       |              |      |
| Analyte                      |                                   | Result                           | Units                | Method   | MDL       | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC    | Limits   | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
| Lab Sample ID:<br>Test Code: | <b>1508262-001BMSD</b><br>200.8-W | Date Analyzed:<br>Date Prepared: | 08/13/20<br>08/13/20 |          |           |                    |                  |                      |         |          |                 |       |              |      |
| Cadmium                      |                                   | 0.202                            | mg/L                 | E200.8   | 0.000193  | 0.000500           | 0.2000           | 0.00117              | 100     | 75 - 125 | 0.198           | 2.17  | 20           |      |
| Chromium                     |                                   | 0.215                            | mg/L                 | E200.8   | 0.00154   | 0.00200            | 0.2000           | 0.0232               | 95.8    | 75 - 125 | 0.21            | 2.43  | 20           |      |
| Cobalt                       |                                   | 0.223                            | mg/L                 | E200.8   | 0.0000434 | 0.00400            | 0.2000           | 0.0332               | 95.1    | 75 - 125 | 0.221           | 1.25  | 20           |      |
| Copper                       |                                   | 0.259                            | mg/L                 | E200.8   | 0.000692  | 0.00200            | 0.2000           | 0.0808               | 88.9    | 75 - 125 | 0.257           | 0.464 | 20           |      |
| Lead                         |                                   | 0.281                            | mg/L                 | E200.8   | 0.000264  | 0.00200            | 0.2000           | 0.0829               | 98.9    | 75 - 125 | 0.277           | 1.48  | 20           |      |
| Molybdenum                   |                                   | 0.0972                           | mg/L                 | E200.8   | 0.000206  | 0.00200            | 0.2000           | 0.000312             | 48.5    | 75 - 125 | 0.0996          | 2.42  | 20           | 1    |
| Nickel                       |                                   | 0.231                            | mg/L                 | E200.8   | 0.000754  | 0.00200            | 0.2000           | 0.0389               | 96.0    | 75 - 125 | 0.228           | 1.23  | 20           |      |
| Selenium                     |                                   | 0.167                            | mg/L                 | E200.8   | 0.0000634 | 0.00200            | 0.2000           | 0.00122              | 83.0    | 75 - 125 | 0.167           | 0.152 | 20           |      |
| Silver                       |                                   | 0.196                            | mg/L                 | E200.8   | 0.0000244 | 0.00200            | 0.2000           | 0.000488             | 97.7    | 75 - 125 | 0.192           | 2.02  | 20           |      |
| Thallium                     |                                   | 0.175                            | mg/L                 | E200.8   | 0.0000242 | 0.00200            | 0.2000           | 0.000604             | 87.0    | 75 - 125 | 0.172           | 1.50  | 20           |      |
| Vanadium                     |                                   | 0.245                            | mg/L                 | E200.8   | 0.000438  | 0.00440            | 0.2000           | 0.0637               | 90.7    | 75 - 125 | 0.239           | 2.53  | 20           |      |
| Zinc                         |                                   | 1.19                             | mg/L                 | E200.8   | 0.00476   | 0.00500            | 1.000            | 0.19                 | 100     | 75 - 125 | 1.19            | 0.384 | 20           |      |
| Lab Sample ID:               | 1508263-002BMSD                   | Date Analyzed:                   | 08/13/20             | 15 2317h |           |                    |                  |                      |         |          |                 |       |              |      |
| Test Code:                   | 200.8-W                           | Date Prepared:                   | 08/13/201            | 15 1632h |           |                    |                  |                      |         |          |                 |       |              |      |

| Test Code: 200.8-W | Date Prepared: | 08/13/201 | 5 1632h |           |          |        |          |      |          |       |        |    |   |
|--------------------|----------------|-----------|---------|-----------|----------|--------|----------|------|----------|-------|--------|----|---|
| Arsenic            | 0.197          | mg/L      | E200.8  | 0.0000920 | 0.00200  | 0.2000 | 0.0149   | 91.0 | 75 - 125 | 0.193 | 1.71   | 20 |   |
| Barium             | 1.13           | mg/L      | E200.8  | 0.000538  | 0.00200  | 0.2000 | 0.971    | 78.8 | 75 - 125 | 1.13  | 0.0360 | 20 |   |
| Beryllium          | 0.209          | mg/L      | E200.8  | 0.0000288 | 0.00200  | 0.2000 | 0.00516  | 102  | 75 - 125 | 0.207 | 0.997  | 20 |   |
| Cadmium            | 0.200          | mg/L      | E200.8  | 0.000193  | 0.000500 | 0.2000 | 0.00094  | 99.5 | 75 - 125 | 0.197 | 1.33   | 20 |   |
| Chromium           | 0.210          | mg/L      | E200.8  | 0.00154   | 0.00200  | 0.2000 | 0.02     | 94.8 | 75 - 125 | 0.21  | 0.112  | 20 |   |
| Cobalt             | 0.219          | mg/L      | E200.8  | 0.0000434 | 0.00400  | 0.2000 | 0.0279   | 95.7 | 75 - 125 | 0.216 | 1.34   | 20 |   |
| Copper             | 0.261          | mg/L      | E200.8  | 0.000692  | 0.00200  | 0.2000 | 0.0767   | 92.1 | 75 - 125 | 0.26  | 0.566  | 20 |   |
| Lead               | 0.264          | mg/L      | E200.8  | 0.000264  | 0.00200  | 0.2000 | 0.0674   | 98.1 | 75 - 125 | 0.26  | 1.34   | 20 |   |
| Manganese          | 1.85           | mg/L      | E200.8  | 0.00153   | 0.00200  | 0.2000 | 1.67     | 86.8 | 75 - 125 | 1.82  | 1.36   | 20 |   |
| Molybdenum         | 0.121          | mg/L      | E200.8  | 0.000206  | 0.00200  | 0.2000 | 0.000344 | 60.4 | 75 - 125 | 0.119 | 2.11   | 20 | 1 |
| Nickel             | 0.223          | mg/L      | E200.8  | 0.000754  | 0.00200  | 0.2000 | 0.0303   | 96.3 | 75 - 125 | 0.22  | 1.43   | 20 |   |
| Selenium           | 0.176          | mg/L      | E200.8  | 0.0000634 | 0.00200  | 0.2000 | 0.0011   | 87.5 | 75 - 125 | 0.175 | 0.730  | 20 |   |
| Silver             | 0.194          | mg/L      | E200.8  | 0.0000244 | 0.00200  | 0.2000 | 0.000383 | 96.7 | 75 - 125 | 0.192 | 1.01   | 20 |   |
| Thallium           | 0.182          | mg/L      | E200.8  | 0.0000242 | 0.00200  | 0.2000 | 0.000565 | 90.7 | 75 - 125 | 0.179 | 1.67   | 20 |   |
|                    |                |           |         |           |          |        |          |      |          |       |        |    |   |

