



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: 1608508

3440 South 700 West
Salt Lake City, UT 84119

American West Analytical Laboratories received sample(s) on 8/24/2016 for the analyses presented in the following report.

Phone: (801) 263-8686
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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: 1608508

Sample Receipt Information:

Date of Receipt: 8/24/2016
Date(s) of Collection: 8/24/2016
Sample Condition: Intact
C-O-C Discrepancies: None

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

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

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

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

Method Blanks (MB): No target analytes were detected above reporting limits, with the following exception: Zinc was observed above reporting limits in MB-44667. The method blank was acceptable, as the method blank results is less than 10% of the lowest reported sample concentration.

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
1608508-002B	Aluminum	MS/MSD	Sample matrix interference
1608508-002B	Calcium	MS	High analyte concentration
1068508-002B	Iron	MS/MSD	High analyte concentration
1608508-002B	Silicon	MS/MSD	High analyte concentration

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 on sample 1608508-001B and for Total Suspended Solids on sample 1608508-002C 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: 1608508-001
Client Sample ID: 5912810
Collection Date: 8/24/2016 1625h
Received Date: 8/24/2016 1730h

Contact: Kevin Okleberry

Analytical Results

DISSOLVED METALS

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Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Aluminum	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	0.100	< 0.100	
Antimony	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	0.00415	
Arsenic	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	0.00646	
Barium	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	0.130	
Beryllium	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Boron	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	0.500	< 0.500	
Cadmium	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.000500	< 0.000500	
Calcium	mg/L	8/25/2016 1112h	8/26/2016 1015h	E200.7	5.00	70.0	
Chromium	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Cobalt	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00400	< 0.00400	
Copper	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Iron	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	0.100	< 0.100	
Lead	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Magnesium	mg/L	8/25/2016 1112h	8/26/2016 1015h	E200.7	5.00	19.4	
Manganese	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	0.121	
Mercury	mg/L	8/25/2016 1500h	8/26/2016 831h	E245.1	0.000150	< 0.000150	
Molybdenum	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	0.00288	
Nickel	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Potassium	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	1.00	< 1.00	
Selenium	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Silicon	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	0.500	4.12	^
Silver	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Sodium	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	1.00	2.56	
Thallium	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00200	< 0.00200	
Tin	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	0.500	< 0.500	
Titanium	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	0.00500	< 0.00500	
Vanadium	mg/L	8/25/2016 1112h	8/26/2016 1033h	E200.7	0.00500	< 0.00500	
Zinc	mg/L	8/25/2016 1112h	8/26/2016 1000h	E200.8	0.00500	< 0.00500	

^ - The calculated result for Silica (SiO₂) is 8.81 mg/L.
 Analysis performed on a portion of the sample filtered at the laboratory upon receipt.



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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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-44663		Date Analyzed:	08/26/2016 1013h										
Test Code: 200.7-DIS		Date Prepared:	08/25/2016 1112h										
Aluminum	1.02	mg/L	E200.7	0.0153	0.100	1.000	0	102	85 - 115				
Boron	1.02	mg/L	E200.7	0.0163	0.500	1.000	0	102	85 - 115				
Calcium	10.2	mg/L	E200.7	0.0579	1.00	10.00	0	102	85 - 115				
Iron	1.01	mg/L	E200.7	0.00640	0.100	1.000	0	101	85 - 115				
Magnesium	10.3	mg/L	E200.7	0.0495	1.00	10.00	0	103	85 - 115				
Potassium	10.1	mg/L	E200.7	0.121	1.00	10.00	0	101	85 - 115				
Silicon	1.07	mg/L	E200.7	0.0589	0.500	1.000	0	107	85 - 115				
Sodium	10.2	mg/L	E200.7	0.0125	1.00	10.00	0	102	85 - 115				
Tin	1.05	mg/L	E200.7	0.0129	0.500	1.000	0	105	85 - 115				
Titanium	0.979	mg/L	E200.7	0.000586	0.00500	1.000	0	97.9	85 - 115				
Vanadium	0.195	mg/L	E200.7	0.000750	0.00500	0.2000	0	97.3	85 - 115				
Lab Sample ID: LCS-44666		Date Analyzed:	08/25/2016 1737h										
Test Code: 200.7-W		Date Prepared:	08/25/2016 1112h										
Aluminum	1.01	mg/L	E200.7	0.0153	0.100	1.000	0	101	85 - 115				
Boron	1.05	mg/L	E200.7	0.0163	0.500	1.000	0	105	85 - 115				
Calcium	10.2	mg/L	E200.7	0.0579	1.00	10.00	0	102	85 - 115				
Iron	1.00	mg/L	E200.7	0.00640	0.100	1.000	0	100	85 - 115				
Magnesium	10.5	mg/L	E200.7	0.0495	1.00	10.00	0	105	85 - 115				
Potassium	10.1	mg/L	E200.7	0.121	1.00	10.00	0	101	85 - 115				
Silicon	1.12	mg/L	E200.7	0.0589	0.500	1.000	0	112	85 - 115				
Sodium	10.2	mg/L	E200.7	0.0125	1.00	10.00	0	102	85 - 115				
Titanium	1.05	mg/L	E200.7	0.000586	0.00500	1.000	0	105	85 - 115				
Vanadium	0.201	mg/L	E200.7	0.000750	0.00500	0.2000	0	100	85 - 115				
Lab Sample ID: LCS-44666		Date Analyzed:	08/26/2016 953h										
Test Code: 200.7-W		Date Prepared:	08/25/2016 1112h										
Tin	1.05	mg/L	E200.7	0.0129	0.500	1.000	0	105	85 - 115				



