



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

RE: Tibble Fork Dam

Dear Kevin Okleberry:

Lab Set ID: 1608482

3440 South 700 West
Salt Lake City, UT 84119

American West Analytical Laboratories received sample(s) on 8/23/2016 for the analyses presented in the following report.

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

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.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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



Inorganic Case Narrative

Client:	Utah Division of Water Quality
Contact:	Kevin Okleberry
Project:	Tibble Fork Dam
Lab Set ID:	1608483

Sample Receipt Information:

3440 South 700 West
Salt Lake City, UT 84119

Date of Receipt:	8/23/2016
Date(s) of Collection:	8/23/2016
Sample Condition:	Intact
C-O-C Discrepancies:	None

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

web: www.awal-labs.com

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

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

Batch QC Requirements: MB, LCS, MS, MSD, RPD, DUP:

Kyle F. Gross
Laboratory Director

Method Blanks (MB): No target analytes were detected above reporting limits, indicating that the procedure was free from contamination.

Jose Rocha
QA Officer

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

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

Sample ID	Analyte	QC	Explanation
1608482-001B	Aluminum	MS/MSD	Sample matrix interference
1608482-001B	Iron	MS/MSD	Sample matrix interference
1608482-001B	Silicon	MS/MSD	High analyte concentration
1608482-002A	Aluminum	MS/MSD	High analyte concentration
1608482-002A	Calcium	MS/MSD	High analyte concentration
1608482-002A	Iron	MS/MSD	High analyte concentration
1608482-002A	Lead	MSD	Suspected sample non-homogeneity
1608482-002A	Magnesium	MS/MSD	High analyte concentration
1608482-002A	Manganese	MS/MSD	Suspected sample non-homogeneity
1608482-002A	Potassium	MS	Suspected sample non-homogeneity
1608482-002A	Silicon	MS/MSD	High analyte concentration
1608482-002A	Titanium	MS/MSD	Suspected sample non-homogeneity



Duplicate (DUP): The parameters that required a duplicate analysis had RPDs within the control limits, with the following exceptions: the RPDs for Total Volatiles Solids and for Total Suspended Solids on sample 1680482-001C were outside of the control limits due to suspected sample non-homogeneity or matrix interference.

Corrective Action: None required.

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Laboratory Director

Jose Rocha
QA Officer



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Tibble Fork Dam
Lab Sample ID: 1608482-003
Client Sample ID: 5912840
Collection Date: 8/23/2016 1425h
Received Date: 8/23/2016 1647h

Contact: Kevin Okleberry

Analytical Results

TOTAL METALS

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Jose Rocha
 QA Officer

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	0.100	< 0.100	
Antimony	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Arsenic	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Barium	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	0.0411	
Beryllium	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.000500	< 0.000500	
Calcium	mg/L	8/24/2016 1058h	8/24/2016 1657h	E200.7	10.0	78.0	
Chromium	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Cobalt	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00400	< 0.00400	
Copper	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Iron	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	0.100	< 0.100	
Lead	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Magnesium	mg/L	8/24/2016 1058h	8/24/2016 1657h	E200.7	10.0	24.6	
Manganese	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Mercury	mg/L	8/24/2016 1500h	8/25/2016 1010h	E245.1	0.000150	< 0.000150	
Molybdenum	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	0.00205	
Nickel	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Potassium	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	1.00	< 1.00	
Selenium	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	0.500	3.92	^
Silver	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	1.00	2.59	
Thallium	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	0.00500	< 0.00500	
Vanadium	mg/L	8/24/2016 1058h	8/24/2016 1730h	E200.7	0.00500	< 0.00500	
Zinc	mg/L	8/24/2016 1058h	8/24/2016 1920h	E200.8	0.00500	0.00622	

^ - The calculated result for Silica (SiO2) is 8.39 mg/L.



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Tibble Fork Dam
Lab Sample ID: 1608482-005
Client Sample ID: 5912810
Collection Date: 8/23/2016 1445h
Received Date: 8/23/2016 1647h

Contact: Kevin Okleberry

Analytical Results

TOTAL METALS

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Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	0.100	1.51	
Antimony	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.00461	
Arsenic	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.0154	
Barium	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.179	
Beryllium	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.000500	0.00101	
Calcium	mg/L	8/24/2016 1058h	8/24/2016 1659h	E200.7	10.0	84.1	
Chromium	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.00213	
Cobalt	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00400	< 0.00400	
Copper	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.00952	
Iron	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	0.100	3.50	
Lead	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.0830	
Magnesium	mg/L	8/24/2016 1058h	8/24/2016 1659h	E200.7	10.0	22.5	
Manganese	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.279	
Mercury	mg/L	8/24/2016 1500h	8/25/2016 1108h	E245.1	0.000150	< 0.000150	
Molybdenum	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.00268	
Nickel	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	0.00456	
Potassium	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	1.00	1.04	
Selenium	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/24/2016 1058h	8/24/2016 1659h	E200.7	5.00	6.50	^
Silver	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	1.00	2.79	
Thallium	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	0.00500	0.0306	
Vanadium	mg/L	8/24/2016 1058h	8/24/2016 1818h	E200.7	0.00500	< 0.00500	
Zinc	mg/L	8/24/2016 1058h	8/24/2016 1923h	E200.8	0.00500	0.122	

^ - The calculated result for Silica (SiO2) is 13.9 mg/L.



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Tibble Fork Dam
Lab Sample ID: 1608482-007
Client Sample ID: 4994990
Collection Date: 8/23/2016 1500h
Received Date: 8/23/2016 1647h

Contact: Kevin Okleberry

Analytical Results

TOTAL METALS

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Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	0.100	7.78	
Antimony	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.00633	
Arsenic	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.0283	
Barium	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.295	
Beryllium	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.000500	0.00392	
Calcium	mg/L	8/24/2016 1058h	8/24/2016 1701h	E200.7	10.0	167	
Chromium	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.0112	
Cobalt	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00400	0.00819	
Copper	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.0401	
Iron	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	0.100	15.7	
Lead	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.296	
Magnesium	mg/L	8/24/2016 1058h	8/24/2016 1701h	E200.7	10.0	39.3	
Manganese	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.779	
Mercury	mg/L	8/24/2016 1500h	8/25/2016 1110h	E245.1	0.000150	0.000267	
Molybdenum	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.00207	
Nickel	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	0.0214	
Potassium	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	1.00	2.10	
Selenium	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/24/2016 1058h	8/24/2016 1701h	E200.7	5.00	16.4	^
Silver	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	1.00	2.95	
Thallium	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	0.00500	0.114	
Vanadium	mg/L	8/24/2016 1058h	8/24/2016 1820h	E200.7	0.00500	0.0146	
Zinc	mg/L	8/24/2016 1058h	8/24/2016 1926h	E200.8	0.00500	0.475	

^ - The calculated result for Silica (SiO2) is 35.0 mg/L.



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Tibble Fork Dam
Lab Sample ID: 1608482-001
Client Sample ID: 4994980
Collection Date: 8/23/2016 1225h
Received Date: 8/23/2016 1647h

Contact: Kevin Okleberry

Analytical Results

DISSOLVED METALS

3440 South 700 West
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Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	0.100	< 0.100	
Antimony	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	0.00424	
Arsenic	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	0.00392	
Barium	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	0.0842	
Beryllium	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.000500	< 0.000500	
Calcium	mg/L	8/24/2016 1058h	8/24/2016 1620h	E200.7	10.0	64.9	
Chromium	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Cobalt	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00400	< 0.00400	
Copper	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Iron	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	0.100	< 0.100	
Lead	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Magnesium	mg/L	8/24/2016 1058h	8/24/2016 1620h	E200.7	10.0	18.1	
Manganese	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	0.0404	
Mercury	mg/L	8/24/2016 1500h	8/25/2016 954h	E245.1	0.000150	< 0.000150	
Molybdenum	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	0.00255	
Nickel	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Potassium	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	1.00	< 1.00	
Selenium	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	0.500	3.86	^
Silver	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	1.00	5.49	
Thallium	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	0.00500	< 0.00500	
Vanadium	mg/L	8/24/2016 1058h	8/24/2016 1710h	E200.7	0.00500	< 0.00500	
Zinc	mg/L	8/24/2016 1058h	8/24/2016 1712h	E200.8	0.00500	< 0.00500	

^ - The calculated result for Silica (SiO2) is 8.26mg/L.