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Mercury

0.00372

mg/L

E245.1

3440 South 700 West

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Jose Rocha QA Officer

## **QC SUMMARY REPORT**

| Lab Set ID: 1:                           | tah Division of Water<br>508262<br>old King Mine - San J |                                             | ing                            |                  |                     |                    | Contact:<br>Dept:<br>QC Type | Lenora S<br>ME<br>: MSD | ullivan     |                      |                 |               |              |     |
|------------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------------|------------------|---------------------|--------------------|------------------------------|-------------------------|-------------|----------------------|-----------------|---------------|--------------|-----|
| Analyte                                  |                                                          | Result                                      | Units                          | Method           | MDL                 | Reporting<br>Limit | Amount<br>Spiked             | Spike Ref.<br>Amount    | %REC        | Limits               | RPD Ref.<br>Amt | % RPD         | RPD<br>Limit | Qua |
| Lab Sample ID:<br>Test Code:             | <b>1508263-002BMSD</b><br>200.8-W                        | Date Analyzed:<br>Date Prepared:            | 08/13/201<br>08/13/201         |                  |                     |                    |                              |                         |             |                      |                 |               |              |     |
| Vanadium<br>Zinc                         |                                                          | 0.239<br>1.19                               | mg/L<br>mg/L                   | E200.8<br>E200.8 | 0.000438<br>0.00476 | 0.00440<br>0.00500 | 0.2000<br>1.000              | 0.0514<br>0.176         | 93.9<br>101 | 75 - 125<br>75 - 125 | 0.238<br>1.17   | 0.490<br>1.76 | 20<br>20     |     |
| Lab Sample ID:<br>Test Code:             | <b>1508262-001BMSD</b><br>200.8-W                        | Date Analyzed:<br>Date Prepared:            | 08/13/201<br>08/13/201         |                  |                     |                    |                              |                         |             |                      |                 |               |              |     |
| Manganese                                |                                                          | 2.37                                        | mg/L                           | E200.8           | 0.00764             | 0.0100             | 0.2000                       | 2.17                    | 101         | 75 - 125             | 2.3             | 2.73          | 20           |     |
| Lab Sample ID:<br>Test Code:<br>Antimony | <b>1508262-001BMSD</b><br>200.8-W                        | Date Analyzed:<br>Date Prepared:<br>0.0145  | 08/14/201<br>08/14/201<br>mg/L |                  | 0.0000366           | 0.00200            | 0.2000                       | 0.000775                | 6.87        | 75 - 125             | 0.0131          | 10.6          | 20           | 1   |
| Lab Sample ID:<br>Test Code:             | <b>1508263-002BMSD</b><br>200.8-W                        | Date Analyzed:<br>Date Prepared:            | 08/14/201<br>08/14/201         | 5 2032h          |                     | 0.00200            | 012000                       | 01000772                |             | 10 120               |                 | 1010          |              |     |
| Antimony                                 |                                                          | 0.0250                                      | mg/L                           | E200.8           | 0.0000366           | 0.00200            | 0.2000                       | 0.000202                | 12.4        | 75 - 125             | 0.0206          | 19.2          | 20           | 1   |
| Lab Sample ID:<br>Test Code:<br>Mercury  | <b>1508263-003BMSD</b><br>HG-DW-245.1                    | Date Analyzed:<br>Date Prepared:<br>0.00365 | 08/14/201<br>08/13/201<br>mg/L |                  | 0.00000892          | 0.000150           | 0.003330                     | 0.0000783               | 107         | 80 - 120             | 0.00379         | 3.85          | 20           |     |
| Lab Sample ID:                           | 1508262-002BMSD                                          | Date Analyzed:<br>Date Prepared:            | 08/14/201                      |                  |                     |                    |                              |                         |             |                      |                 |               |              |     |

Lab Sample ID: 1508262-002CMSD Date Analyzed: 08/14/2015 1045h Test Code: HG-DW-DIS-245.1 Date Prepared: 08/13/2015 1830h 0.00373 0.00000892 0.000150 0.003330 0 85 - 115 0.00348 7.02 20 Mercury mg/L E245.1 112 Lab Sample ID: 1508263-003CMSD 08/14/2015 1059h Date Analyzed: Test Code: HG-DW-DIS-245.1 08/13/2015 1830h Date Prepared: 0.00351 0.00000892 0.000150 0.003330 0 105 85 - 115 0.00372 5.72 20 Mercury mg/L E245.1

0.000150

0.00000892

0.003330

0.00008

109

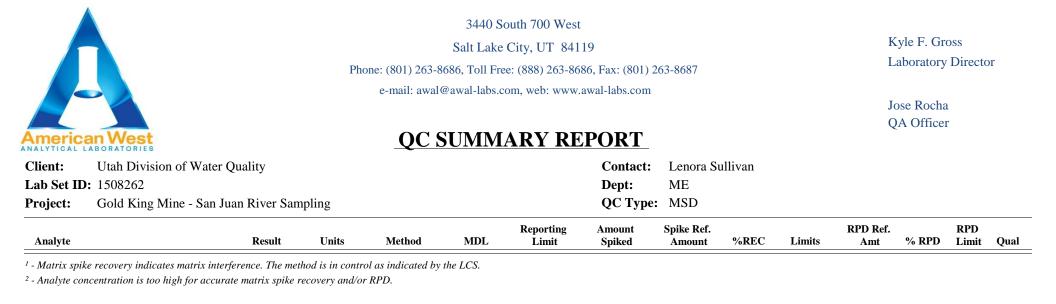
80 - 120

0.00374

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0.760

20





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Jose Rocha QA Officer

### **QC SUMMARY REPORT Contact:** Lenora Sullivan **Client:** Utah Division of Water Quality Lab Set ID: 1508262 Dept: WC QC Type: DUP Gold King Mine - San Juan River Sampling **Project:** Reporting Spike Ref. **RPD Ref.** RPD Amount Method MDL %REC % RPD Result Units Limit Spiked Limits Limit Qual Analyte Amount Amt Lab Sample ID: 1508262-001ADUP Date Analyzed: 08/14/2015 601h Test Code: COND-W-2510B 620 SM2510B 0.436 2.00 617 0.485 5 Conductivity µmhos/cm Lab Sample ID: 1508263-001ADUP Date Analyzed: 08/14/2015 601h COND-W-2510B Test Code: 2.00 5 651 SM2510B 0.436 648 0.462 Conductivity µmhos/cm Lab Sample ID: 1508275-001ADUP Date Analyzed: 08/14/2015 601h Test Code: COND-W-2510B 632 634 5 Conductivity SM2510B 0.436 2.00 0.316 µmhos/cm

| Lab Sample ID:         1508262-004ADUP           Test Code:         PH-4500H+B  | Date Analyzed: | 08/13/201 | 15 1840h   |      |      |  |      |       |   |   |
|---------------------------------------------------------------------------------|----------------|-----------|------------|------|------|--|------|-------|---|---|
| pH @ 25° C                                                                      | 8.24           | pH Units  | SM4500-H+B | 1.00 | 1.00 |  | 8.22 | 0.243 | 5 | Н |
| Lab Sample ID:         1508263-004ADUP           Test Code:         PH-4500H+B  | Date Analyzed: | 08/13/201 | 15 1840h   |      |      |  |      |       |   |   |
| pH @ 25° C                                                                      | 8.18           | pH Units  | SM4500-H+B | 1.00 | 1.00 |  | 8.2  | 0.244 | 5 | Н |
| Lab Sample ID:         1508262-002ADUP           Test Code:         TDS-W-2540C | Date Analyzed: | 08/13/201 | 15 2100h   |      |      |  |      |       |   |   |
| Total Dissolved Solids                                                          | 470            | mg/L      | SM2540C    | 30.6 | 50.0 |  | 410  | 13.6  | 5 | @ |
| Lab Sample ID:         1508263-002ADUP           Test Code:         TDS-W-2540C | Date Analyzed: | 08/13/201 | 15 2100h   |      |      |  |      |       |   |   |
| Total Dissolved Solids                                                          | 360            | mg/L      | SM2540C    | 30.6 | 50.0 |  | 450  | 22.2  | 5 | @ |
| Lab Sample ID:1508262-002ADUPTest Code:TSS-W-2540D                              | Date Analyzed: | 08/13/201 | 15 1610h   |      |      |  |      |       |   |   |
| Total Suspended Solids                                                          | 2,640          | mg/L      | SM2540D    | 142  | 150  |  | 2760 | 4.44  | 5 |   |

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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 addressee of the addressee 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.



