



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 Spill - San Juan River

Dear Lenora Sullivan:

Lab Set ID: 1508574

American West Analytical Laboratories received sample(s) on 8/28/2015 for the analyses presented in the following report.

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

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

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

Thank You,

Approved by: _____
Laboratory Director or designee



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Laboratory Director

Jose Rocha
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INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-001
Client Sample ID: GK-SW-01
Collection Date: 8/24/2015 1037h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1359h	E200.7	0.0237	0.100	5.13	¹
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.0000366	0.00200	0.000451	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.0000920	0.00200	0.00303	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.000538	0.00200	0.176	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.0000288	0.00200	0.000304	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1306h	E200.7	0.401	10.0	68.7	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.00154	0.00200	0.00274	
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.0000434	0.00400	0.00183	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.000692	0.00200	0.00640	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1359h	E200.7	0.0767	0.100	3.86	¹
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.000264	0.00200	0.00408	
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1359h	E200.7	0.0294	1.00	14.3	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.00153	0.00200	0.130	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1010h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.000206	0.00200	0.00156	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.000754	0.00200	0.00323	
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1359h	E200.7	0.247	1.00	3.96	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.0000634	0.00200	0.000605	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.0000244	0.00200	0.0000365	JB
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1359h	E200.7	0.0330	1.00	38.5	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.0000242	0.00200	0.0000428	J
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.000438	0.00440	0.0111	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/3/2015 140h	E200.8	0.00476	0.00500	0.0190	

¹ - 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.

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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INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-002
Client Sample ID: GK-SW-02
Collection Date: 8/24/2015 1310h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1405h	E200.7	0.0237	0.100	3.41	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.0000366	0.00200	0.000153	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.0000920	0.00200	0.00235	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.000538	0.00200	0.132	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.0000288	0.00200	0.000242	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1316h	E200.7	0.401	10.0	62.9	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.00154	0.00200	0.00169	J
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.0000434	0.00400	0.00126	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.000692	0.00200	0.00499	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1405h	E200.7	0.0767	0.100	3.28	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.000264	0.00200	0.00302	
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1405h	E200.7	0.0294	1.00	14.0	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.00153	0.00200	0.0902	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1012h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.000206	0.00200	0.00157	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.000754	0.00200	0.00218	
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1405h	E200.7	0.247	1.00	3.49	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.0000634	0.00200	0.000611	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1405h	E200.7	0.0330	1.00	38.2	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.000438	0.00440	0.00737	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1344h	E200.8	0.00476	0.00500	0.0156	

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

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Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-003
Client Sample ID: GK-SW-03
Collection Date: 8/24/2015 1355h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1408h	E200.7	0.0237	0.100	2.21	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.0000366	0.00200	0.000170	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.0000920	0.00200	0.00225	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.000538	0.00200	0.115	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.0000288	0.00200	0.000183	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1319h	E200.7	0.401	10.0	58.9	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.0000434	0.00400	0.00101	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.000692	0.00200	0.00427	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1408h	E200.7	0.0767	0.100	1.89	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.000264	0.00200	0.00239	
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1408h	E200.7	0.0294	1.00	13.5	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.00153	0.00200	0.0807	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1018h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.000206	0.00200	0.00162	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.000754	0.00200	0.00172	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1408h	E200.7	0.247	1.00	3.26	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.0000634	0.00200	0.000603	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1408h	E200.7	0.0330	1.00	39.2	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.000438	0.00440	0.00576	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1347h	E200.8	0.00476	0.00500	0.0465	

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

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-004
Client Sample ID: GK-SW-04
Collection Date: 8/24/2015 1510h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1410h	E200.7	0.0237	0.100	1.76	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.0000366	0.00200	0.000165	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.0000920	0.00200	0.00197	J
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.000538	0.00200	0.0896	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.0000288	0.00200	0.000110	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1321h	E200.7	0.401	10.0	51.3	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.0000434	0.00400	0.000797	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.000692	0.00200	0.00350	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1410h	E200.7	0.0767	0.100	1.53	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.000264	0.00200	0.00148	J
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1410h	E200.7	0.0294	1.00	9.49	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.00153	0.00200	0.0588	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1019h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.000206	0.00200	0.00144	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.000754	0.00200	0.00149	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1410h	E200.7	0.247	1.00	2.91	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.0000634	0.00200	0.000569	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1410h	E200.7	0.0330	1.00	33.2	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.000438	0.00440	0.00460	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1350h	E200.8	0.00476	0.00500	0.00833	

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

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-005
Client Sample ID: GK-SW-05
Collection Date: 8/24/2015 1630h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.7	0.0237	0.100	2.17	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.0000366	0.00200	0.000217	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.0000920	0.00200	0.00202	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.000538	0.00200	0.0964	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.0000288	0.00200	0.000141	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1330h	E200.7	0.401	10.0	56.0	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.0000434	0.00400	0.000896	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.000692	0.00200	0.00377	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.7	0.0767	0.100	1.95	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.000264	0.00200	0.00184	J
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.7	0.0294	1.00	13.4	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.00153	0.00200	0.0671	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1021h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.000206	0.00200	0.00157	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.000754	0.00200	0.00183	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.7	0.247	1.00	3.19	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.0000634	0.00200	0.000555	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.7	0.0330	1.00	37.9	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.000438	0.00440	0.00565	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1353h	E200.8	0.00476	0.00500	0.0106	

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

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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

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-006
Client Sample ID: GK-SW-06
Collection Date: 8/25/2015 1115h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1414h	E200.7	0.0237	0.100	4.87	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.0000366	0.00200	0.000218	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.0000920	0.00200	0.00283	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.000538	0.00200	0.188	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.0000288	0.00200	0.000323	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1332h	E200.7	0.401	10.0	70.6	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.00154	0.00200	0.00285	
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.0000434	0.00400	0.00193	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.000692	0.00200	0.00640	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1414h	E200.7	0.0767	0.100	3.86	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.000264	0.00200	0.00414	
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1414h	E200.7	0.0294	1.00	14.9	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.00153	0.00200	0.138	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1023h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.000206	0.00200	0.00160	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.000754	0.00200	0.00366	
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1414h	E200.7	0.247	1.00	3.98	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.0000634	0.00200	0.000623	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.0000244	0.00200	0.0000259	JB
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1414h	E200.7	0.0330	1.00	40.1	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.000438	0.00440	0.0111	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1356h	E200.8	0.00476	0.00500	0.0186	

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Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-007
Client Sample ID: GK-SW-07
Collection Date: 8/25/2015 1340h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1416h	E200.7	0.0237	0.100	2.89	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.0000366	0.00200	0.000233	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.0000920	0.00200	0.00248	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.000538	0.00200	0.122	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.0000288	0.00200	0.000181	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1334h	E200.7	0.401	10.0	60.9	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.00154	0.00200	0.00177	J
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.0000434	0.00400	0.00111	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.000692	0.00200	0.00442	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1416h	E200.7	0.0767	0.100	2.39	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.000264	0.00200	0.00239	
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1416h	E200.7	0.0294	1.00	13.8	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.00153	0.00200	0.0744	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1025h	E245.1	0.0000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.000206	0.00200	0.00171	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.000754	0.00200	0.00193	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1416h	E200.7	0.247	1.00	3.47	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.0000634	0.00200	0.000644	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1416h	E200.7	0.0330	1.00	40.0	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.000438	0.00440	0.00726	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1400h	E200.8	0.00476	0.00500	0.0120	

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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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-008
Client Sample ID: GK-SW-08
Collection Date: 8/25/2015 1340h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1419h	E200.7	0.0237	0.100	2.57	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.0000366	0.00200	0.000258	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.0000920	0.00200	0.00230	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.000538	0.00200	0.118	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.0000288	0.00200	0.000165	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1337h	E200.7	0.401	10.0	60.0	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.00154	0.00200	0.00168	J
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.0000434	0.00400	0.000966	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.000692	0.00200	0.00416	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1419h	E200.7	0.0767	0.100	2.13	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.000264	0.00200	0.00225	
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1419h	E200.7	0.0294	1.00	13.8	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.00153	0.00200	0.0705	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1027h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.000206	0.00200	0.00176	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.000754	0.00200	0.00185	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1419h	E200.7	0.247	1.00	3.40	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.0000634	0.00200	0.000558	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1419h	E200.7	0.0330	1.00	40.4	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.000438	0.00440	0.00715	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1403h	E200.8	0.00476	0.00500	0.0116	

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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 Spill - San Juan River
Lab Sample ID: 1508574-009
Client Sample ID: GK-SW-09
Collection Date: 8/25/2015 1425h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1428h	E200.7	0.0237	0.100	2.07	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.0000366	0.00200	0.000233	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.0000920	0.00200	0.00217	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.000538	0.00200	0.108	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.0000288	0.00200	0.000152	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1339h	E200.7	0.401	10.0	57.4	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.00154	0.00200	0.00162	J
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.0000434	0.00400	0.000818	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.000692	0.00200	0.00382	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1428h	E200.7	0.0767	0.100	1.76	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.000264	0.00200	0.00182	J
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1428h	E200.7	0.0294	1.00	13.3	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.00153	0.00200	0.0625	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1028h	E245.1	0.0000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.000206	0.00200	0.00182	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.000754	0.00200	0.00159	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1428h	E200.7	0.247	1.00	3.21	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.0000634	0.00200	0.000648	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1428h	E200.7	0.0330	1.00	38.3	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.000438	0.00440	0.00576	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1406h	E200.8	0.00476	0.00500	0.0128	

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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 Spill - San Juan River
Lab Sample ID: 1508574-010
Client Sample ID: GK-SW-10
Collection Date: 8/25/2015 1530h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1430h	E200.7	0.0237	0.100	1.50	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.0000366	0.00200	0.000291	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.0000920	0.00200	0.00187	J
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.000538	0.00200	0.0859	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.0000288	0.00200	0.000108	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1341h	E200.7	0.401	10.0	50.0	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.0000434	0.00400	0.000616	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.000692	0.00200	0.00328	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1430h	E200.7	0.0767	0.100	1.31	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.000264	0.00200	0.00122	J
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1430h	E200.7	0.0294	1.00	9.32	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.00153	0.00200	0.0498	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1030h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.000206	0.00200	0.00147	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.000754	0.00200	0.00119	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1430h	E200.7	0.247	1.00	2.88	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.0000634	0.00200	0.000567	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1430h	E200.7	0.0330	1.00	32.9	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.000438	0.00440	0.00446	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1409h	E200.8	0.00476	0.00500	0.00740	

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

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

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



3440 South 700 West
Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-011
Client Sample ID: GK-SW-11
Collection Date: 8/25/2015 1620h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1432h	E200.7	0.0237	0.100	1.50	
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.0000366	0.00200	0.000320	JB
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.0000920	0.00200	0.00182	J
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.000538	0.00200	0.0918	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.0000288	0.00200	0.000102	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1343h	E200.7	0.401	10.0	58.2	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.0000434	0.00400	0.000674	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.000692	0.00200	0.00328	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1432h	E200.7	0.0767	0.100	1.32	
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.000264	0.00200	0.00134	J
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1432h	E200.7	0.0294	1.00	14.0	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.00153	0.00200	0.0533	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1032h	E245.1	0.0000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.000206	0.00200	0.00167	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.000754	0.00200	0.00143	J
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1432h	E200.7	0.247	1.00	3.07	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.0000634	0.00200	0.000555	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1432h	E200.7	0.0330	1.00	38.7	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.000438	0.00440	0.00508	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1412h	E200.8	0.00476	0.00500	0.00898	

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

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-012
Client Sample ID: GK-SW-12
Collection Date: 8/26/2015 1005h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	8/31/2015 1235h	9/10/2015 1435h	E200.7	0.0237	0.100	5.17	¹
Antimony	7440-36-0	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.0000366	0.00200	0.000254	JB@ ¹
Arsenic	7440-38-2	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.0000920	0.00200	0.00333	
Barium	7440-39-3	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.000538	0.00200	0.186	
Beryllium	7440-41-7	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.0000288	0.00200	0.000368	J
Cadmium	7440-43-9	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	8/31/2015 1235h	9/10/2015 1345h	E200.7	0.401	10.0	66.6	
Chromium	7440-47-3	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.00154	0.00200	0.00273	
Cobalt	7440-48-4	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.0000434	0.00400	0.00185	J
Copper	7440-50-8	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.000692	0.00200	0.00626	
Iron	7439-89-6	mg/L	8/31/2015 1235h	9/10/2015 1435h	E200.7	0.0767	0.100	3.77	¹
Lead	7439-92-1	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.000264	0.00200	0.00423	
Magnesium	7439-95-4	mg/L	8/31/2015 1235h	9/10/2015 1435h	E200.7	0.0294	1.00	14.7	
Manganese	7439-96-5	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.00153	0.00200	0.131	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1037h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.000206	0.00200	0.00165	J
Nickel	7440-02-0	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.000754	0.00200	0.00331	
Potassium	7440-09-7	mg/L	8/31/2015 1235h	9/10/2015 1435h	E200.7	0.247	1.00	4.01	
Selenium	7782-49-2	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.0000634	0.00200	0.000697	J
Silver	7440-22-4	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.0000244	0.00200	0.0000312	JB
Sodium	7440-23-5	mg/L	8/31/2015 1235h	9/10/2015 1435h	E200.7	0.0330	1.00	40.6	
Thallium	7440-28-0	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.000438	0.00440	0.0114	
Zinc	7440-66-6	mg/L	8/31/2015 1235h	9/10/2015 1425h	E200.8	0.00476	0.00500	0.0186	

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

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

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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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-013
Client Sample ID: GK-SW-13
Collection Date: 8/26/2015 1300h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1428h	9/4/2015 1742h	E200.7	0.0237	0.100	2.19	
Antimony	7440-36-0	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.0000366	0.00200	0.000609	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.0000920	0.00200	0.00195	J
Barium	7440-39-3	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.000538	0.00200	0.107	
Beryllium	7440-41-7	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.0000288	0.00200	0.000142	J
Cadmium	7440-43-9	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1428h	9/4/2015 1735h	E200.7	0.401	10.0	59.5	
Chromium	7440-47-3	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.0000434	0.00400	0.000774	J
Copper	7440-50-8	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.000692	0.00200	0.00371	
Iron	7439-89-6	mg/L	9/1/2015 1428h	9/4/2015 1742h	E200.7	0.0767	0.100	1.52	
Lead	7439-92-1	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.000264	0.00200	0.00175	J
Magnesium	7439-95-4	mg/L	9/1/2015 1428h	9/4/2015 1742h	E200.7	0.0294	1.00	13.8	
Manganese	7439-96-5	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.00153	0.00200	0.0580	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1039h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.000206	0.00200	0.00189	J
Nickel	7440-02-0	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.000754	0.00200	0.00167	J
Potassium	7440-09-7	mg/L	9/1/2015 1428h	9/4/2015 1742h	E200.7	0.247	1.00	3.35	
Selenium	7782-49-2	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.0000634	0.00200	0.000544	J
Silver	7440-22-4	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.0000244	0.00200	0.0000824	J
Sodium	7440-23-5	mg/L	9/1/2015 1428h	9/4/2015 1742h	E200.7	0.0330	1.00	39.6	
Thallium	7440-28-0	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.0000242	0.00200	0.0000501	J
Vanadium	7440-62-2	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.000438	0.00440	0.00548	
Zinc	7440-66-6	mg/L	9/1/2015 1428h	9/8/2015 2109h	E200.8	0.00476	0.00500	0.00906	

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

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3440 South 700 West

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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-014
Client Sample ID: GK-SW-14
Collection Date: 8/26/2015 1330h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1428h	9/4/2015 1621h	E200.7	0.0237	0.100	1.62	¹
Antimony	7440-36-0	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.0000366	0.00200	0.000294	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.0000920	0.00200	0.00178	J
Barium	7440-39-3	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.000538	0.00200	0.0951	
Beryllium	7440-41-7	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.0000288	0.00200	0.000101	J
Cadmium	7440-43-9	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1428h	9/4/2015 1609h	E200.7	0.401	10.0	58.2	
Chromium	7440-47-3	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.0000434	0.00400	0.000660	J
Copper	7440-50-8	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.000692	0.00200	0.00337	
Iron	7439-89-6	mg/L	9/1/2015 1428h	9/4/2015 1621h	E200.7	0.0767	0.100	1.24	¹
Lead	7439-92-1	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.000264	0.00200	0.00147	J
Magnesium	7439-95-4	mg/L	9/1/2015 1428h	9/4/2015 1621h	E200.7	0.0294	1.00	13.7	
Manganese	7439-96-5	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.00153	0.00200	0.0524	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1005h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.000206	0.00200	0.00172	J
Nickel	7440-02-0	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.000754	0.00200	0.00146	J
Potassium	7440-09-7	mg/L	9/1/2015 1428h	9/4/2015 1621h	E200.7	0.247	1.00	3.16	
Selenium	7782-49-2	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.0000634	0.00200	0.000542	J
Silver	7440-22-4	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1428h	9/4/2015 1621h	E200.7	0.0330	1.00	37.6	
Thallium	7440-28-0	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.000438	0.00440	0.00478	
Zinc	7440-66-6	mg/L	9/1/2015 1428h	9/8/2015 2112h	E200.8	0.00476	0.00500	0.00661	