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Tibble Fork Dam
Lab Sample ID: 1608482-003
Client Sample ID: 5912840
Collection Date: 8/23/2016 1425h
Received Date: 8/23/2016 1647h

Contact: Kevin Okleberry

Analytical Results

DISSOLVED METALS

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Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	0.100	< 0.100	
Antimony	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Arsenic	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Barium	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	0.0423	
Beryllium	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.000500	< 0.000500	
Calcium	mg/L	8/24/2016 1058h	8/24/2016 1629h	E200.7	10.0	74.9	
Chromium	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Cobalt	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00400	< 0.00400	
Copper	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Iron	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	0.100	< 0.100	
Lead	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Magnesium	mg/L	8/24/2016 1058h	8/24/2016 1629h	E200.7	10.0	23.5	
Manganese	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Mercury	mg/L	8/24/2016 1500h	8/25/2016 956h	E245.1	0.000150	< 0.000150	
Molybdenum	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	0.00205	
Nickel	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Potassium	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	1.00	< 1.00	
Selenium	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	0.500	3.78	^
Silver	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	1.00	2.59	
Thallium	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	0.00500	< 0.00500	
Vanadium	mg/L	8/24/2016 1058h	8/24/2016 1717h	E200.7	0.00500	< 0.00500	
Zinc	mg/L	8/24/2016 1058h	8/24/2016 1728h	E200.8	0.00500	0.00792	

^ - The calculated result for Silica (SiO2) is 8.1 mg/L.



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Tibble Fork Dam
Lab Sample ID: 1608482-005
Client Sample ID: 5912810
Collection Date: 8/23/2016 1445h
Received Date: 8/23/2016 1647h

Contact: Kevin Okleberry

Analytical Results

DISSOLVED METALS

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Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	0.100	< 0.100	
Antimony	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	0.00407	
Arsenic	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	0.00792	
Barium	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	0.148	
Beryllium	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.000500	< 0.000500	
Calcium	mg/L	8/24/2016 1058h	8/24/2016 1631h	E200.7	10.0	67.3	
Chromium	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Cobalt	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00400	< 0.00400	
Copper	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Iron	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	0.100	< 0.100	
Lead	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Magnesium	mg/L	8/24/2016 1058h	8/24/2016 1631h	E200.7	10.0	19.5	
Manganese	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	0.149	
Mercury	mg/L	8/24/2016 1500h	8/25/2016 958h	E245.1	0.000150	< 0.000150	
Molybdenum	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	0.00323	
Nickel	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Potassium	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	1.00	< 1.00	
Selenium	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	0.500	4.27	^
Silver	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	1.00	2.67	
Thallium	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	0.00500	< 0.00500	
Vanadium	mg/L	8/24/2016 1058h	8/24/2016 1719h	E200.7	0.00500	< 0.00500	
Zinc	mg/L	8/24/2016 1058h	8/24/2016 1731h	E200.8	0.00500	< 0.00500	

^ - The calculated result for Silica (SiO2) is 8.14 mg/L.



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Tibble Fork Dam
Lab Sample ID: 1608482-007
Client Sample ID: 4994990
Collection Date: 8/23/2016 1500h
Received Date: 8/23/2016 1647h

Contact: Kevin Okleberry

Analytical Results

DISSOLVED METALS

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	0.100	< 0.100	
Antimony	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	0.00442	
Arsenic	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	0.00596	
Barium	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	0.120	
Beryllium	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.000500	< 0.000500	
Calcium	mg/L	8/24/2016 1058h	8/24/2016 1633h	E200.7	10.0	63.3	
Chromium	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Cobalt	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00400	< 0.00400	
Copper	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Iron	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	0.100	< 0.100	
Lead	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Magnesium	mg/L	8/24/2016 1058h	8/24/2016 1633h	E200.7	10.0	17.7	
Manganese	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	0.0980	
Mercury	mg/L	8/24/2016 1500h	8/25/2016 947h	E245.1	0.000150	< 0.000150	
Molybdenum	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	0.00309	
Nickel	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Potassium	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	1.00	< 1.00	
Selenium	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	0.500	4.39	^
Silver	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	1.00	2.68	
Thallium	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	0.00500	< 0.00500	
Vanadium	mg/L	8/24/2016 1058h	8/24/2016 1721h	E200.7	0.00500	< 0.00500	
Zinc	mg/L	8/24/2016 1058h	8/24/2016 1734h	E200.8	0.00500	< 0.00500	

^ - The calculated result for Silica (SiO2) is 9.39 mg/L.



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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: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-44639		Date Analyzed:	08/24/2016 1615h										
Test Code: 200.7-DIS		Date Prepared:	08/24/2016 1058h										
Aluminum	1.04	mg/L	E200.7	0.0153	0.100	1.000	0	104	85 - 115				
Boron	0.982	mg/L	E200.7	0.0163	0.500	1.000	0	98.2	85 - 115				
Calcium	9.79	mg/L	E200.7	0.0579	1.00	10.00	0	97.9	85 - 115				
Iron	1.00	mg/L	E200.7	0.00640	0.100	1.000	0	100	85 - 115				
Magnesium	9.86	mg/L	E200.7	0.0495	1.00	10.00	0	98.6	85 - 115				
Potassium	10.3	mg/L	E200.7	0.121	1.00	10.00	0	103	85 - 115				
Silicon	1.07	mg/L	E200.7	0.0589	0.500	1.000	0	107	85 - 115				
Sodium	10.4	mg/L	E200.7	0.0125	1.00	10.00	0	104	85 - 115				
Tin	0.958	mg/L	E200.7	0.0129	0.500	1.000	0	95.8	85 - 115				
Titanium	0.936	mg/L	E200.7	0.000586	0.00500	1.000	0	93.6	85 - 115				
Vanadium	0.191	mg/L	E200.7	0.000750	0.00500	0.2000	0	95.5	85 - 115				
Lab Sample ID: LCS-44641		Date Analyzed:	08/24/2016 1644h										
Test Code: 200.7-W		Date Prepared:	08/24/2016 1058h										
Aluminum	1.06	mg/L	E200.7	0.0153	0.100	1.000	0	106	85 - 115				
Boron	1.01	mg/L	E200.7	0.0163	0.500	1.000	0	101	85 - 115				
Calcium	9.87	mg/L	E200.7	0.0579	1.00	10.00	0	98.7	85 - 115				
Iron	1.01	mg/L	E200.7	0.00640	0.100	1.000	0	101	85 - 115				
Magnesium	9.94	mg/L	E200.7	0.0495	1.00	10.00	0	99.4	85 - 115				
Potassium	10.4	mg/L	E200.7	0.121	1.00	10.00	0	104	85 - 115				
Silicon	1.09	mg/L	E200.7	0.0589	0.500	1.000	0	109	85 - 115				
Sodium	10.5	mg/L	E200.7	0.0125	1.00	10.00	0	105	85 - 115				
Tin	0.975	mg/L	E200.7	0.0129	0.500	1.000	0	97.5	85 - 115				
Titanium	0.960	mg/L	E200.7	0.000586	0.00500	1.000	0	96.0	85 - 115				
Vanadium	0.196	mg/L	E200.7	0.000750	0.00500	0.2000	0	97.8	85 - 115				



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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: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-44640													
Date Analyzed:		08/24/2016 1704h											
Test Code:		200.8-DIS											
Date Prepared:		08/24/2016 1058h											
Antimony	0.170	mg/L	E200.8	0.000306	0.00200	0.2000	0	85.2	85 - 115				
Arsenic	0.191	mg/L	E200.8	0.000540	0.00200	0.2000	0	95.4	85 - 115				
Barium	0.194	mg/L	E200.8	0.000600	0.00200	0.2000	0	96.8	85 - 115				
Beryllium	0.190	mg/L	E200.8	0.000177	0.00200	0.2000	0	95.2	85 - 115				
Cadmium	0.190	mg/L	E200.8	0.0000666	0.000500	0.2000	0	95.1	85 - 115				
Chromium	0.193	mg/L	E200.8	0.000998	0.00200	0.2000	0	96.7	85 - 115				
Cobalt	0.189	mg/L	E200.8	0.0000990	0.00400	0.2000	0	94.7	85 - 115				
Copper	0.189	mg/L	E200.8	0.000862	0.00200	0.2000	0	94.7	85 - 115				
Lead	0.192	mg/L	E200.8	0.000125	0.00200	0.2000	0	96.2	85 - 115				
Manganese	0.196	mg/L	E200.8	0.000560	0.00200	0.2000	0	97.8	85 - 115				
Molybdenum	0.193	mg/L	E200.8	0.000202	0.00200	0.2000	0	96.6	85 - 115				
Nickel	0.192	mg/L	E200.8	0.000522	0.00200	0.2000	0	96.2	85 - 115				
Selenium	0.197	mg/L	E200.8	0.000310	0.00200	0.2000	0	98.4	85 - 115				
Silver	0.188	mg/L	E200.8	0.000132	0.00200	0.2000	0	93.9	85 - 115				
Thallium	0.192	mg/L	E200.8	0.0000500	0.00200	0.2000	0	95.9	85 - 115				
Zinc	0.956	mg/L	E200.8	0.00452	0.00500	1.000	0	95.6	85 - 115				
Lab Sample ID: LCS-44642													
Date Analyzed:		08/24/2016 1901h											
Test Code:		200.8-W											
Date Prepared:		08/24/2016 1058h											
Antimony	0.180	mg/L	E200.8	0.000306	0.00200	0.2000	0	89.8	85 - 115				
Arsenic	0.200	mg/L	E200.8	0.000540	0.00200	0.2000	0	100	85 - 115				
Barium	0.203	mg/L	E200.8	0.000600	0.00200	0.2000	0	101	85 - 115				
Beryllium	0.195	mg/L	E200.8	0.000177	0.00200	0.2000	0	97.5	85 - 115				
Cadmium	0.198	mg/L	E200.8	0.0000666	0.000500	0.2000	0	99.0	85 - 115				
Chromium	0.194	mg/L	E200.8	0.000998	0.00200	0.2000	0	96.8	85 - 115				
Cobalt	0.191	mg/L	E200.8	0.0000990	0.00400	0.2000	0	95.5	85 - 115				
Copper	0.193	mg/L	E200.8	0.000862	0.00200	0.2000	0	96.5	85 - 115				
Lead	0.195	mg/L	E200.8	0.000125	0.00200	0.2000	0	97.4	85 - 115				