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## **QC SUMMARY REPORT**

| Lab Set ID:                 | Utah Division of Water<br>1508262<br>Gold King Mine - San |                | ing       |         |     |                    | Contact:<br>Dept:<br>QC Type | WC                   | ıllivan |        |                 |       |              |      |
|-----------------------------|-----------------------------------------------------------|----------------|-----------|---------|-----|--------------------|------------------------------|----------------------|---------|--------|-----------------|-------|--------------|------|
| Analyte                     |                                                           | Result         | Units     | Method  | MDL | Reporting<br>Limit | Amount<br>Spiked             | Spike Ref.<br>Amount | %REC    | Limits | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
| Lab Sample ID<br>Test Code: | <b>1508263-002ADUP</b><br>TSS-W-2540D                     | Date Analyzed: | 08/13/201 | 5 1610h |     |                    |                              |                      |         |        |                 |       |              |      |
| Total Suspende              | ed Solids                                                 | 4,220          | mg/L      | SM2540D | 142 | 150                |                              |                      |         |        | 4640            | 9.48  | 5            | @    |

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

H - Sample was received outside of the holding time.

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### **QC SUMMARY REPORT** Lenora Sullivan **Client:** Utah Division of Water Quality **Contact:** Lab Set ID: 1508262 Dept: WC QC Type: LCS Gold King Mine - San Juan River Sampling **Project:** Reporting Amount Spike Ref. **RPD Ref.** RPD Result Units Method MDL %REC % RPD Limit Qual Limit Spiked Limits Analyte Amount Amt

| Lab Sample ID:<br>Test Code: | <b>LCS-R81617</b><br>300.0-W     | Date Analyzed:                   | 08/13/20             | 15 1229h             |         |        |        |   |      |          |
|------------------------------|----------------------------------|----------------------------------|----------------------|----------------------|---------|--------|--------|---|------|----------|
| Chloride                     |                                  | 4.97                             | mg/L                 | E300.0               | 0.00751 | 0.100  | 5.000  | 0 | 99.4 | 90 - 110 |
| Sulfate                      |                                  | 4.94                             | mg/L                 | E300.0               | 0.0211  | 0.750  | 5.000  | 0 | 98.7 | 90 - 110 |
| Lab Sample ID:<br>Test Code: | LCS-R81615<br>ALK-W-2320B        | Date Analyzed:                   | 08/14/20             | 15 632h              |         |        |        |   |      |          |
| Alkalinity (as Ca            | CO3)                             | 49,000                           | mg/L                 | SM2320B              | 1.86    | 10.0   | 50,000 | 0 | 98.0 | 90 - 110 |
| Lab Sample ID:<br>Test Code: | LCS-R81612<br>COND-W-2510B       | Date Analyzed:                   | 08/14/20             | 15 601h              |         |        |        |   |      |          |
| Conductivity                 |                                  | 994                              | µmhos/cm             | SM2510B              | 0.436   | 2.00   | 1,000  | 0 | 99.4 | 98 - 102 |
| Lab Sample ID:<br>Test Code: | LCS<br>NO2/NO3-W-353.2           | Date Analyzed:                   | 08/13/20             | 15 2352h             |         |        |        |   |      |          |
| Nitrate/Nitrite (as          | s N)                             | 0.910                            | mg/L                 | E353.2               | 0.00833 | 0.0100 | 1.000  | 0 | 91.0 | 90 - 110 |
| Lab Sample ID:<br>Test Code: | <b>LCS-R81601</b><br>PH-4500H+B  | Date Analyzed:                   | 08/13/20             | 15 1840h             |         |        |        |   |      |          |
| pH @ 25° C                   |                                  | 8.95                             | pH Units             | SM4500-H+B           | 1.00    | 1.00   | 9.000  | 0 | 99.4 | 98 - 102 |
| Lab Sample ID:<br>Test Code: | LCS-38561<br>PO4-W-4500PF        | Date Analyzed:<br>Date Prepared: | 08/14/20<br>08/14/20 | 15 1235h<br>15 1020h |         |        |        |   |      |          |
| Phosphate, Total             | (as P)                           | 0.912                            | mg/L                 | SM4500-P-F           | 0.0212  | 0.0500 | 1.000  | 0 | 91.2 | 90 - 110 |
| Lab Sample ID:<br>Test Code: | <b>LCS-R81644</b><br>TDS-W-2540C | Date Analyzed:                   | 08/13/20             | 15 2100h             |         |        |        |   |      |          |
| Total Dissolved S            | Solids                           | 222                              | mg/L                 | SM2540C              | 6.13    | 10.0   | 205.0  | 0 | 108  | 80 - 120 |
| Lab Sample ID:<br>Test Code: | LCS-R81629<br>TSS-W-2540D        | Date Analyzed:                   | 08/13/20             | 15 1610h             |         |        |        |   |      |          |
| Total Suspended              | Solids                           | 91.0                             | mg/L                 | SM2540D              | 2.83    | 3.00   | 100.0  | 0 | 91.0 | 80 - 120 |

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## Jose Rocha QA Officer

# American West NALYTICAL LABORATORIES QC SUMMARY REPORT Client: Utah Division of Water Quality Contact: Lenora Sullivan Lab Set ID: 1508262 Dept: WC Project: Gold King Mine - San Juan River Sampling QC Type: MBLK

| Analyte                      |                                  | Result                           | Units                  | Method     | MDL     | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC | Limits | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
|------------------------------|----------------------------------|----------------------------------|------------------------|------------|---------|--------------------|------------------|----------------------|------|--------|-----------------|-------|--------------|------|
| Lab Sample ID:<br>Test Code: | <b>MB-R81617</b><br>300.0-W      | Date Analyzed:                   | 08/13/201              | 5 1213h    |         |                    |                  |                      |      |        |                 |       |              |      |
| Chloride                     |                                  | 0.00760                          | mg/L                   | E300.0     | 0.00751 | 0.100              |                  |                      |      |        |                 |       |              | JB   |
| Sulfate                      |                                  | < 0.750                          | mg/L                   | E300.0     | 0.0211  | 0.750              |                  |                      |      |        |                 |       |              | U    |
| Lab Sample ID:<br>Test Code: | <b>MB-R81615</b><br>ALK-W-2320B  | Date Analyzed:                   | 08/14/201              | 5 632h     |         |                    |                  |                      |      |        |                 |       |              |      |
| Alkalinity (as Ca            | CO3)                             | < 10.0                           | mg/L                   | SM2320B    | 1.86    | 10.0               |                  |                      |      |        |                 |       |              | U    |
| Bicarbonate (as C            | ,                                | < 10.0                           | mg/L                   | SM2320B    | 1.86    | 10.0               |                  |                      |      |        |                 |       |              | U    |
| Carbonate (as Ca             | CO3)                             | < 10.0                           | mg/L                   | SM2320B    | 1.86    | 10.0               |                  |                      |      |        |                 |       |              | U    |
| Lab Sample ID:<br>Test Code: | <b>MB-R81612</b><br>COND-W-2510B | Date Analyzed:                   | 08/14/201              | 5 601h     |         |                    |                  |                      |      |        |                 |       |              |      |
| Conductivity                 |                                  | 0.710                            | µmhos/cm               | SM2510B    | 0.436   | 2.00               |                  |                      |      |        |                 |       |              | JB   |
| Lab Sample ID:<br>Test Code: | <b>MB</b><br>NO2/NO3-W-353.2     | Date Analyzed:                   | 08/13/201              | 5 2350h    |         |                    |                  |                      |      |        |                 |       |              |      |
| Nitrate/Nitrite (as          | s N)                             | < 0.0100                         | mg/L                   | E353.2     | 0.00833 | 0.0100             |                  |                      |      |        |                 |       |              | U    |
| Lab Sample ID:<br>Test Code: | <b>MB-38561</b><br>PO4-W-4500PF  | Date Analyzed:<br>Date Prepared: | 08/14/201<br>08/14/201 |            |         |                    |                  |                      |      |        |                 |       |              |      |
| Phosphate, Total             |                                  | 0.0226                           | mg/L                   | SM4500-P-F | 0.0212  | 0.0500             |                  |                      |      |        |                 |       |              | JB   |
| Lab Sample ID:<br>Test Code: | <b>MB-R81644</b><br>TDS-W-2540C  | Date Analyzed:                   | 08/13/201              | 5 2100h    |         |                    |                  |                      |      |        |                 |       |              |      |
| Total Dissolved S            | Solids                           | < 10.0                           | mg/L                   | SM2540C    | 6.13    | 10.0               |                  |                      |      |        |                 |       |              | U    |
| Lab Sample ID:<br>Test Code: | <b>MB-R81629</b><br>TSS-W-2540D  | Date Analyzed:                   | 08/13/201              | 5 1610h    |         |                    |                  |                      |      |        |                 |       |              |      |
| Total Suspended              | Solids                           | < 3.00                           | mg/L                   | SM2540D    | 2.83    | 3.00               |                  |                      |      |        |                 |       |              | U    |