¹ - 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.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-015
Client Sample ID: GK-SW-15
Collection Date: 8/26/2015 1450h
Received Date: 8/28/2015 1300h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1428h	9/4/2015 1744h	E200.7	0.0237	0.100	1.54	
Antimony	7440-36-0	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.0000366	0.00200	0.000642	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.0000920	0.00200	0.00159	J
Barium	7440-39-3	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.000538	0.00200	0.0820	
Beryllium	7440-41-7	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.0000288	0.00200	0.000102	J
Cadmium	7440-43-9	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1428h	9/4/2015 1738h	E200.7	0.401	10.0	50.1	
Chromium	7440-47-3	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.0000434	0.00400	0.000588	J
Copper	7440-50-8	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.000692	0.00200	0.00323	
Iron	7439-89-6	mg/L	9/1/2015 1428h	9/4/2015 1744h	E200.7	0.0767	0.100	1.14	
Lead	7439-92-1	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.000264	0.00200	0.00125	J
Magnesium	7439-95-4	mg/L	9/1/2015 1428h	9/4/2015 1744h	E200.7	0.0294	1.00	9.58	
Manganese	7439-96-5	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.00153	0.00200	0.0476	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1041h	E245.1	0.0000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.000206	0.00200	0.00179	J
Nickel	7440-02-0	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.000754	0.00200	0.00137	J
Potassium	7440-09-7	mg/L	9/1/2015 1428h	9/4/2015 1744h	E200.7	0.247	1.00	2.93	
Selenium	7782-49-2	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.0000634	0.00200	0.000566	J
Silver	7440-22-4	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.0000244	0.00200	0.0000859	J
Sodium	7440-23-5	mg/L	9/1/2015 1428h	9/4/2015 1744h	E200.7	0.0330	1.00	33.9	
Thallium	7440-28-0	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.0000242	0.00200	0.000103	J
Vanadium	7440-62-2	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.000438	0.00440	0.00375	J
Zinc	7440-66-6	mg/L	9/1/2015 1428h	9/8/2015 2127h	E200.8	0.00476	0.00500	0.00748	

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

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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

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-016
Client Sample ID: GK-SW-16
Collection Date: 8/26/2015 1530h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1428h	9/4/2015 1746h	E200.7	0.0237	0.100	1.25	
Antimony	7440-36-0	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.0000366	0.00200	0.000198	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.0000920	0.00200	0.00155	J
Barium	7440-39-3	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.000538	0.00200	0.0915	
Beryllium	7440-41-7	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.0000288	0.00200	0.000115	J
Cadmium	7440-43-9	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1428h	9/4/2015 1740h	E200.7	0.401	10.0	59.5	
Chromium	7440-47-3	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.0000434	0.00400	0.000654	J
Copper	7440-50-8	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.000692	0.00200	0.00324	
Iron	7439-89-6	mg/L	9/1/2015 1428h	9/4/2015 1746h	E200.7	0.0767	0.100	0.978	
Lead	7439-92-1	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.000264	0.00200	0.00150	J
Magnesium	7439-95-4	mg/L	9/1/2015 1428h	9/4/2015 1746h	E200.7	0.0294	1.00	14.7	
Manganese	7439-96-5	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.00153	0.00200	0.0612	
Mercury	7439-97-6	mg/L	9/2/2015 1630h	9/3/2015 1043h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.000206	0.00200	0.00124	J
Nickel	7440-02-0	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.000754	0.00200	0.00144	J
Potassium	7440-09-7	mg/L	9/1/2015 1428h	9/4/2015 1746h	E200.7	0.247	1.00	3.11	
Selenium	7782-49-2	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.0000634	0.00200	0.000527	J
Silver	7440-22-4	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1428h	9/4/2015 1746h	E200.7	0.0330	1.00	38.8	
Thallium	7440-28-0	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.0000242	0.00200	0.0000406	J
Vanadium	7440-62-2	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.000438	0.00440	0.00372	J
Zinc	7440-66-6	mg/L	9/1/2015 1428h	9/8/2015 2130h	E200.8	0.00476	0.00500	0.00875	

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

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3440 South 700 West

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-001
Client Sample ID: GK-SW-01
Collection Date: 8/24/2015 1037h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1149h	E200.7	0.0237	0.100	0.0338	J
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.0000366	0.00200	0.00101	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.0000920	0.00200	0.00182	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.000538	0.00200	0.124	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1047h	E200.7	0.401	10.0	62.4	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.0000434	0.00400	0.0000546	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.000692	0.00200	0.00209	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1149h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1149h	E200.7	0.0294	1.00	12.8	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.00153	0.00200	0.00196	J
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 831h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.000206	0.00200	0.00254	
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.000754	0.00200	0.000778	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1149h	E200.7	0.247	1.00	2.96	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.0000634	0.00200	0.000639	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.0000244	0.00200	0.0000842	J
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1149h	E200.7	0.0330	1.00	39.7	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.000438	0.00440	0.00471	
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/2/2015 1454h	E200.8	0.00476	0.00500	< 0.00500	U

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

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3440 South 700 West
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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-002
Client Sample ID: GK-SW-02
Collection Date: 8/24/2015 1310h
Received Date: 8/28/2015 1300h

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1156h	E200.7	0.0237	0.100	0.0399	J
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.0000366	0.00200	0.000387	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.0000920	0.00200	0.00153	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.000538	0.00200	0.0874	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1058h	E200.7	0.401	10.0	61.0	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.0000434	0.00400	0.0000534	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.000692	0.00200	0.00189	J
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1156h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1156h	E200.7	0.0294	1.00	13.6	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.00153	0.00200	0.00159	J
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 833h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.000206	0.00200	0.00192	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.000754	0.00200	< 0.00200	U
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1156h	E200.7	0.247	1.00	2.95	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.0000634	0.00200	0.000653	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.0000244	0.00200	0.0000336	J
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1156h	E200.7	0.0330	1.00	39.8	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.000438	0.00440	0.00329	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1232h	E200.8	0.00476	0.00500	0.00478	J

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3440 South 700 West
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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-003
Client Sample ID: GK-SW-03
Collection Date: 8/24/2015 1355h
Received Date: 8/28/2015 1300h

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1205h	E200.7	0.0237	0.100	0.410	
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.0000366	0.00200	0.000331	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.0000920	0.00200	0.00156	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.000538	0.00200	0.0796	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1108h	E200.7	0.401	10.0	57.5	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.0000434	0.00400	0.000136	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.000692	0.00200	0.00276	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1205h	E200.7	0.0767	0.100	0.265	
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1205h	E200.7	0.0294	1.00	12.8	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.00153	0.00200	0.00936	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 838h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.000206	0.00200	0.00178	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.000754	0.00200	0.000886	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1205h	E200.7	0.247	1.00	2.86	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.0000634	0.00200	0.000581	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1205h	E200.7	0.0330	1.00	38.6	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.000438	0.00440	0.00376	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1235h	E200.8	0.00476	0.00500	0.00639	

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

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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-004
Client Sample ID: GK-SW-04
Collection Date: 8/24/2015 1510h
Received Date: 8/28/2015 1300h

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1207h	E200.7	0.0237	0.100	< 0.100	U
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.0000366	0.00200	0.000273	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.0000920	0.00200	0.00136	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.000538	0.00200	0.0624	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1110h	E200.7	0.401	10.0	50.0	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.0000434	0.00400	0.0000480	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.000692	0.00200	0.00218	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1207h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1207h	E200.7	0.0294	1.00	8.95	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.00153	0.00200	0.00192	J
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 840h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.000206	0.00200	0.00156	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.000754	0.00200	0.00108	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1207h	E200.7	0.247	1.00	2.64	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.0000634	0.00200	0.000538	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1207h	E200.7	0.0330	1.00	32.6	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.000438	0.00440	0.00231	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1238h	E200.8	0.00476	0.00500	0.00549	

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

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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

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-005
Client Sample ID: GK-SW-05
Collection Date: 8/24/2015 1630h
Received Date: 8/28/2015 1300h

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1210h	E200.7	0.0237	0.100	0.126	
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.0000366	0.00200	0.000284	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.0000920	0.00200	0.00138	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.000538	0.00200	0.0678	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1112h	E200.7	0.401	10.0	55.9	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.0000434	0.00400	0.0000989	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.000692	0.00200	0.00231	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1210h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1210h	E200.7	0.0294	1.00	12.8	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.00153	0.00200	0.00486	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 842h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.000206	0.00200	0.00171	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.000754	0.00200	0.000762	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1210h	E200.7	0.247	1.00	2.84	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.0000634	0.00200	0.000601	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1210h	E200.7	0.0330	1.00	38.4	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.000438	0.00440	0.00293	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1242h	E200.8	0.00476	0.00500	< 0.00500	U

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

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-006
Client Sample ID: GK-SW-06
Collection Date: 8/25/2015 1115h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1212h	E200.7	0.0237	0.100	0.0448	J
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.0000366	0.00200	0.000728	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.0000920	0.00200	0.00164	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.000538	0.00200	0.118	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1114h	E200.7	0.401	10.0	63.0	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.0000434	0.00400	0.0000654	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.000692	0.00200	0.00207	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1212h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1212h	E200.7	0.0294	1.00	13.3	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.00153	0.00200	< 0.00200	U
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 844h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.000206	0.00200	0.00204	
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.000754	0.00200	0.000901	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1212h	E200.7	0.247	1.00	3.07	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.0000634	0.00200	0.000612	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1212h	E200.7	0.0330	1.00	40.9	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.000438	0.00440	0.00459	
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.8	0.00476	0.00500	< 0.00500	U

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-007
Client Sample ID: GK-SW-07
Collection Date: 8/25/2015 1340h
Received Date: 8/28/2015 1300h

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1214h	E200.7	0.0237	0.100	0.308	
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.0000366	0.00200	0.000286	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.0000920	0.00200	0.00148	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.000538	0.00200	0.0823	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1116h	E200.7	0.401	10.0	57.6	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.0000434	0.00400	0.000137	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.000692	0.00200	0.00255	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1214h	E200.7	0.0767	0.100	0.185	
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.000264	0.00200	0.000400	J
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1214h	E200.7	0.0294	1.00	12.7	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.00153	0.00200	0.00637	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 845h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.000206	0.00200	0.00173	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.000754	0.00200	< 0.00200	U
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1214h	E200.7	0.247	1.00	2.87	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.0000634	0.00200	0.000577	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1214h	E200.7	0.0330	1.00	38.4	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.000438	0.00440	0.00384	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1248h	E200.8	0.00476	0.00500	0.00619	

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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 Spill - San Juan River
Lab Sample ID: 1508574-008
Client Sample ID: GK-SW-08
Collection Date: 8/25/2015 1340h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1216h	E200.7	0.0237	0.100	0.327	
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.0000366	0.00200	0.000751	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.0000920	0.00200	0.00159	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.000538	0.00200	0.0868	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1118h	E200.7	0.401	10.0	59.3	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.0000434	0.00400	0.000160	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.000692	0.00200	0.00311	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1216h	E200.7	0.0767	0.100	0.220	
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1216h	E200.7	0.0294	1.00	13.2	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.00153	0.00200	0.00817	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 847h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.000206	0.00200	0.00183	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.000754	0.00200	0.00114	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1216h	E200.7	0.247	1.00	2.96	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.0000634	0.00200	0.000549	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1216h	E200.7	0.0330	1.00	40.1	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.000438	0.00440	0.00373	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1251h	E200.8	0.00476	0.00500	< 0.00500	U

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

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3440 South 700 West

Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-009
Client Sample ID: GK-SW-09
Collection Date: 8/25/2015 1425h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1218h	E200.7	0.0237	0.100	< 0.100	U
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.0000366	0.00200	0.000289	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.0000920	0.00200	0.00148	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.000538	0.00200	0.0775	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1120h	E200.7	0.401	10.0	55.9	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.0000434	0.00400	0.0000455	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.000692	0.00200	0.00227	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1218h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1218h	E200.7	0.0294	1.00	12.7	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.00153	0.00200	0.00163	J
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 849h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.000206	0.00200	0.00191	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.000754	0.00200	< 0.00200	U
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1218h	E200.7	0.247	1.00	2.75	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.0000634	0.00200	0.000563	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1218h	E200.7	0.0330	1.00	37.8	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.000438	0.00440	0.00304	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1303h	E200.8	0.00476	0.00500	< 0.00500	U

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

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3440 South 700 West

Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-010
Client Sample ID: GK-SW-10
Collection Date: 8/25/2015 1530h
Received Date: 8/28/2015 1300h

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1220h	E200.7	0.0237	0.100	< 0.100	U
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.0000366	0.00200	0.000481	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.0000920	0.00200	0.00142	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.000538	0.00200	0.0634	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1123h	E200.7	0.401	10.0	47.8	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.0000434	0.00400	< 0.00400	U
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.000692	0.00200	0.00211	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1220h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1220h	E200.7	0.0294	1.00	8.74	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.00153	0.00200	0.00188	J
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 851h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.000206	0.00200	0.00158	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.000754	0.00200	< 0.00200	U
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1220h	E200.7	0.247	1.00	2.52	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.0000634	0.00200	0.000579	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1220h	E200.7	0.0330	1.00	31.8	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.000438	0.00440	0.00252	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1307h	E200.8	0.00476	0.00500	< 0.00500	U

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

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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 Spill - San Juan River
Lab Sample ID: 1508574-011
Client Sample ID: GK-SW-11
Collection Date: 8/25/2015 1620h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1223h	E200.7	0.0237	0.100	< 0.100	U
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.0000366	0.00200	0.000278	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.0000920	0.00200	0.00126	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.000538	0.00200	0.0682	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1125h	E200.7	0.401	10.0	55.9	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.0000434	0.00400	0.0000799	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.000692	0.00200	0.00263	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1223h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1223h	E200.7	0.0294	1.00	13.2	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.00153	0.00200	0.00203	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 853h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.000206	0.00200	0.00180	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.000754	0.00200	0.000934	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1223h	E200.7	0.247	1.00	2.71	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.0000634	0.00200	0.000589	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1223h	E200.7	0.0330	1.00	37.6	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.000438	0.00440	0.00271	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1310h	E200.8	0.00476	0.00500	0.0100	

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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 Spill - San Juan River
Lab Sample ID: 1508574-012
Client Sample ID: GK-SW-12
Collection Date: 8/26/2015 1005h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1225h	E200.7	0.0237	0.100	< 0.100	U
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.0000366	0.00200	0.000335	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.0000920	0.00200	0.00163	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.000538	0.00200	0.117	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1127h	E200.7	0.401	10.0	59.3	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.0000434	0.00400	0.0000703	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.000692	0.00200	0.00239	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1225h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1225h	E200.7	0.0294	1.00	12.2	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.00153	0.00200	< 0.00200	U
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 858h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.000206	0.00200	0.00211	
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.000754	0.00200	< 0.00200	U
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1225h	E200.7	0.247	1.00	2.90	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.0000634	0.00200	0.000504	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1225h	E200.7	0.0330	1.00	38.7	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.000438	0.00440	0.00456	
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1313h	E200.8	0.00476	0.00500	< 0.00500	U

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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 Spill - San Juan River
Lab Sample ID: 1508574-013
Client Sample ID: GK-SW-13
Collection Date: 8/26/2015 1300h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1234h	E200.7	0.0237	0.100	< 0.100	U
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.0000366	0.00200	0.000292	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.0000920	0.00200	0.00150	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.000538	0.00200	0.0810	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1136h	E200.7	0.401	10.0	56.2	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.0000434	0.00400	0.0000589	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.000692	0.00200	0.00236	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1234h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1234h	E200.7	0.0294	1.00	12.6	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.00153	0.00200	< 0.00200	U
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 900h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.000206	0.00200	0.00186	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.000754	0.00200	< 0.00200	U
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1234h	E200.7	0.247	1.00	2.77	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.0000634	0.00200	0.000635	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1234h	E200.7	0.0330	1.00	37.6	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.000438	0.00440	0.00334	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1316h	E200.8	0.00476	0.00500	< 0.00500	U

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

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Kyle F. Gross
Laboratory Director

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QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-014
Client Sample ID: GK-SW-14
Collection Date: 8/26/2015 1330h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1237h	E200.7	0.0237	0.100	< 0.100	U
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.0000366	0.00200	0.000302	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.0000920	0.00200	0.00152	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.000538	0.00200	0.0754	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.0000288	0.00200	< 0.00200	U
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1138h	E200.7	0.401	10.0	56.0	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.0000434	0.00400	0.0000524	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.000692	0.00200	0.00250	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1237h	E200.7	0.0767	0.100	< 0.100	U
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.000264	0.00200	< 0.00200	U
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1237h	E200.7	0.0294	1.00	13.1	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.00153	0.00200	0.00236	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 826h	E245.1	0.00000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.000206	0.00200	0.00181	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.000754	0.00200	0.000888	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1237h	E200.7	0.247	1.00	2.78	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.0000634	0.00200	0.000606	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1237h	E200.7	0.0330	1.00	37.5	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.000438	0.00440	0.00317	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1319h	E200.8	0.00476	0.00500	0.00531	

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

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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

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-015
Client Sample ID: GK-SW-15
Collection Date: 8/26/2015 1450h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1243h	E200.7	0.0237	0.100	0.760	
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.0000366	0.00200	0.000563	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.0000920	0.00200	0.00147	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.000538	0.00200	0.0705	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.0000288	0.00200	0.0000621	J
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1145h	E200.7	0.401	10.0	47.5	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.0000434	0.00400	0.000308	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.000692	0.00200	0.00275	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1243h	E200.7	0.0767	0.100	0.554	
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.000264	0.00200	0.000459	J
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1243h	E200.7	0.0294	1.00	8.82	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.00153	0.00200	0.0218	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 902h	E245.1	0.0000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.000206	0.00200	0.00157	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.000754	0.00200	0.00105	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1243h	E200.7	0.247	1.00	2.61	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.0000634	0.00200	0.000622	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.0000244	0.00200	0.0000700	J
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1243h	E200.7	0.0330	1.00	32.2	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.0000242	0.00200	0.0000304	J
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.000438	0.00440	0.00329	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1328h	E200.8	0.00476	0.00500	0.00800	

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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 Spill - San Juan River
Lab Sample ID: 1508574-016
Client Sample ID: GK-SW-16
Collection Date: 8/26/2015 1530h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

DISSOLVED METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.7	0.0237	0.100	0.818	
Antimony	7440-36-0	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.0000366	0.00200	0.000429	JB
Arsenic	7440-38-2	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.0000920	0.00200	0.00146	J
Barium	7440-39-3	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.000538	0.00200	0.0771	
Beryllium	7440-41-7	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.0000288	0.00200	0.0000556	J
Cadmium	7440-43-9	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	9/1/2015 1458h	9/10/2015 1147h	E200.7	0.401	10.0	57.6	
Chromium	7440-47-3	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.00154	0.00200	< 0.00200	U
Cobalt	7440-48-4	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.0000434	0.00400	0.000295	J
Copper	7440-50-8	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.000692	0.00200	0.00293	
Iron	7439-89-6	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.7	0.0767	0.100	0.601	
Lead	7439-92-1	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.000264	0.00200	0.000490	J
Magnesium	7439-95-4	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.7	0.0294	1.00	14.3	
Manganese	7439-96-5	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.00153	0.00200	0.0265	
Mercury	7439-97-6	mg/L	9/3/2015 1500h	9/8/2015 904h	E245.1	0.0000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.000206	0.00200	0.00176	J
Nickel	7440-02-0	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.000754	0.00200	0.00113	J
Potassium	7440-09-7	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.7	0.247	1.00	2.96	
Selenium	7782-49-2	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.0000634	0.00200	0.000636	J
Silver	7440-22-4	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.0000244	0.00200	< 0.00200	U
Sodium	7440-23-5	mg/L	9/1/2015 1458h	9/10/2015 1245h	E200.7	0.0330	1.00	38.4	
Thallium	7440-28-0	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.0000242	0.00200	< 0.00200	U
Vanadium	7440-62-2	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.000438	0.00440	0.00376	J
Zinc	7440-66-6	mg/L	9/1/2015 1458h	9/10/2015 1331h	E200.8	0.00476	0.00500	0.00537	

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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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-001
Client Sample ID: GK-SW-01
Collection Date: 8/24/2015 1037h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	117	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	103	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	13.5	
Chloride	16887-00-6	mg/L		9/2/2015 1514h	E300.0	0.0751	1.00	15.8	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	760	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	230	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	209	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2222h	E353.2	0.00833	0.0100	< 0.0100	U ¹ @
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	9.24	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/14/2015 845h	9/14/2015 1510h	SM4500-P-F	0.0212	0.0500	0.296	
Sulfate	14808-79-8	mg/L		9/2/2015 1514h	E300.0	0.211	7.50	140	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	344	@
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	334	

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

¹ - 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.