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Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-44642													
Date Analyzed:		08/24/2016 1901h											
Test Code:		200.8-W											
Date Prepared:		08/24/2016 1058h											
Manganese	0.198	mg/L	E200.8	0.000560	0.00200	0.2000	0	99.0	85 - 115				
Molybdenum	0.199	mg/L	E200.8	0.000202	0.00200	0.2000	0	99.3	85 - 115				
Nickel	0.194	mg/L	E200.8	0.000522	0.00200	0.2000	0	97.2	85 - 115				
Selenium	0.203	mg/L	E200.8	0.000310	0.00200	0.2000	0	101	85 - 115				
Silver	0.195	mg/L	E200.8	0.000132	0.00200	0.2000	0	97.3	85 - 115				
Thallium	0.191	mg/L	E200.8	0.0000500	0.00200	0.2000	0	95.3	85 - 115				
Zinc	0.970	mg/L	E200.8	0.00452	0.00500	1.000	0	97.0	85 - 115				
Lab Sample ID: LCS-44645													
Date Analyzed:		08/25/2016 1354h											
Test Code:		6010D-S											
Date Prepared:		08/24/2016 1159h											
Aluminum	94.7	mg/kg	SW6010D	3.29	10.0	100.0	0	94.7	80 - 120				
Boron	90.9	mg/kg	SW6010D	2.93	50.0	100.0	0	90.9	80 - 120				
Calcium	973	mg/kg	SW6010D	10.4	100	1,000	0	97.3	80 - 120				
Iron	95.0	mg/kg	SW6010D	0.977	5.00	100.0	0	95.0	80 - 120				
Magnesium	986	mg/kg	SW6010D	6.81	100	1,000	0	98.6	80 - 120				
Potassium	937	mg/kg	SW6010D	9.04	100	1,000	0	93.7	80 - 120				
Silicon	95.5	mg/kg	SW6010D	4.70	50.0	100.0	0	95.5	80 - 120				
Sodium	953	mg/kg	SW6010D	18.2	100	1,000	0	95.3	80 - 120				
Tin	94.0	mg/kg	SW6010D	0.739	10.0	100.0	0	94.0	80 - 120				
Titanium	98.1	mg/kg	SW6010D	0.103	0.500	100.0	0	98.1	80 - 120				
Vanadium	18.8	mg/kg	SW6010D	0.0507	0.500	20.00	0	94.1	80 - 120				
Lab Sample ID: LCS-44645													
Date Analyzed:		08/24/2016 1820h											
Test Code:		6020B-S											
Date Prepared:		08/24/2016 1159h											
Antimony	18.2	mg/kg	SW6020B	0.204	3.20	20.00	0	91.0	85 - 115				
Arsenic	18.5	mg/kg	SW6020B	0.0872	2.00	20.00	0	92.4	85 - 115				
Barium	19.0	mg/kg	SW6020B	2.73	3.60	20.00	0	95.2	85 - 115				
Beryllium	18.7	mg/kg	SW6020B	0.125	1.60	20.00	0	93.3	85 - 115				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-44645	Date Analyzed: 08/24/2016 1820h												
Test Code: 6020B-S	Date Prepared: 08/24/2016 1159h												
Cadmium	18.5	mg/kg	SW6020B	0.0952	0.680	20.00	0	92.6	85 - 115				
Chromium	18.9	mg/kg	SW6020B	5.60	8.00	20.00	0	94.6	85 - 115				
Cobalt	18.4	mg/kg	SW6020B	0.556	1.08	20.00	0	92.0	85 - 115				
Copper	18.6	mg/kg	SW6020B	4.32	12.4	20.00	0	93.2	85 - 115				
Lead	18.8	mg/kg	SW6020B	0.182	5.20	20.00	0	93.8	85 - 115				
Manganese	18.9	mg/kg	SW6020B	1.44	3.20	20.00	0	94.4	85 - 115				
Molybdenum	19.0	mg/kg	SW6020B	1.24	16.0	20.00	0	95.2	85 - 115				
Nickel	18.6	mg/kg	SW6020B	2.58	16.0	20.00	0	92.9	85 - 115				
Selenium	19.5	mg/kg	SW6020B	0.112	6.80	20.00	0	97.4	85 - 115				
Silver	18.5	mg/kg	SW6020B	0.0720	1.20	20.00	0	92.3	85 - 115				
Thallium	18.4	mg/kg	SW6020B	0.109	3.20	20.00	0	92.1	85 - 115				
Zinc	92.2	mg/kg	SW6020B	3.55	40.0	100.0	0	92.2	85 - 115				
Lab Sample ID: LCS-44651	Date Analyzed: 08/25/2016 1005h												
Test Code: HG-DW-245.1	Date Prepared: 08/24/2016 1500h												
Mercury	0.00321	mg/L	E245.1	0.00000559	0.000150	0.003330	0	96.5	85 - 115				
Lab Sample ID: LCS-44650	Date Analyzed: 08/25/2016 942h												
Test Code: HG-DW-DIS-245.1	Date Prepared: 08/24/2016 1500h												
Mercury	0.00364	mg/L	E245.1	0.00000559	0.000150	0.003330	0	109	85 - 115				
Lab Sample ID: LCS-44653	Date Analyzed: 08/25/2016 731h												
Test Code: HG-S-7471B	Date Prepared: 08/24/2016 1737h												
Mercury	0.370	mg/kg	SW7471B	0.000959	0.0400	0.4000	0	92.6	80 - 120				



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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-44639	Date Analyzed:	08/24/2016	1613h										
Test Code:	200.7-DIS	Date Prepared:	08/24/2016	1058h									
Aluminum	< 0.100	mg/L	E200.7	0.0153	0.100								
Boron	< 0.500	mg/L	E200.7	0.0163	0.500								
Calcium	< 1.00	mg/L	E200.7	0.0579	1.00								
Iron	< 0.100	mg/L	E200.7	0.00640	0.100								
Magnesium	< 1.00	mg/L	E200.7	0.0495	1.00								
Potassium	< 1.00	mg/L	E200.7	0.121	1.00								
Silicon	< 0.500	mg/L	E200.7	0.0589	0.500								
Sodium	< 1.00	mg/L	E200.7	0.0125	1.00								
Tin	< 0.500	mg/L	E200.7	0.0129	0.500								
Titanium	< 0.00500	mg/L	E200.7	0.000586	0.00500								
Vanadium	< 0.00500	mg/L	E200.7	0.000750	0.00500								
Lab Sample ID: MB-44641	Date Analyzed:	08/24/2016	1642h										
Test Code:	200.7-W	Date Prepared:	08/24/2016	1058h									
Aluminum	< 0.100	mg/L	E200.7	0.0153	0.100								
Boron	< 0.500	mg/L	E200.7	0.0163	0.500								
Calcium	< 1.00	mg/L	E200.7	0.0579	1.00								
Iron	< 0.100	mg/L	E200.7	0.00640	0.100								
Magnesium	< 1.00	mg/L	E200.7	0.0495	1.00								
Potassium	< 1.00	mg/L	E200.7	0.121	1.00								
Silicon	< 0.500	mg/L	E200.7	0.0589	0.500								
Sodium	< 1.00	mg/L	E200.7	0.0125	1.00								
Tin	< 0.500	mg/L	E200.7	0.0129	0.500								
Titanium	< 0.00500	mg/L	E200.7	0.000586	0.00500								
Vanadium	< 0.00500	mg/L	E200.7	0.000750	0.00500								