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Jose Rocha QA Officer

## **QC SUMMARY REPORT**

|             |                                          | Reporting | Amount   | Snike Ref.      | RPD Ref. | RPD |
|-------------|------------------------------------------|-----------|----------|-----------------|----------|-----|
| Project:    | Gold King Mine - San Juan River Sampling |           | QC Type: | MBLK            |          |     |
| Lab Set ID: | 1508262                                  |           | Dept:    | WC              |          |     |
| Client:     | Utah Division of Water Quality           |           | Contact: | Lenora Sullivan |          |     |
|             |                                          |           |          |                 |          |     |

|         |        |       |        |     | Reporting | Amount | Spike Ref. |      |        | RPD Ref. |       | RPD   |      |
|---------|--------|-------|--------|-----|-----------|--------|------------|------|--------|----------|-------|-------|------|
| Analyte | Result | Units | Method | MDL | Limit     | Spiked | Amount     | %REC | Limits | Amt      | % RPD | Limit | Qual |
|         |        |       |        |     |           |        |            |      |        |          |       |       |      |

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.

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### **QC SUMMARY REPORT** Utah Division of Water Quality **Client:** Lenora Sullivan **Contact:** Lab Set ID: 1508262 Dept: WC Gold King Mine - San Juan River Sampling QC Type: MS **Project:** Reporting Spike Ref. RPD Ref. Amount A --- -- 1--**.**....

| Analyte                                                                            | Result         | Units     | Method   | MDL    | Limit  | Spiked | Amount | %REC | Limits   | Amt | % RPD | Limit | Qual |
|------------------------------------------------------------------------------------|----------------|-----------|----------|--------|--------|--------|--------|------|----------|-----|-------|-------|------|
| Lab Sample ID:         1508262-001AMS           Test Code:         300.0-W         | Date Analyzed: | 08/13/201 | 15 2151h |        |        |        |        |      |          |     |       |       |      |
| Chloride                                                                           | 58.4           | mg/L      | E300.0   | 0.0751 | 1.00   | 50.00  | 8.7    | 99.4 | 90 - 110 |     |       |       |      |
| Sulfate                                                                            | 208            | mg/L      | E300.0   | 0.211  | 7.50   | 50.00  | 157    | 103  | 90 - 110 |     |       |       |      |
| Lab Sample ID:         1508263-001AMS           Test Code:         300.0-W         | Date Analyzed: | 08/13/201 | 15 2332h |        |        |        |        |      |          |     |       |       |      |
| Chloride                                                                           | 59.4           | mg/L      | E300.0   | 0.0751 | 1.00   | 50.00  | 9.83   | 99.1 | 90 - 110 |     |       |       |      |
| Sulfate                                                                            | 195            | mg/L      | E300.0   | 0.211  | 7.50   | 50.00  | 143    | 103  | 90 - 110 |     |       |       |      |
| Lab Sample ID:1508262-001AMSTest Code:ALK-W-2320B                                  | Date Analyzed: | 08/14/201 | 15 632h  |        |        |        |        |      |          |     |       |       |      |
| Alkalinity (as CaCO3)                                                              | 204            | mg/L      | SM2320B  | 1.86   | 10.0   | 100.0  | 108    | 96.3 | 80 - 120 |     |       |       |      |
| Lab Sample ID:         1508263-001AMS           Test Code:         ALK-W-2320B     | Date Analyzed: | 08/14/201 | 15 632h  |        |        |        |        |      |          |     |       |       |      |
| Alkalinity (as CaCO3)                                                              | 211            | mg/L      | SM2320B  | 1.86   | 10.0   | 100.0  | 112    | 99.8 | 80 - 120 |     |       |       |      |
| Lab Sample ID:         1508275-001AMS           Test Code:         ALK-W-2320B     | Date Analyzed: | 08/14/201 | 15 632h  |        |        |        |        |      |          |     |       |       |      |
| Alkalinity (as CaCO3)                                                              | 204            | mg/L      | SM2320B  | 1.86   | 10.0   | 100.0  | 107    | 98.0 | 80 - 120 |     |       |       |      |
| Lab Sample ID:         1508263-004DMS           Test Code:         NO2/NO3-W-353.2 | Date Analyzed: | 08/14/201 | 15 015h  |        |        |        |        |      |          |     |       |       |      |
| Nitrate/Nitrite (as N)                                                             | 4.91           | mg/L      | E353.2   | 0.0417 | 0.0500 | 5.000  | 0.317  | 91.9 | 90 - 110 |     |       |       |      |
| Lab Sample ID:         1508275-001DMS           Test Code:         NO2/NO3-W-353.2 | Date Analyzed: | 08/14/201 | 15 019h  |        |        |        |        |      |          |     |       |       |      |
| Nitrate/Nitrite (as N)                                                             | 5.16           | mg/L      | E353.2   | 0.0417 | 0.0500 | 5.000  | 0.481  | 93.6 | 90 - 110 |     |       |       |      |

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Test Code:

PO4-W-4500PF

3440 South 700 West

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Jose Rocha QA Officer

### **OC SUMMARY REPORT Client:** Utah Division of Water Quality **Contact:** Lenora Sullivan Lab Set ID: 1508262 Dept: WC **QC Type:** MS **Project:** Gold King Mine - San Juan River Sampling Reporting Spike Ref. **RPD Ref.** RPD Amount MDL %REC % RPD Result Units Method Limit Spiked Limits Limit Qual Analyte Amount Amt Lab Sample ID: 1508262-004DMS Date Analyzed: 08/13/2015 2359h Test Code: NO2/NO3-W-353.2 1.19 E353.2 0.00833 0.0100 1.000 0.307 90 - 110 Nitrate/Nitrite (as N) 88.3 mg/L Lab Sample ID: 1508263-001DMS Date Analyzed: 08/14/2015 1301h Test Code: PO4-W-4500PF Date Prepared: 08/14/2015 1020h -1.90 Phosphate, Total (as P) SM4500-P-F 0.0424 0.100 1.000 5.72 90 - 110 5.70 mg/L Lab Sample ID: 1508275-001DMS Date Analyzed: 08/14/2015 1306h Test Code: PO4-W-4500PF Date Prepared: 08/14/2015 1020h Phosphate, Total (as P) 6.13 mg/L SM4500-P-F 0.0424 0.100 1.000 4.51 161 90 - 110 1 Lab Sample ID: 1508262-001DMS Date Analyzed: 08/14/2015 1236h