3440 South 700 West

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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 Spill - San Juan River
Lab Sample ID: 1508574-002
Client Sample ID: GK-SW-02
Collection Date: 8/24/2015 1310h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	101	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	101	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	< 10.0	U
Chloride	16887-00-6	mg/L		9/2/2015 1605h	E300.0	0.0751	1.00	14.5	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	678	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	215	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	208	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2227h	E353.2	0.00833	0.0100	0.0125	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	9.24	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/14/2015 845h	9/14/2015 1512h	SM4500-P-F	0.0212	0.0500	0.168	
Sulfate	14808-79-8	mg/L		9/2/2015 1605h	E300.0	0.211	7.50	130	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	456	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	133	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-003
Client Sample ID: GK-SW-03
Collection Date: 8/24/2015 1355h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	115	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	115	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	< 10.0	U
Chloride	16887-00-6	mg/L		9/2/2015 1622h	E300.0	0.0751	1.00	16.0	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	718	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	203	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	196	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2228h	E353.2	0.00833	0.0100	< 0.0100	U
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	9.67	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/14/2015 845h	9/14/2015 1513h	SM4500-P-F	0.0212	0.0500	0.156	
Sulfate	14808-79-8	mg/L		9/2/2015 1622h	E300.0	0.211	7.50	128	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	344	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	175	@

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

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

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-004
Client Sample ID: GK-SW-04
Collection Date: 8/24/2015 1510h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	105	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	105	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	< 10.0	U
Chloride	16887-00-6	mg/L		9/2/2015 1638h	E300.0	0.0751	1.00	11.3	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	613	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	167	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	162	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2238h	E353.2	0.00833	0.0100	0.538	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	9.66	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/14/2015 845h	9/14/2015 1513h	SM4500-P-F	0.0212	0.0500	0.0998	
Sulfate	14808-79-8	mg/L		9/2/2015 1638h	E300.0	0.211	7.50	101	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	280	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	77.0	

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.



3440 South 700 West
Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-005
Client Sample ID: GK-SW-05
Collection Date: 8/24/2015 1630h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	117	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	113	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	3.40	J
Chloride	16887-00-6	mg/L		9/2/2015 1655h	E300.0	0.0751	1.00	13.8	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	704	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	195	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	192	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2239h	E353.2	0.00833	0.0100	0.353	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	9.20	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/14/2015 845h	9/14/2015 1514h	SM4500-P-F	0.0212	0.0500	0.109	
Sulfate	14808-79-8	mg/L		9/2/2015 1655h	E300.0	0.211	7.50	127	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	364	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	87.0	

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

H - Sample was received outside of the holding time.

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



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Salt Lake City, UT 84119

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Laboratory Director

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INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-006
Client Sample ID: GK-SW-06
Collection Date: 8/25/2015 1115h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	122	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	105	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	16.9	
Chloride	16887-00-6	mg/L		9/2/2015 1712h	E300.0	0.0751	1.00	18.0	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	776	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	237	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	212	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2240h	E353.2	0.00833	0.0100	< 0.0100	U
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.49	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/14/2015 845h	9/14/2015 1515h	SM4500-P-F	0.0212	0.0500	0.230	
Sulfate	14808-79-8	mg/L		9/2/2015 1712h	E300.0	0.211	7.50	139	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	392	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	292	

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

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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

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-007
Client Sample ID: GK-SW-07
Collection Date: 8/25/2015 1340h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	118	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	115	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	3.40	J
Chloride	16887-00-6	mg/L		9/2/2015 1803h	E300.0	0.0751	1.00	14.4	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	731	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	209	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	196	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2242h	E353.2	0.00833	0.0100	0.0645	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.51	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1418h	SM4500-P-F	0.0212	0.0500	0.0303	J
Sulfate	14808-79-8	mg/L		9/2/2015 1803h	E300.0	0.211	7.50	132	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	336	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	119	

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

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3440 South 700 West

Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-008
Client Sample ID: GK-SW-08
Collection Date: 8/25/2015 1340h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	123	
Bicarbonate (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	113	
Carbonate (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	10.1	
Chloride	16887-00-6	mg/L		9/2/2015 1820h	E300.0	0.0751	1.00	15.8	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	732	B
Hardness (as CaCO3)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	206	
Hardness, Dissolved (as CaCO3)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	203	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2243h	E353.2	0.00833	0.0100	0.0830	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.53	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1419h	SM4500-P-F	0.0212	0.0500	0.0348	J
Sulfate	14808-79-8	mg/L		9/2/2015 1820h	E300.0	0.211	7.50	135	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	376	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	128	

B - This analyte was also detected in the method blank below the 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 **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-009
Client Sample ID: GK-SW-09
Collection Date: 8/25/2015 1425h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	118	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	105	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	13.5	
Chloride	16887-00-6	mg/L		9/2/2015 1836h	E300.0	0.0751	1.00	13.5	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	703	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	198	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	192	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2244h	E353.2	0.00833	0.0100	< 0.0100	U
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.53	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1423h	SM4500-P-F	0.0212	0.0500	0.0311	J
Sulfate	14808-79-8	mg/L		9/2/2015 1836h	E300.0	0.211	7.50	130	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	380	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	98.0	

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

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-010
Client Sample ID: GK-SW-10
Collection Date: 8/25/2015 1530h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	105	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	101	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	3.40	J
Chloride	16887-00-6	mg/L		9/2/2015 1853h	E300.0	0.0751	1.00	11.1	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	604	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	163	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	155	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2246h	E353.2	0.00833	0.0100	0.181	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.54	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1424h	SM4500-P-F	0.0212	0.0500	< 0.0500	U
Sulfate	14808-79-8	mg/L		9/2/2015 1853h	E300.0	0.211	7.50	98.0	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	284	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	54.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-011
Client Sample ID: GK-SW-11
Collection Date: 8/25/2015 1620h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	120	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	103	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	16.9	
Chloride	16887-00-6	mg/L		9/2/2015 1910h	E300.0	0.0751	1.00	13.8	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	711	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	203	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	194	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2247h	E353.2	0.00833	0.0100	0.297	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.69	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1425h	SM4500-P-F	0.0212	0.0500	< 0.0500	U
Sulfate	14808-79-8	mg/L		9/2/2015 1910h	E300.0	0.211	7.50	130	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	332	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	63.0	

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

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3440 South 700 West

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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 Spill - San Juan River
Lab Sample ID: 1508574-012
Client Sample ID: GK-SW-12
Collection Date: 8/26/2015 1005h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	127	
Bicarbonate (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	103	
Carbonate (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	23.7	
Chloride	16887-00-6	mg/L		9/2/2015 2001h	E300.0	0.0751	1.00	15.3	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	759	B
Hardness (as CaCO3)		mg/L		9/11/2015 751h	SM2340B	10.0	10.0	227	
Hardness, Dissolved (as CaCO3)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	199	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/4/2015 2248h	E353.2	0.00833	0.0100	< 0.0100	U
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.66	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1426h	SM4500-P-F	0.0212	0.0500	0.0552	
Sulfate	14808-79-8	mg/L		9/2/2015 2001h	E300.0	0.211	7.50	136	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	400	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	236	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-013
Client Sample ID: GK-SW-13
Collection Date: 8/26/2015 1300h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	123	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	117	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	6.80	J
Chloride	16887-00-6	mg/L		9/2/2015 2018h	E300.0	0.0751	1.00	14.5	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	727	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	205	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	192	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/9/2015 1357h	E353.2	0.00833	0.0100	< 0.0100	U
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.61	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1426h	SM4500-P-F	0.0212	0.0500	0.0250	J
Sulfate	14808-79-8	mg/L		9/2/2015 2018h	E300.0	0.211	7.50	132	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	356	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	101	

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

H - Sample was received outside of the holding time.

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



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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-014
Client Sample ID: GK-SW-14
Collection Date: 8/26/2015 1330h
Received Date: 8/28/2015 1300h

Contact: Lenora Sullivan

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	117	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	103	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	13.5	
Chloride	16887-00-6	mg/L		9/2/2015 2034h	E300.0	0.0751	1.00	14.1	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	715	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	202	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	194	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/9/2015 1401h	E353.2	0.00833	0.0100	< 0.0100	U
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.66	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1427h	SM4500-P-F	0.0212	0.0500	< 0.0500	U
Sulfate	14808-79-8	mg/L		9/2/2015 2034h	E300.0	0.211	7.50	130	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	352	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	89.0	

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

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-015
Client Sample ID: GK-SW-15
Collection Date: 8/26/2015 1450h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	108	
Bicarbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	94.6	
Carbonate (as CaCO ₃)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	13.5	
Chloride	16887-00-6	mg/L		9/2/2015 2125h	E300.0	0.0751	1.00	13.3	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	604	B
Hardness (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	165	
Hardness, Dissolved (as CaCO ₃)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	155	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/9/2015 1402h	E353.2	0.00833	0.0100	0.593	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.70	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1429h	SM4500-P-F	0.0212	0.0500	< 0.0500	U
Sulfate	14808-79-8	mg/L		9/2/2015 2125h	E300.0	0.211	7.50	100	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	288	
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	56.0	

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.



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

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Lenora Sullivan
Project: Gold King Mine Spill - San Juan River
Lab Sample ID: 1508574-016
Client Sample ID: GK-SW-16
Collection Date: 8/26/2015 1530h
Received Date: 8/28/2015 1300h

Analytical Results

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Alkalinity (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	123	
Bicarbonate (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	113	
Carbonate (as CaCO3)		mg/L		9/1/2015 900h	SM2320B	1.86	10.0	10.1	
Chloride	16887-00-6	mg/L		9/2/2015 2142h	E300.0	0.0751	1.00	16.0	
Conductivity		µmhos/cm		9/1/2015 1042h	SM2510B	0.436	2.00	723	B
Hardness (as CaCO3)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	209	
Hardness, Dissolved (as CaCO3)		mg/L		9/11/2015 712h	SM2340B	10.0	10.0	203	
Nitrate/Nitrite (as N)	7727-37-9	mg/L		9/9/2015 1404h	E353.2	0.00833	0.0100	0.133	
pH @ 25° C		pH Units		8/28/2015 1708h	SM4500-H+B	1.00	1.00	8.66	H
Phosphate, Total (as P)	7723-14-0	mg/L	9/10/2015 1000h	9/11/2015 1430h	SM4500-P-F	0.0212	0.0500	0.0342	J
Sulfate	14808-79-8	mg/L		9/2/2015 2142h	E300.0	0.211	7.50	133	
Total Dissolved Solids		mg/L		8/28/2015 1530h	SM2540C	12.3	20.0	340	@
Total Suspended Solids	TSS	mg/L		8/28/2015 1640h	SM2540D	7.08	7.50	127	

@ - 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.

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



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Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-38941													
Date Analyzed:		09/10/2015 1045h											
Test Code:		200.7-DIS											
Date Prepared:		09/01/2015 1458h											
Aluminum	1.01	mg/L	E200.7	0.0237	0.100	1.000	0	101	85 - 115				
Calcium	9.79	mg/L	E200.7	0.0401	1.00	10.00	0	97.9	85 - 115				
Iron	1.01	mg/L	E200.7	0.0767	0.100	1.000	0	101	85 - 115				
Magnesium	10.5	mg/L	E200.7	0.0294	1.00	10.00	0	105	85 - 115				
Potassium	10.1	mg/L	E200.7	0.247	1.00	10.00	0	101	85 - 115				
Sodium	10.4	mg/L	E200.7	0.0330	1.00	10.00	0	104	85 - 115				
Lab Sample ID: LCS-38939													
Date Analyzed:		09/02/2015 1327h											
Test Code:		200.7-W											
Date Prepared:		09/01/2015 1428h											
Aluminum	0.955	mg/L	E200.7	0.0237	0.100	1.000	0	95.5	85 - 115				
Calcium	9.73	mg/L	E200.7	0.0401	1.00	10.00	0	97.3	85 - 115				
Iron	0.911	mg/L	E200.7	0.0767	0.100	1.000	0	91.1	85 - 115				
Magnesium	9.33	mg/L	E200.7	0.0294	1.00	10.00	0	93.3	85 - 115				
Potassium	9.77	mg/L	E200.7	0.247	1.00	10.00	0	97.7	85 - 115				
Sodium	10.2	mg/L	E200.7	0.0330	1.00	10.00	0	102	85 - 115				
Lab Sample ID: LCS-38912													
Date Analyzed:		09/10/2015 1304h											
Test Code:		200.7-W											
Date Prepared:		08/31/2015 1235h											
Aluminum	1.01	mg/L	E200.7	0.0237	0.100	1.000	0	101	85 - 115				
Calcium	9.76	mg/L	E200.7	0.0401	1.00	10.00	0	97.6	85 - 115				
Iron	0.955	mg/L	E200.7	0.0767	0.100	1.000	0	95.5	85 - 115				
Magnesium	10.4	mg/L	E200.7	0.0294	1.00	10.00	0	104	85 - 115				
Potassium	10.2	mg/L	E200.7	0.247	1.00	10.00	0	102	85 - 115				
Sodium	10.3	mg/L	E200.7	0.0330	1.00	10.00	0	103	85 - 115				
Lab Sample ID: LCS-38942													
Date Analyzed:		09/02/2015 1451h											
Test Code:		200.8-DIS											
Date Prepared:		09/01/2015 1458h											
Antimony	0.189	mg/L	E200.8	0.0000366	0.00200	0.2000	0	94.3	85 - 115				
Arsenic	0.211	mg/L	E200.8	0.0000920	0.00200	0.2000	0	106	85 - 115				



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-38942		Date Analyzed:	09/02/2015 1451h										
Test Code: 200.8-DIS		Date Prepared:	09/01/2015 1458h										
Barium	0.191	mg/L	E200.8	0.000538	0.00200	0.2000	0	95.4	85 - 115				
Beryllium	0.224	mg/L	E200.8	0.0000288	0.00200	0.2000	0	112	85 - 115				
Cadmium	0.194	mg/L	E200.8	0.000193	0.000500	0.2000	0	97.0	85 - 115				
Chromium	0.206	mg/L	E200.8	0.00154	0.00200	0.2000	0	103	85 - 115				
Cobalt	0.205	mg/L	E200.8	0.0000434	0.00400	0.2000	0	102	85 - 115				
Copper	0.205	mg/L	E200.8	0.000692	0.00200	0.2000	0	103	85 - 115				
Lead	0.191	mg/L	E200.8	0.000264	0.00200	0.2000	0	95.5	85 - 115				
Manganese	0.207	mg/L	E200.8	0.00153	0.00200	0.2000	0	103	85 - 115				
Molybdenum	0.193	mg/L	E200.8	0.000206	0.00200	0.2000	0	96.4	85 - 115				
Nickel	0.202	mg/L	E200.8	0.000754	0.00200	0.2000	0	101	85 - 115				
Selenium	0.207	mg/L	E200.8	0.0000634	0.00200	0.2000	0	103	85 - 115				
Silver	0.190	mg/L	E200.8	0.0000244	0.00200	0.2000	0	95.0	85 - 115				
Thallium	0.188	mg/L	E200.8	0.0000242	0.00200	0.2000	0	93.9	85 - 115				
Vanadium	0.209	mg/L	E200.8	0.000438	0.00440	0.2000	0	105	85 - 115				
Zinc	1.03	mg/L	E200.8	0.00476	0.00500	1.000	0	103	85 - 115				
Lab Sample ID: LCS-38940		Date Analyzed:	09/02/2015 1530h										
Test Code: 200.8-W		Date Prepared:	09/01/2015 1428h										
Antimony	0.175	mg/L	E200.8	0.0000366	0.00200	0.2000	0	87.5	85 - 115				
Arsenic	0.196	mg/L	E200.8	0.0000920	0.00200	0.2000	0	98.2	85 - 115				
Barium	0.180	mg/L	E200.8	0.000538	0.00200	0.2000	0	89.9	85 - 115				
Beryllium	0.211	mg/L	E200.8	0.0000288	0.00200	0.2000	0	106	85 - 115				
Cadmium	0.182	mg/L	E200.8	0.000193	0.000500	0.2000	0	91.0	85 - 115				
Chromium	0.194	mg/L	E200.8	0.00154	0.00200	0.2000	0	97.1	85 - 115				
Cobalt	0.193	mg/L	E200.8	0.0000434	0.00400	0.2000	0	96.3	85 - 115				
Copper	0.194	mg/L	E200.8	0.000692	0.00200	0.2000	0	97.2	85 - 115				
Lead	0.179	mg/L	E200.8	0.000264	0.00200	0.2000	0	89.7	85 - 115				
Manganese	0.194	mg/L	E200.8	0.00153	0.00200	0.2000	0	96.9	85 - 115				
Molybdenum	0.183	mg/L	E200.8	0.000206	0.00200	0.2000	0	91.3	85 - 115				