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Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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-44664		Date Analyzed:	08/26/2016 957h										
Test Code: 200.8-DIS		Date Prepared:	08/25/2016 1112h										
Antimony	0.183	mg/L	E200.8	0.000306	0.00200	0.2000	0	91.5	85 - 115				
Arsenic	0.202	mg/L	E200.8	0.000540	0.00200	0.2000	0	101	85 - 115				
Barium	0.202	mg/L	E200.8	0.000600	0.00200	0.2000	0	101	85 - 115				
Beryllium	0.193	mg/L	E200.8	0.000177	0.00200	0.2000	0	96.7	85 - 115				
Cadmium	0.194	mg/L	E200.8	0.0000666	0.000500	0.2000	0	96.8	85 - 115				
Chromium	0.199	mg/L	E200.8	0.000998	0.00200	0.2000	0	99.6	85 - 115				
Cobalt	0.195	mg/L	E200.8	0.0000990	0.00400	0.2000	0	97.5	85 - 115				
Copper	0.196	mg/L	E200.8	0.000862	0.00200	0.2000	0	98.1	85 - 115				
Lead	0.191	mg/L	E200.8	0.000125	0.00200	0.2000	0	95.3	85 - 115				
Manganese	0.201	mg/L	E200.8	0.000560	0.00200	0.2000	0	100	85 - 115				
Molybdenum	0.198	mg/L	E200.8	0.000202	0.00200	0.2000	0	99.1	85 - 115				
Nickel	0.199	mg/L	E200.8	0.000522	0.00200	0.2000	0	99.7	85 - 115				
Selenium	0.200	mg/L	E200.8	0.000310	0.00200	0.2000	0	99.9	85 - 115				
Silver	0.201	mg/L	E200.8	0.000132	0.00200	0.2000	0	101	85 - 115				
Thallium	0.190	mg/L	E200.8	0.0000500	0.00200	0.2000	0	95.0	85 - 115				
Zinc	0.998	mg/L	E200.8	0.00452	0.00500	1.000	0	99.8	85 - 115				
Lab Sample ID: LCS-44667		Date Analyzed:	08/26/2016 1035h										
Test Code: 200.8-W		Date Prepared:	08/25/2016 1112h										
Antimony	0.184	mg/L	E200.8	0.000306	0.00200	0.2000	0	92.2	85 - 115				
Arsenic	0.199	mg/L	E200.8	0.000540	0.00200	0.2000	0	99.5	85 - 115				
Barium	0.201	mg/L	E200.8	0.000600	0.00200	0.2000	0	101	85 - 115				
Beryllium	0.196	mg/L	E200.8	0.000177	0.00200	0.2000	0	97.9	85 - 115				
Cadmium	0.194	mg/L	E200.8	0.0000666	0.000500	0.2000	0	96.9	85 - 115				
Chromium	0.201	mg/L	E200.8	0.000998	0.00200	0.2000	0	101	85 - 115				
Cobalt	0.195	mg/L	E200.8	0.0000990	0.00400	0.2000	0	97.5	85 - 115				
Copper	0.197	mg/L	E200.8	0.000862	0.00200	0.2000	0	98.3	85 - 115				
Lead	0.192	mg/L	E200.8	0.000125	0.00200	0.2000	0	95.8	85 - 115				



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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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-44667													
Date Analyzed:		08/26/2016 1035h											
Test Code:		200.8-W											
Date Prepared:		08/25/2016 1112h											
Manganese	0.200	mg/L	E200.8	0.000560	0.00200	0.2000	0	99.8	85 - 115				
Molybdenum	0.197	mg/L	E200.8	0.000202	0.00200	0.2000	0	98.7	85 - 115				
Nickel	0.198	mg/L	E200.8	0.000522	0.00200	0.2000	0	99.1	85 - 115				
Selenium	0.202	mg/L	E200.8	0.000310	0.00200	0.2000	0	101	85 - 115				
Silver	0.202	mg/L	E200.8	0.000132	0.00200	0.2000	0	101	85 - 115				
Thallium	0.191	mg/L	E200.8	0.0000500	0.00200	0.2000	0	95.5	85 - 115				
Zinc	1.02	mg/L	E200.8	0.00452	0.00500	1.000	0	102	85 - 115				
Lab Sample ID: LCS-44676													
Date Analyzed:		08/26/2016 801h											
Test Code:		HG-DW-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	0.00332	mg/L	E245.1	0.00000559	0.000150	0.003330	0	99.8	85 - 115				
Lab Sample ID: LCS-44677													
Date Analyzed:		08/26/2016 825h											
Test Code:		HG-DW-DIS-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	0.00364	mg/L	E245.1	0.00000559	0.000150	0.003330	0	109	85 - 115				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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-44663	Date Analyzed:	08/26/2016	1011h										
Test Code:	200.7-DIS	Date Prepared:	08/25/2016	1112h									
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-FILTER-44654	Date Analyzed:	08/26/2016	1051h										
Test Code:	200.7-DIS	Date Prepared:	08/25/2016	1112h									
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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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-44666	Date Analyzed:	08/25/2016	1735h										
Test Code:	200.7-W	Date Prepared:	08/25/2016	1112h									
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								
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-44666	Date Analyzed:	08/26/2016	950h										
Test Code:	200.7-W	Date Prepared:	08/25/2016	1112h									
Tin	< 0.500	mg/L	E200.7	0.0129	0.500								
Lab Sample ID: MB-44664	Date Analyzed:	08/26/2016	954h										
Test Code:	200.8-DIS	Date Prepared:	08/25/2016	1112h									
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								