1.000

3.05

49.6

90 - 110

 Phosphate, Total (as P)
 3.55
 mg/L
 SM4500-P-F
 0.0212
 0.0500

08/14/2015 1020h

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

Date Prepared:

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## **QC SUMMARY REPORT**

| Client: U<br>Lab Set ID: 1   | Jtah Division of Water<br>508262      | Quality          |              |                  |                 |                    | Contact:<br>Dept: | Lenora Su<br>WC      | ullivan      |                      |                 |                |              |      |
|------------------------------|---------------------------------------|------------------|--------------|------------------|-----------------|--------------------|-------------------|----------------------|--------------|----------------------|-----------------|----------------|--------------|------|
| Project: C                   | Gold King Mine - San J                | Juan River Sampl | ing          |                  |                 |                    | QC Type:          | : MSD                |              |                      |                 |                |              |      |
| Analyte                      |                                       | Result           | Units        | Method           | MDL             | Reporting<br>Limit | Amount<br>Spiked  | Spike Ref.<br>Amount | %REC         | Limits               | RPD Ref.<br>Amt | % RPD          | RPD<br>Limit | Qual |
| Lab Sample ID:<br>Test Code: | <b>1508262-001AMSD</b><br>300.0-W     | Date Analyzed:   | 08/13/20     | 15 2207h         |                 |                    |                   |                      |              |                      |                 |                |              |      |
| Chloride<br>Sulfate          |                                       | 58.0<br>208      | mg/L<br>mg/L | E300.0<br>E300.0 | 0.0751<br>0.211 | 1.00<br>7.50       | 50.00<br>50.00    | 8.7<br>157           | 98.5<br>102  | 90 - 110<br>90 - 110 | 58.4<br>208     | 0.721<br>0.324 | 20<br>20     |      |
| Lab Sample ID:<br>Test Code: | <b>1508263-001AMSD</b><br>300.0-W     | Date Analyzed:   | 08/13/20     | 15 2349h         |                 |                    |                   |                      |              |                      |                 |                |              |      |
| Chloride<br>Sulfate          |                                       | 59.0<br>193      | mg/L<br>mg/L | E300.0<br>E300.0 | 0.0751<br>0.211 | 1.00<br>7.50       | 50.00<br>50.00    | 9.83<br>143          | 98.4<br>99.8 | 90 - 110<br>90 - 110 | 59.4<br>195     | 0.605<br>0.758 | 20<br>20     |      |
| Lab Sample ID:<br>Test Code: | 1508262-001AMSD<br>ALK-W-2320B        | Date Analyzed:   | 08/14/20     | 15 632h          |                 |                    |                   |                      |              |                      |                 |                |              |      |
| Alkalinity (as Ca            | aCO3)                                 | 203              | mg/L         | SM2320B          | 1.86            | 10.0               | 100.0             | 108                  | 94.6         | 80 - 120             | 205             | 0.835          | 10           |      |
| Lab Sample ID:<br>Test Code: | <b>1508263-001AMSD</b><br>ALK-W-2320B | Date Analyzed:   | 08/14/20     | 15 632h          |                 |                    |                   |                      |              |                      |                 |                |              |      |
| Alkalinity (as Ca            | aCO3)                                 | 208              | mg/L         | SM2320B          | 1.86            | 10.0               | 100.0             | 112                  | 96.4         | 80 - 120             | 211             | 1.62           | 10           |      |
| Lab Sample ID:<br>Test Code: | 1508275-001AMSD<br>ALK-W-2320B        | Date Analyzed:   | 08/14/20     | 15 632h          |                 |                    |                   |                      |              |                      |                 |                |              |      |
| Alkalinity (as Ca            | aCO3)                                 | 204              | mg/L         | SM2320B          | 1.86            | 10.0               | 100.0             | 107                  | 98.0         | 80 - 120             | 205             | 0              | 10           |      |

### ty (a JS) ıg Lab Sample ID: 1508263-004DMSD 08/14/2015 016h Date Analyzed: Test Code: NO2/NO3-W-353.2 4.86 mg/L E353.2 0.0417 0.0500 5.000 0.317 90.8 90 - 110 4.91 1.15 10 Nitrate/Nitrite (as N) Lab Sample ID: 1508275-001DMSD Date Analyzed: 08/14/2015 021h Test Code: NO2/NO3-W-353.2 5.00 E353.2 0.0417 0.0500 5.000 0.481 10 Nitrate/Nitrite (as N) mg/L 90.4 90 - 110 5.16 3.17

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Jose Rocha QA Officer

90 - 110

6.13

42.6

10

@

-53.6

## **QC SUMMARY REPORT**

| Client:                      | Jtah Division of Water                    | r Quality                        |          |                      |         |                    | Contact:         | Lenora Su            | ıllıvan |          |                 |       |              |      |
|------------------------------|-------------------------------------------|----------------------------------|----------|----------------------|---------|--------------------|------------------|----------------------|---------|----------|-----------------|-------|--------------|------|
| Lab Set ID: 1                | 508262                                    |                                  |          |                      |         |                    | Dept:            | WC                   |         |          |                 |       |              |      |
| Project: (                   | Gold King Mine - San .                    | Juan River Sampl                 | ing      |                      |         |                    | <b>QC Туре</b>   | e: MSD               |         |          |                 |       |              |      |
| Analyte                      |                                           | Result                           | Units    | Method               | MDL     | Reporting<br>Limit | Amount<br>Spiked | Spike Ref.<br>Amount | %REC    | Limits   | RPD Ref.<br>Amt | % RPD | RPD<br>Limit | Qual |
| Lab Sample ID:<br>Test Code: | <b>1508262-004DMSD</b><br>NO2/NO3-W-353.2 | Date Analyzed:                   | 08/14/20 | 15 000h              |         |                    |                  |                      |         |          |                 |       |              |      |
| Nitrate/Nitrite (            | as N)                                     | 1.22                             | mg/L     | E353.2               | 0.00833 | 0.0100             | 1.000            | 0.307                | 91.1    | 90 - 110 | 1.19            | 2.33  | 10           |      |
| Lab Sample ID:<br>Test Code: | <b>1508262-001DMSD</b><br>PO4-W-4500PF    | Date Analyzed:<br>Date Prepared: |          | 15 1237h<br>15 1020h |         |                    |                  |                      |         |          |                 |       |              |      |
| Phosphate, Tota              | l (as P)                                  | 3.07                             | mg/L     | SM4500-P-F           | 0.0212  | 0.0500             | 1.000            | 3.05                 | 1.80    | 90 - 110 | 3.55            | 14.4  | 10           | @1   |
| Lab Sample ID:<br>Test Code: | <b>1508263-001DMSD</b><br>PO4-W-4500PF    | Date Analyzed:<br>Date Prepared: |          | 15 1245h<br>15 1020h |         |                    |                  |                      |         |          |                 |       |              |      |
| Phosphate, Tota              | l (as P)                                  | 4.86                             | mg/L     | SM4500-P-F           | 0.0212  | 0.0500             | 1.000            | 5.72                 | -85.3   | 90 - 110 | 5.7             | 15.8  | 10           | @1   |

0.0500

1.000

4.51

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

Lab Sample ID: 1508275-001DMSD

PO4-W-4500PF

Test Code:

Phosphate, Total (as P)

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

Date Analyzed:

