

Lenora Sullivan Utah Division of Water Quality PO Box 144870 SLC, UT 84114

TEL: (801) 538-6329

RE: Gold King Mine - San Juan River Sampling / DWR - Lake Powell

3440 South 700 West Salt Lake City, UT 84119 Dear Lenora Sullivan: Lab Set ID: 1508369

American West Analytical Laboratories (AWAL) is accredited by The National

state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

American West Analytical Laboratories received sample(s) on 8/19/2015 for the analyses presented in the following report.

Phone: (801) 263-8686 Toll Free: (888) 263-8686

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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.

Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is

Kyle F. Gross Laboratory Director

> Jose Rocha **QA** Officer

> > Thank Vou

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 Tou,	
Approved by:	
11 7 -	Laboratory Director or designee



Client: Utah Division of Water Quality Contact: Lenora Sullivan

Project: Gold King Mine - San Juan River Sampling / DWR - Lake Powell

Lab Sample ID: 1508369-001

Client Sample ID: Lake Powell San Juan Inlet Water Column Composite

Collection Date: 8/11/2015 1100h **Received Date:** 8/19/2015 1015h

Analytical Results TOTAL METALS

3440 South 700 West	Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Salt Lake City, UT 84119	Aluminum	mg/L	8/21/2015 1311h	8/26/2015 1116h	E200.7	0.100	0.684	
	Antimony	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
	Arsenic	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
Phone: (801) 263-8686	Barium	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	0.117	
,	Beryllium	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
Toll Free: (888) 263-8686	Cadmium	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.000500	< 0.000500	
Fax: (801) 263-8687	Calcium	mg/L	8/21/2015 1311h	8/26/2015 1116h	E200.7	1.00	45.1	1
e-mail: awal@awal-labs.com	Chromium	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
	Cobalt	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00400	< 0.00400	
web: www.awal-labs.com	Copper	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	0.0749	
	Iron	mg/L	8/21/2015 1311h	8/26/2015 1116h	E200.7	0.100	0.427	
	Lead	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	0.00630	
Kyle F. Gross	Magnesium	mg/L	8/21/2015 1311h	8/26/2015 1116h	E200.7	1.00	8.19	
Laboratory Director	Manganese	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	0.0147	@
	Molybdenum	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	0.00244	
Jose Rocha	Nickel	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
QA Officer	Potassium	mg/L	8/21/2015 1311h	8/26/2015 1116h	E200.7	1.00	4.85	
	Selenium	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
	Silver	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
	Sodium	mg/L	8/21/2015 1311h	8/26/2015 1116h	E200.7	1.00	49.1	
	Thallium	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00200	< 0.00200	
	Vanadium	mg/L	9/2/2015 1235h	9/3/2015 1238h	E200.8	0.00440	< 0.00440	
	Zinc	mg/L	9/2/2015 1235h	9/4/2015 1723h	E200.8	0.00500	0.0834	

[@] - 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.