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Client: Utah Division of Water Quality
Lab Set ID: 1608508
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-44664	Date Analyzed:	08/26/2016	954h										
Test Code:	200.8-DIS	Date Prepared:	08/25/2016	1112h									
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-FILTER-44654	Date Analyzed:	08/26/2016	1029h										
Test Code:	200.8-DIS	Date Prepared:	08/25/2016	1112h									
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-44667	Date Analyzed:	08/26/2016	1032h										
Test Code:	200.8-W	Date Prepared:	08/25/2016	1112h									
Antimony	< 0.00200	mg/L	E200.8	0.000306	0.00200								



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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: 1608508
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-44667													
Date Analyzed:		08/26/2016 1032h											
Test Code:		200.8-W											
Date Prepared:		08/25/2016 1112h											
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	0.00892	mg/L	E200.8	0.00452	0.00500								B
Lab Sample ID: MB-44676													
Date Analyzed:		08/26/2016 759h											
Test Code:		HG-DW-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	< 0.000150	mg/L	E245.1	0.00000559	0.000150								
Lab Sample ID: MB-44677													
Date Analyzed:		08/26/2016 824h											
Test Code:		HG-DW-DIS-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	< 0.000150	mg/L	E245.1	0.00000559	0.000150								

B - The method blank was acceptable, as the method blank result is less than 10% of the lowest reported sample concentration.



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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: 1608508-001AMS													
Date Analyzed:		08/26/2016 1017h											
Test Code:		200.7-DIS											
Date Prepared:		08/25/2016 1112h											
Calcium	82.5	mg/L	E200.7	0.290	5.00	10.00	70	125	70 - 130				
Magnesium	30.0	mg/L	E200.7	0.248	5.00	10.00	19.4	106	70 - 130				
Lab Sample ID: 1608508-001AMS													
Date Analyzed:		08/26/2016 1037h											
Test Code:		200.7-DIS											
Date Prepared:		08/25/2016 1112h											
Aluminum	1.01	mg/L	E200.7	0.0153	0.100	1.000	0	101	70 - 130				
Boron	1.07	mg/L	E200.7	0.0163	0.500	1.000	0	107	70 - 130				
Iron	0.980	mg/L	E200.7	0.00640	0.100	1.000	0	98.0	70 - 130				
Potassium	10.5	mg/L	E200.7	0.121	1.00	10.00	0.646	98.6	70 - 130				
Silicon	5.22	mg/L	E200.7	0.0589	0.500	1.000	4.12	110	70 - 130				
Sodium	12.5	mg/L	E200.7	0.0125	1.00	10.00	2.56	99.3	70 - 130				
Tin	1.01	mg/L	E200.7	0.0129	0.500	1.000	0	101	70 - 130				
Titanium	0.972	mg/L	E200.7	0.000586	0.00500	1.000	0	97.2	70 - 130				
Vanadium	0.196	mg/L	E200.7	0.000750	0.00500	0.2000	0	97.9	70 - 130				
Lab Sample ID: 1608508-002BMS													
Date Analyzed:		08/25/2016 1755h											
Test Code:		200.7-W											
Date Prepared:		08/25/2016 1112h											
Aluminum	4.23	mg/L	E200.7	0.0153	0.100	1.000	2.61	162	70 - 130				1
Boron	1.13	mg/L	E200.7	0.0163	0.500	1.000	0	113	70 - 130				
Iron	5.45	mg/L	E200.7	0.00640	0.100	1.000	5.31	14.3	70 - 130				2
Potassium	11.7	mg/L	E200.7	0.121	1.00	10.00	1.15	106	70 - 130				
Sodium	15.3	mg/L	E200.7	0.0125	1.00	10.00	4.58	107	70 - 130				
Titanium	1.12	mg/L	E200.7	0.000586	0.00500	1.000	0.058	106	70 - 130				
Vanadium	0.207	mg/L	E200.7	0.000750	0.00500	0.2000	0.00536	101	70 - 130				
Lab Sample ID: 1608508-002BMS													
Date Analyzed:		08/26/2016 1057h											
Test Code:		200.7-W											
Date Prepared:		08/25/2016 1112h											
Tin	0.929	mg/L	E200.7	0.0129	0.500	1.000	0	92.9	70 - 130				