Date Prepared:

3.98

08/14/2015 1249h

08/14/2015 1020h

mg/L

SM4500-P-F

0.0212

Report Date: 8/14/2015 Page 40 of 40

American West Analytical Laboratories Next Day Rush

Collection Times revised -RW

GenericEDD\_QC

| WORK O       | <b>RDER Summary</b>                              |                 |                 |                                   | Wo                      | rk Order: 1   | 508262            | Page 1 of 4 |
|--------------|--------------------------------------------------|-----------------|-----------------|-----------------------------------|-------------------------|---------------|-------------------|-------------|
| Client:      | Utah Division of Water Quality                   |                 |                 |                                   | Γ                       | Due Date: 8/1 | 4/2015            |             |
| Client ID:   | UTD200                                           |                 | Contact         | : Lenora Sullivan                 |                         |               |                   |             |
| Project:     | Gold King Mine - San Juan River Sa               | mnling          | QC Lev          |                                   |                         | /O Type: Sta  | ndard             |             |
| Comments:    | Next Day Rush $QC2+$ / dissolved me              |                 | •               |                                   |                         |               |                   | th a I      |
| comments.    | flag. Include EDD Use sparingly, do no           |                 |                 |                                   |                         |               |                   |             |
| Sample ID    | Client Sample ID                                 | Collected Date  | Received Date   | Test Code                         | Matrix                  | Sel           | Storage           |             |
| 1508262-001A | San Juan R @ Mexican Hat US163 Xing<br>(4953000) | 8/12/2015 1706h | 8/13/2015 1450h | 300.0-W                           | Aqueous                 | $\checkmark$  | df - wc           | 1           |
|              |                                                  |                 |                 | 2 SEL Analytes: CL                | SO4                     |               |                   |             |
|              |                                                  |                 |                 | ALK-W-2320B                       |                         | $\checkmark$  | df - wc           |             |
|              |                                                  |                 |                 | 3 SEL Analytes: ALK               | X ALKB ALKC             |               |                   |             |
|              |                                                  |                 |                 | COND-W-2510B                      |                         |               | df - wc           |             |
|              |                                                  |                 |                 | PH-4500H+B                        |                         |               | df - wc           |             |
|              |                                                  |                 |                 | TDS-W-2540C                       |                         |               | df - wc           |             |
|              |                                                  |                 |                 | TSS-W-2540D                       |                         |               | df - wc           |             |
| 1508262-001B |                                                  |                 |                 | 200.7-W<br>6 SEL Analytes: AL (   | CA FF MG K NA           | $\checkmark$  | df - total metals |             |
|              |                                                  |                 |                 | 200.7-W-PR                        |                         |               | df - total metals |             |
|              |                                                  |                 |                 | 200.8-W                           |                         |               | df - total metals |             |
|              |                                                  |                 |                 |                                   | AS BA BE CD CR CO CU PI |               |                   |             |
|              |                                                  |                 |                 | 200.8-W-PR                        |                         |               | df - total metals |             |
|              |                                                  |                 |                 | HARD-2340B                        |                         |               | df - total metals |             |
|              |                                                  |                 |                 | HG-DW-245.1                       |                         |               | df - total metals |             |
|              |                                                  |                 |                 | HG-DW-PR                          |                         |               | df - total metals |             |
| 1508262-001C |                                                  |                 |                 | 200.7-DIS                         |                         | $\checkmark$  | df - dis metals   |             |
|              |                                                  |                 |                 | 6 SEL Analytes: AL                | CA FE MG K NA           |               |                   |             |
|              |                                                  |                 |                 | 200.7-DIS-PR                      |                         |               | df - dis metals   |             |
|              |                                                  |                 |                 | 200.8-DIS                         |                         | $\checkmark$  | df - dis metals   |             |
|              |                                                  |                 |                 | 17 SEL Analytes: SB<br>AG TL V ZN | AS BA BE CD CR CO CU PI | 3 MN MO NI SE |                   |             |
|              |                                                  |                 |                 | 200.8-DIS-PR                      |                         |               | df - dis metals   |             |
|              |                                                  |                 |                 | HARD-2340B                        |                         |               | df - dis metals   |             |
|              |                                                  |                 |                 | 1 SEL Analytes: HAP               | RD                      |               |                   |             |
|              |                                                  |                 |                 | HG-DW-DIS-245.1                   |                         |               | df - dis metals   |             |
|              |                                                  |                 |                 | HG-DW-DIS-PR                      |                         |               | df - dis metals   |             |

# **REVISED:** 8/26/2015

|                   |                     |                                      | Wo                                                                        | rk Order: 15                                                                                 | 508262 Page 2 of                                                                                  |
|-------------------|---------------------|--------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
|                   |                     |                                      | Γ                                                                         | Due Date: 8/1                                                                                | 4/2015                                                                                            |
| Collected Da      | ate Received Date   | Test Code                            | Matrix                                                                    | Sel                                                                                          | Storage                                                                                           |
| ing 8/12/2015 170 | 8/13/2015 1450h     | NO2/NO3-W-353.2                      | Aqueous                                                                   |                                                                                              | df - po4 / no2/no3                                                                                |
|                   |                     | PO4-W-4500PF                         |                                                                           |                                                                                              | df - po4 / no2/no3                                                                                |
|                   |                     | PO4-W-PR                             |                                                                           |                                                                                              | df - po4 / no2/no3                                                                                |
| ) 12/30/1899 14   | 57h 8/13/2015 1450h | 300.0-W                              | Aqueous                                                                   | $\checkmark$                                                                                 | df - wc                                                                                           |
|                   |                     | 2 SEL Analytes: CL SO4               |                                                                           |                                                                                              |                                                                                                   |
|                   |                     | ALK-W-2320B                          |                                                                           | $\checkmark$                                                                                 | df - wc                                                                                           |
|                   |                     | 3 SEL Analytes: ALK AL               | KB ALKC                                                                   |                                                                                              |                                                                                                   |
|                   |                     | COND-W-2510B                         |                                                                           |                                                                                              | df - wc                                                                                           |
|                   |                     | PH-4500H+B                           |                                                                           |                                                                                              | df - wc                                                                                           |
|                   |                     | TDS-W-2540C                          |                                                                           |                                                                                              | df - wc                                                                                           |
|                   |                     | TSS-W-2540D                          |                                                                           |                                                                                              | df - wc                                                                                           |
|                   |                     | 200.7-W                              |                                                                           | $\checkmark$                                                                                 | df - total metals                                                                                 |
|                   |                     | 6 SEL Analytes: AL CA                | FE MG K NA                                                                |                                                                                              |                                                                                                   |
|                   |                     | 200.7-W-PR                           |                                                                           |                                                                                              | df - total metals                                                                                 |
|                   |                     | 200.8-W                              |                                                                           | $\checkmark$                                                                                 | df - total metals                                                                                 |
|                   |                     | 17 SEL Analytes: SB AS<br>AG TL V ZN | BA BE CD CR CO CU PI                                                      | 3 MN MO NI SE                                                                                |                                                                                                   |
|                   |                     | 200.8-W-PR                           |                                                                           |                                                                                              | df - total metals                                                                                 |
|                   |                     | HARD-2340B                           |                                                                           |                                                                                              | df - total metals                                                                                 |
|                   |                     | HG-DW-245.1                          |                                                                           |                                                                                              | df - total metals                                                                                 |
|                   |                     | HG-DW-PR                             |                                                                           |                                                                                              | df - total metals                                                                                 |
|                   |                     | 200.7-DIS                            |                                                                           | $\checkmark$                                                                                 | df - dis metals                                                                                   |
|                   |                     | 6 SEL Analytes: AL CA                | FE MG K NA                                                                |                                                                                              |                                                                                                   |
|                   |                     | 200.7-DIS-PR                         |                                                                           |                                                                                              | df - dis metals                                                                                   |
|                   |                     | 200.8-DIS                            |                                                                           | $\checkmark$                                                                                 | df - dis metals                                                                                   |
|                   |                     | 17 SEL Analytes: SB AS<br>AG TL V ZN | BA BE CD CR CO CU PI                                                      | 3 MN MO NI SE                                                                                |                                                                                                   |
|                   |                     | 200.8-DIS-PR                         |                                                                           |                                                                                              | df - dis metals                                                                                   |
|                   |                     | HARD-2340B                           |                                                                           | $\checkmark$                                                                                 | df - dis metals                                                                                   |
|                   |                     | 1 SEL Analytes: HARD                 |                                                                           |                                                                                              |                                                                                                   |
|                   |                     | HG-DW-DIS-245.1                      |                                                                           |                                                                                              | df - dis metals                                                                                   |
|                   |                     | HG-DW-DIS-PR                         |                                                                           |                                                                                              | df - dis metals                                                                                   |
|                   |                     | NO2/NO3-W-353.2                      |                                                                           |                                                                                              | df - po4 / no2/no3                                                                                |
|                   |                     | PO4-W-4500PF                         |                                                                           |                                                                                              | df - po4 / no2/no3                                                                                |
|                   |                     | PO4-W-PR                             |                                                                           |                                                                                              | df - po4 / no2/no3                                                                                |
| na 12/30/1899 14  | 04h 8/13/2015 1450h | 300.0-W                              | Aqueous                                                                   | $\checkmark$                                                                                 | df - wc                                                                                           |
|                   |                     | 2 SEL Analytes: CL SO4               |                                                                           |                                                                                              |                                                                                                   |
|                   |                     |                                      | 12/30/1899 1404h 8/13/2015 1450h <b>300.0-W</b><br>2 SEL Analytes: CL SO4 | 12/30/1899 1404h       8/13/2015 1450h <b>300.0-W</b> Aqueous         2 SEL Analytes: CL SO4 | 12/30/1899 1404h       8/13/2015 1450h       300.0-W       Aqueous         2 SEL Analytes: CL SO4 |