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Contact: Kevin Okleberry
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-44640	Date Analyzed:	08/24/2016	1700h										
Test Code:	200.8-DIS	Date Prepared:	08/24/2016	1058h									
Antimony	< 0.00200	mg/L	E200.8	0.000306	0.00200								
Arsenic	< 0.00200	mg/L	E200.8	0.000540	0.00200								
Barium	< 0.00200	mg/L	E200.8	0.000600	0.00200								
Beryllium	< 0.00200	mg/L	E200.8	0.000177	0.00200								
Cadmium	< 0.000500	mg/L	E200.8	0.0000666	0.000500								
Chromium	< 0.00200	mg/L	E200.8	0.000998	0.00200								
Cobalt	< 0.00400	mg/L	E200.8	0.0000990	0.00400								
Copper	< 0.00200	mg/L	E200.8	0.000862	0.00200								
Lead	< 0.00200	mg/L	E200.8	0.000125	0.00200								
Manganese	< 0.00200	mg/L	E200.8	0.000560	0.00200								
Molybdenum	< 0.00200	mg/L	E200.8	0.000202	0.00200								
Nickel	< 0.00200	mg/L	E200.8	0.000522	0.00200								
Selenium	< 0.00200	mg/L	E200.8	0.000310	0.00200								
Silver	< 0.00200	mg/L	E200.8	0.000132	0.00200								
Thallium	< 0.00200	mg/L	E200.8	0.0000500	0.00200								
Zinc	< 0.00500	mg/L	E200.8	0.00452	0.00500								
Lab Sample ID: MB-44642	Date Analyzed:	08/24/2016	1858h										
Test Code:	200.8-W	Date Prepared:	08/24/2016	1058h									
Antimony	< 0.00200	mg/L	E200.8	0.000306	0.00200								
Arsenic	< 0.00200	mg/L	E200.8	0.000540	0.00200								
Barium	< 0.00200	mg/L	E200.8	0.000600	0.00200								
Beryllium	< 0.00200	mg/L	E200.8	0.000177	0.00200								
Cadmium	< 0.000500	mg/L	E200.8	0.0000666	0.000500								
Chromium	< 0.00200	mg/L	E200.8	0.000998	0.00200								
Cobalt	< 0.00400	mg/L	E200.8	0.0000990	0.00400								
Copper	< 0.00200	mg/L	E200.8	0.000862	0.00200								
Lead	< 0.00200	mg/L	E200.8	0.000125	0.00200								



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-44642													
Date Analyzed:		08/24/2016 1858h											
Test Code:		200.8-W											
Date Prepared:		08/24/2016 1058h											
Manganese	< 0.00200	mg/L	E200.8	0.000560	0.00200								
Molybdenum	< 0.00200	mg/L	E200.8	0.000202	0.00200								
Nickel	< 0.00200	mg/L	E200.8	0.000522	0.00200								
Selenium	< 0.00200	mg/L	E200.8	0.000310	0.00200								
Silver	< 0.00200	mg/L	E200.8	0.000132	0.00200								
Thallium	< 0.00200	mg/L	E200.8	0.0000500	0.00200								
Zinc	< 0.00500	mg/L	E200.8	0.00452	0.00500								
Lab Sample ID: MB-44645													
Date Analyzed:		08/25/2016 1352h											
Test Code:		6010D-S											
Date Prepared:		08/24/2016 1159h											
Aluminum	< 10.0	mg/kg	SW6010D	3.29	10.0								
Boron	< 50.0	mg/kg	SW6010D	2.93	50.0								
Calcium	< 100	mg/kg	SW6010D	10.4	100								
Iron	< 5.00	mg/kg	SW6010D	0.977	5.00								
Magnesium	< 100	mg/kg	SW6010D	6.81	100								
Potassium	< 100	mg/kg	SW6010D	9.04	100								
Silicon	< 50.0	mg/kg	SW6010D	4.70	50.0								
Sodium	< 100	mg/kg	SW6010D	18.2	100								
Tin	< 10.0	mg/kg	SW6010D	0.739	10.0								
Titanium	< 0.500	mg/kg	SW6010D	0.103	0.500								
Vanadium	< 0.500	mg/kg	SW6010D	0.0507	0.500								
Lab Sample ID: MB-44645													
Date Analyzed:		08/24/2016 1817h											
Test Code:		6020B-S											
Date Prepared:		08/24/2016 1159h											
Antimony	< 3.20	mg/kg	SW6020B	0.204	3.20								
Arsenic	< 2.00	mg/kg	SW6020B	0.0872	2.00								
Barium	< 3.60	mg/kg	SW6020B	2.73	3.60								
Beryllium	< 1.60	mg/kg	SW6020B	0.125	1.60								



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QC SUMMARY REPORT

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Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-44645	Date Analyzed:	08/24/2016	1817h										
Test Code:	6020B-S	Date Prepared:	08/24/2016	1159h									
Cadmium	< 0.680	mg/kg	SW6020B	0.0952	0.680								
Chromium	< 8.00	mg/kg	SW6020B	5.60	8.00								
Cobalt	< 1.08	mg/kg	SW6020B	0.556	1.08								
Copper	< 12.4	mg/kg	SW6020B	4.32	12.4								
Lead	< 5.20	mg/kg	SW6020B	0.182	5.20								
Manganese	< 3.20	mg/kg	SW6020B	1.44	3.20								
Molybdenum	< 16.0	mg/kg	SW6020B	1.24	16.0								
Nickel	< 16.0	mg/kg	SW6020B	2.58	16.0								
Selenium	< 6.80	mg/kg	SW6020B	0.112	6.80								
Silver	< 1.20	mg/kg	SW6020B	0.0720	1.20								
Thallium	< 3.20	mg/kg	SW6020B	0.109	3.20								
Zinc	< 40.0	mg/kg	SW6020B	3.55	40.0								
Lab Sample ID: MB-44651	Date Analyzed:	08/25/2016	1003h										
Test Code:	HG-DW-245.1	Date Prepared:	08/24/2016	1500h									
Mercury	< 0.000150	mg/L	E245.1	0.00000559	0.000150								
Lab Sample ID: MB-44650	Date Analyzed:	08/25/2016	940h										
Test Code:	HG-DW-DIS-245.1	Date Prepared:	08/24/2016	1500h									
Mercury	< 0.000150	mg/L	E245.1	0.00000559	0.000150								
Lab Sample ID: MB-44653	Date Analyzed:	08/25/2016	729h										
Test Code:	HG-S-7471B	Date Prepared:	08/24/2016	1737h									
Mercury	< 0.0400	mg/kg	SW7471B	0.000959	0.0400								



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-001AMS													
Date Analyzed:	08/24/2016 1624h												
Test Code:	200.7-DIS												
Date Prepared:	08/24/2016 1058h												
Calcium	74.9	mg/L	E200.7	0.579	10.0	10.00	64.9	100	70 - 130				
Magnesium	27.8	mg/L	E200.7	0.495	10.0	10.00	18.1	97.0	70 - 130				
Lab Sample ID: 1608482-001AMS													
Date Analyzed:	08/24/2016 1712h												
Test Code:	200.7-DIS												
Date Prepared:	08/24/2016 1058h												
Aluminum	1.08	mg/L	E200.7	0.0153	0.100	1.000	0.0337	105	70 - 130				
Boron	1.04	mg/L	E200.7	0.0163	0.500	1.000	0	104	70 - 130				
Iron	0.999	mg/L	E200.7	0.00640	0.100	1.000	0	99.9	70 - 130				
Potassium	11.4	mg/L	E200.7	0.121	1.00	10.00	0.758	106	70 - 130				
Silicon	4.80	mg/L	E200.7	0.0589	0.500	1.000	3.86	94.0	70 - 130				
Sodium	16.0	mg/L	E200.7	0.0125	1.00	10.00	5.49	105	70 - 130				
Tin	0.948	mg/L	E200.7	0.0129	0.500	1.000	0	94.8	70 - 130				
Titanium	0.942	mg/L	E200.7	0.000586	0.00500	1.000	0	94.2	70 - 130				
Vanadium	0.192	mg/L	E200.7	0.000750	0.00500	0.2000	0	96.0	70 - 130				
Lab Sample ID: 1608482-001BMS													
Date Analyzed:	08/24/2016 1652h												
Test Code:	200.7-W												
Date Prepared:	08/24/2016 1058h												
Calcium	118	mg/L	E200.7	0.579	10.0	10.00	110	79.7	70 - 130				
Magnesium	36.0	mg/L	E200.7	0.495	10.0	10.00	25	110	70 - 130				
Silicon	13.8	mg/L	E200.7	0.589	5.00	1.000	8.93	491	70 - 130				2
Lab Sample ID: 1608482-001BMS													
Date Analyzed:	08/24/2016 1726h												
Test Code:	200.7-W												
Date Prepared:	08/24/2016 1058h												
Aluminum	6.71	mg/L	E200.7	0.0153	0.100	1.000	3.45	326	70 - 130				1
Boron	1.11	mg/L	E200.7	0.0163	0.500	1.000	0	111	70 - 130				
Iron	9.55	mg/L	E200.7	0.00640	0.100	1.000	7.51	204	70 - 130				1
Potassium	12.7	mg/L	E200.7	0.121	1.00	10.00	1.36	113	70 - 130				
Sodium	16.3	mg/L	E200.7	0.0125	1.00	10.00	5.29	111	70 - 130				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
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Contact: Kevin Okleberry
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: 1608482-001BMS													
Date Analyzed:	08/24/2016 1726h												
Test Code:	200.7-W												
Date Prepared:	08/24/2016 1058h												
Tin	0.801	mg/L	E200.7	0.0129	0.500	1.000	0	80.1	70 - 130				
Titanium	1.06	mg/L	E200.7	0.000586	0.00500	1.000	0.0707	98.4	70 - 130				
Vanadium	0.208	mg/L	E200.7	0.000750	0.00500	0.2000	0.00766	100	70 - 130				
Lab Sample ID: 1608482-001AMS													
Date Analyzed:	08/24/2016 1721h												
Test Code:	200.8-DIS												
Date Prepared:	08/24/2016 1058h												
Antimony	0.185	mg/L	E200.8	0.000306	0.00200	0.2000	0.00424	90.4	75 - 125				
Arsenic	0.204	mg/L	E200.8	0.000540	0.00200	0.2000	0.00392	100	75 - 125				
Barium	0.280	mg/L	E200.8	0.000600	0.00200	0.2000	0.0842	98.1	75 - 125				
Beryllium	0.194	mg/L	E200.8	0.000177	0.00200	0.2000	0	97.2	75 - 125				
Cadmium	0.195	mg/L	E200.8	0.0000666	0.000500	0.2000	0	97.7	75 - 125				
Chromium	0.199	mg/L	E200.8	0.000998	0.00200	0.2000	0	99.6	75 - 125				
Cobalt	0.192	mg/L	E200.8	0.0000990	0.00400	0.2000	0.000178	96.0	75 - 125				
Copper	0.190	mg/L	E200.8	0.000862	0.00200	0.2000	0	94.8	75 - 125				
Lead	0.197	mg/L	E200.8	0.000125	0.00200	0.2000	0.000386	98.3	75 - 125				
Manganese	0.236	mg/L	E200.8	0.000560	0.00200	0.2000	0.0404	97.8	75 - 125				
Molybdenum	0.207	mg/L	E200.8	0.000202	0.00200	0.2000	0.00255	102	75 - 125				
Nickel	0.195	mg/L	E200.8	0.000522	0.00200	0.2000	0.000701	97.0	75 - 125				
Selenium	0.203	mg/L	E200.8	0.000310	0.00200	0.2000	0.000672	101	75 - 125				
Silver	0.193	mg/L	E200.8	0.000132	0.00200	0.2000	0	96.3	75 - 125				
Thallium	0.197	mg/L	E200.8	0.0000500	0.00200	0.2000	0	98.4	75 - 125				
Zinc	0.972	mg/L	E200.8	0.00452	0.00500	1.000	0	97.2	75 - 125				
Lab Sample ID: 1608482-001BMS													
Date Analyzed:	08/24/2016 1914h												
Test Code:	200.8-W												
Date Prepared:	08/24/2016 1058h												
Antimony	0.175	mg/L	E200.8	0.000306	0.00200	0.2000	0.00606	84.3	75 - 125				
Arsenic	0.223	mg/L	E200.8	0.000540	0.00200	0.2000	0.0198	101	75 - 125				
Barium	0.367	mg/L	E200.8	0.000600	0.00200	0.2000	0.155	106	75 - 125				



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QC SUMMARY REPORT

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Project: Tibble Fork Dam

Contact: Kevin Okleberry
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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: 1608482-001BMS													
Date Analyzed:		08/24/2016 1914h											
Test Code:		200.8-W											
Date Prepared:		08/24/2016 1058h											
Beryllium	0.199	mg/L	E200.8	0.000177	0.00200	0.2000	0.000406	99.4	75 - 125				
Cadmium	0.204	mg/L	E200.8	0.0000666	0.000500	0.2000	0.00313	101	75 - 125				
Chromium	0.208	mg/L	E200.8	0.000998	0.00200	0.2000	0.00522	101	75 - 125				
Cobalt	0.200	mg/L	E200.8	0.0000990	0.00400	0.2000	0.00461	97.8	75 - 125				
Copper	0.223	mg/L	E200.8	0.000862	0.00200	0.2000	0.0266	98.3	75 - 125				
Lead	0.445	mg/L	E200.8	0.000125	0.00200	0.2000	0.231	107	75 - 125				
Manganese	0.637	mg/L	E200.8	0.000560	0.00200	0.2000	0.423	107	75 - 125				
Molybdenum	0.193	mg/L	E200.8	0.000202	0.00200	0.2000	0.00179	95.4	75 - 125				
Nickel	0.210	mg/L	E200.8	0.000522	0.00200	0.2000	0.0102	99.7	75 - 125				
Selenium	0.202	mg/L	E200.8	0.000310	0.00200	0.2000	0.000919	101	75 - 125				
Silver	0.198	mg/L	E200.8	0.000132	0.00200	0.2000	0.000621	98.5	75 - 125				
Thallium	0.198	mg/L	E200.8	0.0000500	0.00200	0.2000	0.000158	98.9	75 - 125				
Zinc	1.36	mg/L	E200.8	0.00452	0.00500	1.000	0.341	102	75 - 125				
Lab Sample ID: 1608482-002AMS													
Date Analyzed:		08/25/2016 1415h											
Test Code:		6010D-S											
Date Prepared:		08/24/2016 1159h											
Aluminum	13,900	mg/kg-dry	SW6010D	254	773	154.7	12900	664	75 - 125				2
Calcium	62,000	mg/kg-dry	SW6010D	804	7,730	1,547	63300	-80.7	75 - 125				2
Iron	18,000	mg/kg-dry	SW6010D	75.6	387	154.7	18400	-271	75 - 125				2
Magnesium	13,900	mg/kg-dry	SW6010D	527	7,730	1,547	12800	67.7	75 - 125				2
Titanium	268	mg/kg-dry	SW6010D	7.97	38.7	154.7	164	67.1	75 - 125				3
Lab Sample ID: 1608482-002AMS													
Date Analyzed:		08/25/2016 1441h											
Test Code:		6010D-S											
Date Prepared:		08/24/2016 1159h											
Potassium	5,650	mg/kg-dry	SW6010D	69.9	773	1,547	3670	128	75 - 125				3
Silicon	2,130	mg/kg-dry	SW6010D	36.3	387	154.7	1930	131	75 - 125				2
Vanadium	73.1	mg/kg-dry	SW6010D	0.392	3.87	30.93	37.7	114	75 - 125				



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Lab Set ID: 1608482

Project: Tibble Fork Dam

Contact: Kevin Okleberry

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: 1608482-002AMS													
Date Analyzed:		08/25/2016 1502h											
Test Code:		6010D-S											
Date Prepared:		08/24/2016 1159h											
Boron	163	mg/kg-dry	SW6010D	4.53	77.3	154.7	17.9	93.6	75 - 125				
Sodium	2,060	mg/kg-dry	SW6010D	28.1	155	1,547	395	107	75 - 125				
Tin	143	mg/kg-dry	SW6010D	1.14	15.5	154.7	0	92.7	75 - 125				
Lab Sample ID: 1608482-002AMS													
Date Analyzed:		08/24/2016 1833h											
Test Code:		6020B-S											
Date Prepared:		08/24/2016 1159h											
Antimony	33.8	mg/kg-dry	SW6020B	0.316	4.95	30.93	7.02	86.6	75 - 125				
Arsenic	62.2	mg/kg-dry	SW6020B	0.135	3.09	30.93	30.8	102	75 - 125				
Barium	194	mg/kg-dry	SW6020B	4.22	5.57	30.93	155	125	75 - 125				
Beryllium	29.2	mg/kg-dry	SW6020B	0.193	2.47	30.93	1.04	90.9	75 - 125				
Cadmium	33.2	mg/kg-dry	SW6020B	0.147	1.05	30.93	3.88	94.6	75 - 125				
Chromium	58.6	mg/kg-dry	SW6020B	8.66	12.4	30.93	26.2	105	75 - 125				
Cobalt	37.6	mg/kg-dry	SW6020B	0.860	1.67	30.93	9.32	91.5	75 - 125				
Copper	71.7	mg/kg-dry	SW6020B	6.68	19.2	30.93	43.1	92.7	75 - 125				
Lead	304	mg/kg-dry	SW6020B	0.281	8.04	30.93	267	117	75 - 125				
Molybdenum	31.9	mg/kg-dry	SW6020B	1.92	24.7	30.93	0	103	75 - 125				
Nickel	56.4	mg/kg-dry	SW6020B	3.99	24.7	30.93	26.4	96.9	75 - 125				
Selenium	31.6	mg/kg-dry	SW6020B	0.174	10.5	30.93	0.967	99.0	75 - 125				
Silver	30.3	mg/kg-dry	SW6020B	0.111	1.86	30.93	1.21	94.0	75 - 125				
Thallium	29.1	mg/kg-dry	SW6020B	0.168	4.95	30.93	0.37	93.0	75 - 125				
Lab Sample ID: 1608482-002AMS													
Date Analyzed:		08/24/2016 2116h											
Test Code:		6020B-S											
Date Prepared:		08/24/2016 1159h											
Manganese	648	mg/kg-dry	SW6020B	2.78	6.19	30.93	576	232	75 - 125				3
Lab Sample ID: 1608482-002AMS													
Date Analyzed:		08/25/2016 731h											
Test Code:		6020B-S											
Date Prepared:		08/24/2016 1159h											
Zinc	689	mg/kg-dry	SW6020B	13.7	155	154.7	509	117	75 - 125				



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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: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-003BMS	Date Analyzed:	08/25/2016	1012h										
Test Code:	HG-DW-245.1	Date Prepared:	08/24/2016	1500h									
Mercury	0.00327	mg/L	E245.1	0.00000559	0.000150	0.003330	0	98.2	80 - 120				
Lab Sample ID: 1608482-007AMS	Date Analyzed:	08/25/2016	951h										
Test Code:	HG-DW-DIS-245.1	Date Prepared:	08/24/2016	1500h									
Mercury	0.00364	mg/L	E245.1	0.00000559	0.000150	0.003330	0	109	85 - 115				
Lab Sample ID: 1608482-002AMS	Date Analyzed:	08/25/2016	739h										
Test Code:	HG-S-7471B	Date Prepared:	08/24/2016	1737h									
Mercury	0.920	mg/kg-dry	SW7471B	0.00134	0.0561	0.5606	0.286	113	80 - 120				

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

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

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



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QC SUMMARY REPORT

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Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-001AMSD													
Date Analyzed:	08/24/2016 1626h												
Test Code:	200.7-DIS												
Date Prepared:	08/24/2016 1058h												
Calcium	76.3	mg/L	E200.7	0.579	10.0	10.00	64.9	114	70 - 130	74.9	1.85	20	
Magnesium	28.4	mg/L	E200.7	0.495	10.0	10.00	18.1	103	70 - 130	27.8	2.14	20	
Lab Sample ID: 1608482-001AMSD													
Date Analyzed:	08/24/2016 1715h												
Test Code:	200.7-DIS												
Date Prepared:	08/24/2016 1058h												
Aluminum	1.07	mg/L	E200.7	0.0153	0.100	1.000	0.0337	104	70 - 130	1.08	0.930	20	
Boron	1.05	mg/L	E200.7	0.0163	0.500	1.000	0	105	70 - 130	1.04	0.957	20	
Iron	0.969	mg/L	E200.7	0.00640	0.100	1.000	0	96.9	70 - 130	0.999	3.05	20	
Potassium	11.1	mg/L	E200.7	0.121	1.00	10.00	0.758	103	70 - 130	11.4	2.67	20	
Silicon	4.75	mg/L	E200.7	0.0589	0.500	1.000	3.86	89.0	70 - 130	4.8	1.05	20	
Sodium	15.7	mg/L	E200.7	0.0125	1.00	10.00	5.49	102	70 - 130	16	1.89	20	
Tin	0.953	mg/L	E200.7	0.0129	0.500	1.000	0	95.3	70 - 130	0.948	0.526	20	
Titanium	0.933	mg/L	E200.7	0.000586	0.00500	1.000	0	93.3	70 - 130	0.942	0.960	20	
Vanadium	0.190	mg/L	E200.7	0.000750	0.00500	0.2000	0	95.0	70 - 130	0.192	1.05	20	
Lab Sample ID: 1608482-001BMSD													
Date Analyzed:	08/24/2016 1655h												
Test Code:	200.7-W												
Date Prepared:	08/24/2016 1058h												
Calcium	123	mg/L	E200.7	0.579	10.0	10.00	110	125	70 - 130	118	3.73	20	
Magnesium	36.5	mg/L	E200.7	0.495	10.0	10.00	25	114	70 - 130	36	1.25	20	
Silicon	16.4	mg/L	E200.7	0.589	5.00	1.000	8.93	743	70 - 130	13.8	16.8	20	2
Lab Sample ID: 1608482-001BMSD													
Date Analyzed:	08/24/2016 1728h												
Test Code:	200.7-W												
Date Prepared:	08/24/2016 1058h												
Aluminum	7.99	mg/L	E200.7	0.0153	0.100	1.000	3.45	454	70 - 130	6.71	17.4	20	1
Boron	1.15	mg/L	E200.7	0.0163	0.500	1.000	0	115	70 - 130	1.11	3.76	20	
Iron	11.2	mg/L	E200.7	0.00640	0.100	1.000	7.51	369	70 - 130	9.55	15.9	20	1
Potassium	13.3	mg/L	E200.7	0.121	1.00	10.00	1.36	119	70 - 130	12.7	4.37	20	
Sodium	16.9	mg/L	E200.7	0.0125	1.00	10.00	5.29	116	70 - 130	16.3	3.44	20	



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-001BMSD													
Date Analyzed:		08/24/2016 1728h											
Test Code:		200.7-W											
Date Prepared:		08/24/2016 1058h											
Tin	0.786	mg/L	E200.7	0.0129	0.500	1.000	0	78.6	70 - 130	0.801	1.95	20	
Titanium	1.06	mg/L	E200.7	0.000586	0.00500	1.000	0.0707	99.3	70 - 130	1.06	0.826	20	
Vanadium	0.214	mg/L	E200.7	0.000750	0.00500	0.2000	0.00766	103	70 - 130	0.208	2.62	20	
Lab Sample ID: 1608482-001AMSD													
Date Analyzed:		08/24/2016 1725h											
Test Code:		200.8-DIS											
Date Prepared:		08/24/2016 1058h											
Antimony	0.183	mg/L	E200.8	0.000306	0.00200	0.2000	0.00424	89.4	75 - 125	0.185	1.13	20	
Arsenic	0.203	mg/L	E200.8	0.000540	0.00200	0.2000	0.00392	99.4	75 - 125	0.204	0.681	20	
Barium	0.276	mg/L	E200.8	0.000600	0.00200	0.2000	0.0842	95.7	75 - 125	0.28	1.70	20	
Beryllium	0.191	mg/L	E200.8	0.000177	0.00200	0.2000	0	95.4	75 - 125	0.194	1.80	20	
Cadmium	0.193	mg/L	E200.8	0.0000666	0.000500	0.2000	0	96.5	75 - 125	0.195	1.31	20	
Chromium	0.199	mg/L	E200.8	0.000998	0.00200	0.2000	0	99.4	75 - 125	0.199	0.211	20	
Cobalt	0.192	mg/L	E200.8	0.0000990	0.00400	0.2000	0.000178	95.9	75 - 125	0.192	0.134	20	
Copper	0.191	mg/L	E200.8	0.000862	0.00200	0.2000	0	95.7	75 - 125	0.19	0.979	20	
Lead	0.192	mg/L	E200.8	0.000125	0.00200	0.2000	0.000386	96.0	75 - 125	0.197	2.40	20	
Manganese	0.239	mg/L	E200.8	0.000560	0.00200	0.2000	0.0404	99.5	75 - 125	0.236	1.42	20	
Molybdenum	0.203	mg/L	E200.8	0.000202	0.00200	0.2000	0.00255	100	75 - 125	0.207	2.03	20	
Nickel	0.196	mg/L	E200.8	0.000522	0.00200	0.2000	0.000701	97.9	75 - 125	0.195	0.883	20	
Selenium	0.200	mg/L	E200.8	0.000310	0.00200	0.2000	0.000672	99.5	75 - 125	0.203	1.51	20	
Silver	0.189	mg/L	E200.8	0.000132	0.00200	0.2000	0	94.3	75 - 125	0.193	2.07	20	
Thallium	0.193	mg/L	E200.8	0.0000500	0.00200	0.2000	0	96.5	75 - 125	0.197	1.97	20	
Zinc	0.955	mg/L	E200.8	0.00452	0.00500	1.000	0	95.5	75 - 125	0.972	1.84	20	
Lab Sample ID: 1608482-001BMSD													
Date Analyzed:		08/24/2016 1917h											
Test Code:		200.8-W											
Date Prepared:		08/24/2016 1058h											
Antimony	0.166	mg/L	E200.8	0.000306	0.00200	0.2000	0.00606	80.2	75 - 125	0.175	4.82	20	
Arsenic	0.216	mg/L	E200.8	0.000540	0.00200	0.2000	0.0198	98.3	75 - 125	0.223	2.86	20	
Barium	0.373	mg/L	E200.8	0.000600	0.00200	0.2000	0.155	109	75 - 125	0.367	1.68	20	