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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: 1608508
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: 1608508-002BMS													
Date Analyzed:		08/26/2016 1103h											
Test Code:		200.7-W											
Date Prepared:		08/25/2016 1112h											
Calcium	96.6	mg/L	E200.7	0.579	10.0	10.00	90.3	63.2	70 - 130				2
Lab Sample ID: 1608508-002BMS													
Date Analyzed:		08/26/2016 959h											
Test Code:		200.7-W											
Date Prepared:		08/25/2016 1112h											
Magnesium	32.5	mg/L	E200.7	0.248	5.00	10.00	22.8	97.5	70 - 130				
Silicon	8.40	mg/L	E200.7	0.294	2.50	1.000	6.66	173	70 - 130				2
Lab Sample ID: 1608508-001AMS													
Date Analyzed:		08/26/2016 1010h											
Test Code:		200.8-DIS											
Date Prepared:		08/25/2016 1112h											
Antimony	0.194	mg/L	E200.8	0.000306	0.00200	0.2000	0.00415	94.9	75 - 125				
Arsenic	0.219	mg/L	E200.8	0.000540	0.00200	0.2000	0.00646	106	75 - 125				
Barium	0.333	mg/L	E200.8	0.000600	0.00200	0.2000	0.13	102	75 - 125				
Beryllium	0.200	mg/L	E200.8	0.000177	0.00200	0.2000	0	99.9	75 - 125				
Cadmium	0.196	mg/L	E200.8	0.0000666	0.000500	0.2000	0	97.8	75 - 125				
Chromium	0.205	mg/L	E200.8	0.000998	0.00200	0.2000	0	103	75 - 125				
Cobalt	0.200	mg/L	E200.8	0.0000990	0.00400	0.2000	0.00032	99.7	75 - 125				
Copper	0.199	mg/L	E200.8	0.000862	0.00200	0.2000	0	99.4	75 - 125				
Lead	0.193	mg/L	E200.8	0.000125	0.00200	0.2000	0.000164	96.7	75 - 125				
Manganese	0.331	mg/L	E200.8	0.000560	0.00200	0.2000	0.121	105	75 - 125				
Molybdenum	0.205	mg/L	E200.8	0.000202	0.00200	0.2000	0.00288	101	75 - 125				
Nickel	0.205	mg/L	E200.8	0.000522	0.00200	0.2000	0.000976	102	75 - 125				
Selenium	0.213	mg/L	E200.8	0.000310	0.00200	0.2000	0.00084	106	75 - 125				
Silver	0.203	mg/L	E200.8	0.000132	0.00200	0.2000	0	101	75 - 125				
Thallium	0.194	mg/L	E200.8	0.0000500	0.00200	0.2000	0.0000551	96.8	75 - 125				
Zinc	1.03	mg/L	E200.8	0.00452	0.00500	1.000	0	103	75 - 125				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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: 1608508-002BMS													
Date Analyzed:		08/26/2016 1044h											
Test Code:		200.8-W											
Date Prepared:		08/25/2016 1112h											
Antimony	0.187	mg/L	E200.8	0.000306	0.00200	0.2000	0.00384	91.5	75 - 125				
Arsenic	0.216	mg/L	E200.8	0.000540	0.00200	0.2000	0.012	102	75 - 125				
Barium	0.360	mg/L	E200.8	0.000600	0.00200	0.2000	0.138	111	75 - 125				
Beryllium	0.207	mg/L	E200.8	0.000177	0.00200	0.2000	0.000221	103	75 - 125				
Cadmium	0.209	mg/L	E200.8	0.0000666	0.000500	0.2000	0.00132	104	75 - 125				
Chromium	0.208	mg/L	E200.8	0.000998	0.00200	0.2000	0.0032	103	75 - 125				
Cobalt	0.201	mg/L	E200.8	0.0000990	0.00400	0.2000	0.00263	99.1	75 - 125				
Copper	0.212	mg/L	E200.8	0.000862	0.00200	0.2000	0.0147	98.6	75 - 125				
Lead	0.302	mg/L	E200.8	0.000125	0.00200	0.2000	0.0937	104	75 - 125				
Manganese	0.419	mg/L	E200.8	0.000560	0.00200	0.2000	0.217	101	75 - 125				
Molybdenum	0.206	mg/L	E200.8	0.000202	0.00200	0.2000	0.0019	102	75 - 125				
Nickel	0.209	mg/L	E200.8	0.000522	0.00200	0.2000	0.00673	101	75 - 125				
Selenium	0.202	mg/L	E200.8	0.000310	0.00200	0.2000	0.000883	101	75 - 125				
Silver	0.216	mg/L	E200.8	0.000132	0.00200	0.2000	0.000392	108	75 - 125				
Thallium	0.204	mg/L	E200.8	0.0000500	0.00200	0.2000	0.0000848	102	75 - 125				
Zinc	1.17	mg/L	E200.8	0.00452	0.00500	1.000	0.154	101	75 - 125				
Lab Sample ID: 1608508-001BMS													
Date Analyzed:		08/26/2016 808h											
Test Code:		HG-DW-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	0.00351	mg/L	E245.1	0.00000559	0.000150	0.003330	0.0000667	103	80 - 120				
Lab Sample ID: 1608508-001AMS													
Date Analyzed:		08/26/2016 833h											
Test Code:		HG-DW-DIS-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	0.00363	mg/L	E245.1	0.00000559	0.000150	0.003330	0	109	85 - 115				

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.