| WORK O       | RDER Summary                                    | Work Order: 1       | 508262               | Page 3 of 4                       |                   |                     |                 |      |  |
|--------------|-------------------------------------------------|---------------------|----------------------|-----------------------------------|-------------------|---------------------|-----------------|------|--|
| Client:      | Utah Division of Water Quality                  | Due Date: 8/14/2015 |                      |                                   |                   |                     |                 |      |  |
| Sample ID    | Client Sample ID                                | Collected Date      | <b>Received Date</b> | Test Code                         | Matrix            | Sel                 | el Storage      |      |  |
| 1508262-003A | San Juan River @ Town of Montezuma<br>(4953990) | 12/30/1899 1404h    | 8/13/2015 1450h      | ALK-W-2320B                       | Aqueous           | $\checkmark$        | df - wc         | 1    |  |
|              |                                                 |                     |                      | 3 SEL Analytes: ALF               | X ALKB ALKC       |                     |                 |      |  |
|              |                                                 |                     |                      | COND-W-2510B                      |                   |                     | df - wc         |      |  |
|              |                                                 |                     |                      | PH-4500H+B                        |                   |                     | df - wc         |      |  |
|              |                                                 |                     |                      | TDS-W-2540C                       |                   |                     | df - wc         |      |  |
|              |                                                 |                     |                      | TSS-W-2540D                       |                   |                     | df - wc         |      |  |
| 1508262-003B |                                                 |                     |                      | 200.7-W                           |                   | $\checkmark$        | df - total meta | ls   |  |
|              |                                                 |                     |                      | 6 SEL Analytes: AL                | CA FE MG K NA     |                     |                 |      |  |
|              |                                                 |                     |                      | 200.7-W-PR                        |                   |                     | df - total meta | ls   |  |
|              |                                                 |                     |                      | 200.8-W                           |                   | $\checkmark$        | df - total meta | ls   |  |
|              |                                                 |                     |                      | 17 SEL Analytes: SB<br>AG TL V ZN | AS BA BE CD CR CC | O CU PB MN MO NI SE |                 |      |  |
|              |                                                 |                     |                      | 200.8-W-PR                        |                   |                     | df - total meta | ls   |  |
|              |                                                 |                     |                      | HARD-2340B                        |                   |                     | df - total meta | ls   |  |
|              |                                                 |                     |                      | HG-DW-245.1                       |                   |                     | df - total meta | ls   |  |
|              |                                                 |                     |                      | HG-DW-PR                          |                   |                     | df - total meta | ls   |  |
| 1508262-003C |                                                 |                     |                      | 200.7-DIS                         |                   | $\checkmark$        | df - dis metals |      |  |
|              |                                                 |                     |                      | 6 SEL Analytes: AL                | CA FE MG K NA     |                     |                 |      |  |
|              |                                                 |                     |                      | 200.7-DIS-PR                      |                   |                     | df - dis metals |      |  |
|              |                                                 |                     |                      | 200.8-DIS                         |                   | $\checkmark$        | df - dis metals |      |  |
|              |                                                 |                     |                      | 17 SEL Analytes: SB<br>AG TL V ZN | AS BA BE CD CR CC | O CU PB MN MO NI SE |                 |      |  |
|              |                                                 |                     |                      | 200.8-DIS-PR                      |                   |                     | df - dis metals |      |  |
|              |                                                 |                     |                      | HARD-2340B                        |                   | $\checkmark$        | df - dis metals |      |  |
|              |                                                 |                     |                      | 1 SEL Analytes: HA                | RD                |                     |                 |      |  |
|              |                                                 |                     |                      | HG-DW-DIS-245.1                   |                   |                     | df - dis metals |      |  |
|              |                                                 |                     |                      | HG-DW-DIS-PR                      |                   |                     | df - dis metals |      |  |
| 1508262-003D |                                                 |                     |                      | NO2/NO3-W-353.2                   |                   |                     | df - po4 / no2/ | /no3 |  |
|              |                                                 |                     |                      | PO4-W-4500PF                      |                   |                     | df - po4 / no2/ | /no3 |  |
|              |                                                 |                     |                      | PO4-W-PR                          |                   |                     | df - po4 / no2/ | /no3 |  |
| 1508262-004A | San Juan R @ US160 Xing in CO (4954000)         | 8/12/2015 1209h     | 8/13/2015 1450h      | 300.0-W                           | Aqueous           |                     | df - wc         | 1    |  |
|              |                                                 |                     |                      | 2 SEL Analytes: CL                | -                 | Ŀ                   |                 |      |  |
|              |                                                 |                     |                      | ALK-W-2320B                       |                   |                     | df - wc         |      |  |
|              |                                                 |                     |                      | 3 SEL Analytes: ALK               | X ALKB ALKC       | •                   |                 |      |  |
|              |                                                 |                     |                      | COND-W-2510B                      |                   |                     | df - wc         |      |  |
|              |                                                 |                     |                      | PH-4500H+B                        |                   |                     | df - wc         |      |  |
|              |                                                 |                     |                      | TDS-W-2540C                       |                   |                     | df - wc         |      |  |
|              |                                                 |                     |                      | TSS-W-2540D                       |                   |                     | df - wc         |      |  |