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-001BMSD													
Date Analyzed:		08/24/2016 1917h											
Test Code:		200.8-W											
Date Prepared:		08/24/2016 1058h											
Beryllium	0.197	mg/L	E200.8	0.000177	0.00200	0.2000	0.000406	98.3	75 - 125	0.199	1.09	20	
Cadmium	0.202	mg/L	E200.8	0.0000666	0.000500	0.2000	0.00313	99.5	75 - 125	0.204	0.982	20	
Chromium	0.209	mg/L	E200.8	0.000998	0.00200	0.2000	0.00522	102	75 - 125	0.208	0.449	20	
Cobalt	0.200	mg/L	E200.8	0.0000990	0.00400	0.2000	0.00461	97.7	75 - 125	0.2	0.110	20	
Copper	0.228	mg/L	E200.8	0.000862	0.00200	0.2000	0.0266	101	75 - 125	0.223	2.24	20	
Lead	0.447	mg/L	E200.8	0.000125	0.00200	0.2000	0.231	108	75 - 125	0.445	0.338	20	
Manganese	0.639	mg/L	E200.8	0.000560	0.00200	0.2000	0.423	108	75 - 125	0.637	0.293	20	
Molybdenum	0.185	mg/L	E200.8	0.000202	0.00200	0.2000	0.00179	91.4	75 - 125	0.193	4.33	20	
Nickel	0.210	mg/L	E200.8	0.000522	0.00200	0.2000	0.0102	99.7	75 - 125	0.21	0.0103	20	
Selenium	0.195	mg/L	E200.8	0.000310	0.00200	0.2000	0.000919	97.1	75 - 125	0.202	3.66	20	
Silver	0.195	mg/L	E200.8	0.000132	0.00200	0.2000	0.000621	96.9	75 - 125	0.198	1.62	20	
Thallium	0.194	mg/L	E200.8	0.0000500	0.00200	0.2000	0.000158	97.2	75 - 125	0.198	1.83	20	
Zinc	1.36	mg/L	E200.8	0.00452	0.00500	1.000	0.341	102	75 - 125	1.36	0.203	20	
Lab Sample ID: 1608482-002AMSD													
Date Analyzed:		08/25/2016 1423h											
Test Code:		6010D-S											
Date Prepared:		08/24/2016 1159h											
Aluminum	12,800	mg/kg-dry	SW6010D	249	757	151.4	12900	-52.9	75 - 125	13900	8.27	20	2
Calcium	55,400	mg/kg-dry	SW6010D	787	7,570	1,514	63300	-519	75 - 125	62000	11.3	20	2
Iron	15,800	mg/kg-dry	SW6010D	74.0	379	151.4	18400	-1,750	75 - 125	18000	13.2	20	2
Magnesium	12,200	mg/kg-dry	SW6010D	516	7,570	1,514	12800	-40.5	75 - 125	13900	12.7	20	2
Titanium	258	mg/kg-dry	SW6010D	7.80	37.9	151.4	164	62.2	75 - 125	268	3.67	20	3
Lab Sample ID: 1608482-002AMSD													
Date Analyzed:		08/25/2016 1443h											
Test Code:		6010D-S											
Date Prepared:		08/24/2016 1159h											
Potassium	5,510	mg/kg-dry	SW6010D	68.4	757	1,514	3670	122	75 - 125	5650	2.50	20	
Silicon	1,990	mg/kg-dry	SW6010D	35.6	379	151.4	1930	42.2	75 - 125	2130	6.72	20	2
Vanadium	70.5	mg/kg-dry	SW6010D	0.384	3.79	30.28	37.7	108	75 - 125	73.1	3.65	20	



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-002AMSD		Date Analyzed: 08/25/2016 1504h											
Test Code: 6010D-S		Date Prepared: 08/24/2016 1159h											
Boron	164	mg/kg-dry	SW6010D	4.44	75.7	151.4	17.9	96.3	75 - 125	163	0.644	20	
Sodium	2,070	mg/kg-dry	SW6010D	27.6	151	1,514	395	110	75 - 125	2060	0.494	20	
Tin	142	mg/kg-dry	SW6010D	1.12	15.1	151.4	0	93.6	75 - 125	143	1.18	20	
Lab Sample ID: 1608482-002AMSD		Date Analyzed: 08/24/2016 1836h											
Test Code: 6020B-S		Date Prepared: 08/24/2016 1159h											
Antimony	32.4	mg/kg-dry	SW6020B	0.310	4.85	30.28	7.02	83.7	75 - 125	33.8	4.45	20	
Arsenic	59.0	mg/kg-dry	SW6020B	0.132	3.03	30.28	30.8	93.0	75 - 125	62.2	5.39	20	
Barium	183	mg/kg-dry	SW6020B	4.13	5.45	30.28	155	92.3	75 - 125	194	5.67	20	
Beryllium	28.5	mg/kg-dry	SW6020B	0.189	2.42	30.28	1.04	90.6	75 - 125	29.2	2.44	20	
Cadmium	32.6	mg/kg-dry	SW6020B	0.144	1.03	30.28	3.88	94.9	75 - 125	33.2	1.65	20	
Chromium	58.4	mg/kg-dry	SW6020B	8.48	12.1	30.28	26.2	106	75 - 125	58.6	0.363	20	
Cobalt	36.9	mg/kg-dry	SW6020B	0.842	1.64	30.28	9.32	91.0	75 - 125	37.6	2.08	20	
Copper	68.8	mg/kg-dry	SW6020B	6.54	18.8	30.28	43.1	85.1	75 - 125	71.7	4.16	20	
Lead	287	mg/kg-dry	SW6020B	0.276	7.87	30.28	267	65.2	75 - 125	304	5.58	20	3
Molybdenum	31.5	mg/kg-dry	SW6020B	1.88	24.2	30.28	0	104	75 - 125	31.9	1.50	20	
Nickel	54.6	mg/kg-dry	SW6020B	3.91	24.2	30.28	26.4	93.0	75 - 125	56.4	3.28	20	
Selenium	31.1	mg/kg-dry	SW6020B	0.170	10.3	30.28	0.967	99.6	75 - 125	31.6	1.52	20	
Silver	29.8	mg/kg-dry	SW6020B	0.109	1.82	30.28	1.21	94.4	75 - 125	30.3	1.63	20	
Thallium	28.5	mg/kg-dry	SW6020B	0.165	4.85	30.28	0.37	92.9	75 - 125	29.1	2.14	20	
Lab Sample ID: 1608482-002AMSD		Date Analyzed: 08/24/2016 2119h											
Test Code: 6020B-S		Date Prepared: 08/24/2016 1159h											
Manganese	595	mg/kg-dry	SW6020B	2.72	6.06	30.28	576	63.3	75 - 125	648	8.46	20	3
Lab Sample ID: 1608482-002AMSD		Date Analyzed: 08/25/2016 734h											
Test Code: 6020B-S		Date Prepared: 08/24/2016 1159h											
Zinc	646	mg/kg-dry	SW6020B	13.4	151	151.4	509	90.4	75 - 125	689	6.50	20	



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
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Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-003BMSD	Date Analyzed:	08/25/2016	1014h										
Test Code:	HG-DW-245.1	Date Prepared:	08/24/2016	1500h									
Mercury	0.00356	mg/L	E245.1	0.00000559	0.000150	0.003330	0	107	80 - 120	0.00327	8.58	20	
Lab Sample ID: 1608482-007AMSD	Date Analyzed:	08/25/2016	952h										
Test Code:	HG-DW-DIS-245.1	Date Prepared:	08/24/2016	1500h									
Mercury	0.00324	mg/L	E245.1	0.00000559	0.000150	0.003330	0	97.1	85 - 115	0.00364	11.6	20	
Lab Sample ID: 1608482-002AMSD	Date Analyzed:	08/25/2016	741h										
Test Code:	HG-S-7471B	Date Prepared:	08/24/2016	1737h									
Mercury	0.918	mg/kg-dry	SW7471B	0.00139	0.0580	0.5799	0.286	109	80 - 120	0.92	0.208	20	

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

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

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



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-001CDUP Test Code: TSS-W-2540D	Date Analyzed:	08/24/2016	1328h										
Total Suspended Solids	748	mg/L	SM2540D	18.7	18.8					805	7.41	5	@
Lab Sample ID: 1608482-001CDUP Test Code: TURB-W-180.1	Date Analyzed:	08/24/2016	1014h										
Turbidity	371	NTU	E180.1	0.213	1.00					322	14.1	20	
Lab Sample ID: 1608482-001CDUP Test Code: TVS-W-160.4	Date Analyzed:	08/24/2016	1215h										
Total Volatile Solids	9.86	% of TS	E160.4	0	0.0100					15.5	44.7	5	@

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



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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: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-R93177													
Date Analyzed: 08/24/2016 1017h													
Test Code: 300.0-W													
Chloride	5.30	mg/L	E300.0	0.00516	0.100	5.000	0	106	90 - 110				
Sulfate	5.34	mg/L	E300.0	0.0201	0.750	5.000	0	107	90 - 110				
Lab Sample ID: LCS-R93157													
Date Analyzed: 08/24/2016 600h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO3)	50,000	mg/L	SM2320B	1.38	10.0	50,000	0	100	90 - 110				
Lab Sample ID: LCS-R93220													
Date Analyzed: 08/24/2016 1328h													
Test Code: TSS-W-2540D													
Total Suspended Solids	108	mg/L	SM2540D	2.99	3.00	100.0	0	108	80 - 120				
Lab Sample ID: LCS-R93166													
Date Analyzed: 08/24/2016 1014h													
Test Code: TURB-W-180.1													
Turbidity	10.7	NTU	E180.1	0.0213	0.100	10.00	0	107	90 - 110				



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Jose Rocha
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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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-R93177													
Date Analyzed: 08/24/2016 941h													
Test Code: 300.0-W													
Chloride	< 0.100	mg/L	E300.0	0.00516	0.100								
Sulfate	< 0.750	mg/L	E300.0	0.0201	0.750								
Lab Sample ID: MB-R93157													
Date Analyzed: 08/24/2016 600h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO3)	< 10.0	mg/L	SM2320B	1.38	10.0								
Bicarbonate (as CaCO3)	< 10.0	mg/L	SM2320B	1.38	10.0								
Carbonate (as CaCO3)	< 10.0	mg/L	SM2320B	1.38	10.0								
Lab Sample ID: MB-R93220													
Date Analyzed: 08/24/2016 1328h													
Test Code: TSS-W-2540D													
Total Suspended Solids	< 3.00	mg/L	SM2540D	2.99	3.00								
Lab Sample ID: MB-R93166													
Date Analyzed: 08/24/2016 1014h													
Test Code: TURB-W-180.1													
Turbidity	< 0.100	NTU	E180.1	0.0213	0.100								
Lab Sample ID: MB-R93237													
Date Analyzed: 08/24/2016 1215h													
Test Code: TVS-W-160.4													
Total Volatile Solids	< 0.0100	% of TS	E160.4	0	0.0100								



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Jose Rocha
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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-001CMS													
Date Analyzed: 08/24/2016 1410h													
Test Code: 300.0-W													
Chloride	113	mg/L	E300.0	0.103	2.00	100.0	6.9	106	90 - 110				
Sulfate	197	mg/L	E300.0	0.402	15.0	100.0	94.6	103	90 - 110				
Lab Sample ID: 1608482-001CMS													
Date Analyzed: 08/24/2016 600h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO ₃)	207	mg/L	SM2320B	1.38	10.0	50.00	156	102	80 - 120				



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Jose Rocha
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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608482
Project: Tibble Fork Dam

Contact: Kevin Okleberry
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: 1608482-001CMSD													
Date Analyzed: 08/24/2016 1427h													
Test Code: 300.0-W													
Chloride	113	mg/L	E300.0	0.103	2.00	100.0	6.9	106	90 - 110	113	0.108	20	
Sulfate	199	mg/L	E300.0	0.402	15.0	100.0	94.6	104	90 - 110	197	0.882	20	
Lab Sample ID: 1608482-001CMSD													
Date Analyzed: 08/24/2016 600h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO3)	205	mg/L	SM2320B	1.38	10.0	50.00	156	98.4	80 - 120	207	0.875	10	

WORK ORDER Summary

Work Order: **1608482** Page 1 of 4

Client: Utah Division of Water Quality

Due Date: 8/25/2016

Client ID: UTD200

Contact: Toby Hooker

Project: Tibble Fork Dam

QC Level: III

WO Type: Standard

Comments: Next Day Rush; QC 3. TCLP - metals on set 1608483 as a 2-Day Rush.;

DB

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1608482-001A	4994980	8/23/2016 1225h	8/23/2016 1647h	200.7-DIS	Aqueous-Dissolved	df - dis met	1
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>			
				200.7-DIS-PR		df - dis met	
				200.8-DIS		df - dis met	
				<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>			
				200.8-DIS-PR		df - dis met	
				HG-DW-DIS-245.1		df - dis met	
1608482-001B				200.7-W		df - met	
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>			
				200.7-W-PR		df - met	
				200.8-W		df - met	
				<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>			
				200.8-W-PR		df - met	
				HG-DW-245.1		df - met	
1608482-001C				300.0-W		df - tss/tvs/turb/wc	
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B		df - tss/tvs/turb/wc	
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				TSS-W-2540D		df - tss/tvs/turb/wc	
				TURB-W-180.1		df - tss/tvs/turb/wc	
				TVS-W-160.4		df - tss/tvs/turb/wc	
1608482-002A	4994980-SED	8/23/2016 1225h	8/23/2016 1647h	3051A-ICPMS-PR	Soil	df - metals	1
				6010D-S		df - metals	
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>			
				6020B-S		df - metals	
				<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>			
HG-S-7471B		df - metals					

WORK ORDER Summary

Work Order: **1608482** Page 2 of 4

Client: Utah Division of Water Quality

Due Date: 8/25/2016

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage	
1608482-002A	4994980-SED	8/23/2016 1225h	8/23/2016 1647h	HG-S-PR-B PMOIST	Soil	df - metals df - metals	1
1608482-003A	5912840	8/23/2016 1425h	8/23/2016 1647h	200.7-DIS <i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>	Aqueous-Dissolved	df - dis met	1
				200.7-DIS-PR		df - dis met	
				200.8-DIS <i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>		df - dis met	
				200.8-DIS-PR		df - dis met	
				HG-DW-DIS-245.1		df - dis met	
				HG-DW-DIS-PR		df - dis met	
1608482-003B				200.7-W <i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>		df - met	
				200.7-W-PR		df - met	
				200.8-W <i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>		df - met	
				200.8-W-PR		df - met	
				HG-DW-245.1		df - met	
				HG-DW-PR		df - met	
1608482-003C				300.0-W <i>2 SEL Analytes: CL SO4</i>		df - tss/tvs/turb/wc	
				ALK-W-2320B <i>3 SEL Analytes: ALK ALKB ALKC</i>		df - tss/tvs/turb/wc	
				TSS-W-2540D		df - tss/tvs/turb/wc	
				TURB-W-180.1		df - tss/tvs/turb/wc	
				TVS-W-160.4		df - tss/tvs/turb/wc	
1608482-004A	5912840-SED	8/23/2016 1425h	8/23/2016 1647h	3051A-ICPMS-PR 6010D-S <i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>	Soil	df - metals df - metals	1
				6020B-S <i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>		df - metals	
				HG-S-7471B		df - metals	
				HG-S-PR-B		df - metals	
				PMOIST		df - metals	
1608482-005A	5912810	8/23/2016 1445h	8/23/2016 1647h	200.7-DIS <i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>	Aqueous-Dissolved	df - dis met	1

WORK ORDER Summary

Work Order: **1608482** Page 3 of 4

Client: Utah Division of Water Quality

Due Date: 8/25/2016

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage		
1608482-005A	5912810	8/23/2016 1445h	8/23/2016 1647h	200.7-DIS-PR	Aqueous-Dissolved		df - dis met		
				200.8-DIS			df - dis met		
				<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>					
				<i>AG TL ZN</i>					
				200.8-DIS-PR			df - dis met		
				HG-DW-DIS-245.1			df - dis met		
				HG-DW-DIS-PR			df - dis met		
				200.7-W			df - met		
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>					
				200.7-W-PR			df - met		
1608482-005B	5912810	8/23/2016 1445h	8/23/2016 1647h	200.8-W			df - met		
				<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>					
				<i>AG TL ZN</i>					
				200.8-W-PR			df - met		
				HG-DW-245.1			df - met		
				HG-DW-PR			df - met		
				300.0-W			df - tss/tvs/turb/wc		
				<i>2 SEL Analytes: CL SO4</i>					
				ALK-W-2320B			df - tss/tvs/turb/wc		
				<i>3 SEL Analytes: ALK ALKB ALKC</i>					
1608482-005C	5912810	8/23/2016 1445h	8/23/2016 1647h	TSS-W-2540D			df - tss/tvs/turb/wc		
				TURB-W-180.1			df - tss/tvs/turb/wc		
				TVS-W-160.4			df - tss/tvs/turb/wc		
				3051A-ICPMS-PR	Soil		df - metals		
				6010D-S			df - metals		
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>					
1608482-006A	5912810-SED	8/23/2016 1445h	8/23/2016 1647h	6020B-S			df - metals		
				<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>					
				<i>AG TL ZN</i>					
				HG-S-7471B			df - metals		
				HG-S-PR-B			df - metals		
1608482-007A	4994990	8/23/2016 1500h	8/23/2016 1647h	PMOIST			df - metals		
				200.7-DIS	Aqueous-Dissolved		df - dis met		
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>					
				200.7-DIS-PR			df - dis met		
				200.8-DIS			df - dis met		
<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE</i>									
<i>AG TL ZN</i>									
200.8-DIS-PR			df - dis met						

WORK ORDER Summary

Work Order: **1608482**

Page 4 of 4

Client: Utah Division of Water Quality

Due Date: 8/25/2016

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1608482-007A	4994990	8/23/2016 1500h	8/23/2016 1647h	HG-DW-DIS-245.1	Aqueous-Dissolved		df - dis met 1
				HG-DW-DIS-PR			df - dis met
1608482-007B				200.7-W			df - met
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>			
				200.7-W-PR			df - met
				200.8-W			df - met
				<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>			
				200.8-W-PR			df - met
				HG-DW-245.1			df - met
1608482-007C				HG-DW-PR			df - met
				300.0-W			df - tss/tvs/turb/wc
				<i>2 SEL Analytes: CL SO4</i>			
				ALK-W-2320B			df - tss/tvs/turb/wc
				<i>3 SEL Analytes: ALK ALKB ALKC</i>			
				TSS-W-2540D			df - tss/tvs/turb/wc
1608482-008A	499490-SED	8/23/2016 1500h	8/23/2016 1647h	3051A-ICPMS-PR	Soil		df - metals 1
				6010D-S			df - metals
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>			
				6020B-S			df - metals
<i>16 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL ZN</i>							
				HG-S-7471B			df - metals
				HG-S-PR-B			df - metals
				PMOIST			df - metals

Lab Set ID: 11008482
 pH Lot # 5003

Preservation Check Sheet

Sample Set Extension and pH

Analysis	Preservative	-001	-003	-005	-007													
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													
NO ₂ & NO ₃	pH <2 H ₂ SO ₄																	
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																	

- 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.