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-38940													
Date Analyzed:		09/02/2015 1530h											
Test Code:		200.8-W											
Date Prepared:		09/01/2015 1428h											
Nickel	0.192	mg/L	E200.8	0.000754	0.00200	0.2000	0	95.9	85 - 115				
Selenium	0.191	mg/L	E200.8	0.0000634	0.00200	0.2000	0	95.6	85 - 115				
Silver	0.180	mg/L	E200.8	0.0000244	0.00200	0.2000	0	90.0	85 - 115				
Thallium	0.176	mg/L	E200.8	0.0000242	0.00200	0.2000	0	88.2	85 - 115				
Vanadium	0.196	mg/L	E200.8	0.000438	0.00440	0.2000	0	98.2	85 - 115				
Zinc	0.977	mg/L	E200.8	0.00476	0.00500	1.000	0	97.7	85 - 115				
Lab Sample ID: LCS-38913													
Date Analyzed:		09/03/2015 127h											
Test Code:		200.8-W											
Date Prepared:		08/31/2015 1235h											
Arsenic	0.191	mg/L	E200.8	0.0000920	0.00200	0.2000	0	95.7	85 - 115				
Barium	0.183	mg/L	E200.8	0.000538	0.00200	0.2000	0	91.7	85 - 115				
Beryllium	0.192	mg/L	E200.8	0.0000288	0.00200	0.2000	0	96.2	85 - 115				
Cadmium	0.181	mg/L	E200.8	0.000193	0.000500	0.2000	0	90.7	85 - 115				
Chromium	0.192	mg/L	E200.8	0.00154	0.00200	0.2000	0	95.8	85 - 115				
Cobalt	0.191	mg/L	E200.8	0.0000434	0.00400	0.2000	0	95.4	85 - 115				
Copper	0.194	mg/L	E200.8	0.000692	0.00200	0.2000	0	96.9	85 - 115				
Lead	0.182	mg/L	E200.8	0.000264	0.00200	0.2000	0	90.9	85 - 115				
Manganese	0.191	mg/L	E200.8	0.00153	0.00200	0.2000	0	95.3	85 - 115				
Molybdenum	0.186	mg/L	E200.8	0.000206	0.00200	0.2000	0	93.0	85 - 115				
Nickel	0.189	mg/L	E200.8	0.000754	0.00200	0.2000	0	94.6	85 - 115				
Selenium	0.190	mg/L	E200.8	0.0000634	0.00200	0.2000	0	95.0	85 - 115				
Silver	0.181	mg/L	E200.8	0.0000244	0.00200	0.2000	0	90.5	85 - 115				
Thallium	0.177	mg/L	E200.8	0.0000242	0.00200	0.2000	0	88.7	85 - 115				
Vanadium	0.194	mg/L	E200.8	0.000438	0.00440	0.2000	0	96.8	85 - 115				
Zinc	0.954	mg/L	E200.8	0.00476	0.00500	1.000	0	95.4	85 - 115				
Lab Sample ID: LCS-Sb													
Date Analyzed:		09/03/2015 130h											
Test Code:		200.8-W											
Date Prepared:		08/31/2015 1235h											
Antimony	0.180	mg/L	E200.8	0.0000366	0.00200	0.2000	0	90.0	85 - 115				



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Kyle F. Gross
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Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: ME

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-38975	Date Analyzed:	09/03/2015	1000h										
Test Code: HG-DW-245.1	Date Prepared:	09/02/2015	1630h										
Mercury	0.00343	mg/L	E245.1	0.00000892	0.000150	0.003330	0	103	85 - 115				
Lab Sample ID: LCS-38994	Date Analyzed:	09/08/2015	820h										
Test Code: HG-DW-DIS-245.1	Date Prepared:	09/03/2015	1500h										
Mercury	0.00351	mg/L	E245.1	0.00000892	0.000150	0.003330	0	105	85 - 115				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-38941													
Date Analyzed:		09/10/2015 1043h											
Test Code:		200.7-DIS											
Date Prepared:		09/01/2015 1458h											
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
Lab Sample ID: MB-38939													
Date Analyzed:		09/02/2015 1325h											
Test Code:		200.7-W											
Date Prepared:		09/01/2015 1428h											
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
Lab Sample ID: MB-38912													
Date Analyzed:		09/10/2015 1301h											
Test Code:		200.7-W											
Date Prepared:		08/31/2015 1235h											
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
Lab Sample ID: MB-38942													
Date Analyzed:		09/02/2015 1447h											
Test Code:		200.8-DIS											
Date Prepared:		09/01/2015 1458h											
Antimony	0.000107	mg/L	E200.8	0.0000366	0.00200								JB
Arsenic	< 0.00200	mg/L	E200.8	0.0000920	0.00200								U



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: ME

QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-38942	Date Analyzed:	09/02/2015	1447h										
Test Code:	200.8-DIS	Date Prepared:	09/01/2015	1458h									
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-38940	Date Analyzed:	09/02/2015	1527h										
Test Code:	200.8-W	Date Prepared:	09/01/2015	1428h									
Antimony	0.000264	mg/L	E200.8	0.0000366	0.00200								JB
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



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-38940	Date Analyzed:	09/02/2015	1527h										
Test Code:	200.8-W	Date Prepared:	09/01/2015	1428h									
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-38913	Date Analyzed:	09/03/2015	123h										
Test Code:	200.8-W	Date Prepared:	08/31/2015	1235h									
Antimony	0.0000844	mg/L	E200.8	0.0000366	0.00200								JB
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	0.0000276	mg/L	E200.8	0.0000244	0.00200								JB
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



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

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1508574
Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan
Dept: ME
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-38975	Date Analyzed:	09/03/2015	958h										
Test Code: HG-DW-245.1	Date Prepared:	09/02/2015	1630h										
Mercury	< 0.000150	mg/L	E245.1	0.00000892	0.000150								U
Lab Sample ID: MB-38994	Date Analyzed:	09/08/2015	819h										
Test Code: HG-DW-DIS-245.1	Date Prepared:	09/03/2015	1500h										
Mercury	< 0.000150	mg/L	E245.1	0.00000892	0.000150								U

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

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

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



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: ME

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001CMS													
Date Analyzed:	09/10/2015 1054h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Calcium	73.7	mg/L	E200.7	0.401	10.0	10.00	62.4	113	70 - 130				
Lab Sample ID: 1508574-014CMS													
Date Analyzed:	09/10/2015 1141h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Calcium	64.2	mg/L	E200.7	0.401	10.0	10.00	56	81.9	70 - 130				
Lab Sample ID: 1508574-001CMS													
Date Analyzed:	09/10/2015 1151h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Aluminum	1.07	mg/L	E200.7	0.0237	0.100	1.000	0.0338	104	70 - 130				
Iron	0.966	mg/L	E200.7	0.0767	0.100	1.000	0	96.6	70 - 130				
Magnesium	23.1	mg/L	E200.7	0.0294	1.00	10.00	12.8	102	70 - 130				
Potassium	13.2	mg/L	E200.7	0.247	1.00	10.00	2.96	102	70 - 130				
Sodium	48.7	mg/L	E200.7	0.0330	1.00	10.00	39.7	90.3	70 - 130				
Lab Sample ID: 1508574-014CMS													
Date Analyzed:	09/10/2015 1239h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Aluminum	1.05	mg/L	E200.7	0.0237	0.100	1.000	0	105	70 - 130				
Iron	0.973	mg/L	E200.7	0.0767	0.100	1.000	0	97.3	70 - 130				
Magnesium	23.5	mg/L	E200.7	0.0294	1.00	10.00	13.1	104	70 - 130				
Potassium	13.2	mg/L	E200.7	0.247	1.00	10.00	2.78	104	70 - 130				
Sodium	47.5	mg/L	E200.7	0.0330	1.00	10.00	37.5	99.4	70 - 130				
Lab Sample ID: 1508574-014BMS													
Date Analyzed:	09/04/2015 1616h												
Test Code:	200.7-W												
Date Prepared:	09/01/2015 1428h												
Calcium	67.4	mg/L	E200.7	0.401	10.0	10.00	58.2	91.3	70 - 130				
Lab Sample ID: 1508574-014BMS													
Date Analyzed:	09/04/2015 1623h												
Test Code:	200.7-W												
Date Prepared:	09/01/2015 1428h												
Aluminum	4.28	mg/L	E200.7	0.0237	0.100	1.000	1.62	266	70 - 130				1
Iron	2.59	mg/L	E200.7	0.0767	0.100	1.000	1.24	135	70 - 130				1



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Jose Rocha
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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-014BMS													
Date Analyzed:	09/04/2015 1623h												
Test Code:	200.7-W												
Date Prepared:	09/01/2015 1428h												
Magnesium	23.7	mg/L	E200.7	0.0294	1.00	10.00	13.7	99.7	70 - 130				
Potassium	13.5	mg/L	E200.7	0.247	1.00	10.00	3.16	103	70 - 130				
Sodium	46.1	mg/L	E200.7	0.0330	1.00	10.00	37.6	84.5	70 - 130				
Lab Sample ID: 1508574-001BMS													
Date Analyzed:	09/10/2015 1312h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Calcium	78.3	mg/L	E200.7	0.401	10.0	10.00	68.7	96.1	70 - 130				
Lab Sample ID: 1508574-012BMS													
Date Analyzed:	09/10/2015 1347h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Calcium	74.3	mg/L	E200.7	0.401	10.0	10.00	66.6	76.9	70 - 130				
Lab Sample ID: 1508574-001BMS													
Date Analyzed:	09/10/2015 1401h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Aluminum	10.3	mg/L	E200.7	0.0237	0.100	1.000	5.13	514	70 - 130				1
Iron	6.25	mg/L	E200.7	0.0767	0.100	1.000	3.86	239	70 - 130				1
Magnesium	25.9	mg/L	E200.7	0.0294	1.00	10.00	14.3	117	70 - 130				
Potassium	14.9	mg/L	E200.7	0.247	1.00	10.00	3.96	109	70 - 130				
Sodium	50.0	mg/L	E200.7	0.0330	1.00	10.00	38.5	115	70 - 130				
Lab Sample ID: 1508574-012BMS													
Date Analyzed:	09/10/2015 1437h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Aluminum	10.7	mg/L	E200.7	0.0237	0.100	1.000	5.17	555	70 - 130				1
Iron	6.16	mg/L	E200.7	0.0767	0.100	1.000	3.77	239	70 - 130				1
Magnesium	25.5	mg/L	E200.7	0.0294	1.00	10.00	14.7	108	70 - 130				
Potassium	14.8	mg/L	E200.7	0.247	1.00	10.00	4.01	108	70 - 130				
Sodium	49.0	mg/L	E200.7	0.0330	1.00	10.00	40.6	84.0	70 - 130				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001CMS		Date Analyzed:	09/02/2015 1504h										
Test Code: 200.8-DIS		Date Prepared:	09/01/2015 1458h										
Antimony	0.197	mg/L	E200.8	0.0000366	0.00200	0.2000	0.00101	98.0	75 - 125				
Arsenic	0.214	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00182	106	75 - 125				
Barium	0.311	mg/L	E200.8	0.000538	0.00200	0.2000	0.124	93.4	75 - 125				
Beryllium	0.224	mg/L	E200.8	0.0000288	0.00200	0.2000	0	112	75 - 125				
Cadmium	0.195	mg/L	E200.8	0.000193	0.000500	0.2000	0	97.4	75 - 125				
Chromium	0.205	mg/L	E200.8	0.00154	0.00200	0.2000	0	102	75 - 125				
Cobalt	0.205	mg/L	E200.8	0.0000434	0.00400	0.2000	0.0000546	103	75 - 125				
Copper	0.207	mg/L	E200.8	0.000692	0.00200	0.2000	0.00209	102	75 - 125				
Lead	0.192	mg/L	E200.8	0.000264	0.00200	0.2000	0	95.9	75 - 125				
Manganese	0.207	mg/L	E200.8	0.00153	0.00200	0.2000	0.00196	103	75 - 125				
Molybdenum	0.217	mg/L	E200.8	0.000206	0.00200	0.2000	0.00254	107	75 - 125				
Nickel	0.203	mg/L	E200.8	0.000754	0.00200	0.2000	0.000778	101	75 - 125				
Selenium	0.207	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000639	103	75 - 125				
Silver	0.191	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000842	95.4	75 - 125				
Thallium	0.189	mg/L	E200.8	0.0000242	0.00200	0.2000	0	94.3	75 - 125				
Vanadium	0.215	mg/L	E200.8	0.000438	0.00440	0.2000	0.00471	105	75 - 125				
Zinc	1.04	mg/L	E200.8	0.00476	0.00500	1.000	0	104	75 - 125				
Lab Sample ID: 1508574-014CMS		Date Analyzed:	09/10/2015 1322h										
Test Code: 200.8-DIS		Date Prepared:	09/01/2015 1458h										
Antimony	0.199	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000302	99.4	75 - 125				
Arsenic	0.205	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00152	102	75 - 125				
Barium	0.267	mg/L	E200.8	0.000538	0.00200	0.2000	0.0754	95.8	75 - 125				
Beryllium	0.208	mg/L	E200.8	0.0000288	0.00200	0.2000	0	104	75 - 125				
Cadmium	0.196	mg/L	E200.8	0.000193	0.000500	0.2000	0	98.0	75 - 125				
Chromium	0.200	mg/L	E200.8	0.00154	0.00200	0.2000	0	100	75 - 125				
Cobalt	0.199	mg/L	E200.8	0.0000434	0.00400	0.2000	0.0000524	99.4	75 - 125				
Copper	0.203	mg/L	E200.8	0.000692	0.00200	0.2000	0.0025	100	75 - 125				
Lead	0.192	mg/L	E200.8	0.000264	0.00200	0.2000	0	96.0	75 - 125				



3440 South 700 West
Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-014CMS													
Date Analyzed:	09/10/2015 1322h												
Test Code:	200.8-DIS												
Date Prepared:	09/01/2015 1458h												
Manganese	0.203	mg/L	E200.8	0.00153	0.00200	0.2000	0.00236	100	75 - 125				
Molybdenum	0.205	mg/L	E200.8	0.000206	0.00200	0.2000	0.00181	102	75 - 125				
Nickel	0.199	mg/L	E200.8	0.000754	0.00200	0.2000	0.000888	98.9	75 - 125				
Selenium	0.197	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000606	98.0	75 - 125				
Silver	0.190	mg/L	E200.8	0.0000244	0.00200	0.2000	0	94.9	75 - 125				
Thallium	0.188	mg/L	E200.8	0.0000242	0.00200	0.2000	0	94.1	75 - 125				
Vanadium	0.206	mg/L	E200.8	0.000438	0.00440	0.2000	0.00317	101	75 - 125				
Zinc	1.01	mg/L	E200.8	0.00476	0.00500	1.000	0.00531	100	75 - 125				
Lab Sample ID: 1508574-001BMS													
Date Analyzed:	09/03/2015 149h												
Test Code:	200.8-W												
Date Prepared:	08/31/2015 1235h												
Arsenic	0.204	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00303	101	75 - 125				
Barium	0.366	mg/L	E200.8	0.000538	0.00200	0.2000	0.176	94.9	75 - 125				
Beryllium	0.198	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000304	98.6	75 - 125				
Cadmium	0.186	mg/L	E200.8	0.000193	0.000500	0.2000	0	92.8	75 - 125				
Chromium	0.203	mg/L	E200.8	0.00154	0.00200	0.2000	0.00274	100	75 - 125				
Cobalt	0.198	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00183	98.0	75 - 125				
Copper	0.204	mg/L	E200.8	0.000692	0.00200	0.2000	0.0064	98.7	75 - 125				
Lead	0.190	mg/L	E200.8	0.000264	0.00200	0.2000	0.00408	92.9	75 - 125				
Manganese	0.329	mg/L	E200.8	0.00153	0.00200	0.2000	0.13	99.6	75 - 125				
Molybdenum	0.187	mg/L	E200.8	0.000206	0.00200	0.2000	0.00156	92.9	75 - 125				
Nickel	0.199	mg/L	E200.8	0.000754	0.00200	0.2000	0.00323	97.8	75 - 125				
Selenium	0.193	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000605	96.3	75 - 125				
Silver	0.183	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000365	91.7	75 - 125				
Thallium	0.180	mg/L	E200.8	0.0000242	0.00200	0.2000	0.0000428	90.1	75 - 125				
Vanadium	0.213	mg/L	E200.8	0.000438	0.00440	0.2000	0.0111	101	75 - 125				
Zinc	0.999	mg/L	E200.8	0.00476	0.00500	1.000	0.019	98.0	75 - 125				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: ME