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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: 1608508-001AMSD													
Date Analyzed:		08/26/2016 1020h											
Test Code:		200.7-DIS											
Date Prepared:		08/25/2016 1112h											
Calcium	79.0	mg/L	E200.7	0.290	5.00	10.00	70	89.8	70 - 130	82.5	4.42	20	
Magnesium	29.5	mg/L	E200.7	0.248	5.00	10.00	19.4	101	70 - 130	30	1.74	20	
Lab Sample ID: 1608508-001AMSD													
Date Analyzed:		08/26/2016 1040h											
Test Code:		200.7-DIS											
Date Prepared:		08/25/2016 1112h											
Aluminum	0.992	mg/L	E200.7	0.0153	0.100	1.000	0	99.2	70 - 130	1.01	2.03	20	
Boron	1.05	mg/L	E200.7	0.0163	0.500	1.000	0	105	70 - 130	1.07	2.21	20	
Iron	0.971	mg/L	E200.7	0.00640	0.100	1.000	0	97.1	70 - 130	0.98	0.869	20	
Potassium	10.2	mg/L	E200.7	0.121	1.00	10.00	0.646	95.6	70 - 130	10.5	2.90	20	
Silicon	5.16	mg/L	E200.7	0.0589	0.500	1.000	4.12	104	70 - 130	5.22	1.25	20	
Sodium	12.2	mg/L	E200.7	0.0125	1.00	10.00	2.56	96.0	70 - 130	12.5	2.70	20	
Tin	1.00	mg/L	E200.7	0.0129	0.500	1.000	0	100	70 - 130	1.01	1.41	20	
Titanium	0.947	mg/L	E200.7	0.000586	0.00500	1.000	0	94.7	70 - 130	0.972	2.67	20	
Vanadium	0.190	mg/L	E200.7	0.000750	0.00500	0.2000	0	95.1	70 - 130	0.196	2.82	20	
Lab Sample ID: 1608508-002BMSD													
Date Analyzed:		08/25/2016 1757h											
Test Code:		200.7-W											
Date Prepared:		08/25/2016 1112h											
Aluminum	4.20	mg/L	E200.7	0.0153	0.100	1.000	2.61	159	70 - 130	4.23	0.676	20	1
Boron	1.11	mg/L	E200.7	0.0163	0.500	1.000	0	111	70 - 130	1.13	1.92	20	
Iron	5.34	mg/L	E200.7	0.00640	0.100	1.000	5.31	2.55	70 - 130	5.45	2.18	20	2
Potassium	11.6	mg/L	E200.7	0.121	1.00	10.00	1.15	105	70 - 130	11.7	0.927	20	
Sodium	15.2	mg/L	E200.7	0.0125	1.00	10.00	4.58	106	70 - 130	15.3	0.869	20	
Titanium	1.08	mg/L	E200.7	0.000586	0.00500	1.000	0.058	103	70 - 130	1.12	2.95	20	
Vanadium	0.202	mg/L	E200.7	0.000750	0.00500	0.2000	0.00536	98.2	70 - 130	0.207	2.75	20	
Lab Sample ID: 1608508-002BMSD													
Date Analyzed:		08/26/2016 1002h											
Test Code:		200.7-W											
Date Prepared:		08/25/2016 1112h											
Magnesium	32.4	mg/L	E200.7	0.248	5.00	10.00	22.8	96.4	70 - 130	32.5	0.331	20	