 Printed: 8/26/2015
 FOR LABORATORY USE ONLY [fill out on page 1]:
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| WORK O       | RDER Summary                            | Work            | Corder: 15           | 508262                              | Page 4 of 4                 |              |                   |   |
|--------------|-----------------------------------------|-----------------|----------------------|-------------------------------------|-----------------------------|--------------|-------------------|---|
| Client:      | Utah Division of Water Quality          | Dı              | Due Date: 8/14/2015  |                                     |                             |              |                   |   |
| Sample ID    | Client Sample ID                        | Collected Date  | <b>Received Date</b> | Test Code                           | Matrix                      | Sel          | Storage           |   |
| 1508262-004B | San Juan R @ US160 Xing in CO (4954000) | 8/12/2015 1209h | 8/13/2015 1450h      | <b>200.7-W</b><br>6 SEL Analytes: A | Aqueous<br>AL CA FE MG K NA |              | df - total metals | 1 |
|              |                                         |                 |                      | 200.7-W-PR                          |                             |              | df - total metals |   |
|              |                                         |                 |                      | 200.8-W                             |                             | $\checkmark$ | df - total metals |   |
|              |                                         |                 |                      | 17 SEL Analytes:<br>AG TL V ZN      | SB AS BA BE CD CR CO CU PB  | MN MO NI SE  |                   |   |
|              |                                         |                 |                      | 200.8-W-PR                          |                             |              | df - total metals |   |
|              |                                         |                 |                      | HARD-2340B                          |                             |              | df - total metals |   |
|              |                                         |                 |                      | HG-DW-245.1                         |                             |              | df - total metals |   |
|              |                                         |                 |                      | HG-DW-PR                            |                             |              | df - total metals |   |
| 1508262-004C |                                         |                 |                      | 200.7-DIS                           |                             | $\checkmark$ | df - dis metals   |   |
|              |                                         |                 |                      | 6 SEL Analytes: A                   | AL CA FE MG K NA            |              |                   |   |
|              |                                         |                 |                      | 200.7-DIS-PR                        |                             |              | df - dis metals   |   |
|              |                                         |                 |                      | 200.8-DIS                           |                             | $\checkmark$ | df - dis metals   |   |
|              |                                         |                 |                      | 17 SEL Analytes:<br>AG TL V ZN      | SB AS BA BE CD CR CO CU PB  | MN MO NI SE  |                   |   |
|              |                                         |                 |                      | 200.8-DIS-PR                        |                             |              | df - dis metals   |   |
|              |                                         |                 |                      | HARD-2340B                          |                             | $\checkmark$ | df - dis metals   |   |
|              |                                         |                 |                      | 1 SEL Analytes: H                   | HARD                        |              |                   |   |
|              |                                         |                 |                      | HG-DW-DIS-245.1                     |                             |              | df - dis metals   |   |
|              |                                         |                 |                      | HG-DW-DIS-PR                        |                             |              | df - dis metals   |   |
| 1508262-004D |                                         |                 |                      | NO2/NO3-W-353.2                     |                             |              | df - po4 / no2/no | 3 |
|              |                                         |                 |                      | PO4-W-4500PF                        |                             |              | df - po4 / no2/no | 3 |
|              |                                         |                 |                      | PO4-W-PR                            |                             |              | df - po4 / no2/no | 3 |

| Addro                                       | ess:                     | Utah Division<br>PO Box 1448<br>Salt Lake City<br>Gold King Mi | 70<br>y, UT 8411 | -<br>14-4 | -<br>1870     | ) .                                                                      |                                                                                                                                                                       | ontact:<br>Phone:<br>Fax :<br>Email: | 801-5<br>801-5                                            | a Sulliv:<br>36-4367<br>36-4301<br>s@utah | -<br>-                                                                                                                                                                                                                                                                                                         | Page 1 of 1<br>QC Level: <b>2+</b><br><b>TAT - ASAP</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |
|---------------------------------------------|--------------------------|----------------------------------------------------------------|------------------|-----------|---------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| -                                           | °O#:                     |                                                                |                  |           |               |                                                                          |                                                                                                                                                                       |                                      |                                                           |                                           | h.gov (please copy on results)                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |
| San Juan River at Town of Montezuma U95 369 | 14:57<br>) 14:0<br>12:09 | 468/12/15                                                      | r e-mail fro     |           | Sample Matrix | Total Chemistry: pH, Alkalinity, Anions,       TDS, TSS, Conductivity My | Total TAL Metals + Mo + Hardness (200.7:           N         N; Ca, Fe, K, Mg, Na, 200.8: Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Mo, N, Ag, Se, Tl, V, Zn, 287.1: Hg | Dissolved TAL Met                    | ug, na, <b>200.0</b> . 00,<br>1, Pb, Mn, Mo, N, Ag<br>Ig) |                                           | <br>Comments<br>Dissolved Metals<br>samples have been<br>field filtered.<br>Samples collected<br>om river monitoring<br>following a mine<br>veate dump release.<br>Please flag any<br>concentrations<br>etected less than RL<br>and at or greater<br>han the MDL with a<br>J qualifier. Please<br>include EDD. | Datocrators/U.S. Only         Samples Were:         1         Shipped or Infid deliveration         2         Ambient Chiller         3         Temperature         4         Received Broken/Leaking         (improperty Stelled)         Y         F         Property Preserved         Y         N         6         Received Within         Bolding Times         Y         N         COC Tape Was:         1         Present on Outer Pactage         Y         N         2         Unbroken on Outer Pactage         Y         N         3         Present on Sample         Y         N         Y         N |  |  |  |
| · · · ·                                     | ,                        |                                                                |                  | ╀         | $\square$     |                                                                          |                                                                                                                                                                       |                                      | ·                                                         |                                           |                                                                                                                                                                                                                                                                                                                | Y S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
| Special Instructions:                       |                          | •                                                              |                  |           |               |                                                                          |                                                                                                                                                                       | -                                    |                                                           | -                                         |                                                                                                                                                                                                                                                                                                                | A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |

Date:

Time:

Received by: Signature

Print Name

Date:

lime:

Relinquished by: Signature

Print Name

Lab Set ID: 1506262

### **Preservation Check Sheet**

### Sample Set Extension and pH

| Analysis                          | Preservative           | -001 | -002 | -003 | -004     |  |   |  |  |  |  |  |  |
|-----------------------------------|------------------------|------|------|------|----------|--|---|--|--|--|--|--|--|
| Ammonia                           | $pH < 2 H_2SO_4$       |      |      |      |          |  |   |  |  |  |  |  |  |
| COD                               | $pH < 2 H_2SO_4$       |      |      |      |          |  |   |  |  |  |  |  |  |
| Cyanide                           | pH >12<br>NaOH         |      |      |      |          |  |   |  |  |  |  |  |  |
| Metals                            | pH <2 HNO <sub>3</sub> | Ves  | Ves  | Ves  | YES.     |  |   |  |  |  |  |  |  |
| NO <sub>2</sub> & NO <sub>3</sub> | $pH < 2 H_2SO_4$       | 1    | T T  | 1    | $l^{-1}$ |  |   |  |  |  |  |  |  |
| 0 & G                             | pH <2 HCL              |      |      |      |          |  |   |  |  |  |  |  |  |
| Phenols                           | $pH < 2 H_2SO_4$       |      |      |      |          |  |   |  |  |  |  |  |  |
| Sulfide                           | pH > 9NaOH,            |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   | Zn Acetate             |      |      |      |          |  | • |  |  |  |  |  |  |
| TKN                               | $pH < 2 H_2SO_4$       |      |      |      |          |  |   |  |  |  |  |  |  |
| T PO <sub>4</sub>                 | $pH \leq 2 H_2 SO_4$   |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |
|                                   |                        |      |      |      |          |  |   |  |  |  |  |  |  |

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.