Client: Utah Division of Water Quality Contact: Lenora Sullivan

Project: Gold King Mine - San Juan River Sampling / DWR - Lake Powell

Lab Sample ID: 1508369-002

Client Sample ID: Lake Powell San Juan Inlet Bottom Transect Composite

Collection Date: 8/11/2015 1100h **Received Date:** 8/19/2015 1015h

Analytical Results TOTAL METALS

3440 South 700 West	Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Salt Lake City, UT 84119	Aluminum	mg/L	8/21/2015 1311h	8/27/2015 1350h	E200.7	0.100	3.79	
	Antimony	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
	Arsenic	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	0.0390	
Phone: (801) 263-8686	Barium	mg/L	9/2/2015 1235h	9/4/2015 854h	E200.8	0.0100	6.46	
•	Beryllium	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
Toll Free: (888) 263-8686	Cadmium	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.000500	0.0215	
Fax: (801) 263-8687	Calcium	mg/L	8/21/2015 1311h	8/27/2015 1415h	E200.7	100	3,360	
e-mail: awal@awal-labs.com	Chromium	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
	Cobalt	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00400	0.250	
web: www.awal-labs.com	Copper	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
	Iron	mg/L	8/21/2015 1311h	8/27/2015 1411h	E200.7	1.00	70.6	
	Lead	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
Kyle F. Gross	Magnesium	mg/L	8/21/2015 1311h	8/27/2015 1411h	E200.7	10.0	391	
Laboratory Director	Manganese	mg/L	9/2/2015 1235h	9/4/2015 851h	E200.8	0.100	39.5	
	Molybdenum	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
Jose Rocha	Nickel	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	0.201	
QA Officer	Potassium	mg/L	8/21/2015 1311h	8/27/2015 1350h	E200.7	1.00	32.7	
C	Selenium	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
	Silver	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
	Sodium	mg/L	8/21/2015 1311h	8/27/2015 1411h	E200.7	10.0	99.6	
	Thallium	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00200	< 0.00200	
	Vanadium	mg/L	9/2/2015 1235h	9/3/2015 1254h	E200.8	0.00440	< 0.00440	
	Zinc	mg/L	9/2/2015 1235h	9/4/2015 854h	E200.8	0.0250	1.04	



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Lab Sample ID: 1508369-001

Client Sample ID: Lake Powell San Juan Inlet Water Column Composite

Collection Date: 8/11/2015 1100h **Received Date:** 8/19/2015 1015h

Analytical Results

3440 South 700 West Salt Lake City, UT 84119

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Hardness (as CaCO3)	mg/L		8/27/2015 1500h	SM2340B	10.0	146	

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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer



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Project: Gold King Mine - San Juan River Sampling / DWR - Lake Powell

Lab Sample ID: 1508369-002

Client Sample ID: Lake Powell San Juan Inlet Bottom Transect Composite

Collection Date: 8/11/2015 1100h **Received Date:** 8/19/2015 1015h

Analytical Results

3440 South 700 West Salt Lake City, UT 84119

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Hardness (as CaCO3)	mg/L		8/27/2015 1500h	SM2340B	10.0	10,000	

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> Jose Rocha QA Officer

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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:1508369Dept:MEProject:Gold King Mine - San Juan River Sampling / DWR - Lake PowellQC 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-38756	Date Analyzed:	08/26/201	5 1059h										
Test Code:	200.7-W	Date Prepared:	08/21/201	5 1311h										
Aluminum		0.956	mg/L	E200.7	0.0237	0.100	1.000	0	95.6	85 - 115				
Calcium		9.21	mg/L	E200.7	0.0401	1.00	10.00	0	92.1	85 - 115				
Iron		0.952	mg/L	E200.7	0.0767	0.100	1.000	0	95.2	85 - 115				
Magnesium		9.47	mg/L	E200.7	0.0294	1.00	10.00	0	94.7	85 - 115				
Potassium		9.52	mg/L	E200.7	0.247	1.00	10.00	0	95.2	85 - 115				
Sodium		9.94	mg/L	E200.7	0.0330	1.00	10.00	0	99.4	85 - 115				
Lab Sample ID:	LCS-38963	Date Analyzed:	09/03/201	5 1235h										
Test Code:	200.8-W	Date Prepared:	09/02/201	5 1235h										
Antimony		0.183	mg/L	E200.8	0.0000366	0.00200	0.2000	0	91.3	85 - 115				
Arsenic		0.205	mg/L	E200.8	0.0000920	0.00200	0.2000	0	102	85 - 115				
Barium		0.203	mg/L	E200.8	0.000538	0.00200	0.2000	0	101	85 - 115				
Beryllium		0.207	mg/L	E200.8	0.0000288	0.00200	0.2000	0	104	85 - 115				
Cadmium		0.200	mg/L	E200.8	0.000193	0.000500	0.2000	0	100	85 - 115				
Chromium		0.208	mg/L	E200.8	0.00154	0.00200	0.2000	0	104	85 - 115				
Cobalt		0.203	mg/L	E200.8	0.0000434	0.00400	0.2000	0	102	85 - 115				
Copper		0.207	mg/L	E200.8	0.000692	0.00200	0.2000	0	104	85 - 115				
Lead		0.204	mg/L	E200.8	0.000264	0.00200	0.2000	0	102	85 - 115				
Manganese		0.207	mg/L	E200.8	0.00153	0.00200	0.2000	0	104	85 - 115				
Molybdenum		0.209	mg/L	E200.8	0.000206	0.00200	0.2000	0	105	85 - 115				
Nickel		0.205	mg/L	E200.8	0.000754	0.00200	0.2000	0	102	85 - 115				
Selenium		0.198	mg/L	E200.8	0.0000634	0.00200	0.2000	0	99.0	85 - 115				
Silver		0.199	mg/L	E200.8	0.0000244	0.00200	0.2000	0	99.6	85 - 115				
Thallium		0.197	mg/L	E200.8	0.0000242	0.00200	0.2000	0	98.7	85 - 115				
Vanadium		0.208	mg/L	E200.8	0.000438	0.00440	0.2000	0	104	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: 1508369

Dept: ME **QC Type:** LCS

Project: Gold King Mine - San Juan River Sampling / DWR - Lake Powell

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-38963	Date Analyzed:	09/04/201	5 1720h										
Test Code:	200.8-W	Date Prepared:	09/02/201	5 1235h										
Zinc		1.05	mg/L	E200.8	0.00476	0.00500	1.000	0	105	85 - 115				

Report Date: 9/4/2015 Page 7 of 13

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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:1508369Dept:MEProject:Gold King Mine - San Juan River Sampling / DWR - Lake PowellQC 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-38756	Date Analyzed:	08/26/201	15 1056h										
Test Code:	200.7-W	Date Prepared:	08/21/201	15 1311h										
Aluminum		< 0.100	mg/L	E200.7	0.0237	0.100								
Calcium		< 1.00	mg/L	E200.7	0.0401	1.00								
Iron		< 0.100	mg/L	E200.7	0.0767	0.100								
Magnesium		< 1.00	mg/L	E200.7	0.0294	1.00								
Potassium		< 1.00	mg/L	E200.7	0.247	1.00								
Sodium		< 1.00	mg/L	E200.7	0.0330	1.00								
Lab Sample ID:	MB-38963	Date Analyzed:	09/03/201	15 1232h										
Test Code:	200.8-W	Date Prepared:	09/02/201	15 1235h										
Antimony		< 0.00200	mg/L	E200.8	0.0000366	0.00200								
Arsenic		< 0.00200	mg/L	E200.8	0.0000920	0.00200								
Barium		< 0.00200	mg/L	E200.8	0.000538	0.00200								
Beryllium		< 0.00200	mg/L	E200.8	0.0000288	0.00200								
Cadmium		< 0.000500	mg/L	E200.8	0.000193	0.000500								
Chromium		< 0.00200	mg/L	E200.8	0.00154	0.00200								
Cobalt		< 0.00400	mg/L	E200.8	0.0000434	0.00400								
Copper		< 0.00200	mg/L	E200.8	0.000692	0.00200								
Lead		< 0.00200	mg/L	E200.8	0.000264	0.00200								
Manganese		< 0.00200	mg/L	E200.8	0.00153	0.00200								
Molybdenum		< 0.00200	mg/L	E200.8	0.000206	0.00200								
Nickel		< 0.00200	mg/L	E200.8	0.000754	0.00200								
Selenium		< 0.00200	mg/L	E200.8	0.0000634	0.00200								
Silver		< 0.00200	mg/L	E200.8	0.0000244	0.00200								
Thallium		< 0.00200	mg/L	E200.8	0.0000242	0.00200								
Vanadium		< 0.00440	mg/L	E200.8	0.000438	0.00440								



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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: 1508369 **Dept:** ME

Project: Gold King Mine - San Juan River Sampling / DWR - Lake Powell **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-38963	Date Analyzed:	09/04/201	5 1716h										
Test Code:	200.8-W	Date Prepared:	09/02/201	5 1235h										
Zinc		< 0.00500	mg/L	E200.8	0.00476	0.00500								

American West

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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: 1508369Dept: MEProject: Gold King Mine - San Juan River Sampling / DWR - Lake PowellQC 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:	1508369-001AMS	Date Analyzed:	08/26/201	15 1130h										
Test Code:	200.7-W	Date Prepared:	08/21/201	5 1311h										
Aluminum		1.83	mg/L	E200.7	0.0237	0.100	1.000	0.684	115	70 - 130				
Calcium		51.1	mg/L	E200.7	0.0401	1.00	10.00	45.1	60.0	70 - 130				1
Iron		1.35	mg/L	E200.7	0.0767	0.100	1.000	0.427	92.3	70 - 130				
Magnesium		17.4	mg/L	E200.7	0.0294	1.00	10.00	8.19	92.1	70 - 130				
Potassium		14.1	mg/L	E200.7	0.247	1.00	10.00	4.85	92.5	70 - 130				
Sodium		56.8	mg/L	E200.7	0.0330	1.00	10.00	49.1	77.0	70 - 130				
Lab Sample ID:	1508369-001AMS	Date Analyzed:	09/03/201	15 1248h										
Test Code:	200.8-W	Date Prepared:	09/02/201	5 1235h										
Antimony		0.168	mg/L	E200.8	0.0000366	0.00200	0.2000	0.00147	83.2	75 - 125				
Arsenic		0.196	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00133	97.1	75 - 125				
Barium		0.294	mg/L	E200.8	0.000538	0.00200	0.2000	0.117	88.8	75 - 125				
Beryllium		0.193	mg/L	E200.8	0.0000288	0.00200	0.2000	0	96.4	75 - 125				
Cadmium		0.185	mg/L	E200.8	0.000193	0.000500	0.2000	0	92.6	75 - 125				
Chromium		0.194	mg/L	E200.8	0.00154	0.00200	0.2000	0	96.9	75 - 125				
Cobalt		0.190	mg/L	E200.8	0.0000434	0.00400	0.2000	0.000273	94.8	75 - 125				
Copper		0.262	mg/L	E200.8	0.000692	0.00200	0.2000	0.0749	93.7	75 - 125				
Lead		0.193	mg/L	E200.8	0.000264	0.00200	0.2000	0.0063	93.2	75 - 125				
Manganese		0.205	mg/L	E200.8	0.00153	0.00200	0.2000	0.0147	95.1	75 - 125				
Molybdenum		0.196	mg/L	E200.8	0.000206	0.00200	0.2000	0.00244	96.6	75 - 125				
Nickel		0.191	mg/L	E200.8	0.000754	0.00200	0.2000	0.000973	95.0	75 - 125				
Selenium		0.187	mg/L	E200.8	0.0000634	0.00200	0.2000	0.00068	93.0	75 - 125				
Silver		0.184	mg/L	E200.8	0.0000244	0.00200	0.2000	0	91.8	75 - 125				
Thallium		0.183	mg/L	E200.8	0.0000242	0.00200	0.2000	0	91.3	75 - 125				
Vanadium		0.198	mg/L	E200.8	0.000438	0.00440	0.2000	0.00338	97.2	75 - 125				



Project:

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Kyle F. Gross Laboratory Director

Jose Rocha **QA** Officer

QC SUMMARY REPORT

Lenora Sullivan **Client:** Utah Division of Water Quality **Contact:**

Lab Set ID: 1508369 Dept: ME QC Type: MS Gold King Mine - San Juan River Sampling / DWR - Lake Powell

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1508369-0	01AMS Date Analyzed:	09/04/201	5 1726h										
Test Code: 200.8-W	Date Prepared:	09/02/201	5 1235h										
Zinc	1.07	mg/L	E200.8	0.00476	0.00500	1.000	0.0834	98.9	75 - 125				

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

Report Date: 9/4/2015 Page 11 of 13

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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: 1508369Dept:MEProject:Gold King Mine - San Juan River Sampling / DWR - Lake PowellQC 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:	1508369-001AMSD	Date Analyzed:	08/26/201	15 1132h										
Test Code:	200.7-W	Date Prepared:	08/21/201	15 1311h										
Aluminum		1.81	mg/L	E200.7	0.0237	0.100	1.000	0.684	113	70 - 130	1.83	1.10	20	
Calcium		50.4	mg/L	E200.7	0.0401	1.00	10.00	45.1	53.0	70 - 130	51.1	1.38	20	1
Iron		1.30	mg/L	E200.7	0.0767	0.100	1.000	0.427	87.3	70 - 130	1.35	3.77	20	
Magnesium		17.0	mg/L	E200.7	0.0294	1.00	10.00	8.19	88.1	70 - 130	17.4	2.33	20	
Potassium		13.9	mg/L	E200.7	0.247	1.00	10.00	4.85	90.5	70 - 130	14.1	1.43	20	
Sodium		56.7	mg/L	E200.7	0.0330	1.00	10.00	49.1	76.0	70 - 130	56.8	0.176	20	
•	1508369-001AMSD	Date Analyzed:	09/03/201	15 1251h										
Test Code:	200.8-W	Date Prepared:	09/02/201	15 1235h										
Antimony		0.182	mg/L	E200.8	0.0000366	0.00200	0.2000	0.00147	90.2	75 - 125	0.168	8.00	20	
Arsenic		0.215	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00133	107	75 - 125	0.196	9.59	20	
Barium		0.322	mg/L	E200.8	0.000538	0.00200	0.2000	0.117	102	75 - 125	0.294	8.91	20	
Beryllium		0.210	mg/L	E200.8	0.0000288	0.00200	0.2000	0	105	75 - 125	0.193	8.76	20	
Cadmium		0.203	mg/L	E200.8	0.000193	0.000500	0.2000	0	101	75 - 125	0.185	9.18	20	
Chromium		0.215	mg/L	E200.8	0.00154	0.00200	0.2000	0	107	75 - 125	0.194	10.2	20	
Cobalt		0.210	mg/L	E200.8	0.0000434	0.00400	0.2000	0.000273	105	75 - 125	0.19	10.3	20	
Copper		0.305	mg/L	E200.8	0.000692	0.00200	0.2000	0.0749	115	75 - 125	0.262	15.2	20	
Lead		0.211	mg/L	E200.8	0.000264	0.00200	0.2000	0.0063	103	75 - 125	0.193	9.24	20	
Manganese		0.257	mg/L	E200.8	0.00153	0.00200	0.2000	0.0147	121	75 - 125	0.205	22.6	20	@
Molybdenum		0.212	mg/L	E200.8	0.000206	0.00200	0.2000	0.00244	105	75 - 125	0.196	8.06	20	
Nickel		0.211	mg/L	E200.8	0.000754	0.00200	0.2000	0.000973	105	75 - 125	0.191	9.99	20	
Selenium		0.204	mg/L	E200.8	0.0000634	0.00200	0.2000	0.00068	102	75 - 125	0.187	9.06	20	
Silver		0.189	mg/L	E200.8	0.0000244	0.00200	0.2000	0	94.7	75 - 125	0.184	3.15	20	
Thallium		0.199	mg/L	E200.8	0.0000242	0.00200	0.2000	0	99.4	75 - 125	0.183	8.54	20	
Vanadium		0.219	mg/L	E200.8	0.000438	0.00440	0.2000	0.00338	108	75 - 125	0.198	9.94	20	



Project:

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

Lenora Sullivan **Client:** Utah Division of Water Quality **Contact:**

Lab Set ID: 1508369 Dept: ME Gold King Mine - San Juan River Sampling / DWR - Lake Powell 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:	1508369-001AMSD	Date Analyzed:	09/04/201	5 1729h										
Test Code:	200.8-W	Date Prepared:	09/02/201	5 1235h										
Zinc		1.16	mg/L	E200.8	0.00476	0.00500	1.000	0.0834	108	75 - 125	1.07	7.75	20	

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

Report Date: 9/4/2015 Page 13 of 13

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

WORK ORDER Summary

Work Order: 1508369

Page 1 of 1

Client:

Utah Division of Water Quality

Due Date: 9/2/2015

Client ID:

UTD200

TD200

Contact:

Lenora Sullivan

Project:

Gold King Mine - San Juan River Sampling / DWR - Lake Po

QC Level: II+

WO Type: Standard

Comments:

Email to lenoras@utah.gov., Trisha, & Jim / Composite 5 water samples into 1 then analyze. Also composite 5 sediments samples into 1 and then analyze.; _\rho \frac{1}{2}

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage	Ì
1508369-001A	Lake Powell San Juan Inlet Water Column Composite	8/11/2015 1100h	8/19/2015 1015h	200.7-W	Aqueous	DF-Metals	5
	-						
			DF-Metals				
				200.8-W	A MANAGEMENT CONTROL OF THE CONTROL	DF-Metals	
			IN MO NI SE				
				200.8-W-PR		DF-Metals	
				COMPOSITE-PR		DF-Metals	
				HARD-2340B		DF-Metals	
1508369-002A	Lake Powell San Juan Inlet Bottom Transect Composite	8/11/2015 1100h	8/19/2015 1015h	200.7-W	Aqueous	DF-Metals	5
•				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 S AG TL V ZN					
				200.8-W-PR		DF-Metals	
				COMPOSITE-PR		DF-Metals	400
				HARD-2340B		DF-Metals	

American	West	Analy	vtical	Labor	atories
	** ~~~		,		CCCLLCC

Chain of Custody

Client: Utah Division of Water Quality

Contact: Lenora Sullivan Phone: 801-536-4367

Page 1 of 1

Address: PO Box 144870

Salt Lake City, UT 84114-4870

Fax: 801-536-4301

QC Level: 2+

Project Name: Gold King Mine - San Juan River Sampling

Email: lenoras@utah.gov

Standard

Sampler: DWR - Lake Powell

jamesharris@utah.gov (please copy on results) tbjohnson@utah.gov (please copy on results)

Mg, Na, **200.8:** Sb, As, Ba, Be, u, Pb, Mn, Mo, N, Ag, Se, Tl, V, d TAL Metals + Mo + Hardness N, Ca, Fe, K, Mg, Na, 200.8: Sb, As cd, Cr, Co, Cu, Pb, Mn, Mo, N, Ag, Zn, 245.1: Hg Nutrients: Phosphate, Nitrate&Nitrite Laboratory Use Only **Fotal Chemistry:** pH, Alkalinity, Anions, TDS, TSS, Conductivity Samples Were: Received Broken/Leaking (Improperly Sealed) Sample Matrix Properly Preserved Sample ID: Date Sampled Time Comments Samples are raw Lake Powell San Juan Inlet Water Column Composite 8/11/2015 11:00 1 W **Holding Times** they have not Lake Powell San Juan Inlet Bottom Transect Composite 8/11/2015 11:00 S Х preserved or filtered Please composite the OC Tape Was: individually Present on Outer Package submitted sample NA bottles according to the attached ken on Outer Package instructions. NA Labels and COC Record? Consist Instrumentions

Special instructions.			
Relinquished by: Signature		Received by: Signature	Date:8-20-15
Print Name	Time:	Print Name Elmu Handing	Time: 1400
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name	Time:	Print Name	Time:

* Samples rec. 8/19/15, but work order rc. 8/20/15.

Please composite the 5 water samples below into one water sample called "Lake Powell San Juan Inlet Water Column Composite" and analyze according to the attached COC.

Lake Powell San Juan Inlet Surface, 8-11-15, 11:00 Lake Powell San Juan Inlet 5 ft, 8-11-15, 11:00 Lake Powell San Juan Inlet 10 ft, 8-11-15, 11:00 Lake Powell San Juan Inlet 15 ft, 8-11-15, 11:00 Lake Powell San Juan Inlet 20 ft, 8-11-15, 11:00

Please composite the 5 water/sediment samples below into one sediment sample called "Lake Powell San Juan Inlet Bottom Transect Composite" and analyze according to the attached COC.

Lake Powell San Juan Inlet 22 ft, 8-11-15, 11:00 Lake Powell San Juan Inlet 22 ft, 8-11-15, 11:00 Lake Powell San Juan Inlet 22 ft, 8-11-15, 11:00 Lake Powell San Juan Inlet 23 ft, 8-11-15, 11:00