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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: 1608508-002BMSD													
Date Analyzed:	08/26/2016 1002h												
Test Code:	200.7-W												
Date Prepared:	08/25/2016 1112h												
Silicon	8.49	mg/L	E200.7	0.294	2.50	1.000	6.66	183	70 - 130	8.4	1.10	20	2
Lab Sample ID: 1608508-002BMSD													
Date Analyzed:	08/26/2016 1100h												
Test Code:	200.7-W												
Date Prepared:	08/25/2016 1112h												
Tin	0.900	mg/L	E200.7	0.0129	0.500	1.000	0	90.0	70 - 130	0.929	3.24	20	
Lab Sample ID: 1608508-002BMSD													
Date Analyzed:	08/26/2016 1105h												
Test Code:	200.7-W												
Date Prepared:	08/25/2016 1112h												
Calcium	97.7	mg/L	E200.7	0.579	10.0	10.00	90.3	73.8	70 - 130	96.6	1.09	20	
Lab Sample ID: 1608508-001AMSD													
Date Analyzed:	08/26/2016 1013h												
Test Code:	200.8-DIS												
Date Prepared:	08/25/2016 1112h												
Antimony	0.194	mg/L	E200.8	0.000306	0.00200	0.2000	0.00415	94.9	75 - 125	0.194	0.000323	20	
Arsenic	0.217	mg/L	E200.8	0.000540	0.00200	0.2000	0.00646	105	75 - 125	0.219	0.826	20	
Barium	0.335	mg/L	E200.8	0.000600	0.00200	0.2000	0.13	103	75 - 125	0.333	0.704	20	
Beryllium	0.199	mg/L	E200.8	0.000177	0.00200	0.2000	0	99.5	75 - 125	0.2	0.326	20	
Cadmium	0.196	mg/L	E200.8	0.0000666	0.000500	0.2000	0	97.9	75 - 125	0.196	0.0917	20	
Chromium	0.200	mg/L	E200.8	0.000998	0.00200	0.2000	0	100	75 - 125	0.205	2.60	20	
Cobalt	0.194	mg/L	E200.8	0.0000990	0.00400	0.2000	0.00032	96.9	75 - 125	0.2	2.87	20	
Copper	0.195	mg/L	E200.8	0.000862	0.00200	0.2000	0	97.3	75 - 125	0.199	2.23	20	
Lead	0.191	mg/L	E200.8	0.000125	0.00200	0.2000	0.000164	95.5	75 - 125	0.193	1.20	20	
Manganese	0.325	mg/L	E200.8	0.000560	0.00200	0.2000	0.121	102	75 - 125	0.331	1.77	20	
Molybdenum	0.202	mg/L	E200.8	0.000202	0.00200	0.2000	0.00288	99.6	75 - 125	0.205	1.51	20	
Nickel	0.200	mg/L	E200.8	0.000522	0.00200	0.2000	0.000976	99.6	75 - 125	0.205	2.27	20	
Selenium	0.211	mg/L	E200.8	0.000310	0.00200	0.2000	0.00084	105	75 - 125	0.213	0.980	20	
Silver	0.202	mg/L	E200.8	0.000132	0.00200	0.2000	0	101	75 - 125	0.203	0.421	20	
Thallium	0.191	mg/L	E200.8	0.0000500	0.00200	0.2000	0.0000551	95.4	75 - 125	0.194	1.53	20	
Zinc	1.01	mg/L	E200.8	0.00452	0.00500	1.000	0	101	75 - 125	1.03	1.42	20	



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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: 1608508
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: 1608508-002BMSD													
Date Analyzed:		08/26/2016 1047h											
Test Code:		200.8-W											
Date Prepared:		08/25/2016 1112h											
Antimony	0.180	mg/L	E200.8	0.000306	0.00200	0.2000	0.00384	88.1	75 - 125	0.187	3.68	20	
Arsenic	0.218	mg/L	E200.8	0.000540	0.00200	0.2000	0.012	103	75 - 125	0.216	0.731	20	
Barium	0.341	mg/L	E200.8	0.000600	0.00200	0.2000	0.138	102	75 - 125	0.36	5.34	20	
Beryllium	0.199	mg/L	E200.8	0.000177	0.00200	0.2000	0.000221	99.5	75 - 125	0.207	3.66	20	
Cadmium	0.199	mg/L	E200.8	0.0000666	0.000500	0.2000	0.00132	98.8	75 - 125	0.209	5.05	20	
Chromium	0.208	mg/L	E200.8	0.000998	0.00200	0.2000	0.0032	102	75 - 125	0.208	0.331	20	
Cobalt	0.200	mg/L	E200.8	0.0000990	0.00400	0.2000	0.00263	98.8	75 - 125	0.201	0.250	20	
Copper	0.211	mg/L	E200.8	0.000862	0.00200	0.2000	0.0147	98.1	75 - 125	0.212	0.493	20	
Lead	0.287	mg/L	E200.8	0.000125	0.00200	0.2000	0.0937	96.8	75 - 125	0.302	4.89	20	
Manganese	0.424	mg/L	E200.8	0.000560	0.00200	0.2000	0.217	104	75 - 125	0.419	1.20	20	
Molybdenum	0.196	mg/L	E200.8	0.000202	0.00200	0.2000	0.0019	97.2	75 - 125	0.206	4.94	20	
Nickel	0.209	mg/L	E200.8	0.000522	0.00200	0.2000	0.00673	101	75 - 125	0.209	0.109	20	
Selenium	0.204	mg/L	E200.8	0.000310	0.00200	0.2000	0.000883	101	75 - 125	0.202	0.639	20	
Silver	0.205	mg/L	E200.8	0.000132	0.00200	0.2000	0.000392	102	75 - 125	0.216	5.40	20	
Thallium	0.194	mg/L	E200.8	0.0000500	0.00200	0.2000	0.0000848	97.2	75 - 125	0.204	4.54	20	
Zinc	1.16	mg/L	E200.8	0.00452	0.00500	1.000	0.154	101	75 - 125	1.17	0.537	20	
Lab Sample ID: 1608508-001BMSD													
Date Analyzed:		08/26/2016 809h											
Test Code:		HG-DW-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	0.00335	mg/L	E245.1	0.00000559	0.000150	0.003330	0.0000667	98.4	80 - 120	0.00351	4.81	20	
Lab Sample ID: 1608508-001AMSD													
Date Analyzed:		08/26/2016 834h											
Test Code:		HG-DW-DIS-245.1											
Date Prepared:		08/25/2016 1500h											
Mercury	0.00352	mg/L	E245.1	0.00000559	0.000150	0.003330	0	106	85 - 115	0.00363	3.03	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.