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001BMS-Sb													
Date Analyzed:	09/03/2015 206h												
Test Code:	200.8-W												
Date Prepared:	08/31/2015 1235h												
Antimony	0.0821	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000451	40.8	75 - 125				1
Lab Sample ID: 1508574-014BMS													
Date Analyzed:	09/08/2015 2121h												
Test Code:	200.8-W												
Date Prepared:	09/01/2015 1428h												
Antimony	0.177	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000294	88.2	75 - 125				
Arsenic	0.194	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00178	96.2	75 - 125				
Barium	0.278	mg/L	E200.8	0.000538	0.00200	0.2000	0.0951	91.2	75 - 125				
Beryllium	0.196	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000101	98.2	75 - 125				
Cadmium	0.183	mg/L	E200.8	0.000193	0.000500	0.2000	0	91.3	75 - 125				
Chromium	0.192	mg/L	E200.8	0.00154	0.00200	0.2000	0	96.0	75 - 125				
Cobalt	0.190	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00066	94.5	75 - 125				
Copper	0.195	mg/L	E200.8	0.000692	0.00200	0.2000	0.00337	95.7	75 - 125				
Lead	0.181	mg/L	E200.8	0.000264	0.00200	0.2000	0.00147	89.7	75 - 125				
Manganese	0.244	mg/L	E200.8	0.00153	0.00200	0.2000	0.0524	95.8	75 - 125				
Molybdenum	0.199	mg/L	E200.8	0.000206	0.00200	0.2000	0.00172	98.7	75 - 125				
Nickel	0.192	mg/L	E200.8	0.000754	0.00200	0.2000	0.00146	95.1	75 - 125				
Selenium	0.188	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000542	93.6	75 - 125				
Silver	0.180	mg/L	E200.8	0.0000244	0.00200	0.2000	0	90.1	75 - 125				
Thallium	0.175	mg/L	E200.8	0.0000242	0.00200	0.2000	0	87.5	75 - 125				
Vanadium	0.199	mg/L	E200.8	0.000438	0.00440	0.2000	0.00478	97.2	75 - 125				
Zinc	0.964	mg/L	E200.8	0.00476	0.00500	1.000	0.00661	95.8	75 - 125				
Lab Sample ID: 1508574-012BMS													
Date Analyzed:	09/10/2015 1428h												
Test Code:	200.8-W												
Date Prepared:	08/31/2015 1235h												
Arsenic	0.209	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00333	103	75 - 125				
Barium	0.372	mg/L	E200.8	0.000538	0.00200	0.2000	0.186	92.8	75 - 125				
Beryllium	0.215	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000368	107	75 - 125				
Cadmium	0.204	mg/L	E200.8	0.000193	0.000500	0.2000	0	102	75 - 125				
Chromium	0.207	mg/L	E200.8	0.00154	0.00200	0.2000	0.00273	102	75 - 125				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-012BMS		Date Analyzed:	09/10/2015 1428h										
Test Code: 200.8-W		Date Prepared:	08/31/2015 1235h										
Cobalt	0.201	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00185	99.5	75 - 125				
Copper	0.208	mg/L	E200.8	0.000692	0.00200	0.2000	0.00626	101	75 - 125				
Lead	0.198	mg/L	E200.8	0.000264	0.00200	0.2000	0.00423	96.9	75 - 125				
Manganese	0.336	mg/L	E200.8	0.00153	0.00200	0.2000	0.131	102	75 - 125				
Molybdenum	0.202	mg/L	E200.8	0.000206	0.00200	0.2000	0.00165	100	75 - 125				
Nickel	0.201	mg/L	E200.8	0.000754	0.00200	0.2000	0.00331	99.0	75 - 125				
Selenium	0.196	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000697	97.6	75 - 125				
Silver	0.196	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000312	97.8	75 - 125				
Thallium	0.190	mg/L	E200.8	0.0000242	0.00200	0.2000	0	95.1	75 - 125				
Vanadium	0.219	mg/L	E200.8	0.000438	0.00440	0.2000	0.0114	104	75 - 125				
Zinc	1.05	mg/L	E200.8	0.00476	0.00500	1.000	0.0186	103	75 - 125				
Lab Sample ID: 1508574-012BMS-Sb		Date Analyzed:	09/10/2015 1434h										
Test Code: 200.8-W		Date Prepared:	08/31/2015 1235h										
Antimony	0.103	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000254	51.5	75 - 125				1
Lab Sample ID: 1508574-014BMS		Date Analyzed:	09/03/2015 1007h										
Test Code: HG-DW-245.1		Date Prepared:	09/02/2015 1630h										
Mercury	0.00332	mg/L	E245.1	0.00000892	0.000150	0.003330	0	99.7	80 - 120				
Lab Sample ID: 1508574-014CMS		Date Analyzed:	09/08/2015 827h										
Test Code: HG-DW-DIS-245.1		Date Prepared:	09/03/2015 1500h										
Mercury	0.00339	mg/L	E245.1	0.00000892	0.000150	0.003330	0	102	85 - 115				

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



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

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: ME

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001CMSD													
Date Analyzed:	09/10/2015 1056h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Calcium	71.9	mg/L	E200.7	0.401	10.0	10.00	62.4	95.3	70 - 130	73.7	2.44	20	
Lab Sample ID: 1508574-014CMSD													
Date Analyzed:	09/10/2015 1143h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Calcium	66.0	mg/L	E200.7	0.401	10.0	10.00	56	99.7	70 - 130	64.2	2.74	20	
Lab Sample ID: 1508574-001CMSD													
Date Analyzed:	09/10/2015 1153h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Aluminum	1.07	mg/L	E200.7	0.0237	0.100	1.000	0.0338	104	70 - 130	1.07	0.151	20	
Iron	0.988	mg/L	E200.7	0.0767	0.100	1.000	0	98.8	70 - 130	0.966	2.26	20	
Magnesium	23.3	mg/L	E200.7	0.0294	1.00	10.00	12.8	104	70 - 130	23.1	0.886	20	
Potassium	13.2	mg/L	E200.7	0.247	1.00	10.00	2.96	102	70 - 130	13.2	0.119	20	
Sodium	49.2	mg/L	E200.7	0.0330	1.00	10.00	39.7	95.4	70 - 130	48.7	1.05	20	
Lab Sample ID: 1508574-014CMSD													
Date Analyzed:	09/10/2015 1241h												
Test Code:	200.7-DIS												
Date Prepared:	09/01/2015 1458h												
Aluminum	1.06	mg/L	E200.7	0.0237	0.100	1.000	0	106	70 - 130	1.05	0.899	20	
Iron	0.964	mg/L	E200.7	0.0767	0.100	1.000	0	96.4	70 - 130	0.973	0.987	20	
Magnesium	23.8	mg/L	E200.7	0.0294	1.00	10.00	13.1	107	70 - 130	23.5	1.21	20	
Potassium	13.2	mg/L	E200.7	0.247	1.00	10.00	2.78	104	70 - 130	13.2	0.279	20	
Sodium	47.8	mg/L	E200.7	0.0330	1.00	10.00	37.5	102	70 - 130	47.5	0.619	20	
Lab Sample ID: 1508574-014BMSD													
Date Analyzed:	09/04/2015 1618h												
Test Code:	200.7-W												
Date Prepared:	09/01/2015 1428h												
Calcium	68.0	mg/L	E200.7	0.401	10.0	10.00	58.2	97.7	70 - 130	67.4	0.933	20	
Lab Sample ID: 1508574-014BMSD													
Date Analyzed:	09/04/2015 1625h												
Test Code:	200.7-W												
Date Prepared:	09/01/2015 1428h												
Aluminum	4.48	mg/L	E200.7	0.0237	0.100	1.000	1.62	286	70 - 130	4.28	4.55	20	1
Iron	2.71	mg/L	E200.7	0.0767	0.100	1.000	1.24	147	70 - 130	2.59	4.53	20	1



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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: ME

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-014BMSD													
Date Analyzed:	09/04/2015 1625h												
Test Code:	200.7-W												
Date Prepared:	09/01/2015 1428h												
Magnesium	24.2	mg/L	E200.7	0.0294	1.00	10.00	13.7	105	70 - 130	23.7	2.04	20	
Potassium	13.4	mg/L	E200.7	0.247	1.00	10.00	3.16	103	70 - 130	13.5	0.212	20	
Sodium	47.4	mg/L	E200.7	0.0330	1.00	10.00	37.6	98.0	70 - 130	46.1	2.89	20	
Lab Sample ID: 1508574-001BMSD													
Date Analyzed:	09/10/2015 1314h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Calcium	79.8	mg/L	E200.7	0.401	10.0	10.00	68.7	111	70 - 130	78.3	1.83	20	
Lab Sample ID: 1508574-012BMSD													
Date Analyzed:	09/10/2015 1349h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Calcium	76.0	mg/L	E200.7	0.401	10.0	10.00	66.6	94.5	70 - 130	74.3	2.34	20	
Lab Sample ID: 1508574-001BMSD													
Date Analyzed:	09/10/2015 1403h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Aluminum	10.7	mg/L	E200.7	0.0237	0.100	1.000	5.13	555	70 - 130	10.3	3.88	20	1
Iron	6.24	mg/L	E200.7	0.0767	0.100	1.000	3.86	238	70 - 130	6.25	0.0958	20	1
Magnesium	25.5	mg/L	E200.7	0.0294	1.00	10.00	14.3	113	70 - 130	25.9	1.54	20	
Potassium	14.7	mg/L	E200.7	0.247	1.00	10.00	3.96	108	70 - 130	14.9	0.880	20	
Sodium	49.2	mg/L	E200.7	0.0330	1.00	10.00	38.5	107	70 - 130	50	1.54	20	
Lab Sample ID: 1508574-012BMSD													
Date Analyzed:	09/10/2015 1439h												
Test Code:	200.7-W												
Date Prepared:	08/31/2015 1235h												
Aluminum	10.6	mg/L	E200.7	0.0237	0.100	1.000	5.17	547	70 - 130	10.7	0.805	20	1
Iron	6.15	mg/L	E200.7	0.0767	0.100	1.000	3.77	238	70 - 130	6.16	0.235	20	1
Magnesium	25.9	mg/L	E200.7	0.0294	1.00	10.00	14.7	112	70 - 130	25.5	1.55	20	
Potassium	14.8	mg/L	E200.7	0.247	1.00	10.00	4.01	108	70 - 130	14.8	0.0415	20	
Sodium	50.3	mg/L	E200.7	0.0330	1.00	10.00	40.6	97.6	70 - 130	49	2.74	20	



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Kyle F. Gross
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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001CMSD		Date Analyzed:	09/02/2015 1507h										
Test Code: 200.8-DIS		Date Prepared:	09/01/2015 1458h										
Antimony	0.197	mg/L	E200.8	0.0000366	0.00200	0.2000	0.00101	97.9	75 - 125	0.197	0.0833	20	
Arsenic	0.209	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00182	104	75 - 125	0.214	2.03	20	
Barium	0.310	mg/L	E200.8	0.000538	0.00200	0.2000	0.124	92.9	75 - 125	0.311	0.334	20	
Beryllium	0.222	mg/L	E200.8	0.0000288	0.00200	0.2000	0	111	75 - 125	0.224	0.884	20	
Cadmium	0.193	mg/L	E200.8	0.000193	0.000500	0.2000	0	96.6	75 - 125	0.195	0.870	20	
Chromium	0.199	mg/L	E200.8	0.00154	0.00200	0.2000	0	99.6	75 - 125	0.205	2.80	20	
Cobalt	0.199	mg/L	E200.8	0.0000434	0.00400	0.2000	0.0000546	99.5	75 - 125	0.205	3.02	20	
Copper	0.200	mg/L	E200.8	0.000692	0.00200	0.2000	0.00209	99.0	75 - 125	0.207	3.31	20	
Lead	0.189	mg/L	E200.8	0.000264	0.00200	0.2000	0	94.7	75 - 125	0.192	1.17	20	
Manganese	0.202	mg/L	E200.8	0.00153	0.00200	0.2000	0.00196	100	75 - 125	0.207	2.55	20	
Molybdenum	0.214	mg/L	E200.8	0.000206	0.00200	0.2000	0.00254	106	75 - 125	0.217	1.28	20	
Nickel	0.197	mg/L	E200.8	0.000754	0.00200	0.2000	0.000778	97.9	75 - 125	0.203	3.28	20	
Selenium	0.202	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000639	101	75 - 125	0.207	2.28	20	
Silver	0.190	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000842	94.9	75 - 125	0.191	0.571	20	
Thallium	0.187	mg/L	E200.8	0.0000242	0.00200	0.2000	0	93.3	75 - 125	0.189	1.03	20	
Vanadium	0.207	mg/L	E200.8	0.000438	0.00440	0.2000	0.00471	101	75 - 125	0.215	4.02	20	
Zinc	1.01	mg/L	E200.8	0.00476	0.00500	1.000	0	101	75 - 125	1.04	2.35	20	
Lab Sample ID: 1508574-014CMSD		Date Analyzed:	09/10/2015 1325h										
Test Code: 200.8-DIS		Date Prepared:	09/01/2015 1458h										
Antimony	0.199	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000302	99.4	75 - 125	0.199	0.0625	20	
Arsenic	0.207	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00152	103	75 - 125	0.205	1.02	20	
Barium	0.267	mg/L	E200.8	0.000538	0.00200	0.2000	0.0754	95.8	75 - 125	0.267	0.0122	20	
Beryllium	0.207	mg/L	E200.8	0.0000288	0.00200	0.2000	0	104	75 - 125	0.208	0.148	20	
Cadmium	0.194	mg/L	E200.8	0.000193	0.000500	0.2000	0	96.9	75 - 125	0.196	1.12	20	
Chromium	0.198	mg/L	E200.8	0.00154	0.00200	0.2000	0	98.8	75 - 125	0.2	1.51	20	
Cobalt	0.196	mg/L	E200.8	0.0000434	0.00400	0.2000	0.0000524	98.0	75 - 125	0.199	1.37	20	
Copper	0.202	mg/L	E200.8	0.000692	0.00200	0.2000	0.0025	99.7	75 - 125	0.203	0.522	20	
Lead	0.193	mg/L	E200.8	0.000264	0.00200	0.2000	0	96.3	75 - 125	0.192	0.324	20	



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1508574
Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan
Dept: ME
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-014CMSD													
Date Analyzed:	09/10/2015 1325h												
Test Code:	200.8-DIS												
Date Prepared:	09/01/2015 1458h												
Manganese	0.202	mg/L	E200.8	0.00153	0.00200	0.2000	0.00236	99.6	75 - 125	0.203	0.709	20	
Molybdenum	0.205	mg/L	E200.8	0.000206	0.00200	0.2000	0.00181	101	75 - 125	0.205	0.126	20	
Nickel	0.197	mg/L	E200.8	0.000754	0.00200	0.2000	0.000888	98.3	75 - 125	0.199	0.637	20	
Selenium	0.198	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000606	98.8	75 - 125	0.197	0.750	20	
Silver	0.192	mg/L	E200.8	0.0000244	0.00200	0.2000	0	96.2	75 - 125	0.19	1.40	20	
Thallium	0.189	mg/L	E200.8	0.0000242	0.00200	0.2000	0	94.3	75 - 125	0.188	0.278	20	
Vanadium	0.204	mg/L	E200.8	0.000438	0.00440	0.2000	0.00317	100	75 - 125	0.206	1.19	20	
Zinc	1.01	mg/L	E200.8	0.00476	0.00500	1.000	0.00531	101	75 - 125	1.01	0.563	20	
Lab Sample ID: 1508574-001BMSD													
Date Analyzed:	09/03/2015 153h												
Test Code:	200.8-W												
Date Prepared:	08/31/2015 1235h												
Arsenic	0.200	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00303	98.3	75 - 125	0.204	2.25	20	
Barium	0.359	mg/L	E200.8	0.000538	0.00200	0.2000	0.176	91.5	75 - 125	0.366	1.84	20	
Beryllium	0.191	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000304	95.1	75 - 125	0.198	3.61	20	
Cadmium	0.179	mg/L	E200.8	0.000193	0.000500	0.2000	0	89.7	75 - 125	0.186	3.33	20	
Chromium	0.199	mg/L	E200.8	0.00154	0.00200	0.2000	0.00274	98.2	75 - 125	0.203	2.03	20	
Cobalt	0.194	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00183	95.9	75 - 125	0.198	2.09	20	
Copper	0.201	mg/L	E200.8	0.000692	0.00200	0.2000	0.0064	97.1	75 - 125	0.204	1.52	20	
Lead	0.183	mg/L	E200.8	0.000264	0.00200	0.2000	0.00408	89.6	75 - 125	0.19	3.52	20	
Manganese	0.329	mg/L	E200.8	0.00153	0.00200	0.2000	0.13	99.6	75 - 125	0.329	0.0302	20	
Molybdenum	0.181	mg/L	E200.8	0.000206	0.00200	0.2000	0.00156	89.5	75 - 125	0.187	3.67	20	
Nickel	0.194	mg/L	E200.8	0.000754	0.00200	0.2000	0.00323	95.5	75 - 125	0.199	2.29	20	
Selenium	0.188	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000605	93.6	75 - 125	0.193	2.88	20	
Silver	0.177	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000365	88.4	75 - 125	0.183	3.58	20	
Thallium	0.173	mg/L	E200.8	0.0000242	0.00200	0.2000	0.0000428	86.5	75 - 125	0.18	4.04	20	
Vanadium	0.210	mg/L	E200.8	0.000438	0.00440	0.2000	0.0111	99.4	75 - 125	0.213	1.32	20	
Zinc	0.987	mg/L	E200.8	0.00476	0.00500	1.000	0.019	96.8	75 - 125	0.999	1.25	20	



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Contact: Lenora Sullivan

Lab Set ID: 1508574

Dept: ME

Project: Gold King Mine Spill - San Juan River

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001BMSD-Sb													
Date Analyzed:		09/03/2015 209h											
Test Code:		200.8-W											
Date Prepared:		08/31/2015 1235h											
Antimony	0.0745	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000451	37.0	75 - 125	0.0821	9.74	20	1
Lab Sample ID: 1508574-014BMSD													
Date Analyzed:		09/08/2015 2124h											
Test Code:		200.8-W											
Date Prepared:		09/01/2015 1428h											
Antimony	0.176	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000294	87.9	75 - 125	0.177	0.435	20	
Arsenic	0.191	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00178	94.6	75 - 125	0.194	1.66	20	
Barium	0.278	mg/L	E200.8	0.000538	0.00200	0.2000	0.0951	91.2	75 - 125	0.278	0.0224	20	
Beryllium	0.194	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000101	96.8	75 - 125	0.196	1.39	20	
Cadmium	0.179	mg/L	E200.8	0.000193	0.000500	0.2000	0	89.7	75 - 125	0.183	1.73	20	
Chromium	0.190	mg/L	E200.8	0.00154	0.00200	0.2000	0	94.8	75 - 125	0.192	1.24	20	
Cobalt	0.187	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00066	93.1	75 - 125	0.19	1.47	20	
Copper	0.192	mg/L	E200.8	0.000692	0.00200	0.2000	0.00337	94.3	75 - 125	0.195	1.42	20	
Lead	0.179	mg/L	E200.8	0.000264	0.00200	0.2000	0.00147	88.6	75 - 125	0.181	1.15	20	
Manganese	0.245	mg/L	E200.8	0.00153	0.00200	0.2000	0.0524	96.5	75 - 125	0.244	0.534	20	
Molybdenum	0.197	mg/L	E200.8	0.000206	0.00200	0.2000	0.00172	97.6	75 - 125	0.199	1.12	20	
Nickel	0.186	mg/L	E200.8	0.000754	0.00200	0.2000	0.00146	92.2	75 - 125	0.192	3.05	20	
Selenium	0.184	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000542	91.8	75 - 125	0.188	1.97	20	
Silver	0.176	mg/L	E200.8	0.0000244	0.00200	0.2000	0	88.2	75 - 125	0.18	2.08	20	
Thallium	0.173	mg/L	E200.8	0.0000242	0.00200	0.2000	0	86.5	75 - 125	0.175	1.22	20	
Vanadium	0.196	mg/L	E200.8	0.000438	0.00440	0.2000	0.00478	95.7	75 - 125	0.199	1.58	20	
Zinc	0.951	mg/L	E200.8	0.00476	0.00500	1.000	0.00661	94.5	75 - 125	0.964	1.34	20	
Lab Sample ID: 1508574-012BMSD													
Date Analyzed:		09/10/2015 1431h											
Test Code:		200.8-W											
Date Prepared:		08/31/2015 1235h											
Arsenic	0.216	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00333	106	75 - 125	0.209	3.23	20	
Barium	0.381	mg/L	E200.8	0.000538	0.00200	0.2000	0.186	97.1	75 - 125	0.372	2.30	20	
Beryllium	0.219	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000368	109	75 - 125	0.215	1.70	20	
Cadmium	0.207	mg/L	E200.8	0.000193	0.000500	0.2000	0	103	75 - 125	0.204	1.45	20	
Chromium	0.204	mg/L	E200.8	0.00154	0.00200	0.2000	0.00273	101	75 - 125	0.207	1.75	20	



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

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: ME

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-012BMSD		Date Analyzed:	09/10/2015 1431h										
Test Code: 200.8-W		Date Prepared:	08/31/2015 1235h										
Cobalt	0.198	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00185	97.9	75 - 125	0.201	1.61	20	
Copper	0.205	mg/L	E200.8	0.000692	0.00200	0.2000	0.00626	99.2	75 - 125	0.208	1.71	20	
Lead	0.198	mg/L	E200.8	0.000264	0.00200	0.2000	0.00423	96.7	75 - 125	0.198	0.171	20	
Manganese	0.333	mg/L	E200.8	0.00153	0.00200	0.2000	0.131	101	75 - 125	0.336	1.12	20	
Molybdenum	0.196	mg/L	E200.8	0.000206	0.00200	0.2000	0.00165	97.3	75 - 125	0.202	2.79	20	
Nickel	0.200	mg/L	E200.8	0.000754	0.00200	0.2000	0.00331	98.2	75 - 125	0.201	0.806	20	
Selenium	0.207	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000697	103	75 - 125	0.196	5.30	20	
Silver	0.194	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000312	96.8	75 - 125	0.196	1.07	20	
Thallium	0.190	mg/L	E200.8	0.0000242	0.00200	0.2000	0	94.8	75 - 125	0.19	0.371	20	
Vanadium	0.215	mg/L	E200.8	0.000438	0.00440	0.2000	0.0114	102	75 - 125	0.219	1.89	20	
Zinc	1.07	mg/L	E200.8	0.00476	0.00500	1.000	0.0186	105	75 - 125	1.05	2.20	20	
Lab Sample ID: 1508574-012BMSD-Sb		Date Analyzed:	09/10/2015 1437h										
Test Code: 200.8-W		Date Prepared:	08/31/2015 1235h										
Antimony	0.181	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000254	90.2	75 - 125	0.103	54.5	20	@
Lab Sample ID: 1508574-014BMSD		Date Analyzed:	09/03/2015 1009h										
Test Code: HG-DW-245.1		Date Prepared:	09/02/2015 1630h										
Mercury	0.00337	mg/L	E245.1	0.00000892	0.000150	0.003330	0	101	80 - 120	0.00332	1.40	20	
Lab Sample ID: 1508574-014CMSD		Date Analyzed:	09/08/2015 829h										
Test Code: HG-DW-DIS-245.1		Date Prepared:	09/03/2015 1500h										
Mercury	0.00346	mg/L	E245.1	0.00000892	0.000150	0.003330	0	104	85 - 115	0.00339	1.95	20	

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

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



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

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: DUP

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001ADUP Test Code: COND-W-2510B	Date Analyzed:	09/01/2015	1042h										
Conductivity	762	µmhos/cm	SM2510B	0.436	2.00					760	0.263	5	
Lab Sample ID: 1508574-009ADUP Test Code: COND-W-2510B	Date Analyzed:	09/01/2015	1042h										
Conductivity	705	µmhos/cm	SM2510B	0.436	2.00					703	0.284	5	
Lab Sample ID: 1508574-008ADUP Test Code: PH-4500H+B	Date Analyzed:	08/28/2015	1708h										
pH @ 25° C	8.54	pH Units	SM4500-H+B	1.00	1.00					8.53	0.117	5	H
Lab Sample ID: 1508574-016ADUP Test Code: PH-4500H+B	Date Analyzed:	08/28/2015	1708h										
pH @ 25° C	8.66	pH Units	SM4500-H+B	1.00	1.00					8.66	0	5	H
Lab Sample ID: 1508574-001ADUP Test Code: TDS-W-2540C	Date Analyzed:	08/28/2015	1530h										
Total Dissolved Solids	324	mg/L	SM2540C	12.3	20.0					344	5.99	5	@
Lab Sample ID: 1508574-016ADUP Test Code: TDS-W-2540C	Date Analyzed:	08/28/2015	1530h										
Total Dissolved Solids	376	mg/L	SM2540C	12.3	20.0					340	10.1	5	@
Lab Sample ID: 1508574-003ADUP Test Code: TSS-W-2540D	Date Analyzed:	08/28/2015	1640h										
Total Suspended Solids	215	mg/L	SM2540D	7.08	7.50					175	20.5	5	@
Lab Sample ID: 1508574-010ADUP Test Code: TSS-W-2540D	Date Analyzed:	08/28/2015	1640h										
Total Suspended Solids	55.0	mg/L	SM2540D	7.08	7.50					54	1.83	5	



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 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

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1508574
Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan
Dept: WC
QC Type: DUP

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
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@ - High RPD due to suspected sample non-homogeneity or matrix interference.
 H - Sample was received outside of the holding time.



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

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-R82465													
Date Analyzed:		09/02/2015 1457h											
Test Code:		300.0-W											
Chloride	5.20	mg/L	E300.0	0.00751	0.100	5.000	0	104	90 - 110				
Sulfate	5.01	mg/L	E300.0	0.0211	0.750	5.000	0	100	90 - 110				
Lab Sample ID: LCS-R82352													
Date Analyzed:		09/01/2015 900h											
Test Code:		ALK-W-2320B											
Alkalinity (as CaCO3)	49,000	mg/L	SM2320B	1.86	10.0	50,000	0	98.0	90 - 110				
Lab Sample ID: LCS-R82354													
Date Analyzed:		09/01/2015 1042h											
Test Code:		COND-W-2510B											
Conductivity	996	µmhos/cm	SM2510B	0.436	2.00	1,000	0	99.6	98 - 102				
Lab Sample ID: LCS-R82633													
Date Analyzed:		09/04/2015 2148h											
Test Code:		NO2/NO3-W-353.2											
Nitrate/Nitrite (as N)	0.972	mg/L	E353.2	0.00833	0.0100	1.000	0	97.2	90 - 110				
Lab Sample ID: LCS-R82650													
Date Analyzed:		09/09/2015 1356h											
Test Code:		NO2/NO3-W-353.2											
Nitrate/Nitrite (as N)	1.02	mg/L	E353.2	0.00833	0.0100	1.000	0	102	90 - 110				
Lab Sample ID: LCS-R82278													
Date Analyzed:		08/28/2015 1708h											
Test Code:		PH-4500H+B											
pH @ 25° C	9.00	pH Units	SM4500-H+B	1.00	1.00	9.000	0	100	98 - 102				
Lab Sample ID: LCS-39063													
Date Analyzed:		09/11/2015 1413h											
Test Code:		PO4-W-4500PF											
Date Prepared:		09/10/2015 1000h											
Phosphate, Total (as P)	0.973	mg/L	SM4500-P-F	0.0212	0.0500	1.000	0	97.3	90 - 110				
Lab Sample ID: LCS-39124													
Date Analyzed:		09/14/2015 1509h											
Test Code:		PO4-W-4500PF											
Date Prepared:		09/14/2015 845h											
Phosphate, Total (as P)	0.973	mg/L	SM4500-P-F	0.0212	0.0500	1.000	0	97.3	90 - 110				



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Salt Lake City, UT 84119

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-R82319													
Date Analyzed: 08/28/2015 1530h													
Test Code: TDS-W-2540C													
Total Dissolved Solids	184	mg/L	SM2540C	6.13	10.0	205.0	0	89.8	80 - 120				
Lab Sample ID: LCS-R82300													
Date Analyzed: 08/28/2015 1640h													
Test Code: TSS-W-2540D													
Total Suspended Solids	101	mg/L	SM2540D	2.83	3.00	100.0	0	101	80 - 120				



3440 South 700 West
Salt Lake City, UT 84119

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-R82465													
Date Analyzed: 09/02/2015 1440h													
Test Code: 300.0-W													
Chloride	< 0.100	mg/L	E300.0	0.00751	0.100								U
Sulfate	< 0.750	mg/L	E300.0	0.0211	0.750								U
Lab Sample ID: MB-R82352													
Date Analyzed: 09/01/2015 900h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO ₃)	< 10.0	mg/L	SM2320B	1.86	10.0								U
Bicarbonate (as CaCO ₃)	< 10.0	mg/L	SM2320B	1.86	10.0								U
Carbonate (as CaCO ₃)	< 10.0	mg/L	SM2320B	1.86	10.0								U
Lab Sample ID: MB-R82354													
Date Analyzed: 09/01/2015 1042h													
Test Code: COND-W-2510B													
Conductivity	0.560	µmhos/cm	SM2510B	0.436	2.00								JB
Lab Sample ID: MB-R82633													
Date Analyzed: 09/04/2015 2145h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	< 0.0100	mg/L	E353.2	0.00833	0.0100								U
Lab Sample ID: MB-R82650													
Date Analyzed: 09/09/2015 1354h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	< 0.0100	mg/L	E353.2	0.00833	0.0100								U
Lab Sample ID: MB-39063													
Date Analyzed: 09/11/2015 1413h													
Test Code: PO4-W-4500PF													
Date Prepared: 09/10/2015 1000h													
Phosphate, Total (as P)	< 0.0500	mg/L	SM4500-P-F	0.0212	0.0500								U
Lab Sample ID: MB-39124													
Date Analyzed: 09/14/2015 1508h													
Test Code: PO4-W-4500PF													
Date Prepared: 09/14/2015 845h													
Phosphate, Total (as P)	< 0.0500	mg/L	SM4500-P-F	0.0212	0.0500								U



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

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-R82319	Date Analyzed:	08/28/2015	1530h										
Test Code:	TDS-W-2540C												
Total Dissolved Solids	< 10.0	mg/L	SM2540C	6.13	10.0								U
Lab Sample ID: MB-R82300	Date Analyzed:	08/28/2015	1640h										
Test Code:	TSS-W-2540D												
Total Suspended Solids	< 3.00	mg/L	SM2540D	2.83	3.00								U

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

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

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



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Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001AMS													
Date Analyzed: 09/02/2015 1531h													
Test Code: 300.0-W													
Chloride	66.7	mg/L	E300.0	0.0751	1.00	50.00	15.8	102	90 - 110				
Sulfate	188	mg/L	E300.0	0.211	7.50	50.00	140	95.5	90 - 110				
Lab Sample ID: 1508574-011AMS													
Date Analyzed: 09/02/2015 1927h													
Test Code: 300.0-W													
Chloride	63.8	mg/L	E300.0	0.0751	1.00	50.00	13.8	100	90 - 110				
Sulfate	177	mg/L	E300.0	0.211	7.50	50.00	130	94.3	90 - 110				
Lab Sample ID: 1508574-001AMS													
Date Analyzed: 09/01/2015 900h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO ₃)	213	mg/L	SM2320B	1.86	10.0	100.0	117	96.3	80 - 120				
Lab Sample ID: 1508574-012AMS													
Date Analyzed: 09/01/2015 900h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO ₃)	225	mg/L	SM2320B	1.86	10.0	100.0	127	98.0	80 - 120				
Lab Sample ID: 1508574-001DMS													
Date Analyzed: 09/04/2015 2250h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	0.583	mg/L	E353.2	0.00833	0.0100	1.000	0	58.3	90 - 110				1
Lab Sample ID: 1508574-013DMS													
Date Analyzed: 09/09/2015 1358h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	1.03	mg/L	E353.2	0.00833	0.0100	1.000	0	103	90 - 110				
Lab Sample ID: 1508586-001DMS													
Date Analyzed: 09/09/2015 1406h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	0.678	mg/L	E353.2	0.00833	0.0100	1.000	0	67.8	90 - 110				1



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Salt Lake City, UT 84119

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-014DMS	Date Analyzed:	09/11/2015	1428h										
Test Code: PO4-W-4500PF	Date Prepared:	09/10/2015	1000h										
Phosphate, Total (as P)	0.965	mg/L	SM4500-P-F	0.0212	0.0500	1.000	0	96.5	90 - 110				
Lab Sample ID: 1508574-001DMS	Date Analyzed:	09/14/2015	1510h										
Test Code: PO4-W-4500PF	Date Prepared:	09/14/2015	845h										
Phosphate, Total (as P)	1.24	mg/L	SM4500-P-F	0.0212	0.0500	1.000	0.296	94.4	90 - 110				

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



3440 South 700 West
Salt Lake City, UT 84119

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1508574

Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan

Dept: WC

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-001AMSD													
Date Analyzed: 09/02/2015 1548h													
Test Code: 300.0-W													
Chloride	64.9	mg/L	E300.0	0.0751	1.00	50.00	15.8	98.2	90 - 110	66.7	2.76	20	
Sulfate	187	mg/L	E300.0	0.211	7.50	50.00	140	93.3	90 - 110	188	0.577	20	
Lab Sample ID: 1508574-011AMSD													
Date Analyzed: 09/02/2015 1944h													
Test Code: 300.0-W													
Chloride	63.9	mg/L	E300.0	0.0751	1.00	50.00	13.8	100	90 - 110	63.8	0.156	20	
Sulfate	175	mg/L	E300.0	0.211	7.50	50.00	130	91.5	90 - 110	177	0.799	20	
Lab Sample ID: 1508574-001AMSD													
Date Analyzed: 09/01/2015 900h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO3)	216	mg/L	SM2320B	1.86	10.0	100.0	117	99.7	80 - 120	213	1.58	10	
Lab Sample ID: 1508574-012AMSD													
Date Analyzed: 09/01/2015 900h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO3)	223	mg/L	SM2320B	1.86	10.0	100.0	127	96.3	80 - 120	225	0.759	10	
Lab Sample ID: 1508574-001DMSD													
Date Analyzed: 09/04/2015 2225h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	0.757	mg/L	E353.2	0.00833	0.0100	1.000	0	75.7	90 - 110	0.583	26.1	10	1@
Lab Sample ID: 1508574-013DMSD													
Date Analyzed: 09/09/2015 1400h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	1.01	mg/L	E353.2	0.00833	0.0100	1.000	0	101	90 - 110	1.03	2.06	10	
Lab Sample ID: 1508586-001DMSD													
Date Analyzed: 09/09/2015 1412h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	0.672	mg/L	E353.2	0.00833	0.0100	1.000	0	67.2	90 - 110	0.678	0.918	10	1



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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

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1508574
Project: Gold King Mine Spill - San Juan River

Contact: Lenora Sullivan
Dept: WC
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508574-014DMSD	Date Analyzed:	09/11/2015	1428h										
Test Code: PO4-W-4500PF	Date Prepared:	09/10/2015	1000h										
Phosphate, Total (as P)	0.901	mg/L	SM4500-P-F	0.0212	0.0500	1.000	0	90.1	90 - 110	0.965	6.78	10	
Lab Sample ID: 1508574-001DMSD	Date Analyzed:	09/14/2015	1511h										
Test Code: PO4-W-4500PF	Date Prepared:	09/14/2015	845h										
Phosphate, Total (as P)	1.28	mg/L	SM4500-P-F	0.0212	0.0500	1.000	0.296	98.6	90 - 110	1.24	3.25	10	

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

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

WORK ORDER Summary

Work Order: **1508574** Page 1 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Client ID: UTD200

Contact: Lenora Sullivan

Project: Gold King Mine Spill - San Juan River

QC Level: II+ MDL

WO Type: Standard

Comments: QC 2+. Flag any concentrations detected less than RL and at or greater than the MDL with a J flag. Include EDD. Samples for Dissolved Metals were field filtered. Cc: jamesharris@utah.gov and Trisha Johnson; Brad Martin; and Amanda Rohrbaugh with Techlaw. Footnote report, pH received outside of hold. / use #14 for MS/MSD;

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage	
1508574-001A	GK-SW-01	8/24/2015 1037h	8/28/2015 1300h	300.0-W	Aqueous	df - wc	1
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B		df - wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B		df - wc	
				PH-4500H+B		df - wc	
				TDS-W-2540C		df - wc	
1508574-001B				TSS-W-2540D		df - wc	
				200.7-W		df - metals	
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-W-PR		df - metals	
				200.8-W		df - metals	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-W-PR		df - metals	
				HARD-2340B		df - metals	
				HG-DW-245.1		df - metals	
				HG-DW-PR		df - metals	
1508574-001C				200.7-DIS		df - dis met	
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-DIS-PR		df - dis met	
				200.8-DIS		df - dis met	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-DIS-PR		df - dis met	
				HARD-2340B		df - dis met	
<i>1 SEL Analytes: HARD</i>							
1508574-001D				HG-DW-DIS-245.1		df - dis met	
				HG-DW-DIS-PR		df - dis met	
				NO2/NO3-W-353.2		df - no2/no3	
				PO4-W-4500PF		df - no2/no3	