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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: 1608508
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: 1608508-002CDUP	Date Analyzed:	08/25/2016 1426h											
Test Code:	TSS-W-2540D												
Total Suspended Solids	267	mg/L	SM2540D	7.48	7.50					307	13.9	5	@
Lab Sample ID: 1608508-002CDUP	Date Analyzed:	08/25/2016 1027h											
Test Code:	TURB-W-180.1												
Turbidity	96.1	NTU	E180.1	0.0213	0.100					90.4	6.11	20	
Lab Sample ID: 1608508-001BDUP	Date Analyzed:	08/25/2016 1019h											
Test Code:	TVS-W-160.4												
Total Volatile Solids	15.8	% of TS	E160.4	0	0.0100					9.29	52.0	5	@

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



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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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-R93284													
Date Analyzed: 08/25/2016 1204h													
Test Code: 300.0-W													
Chloride	5.27	mg/L	E300.0	0.00516	0.100	5.000	0	105	90 - 110				
Sulfate	5.32	mg/L	E300.0	0.0201	0.750	5.000	0	106	90 - 110				
Lab Sample ID: LCS-R93211													
Date Analyzed: 08/25/2016 629h													
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-R93271													
Date Analyzed: 08/25/2016 1426h													
Test Code: TSS-W-2540D													
Total Suspended Solids	98.0	mg/L	SM2540D	2.99	3.00	100.0	0	98.0	80 - 120				
Lab Sample ID: LCS-R93228													
Date Analyzed: 08/25/2016 1027h													
Test Code: TURB-W-180.1													
Turbidity	9.77	NTU	E180.1	0.0213	0.100	10.00	0	97.7	90 - 110				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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-R93284													
Date Analyzed: 08/25/2016 1148h													
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-R93211													
Date Analyzed: 08/25/2016 629h													
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-R93271													
Date Analyzed: 08/25/2016 1426h													
Test Code: TSS-W-2540D													
Total Suspended Solids	< 3.00	mg/L	SM2540D	2.99	3.00								
Lab Sample ID: MB-R93228													
Date Analyzed: 08/25/2016 1027h													
Test Code: TURB-W-180.1													
Turbidity	< 0.100	NTU	E180.1	0.0213	0.100								
Lab Sample ID: MB-R93291													
Date Analyzed: 08/25/2016 1019h													
Test Code: TVS-W-160.4													
Total Volatile Solids	< 0.0100	% of TS	E160.4	0	0.0100								



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Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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: 1608508-001BMS													
Date Analyzed: 08/25/2016 1312h													
Test Code: 300.0-W													
Chloride	108	mg/L	E300.0	0.103	2.00	100.0	2.05	106	90 - 110				
Sulfate	217	mg/L	E300.0	0.402	15.0	100.0	113	104	90 - 110				
Lab Sample ID: 1608508-001BMS													
Date Analyzed: 08/25/2016 629h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO3)	253	mg/L	SM2320B	1.38	10.0	100.0	157	96.5	80 - 120				



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1608508
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: 1608508-001BMSD													
Date Analyzed: 08/25/2016 1329h													
Test Code: 300.0-W													
Chloride	108	mg/L	E300.0	0.103	2.00	100.0	2.05	106	90 - 110	108	0.581	20	
Sulfate	217	mg/L	E300.0	0.402	15.0	100.0	113	103	90 - 110	217	0.185	20	
Lab Sample ID: 1608508-001BMSD													
Date Analyzed: 08/25/2016 629h													
Test Code: ALK-W-2320B													
Alkalinity (as CaCO3)	253	mg/L	SM2320B	1.38	10.0	100.0	157	96.5	80 - 120	253	0	10	

WORK ORDER Summary

Work Order: **1608508** Page 1 of 2

Client: Utah Division of Water Quality

Due Date: 8/26/2016

Client ID: UTD200

Contact: Toby Hooker

Project: Tibble Fork Dam

QC Level: III

WO Type: Standard

Comments: Next Day Rush; QC 3. Lab filter Sample #1 for dissolved metals; Sample #2 was field filtered. Sample #1 metals, w/c share; do not preserve entire sample. Use samples sparingly. DB