WORK ORDER Summary

Work Order: **1508574** Page 2 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage	
1508574-002A	GK-SW-02	8/24/2015 1310h	8/28/2015 1300h	300.0-W	Aqueous	df - wc	1
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B		df - wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B		df - wc	
				PH-4500H+B		df - wc	
				TDS-W-2540C		df - wc	
				TSS-W-2540D		df - wc	
				200.7-W		df - metals	
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
1508574-002B				200.7-W-PR		df - metals	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-W	df - metals		
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-W-PR	df - metals		
				HARD-2340B	df - metals		
				HG-DW-245.1	df - metals		
				HG-DW-PR	df - metals		
				200.7-DIS	df - dis met		
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
1508574-002C				200.7-DIS-PR		df - dis met	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-DIS	df - dis met		
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-DIS-PR	df - dis met		
				HARD-2340B	df - dis met		
				<i>1 SEL Analytes: HARD</i>			
				HG-DW-DIS-245.1	df - dis met		
				HG-DW-DIS-PR	df - dis met		
				NO2/NO3-W-353.2	df - no2/no3		
1508574-002D				PO4-W-4500PF		df - no2/no3	
				PO4-W-PR	df - no2/no3		
				300.0-W	Aqueous	df - wc	1
				<i>2 SEL Analytes: CL SO4</i>			
1508574-003A	GK-SW-03	8/24/2015 1355h	8/28/2015 1300h	ALK-W-2320B		df - wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B	df - wc		
				PH-4500H+B	df - wc		
				TDS-W-2540C	df - wc		

WORK ORDER Summary

Work Order: **1508574** Page 3 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage	
1508574-003A	GK-SW-03	8/24/2015 1355h	8/28/2015 1300h	TSS-W-2540D	Aqueous	df - wc 1	
1508574-003B				200.7-W		df - metals	
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-W-PR		df - metals	
				200.8-W		df - metals	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-W-PR		df - metals	
				HARD-2340B		df - metals	
				HG-DW-245.1		df - metals	
				HG-DW-PR		df - metals	
1508574-003C				200.7-DIS		df - dis met	
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-DIS-PR		df - dis met	
				200.8-DIS		df - dis met	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-DIS-PR		df - dis met	
				HARD-2340B		df - dis met	
				<i>1 SEL Analytes: HARD</i>			
				HG-DW-DIS-245.1		df - dis met	
				HG-DW-DIS-PR		df - dis met	
1508574-003D				NO2/NO3-W-353.2		df - no2/no3	
				PO4-W-4500PF		df - no2/no3	
				PO4-W-PR		df - no2/no3	
1508574-004A	GK-SW-04	8/24/2015 1510h	8/28/2015 1300h	300.0-W	Aqueous	df - wc 1	
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B		df - wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B		df - wc	
				PH-4500H+B		df - wc	
				TDS-W-2540C		df - wc	
1508574-004B				TSS-W-2540D		df - wc	
				200.7-W		df - metals	
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-W-PR		df - metals	
				200.8-W		df - metals	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			

WORK ORDER Summary

Work Order: **1508574** Page 4 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1508574-004B	GK-SW-04	8/24/2015 1510h	8/28/2015 1300h	200.8-W-PR	Aqueous		df - metals 1	
				HARD-2340B		df - metals		
				HG-DW-245.1		df - metals		
				HG-DW-PR		df - metals		
				200.7-DIS		df - dis met		
1508574-004C				6 SEL Analytes: AL CA FE MG K NA				
				200.7-DIS-PR	df - dis met			
				200.8-DIS	df - dis met			
				17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN				
				200.8-DIS-PR	df - dis met			
				HARD-2340B	df - dis met			
				1 SEL Analytes: HARD				
				HG-DW-DIS-245.1	df - dis met			
				HG-DW-DIS-PR	df - dis met			
				NO2/NO3-W-353.2	df - no2/no3			
1508574-004D				PO4-W-4500PF		df - no2/no3		
				PO4-W-PR	df - no2/no3			
1508574-005A	GK-SW-05	8/24/2015 1630h	8/28/2015 1300h	300.0-W	Aqueous		df - wc 1	
				2 SEL Analytes: CL SO4				
				ALK-W-2320B		df - wc		
				3 SEL Analytes: ALK ALKB ALKC				
				COND-W-2510B		df - wc		
				PH-4500H+B		df - wc		
				TDS-W-2540C		df - wc		
1508574-005B				TSS-W-2540D		df - wc		
				200.7-W	df - metals			
				6 SEL Analytes: AL CA FE MG K NA				
				200.7-W-PR	df - metals			
				200.8-W	df - metals			
				17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN				
				200.8-W-PR	df - metals			
				HARD-2340B	df - metals			
				HG-DW-245.1	df - metals			
				HG-DW-PR	df - metals			
1508574-005C				200.7-DIS		df - dis met		
				6 SEL Analytes: AL CA FE MG K NA				
				200.7-DIS-PR	df - dis met			

WORK ORDER Summary

Work Order: **1508574** Page 5 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1508574-005C	GK-SW-05	8/24/2015 1630h	8/28/2015 1300h	200.8-DIS	Aqueous		df - dis met
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>			
				<i>AG TL V ZN</i>			
				200.8-DIS-PR			df - dis met
				HARD-2340B			df - dis met
				<i>1 SEL Analytes: HARD</i>			
				HG-DW-DIS-245.1			df - dis met
1508574-005D				HG-DW-DIS-PR			df - dis met
				NO2/NO3-W-353.2			df - no2/no3
				PO4-W-4500PF			df - no2/no3
				PO4-W-PR			df - no2/no3
1508574-006A	GK-SW-06	8/25/2015 1115h	8/28/2015 1300h	300.0-W	Aqueous		df - wc
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B			df - wc
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B			df - wc
				PH-4500H+B			df - wc
				TDS-W-2540C			df - wc
				TSS-W-2540D			df - wc
				200.7-W			df - metals
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
1508574-006B				200.7-W-PR			df - metals
				200.8-W			df - metals
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>			
				<i>AG TL V ZN</i>			
				200.8-W-PR			df - metals
				HARD-2340B			df - metals
				HG-DW-245.1			df - metals
				HG-DW-PR			df - metals
				200.7-DIS			df - dis met
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
1508574-006C				200.7-DIS-PR			df - dis met
				200.8-DIS			df - dis met
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>			
				<i>AG TL V ZN</i>			
				200.8-DIS-PR			df - dis met
				HARD-2340B			df - dis met
				<i>1 SEL Analytes: HARD</i>			
HG-DW-DIS-245.1			df - dis met				

WORK ORDER Summary

Work Order: **1508574** Page 6 of 14

Due Date: 9/14/2015

Client: Utah Division of Water Quality

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage	
1508574-006C	GK-SW-06	8/25/2015 1115h	8/28/2015 1300h	HG-DW-DIS-PR	Aqueous	df - dis met 1	
1508574-006D				NO2/NO3-W-353.2		df - no2/no3	
				PO4-W-4500PF		df - no2/no3	
				PO4-W-PR		df - no2/no3	
1508574-007A	GK-SW-07	8/25/2015 1340h	8/28/2015 1300h	300.0-W	Aqueous	df - wc 1	
				<i>2 SEL Analytes: CL SO4</i>		df - wc	
				ALK-W-2320B		df - wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>		df - wc	
				COND-W-2510B		df - wc	
				PH-4500H+B		df - wc	
				TDS-W-2540C		df - wc	
				TSS-W-2540D		df - wc	
1508574-007B						200.7-W	df - metals
				<i>6 SEL Analytes: AL CA FE MG K NA</i>		df - metals	
	200.7-W-PR	df - metals					
	200.8-W	df - metals					
	<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>		df - metals				
	200.8-W-PR	df - metals					
	HARD-2340B	df - metals					
	HG-DW-245.1	df - metals					
	HG-DW-PR	df - metals					
1508574-007C		200.7-DIS	df - dis met				
	<i>6 SEL Analytes: AL CA FE MG K NA</i>		df - dis met				
	200.7-DIS-PR	df - dis met					
	200.8-DIS	df - dis met					
	<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>		df - dis met				
	200.8-DIS-PR	df - dis met					
	HARD-2340B	df - dis met					
	<i>1 SEL Analytes: HARD</i>		df - dis met				
	HG-DW-DIS-245.1	df - dis met					
	HG-DW-DIS-PR	df - dis met					
1508574-007D		NO2/NO3-W-353.2	df - no2/no3				
	PO4-W-4500PF	df - no2/no3					
	PO4-W-PR	df - no2/no3					
1508574-008A	GK-SW-08	8/25/2015 1340h	8/28/2015 1300h	300.0-W	Aqueous	df - wc 1	
				<i>2 SEL Analytes: CL SO4</i>			

WORK ORDER Summary

Work Order: **1508574** Page 7 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage
1508574-008A	GK-SW-08	8/25/2015 1340h	8/28/2015 1300h	ALK-W-2320B	Aqueous	df - wc
				<i>3 SEL Analytes: ALK ALKB ALKC</i>		
				COND-W-2510B		df - wc
				PH-4500H+B		df - wc
				TDS-W-2540C		df - wc
				TSS-W-2540D		df - wc
1508574-008B				200.7-W		df - metals
				<i>6 SEL Analytes: AL CA FE MG K NA</i>		
				200.7-W-PR		df - metals
				200.8-W		df - metals
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>		
				200.8-W-PR		df - metals
				HARD-2340B		df - metals
				HG-DW-245.1		df - metals
				HG-DW-PR		df - metals
				200.7-DIS		df - dis met
1508574-008C				<i>6 SEL Analytes: AL CA FE MG K NA</i>		
				200.7-DIS-PR	df - dis met	
				200.8-DIS	df - dis met	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>		
				200.8-DIS-PR	df - dis met	
				HARD-2340B	df - dis met	
				<i>1 SEL Analytes: HARD</i>		
				HG-DW-DIS-245.1	df - dis met	
				HG-DW-DIS-PR	df - dis met	
				NO2/NO3-W-353.2	df - no2/no3	
1508574-008D				PO4-W-4500PF		df - no2/no3
				PO4-W-PR		df - no2/no3
1508574-009A	GK-SW-09	8/25/2015 1425h	8/28/2015 1300h	300.0-W	Aqueous	df - wc
				<i>2 SEL Analytes: CL SO4</i>		
				ALK-W-2320B		df - wc
				<i>3 SEL Analytes: ALK ALKB ALKC</i>		
				COND-W-2510B		df - wc
				PH-4500H+B		df - wc
TDS-W-2540C	df - wc					
TSS-W-2540D	df - wc					

WORK ORDER Summary

Work Order: **1508574** Page 8 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage	
1508574-009B	GK-SW-09	8/25/2015 1425h	8/28/2015 1300h	200.7-W	Aqueous	df - metals	1
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-W-PR		df - metals	
				200.8-W		df - metals	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-W-PR		df - metals	
				HARD-2340B		df - metals	
				HG-DW-245.1		df - metals	
				HG-DW-PR		df - metals	
				200.7-DIS		df - dis met	
1508574-009C				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-DIS-PR		df - dis met	
				200.8-DIS		df - dis met	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
				200.8-DIS-PR		df - dis met	
				HARD-2340B		df - dis met	
				<i>1 SEL Analytes: HARD</i>			
				HG-DW-DIS-245.1		df - dis met	
				HG-DW-DIS-PR		df - dis met	
				NO2/NO3-W-353.2		df - no2/no3	
1508574-009D				PO4-W-4500PF		df - no2/no3	
				PO4-W-PR		df - no2/no3	
1508574-010A	GK-SW-10	8/25/2015 1530h	8/28/2015 1300h	300.0-W	Aqueous	df - wc	1
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B		df - wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B		df - wc	
				PH-4500H+B		df - wc	
				TDS-W-2540C		df - wc	
				TSS-W-2540D		df - wc	
1508574-010B				200.7-W		df - metals	
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
				200.7-W-PR		df - metals	
				200.8-W		df - metals	
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>			
200.8-W-PR		df - metals					

WORK ORDER Summary

Work Order: **1508574** Page 9 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage					
1508574-010B	GK-SW-10	8/25/2015 1530h	8/28/2015 1300h	HARD-2340B	Aqueous		df - metals 1					
				HG-DW-245.1		df - metals						
1508574-010C	GK-SW-10	8/25/2015 1530h	8/28/2015 1300h	HG-DW-PR	Aqueous		df - metals					
				200.7-DIS		df - dis met						
				6 SEL Analytes: AL CA FE MG K NA								
				200.7-DIS-PR		df - dis met						
				200.8-DIS		df - dis met						
				17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN								
				200.8-DIS-PR		df - dis met						
				HARD-2340B		df - dis met						
				1 SEL Analytes: HARD								
				HG-DW-DIS-245.1		df - dis met						
1508574-010D	GK-SW-10	8/25/2015 1530h	8/28/2015 1300h	HG-DW-DIS-PR	Aqueous		df - dis met					
				NO2/NO3-W-353.2		df - no2/no3						
				PO4-W-4500PF		df - no2/no3						
				PO4-W-PR		df - no2/no3						
1508574-011A	GK-SW-11	8/25/2015 1620h	8/28/2015 1300h	300.0-W	Aqueous		df - wc 1					
				2 SEL Analytes: CL SO4								
				ALK-W-2320B		df - wc						
				3 SEL Analytes: ALK ALKB ALKC								
				COND-W-2510B		df - wc						
				PH-4500H+B		df - wc						
				TDS-W-2540C		df - wc						
				TSS-W-2540D		df - wc						
				1508574-011B		GK-SW-11	8/25/2015 1620h	8/28/2015 1300h	200.7-W	Aqueous		df - metals
									6 SEL Analytes: AL CA FE MG K NA			
200.7-W-PR	df - metals											
200.8-W	df - metals											
17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN												
200.8-W-PR	df - metals											
HARD-2340B	df - metals											
HG-DW-245.1	df - metals											
HG-DW-PR	df - metals											
1508574-011C	GK-SW-11	8/25/2015 1620h	8/28/2015 1300h		200.7-DIS				Aqueous			df - dis met
				6 SEL Analytes: AL CA FE MG K NA								
				200.7-DIS-PR	df - dis met							

WORK ORDER Summary

Work Order: **1508574** Page 10 of 14

Due Date: 9/14/2015

Client: Utah Division of Water Quality

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1508574-011C	GK-SW-11	8/25/2015 1620h	8/28/2015 1300h	200.8-DIS	Aqueous		df - dis met
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>			
				<i>AG TL V ZN</i>			
				200.8-DIS-PR			df - dis met
				HARD-2340B			df - dis met
				<i>1 SEL Analytes: HARD</i>			
				HG-DW-DIS-245.1			df - dis met
1508574-011D				HG-DW-DIS-PR			df - dis met
				NO2/NO3-W-353.2			df - no2/no3
				PO4-W-4500PF			df - no2/no3
				PO4-W-PR			df - no2/no3
1508574-012A	GK-SW-12	8/26/2015 1005h	8/28/2015 1300h	300.0-W	Aqueous		df - wc
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B			df - wc
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B			df - wc
				PH-4500H+B			df - wc
				TDS-W-2540C			df - wc
				TSS-W-2540D			df - wc
				200.7-W			df - metals
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
1508574-012B				200.7-W-PR			df - metals
				200.8-W			df - metals
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>			
				<i>AG TL V ZN</i>			
				200.8-W-PR			df - metals
				HARD-2340B			df - metals
				HG-DW-245.1			df - metals
				HG-DW-PR			df - metals
				200.7-DIS			df - dis met
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
1508574-012C				200.7-DIS-PR			df - dis met
				200.8-DIS			df - dis met
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>			
				<i>AG TL V ZN</i>			
				200.8-DIS-PR			df - dis met
				HARD-2340B			df - dis met
				<i>1 SEL Analytes: HARD</i>			
HG-DW-DIS-245.1			df - dis met				

WORK ORDER Summary

Work Order: **1508574** Page 11 of 14

Due Date: 9/14/2015

Client: Utah Division of Water Quality

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1508574-012C	GK-SW-12	8/26/2015 1005h	8/28/2015 1300h	HG-DW-DIS-PR	Aqueous		df - dis met 1
1508574-012D				NO2/NO3-W-353.2		df - no2/no3	
				PO4-W-4500PF		df - no2/no3	
				PO4-W-PR		df - no2/no3	
1508574-013A	GK-SW-13	8/26/2015 1300h	8/28/2015 1300h	300.0-W	Aqueous		df - wc 1
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B		df - wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				COND-W-2510B		df - wc	
				PH-4500H+B		df - wc	
				TDS-W-2540C		df - wc	
				TSS-W-2540D		df - wc	
1508574-013B						200.7-W	df - metals
				<i>6 SEL Analytes: AL CA FE MG K NA</i>			
	200.7-W-PR	df - metals					
	200.8-W	df - metals					
	<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>						
	200.8-W-PR	df - metals					
	HARD-2340B	df - metals					
	HG-DW-245.1	df - metals					
	HG-DW-PR	df - metals					
1508574-013C		200.7-DIS	df - dis met				
	<i>6 SEL Analytes: AL CA FE MG K NA</i>						
	200.7-DIS-PR	df - dis met					
	200.8-DIS	df - dis met					
	<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>						
	200.8-DIS-PR	df - dis met					
	HARD-2340B	df - dis met					
	<i>1 SEL Analytes: HARD</i>						
	HG-DW-DIS-245.1	df - dis met					
	HG-DW-DIS-PR	df - dis met					
1508574-013D		NO2/NO3-W-353.2	df - no2/no3				
	PO4-W-4500PF	df - no2/no3					
	PO4-W-PR	df - no2/no3					
1508574-014A	GK-SW-14	8/26/2015 1330h	8/28/2015 1300h	300.0-W	Aqueous		df - wc 1
				<i>2 SEL Analytes: CL SO4</i>			

WORK ORDER Summary

Work Order: **1508574** Page 12 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage
1508574-014A	GK-SW-14	8/26/2015 1330h	8/28/2015 1300h	ALK-W-2320B	Aqueous	df - wc
				<i>3 SEL Analytes: ALK ALKB ALKC</i>		
				COND-W-2510B		df - wc
				PH-4500H+B		df - wc
				TDS-W-2540C		df - wc
				TSS-W-2540D		df - wc
1508574-014B				200.7-W		df - metals
				<i>6 SEL Analytes: AL CA FE MG K NA</i>		
				200.7-W-PR		df - metals
				200.8-W		df - metals
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>		
				200.8-W-PR		df - metals
				HARD-2340B		df - metals
				HG-DW-245.1		df - metals
				HG-DW-PR		df - metals
				200.7-DIS		df - dis met
1508574-014C				<i>6 SEL Analytes: AL CA FE MG K NA</i>		
				200.7-DIS-PR		df - dis met
				200.8-DIS		df - dis met
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>		
				200.8-DIS-PR		df - dis met
				HARD-2340B		df - dis met
				<i>1 SEL Analytes: HARD</i>		
				HG-DW-DIS-245.1		df - dis met
				HG-DW-DIS-PR		df - dis met
				NO2/NO3-W-353.2		df - no2/no3
1508574-014D				PO4-W-4500PF		df - no2/no3
				PO4-W-PR		df - no2/no3
1508574-015A	GK-SW-15	8/26/2015 1450h	8/28/2015 1300h	300.0-W	Aqueous	df - wc
				<i>2 SEL Analytes: CL SO4</i>		
				ALK-W-2320B		df - wc
				<i>3 SEL Analytes: ALK ALKB ALKC</i>		
				COND-W-2510B		df - wc
				PH-4500H+B		df - wc
				TSS-W-2540D		df - wc

WORK ORDER Summary

Work Order: **1508574** Page 13 of 14

Client: Utah Division of Water Quality

Due Date: 9/14/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage				
1508574-015B	GK-SW-15	8/26/2015 1450h	8/28/2015 1300h	200.7-W	Aqueous	df - metals	1			
				<i>6 SEL Analytes: AL CA FE MG K NA</i>						
				200.7-W-PR		df - metals				
				200.8-W		df - metals				
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>						
				200.8-W-PR		df - metals				
				HARD-2340B		df - metals				
				HG-DW-245.1		df - metals				
				HG-DW-PR		df - metals				
				200.7-DIS		df - dis met				
1508574-015C				<i>6 SEL Analytes: AL CA FE MG K NA</i>						
				200.7-DIS-PR		df - dis met				
				200.8-DIS		df - dis met				
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>						
				200.8-DIS-PR		df - dis met				
				HARD-2340B		df - dis met				
				<i>1 SEL Analytes: HARD</i>						
				HG-DW-DIS-245.1		df - dis met				
				HG-DW-DIS-PR		df - dis met				
				NO2/NO3-W-353.2		df - no2/no3				
1508574-015D				PO4-W-4500PF		df - no2/no3				
				PO4-W-PR		df - no2/no3				
1508574-016A	GK-SW-16	8/26/2015 1530h	8/28/2015 1300h	300.0-W	Aqueous	df - wc	1			
				<i>2 SEL Analytes: CL SO4</i>						
				ALK-W-2320B		df - wc				
				<i>3 SEL Analytes: ALK ALKB ALKC</i>						
				COND-W-2510B		df - wc				
				PH-4500H+B		df - wc				
				TDS-W-2540C		df - wc				
				TSS-W-2540D		df - wc				
1508574-016B				200.7-W		df - metals				
				<i>6 SEL Analytes: AL CA FE MG K NA</i>						
				200.7-W-PR		df - metals				
				200.8-W		df - metals				
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>						
200.8-W-PR		df - metals								

WORK ORDER Summary

Work Order: **1508574** Page 14 of 14

Due Date: 9/14/2015

Client: Utah Division of Water Quality

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage		
1508574-016B	GK-SW-16	8/26/2015 1530h	8/28/2015 1300h	HARD-2340B	Aqueous		df - metals 1		
				HG-DW-245.1		df - metals			
				HG-DW-PR		df - metals			
1508574-016C				200.7-DIS			df - dis met		
				<i>6 SEL Analytes: AL CA FE MG K NA</i>					
				200.7-DIS-PR			df - dis met		
				200.8-DIS			df - dis met		
				<i>17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN</i>					
				200.8-DIS-PR			df - dis met		
				HARD-2340B			df - dis met		
<i>1 SEL Analytes: HARD</i>									
1508574-016D				HG-DW-DIS-245.1			df - dis met		
				HG-DW-DIS-PR			df - dis met		
				NO2/NO3-W-353.2			df - no2/no3		
				PO4-W-4500PF			df - no2/no3		
				PO4-W-PR			df - no2/no3		

AWAL Use Only.

Close Hold Times

Test Code	# Samps	Min. days left
TDS-W-2540C	12	-.04



American West Analytical Laboratories

3440 S. 700 W. Salt Lake City, UT 84119
 Phone # (801) 263-8686 Toll Free # (888) 263-8686
 Fax # (801) 263-8687 Email awal@awal-labs.com
 www.awal-labs.com

CHAIN OF CUSTODY

1508574

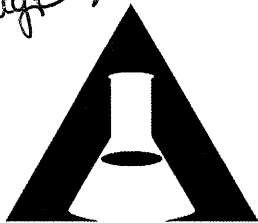
AWAL Lab Sample Set #
 Page 1 of 2

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

Client: State of Utah
 Address: 195 North 1950 West
Salt Lake City, Utah 84116
 Contact: Jim Harris (Utah) / Amanda Rohrbaugh (Tech Law)
 Phone #: (801) 536-4360 Cell #: (916) 698-8069
 Email: james.harris@utah.gov / arrohrbaugh@techlawinc.com
 Project Name: Gold King Mine Spill - San Juan River
 Project #:
 PO #:
 Sampler Name: TechLaw Inc. (S. Pauwels)

QC Level:	Turn Around Time:					Unless other arrangements have been made, signed reports will be emailed by 5:00 pm on the day they are due.	Due Date:								
	1	2	3	3+	1			2	3	4	5	Std			
1	2	2	3	3+											
						<input checked="" type="checkbox"/> Report down to the MDL Include EDD: <input type="checkbox"/> Lab Filter for: <input checked="" type="checkbox"/> Field Filtered For: <u>Dissolved Metals</u> For Compliance With: <input type="checkbox"/> NELAP <input type="checkbox"/> RCRA <input type="checkbox"/> CWA <input type="checkbox"/> SDWA <input type="checkbox"/> ELAP / A2LA <input type="checkbox"/> NLLAP <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Other:	Laboratory Use Only Samples Were: 1 Shipped or hand delivered 2 Ambient or Chilled 3 Temperature <u>0.7°C</u> 4 Received Broken/Leaking (Improperly Sealed) Y <u>N</u> 5 Properly Preserved Y <u>N</u> Checked at bench 6 Received Within Holding Times Y <u>N</u> <u>pH rec outside of hold</u> COC Tape Was: 1 Present on Outer Package Y <u>N</u> NA 2 Unbroken on Outer Package Y <u>N</u> NA 3 Present on Sample Y <u>N</u> NA 4 Unbroken on Sample Y <u>N</u> NA Discrepancies Between Sample Labels and COC Record? Y <u>N</u>								
Sample ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Total Metals	Dissolved Metals (Field Filtered)	Hardness	Conductivity	Alkalinity	Anions	nitrate/nitrite	Phosphorus, total	TDS	pH	Known Hazards & Sample Comments
1 GK-SW-01	8/24/2015	1037	4	W	700.7/200.8 + 245.1	200.7/200.8 + 245.1	2340.0	5M 1510B	5M 2320B	300.0	nitrate/nitrite 353.2	4500-PF	5M 2540C / TSS 5M 2540D	9040C	
2 GK-SW-02	8/24/2015	1310	4	W	X	X	X	X	X	X	X	X	X	X	
3 GK-SW-03	8/24/2015	1355	4	W	X	X	X	X	X	X	X	X	X	X	
4 GK-SW-04	8/24/2015	1510	4	W	X	X	X	X	X	X	X	X	X	X	
5 GK-SW-05	8/24/2015	1630	4	W	X	X	X	X	X	X	X	X	X	X	
6 GK-SW-06	8/25/2015	1115	4	W	X	X	X	X	X	X	X	X	X	X	
7 GK-SW-07	8/25/2015	1340	4	W	X	X	X	X	X	X	X	X	X	X	
8 GK-SW-08	8/25/2015	1340	4	W	X	X	X	X	X	X	X	X	X	X	duplicate
9 GK-SW-09	8/25/2015	1425	4	W	X	X	X	X	X	X	X	X	X	X	
10 GK-SW-10	8/25/2015	1530	4	W	X	X	X	X	X	X	X	X	X	X	
11 GK-SW-11	8/25/2015	1620	4	W	X	X	X	X	X	X	X	X	X	X	
12 GK-SW-12	8/26/2015	1005	4	W	X	X	X	X	X	X	X	X	X	X	

Relinquished by: <u>Amanda Rohrbaugh</u> Signature	Date: <u>8/27/2015</u>	Received by: <u>Elmer Hayes</u> Signature	Date: <u>8-28-15</u>	Special Instructions:
Print Name: <u>Amanda Rohrbaugh</u>	Time:	Print Name: <u>Elmer Hayes</u>	Time: <u>1300</u>	note that GK-SW-01 through GK-SW-07 are in the green cooler and GK-SW-08 through GK-SW-12 are in the blue cooler (2 cooler shipment)
Relinquished by: <u>Amanda Rohrbaugh</u> Signature	Date:	Received by: <u>Elmer Hayes</u> Signature	Date:	
Print Name:	Time:	Print Name:	Time:	
Relinquished by: <u>Amanda Rohrbaugh</u> Signature	Date:	Received by: <u>Elmer Hayes</u> Signature	Date:	
Print Name:	Time:	Print Name:	Time:	



American West Analytical Laboratories

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CHAIN OF CUSTODY

1508574

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

AWAL Lab Sample Set #
 Page 2 of 2

Client: State of Utah
 Address: 195 North 1950 West
Salt Lake City, UT, 84116
 Contact: Jim Harris (Utah) / Amanda Rohrbaugh (Tech Lead)
 Phone #: (801) 536-4360 Cell #: (916) 698-8069
 Email: jamesharris@utah.gov / arrohrbaugh@techlawinc.com
 Project Name: Gold King Mine Spill - San Juan River
 Project #:
 PO #:
 Sampler Name: TechLaw Inc. (S. Pauwels)

QC Level:		Turn Around Time:					Unless other arrangements have been made, signed reports will be emailed by 5:00 pm on the day they are due.		Due Date:					
1	2	3	4	5	Std									
		2+	3	3+										
# of Containers	Sample Matrix	Total Metals 200.7200.8 + 245.1	Dissolved Metals (field filtered) 245.1	Hardness 2940B	Conductivity SM2510B	Alkalinity SM2320B	Anions 300.0	Nitrate Nitrite 353.2	Phosphorus total 4500-PF	TDS SM2540C	pH 9040C	Report down to the MDL <input checked="" type="checkbox"/> Include EDD: <input type="checkbox"/> Lab Filter for: <input checked="" type="checkbox"/> Field Filtered For: <u>Dissolved Metals</u> For Compliance With: <input type="checkbox"/> NELAP <input type="checkbox"/> RCRA <input type="checkbox"/> CWA <input type="checkbox"/> SDWA <input type="checkbox"/> ELAP / A2LA <input type="checkbox"/> NLLAP <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Other: Known Hazards & Sample Comments	Laboratory Use Only Samples Were: 1 Shipped or hand delivered 2 Ambient or Chilled 3 Temperature <u>0.7 °C</u> 4 Received Broken/Leaking (Improperly Sealed) Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5 Properly Preserved Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Checked at bench 6 Received Within Holding Times Y <input type="checkbox"/> N <input checked="" type="checkbox"/> pH rec. outside of hold COC Tape Was: 1 Present on Outer Package Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> 2 Unbroken on Outer Package Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/> 3 Present on Sample Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA <input type="checkbox"/> 4 Unbroken on Sample Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA <input type="checkbox"/> Discrepancies Between Sample Labels and COC Record? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
1	GK-SW-13	8/26/2015	1300	4	W	X	X	X	X	X	X	X		
2	GK-SW-14	8/26/2015	1330	4	W	X	X	X	X	X	X	X	MS/MSD	
3	GK-SW-15	8/26/2015	1450	4	W	X	X	X	X	X	X	X		
4	GK-SW-16	8/26/2015	1530	4	W	X	X	X	X	X	X	X		
5														
6														
7														
8														
9														
10														
11														
12														

Relinquished by: Signature: <u>Amanda Rohrbaugh</u>	Date: <u>8/27/2015</u>	Received by: Signature: <u>Elma Hafwa</u>	Date: <u>8-28-15</u>	Special Instructions: <u>note that GK-SW-13 through GK-SW-15 are in the blue cooler and GK-SW-16 is in the green cooler (2 cooler shipment)</u>
Print Name: <u>Amanda Rohrbaugh</u>	Time:	Print Name: <u>Elma Hafwa</u>	Time: <u>1300</u>	
Relinquished by: Signature:	Date:	Received by: Signature:	Date:	
Print Name:	Time:	Print Name:	Time:	
Relinquished by: Signature:	Date:	Received by: Signature:	Date:	
Print Name:	Time:	Print Name:	Time:	
Relinquished by: Signature:	Date:	Received by: Signature:	Date:	
Print Name:	Time:	Print Name:	Time:	

Preservation Check Sheet

Sample Set Extension and pH

Analysis	Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
Ammonia	pH <2 H ₂ SO ₄																		
COD	pH <2 H ₂ SO ₄																		
Cyanide	pH >12 NaOH																		
Metals	pH <2 HNO ₃	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
NO ₂ & NO ₃	pH <2 H ₂ SO ₄	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
O & G	pH <2 HCL																		
Phenols	pH <2 H ₂ SO ₄																		
Sulfide	pH > 9NaOH, Zn Acetate																		
TKN	pH <2 H ₂ SO ₄																		
T PO ₄	pH <2 H ₂ SO ₄	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

- 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.

Elona Hayward

From: Rebekah Winkler
Sent: Monday, August 31, 2015 9:34 AM
To: Elona Hayward
Subject: FW: San Juan River Sample Delivery

-----Original Message-----

From: Martin, Bradley [<mailto:BMartin@TechLawInc.com>]
Sent: Friday, August 28, 2015 9:42 PM
To: Rohrbaugh, Amanda
Cc: Rebekah Winkler
Subject: Re: San Juan River Sample Delivery

Yes, whatever you've done for the samples collected by the State last during weeks prior would be appropriate.

Thanks, Brad

> On Aug 28, 2015, at 6:46 PM, Rohrbaugh, Amanda <ARohrbaugh@TechLawInc.com> wrote:

>
> Hi Rebekah,
> I think the metals list below looks good, but I've cc'd my supervisor on this e-mail so he can confirm. I think whatever you've done for the samples collected by the State last during weeks prior would be appropriate for these samples since we were tasked to take over monitoring for them. Brad can you confirm?

>
> Thanks!
>
>

From: Rebekah Winkler [Rebekah@awal-labs.com]
> **Sent:** Friday, August 28, 2015 6:27 AM
> **To:** Rohrbaugh, Amanda
> **Cc:** Kyle Gross; Denise Bruun; Elona Hayward; Katie Merenda; Lynn Turner
> **Subject:** RE: San Juan River Sample Delivery

>
> Amanda,
>
> Can you confirm the metals list? We analyzed the project in the past for both Total and Dissolved:

> Aluminum
> Calcium
> Iron
> Potassium
> Magnesium
> Sodium
>
> Mercury
>
> Antimony
> Arsenic
> Barium
> Beryllium

> Cadmium
> Chromium
> Cobalt
> Copper
> Lead
> Manganese
> Molybdenum
> Nickel
> Silver
> Selenium
> Thallium
> Vandadium
> Zinc

> We also ran Hardness as both Total and Dissolved. Did you need that done on these as well?

> Let us know.

> Thank you,
> -Rebekah Winkler
> Reporting Coordinator

> American West Analytical Laboratories
> 3440 S. 700 W.
> Salt Lake City, UT 84119
> Tel: (801) 263-8686
> Fax: (801) 263-8687
> email: rebekah@awal-labs.com

> -----Original Message-----

> From: Kyle Gross
> Sent: Friday, August 28, 2015 6:59 AM
> To: CustomerService
> Subject: FW: San Juan River Sample Delivery

> Attached are the COCs for the samples arriving today from Techlaw (Gold King Mine Spill).

> -----Original Message-----

> From: Rohrbaugh, Amanda [<mailto:ARohrbaugh@TechLawInc.com>]
> Sent: Friday, August 28, 2015 6:57 AM
> To: Kyle Gross
> Subject: RE: San Juan River Sample Delivery

> Hi Kyle,
> I've attached a copy of the COC forms (2 pages) for yesterday's sample shipment. Two coolers were sent under 1 FedEx airbill. The COC forms are in a ziplock bag taped into the inside of one of the cooler lids and the special instructions section indicates which samples are in each of the 2 coolers.

> As for the analysis not beginning until Monday, that seems fine to me. The important part is that we get the samples to you at the proper temperature so they can be refrigerated at the lab over the weekend and we won't have any temperature issues. Thanks!

> _____
> From: Rohrbaugh, Amanda
> Sent: Friday, August 28, 2015 5:41 AM

> To: Kyle Gross
> Subject: RE: San Juan River Sample Delivery
>
> Great. I'll work out the time and let you know as soon as possible.

>
>

> From: Kyle Gross [kyle@awal-labs.com]
> Sent: Thursday, August 27, 2015 8:17 PM
> To: Rohrbaugh, Amanda
> Subject: RE: San Juan River Sample Delivery

>
> We can accept them as long as we have a delivery time.

> Kyle

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>
>
>
> Sent from my Verizon Wireless 4G LTE smartphone

>
> ----- Original message -----
> From: "Rohrbaugh, Amanda" <ARohrbaugh@TechLawInc.com>
> Date: 08/27/2015 21:03 (GMT-07:00)
> To: Kyle Gross <kyle@awal-labs.com>
> Subject: San Juan River Sample Delivery

>
> Hi Kyle,
> We shipped samples from 8/24 through 8/26 this morning for standard overnight delivery, so hopefully they will arrive at the lab tomorrow. We will be returning to Salt Lake City this Saturday 8/29 with samples from 8/27 and 8/28. I was wondering if the lab will accept the delivery of the samples from us directly on Saturday or if we need to ship them via FedEx on Saturday for Monday delivery since the field team will be flying home Saturday night. Please let me know the lab's preferred method so we can make arrangements accordingly. Thanks!

> Amanda Rohrbaugh