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage
1608508-001A	5912810	8/24/2016 1625h	8/24/2016 1730h	200.7-DIS	Aqueous	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 AG TL ZN</i>		
				200.8-DIS-PR		df - dis met
				FILTER-PR		df - dis met
				HG-DW-DIS-245.1		df - dis met
				HG-DW-DIS-PR		df - dis met
				1608508-001B		
<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>						
200.7-W-PR		df - metals / wc / tss/tds/turb				
200.8-W		df - metals / wc / tss/tds/turb				
<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 - metals / wc / tss/tds/turb				
300.0-W		df - metals / wc / tss/tds/turb				
<i>2 SEL Analytes: CL SO4</i>						
ALK-W-2320B		df - metals / wc / tss/tds/turb				
<i>3 SEL Analytes: ALK ALKB ALKC</i>						
HG-DW-245.1		df - metals / wc / tss/tds/turb				
HG-DW-PR		df - metals / wc / tss/tds/turb				
TSS-W-2540D		df - metals / wc / tss/tds/turb				
TURB-W-180.1		df - metals / wc / tss/tds/turb				

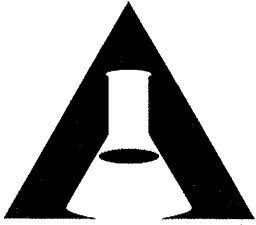
WORK ORDER Summary

Work Order: **1608508** Page 2 of 2

Client: Utah Division of Water Quality

Due Date: 8/26/2016

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage
1608508-001B	5912810	8/24/2016 1625h	8/24/2016 1730h	TVS-W-160.4	Aqueous	df - metals / wc / tss/tds/turb 1
1608508-002A	American Fork River @ Timp Cave Natl Monument Office	8/24/2016 1615h	8/24/2016 1730h	200.7-DIS	Aqueous	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
				HG-DW-DIS-PR		df - dis met
1608508-002B				200.7-W		df - metals
				<i>11 SEL Analytes: AL B CA FE MG K SI NA SN TI V</i>		
				200.7-W-PR		df - metals
				200.8-W		df - metals
				<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 - metals
				HG-DW-245.1		df - metals
				HG-DW-PR		df - metals
1608508-002C				300.0-W		df - wc / tss/tds/turb
				<i>2 SEL Analytes: CL SO4</i>		
				ALK-W-2320B		df - wc / tss/tds/turb
				<i>3 SEL Analytes: ALK ALKB ALKC</i>		
				TSS-W-2540D		df - wc / tss/tds/turb
				TURB-W-180.1		df - wc / tss/tds/turb
				TVS-W-160.4		df - wc / tss/tds/turb



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CHAIN OF CUSTODY

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

11608508

AWAL Lab Sample Set #
 Page of

Client: Utah Division of Water Quality
 Address: 195 W 1950 West
 Contact: Toby Hooker
 Phone #: 801-536-4289 Cell #: _____
 Email: tobyhooker@utah.gov
 Project Name: American Fork River/Timber Fork Dam
 Project #: _____
 PO #: _____
 Sampler Name: _____

QC Level:		Turn Around Time:					Unless other arrangements have been made, signed reports will be emailed by 5:00 pm on the day they are due.	Due Date:
1	2	3	4	5	Std	8/26/16		
# of Containers Sample Matrix ICP: ICPMS METALS (Total) " (Dissolved Metals) Total Hg Dissolved Hg TSS/TVS/Turbidity Anions (Soy + Cl) T. Alkalinity						<input type="checkbox"/> Report down to the MDL <input type="checkbox"/> Include EDD: <input checked="" type="checkbox"/> Lab Filter for: <u>Metals</u> <input type="checkbox"/> Field Filtered For:	Laboratory Use Only Samples Were: 1 Shipped or hand delivered 2 Ambient or Chilled 3 Temperature <u>13</u> °C 4 Received Broken/Leaking (Improperly Sealed) Y N 5 Properly Preserved <input checked="" type="checkbox"/> Y N Checked at bench 6 Received Within Holding Times <input checked="" type="checkbox"/> Y N	
	1	5912810	8/24/16	4:25	2	W	For Compliance With: <input type="checkbox"/> NELAP <input type="checkbox"/> RCRA <input type="checkbox"/> CWA <input type="checkbox"/> SDWA <input type="checkbox"/> ELAP / A2LA <input type="checkbox"/> NLLAP <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Other: Known Hazards & Sample Comments	COC Tape Was: 1 Present on Outer Package Y N <u>NA</u> 2 Unbroken on Outer Package Y N <u>NA</u> 3 Present on Sample Y N <u>NA</u> 4 Unbroken on Sample Y N <u>NA</u> Discrepancies Between Sample Labels and COC Record Y <u>N</u>
	2	American Fork River @ Timber Cave	8/24/16	4:15pm	3	W		
	3	Natl Monument office						
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
12								

Relinquished by: Signature <u>Erica P. Gaddis</u>	Date: <u>8/24/16</u>	Received by: Signature <u>Denise Braun</u>	Date: <u>8/24/16</u>
Print Name: <u>Erica Gaddis</u>	Time: <u>12:30</u>	Print Name: <u>Denise Braun</u>	Time: <u>17:30</u>
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:

Special Instructions: