



Laboratory Analytical Report

Water Quality Division Laboratory

December 30, 2019

208 South College Drive

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Workorder No.: 2019-04-24-001

Project Name.: WATERSHED PROTECTION PRO

Sample ID	Field ID	Collection Date/Time	Submittal Date
AE00490	MJT-19-113-1	4/23/19 09:08	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00491	MJT-19-113-2	4/23/19 10:11	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00492	MJT-19-113-3	4/23/19 10:40	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00493	MJT-19-113-4	4/23/19 11:30	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00494	MJT-19-113-5	4/23/19 12:15	4/24/19

Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00495	MJT-19-113-6	4/23/19 13:29	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00496	MJT-19-113-7	4/23/19 14:24	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00497	MJT-19-113-8	4/23/19 14:39	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00498	MJT-19-113-9	4/23/19 14:53	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00499	MJT-19-113-10	4/23/19 16:20	4/24/19
Ordered Tests:	Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total		
AE00500	MJT-19-113-11	4/23/19 16:39	4/24/19

Ordered Tests: Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total

AE00501 MJT-19-113-12 4/23/19 16:56 4/24/19

Ordered Tests: Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total

AE00502 MJT-19-113-13 4/23/19 17:58 4/24/19


Ordered Tests: Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total

AE00503 MJT-19-113-14 4/23/19 17:58 4/24/19

Ordered Tests: Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total

AE00504 MJT-19-113-15 4/23/19 18:56 4/24/19

Ordered Tests: Silver Dissolved, Silver Total, Aluminum Dissolved, Alkalinity, Ammonia (as Nitrogen), Arsenic Dissolved, Arsenic Total, Barium Total, Beryllium Total, Calcium Dissolved, Cadmium Dissolved, Cadmium Total, Chlorides, Chromium Total, Copper Dissolved, Copper Total, Dissolved Organic Carbon Combustion, Iron Dissolved, Iron Total, Fluoride, Hardness, Calculation (as CaCO3), Potassium Dissolved, Magnesium Dissolved, Manganese Dissolved, Sodium Dissolved, Nickel Dissolved, Nickel Total, Nitrate-Nitrite (as Nitrogen), Nitrogen, Wet Digestion, Lead Dissolved, Lead Total, Phosphorus, Total, Antimony Total, Selenium Dissolved, Selenium Total, Sulfates, Total Sulfide (S2-), Total Dissolved Solids, Thallium Total, Uranium Total, Zinc Dissolved, Zinc Total

Report Approved by:  On: 12/17/2019

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00490
 Field ID: MJT-19-113-1
 Field Location: BADWATER CREEK - SITE 1

Report Date: 12/30/2019
 Collection Date: 04/23/2019 09:08
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	362	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1544	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	183	mg/L		10	EPA300.0 R2.1	04/26/2019 17:22	JOHANNAHMAY
Sulfates	548	mg/L		20	EPA300.0 R2.1	04/26/2019 17:22	JOHANNAHMAY
Calcium Dissolved	86	mg/L		1	EPA 200.7	06/18/2019 16:40	MLATADY
Magnesium Dissolved	36	mg/L		1	EPA 200.7	06/18/2019 16:40	MLATADY
Potassium Dissolved	12	mg/L		1	EPA 200.7	06/18/2019 16:40	MLATADY
Sodium Dissolved	426	mg/L		1	EPA 200.7	06/18/2019 16:40	MLATADY
Aluminum Dissolved	1520	ug/L		50	EPA 200.8	06/07/2019 17:01	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 15:57	MLATADY
Arsenic Dissolved	3	ug/L		1	EPA 200.8	06/07/2019 17:01	MLATADY
Arsenic Total	<11	ug/L		11	EPA 200.8	07/03/2019 15:57	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 15:57	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 15:57	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:01	MLATADY
Cadmium Total	1.8	ug/L		1.1	EPA 200.8	07/03/2019 15:57	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 15:57	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:01	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 15:57	MLATADY
Iron Dissolved	2190	ug/L		50	EPA 200.7/200.8	06/07/2019 17:01	MLATADY
Iron Total	2709	ug/L		55	EPA 200.7/200.8	07/03/2019 15:57	MLATADY
Lead Dissolved	3	ug/L		1	EPA 200.8	06/07/2019 17:01	MLATADY
Lead Total	28	ug/L		11	EPA 200.8	07/03/2019 15:57	MLATADY
Manganese Dissolved	76	ug/L		1	EPA 200.8	06/07/2019 17:01	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:01	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 15:57	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:01	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 15:57	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:01	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 15:57	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 15:57	MLATADY
Uranium Total	13	ug/L		5.5	EPA 200.8	07/03/2019 15:57	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:01	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 15:57	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.32	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:06	JOHANNAHMAY
Phosphorus, Total	2.56	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	6.310	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	347	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	0.6	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

Sample Comment: Ammonia: Results for this login batch were originally reported as "NR" due to unknwn matrix interference. Results biased low. Nitrate-Nitrite: No data could be collected due to significant matrix interference for all samples marked "NR". 12/04/2019 JM. Sulfide: samples with high turbidity were analyzed using the titrimetric method by MKL. For both titrimetric and regular analysis many samples exhibited unknown matrix interference and were NR. 04/26/2019 JM. The "NR" comments here cover all applicable samples on this report. SVien 8-22-2019

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00491
 Field ID: MJT-19-113-2
 Field Location: BADWATER CREEK - SITE 2

Report Date: 12/30/2019
 Collection Date: 04/23/2019 10:11
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	403	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1616	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	219	mg/L		10	EPA300.0 R2.1	04/26/2019 17:39	JOHANNAHMAY
Sulfates	582	mg/L		20	EPA300.0 R2.1	04/26/2019 17:39	JOHANNAHMAY
Calcium Dissolved	96	mg/L		1	EPA 200.7	06/18/2019 16:45	MLATADY
Magnesium Dissolved	40	mg/L		1	EPA 200.7	06/18/2019 16:45	MLATADY
Potassium Dissolved	12	mg/L		1	EPA 200.7	06/18/2019 16:45	MLATADY
Sodium Dissolved	426	mg/L		1	EPA 200.7	06/18/2019 16:45	MLATADY
Aluminum Dissolved	457	ug/L		50	EPA 200.8	06/07/2019 17:13	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:06	MLATADY
Arsenic Dissolved	3	ug/L		1	EPA 200.8	06/07/2019 17:13	MLATADY
Arsenic Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:06	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:06	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:06	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:13	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:06	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:06	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:13	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:06	MLATADY
Iron Dissolved	602	ug/L		50	EPA 200.7/200.8	06/07/2019 17:13	MLATADY
Iron Total	4676	ug/L		55	EPA 200.7/200.8	07/03/2019 16:06	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:13	MLATADY
Lead Total	23	ug/L		11	EPA 200.8	07/03/2019 16:06	MLATADY
Manganese Dissolved	55	ug/L		1	EPA 200.8	06/07/2019 17:13	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:13	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:06	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:13	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:06	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:13	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 16:06	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:06	MLATADY
Uranium Total	12	ug/L		5.5	EPA 200.8	07/03/2019 16:06	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:13	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:06	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.32	mg/L		0.1	SM4500-N B-2011	05/06/2019 10:52	JOHANNAHMAY
Phosphorus, Total	1.76	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	6.793	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	383	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	0.6	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

Sample Comment: Ammonia: Spike recovery below acceptance limits. Results for this batch are NR. 12/04/2019 JM.

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00492
 Field ID: MJT-19-113-3
 Field Location: FIELD BLANK

Report Date: 12/30/2019
 Collection Date: 04/23/2019 10:40
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	<10	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	<10	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	<1	mg/L		1	EPA300.0 R2.1	04/26/2019 17:56	JOHANNAHMAY
Sulfates	<2	mg/L		2	EPA300.0 R2.1	04/26/2019 17:56	JOHANNAHMAY
Calcium Dissolved	<1	mg/L		1	EPA 200.7	06/18/2019 16:35	MLATADY
Magnesium Dissolved	<1	mg/L		1	EPA 200.7	06/18/2019 16:35	MLATADY
Potassium Dissolved	<1	mg/L		1	EPA 200.7	06/18/2019 16:35	MLATADY
Sodium Dissolved	<1	mg/L		1	EPA 200.7	06/18/2019 16:35	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:18	MLATADY
Antimony Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:10	MLATADY
Arsenic Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:18	MLATADY
Arsenic Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:10	MLATADY
Barium Total	<10	ug/L		10	EPA 200.8	07/03/2019 16:10	MLATADY
Beryllium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:10	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:18	MLATADY
Cadmium Total	<0.1	ug/L		0.1	EPA 200.8	07/03/2019 16:10	MLATADY
Chromium Total	<5	ug/L		5	EPA 200.8	07/03/2019 16:10	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:18	MLATADY
Copper Total	<5	ug/L		5	EPA 200.8	07/03/2019 16:10	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:18	MLATADY
Iron Total	<50	ug/L		50	EPA 200.7/200.8	07/03/2019 16:10	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:18	MLATADY
Lead Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:10	MLATADY
Manganese Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:18	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:18	MLATADY
Nickel Total	<10	ug/L		10	EPA 200.8	07/03/2019 16:10	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:18	MLATADY
Selenium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:10	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:18	MLATADY
Silver Total	<0.5	ug/L		0.5	EPA 200.8	07/03/2019 16:10	MLATADY
Thallium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:10	MLATADY
Uranium Total	<0.5	ug/L		0.5	EPA 200.8	07/03/2019 16:10	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:18	MLATADY
Zinc Total	<10	ug/L		10	EPA 200.8	07/03/2019 16:10	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	<0.1	mg/L		0.1	SM4500-N B-2011	05/06/2019 10:53	JOHANNAHMAY
Phosphorus, Total	<0.01	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	1.220	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	<10	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	<0.1	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	<0.05	mg/L		0.05	SM4500-S2-D	04/26/2019 13:30	JOHANNAHMAY

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00493
 Field ID: MJT-19-113-4
 Field Location: BADWATER CREEK - SITE 3

Report Date: 12/30/2019
 Collection Date: 04/23/2019 11:30
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	399	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1644	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	210	mg/L		10	EPA300.0 R2.1	04/26/2019 18:14	JOHANNAHMAY
Sulfates	594	mg/L		20	EPA300.0 R2.1	04/26/2019 18:14	JOHANNAHMAY
Calcium Dissolved	94	mg/L		1	EPA 200.7	06/18/2019 16:48	MLATADY
Magnesium Dissolved	41	mg/L		1	EPA 200.7	06/18/2019 16:48	MLATADY
Potassium Dissolved	11	mg/L		1	EPA 200.7	06/18/2019 16:48	MLATADY
Sodium Dissolved	443	mg/L		1	EPA 200.7	06/18/2019 16:48	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:22	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:18	MLATADY
Arsenic Dissolved	3	ug/L		1	EPA 200.8	06/07/2019 17:22	MLATADY
Arsenic Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:18	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:18	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:18	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:22	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:18	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:18	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:22	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:18	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:22	MLATADY
Iron Total	6609	ug/L		550	EPA 200.7/200.8	07/03/2019 16:18	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:22	MLATADY
Lead Total	16	ug/L		11	EPA 200.8	07/03/2019 16:18	MLATADY
Manganese Dissolved	60	ug/L		1	EPA 200.8	06/07/2019 17:22	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:22	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:18	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:22	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:18	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:22	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 16:18	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:18	MLATADY
Uranium Total	11	ug/L		5.5	EPA 200.8	07/03/2019 16:18	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:22	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:18	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.26	mg/L		0.1	SM4500-N B-2011	05/06/2019 10:54	JOHANNAHMAY
Phosphorus, Total	1.14	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	5.783	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	388	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	0.7	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

Sample Comment: THE HARDNESS CALCULATION IS BASED ON RAW DATA THAT IS THEN ROUNDED AFTER THE CALCULATION IS COMPLETED. THIS METHOD YIELDS A MORE ACCUREATE MEASUREMENT.MKL

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00494
 Field ID: MJT-19-113-5
 Field Location: DRY CREEK - SITE 4

Report Date: 12/30/2019
 Collection Date: 04/23/2019 12:15
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	384	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	632	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	6	mg/L		1	EPA300.0 R2.1	04/26/2019 18:31	JOHANNAHMAY
Sulfates	292	mg/L		20	EPA300.0 R2.1	04/26/2019 18:31	JOHANNAHMAY
Calcium Dissolved	124	mg/L		1	EPA 200.7	06/18/2019 16:55	MLATADY
Magnesium Dissolved	18	mg/L		1	EPA 200.7	06/18/2019 16:55	MLATADY
Potassium Dissolved	3	mg/L		1	EPA 200.7	06/18/2019 16:55	MLATADY
Sodium Dissolved	54	mg/L		1	EPA 200.7	06/18/2019 16:55	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:26	MLATADY
Antimony Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:27	MLATADY
Arsenic Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:26	MLATADY
Arsenic Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:27	MLATADY
Barium Total	64	ug/L		10	EPA 200.8	07/03/2019 16:27	MLATADY
Beryllium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:27	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:26	MLATADY
Cadmium Total	<0.1	ug/L		0.1	EPA 200.8	07/03/2019 16:27	MLATADY
Chromium Total	<5	ug/L		5	EPA 200.8	07/03/2019 16:27	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:26	MLATADY
Copper Total	<5	ug/L		5	EPA 200.8	07/03/2019 16:27	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:26	MLATADY
Iron Total	391	ug/L		50	EPA 200.7/200.8	07/03/2019 16:27	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:26	MLATADY
Lead Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:27	MLATADY
Manganese Dissolved	24	ug/L		1	EPA 200.8	06/07/2019 17:26	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:26	MLATADY
Nickel Total	<10	ug/L		10	EPA 200.8	07/03/2019 16:27	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:26	MLATADY
Selenium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:27	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:26	MLATADY
Silver Total	<0.5	ug/L		0.5	EPA 200.8	07/03/2019 16:27	MLATADY
Thallium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:27	MLATADY
Uranium Total	17	ug/L		0.5	EPA 200.8	07/03/2019 16:27	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:26	MLATADY
Zinc Total	<10	ug/L		10	EPA 200.8	07/03/2019 16:27	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.19	mg/L		0.1	SM4500-N B-2011	05/06/2019 10:55	JOHANNAHMAY
Phosphorus, Total	0.02	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	2.524	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	215	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	0.5	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	0.050	mg/L		0.05	SM4500-S2-D	04/26/2019 13:30	JOHANNAHMAY

Sample Comment: Sulfide: Originally spiked this sample, but matrix interference caused approx. 40% spike recovery. 04/26/2019 JM.

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00495
 Field ID: MJT-19-113-6
 Field Location: BADWATER CREEK - SITE 5

Report Date: 12/30/2019
 Collection Date: 04/23/2019 13:29
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	422	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1624	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	234	mg/L		10	EPA300.0 R2.1	04/26/2019 18:48	JOHANNAHMAY
Sulfates	547	mg/L		20	EPA300.0 R2.1	04/26/2019 18:48	JOHANNAHMAY
Calcium Dissolved	97	mg/L		1	EPA 200.7	06/18/2019 16:58	MLATADY
Magnesium Dissolved	44	mg/L		1	EPA 200.7	06/18/2019 16:58	MLATADY
Potassium Dissolved	11	mg/L		1	EPA 200.7	06/18/2019 16:58	MLATADY
Sodium Dissolved	428	mg/L		1	EPA 200.7	06/18/2019 16:58	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:30	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:35	MLATADY
Arsenic Dissolved	4	ug/L		1	EPA 200.8	06/07/2019 17:30	MLATADY
Arsenic Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:35	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:35	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:35	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:30	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:35	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:35	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:30	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:35	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:30	MLATADY
Iron Total	3829	ug/L		550	EPA 200.7/200.8	07/03/2019 16:35	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:30	MLATADY
Lead Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:35	MLATADY
Manganese Dissolved	75	ug/L		1	EPA 200.8	06/07/2019 17:30	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:30	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:35	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:30	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:35	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:30	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 16:35	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:35	MLATADY
Uranium Total	8	ug/L		5.5	EPA 200.8	07/03/2019 16:35	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:30	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:35	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.31	mg/L		0.1	SM4500-N B-2011	05/06/2019 10:57	JOHANNAHMAY
Phosphorus, Total	0.80	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	8.765	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	417	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	0.6	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00496
 Field ID: MJT-19-113-7
 Field Location: BADWATER CREEK - SITE 6

Report Date: 12/30/2019
 Collection Date: 04/23/2019 14:24
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	382	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1644	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	249	mg/L		10	EPA300.0 R2.1	04/26/2019 19:06	JOHANNAHMAY
Sulfates	520	mg/L		20	EPA300.0 R2.1	04/26/2019 19:06	JOHANNAHMAY
Calcium Dissolved	84	mg/L		1	EPA 200.7	06/18/2019 17:03	MLATADY
Magnesium Dissolved	42	mg/L		1	EPA 200.7	06/18/2019 17:03	MLATADY
Potassium Dissolved	12	mg/L		1	EPA 200.7	06/18/2019 17:03	MLATADY
Sodium Dissolved	484	mg/L		1	EPA 200.7	06/18/2019 17:03	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:35	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:44	MLATADY
Arsenic Dissolved	4	ug/L		1	EPA 200.8	06/07/2019 17:35	MLATADY
Arsenic Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:44	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:44	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:44	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:35	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:44	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:44	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:35	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:44	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:35	MLATADY
Iron Total	7499	ug/L		550	EPA 200.7/200.8	07/03/2019 16:44	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:35	MLATADY
Lead Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:44	MLATADY
Manganese Dissolved	28	ug/L		1	EPA 200.8	06/07/2019 17:35	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:35	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:44	MLATADY
Selenium Dissolved	1	ug/L		1	EPA 200.8	06/07/2019 17:35	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:44	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:35	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 16:44	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:44	MLATADY
Uranium Total	9	ug/L		5.5	EPA 200.8	07/03/2019 16:44	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:35	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:44	MLATADY
Ammonia (as Nitrogen)	0.10	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.50	mg/L		0.1	SM4500-N B-2011	05/06/2019 10:58	JOHANNAHMAY
Phosphorus, Total	0.71	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	10.570	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	429	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	0.7	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00497
 Field ID: MJT-19-113-8
 Field Location: BRIDGER CREEK - SITE 7

Report Date: 12/30/2019
 Collection Date: 04/23/2019 14:39
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	396	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	476	mg/L		10	SM2540 C	04/24/2019 16:17	MLATADY
Chlorides	5	mg/L		1	EPA300.0 R2.1	05/01/2019 16:56	JOHANNAHMAY
Sulfates	255	mg/L		1	EPA300.0 R2.1	05/01/2019 16:56	JOHANNAHMAY
Calcium Dissolved	93	mg/L		1	EPA 200.7	06/18/2019 17:44	MLATADY
Magnesium Dissolved	40	mg/L		1	EPA 200.7	06/18/2019 17:44	MLATADY
Potassium Dissolved	4	mg/L		1	EPA 200.7	06/18/2019 17:44	MLATADY
Sodium Dissolved	60	mg/L		1	EPA 200.7	06/18/2019 17:44	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:39	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:52	MLATADY
Arsenic Dissolved	2	ug/L		1	EPA 200.8	06/07/2019 17:39	MLATADY
Arsenic Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:52	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:52	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:52	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:39	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 16:52	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:52	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:39	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 16:52	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:39	MLATADY
Iron Total	6129	ug/L		550	EPA 200.7/200.8	07/03/2019 16:52	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:39	MLATADY
Lead Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:52	MLATADY
Manganese Dissolved	14	ug/L		1	EPA 200.8	06/07/2019 17:39	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:39	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:52	MLATADY
Selenium Dissolved	1	ug/L		1	EPA 200.8	06/07/2019 17:39	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:52	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:39	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 16:52	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 16:52	MLATADY
Uranium Total	6	ug/L		5.5	EPA 200.8	07/03/2019 16:52	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:39	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 16:52	MLATADY
Ammonia (as Nitrogen)	0.41	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	1.0	mg/L		0.1	SM4500-N B-2011	05/06/2019 10:59	JOHANNAHMAY
Phosphorus, Total	0.49	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	3.856	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	215	mg/L		10	SM 2320-B-2011	04/30/2019 13:30	MLATADY
Fluoride	0.5	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00498
 Field ID: MJT-19-113-9
 Field Location: BADWATER CREEK - SITE 8

Report Date: 12/30/2019
 Collection Date: 04/23/2019 14:53
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	430	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	4544	mg/L		10	SM2540 C	04/25/2019 11:37	MLATADY
Chlorides	929	mg/L		20	EPA300.0 R2.1	05/01/2019 18:05	JOHANNAHMAY
Sulfates	1187	mg/L		50	EPA300.0 R2.1	05/01/2019 18:05	JOHANNAHMAY
Calcium Dissolved	80	mg/L		10	EPA 200.7	06/18/2019 17:49	MLATADY
Magnesium Dissolved	56	mg/L		10	EPA 200.7	06/18/2019 17:49	MLATADY
Potassium Dissolved	22	mg/L		10	EPA 200.7	06/18/2019 17:49	MLATADY
Sodium Dissolved	1705	mg/L		10	EPA 200.7	06/18/2019 17:49	MLATADY
Aluminum Dissolved	247	ug/L		50	EPA 200.8	06/07/2019 17:47	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:09	MLATADY
Arsenic Dissolved	10	ug/L		1	EPA 200.8	06/07/2019 17:47	MLATADY
Arsenic Total	11	ug/L		11	EPA 200.8	07/03/2019 17:09	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:09	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:09	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:47	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 17:09	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 17:09	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:47	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 17:09	MLATADY
Iron Dissolved	289	ug/L		50	EPA 200.7/200.8	06/07/2019 17:47	MLATADY
Iron Total	7193	ug/L		550	EPA 200.7/200.8	07/03/2019 17:09	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:47	MLATADY
Lead Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:09	MLATADY
Manganese Dissolved	49	ug/L		1	EPA 200.8	06/07/2019 17:47	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:47	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:09	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:47	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:09	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:47	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 17:09	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:09	MLATADY
Uranium Total	14	ug/L		5.5	EPA 200.8	07/03/2019 17:09	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:47	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:09	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.41	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:01	JOHANNAHMAY
Phosphorus, Total	0.66	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	12.432	mg/L		2.00	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	972	mg/L		10	SM 2320-B-2011	05/01/2019 13:00	MLATADY
Fluoride	1.2	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00499
 Field ID: MJT-19-113-10
 Field Location: BADWATER CREEK - SITE 9

Report Date: 12/30/2019
 Collection Date: 04/23/2019 16:20
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	349	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	4824	mg/L		10	SM2540 C	04/25/2019 11:37	MLATADY
Chlorides	1066	mg/L		20	EPA300.0 R2.1	05/01/2019 18:23	JOHANNAHMAY
Sulfates	1103	mg/L		50	EPA300.0 R2.1	05/01/2019 18:23	JOHANNAHMAY
Calcium Dissolved	64	mg/L		10	EPA 200.7	06/18/2019 17:57	MLATADY
Magnesium Dissolved	46	mg/L		10	EPA 200.7	06/18/2019 17:57	MLATADY
Potassium Dissolved	24	mg/L		10	EPA 200.7	06/18/2019 17:57	MLATADY
Sodium Dissolved	1775	mg/L		10	EPA 200.7	06/18/2019 17:57	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:51	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:18	MLATADY
Arsenic Dissolved	10	ug/L		1	EPA 200.8	06/07/2019 17:51	MLATADY
Arsenic Total	12	ug/L		11	EPA 200.8	07/03/2019 17:18	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:18	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:18	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:51	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 17:18	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 17:18	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:51	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 17:18	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:51	MLATADY
Iron Total	7880	ug/L		550	EPA 200.7/200.8	07/03/2019 17:18	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:51	MLATADY
Lead Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:18	MLATADY
Manganese Dissolved	32	ug/L		1	EPA 200.8	06/07/2019 17:51	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:51	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:18	MLATADY
Selenium Dissolved	1	ug/L		1	EPA 200.8	06/07/2019 17:51	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:18	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:51	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 17:18	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:18	MLATADY
Uranium Total	14	ug/L		5.5	EPA 200.8	07/03/2019 17:18	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:51	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:18	MLATADY
Ammonia (as Nitrogen)	0.75	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	1.6	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:08	JOHANNAHMAY
Phosphorus, Total	0.32	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	15.326	mg/L		2.00	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	1108	mg/L		10	SM 2320-B-2011	05/01/2019 13:00	MLATADY
Fluoride	1.4	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

Sample Comment: Ammonia: Spike recovery below acceptance limits. Results for this batch are NR. 12/04/2019 JM.

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00500
 Field ID: MJT-19-113-11
 Field Location: ALKALI CREEK - SITE 10

Report Date: 12/30/2019
 Collection Date: 04/23/2019 16:39
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	273	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	5568	mg/L		10	SM2540 C	04/25/2019 11:37	MLATADY
Chlorides	1318	mg/L		20	EPA300.0 R2.1	05/01/2019 18:40	JOHANNAHMAY
Sulfates	1140	mg/L		50	EPA300.0 R2.1	05/01/2019 18:40	JOHANNAHMAY
Calcium Dissolved	45	mg/L		10	EPA 200.7	06/18/2019 17:59	MLATADY
Magnesium Dissolved	39	mg/L		10	EPA 200.7	06/18/2019 17:59	MLATADY
Potassium Dissolved	28	mg/L		10	EPA 200.7	06/18/2019 17:59	MLATADY
Sodium Dissolved	2170	mg/L		10	EPA 200.7	06/18/2019 17:59	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 17:55	MLATADY
Antimony Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:26	MLATADY
Arsenic Dissolved	11	ug/L		1	EPA 200.8	06/07/2019 17:55	MLATADY
Arsenic Total	13	ug/L		11	EPA 200.8	07/03/2019 17:26	MLATADY
Barium Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:26	MLATADY
Beryllium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:26	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 17:55	MLATADY
Cadmium Total	<1	ug/L		1	EPA 200.8	07/03/2019 17:26	MLATADY
Chromium Total	<55	ug/L		55	EPA 200.8	07/03/2019 17:26	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 17:55	MLATADY
Copper Total	<55	ug/L		55	EPA 200.8	07/03/2019 17:26	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 17:55	MLATADY
Iron Total	7339	ug/L		550	EPA 200.7/200.8	07/03/2019 17:26	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 17:55	MLATADY
Lead Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:26	MLATADY
Manganese Dissolved	17	ug/L		1	EPA 200.8	06/07/2019 17:55	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:55	MLATADY
Nickel Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:26	MLATADY
Selenium Dissolved	1	ug/L		1	EPA 200.8	06/07/2019 17:55	MLATADY
Selenium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:26	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 17:55	MLATADY
Silver Total	<5.5	ug/L		5.5	EPA 200.8	07/03/2019 17:26	MLATADY
Thallium Total	<11	ug/L		11	EPA 200.8	07/03/2019 17:26	MLATADY
Uranium Total	12	ug/L		5.5	EPA 200.8	07/03/2019 17:26	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 17:55	MLATADY
Zinc Total	<110	ug/L		110	EPA 200.8	07/03/2019 17:26	MLATADY
Ammonia (as Nitrogen)	0.83	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	1.8	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:09	JOHANNAHMAY
Phosphorus, Total	0.32	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	17.454	mg/L		2.00	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	1318	mg/L		10	SM 2320-B-2011	05/01/2019 13:00	MLATADY
Fluoride	1.6	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	NR	mg/L		0.05	SM4500-S2-D	04/29/2019 13:15	MLATADY

Sample Comment: Chlorides: most dilute sample had a concentration greater than the highest calibration point but was within 105%. 05/02/2019 JM.

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00501
 Field ID: MJT-19-113-12
 Field Location: BADWATER CREEK - SITE 11

Report Date: 12/30/2019
 Collection Date: 04/23/2019 16:56
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	758	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1752	mg/L		10	SM2540 C	04/25/2019 11:37	MLATADY
Chlorides	38	mg/L		1	EPA300.0 R2.1	05/01/2019 18:58	JOHANNAHMAY
Sulfates	1002	mg/L		20	EPA300.0 R2.1	05/01/2019 18:58	JOHANNAHMAY
Calcium Dissolved	170	mg/L		1	EPA 200.7	06/18/2019 17:13	MLATADY
Magnesium Dissolved	81	mg/L		1	EPA 200.7	06/18/2019 17:13	MLATADY
Potassium Dissolved	12	mg/L		1	EPA 200.7	06/18/2019 17:13	MLATADY
Sodium Dissolved	280	mg/L		1	EPA 200.7	06/18/2019 17:13	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 19:03	MLATADY
Antimony Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:22	MLATADY
Arsenic Dissolved	1	ug/L		1	EPA 200.8	06/07/2019 19:03	MLATADY
Arsenic Total	1	ug/L		1	EPA 200.8	07/03/2019 18:22	MLATADY
Barium Total	30	ug/L		10	EPA 200.8	07/03/2019 18:22	MLATADY
Beryllium Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:22	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 19:03	MLATADY
Cadmium Total	<0.1	ug/L		0.1	EPA 200.8	07/03/2019 18:22	MLATADY
Chromium Total	<5	ug/L		5	EPA 200.8	07/03/2019 18:22	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 19:03	MLATADY
Copper Total	<5	ug/L		5	EPA 200.8	07/03/2019 18:22	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 19:03	MLATADY
Iron Total	390	ug/L		50	EPA 200.7/200.8	07/03/2019 18:22	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 19:03	MLATADY
Lead Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:22	MLATADY
Manganese Dissolved	345	ug/L		1	EPA 200.8	06/07/2019 19:03	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 19:03	MLATADY
Nickel Total	<10	ug/L		10	EPA 200.8	07/03/2019 18:22	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 19:03	MLATADY
Selenium Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:22	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 19:03	MLATADY
Silver Total	<0.5	ug/L		0.5	EPA 200.8	07/03/2019 18:22	MLATADY
Thallium Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:22	MLATADY
Uranium Total	17	ug/L		0.5	EPA 200.8	07/03/2019 18:22	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 19:03	MLATADY
Zinc Total	<10	ug/L		10	EPA 200.8	07/03/2019 18:22	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	NR	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.38	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:10	JOHANNAHMAY
Phosphorus, Total	0.02	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	4.909	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	295	mg/L		10	SM 2320-B-2011	05/01/2019 13:00	MLATADY
Fluoride	0.6	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	<0.05	mg/L		0.05	SM4500-S2-D	04/26/2019 13:30	JOHANNAHMAY

Sample Comment: Sulfide: a spike to screen for matrix interference had acceptable recovery. 04/26/2019 JM. Sulfates: most dilute sample had a concentration greater than the highest calibration point but was within 105%. 05/02/2019 JM.

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00502
 Field ID: MJT-19-113-13
 Field Location: BADWATER CREEK - SITE 12

Report Date: 12/30/2019
 Collection Date: 04/23/2019 17:58
 Date Received: 4/24/19
 Matrix: WATER

Analysis	Result	Units	Qual	RL	Method	Analysis Date	By
Hardness, Calculation (as CaCO3)	588	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1116	mg/L		10	SM2540 C	04/25/2019 11:37	MLATADY
Chlorides	15	mg/L		1	EPA300.0 R2.1	05/01/2019 19:15	JOHANNAHMAY
Sulfates	485	mg/L		20	EPA300.0 R2.1	05/01/2019 19:15	JOHANNAHMAY
Calcium Dissolved	126	mg/L		1	EPA 200.7	06/18/2019 17:29	MLATADY
Magnesium Dissolved	67	mg/L		1	EPA 200.7	06/18/2019 17:29	MLATADY
Potassium Dissolved	11	mg/L		1	EPA 200.7	06/18/2019 17:29	MLATADY
Sodium Dissolved	137	mg/L		1	EPA 200.7	06/18/2019 17:29	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 18:41	MLATADY
Antimony Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:43	MLATADY
Arsenic Dissolved	1	ug/L		1	EPA 200.8	06/07/2019 18:41	MLATADY
Arsenic Total	1	ug/L		1	EPA 200.8	07/03/2019 18:43	MLATADY
Barium Total	80	ug/L		10	EPA 200.8	07/03/2019 18:43	MLATADY
Beryllium Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:43	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 18:41	MLATADY
Cadmium Total	<0.1	ug/L		0.1	EPA 200.8	07/03/2019 18:43	MLATADY
Chromium Total	<5	ug/L		5	EPA 200.8	07/03/2019 18:43	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 18:41	MLATADY
Copper Total	<5	ug/L		5	EPA 200.8	07/03/2019 18:43	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 18:41	MLATADY
Iron Total	132	ug/L		50	EPA 200.7/200.8	07/03/2019 18:43	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 18:41	MLATADY
Lead Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:43	MLATADY
Manganese Dissolved	241	ug/L		1	EPA 200.8	06/07/2019 18:41	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 18:41	MLATADY
Nickel Total	<10	ug/L		10	EPA 200.8	07/03/2019 18:43	MLATADY
Selenium Dissolved	2	ug/L		1	EPA 200.8	06/07/2019 18:41	MLATADY
Selenium Total	2	ug/L		1	EPA 200.8	07/03/2019 18:43	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 18:41	MLATADY
Silver Total	<0.5	ug/L		0.5	EPA 200.8	07/03/2019 18:43	MLATADY
Thallium Total	<1	ug/L		1	EPA 200.8	07/03/2019 18:43	MLATADY
Uranium Total	10	ug/L		0.5	EPA 200.8	07/03/2019 18:43	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 18:41	MLATADY
Zinc Total	<10	ug/L		10	EPA 200.8	07/03/2019 18:43	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.34	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:11	JOHANNAHMAY
Phosphorus, Total	0.02	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	3.108	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	294	mg/L		10	SM 2320-B-2011	05/01/2019 13:00	MLATADY
Fluoride	0.4	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	<0.05	mg/L		0.05	SM4500-S2-D	04/26/2019 13:30	JOHANNAHMAY

Sample Comment: Sulfide: a spike to screen for matrix interference had acceptable recovery. 04/26/2019 JM. THE SPIKE RECOVERY FOR DISSOLVED SODIUM IS BASED ON THE USE OF THE DUPLICATE CONCENTRATION TO CALCULATE SPIKE RECOVERY. THE SPIKE RECOVERY FOR DISSOLVED CALCIUM IS BASED ON USING THE AVERAGE OF 121 MG/L TO CALCLUATE SPIKE RECOVERY. MKL THE TOTAL METALS SPIKE RECOVERIES ARE BASED ON RAW DATA. Commented by Marisa and approved by Steve V. QMDR for Mn @74% and QSPR @72% accepted due to very difficult matrix. Steve V. THE HARDNESS CALCULATION IS BASED ON RAW DATA THAT IS THEN ROUNDED AFTER THE CALCULATION IS COMPLETED. THIS METHOD YIELDS A MORE ACCUREATE MEASUREMENT.MKL



LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00503
 Field ID: MJT-19-113-14
 Field Location: BADWATER CREEK - SITE 12

Report Date: 12/30/2019
 Collection Date: 04/23/2019 17:58
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	576	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	1112	mg/L		10	SM2540 C	04/25/2019 11:37	MLATADY
Chlorides	15	mg/L		1	EPA300.0 R2.1	05/01/2019 19:32	JOHANNAHMAY
Sulfates	494	mg/L		20	EPA300.0 R2.1	05/01/2019 19:32	JOHANNAHMAY
Calcium Dissolved	122	mg/L		1	EPA 200.7	06/18/2019 17:33	MLATADY
Magnesium Dissolved	66	mg/L		1	EPA 200.7	06/18/2019 17:33	MLATADY
Potassium Dissolved	11	mg/L		1	EPA 200.7	06/18/2019 17:33	MLATADY
Sodium Dissolved	137	mg/L		1	EPA 200.7	06/18/2019 17:33	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 18:46	MLATADY
Antimony Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:04	MLATADY
Arsenic Dissolved	1	ug/L		1	EPA 200.8	06/07/2019 18:46	MLATADY
Arsenic Total	1	ug/L		1	EPA 200.8	07/03/2019 19:04	MLATADY
Barium Total	71	ug/L		10	EPA 200.8	07/03/2019 19:04	MLATADY
Beryllium Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:04	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 18:46	MLATADY
Cadmium Total	<0.1	ug/L		0.1	EPA 200.8	07/03/2019 19:04	MLATADY
Chromium Total	<5	ug/L		5	EPA 200.8	07/03/2019 19:04	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 18:46	MLATADY
Copper Total	<5	ug/L		5	EPA 200.8	07/03/2019 19:04	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 18:46	MLATADY
Iron Total	211	ug/L		50	EPA 200.7/200.8	07/03/2019 19:04	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 18:46	MLATADY
Lead Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:04	MLATADY
Manganese Dissolved	241	ug/L		1	EPA 200.8	06/07/2019 18:46	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 18:46	MLATADY
Nickel Total	<10	ug/L		10	EPA 200.8	07/03/2019 19:04	MLATADY
Selenium Dissolved	2	ug/L		1	EPA 200.8	06/07/2019 18:46	MLATADY
Selenium Total	2	ug/L		1	EPA 200.8	07/03/2019 19:04	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 18:46	MLATADY
Silver Total	<0.5	ug/L		0.5	EPA 200.8	07/03/2019 19:04	MLATADY
Thallium Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:04	MLATADY
Uranium Total	9	ug/L		0.5	EPA 200.8	07/03/2019 19:04	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 18:46	MLATADY
Zinc Total	<10	ug/L		10	EPA 200.8	07/03/2019 19:04	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.34	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:12	JOHANNAHMAY
Phosphorus, Total	0.02	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	4.199	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	294	mg/L		10	SM 2320-B-2011	05/01/2019 13:00	MLATADY
Fluoride	0.5	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	<0.05	mg/L		0.05	SM4500-S2-D	04/26/2019 13:30	JOHANNAHMAY

Sample Comment: Sulfide: a spike to screen for matrix interference had acceptable recovery. 04/26/2019 JM.

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Client: WATERSHED_SWM
 Project: WATERSHED PROTECTION PRO
 Lab ID: AE00504
 Field ID: MJT-19-113-15
 Field Location: BADWATER CREEK - SITE 13

Report Date: 12/30/2019
 Collection Date: 04/23/2019 18:56
 Date Received: 4/24/19
 Matrix: WATER

<u>Analysis</u>	<u>Result</u>	<u>Units</u>	<u>Qual</u>	<u>RL</u>	<u>Method</u>	<u>Analysis Date</u>	<u>By</u>
Hardness, Calculation (as CaCO3)	100	mg/L		10	SM2340B-2011	06/25/2019 16:40	MLATADY
Total Dissolved Solids	184	mg/L		10	SM2540 C	04/25/2019 11:37	MLATADY
Chlorides	2	mg/L		1	EPA300.0 R2.1	05/01/2019 19:50	JOHANNAHMAY
Sulfates	15	mg/L		2	EPA300.0 R2.1	05/01/2019 19:50	JOHANNAHMAY
Calcium Dissolved	30	mg/L		1	EPA 200.7	06/18/2019 17:42	MLATADY
Magnesium Dissolved	6	mg/L		1	EPA 200.7	06/18/2019 17:42	MLATADY
Potassium Dissolved	3	mg/L		1	EPA 200.7	06/18/2019 17:42	MLATADY
Sodium Dissolved	11	mg/L		1	EPA 200.7	06/18/2019 17:42	MLATADY
Aluminum Dissolved	<50	ug/L		50	EPA 200.8	06/07/2019 18:50	MLATADY
Antimony Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:12	MLATADY
Arsenic Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 18:50	MLATADY
Arsenic Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:12	MLATADY
Barium Total	67	ug/L		10	EPA 200.8	07/03/2019 19:12	MLATADY
Beryllium Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:12	MLATADY
Cadmium Dissolved	<0.1	ug/L		0.1	EPA 200.8	06/07/2019 18:50	MLATADY
Cadmium Total	<0.1	ug/L		0.1	EPA 200.8	07/03/2019 19:12	MLATADY
Chromium Total	<5	ug/L		5	EPA 200.8	07/03/2019 19:12	MLATADY
Copper Dissolved	<5	ug/L		5	EPA 200.8	06/07/2019 18:50	MLATADY
Copper Total	<5	ug/L		5	EPA 200.8	07/03/2019 19:12	MLATADY
Iron Dissolved	<50	ug/L		50	EPA 200.7/200.8	06/07/2019 18:50	MLATADY
Iron Total	299	ug/L		50	EPA 200.7/200.8	07/03/2019 19:12	MLATADY
Lead Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 18:50	MLATADY
Lead Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:12	MLATADY
Manganese Dissolved	17	ug/L		1	EPA 200.8	06/07/2019 18:50	MLATADY
Nickel Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 18:50	MLATADY
Nickel Total	<10	ug/L		10	EPA 200.8	07/03/2019 19:12	MLATADY
Selenium Dissolved	<1	ug/L		1	EPA 200.8	06/07/2019 18:50	MLATADY
Selenium Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:12	MLATADY
Silver Dissolved	<0.5	ug/L		0.5	EPA 200.8	06/07/2019 18:50	MLATADY
Silver Total	<0.5	ug/L		0.5	EPA 200.8	07/03/2019 19:12	MLATADY
Thallium Total	<1	ug/L		1	EPA 200.8	07/03/2019 19:12	MLATADY
Uranium Total	1	ug/L		0.5	EPA 200.8	07/03/2019 19:12	MLATADY
Zinc Dissolved	<10	ug/L		10	EPA 200.8	06/07/2019 18:50	MLATADY
Zinc Total	<10	ug/L		10	EPA 200.8	07/03/2019 19:12	MLATADY
Ammonia (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NH3 G2011	05/06/2019 11:33	JOHANNAHMAY
Nitrate-Nitrite (as Nitrogen)	<0.05	mg/L		0.05	SM4500-NO3 F2011	05/06/2019 11:33	JOHANNAHMAY
Nitrogen, Wet Digestion	0.25	mg/L		0.1	SM4500-N B-2011	05/06/2019 11:13	JOHANNAHMAY
Phosphorus, Total	0.08	mg/L		0.01	SM4500-P.I 2011	05/10/2019 12:06	JOHANNAHMAY
Dissolved Organic Carbon Combustion	5.582	mg/L		1	SM5310 B-2011	05/13/2019 18:50	SVIEN
Alkalinity	108	mg/L		10	SM 2320-B-2011	05/01/2019 13:00	MLATADY
Fluoride	0.2	mg/L		0.1	SM4500-F-C	05/06/2019 09:45	MLATADY
Total Sulfide (S2-)	<0.05	mg/L		0.05	SM4500-S2-D	04/26/2019 13:30	JOHANNAHMAY

Sample Comment: Sulfide: a spike to screen for matrix interference hd only 58% recovery. 04/26/2019 JM.

LABORATORY ANALYSIS REPORT
Prepared by Wyoming DEQ

QA/QC Summary Report

ALKALINITY-3461		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Sample Duplicate RPD for Alkalinity										
AE00494	04/30/2019 13:30	215	mg/L	10				0.00	10	
Lab Reagent Blank for Alkalinity										
AE00560	04/30/2019 13:30	<10	mg/L	10						
Quality Control Sample Recovery for Alk										
AE00561	04/30/2019 13:30	107	mg/L	10	106	90	110			
ALKALINITY-3463		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Sample Duplicate RPD for Alkalinity										
AE00502	05/01/2019 13:00	294	mg/L	10				0.00	10	
AE00529	05/01/2019 13:00	118	mg/L	10				0.00	10	
Lab Reagent Blank for Alkalinity										
AE00569	05/01/2019 13:00	<10	mg/L	10						
Quality Control Sample Recovery for Alk										
AE00570	05/01/2019 13:00	110	mg/L	10	109	90	110			
AMMONIA-3459		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Cont Cal Control Rec Ammonia										
AE00548	05/06/2019 11:33	0.89	mg/L	0.05	88.9	85	115			
AE00549	05/06/2019 11:33	0.94	mg/L	0.05	94.1	85	115			
Continuing Calib. Control Rec NO3+NO2										
AE00548	05/06/2019 11:33	0.98	mg/L	0.05	98.0	85	115			
AE00549	05/06/2019 11:33	0.99	mg/L	0.05	99.0	85	115			
Sample Duplicate RPD for Ammonia										
AE00491	05/06/2019 11:33	<0.05	mg/L	0.05				0	15	
AE00499	05/06/2019 11:33	0.79	mg/L	0.05				0.77	15	
Sample Duplicate RPD for Nitrate-Nitrite										
AE00491	05/06/2019 11:33	NR	mg/L	0.05				NR	15	
AE00499	05/06/2019 11:33	NR	mg/L	0.05				NR	15	
Initial Cal. Control Recovery Ammonia										
AE00546	05/06/2019 11:33	1.0	mg/L	0.05	102	85	115			

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

Initial Calibration Control Rec. NO3+NO2									
AE00546	05/06/2019	11:33			97.0	85	115		
			0.97	mg/L	0.05				

Lab Reagent Blank for Ammonia									
AE00545	05/06/2019	11:33							
			<0.05	mg/L	0.05				

Lab Reagent Blank NO3+NO2									
AE00545	05/06/2019	11:33							
			<0.05	mg/L	0.05				

Sample Matrix Dup Recovery for Ammonia									
AE00491	05/06/2019	11:33			73.8	85	115		
			1.49	mg/L	0.05			7.00	15
AE00499	05/06/2019	11:33			70.5	85	115		
			2.16	mg/L	0.05			1.30	15

Sample Matrix Duplicate Rec. NO3+NO2									
AE00491	05/06/2019	11:33			NR	85	115		
			NR	mg/L	0.05			NR	15
AE00499	05/06/2019	11:33			NR	85	115		
			NR	mg/L	0.05			NR	15

Sample Matrix Spike Recovery for Ammonia									
AE00491	05/06/2019	11:33			79.2	85	115		
			1.60	mg/L	0.05				
AE00499	05/06/2019	11:33			69.1	85	115		
			2.14	mg/L	0.05				

Sample Matrix Spike Recovery for NO3+NO2									
AE00491	05/06/2019	11:33			NR	85	115		
			NR	mg/L	0.05				
AE00499	05/06/2019	11:33			NR	85	115		
			NR	mg/L	0.05				

QC % Rec Ammonia Calc									
AE00547	05/06/2019	11:33			96.1	85	115		
			16.7	mg/L	0.05				

QCS Rec. NO3+NO2 P230-505									
AE00547	05/06/2019	11:33			98.4	85	115		
			18.4	mg/L	0.05				

DOC-3515											
			Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Continuing Calibration Control Recovery											
AE00805	05/13/2019	18:50				89.6	80	120			
			20.000	mg/L							
DOC Sample Duplicate Value											
AE00497	05/24/2019	15:08							4.59	15	
			4.037	mg/L							
DOC Initial Calibration Control Recovery											
AE00804	05/13/2019	18:50				100	80	120			
			20.000								
Lab Reagent Blank DOC Combustion											
AE00803	05/13/2019	18:50			1						
			<RL	mg/L							
DOC Sample Matrix Duplicate Recovery											
AE00497	05/24/2019	15:11				115	80	120			
			14.295	mg/L					1.80	15	
DOC Sample Matrix Spike Recovery											
AE00497	05/13/2019	18:50				118	80	120			
			14.554	mg/L							

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FLUORIDE-3472			Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Cont Cal Cont Rec Fluoride											
AE00596	05/06/2019	9:45	2.1	mg/L	0.1	106	80	120			
Sample Duplicate RPD for Fluoride											
AE00490	05/06/2019	9:45	0.6	mg/L	0.1				0	20	
AE00501	05/06/2019	9:45	0.6	mg/L	0.1				0	20	
Initial Cal. Control Recovery Fluoride											
AE00594	05/06/2019	9:45	2.1	mg/L	0.1	104	80	120			
Lab Reagent Blank for Fluoride											
AE00593	05/06/2019	9:45	<0.1	mg/L	0.1						
Sample Matrix Dup. Recovery Fluoride											
AE00490	05/06/2019	9:45	2.7	mg/L	0.1	104	80	120	0.4	20	
AE00501	05/06/2019	9:45	2.6	mg/L	0.1	98.5	80	120	1.2	20	
Sample Matrix Spike Recovery Fluoride											
AE00490	05/06/2019	9:45	2.7	mg/L	0.1	103	80	120			
AE00501	05/06/2019	9:45	2.5	mg/L	0.1	97.0	80	120			
QCS Recovery for Fluoride											
AE00595	05/06/2019	9:45	3.3	mg/L	0.1	104	80	120			
ICP_IONS DISSOLVED-3586			Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Continuing Calibration Control Recovery											
Calcium											
AE01102	06/18/2019	18:12	4.9	mg/L	1	98	85	115			
Magnesium											
AE01102	06/18/2019	18:12	5.0	mg/L	1	100	85	115			
Potassium											
AE01102	06/18/2019	18:12	5.5	mg/L	1	110	85	115			
Sodium											
AE01102	06/18/2019	18:12	5.5	mg/L	1	110	85	115			
Sample Relative Percent Difference											
Calcium											
AE00502	06/18/2019	17:21	117	mg/L	10				7	15	
Magnesium											
AE00502	06/18/2019	17:21	65	mg/L	10				3	15	
Potassium											
AE00502	06/18/2019	17:21	11	mg/L	1				0	20	
Sodium											

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AE00502	06/18/2019 17:21							
Calcium		146	mg/L	10			6	20
AE00578	06/18/2019 16:27							
Magnesium		61	mg/L	1			0	15
AE00578	06/18/2019 16:27							
Potassium		16	mg/L	1			0	15
AE00578	06/18/2019 16:27							
Sodium		2	mg/L	1			0	20
AE00578	06/18/2019 16:27							
		7	mg/L	1			0	20

Initial Cal. Control Value ICP_IONS_DISS

Calcium								
AE01100	06/18/2019 16:05				96	85	115	
		4.8	mg/L	1				
Magnesium								
AE01100	06/18/2019 16:05				100	85	115	
		5.0	mg/L	1				
Potassium								
AE01100	06/18/2019 16:05				98	85	115	
		4.9	mg/L	1				
Sodium								
AE01100	06/18/2019 16:05				110	85	115	
		5.5	mg/L	1				

Lab Reagent Blank for ICP_IONS_DISS

Calcium								
AE01099	06/18/2019 16:02							
		<1	mg/L	1				
Magnesium								
AE01099	06/18/2019 16:02							
		<1	mg/L	1				
Potassium								
AE01099	06/18/2019 16:02							
		<1	mg/L	1				
Sodium								
AE01099	06/18/2019 16:02							
		<1	mg/L	1				

Sample Matrix Spike RPD ICP_IONS_DISS

Calcium								
AE00502	06/18/2019 17:26				93	85	115	
		168	mg/l	10				4 15
Magnesium								
AE00502	06/18/2019 17:26				102	85	115	
		118	mg/l	10				2 15
Potassium								
AE00502	06/18/2019 17:26				112	85	115	
		67	mg/l	10				3 20
Sodium								
AE00502	06/18/2019 17:26				103	85	115	
		198	mg/l	10				3 20
Calcium								
AE00578	06/18/2019 16:27				98	85	115	
		110	mg/l	1				4 15

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Magnesium	AE00578	06/18/2019 16:27			102	85	115		
			67	mg/l	1			0	15
Potassium	AE00578	06/18/2019 16:27			100	85	115		
			52	mg/l	1			4	20
Sodium	AE00578	06/18/2019 16:27			106	85	115		
			60	mg/l	1			4	20

Sample Matrix Spike Recovery									
Calcium	AE00502	06/18/2019 17:24			106	85	115		
			174	mg/L	10				
Magnesium	AE00502	06/18/2019 17:24			106	85	115		
			120	mg/L	10				
Potassium	AE00502	06/18/2019 17:24			108	85	115		
			65	mg/L	10				
Sodium	AE00502	06/18/2019 17:24			92	85	115		
			192	mg/L	10				
Calcium	AE00578	06/18/2019 16:27			90	85	115		
			106	mg/L	1				
Magnesium	AE00578	06/18/2019 16:27			102	85	115		
			67	mg/L	1				
Potassium	AE00578	06/18/2019 16:27			96	85	115		
			50	mg/L	1				
Sodium	AE00578	06/18/2019 16:27			111	85	115		
			67	mg/L	1				

QCS Recovery for ICP_IONS DISS									
Calcium	AE01101	06/18/2019 16:07			103	85	115		
			21	mg/L	1				
Magnesium	AE01101	06/18/2019 16:07			107	85	115		
			14	mg/L	1				
Potassium	AE01101	06/18/2019 16:07			108	85	115		
			66.7	mg/L	1				
Sodium	AE01101	06/18/2019 16:07			108	85	115		
			38.7	mg/L	1				

ICPMS_ALL DISS-3526											
			Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Continuing Calibration Control Value											
Aluminum	AE00841	06/07/2019 16:52				104	85	115			
			51.8	ug/L	50						
Antimony	AE00841	06/07/2019 16:52				106	80	120			
			53.0	ug/L	1						

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Arsenic					101	85	115
AE00841	06/07/2019	16:52					
			50.6	ug/L	1		
Barium					103	85	115
AE00841	06/07/2019	16:52					
			51.6	ug/L	10		
Beryllium					98	85	115
AE00841	06/07/2019	16:52					
			48.9	ug/L	1		
Boron					108	85	115
AE00841	06/07/2019	16:52					
			54.0	ug/L	10		
Cadmium					106.2	90	110
AE00841	06/07/2019	16:52					
			53.1	ug/L	0.1		
Chromium					105	85	115
AE00841	06/07/2019	16:52					
			52.6	ug/L	5		
Cobalt					109	85	115
AE00841	06/07/2019	16:52					
			54.3	ug/L	5		
Copper					110	85	115
AE00841	06/07/2019	16:52					
			54.9	ug/L	5		
Iron					103	85	115
AE00841	06/07/2019	16:52					
			51.6	ug/L	50		
Lead					105	85	115
AE00841	06/07/2019	16:52					
			52.3	ug/L	1		
Manganese					102	85	115
AE00841	06/07/2019	16:52					
			51.1	ug/L	1		
Molybdenum					101	85	115
AE00841	06/07/2019	16:52					
			50.4	ug/L	1		
Nickel					108	85	115
AE00841	06/07/2019	16:52					
			54.0	ug/L	10		
Selenium					102	85	115
AE00841	06/07/2019	16:52					
			51.0	ug/L	1		
Silver					108	80	120
AE00841	06/07/2019	16:52					
			53.9	ug/L	0.1		
Strontium					95	85	115
AE00841	06/07/2019	16:52					
			47.4	ug/L	1		
Thallium					108	85	115
AE00841	06/07/2019	16:52					
			53.9	ug/L	1		
Uranium					105.4	85	115
AE00841	06/07/2019	16:52					
			52.7	ug/L	0.5		
Vanadium					103	85	115
AE00841	06/07/2019	16:52					
			51.7	ug/L	10		

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Zinc							
AE00841	06/07/2019 16:52			103	85	115	
		51.6	ug/L	10			

RPD FOR ICPMS_ALL_DISS

Aluminum	AE00447	06/07/2019 16:01					
			<10	ug/L	50	0	15
Antimony	AE00447	06/07/2019 16:01					
			<1	ug/L	1	0	15
Arsenic	AE00447	06/07/2019 16:01					
			<1	ug/L	1	0	15
Barium	AE00447	06/07/2019 16:01					
			40	ug/L	10	0.7	15
Beryllium	AE00447	06/07/2019 16:01					
			<1	ug/L	1	0	15
Boron	AE00447	06/07/2019 16:01					
			19	ug/L	10	2	15
Cadmium	AE00447	06/07/2019 16:01					
			<0.1	ug/L	0.1	0	15
Chromium	AE00447	06/07/2019 16:01					
			<5	ug/L	5	0	15
Cobalt	AE00447	06/07/2019 16:01					
			<5	ug/L	5	0	15
Copper	AE00447	06/07/2019 16:01					
			<5	ug/L	5	0	15
Iron	AE00447	06/07/2019 16:01					
			<50	ug/L	50	0	15
Lead	AE00447	06/07/2019 16:01					
			<1	ug/L	1	0	15
Manganese	AE00447	06/07/2019 16:01					
			11	ug/L	1	0	15
Molybdenum	AE00447	06/07/2019 16:01					
			<5	ug/L	5	2	15
Nickel	AE00447	06/07/2019 16:01					
			<10	ug/L	10	0	15
Selenium	AE00447	06/07/2019 16:01					
			<1	ug/L	1	0	15
Silver	AE00447	06/07/2019 16:01					
			<0.5	ug/L	0.5	0	15
Strontium							

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AE00447	06/07/2019 16:01					
		798	ug/L	1	2	15
Thallium						
AE00447	06/07/2019 16:01					
		<1	ug/L	1	0	15
Uranium						
AE00447	06/07/2019 16:01					
		1.0	ug/L	0.5	0	15
Vanadium						
AE00447	06/07/2019 16:01					
		<10	ug/L	10	0	15
Zinc						
AE00447	06/07/2019 16:01					
		<10	ug/L	10	0	15
Aluminum						
AE00501	06/07/2019 18:12					
		<50	ug/L	50	0	15
Antimony						
AE00501	06/07/2019 18:12					
		<1	ug/L	1	0	15
Arsenic						
AE00501	06/07/2019 18:12					
		1	ug/L	1	0	15
Barium						
AE00501	06/07/2019 18:12					
		28	ug/L	10	1.3	15
Beryllium						
AE00501	06/07/2019 18:12					
		<1	ug/L	1	0	15
Boron						
AE00501	06/07/2019 18:12					
		128	ug/L	10	4.9	15
Cadmium						
AE00501	06/07/2019 18:12					
		<0.1	ug/L	0.1	0	15
Chromium						
AE00501	06/07/2019 18:12					
		<5	ug/L	5	0	15
Cobalt						
AE00501	06/07/2019 18:12					
		<5	ug/L	5	0	15
Copper						
AE00501	06/07/2019 18:12					
		<5	ug/L	5	0	15
Iron						
AE00501	06/07/2019 18:12					
		<50	ug/L	50	0	15
Lead						
AE00501	06/07/2019 18:12					
		<1	ug/L	1	0	15
Manganese						
AE00501	06/07/2019 18:12					
		342	ug/L	10	1.9	15
Molybdenum						
AE00501	06/07/2019 18:12					
		4	ug/L	5	0	15
Nickel						

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AE00501	06/07/2019 18:12						
Selenium		<10	ug/L	10		0	15
AE00501	06/07/2019 18:12						
Silver		<1	ug/L	1		0	15
AE00501	06/07/2019 18:12						
Strontium		<0.5	ug/L	0.5		0	15
AE00501	06/07/2019 18:12						
Thallium		2266	ug/L	10		1.8	15
AE00501	06/07/2019 18:12						
Uranium		<1	ug/L	1		0	15
AE00501	06/07/2019 18:12						
Vanadium		20.1	ug/L	0.5		0	15
AE00501	06/07/2019 18:12						
Zinc		<10	ug/L	10		0	15
AE00501	06/07/2019 18:12						
		<10	ug/L	10		0	15

Initial Cal Control Value ICPMS_ALL_DISS

Aluminum					100	85	115
AE00839	06/07/2019 15:32						
		50.0	ug/L	50			
Antimony					100	80	120
AE00839	06/07/2019 15:32						
		50.1	ug/L	1			
Arsenic					100	85	115
AE00839	06/07/2019 15:32						
		50.1	ug/L	1			
Barium					99	85	115
AE00839	06/07/2019 15:32						
		49.5	ug/L	10			
Beryllium					101	85	115
AE00839	06/07/2019 15:32						
		50.5	ug/L	1			
Boron					101	85	115
AE00839	06/07/2019 15:32						
		50.5	ug/L	10			
Cadmium					100.0	90	110
AE00839	06/07/2019 15:32						
		50.0	ug/L	0.1			
Chromium					100	85	115
AE00839	06/07/2019 15:32						
		50.1	ug/L	5			
Cobalt					101	85	115
AE00839	06/07/2019 15:32						
		50.7	ug/L	5			
Copper					102	85	115
AE00839	06/07/2019 15:32						
		51.1	ug/L	5			
Iron							

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AE00839	06/07/2019 15:32			98	85	115
		48.8	ug/L	50		
Lead						
AE00839	06/07/2019 15:32			100	85	115
		49.9	ug/L	1		
Manganese						
AE00839	06/07/2019 15:32			98	85	115
		48.9	ug/L	1		
Molybdenum						
AE00839	06/07/2019 15:32			101	85	115
		50.6	ug/L	1		
Nickel						
AE00839	06/07/2019 15:32			101	85	115
		50.4	ug/L	10		
Selenium						
AE00839	06/07/2019 15:32			99	85	115
		49.5	ug/L	1		
Silver						
AE00839	06/07/2019 15:32			101	80	120
		50.4	ug/L	0.1		
Strontium						
AE00839	06/07/2019 15:32			98	85	115
		49.2	ug/L	1		
Thallium						
AE00839	06/07/2019 15:32			100	85	115
		50.2	ug/L	1		
Uranium						
AE00839	06/07/2019 15:32			101.8	85	115
		50.9	ug/L	0.5		
Vanadium						
AE00839	06/07/2019 15:32			98	85	115
		49.2	ug/L	10		
Zinc						
AE00839	06/07/2019 15:32			101	85	115
		50.4	ug/L	10		

Lab Reagent Blank for ICPMS_ALL DISS

Aluminum						
AE00838	06/07/2019 15:28					
		<50	ug/L	50		
Antimony						
AE00838	06/07/2019 15:28					
		<1	ug/L	1		
Arsenic						
AE00838	06/07/2019 15:28					
		<1	ug/L	1		
Barium						
AE00838	06/07/2019 15:28					
		<10	ug/L	10		
Beryllium						
AE00838	06/07/2019 15:28					
		<1	ug/L	1		
Boron						
AE00838	06/07/2019 15:28					
		<10	ug/L	10		
Cadmium						

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AE00838	06/07/2019 15:28			
Chromium		<0.1	ug/L	0.1
AE00838	06/07/2019 15:28			
Cobalt		<5	ug/L	5
AE00838	06/07/2019 15:28			
Copper		<5	ug/L	5
AE00838	06/07/2019 15:28			
Iron		<5	ug/L	5
AE00838	06/07/2019 15:28			
Lead		<50	ug/L	50
AE00838	06/07/2019 15:28			
Manganese		<1	ug/L	1
AE00838	06/07/2019 15:28			
Molybdenum		<1	ug/L	1
AE00838	06/07/2019 15:28			
Nickel		<5	ug/L	5
AE00838	06/07/2019 15:28			
Selenium		<10	ug/L	10
AE00838	06/07/2019 15:28			
Silver		<1	ug/L	1
AE00838	06/07/2019 15:28			
Strontium		<0.5	ug/L	0.5
AE00838	06/07/2019 15:28			
Thallium		<1	ug/L	1
AE00838	06/07/2019 15:28			
Uranium		<1	ug/L	1
AE00838	06/07/2019 15:28			
Vanadium		<0.5	ug/L	0.5
AE00838	06/07/2019 15:28			
Zinc		<10	ug/L	10
AE00838	06/07/2019 15:28			
		<10	ug/L	10

SAMPLE SPIKE RPD FOR ICPMS_ALL_DISS

Aluminum								
AE00447	06/07/2019 16:27			106	85	115		
		53	ug/L	50			0	15
Antimony								
AE00447	06/07/2019 16:27			102	85	115		
		51	ug/L	1			0	15
Arsenic								

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AE00447	06/07/2019 16:27				100	85	115		
Barium		50	ug/L	1				1	15
AE00447	06/07/2019 16:27				104	85	115		
Beryllium		91	ug/L	10				0	15
AE00447	06/07/2019 16:27				98.0	85	115		
Boron		49	ug/L	1				0	15
AE00447	06/07/2019 16:27				100	85	115		
Cadmium		68	ug/L	10				0	15
AE00447	06/07/2019 16:27				103	90	110		
Chromium		51.5	ug/L	0.1				0.5	15
AE00447	06/07/2019 16:27				102	85	115		
Cobalt		51	ug/L	5				0	15
AE00447	06/07/2019 16:27				102	85	115		
Copper		51	ug/L	5				0	15
AE00447	06/07/2019 16:27				106	85	115		
Iron		53	ug/L	5				0	15
AE00447	06/07/2019 16:27				100	85	115		
Lead		63	ug/L	50				0	15
AE00447	06/07/2019 16:27				106	85	115		
Manganese		53	ug/L	1				0	15
AE00447	06/07/2019 16:27				100	85	115		
Molybdenum		60	ug/L	1				1	15
AE00447	06/07/2019 16:27				104	85	115		
Nickel		52	ug/L	1				0	15
AE00447	06/07/2019 16:27				100	85	115		
Selenium		50	ug/L	10				0	15
AE00447	06/07/2019 16:27				104	85	115		
Silver		52	ug/L	1				0	15
AE00447	06/07/2019 16:27				101	85	115		
Strontium		50.5	ug/L	0.5				0.8	15
AE00447	06/07/2019 16:27				95.4	85	115		
Thallium		1259	ug/L	1				0	15
AE00447	06/07/2019 16:27				108	85	115		
Uranium		54	ug/L	1				0	15
AE00447	06/07/2019 16:27				110	85	115		
Vanadium		56.0	ug/L	0.5				1.6	15
AE00447	06/07/2019 16:27				102	85	115		
Zinc		51	ug/L	10				0	15

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AE00447	06/07/2019 16:27			102	85	115		
		51	ug/L	10			0	15
Aluminum								
AE00501	06/07/2019 18:37			110	85	115		
		55	ug/L	50			0	15
Antimony								
AE00501	06/07/2019 18:37			104	85	115		
		52	ug/L	1			0	15
Arsenic								
AE00501	06/07/2019 18:37			102	85	115		
		52	ug/L	1			2	15
Barium								
AE00501	06/07/2019 18:37			104	85	115		
		80	ug/L	10			0	15
Beryllium								
AE00501	06/07/2019 18:37			96.0	85	115		
		48	ug/L	1			4	15
Boron								
AE00501	06/07/2019 18:37			114	85	115		
		179	ug/L	10			0	15
Cadmium								
AE00501	06/07/2019 18:37			96.8	90	110		
		48.4	ug/L	0.1			0.4	15
Chromium								
AE00501	06/07/2019 18:37			96.0	85	115		
		48	ug/L	5			0	15
Cobalt								
AE00501	06/07/2019 18:37			94.0	85	115		
		47	ug/L	5			0	15
Copper								
AE00501	06/07/2019 18:37			90.0	85	115		
		45	ug/L	5			0	15
Iron								
AE00501	06/07/2019 18:37			112	85	115		
		56	ug/L	50			0	15
Lead								
AE00501	06/07/2019 18:37			108	85	115		
		54	ug/L	1			0	15
Manganese								
AE00501	06/07/2019 18:37			99.2	85	115		
		841	ug/L	10			0	15
Molybdenum								
AE00501	06/07/2019 18:37			113	85	115		
		59	ug/L	1			0	15
Nickel								
AE00501	06/07/2019 18:37			92.0	85	115		
		46	ug/L	10			0	15
Selenium								
AE00501	06/07/2019 18:37			100	85	115		
		50	ug/L	1			0	15
Silver								
AE00501	06/07/2019 18:37			87.8	85	115		
		43.9	ug/L	0.5			0.7	15
Strontium								
AE00501	06/07/2019 18:37			95.6	85	115		
		2824	ug/L	10			0	15
Thallium								

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AE00501	06/07/2019 18:37			110	85	115		
		55	ug/L	1			0	15
Uranium								
AE00501	06/07/2019 18:37			114	85	115		
		77	ug/L	0.5			0.8	15
Vanadium								
AE00501	06/07/2019 18:37			102	85	115		
		51	ug/L	10			0	15
Zinc								
AE00501	06/07/2019 18:37			96.0	85	115		
		48	ug/L	10			0	15

DISSOLVED MATRIX SPIKE RECOVERY

Aluminum								
AE00447	06/07/2019 16:23			108	85	115		
		54	ug/L	50				
Antimony								
AE00447	06/07/2019 16:23			102	85	115		
		51	ug/L	1				
Arsenic								
AE00447	06/07/2019 16:23			102	85	115		
		51	ug/L	1				
Barium								
AE00447	06/07/2019 16:23			102	85	115		
		90	ug/L	10				
Beryllium								
AE00447	06/07/2019 16:23			96.0	85	115		
		48	ug/L	1				
Boron								
AE00447	06/07/2019 16:23			104	85	115		
		70	ug/L	10				
Cadmium								
AE00447	06/07/2019 16:23			102	90	110		
		51.2	ug/L	0.1				
Chromium								
AE00447	06/07/2019 16:23			102	85	115		
		51	ug/L	5				
Cobalt								
AE00447	06/07/2019 16:23			102	85	115		
		51	ug/L	5				
Copper								
AE00447	06/07/2019 16:23			106	85	115		
		53	ug/L	5				
Iron								
AE00447	06/07/2019 16:23			100	85	115		
		63	ug/L	50				
Lead								
AE00447	06/07/2019 16:23			106	85	115		
		53	ug/L	1				
Manganese								
AE00447	06/07/2019 16:23			102	85	115		
		61	ug/L	1				
Molybdenum								
AE00447	06/07/2019 16:23			102	85	115		
		51	ug/L	1				
Nickel								

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AE00447	06/07/2019 16:23				100	85	115
		50	ug/L	10			
Selenium							
AE00447	06/07/2019 16:23				104	85	115
		52	ug/L	1			
Silver							
AE00447	06/07/2019 16:23				102	85	115
		50.9	ug/L	0.5			
Strontium							
AE00447	06/07/2019 16:23				101	85	115
		1285	ug/L	1			
Thallium							
AE00447	06/07/2019 16:23				108	85	115
		54	ug/L	1			
Uranium							
AE00447	06/07/2019 16:23				108	85	115
		55.1	ug/L	0.5			
Vanadium							
AE00447	06/07/2019 16:23				102	85	115
		51	ug/L	10			
Zinc							
AE00447	06/07/2019 16:23				102	85	115
		51	ug/L	10			
Aluminum							
AE00501	06/07/2019 16:10				110	85	115
		55	ug/L	50			
Antimony							
AE00501	06/07/2019 16:10				104	85	115
		52	ug/L	1			
Arsenic							
AE00501	06/07/2019 16:10				100	85	115
		51	ug/L	1			
Barium							
AE00501	06/07/2019 16:10				106	85	115
		81	ug/L	10			
Beryllium							
AE00501	06/07/2019 16:10				92.0	85	115
		46	ug/L	1			
Boron							
AE00501	06/07/2019 16:10				104	85	115
		174	ug/L	10			
Cadmium							
AE00501	06/07/2019 16:10				97.2	90	110
		48.6	ug/L	0.1			
Chromium							
AE00501	06/07/2019 16:10				98.0	85	115
		49	ug/L	5			
Cobalt							
AE00501	06/07/2019 16:10				94.0	85	115
		47	ug/L	5			
Copper							
AE00501	06/07/2019 16:10				90.0	85	115
		45	ug/L	5			
Iron							
AE00501	06/07/2019 16:10				110	85	115
		55	ug/L	50			
Lead							

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AE00501	06/07/2019 16:10				108	85	115
		54	ug/L	1			
Manganese							
AE00501	06/07/2019 16:10				99.6	85	115
		843	ug/L	10			
Molybdenum							
AE00501	06/07/2019 16:10				108	85	115
		59	ug/L	1			
Nickel							
AE00501	06/07/2019 16:10				94.0	85	115
		47	ug/L	10			
Selenium							
AE00501	06/07/2019 16:10				100	85	115
		50	ug/L	1			
Silver							
AE00501	06/07/2019 16:10				87.2	85	115
		43.6	ug/L	0.5			
Strontium							
AE00501	06/07/2019 16:10				95.4	85	115
		2823	ug/L	10			
Thallium							
AE00501	06/07/2019 16:10				110	85	115
		55	ug/L	1			
Uranium							
AE00501	06/07/2019 16:10				113	85	115
		76.4	ug/L	0.5			
Vanadium							
AE00501	06/07/2019 16:10				102	85	115
		51	ug/L	10			
Zinc							
AE00501	06/07/2019 16:10				96.0	85	115
		48	ug/L	10			

QCS Value for ICPMS_ALL_DISS

Aluminum							
AE00840	06/07/2019 15:36				107	85	115
		2164	ug/L	50			
Antimony							
AE00840	06/07/2019 15:36				104	80	120
		610	ug/L	1			
Arsenic							
AE00840	06/07/2019 15:36				100	85	115
		274	ug/L	1			
Barium							
AE00840	06/07/2019 15:36				103	85	115
		389	ug/L	10			
Beryllium							
AE00840	06/07/2019 15:36				105	85	115
		420	ug/L	1			
Boron							
AE00840	06/07/2019 15:36				104	85	115
		1781	ug/L	10			
Cadmium							
AE00840	06/07/2019 15:36				102.0	90	110
		171.5	ug/L	0.1			
Chromium							

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AE00840	06/07/2019 15:36			104	85	115
		896	ug/L	5		
Cobalt						
AE00840	06/07/2019 15:36			102	85	115
		567	ug/L	5		
Copper						
AE00840	06/07/2019 15:36			105	85	115
		842	ug/L	5		
Iron						
AE00840	06/07/2019 15:36			101	85	115
		370	ug/L	50		
Lead						
AE00840	06/07/2019 15:36			103	85	115
		274	ug/L	1		
Manganese						
AE00840	06/07/2019 15:36			103	85	115
		763	ug/L	1		
Molybdenum						
AE00840	06/07/2019 15:36			111	85	115
		124	ug/L	1		
Nickel						
AE00840	06/07/2019 15:36			104	85	115
		1040	ug/L	10		
Selenium						
AE00840	06/07/2019 15:36			104	85	115
		816	ug/L	1		
Silver						
AE00840	06/07/2019 15:36			103	80	120
		491.8	ug/L	0.1		
Strontium						
AE00840	06/07/2019 15:36			101	85	115
		348	ug/L	1		
Thallium						
AE00840	06/07/2019 15:36			105	85	115
		518	ug/L	1		
Uranium						
AE00840	06/07/2019 15:36			103.0	85	115
		96.3	ug/L	0.5		
Vanadium						
AE00840	06/07/2019 15:36			103	85	115
		1911	ug/L	10		
Zinc						
AE00840	06/07/2019 15:36			103	85	115
		473	ug/L	10		

ICPMS_ALL_TOTAL-3493		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Continuing Calibration Control Value										
Aluminum										
AE00703	07/03/2019 14:41				105	85	115			
		52	ug/L	50						
Antimony										
AE00703	07/03/2019 14:41				104	80	120			
		52	ug/L	1						
Arsenic										
AE00703	07/03/2019 14:41				104	85	115			
		52	ug/L	1						


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Barium						
AE00703	07/03/2019	14:41			104	85
			52	ug/L	10	
Beryllium						
AE00703	07/03/2019	14:41			100	85
			50	ug/L	1	
Boron						
AE00703	07/03/2019	14:41			114	85
			57	ug/L	10	
Cadmium						
AE00703	07/03/2019	14:41			104.2	90
			52.1	ug/L	0.1	
Chromium						
AE00703	07/03/2019	14:41			107	85
			53	ug/L	5	
Cobalt						
AE00703	07/03/2019	14:41			108	85
			54	ug/L	5	
Copper						
AE00703	07/03/2019	14:41			108	85
			54	ug/L	5	
Iron						
AE00703	07/03/2019	14:41			104	85
			52	ug/L	50	
Lead						
AE00703	07/03/2019	14:41			109	85
			54.3	ug/L	1	
Manganese						
AE00703	07/03/2019	14:41			103	85
			52	ug/L	1	
Molybdenum						
AE00703	07/03/2019	14:41			103	85
			52	ug/L	1	
Nickel						
AE00703	07/03/2019	14:41			108	85
			54	ug/L	10	
Selenium						
AE00703	07/03/2019	14:41			105	85
			52	ug/L	1	
Silver						
AE00703	07/03/2019	14:41			107.4	80
			53.7	ug/L	0.1	
Strontium						
AE00703	07/03/2019	14:41			97	85
			49	ug/L	10	
Thallium						
AE00703	07/03/2019	14:41			112	85
			56	ug/L	1	
Uranium						
AE00703	07/03/2019	14:41			99.6	85
			49.8	ug/L	0.5	
Vanadium						
AE00703	07/03/2019	14:41			107	85
			54	ug/L	10	
Zinc						
AE00703	07/03/2019	14:41			107	85
			53	ug/L	10	

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Aluminum 

AE00704	07/03/2019 20:15				116	85	115
		58	ug/L	50			

Antimony	AE00704	07/03/2019 20:15			108	80	120
		54	ug/L	1			

Arsenic	AE00704	07/03/2019 20:15			104	85	115
		52	ug/L	1			

Barium	AE00704	07/03/2019 20:15			110	85	115
		55	ug/L	10			

Beryllium	AE00704	07/03/2019 20:15			104	85	115
		52	ug/L	1			

Boron 

AE00704	07/03/2019 20:15				138	85	115
		69	ug/L	10			

Cadmium	AE00704	07/03/2019 20:15			106.0	90	110
		53.0	ug/L	0.1			

Chromium	AE00704	07/03/2019 20:15			110	85	115
		55	ug/L	5			

Cobalt	AE00704	07/03/2019 20:15			112	85	115
		56	ug/L	5			

Copper	AE00704	07/03/2019 20:15			112	85	115
		56	ug/L	5			

Iron	AE00704	07/03/2019 20:15			108	85	115
		54	ug/L	50			

Lead	AE00704	07/03/2019 20:15			110	85	115
		55.0	ug/L	1			

Manganese	AE00704	07/03/2019 20:15			110	85	115
		55	ug/L	1			

Molybdenum	AE00704	07/03/2019 20:15			106	85	115
		53	ug/L	1			

Nickel	AE00704	07/03/2019 20:15			110	85	115
		55	ug/L	10			

Selenium	AE00704	07/03/2019 20:15			104	85	115
		52	ug/L	1			

Silver	AE00704	07/03/2019 20:15			109.4	80	120
		54.7	ug/L	0.1			

Strontium	AE00704	07/03/2019 20:15			106	85	115
		53	ug/L	10			

Thallium	AE00704	07/03/2019 20:15			114	85	115
		57	ug/L	1			

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Uranium							
AE00704	07/03/2019 20:15			89.8	85	115	
		44.9	ug/L	0.5			
Vanadium							
AE00704	07/03/2019 20:15			112	85	115	
		56	ug/L	10			
Zinc							
AE00704	07/03/2019 20:15			108	85	115	
		54	ug/L	10			

Sample Duplicate Value for ICPMS_ALL_TOT							
Aluminum							
AE00447	07/03/2019 14:04						
		74	ug/L	550		2	20
Antimony							
AE00447	07/03/2019 14:04						
		<1	ug/L	1		0	20
Arsenic							
AE00447	07/03/2019 14:04						
		<1	ug/L	1		0	20
Barium							
AE00447	07/03/2019 14:04						
		40	ug/L	10		1	15
Beryllium							
AE00447	07/03/2019 14:04						
		<1	ug/L	1		0	15
Boron							
AE00447	07/03/2019 14:04						
		22	ug/L	10		0.1	15
Cadmium							
AE00447	07/03/2019 14:04						
		<0.1	ug/L	0.1		0	15
Chromium							
AE00447	07/03/2019 14:04						
		<5	ug/L	5		0	15
Cobalt							
AE00447	07/03/2019 14:04						
		<5	ug/L	5		0	15
Copper							
AE00447	07/03/2019 14:04						
		<5	ug/L	5		0	15
Iron							
AE00447	07/03/2019 14:04						
		184	ug/L	550		2	15
Lead							
AE00447	07/03/2019 14:04						
		<1	ug/L	1		0	15
Manganese							
AE00447	07/03/2019 14:04						
		20	ug/L	1		0.1	15
Molybdenum							
AE00447	07/03/2019 14:04						
		<5	ug/L	5		0.4	20
Nickel							
AE00447	07/03/2019 14:04						
		<10	ug/L	10		0.0	20
Selenium							

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AE00447	07/03/2019 14:04					
Silver		<1	ug/L	1	0	20
AE00447	07/03/2019 14:04					
Strontium		<0.5	ug/L	0.5	0	20
AE00447	07/03/2019 14:04					
Thallium		760	ug/L	110	0.50	20
AE00447	07/03/2019 14:04					
Uranium		<1	ug/L	1	0	20
AE00447	07/03/2019 14:04					
Vanadium		1.0	ug/L	0.5	0	15
AE00447	07/03/2019 14:04					
Zinc		<10	ug/L	10	0.0	15
AE00447	07/03/2019 14:04					
Aluminum		<10	ug/L	10	0.0	15
AE00502	07/03/2019 18:47					
Antimony		<50	ug/L	50	0	20
AE00502	07/03/2019 18:47					
Arsenic		<1	ug/L	1	0	20
AE00502	07/03/2019 18:47					
Barium		1	ug/L	1	0	20
AE00502	07/03/2019 18:47					
Beryllium		75	ug/L	10	7	15
AE00502	07/03/2019 18:47					
Boron		<1	ug/L	1	0	15
AE00502	07/03/2019 18:47					
Cadmium		95	ug/L	10	6	15
AE00502	07/03/2019 18:47					
Chromium		<0.1	ug/L	0.1	0	15
AE00502	07/03/2019 18:47					
Cobalt		<5	ug/L	5	0	15
AE00502	07/03/2019 18:47					
Copper		<5	ug/L	5	0	15
AE00502	07/03/2019 18:47					
Iron		<5	ug/L	5	0	15
AE00502	07/03/2019 18:47					
Lead		128	ug/L	50	3	15
AE00502	07/03/2019 18:47					
Manganese		<1	ug/L	1	0	15

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AE00502	07/03/2019 18:47					
Molybdenum		258	ug/L	1	5	15
AE00502	07/03/2019 18:47					
Nickel		<5	ug/L	5	0	20
AE00502	07/03/2019 18:47					
Selenium		<10	ug/L	10	0.0	20
AE00502	07/03/2019 18:47					
Silver		2	ug/L	1	0	20
AE00502	07/03/2019 18:47					
Strontium		<0.5	ug/L	0.5	0	20
AE00502	07/03/2019 18:47					
Thallium		1005	ug/L	10	0.80	20
AE00502	07/03/2019 18:47					
Uranium		<1	ug/L	1	0	20
AE00502	07/03/2019 18:47					
Vanadium		9.1	ug/L	0.5	4.0	15
AE00502	07/03/2019 18:47					
Zinc		<10	ug/L	10	0.0	15
AE00502	07/03/2019 18:47					
Aluminum		<10	ug/L	10	0.0	15
AE00744	07/03/2019 15:15					
Antimony		146	ug/L	50	0.1	20
AE00744	07/03/2019 15:15					
Arsenic		<1	ug/L	1	0	20
AE00744	07/03/2019 15:15					
Barium		<1	ug/L	1	0	20
AE00744	07/03/2019 15:15					
Beryllium		41	ug/L	10	2	15
AE00744	07/03/2019 15:15					
Boron		<1	ug/L	1	0	15
AE00744	07/03/2019 15:15					
Cadmium		19	ug/L	10	5	15
AE00744	07/03/2019 15:15					
Chromium		<0.1	ug/L	0.1	0	15
AE00744	07/03/2019 15:15					
Cobalt		<5	ug/L	5	0	15
AE00744	07/03/2019 15:15					
Copper		<5	ug/L	5	0	15

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AE00744	07/03/2019 15:15						
Iron		<5	ug/L	5		0	15
AE00744	07/03/2019 15:15						
Lead		<50	ug/L	50		2	15
AE00744	07/03/2019 15:15						
Manganese		<1	ug/L	1		0	15
AE00744	07/03/2019 15:15						
Molybdenum		29	ug/L	1		5	15
AE00744	07/03/2019 15:15						
Nickel		<5	ug/L	5		0	20
AE00744	07/03/2019 15:15						
Selenium		<10	ug/L	10		0.0	20
AE00744	07/03/2019 15:15						
Silver		<1	ug/L	1		0	20
AE00744	07/03/2019 15:15						
Strontium		<0.5	ug/L	0.5		0	20
AE00744	07/03/2019 15:15						
Thallium		322	ug/L	110		1.7	20
AE00744	07/03/2019 15:15						
Uranium		<1	ug/L	1		0	20
AE00744	07/03/2019 15:15						
Vanadium		0.7	ug/L	0.5		0	15
AE00744	07/03/2019 15:15						
Zinc		<10	ug/L	10		0.0	15
AE00744	07/03/2019 15:15						
		<10	ug/L	10		0.0	15

Initial Cal Control Value ICPMS_ALL_TOTA

Aluminum							
AE00701	07/03/2019 13:30				103	85	115
		51	ug/L	50			
Antimony							
AE00701	07/03/2019 13:30				101	80	120
		51	ug/L	1			
Arsenic							
AE00701	07/03/2019 13:30				101	85	115
		50	ug/L	1			
Barium							
AE00701	07/03/2019 13:30				101	85	115
		50	ug/L	10			
Beryllium							
AE00701	07/03/2019 13:30				102	85	115
		51	ug/L	1			
Boron							

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AE00701	07/03/2019 13:30				103	85	115
		51	ug/L	10			
Cadmium							
AE00701	07/03/2019 13:30				101.0	90	110
		50.5	ug/L	0.1			
Chromium							
AE00701	07/03/2019 13:30				101	85	115
		51	ug/L	5			
Cobalt							
AE00701	07/03/2019 13:30				103	85	115
		52	ug/L	5			
Copper							
AE00701	07/03/2019 13:30				103	85	115
		52	ug/L	5			
Iron							
AE00701	07/03/2019 13:30				100	85	115
		<50	ug/L	50			
Lead							
AE00701	07/03/2019 13:30				102	85	115
		51.2	ug/L	1			
Manganese							
AE00701	07/03/2019 13:30				100	85	115
		50	ug/L	1			
Molybdenum							
AE00701	07/03/2019 13:30				101	85	115
		50	ug/L	1			
Nickel							
AE00701	07/03/2019 13:30				103	85	115
		52	ug/L	10			
Selenium							
AE00701	07/03/2019 13:30				100	85	115
		50	ug/L	1			
Silver							
AE00701	07/03/2019 13:30				103.4	80	120
		51.7	ug/L	0.1			
Strontium							
AE00701	07/03/2019 13:30				97	85	115
		49	ug/L	10			
Thallium							
AE00701	07/03/2019 13:30				104	85	115
		52	ug/L	1			
Uranium							
AE00701	07/03/2019 13:30				100.4	85	115
		50.2	ug/L	0.5			
Vanadium							
AE00701	07/03/2019 13:30				103	85	115
		51	ug/L	10			
Zinc							
AE00701	07/03/2019 13:30				102	85	115
		51	ug/L	10			

Lab Reagent Blank for total elements

Aluminum
AE00700 07/03/2019 13:26

<50 ug/L 50

Antimony

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AE00700	07/03/2019 13:26			
Arsenic		<1	ug/L	1
AE00700	07/03/2019 13:26			
Barium		<1	ug/L	1
AE00700	07/03/2019 13:26			
Beryllium		<10	ug/L	10
AE00700	07/03/2019 13:26			
Boron		<1	ug/L	1
AE00700	07/03/2019 13:26			
Cadmium		<10	ug/L	10
AE00700	07/03/2019 13:26			
Chromium		<0.1	ug/L	0.1
AE00700	07/03/2019 13:26			
Cobalt		<5	ug/L	5
AE00700	07/03/2019 13:26			
Copper		<5	ug/L	5
AE00700	07/03/2019 13:26			
Iron		<5	ug/L	5
AE00700	07/03/2019 13:26			
Lead		<50	ug/L	50
AE00700	07/03/2019 13:26			
Manganese		<1	ug/L	1
AE00700	07/03/2019 13:26			
Molybdenum		<1	ug/L	1
AE00700	07/03/2019 13:26			
Nickel		<5	ug/L	5
AE00700	07/03/2019 13:26			
Selenium		<10	ug/L	10
AE00700	07/03/2019 13:26			
Silver		<1	ug/L	1
AE00700	07/03/2019 13:26			
Strontium		<0.5	ug/L	0.5
AE00700	07/03/2019 13:26			
Thallium		<10	ug/L	10
AE00700	07/03/2019 13:26			
Uranium		<1	ug/L	1
AE00700	07/03/2019 13:26			
Vanadium		<0.5	ug/L	0.5

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AE00700	07/03/2019 13:26								
Zinc		<10	ug/L	10					
AE00700	07/03/2019 13:26								
		<10	ug/L	10					

TOTAL SAMPLE MATRIX DUP SPIKE RECOVERY

Aluminum									
AE00447	07/03/2019 14:04				104	85	115		
		648	ug/L	550				0.2	20
Antimony									
AE00447	07/03/2019 14:04				101	80	120		
		52	ug/L	1				1	20
Arsenic									
AE00447	07/03/2019 14:04				102	85	115		
		51	ug/L	1				0.1	20
Barium									
AE00447	07/03/2019 14:04				104	85	115		
		91	ug/L	10				1	15
Beryllium									
AE00447	07/03/2019 14:04				94	85	115		
		47	ug/L	1				2	15
Boron									
AE00447	07/03/2019 14:04				112	85	115		
		79	ug/L	10				3	15
Cadmium									
AE00447	07/03/2019 14:04				99.0	90	110		
		49.5	ug/L	0.1				0.6	15
Chromium									
AE00447	07/03/2019 14:04				104	85	115		
		52	ug/L	5				0.5	15
Cobalt									
AE00447	07/03/2019 14:04				102	85	115		
		51	ug/L	5				1	15
Copper									
AE00447	07/03/2019 14:04				102	85	115		
		51	ug/L	5				1	15
Iron									
AE00447	07/03/2019 14:04				102	85	115		
		740	ug/L	550				0.1	15
Lead									
AE00447	07/03/2019 14:04				108	85	115		
		54	ug/L	1				1	15
Manganese									
AE00447	07/03/2019 14:04				102	85	115		
		71	ug/L	1				0.8	15
Molybdenum									
AE00447	07/03/2019 14:04				106	85	115		
		53	ug/L	1				0.5	20
Nickel									
AE00447	07/03/2019 14:04				102	85	115		
		51	ug/L	10				0.10	20
Selenium									
AE00447	07/03/2019 14:04				100	85	115		
		50	ug/L	1				3	20
Silver									

LABORATORY ANALYSIS REPORT

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AE00447	07/03/2019 14:04			101.8	80	120		
		50.9	ug/L	0.1			0.9	20
Strontium								
AE00447	07/03/2019 14:04			104	85	115		
		1327	ug/L	110			1.7	20
Thallium								
AE00447	07/03/2019 14:04			106	85	115		
		53	ug/L	1			5	20
Uranium								
AE00447	07/03/2019 14:04			103.4	85	115		
		52.7	ug/L	0.5			1.6	15
Vanadium								
AE00447	07/03/2019 14:04			106	85	115		
		53	ug/L	10			0.70	15
Zinc								
AE00447	07/03/2019 14:04			100	85	115		
		50	ug/L	10			0.0	15
Aluminum								
AE00502	07/03/2019 18:55			91	85	115		
		87	ug/L	50			0.09	20
Antimony								
AE00502	07/03/2019 18:55			108	80	120		
		54	ug/L	1			0.05	20
Arsenic								
AE00502	07/03/2019 18:55			106	85	115		
		54	ug/L	1			0	20
Barium								
AE00502	07/03/2019 18:55			90	85	115		
		125	ug/L	10			0.2	15
Beryllium								
AE00502	07/03/2019 18:55			98	85	115		
		49	ug/L	1			0	15
Boron								
AE00502	07/03/2019 18:55			104	85	115		
		152	ug/L	10			0.1	15
Cadmium								
AE00502	07/03/2019 18:55			101.6	90	110		
		50.8	ug/L	0.1			0.07	15
Chromium								
AE00502	07/03/2019 18:55			108	85	115		
		54	ug/L	5			0	15
Cobalt								
AE00502	07/03/2019 18:55			110	85	115		
		55	ug/L	5			0.05	15
Copper								
AE00502	07/03/2019 18:55			106	85	115		
		53	ug/L	5			0	15
Iron								
AE00502	07/03/2019 18:55			90	85	115		
		177	ug/L	50			0.04	15
Lead								
AE00502	07/03/2019 18:55			110	85	115		
		55.0	ug/L	1			0.05	15
Manganese								
AE00502	07/03/2019 18:55			74	85	115		
		309	ug/L	1			0.04	15
Molybdenum								

LABORATORY ANALYSIS REPORT

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AE00502	07/03/2019 18:55			110	85	115		
Nickel		59	ug/L	1			0.05	20
AE00502	07/03/2019 18:55			110	85	115		
Selenium		55	ug/L	10			0.0	20
AE00502	07/03/2019 18:55			100	85	115		
Silver		52	ug/L	1			0.05	20
AE00502	07/03/2019 18:55			102.2	80	120		
Strontium		51.1	ug/L	0.1			0.08	20
AE00502	07/03/2019 18:55			115	85	115		
Thallium		1632	ug/L	10			0.077	20
AE00502	07/03/2019 18:55			110	85	115		
Uranium		55	ug/L	1			0.05	20
AE00502	07/03/2019 18:55			90.8	85	115		
Vanadium		54.9	ug/L	0.5			0.04	15
AE00502	07/03/2019 18:55			111	85	115		
Zinc		58	ug/L	10			0.0	15
AE00502	07/03/2019 18:55			100	85	115		
Aluminum		50	ug/L	10			0.048	15
AE00744	07/03/2019 15:35			106	85	115		
Antimony		730	ug/L	550			0.4	20
AE00744	07/03/2019 15:35			104	80	120		
Arsenic		52	ug/L	1			0.2	20
AE00744	07/03/2019 15:35			104	85	115		
Barium		52	ug/L	1			0.4	20
AE00744	07/03/2019 15:35			88	85	115		
Beryllium		86	ug/L	10			0.7	15
AE00744	07/03/2019 15:35			96	85	115		
Boron		48	ug/L	1			3	15
AE00744	07/03/2019 15:35			112	85	115		
Cadmium		74	ug/L	10			1	15
AE00744	07/03/2019 15:35			101.4	90	110		
Chromium		50.7	ug/L	0.1			0.6	15
AE00744	07/03/2019 15:35			110	85	115		
Cobalt		55	ug/L	5			2	15
AE00744	07/03/2019 15:35			108	85	115		
Copper		54	ug/L	5			2	15
AE00744	07/03/2019 15:35			110	85	115		
Iron		55	ug/L	5			1	15

LABORATORY ANALYSIS REPORT

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AE00744	07/03/2019 15:35			106	85	115		
Lead		821	ug/L	550			0.8	15
AE00744	07/03/2019 15:35			110	85	115		
Manganese		55	ug/L	1			1	15
AE00744	07/03/2019 15:35			94	85	115		
Molybdenum		78	ug/L	1			2	15
AE00744	07/03/2019 15:35			108	85	115		
Nickel		54	ug/L	1			0.1	20
AE00744	07/03/2019 15:35			110	85	115		
Selenium		55	ug/L	10			0.60	20
AE00744	07/03/2019 15:35			102	85	115		
Silver		51	ug/L	1			2	20
AE00744	07/03/2019 15:35			105.4	80	120		
Strontium		52.7	ug/L	0.1			0.1	20
AE00744	07/03/2019 15:35			99	85	115		
Thallium		873	ug/L	110			1.2	20
AE00744	07/03/2019 15:35			106	85	115		
Uranium		53	ug/L	1			2	20
AE00744	07/03/2019 15:35			100.0	85	115		
Vanadium		50.7	ug/L	0.5			0.2	15
AE00744	07/03/2019 15:35			112	85	115		
Zinc		56	ug/L	10			0.80	15
AE00744	07/03/2019 15:35			104	85	115		
		52	ug/L	10			0.60	15

SAMPLE MATRIX SPIKE RECOVERY

Aluminum				104	85	115		
AE00447	07/03/2019 14:25			104	85	115		
		647	ug/L	550				
Antimony				102	80	120		
AE00447	07/03/2019 14:25			102	80	120		
		51	ug/L	1				
Arsenic				102	85	115		
AE00447	07/03/2019 14:25			102	85	115		
		51	ug/L	1				
Barium				102	85	115		
AE00447	07/03/2019 14:25			102	85	115		
		90	ug/L	10				
Beryllium				92	85	115		
AE00447	07/03/2019 14:25			92	85	115		
		46	ug/L	1				
Boron				114	85	115		
AE00447	07/03/2019 14:25			114	85	115		
		81	ug/L	10				
Cadmium								

LABORATORY ANALYSIS REPORT

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AE00447	07/03/2019 14:25				98.4	90	110
		49.2	ug/L	0.1			
Chromium							
AE00447	07/03/2019 14:25				104	85	115
		52	ug/L	5			
Cobalt							
AE00447	07/03/2019 14:25				102	85	115
		51	ug/L	5			
Copper							
AE00447	07/03/2019 14:25				100	85	115
		50	ug/L	5			
Iron							
AE00447	07/03/2019 14:25				102	85	115
		740	ug/L	550			
Lead							
AE00447	07/03/2019 14:25				106	85	115
		53	ug/L	1			
Manganese							
AE00447	07/03/2019 14:25				100	85	115
		70	ug/L	1			
Molybdenum							
AE00447	07/03/2019 14:25				106	85	115
		53	ug/L	1			
Nickel							
AE00447	07/03/2019 14:25				102	85	115
		51	ug/L	10			
Selenium							
AE00447	07/03/2019 14:25				98	85	115
		49	ug/L	1			
Silver							
AE00447	07/03/2019 14:25				100.8	80	120
		50.4	ug/L	0.1			
Strontium							
AE00447	07/03/2019 14:25				100	85	115
		1304	ug/L	110			
Thallium							
AE00447	07/03/2019 14:25				100	85	115
		50	ug/L	1			
Uranium							
AE00447	07/03/2019 14:25				101.8	85	115
		51.9	ug/L	0.5			
Vanadium							
AE00447	07/03/2019 14:25				106	85	115
		53	ug/L	10			
Zinc							
AE00447	07/03/2019 14:25				100	85	115
		50	ug/L	10			
Aluminum							
AE00502	07/03/2019 18:51				96	85	115
		85	ug/L	50			
Antimony							
AE00502	07/03/2019 18:51				110	80	120
		55	ug/L	1			
Arsenic							
AE00502	07/03/2019 18:51				106	85	115
		54	ug/L	1			
Barium							

LABORATORY ANALYSIS REPORT

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AE00502	07/03/2019 18:51			98	85	115
		129	ug/L	10		
Beryllium						
AE00502	07/03/2019 18:51			98	85	115
		49	ug/L	1		
Boron						
AE00502	07/03/2019 18:51			110	85	115
		155	ug/L	10		
Cadmium						
AE00502	07/03/2019 18:51			104.6	90	110
		52.3	ug/L	0.1		
Chromium						
AE00502	07/03/2019 18:51			108	85	115
		54	ug/L	5		
Cobalt						
AE00502	07/03/2019 18:51			108	85	115
		54	ug/L	5		
Copper						
AE00502	07/03/2019 18:51			106	85	115
		53	ug/L	5		
Iron						
AE00502	07/03/2019 18:51			88	85	115
		176	ug/L	50		
Lead						
AE00502	07/03/2019 18:51			112	85	115
		56.0	ug/L	1		
Manganese						
AE00502	07/03/2019 18:51			72	85	115
		308	ug/L	1		
Molybdenum						
AE00502	07/03/2019 18:51			111	85	115
		60	ug/L	1		
Nickel						
AE00502	07/03/2019 18:51			110	85	115
		55	ug/L	10		
Selenium						
AE00502	07/03/2019 18:51			102	85	115
		53	ug/L	1		
Silver						
AE00502	07/03/2019 18:51			105.4	80	120
		52.7	ug/L	0.1		
Strontium						
AE00502	07/03/2019 18:51			112	85	115
		1614	ug/L	10		
Thallium						
AE00502	07/03/2019 18:51			108	85	115
		54	ug/L	1		
Uranium						
AE00502	07/03/2019 18:51			92.6	85	115
		55.8	ug/L	0.5		
Vanadium						
AE00502	07/03/2019 18:51			111	85	115
		58	ug/L	10		
Zinc						
AE00502	07/03/2019 18:51			102	85	115
		51	ug/L	10		
Aluminum						

LABORATORY ANALYSIS REPORT

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AE00744	07/03/2019 15:19			106	85	115
		727	ug/L	550		
Antimony						
AE00744	07/03/2019 15:19			106	80	120
		53	ug/L	1		
Arsenic						
AE00744	07/03/2019 15:19			104	85	115
		52	ug/L	1		
Barium						
AE00744	07/03/2019 15:19			88	85	115
		86	ug/L	10		
Beryllium						
AE00744	07/03/2019 15:19			100	85	115
		50	ug/L	1		
Boron						
AE00744	07/03/2019 15:19			114	85	115
		75	ug/L	10		
Cadmium						
AE00744	07/03/2019 15:19			108.8	90	110
		54.4	ug/L	0.1		
Chromium						
AE00744	07/03/2019 15:19			108	85	115
		54	ug/L	5		
Cobalt						
AE00744	07/03/2019 15:19			108	85	115
		54	ug/L	5		
Copper						
AE00744	07/03/2019 15:19			108	85	115
		54	ug/L	5		
Iron						
AE00744	07/03/2019 15:19			105	85	115
		814	ug/L	550		
Lead						
AE00744	07/03/2019 15:19			110	85	115
		55	ug/L	1		
Manganese						
AE00744	07/03/2019 15:19			92	85	115
		77	ug/L	1		
Molybdenum						
AE00744	07/03/2019 15:19			106	85	115
		53	ug/L	1		
Nickel						
AE00744	07/03/2019 15:19			108	85	115
		54	ug/L	10		
Selenium						
AE00744	07/03/2019 15:19			100	85	115
		50	ug/L	1		
Silver						
AE00744	07/03/2019 15:19			105.2	80	120
		52.6	ug/L	0.1		
Strontium						
AE00744	07/03/2019 15:19			97	85	115
		862	ug/L	110		
Thallium						
AE00744	07/03/2019 15:19			104	85	115
		52	ug/L	1		
Uranium						

LABORATORY ANALYSIS REPORT
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AE00744	07/03/2019 15:19				99.8	85	115
Vanadium		50.6	ug/L	0.5			
AE00744	07/03/2019 15:19				110	85	115
Zinc		55	ug/L	10			
AE00744	07/03/2019 15:19				104	85	115
		52	ug/L	10			

QCS Value for ICPMS_ALL_TOTAL

Aluminum							
AE00702	07/03/2019 17:26				107	85	115
		2163	ug/L	50			
Antimony							
AE00702	07/03/2019 17:26				104	85	115
		609	ug/L	1			
Arsenic							
AE00702	07/03/2019 17:26				102	85	115
		278	ug/L	1			
Barium							
AE00702	07/03/2019 17:26				103	85	115
		391	ug/L	10			
Beryllium							
AE00702	07/03/2019 17:26				104	85	115
		415	ug/L	1			
Boron							
AE00702	07/03/2019 17:26				109	85	115
		1867	ug/L	10			
Cadmium							
AE00702	07/03/2019 17:26				101.0	90	110
		170.3	ug/L	0.1			
Chromium							
AE00702	07/03/2019 17:26				105	85	115
		905	ug/L	5			
Cobalt							
AE00702	07/03/2019 17:26				103	85	115
		573	ug/L	5			
Copper							
AE00702	07/03/2019 17:26				103	85	115
		833	ug/L	5			
Iron							
AE00702	07/03/2019 17:26				103	85	115
		374	ug/L	50			
Lead							
AE00702	07/03/2019 17:26				101	85	115
		269	ug/L	1			
Manganese							
AE00702	07/03/2019 17:26				104	85	115
		770	ug/L	1			
Molybdenum							
AE00702	07/03/2019 17:26				106	85	115
		118	ug/L	5			
Nickel							
AE00702	07/03/2019 17:26				105	85	115
		1052	ug/L	10			
Selenium							

LABORATORY ANALYSIS REPORT

Prepared by Wyoming DEQ

AE00702	07/03/2019 17:26			103	85	115				
Silver		808	ug/L	1						
AE00702	07/03/2019 17:26			102.0	85	115				
Strontium		488.8	ug/L	0.5						
AE00702	07/03/2019 17:26			100	85	115				
Thallium		345	ug/L	10						
AE00702	07/03/2019 17:26			104	85	115				
Uranium		513	ug/L	1						
AE00702	07/03/2019 17:26			99.8	85	115				
Vanadium		93.5	ug/L	0.5						
AE00702	07/03/2019 17:26			109	85	115				
Zinc		2020	ug/L	10						
AE00702	07/03/2019 17:26			104	85	115				
		478	ug/L	10						
ICS900-3453		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Continuing Calibration Control Recovery										
Chlorides										
AE00525	04/26/2019 22:17				96.1	90				
		19.2270	mg/L	1						
Sulfates										
AE00525	04/26/2019 22:17				97.3	85				
		38.9253	mg/L	2						
Sample Duplicate Value for ICS900										
Chlorides										
AE00447	04/26/2019 19:41							3	10	
		1.4235	mg/L	1						
Sulfates										
AE00447	04/26/2019 19:41							5	15	
		133.3002	mg/L	10						
Initial Calibration Control Value for IC										
Chlorides										
AE00523	04/29/2019 10:39				99.1	90	110			
		39.6446	mg/L	1						
Sulfates										
AE00523	04/29/2019 10:39				99.1	85	115			
		39.6432	mg/L	2						
Lab Reagent Blank for ICS900										
Chlorides										
AE00522	04/26/2019 15:03									
		<1	mg/L	1						
Sulfates										
AE00522	04/26/2019 15:03									
		<2	mg/L	2						
Sample Matrix Duplicate Value for ICS900										
Chlorides										
AE00447	04/26/2019 19:58				93.3	90	110			
		20.1311	mg/L	1				0.6	10	
Sulfates										

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AE00447	04/26/2019 19:58			99	85	115				
		337.2087	mg/L	10				0.2	15	
Sample Matrix Spike Value for ICS900										
Chlorides										
AE00447	04/26/2019 19:58			94	90	110				
		20.2445	mg/L	1						
Sulfates										
AE00447	04/26/2019 19:58			99	85	115				
		338.0054	mg/L	10						
Quality Control Sample Value for ICS900										
Chlorides										
AE00524	04/26/2019 15:37			96.2	90	110				
		68.3674	mg/L	2						
Sulfates										
AE00524	04/26/2019 15:37			104	85	115				
		12.7290	mg/L	4						
ICS900-3462		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Continuing Calibration Control Recovery										
Chlorides										
AE00565	05/01/2019 23:18				93.5	90				
		18.7014	mg/L	1						
Sulfates										
AE00565	05/01/2019 23:18				96	85				
		38.3875	mg/L	2						
Sample Duplicate RPD for ICS900										
Chlorides										
AE00497	05/01/2019 17:13							0.6	10	
		5.0270	mg/L	1						
Sulfates										
AE00497	05/01/2019 17:13							0.2	15	
		254.1875	mg/L	20						
Initial Calibration Control Recovery										
Chlorides										
AE00563	05/01/2019 16:21			99	90	110				
		39.6019	mg/L	1						
Sulfates										
AE00563	05/01/2019 16:21			98.7	85	115				
		39.4612	mg/L	2						
Lab Reagent Blank for ICS900										
Chlorides										
AE00562	05/01/2019 16:04	<1	mg/L	1						
Sulfates										
AE00562	05/01/2019 16:04	<2	mg/L	2						
Spike Relative Percent Difference										
Chlorides										
AE00497	05/01/2019 17:48			94.1	90	110				
		23.8785	mg/L	1				1	10	
Sulfates										
AE00497	05/01/2019 17:48			100	85	115				
		653.9468	mg/L	20				0.4	15	
Sample Matrix Spike Value for ICS900										
Chlorides										

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AE00497	05/01/2019 20:59			93	90	110				
		23.6006	mg/L	1						
Sulfates										
AE00497	05/01/2019 20:59			99	85	115				
		651.2655	mg/L	20						
Quality Control Sample Recovery for ICS9										
Chlorides										
AE00564	05/01/2019 16:39			96.1	90	110				
		68.3019	mg/L	2						
Sulfates										
AE00564	05/01/2019 16:39			104	85	115				
		12.6989	mg/L	4						
NITROGEN_DIGEST-3471		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Cont Cal Cont Rec Total Nitrogen										
AE00591	05/06/2019 11:00				98.8	85	115			
		0.99	mg/l	0.1						
AE00592	05/06/2019 11:17				95.2	85	115			
		0.95	mg/l	0.1						
Sample Duplicate RPD for Nitrogen, Wet										
AE00490	05/06/2019 11:07									
		0.36	mg/l	0.1				10.7	15	
AE00498	05/06/2019 11:02									
		0.39	mg/l	0.1				5.2	15	
Initial Cal. Control Recovery Nitrogen										
AE00589	05/06/2019 10:45				101	85	115			
		1.0	mg/L	0.1						
Lab Reagent Blank for Nitrogen, Wet Dige										
AE00588	05/06/2019 10:44									
		<0.1	mg/l	0.1						
Sample Matrix Dup. Recovery Nitrogen										
AE00490	05/06/2019 10:51				95.0	85	115			
		2.2	mg/L	0.1				0.00	15	
AE00498	05/06/2019 11:05				92.4	85	115			
		2.3	mg/L	0.1				0.889	15	
Sample Matrix Spike Recovery for Nitroge										
AE00490	05/06/2019 10:50				95.0	85	115			
		2.2	mg/L	0.1						
AE00498	05/06/2019 11:03				91.4	85	115			
		2.2	mg/L	0.1						
Quality Control Sample Recovery										
AE00590	05/06/2019 10:46				107	85	115			
		4.2	mg/L	0.1						
PHOSPHORUS_TOTAL-3483		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Cont Cal Cont Rec Total Phosphorus										
AE00647	05/10/2019 12:06				104	85	115			
		0.10	mg/L	0.01						
AE00648	05/10/2019 12:06				107	85	115			
		0.11	mg/L	0.01						
Sample Dup RPD for Phosphorus, Total										
AE00493	05/10/2019 12:06									
		1.13	mg/L	0.01				0.88	15	

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AE00501	05/10/2019 12:06	0.02	mg/L	0.01			5.3	15		
Init Cal Cont Rec Phosphorus Total										
AE00645	05/10/2019 12:06				101	85	115			
		0.10	mg/L	0.01						
Lab Reagent Blank for Phosphorus, Total										
AE00644	05/10/2019 12:06	<0.01	mg/L	0.01						
Sample Matrix Dup Rec Phosphorus Total										
AE00493	05/10/2019 12:06				96.0	85	115			
		2.10	mg/L	0.01			0.957	15		
AE00501	05/14/2019 16:00				91.5	85	115			
		0.11	mg/L	0.01			2.82	15		
Sample Matrix Spike Phosphorus Total										
AE00493	05/10/2019 12:06				94.0	85	115			
		2.08	mg/L	0.01						
AE00501	05/10/2019 12:06				88.5	85	115			
		0.10	mg/L	0.01						
QCS Recovery for Phosphorus Total										
AE00646	05/10/2019 12:06				112	85	115			
		5.75	mg/L	0.01						
SULFIDE-3452		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Cont. Calib. Control Value for Sulfide										
AE00521	04/26/2019 13:30				115.38		130			
		0.60	mg/L	0.05						
Sample Duplicate RPD for Sulfide										
AE00492	04/26/2019 13:30							0	30	
		<0.05	mg/L	0.05						
Initial Cal. Cont. Recovery for Sulfide										
AE00520	04/26/2019 13:30				119.23		130			
		0.62	mg/L	0.05						
Laboratory Blank for Sulfide										
AE00519	04/26/2019 13:30									
		<0.05	mg/L	0.05						
Duplicate Spike Recovery for Sulfide										
AE00492	04/26/2019 15:12				119.23	70	130			
		0.62	mg/L					0	30	
Spike Recovery for Sulfide										
AE00492	04/26/2019 13:30				119.23	70	130			
		0.62	mg/L							
SULFIDE-3458		Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
Cont. Calib. Control Value for Sulfide										
AE00544	04/29/2019 13:15				102		130			
		0.56	mg/L	0.05						
Sample Duplicate RPD for Sulfide										
AE00499	04/29/2019 13:15									
		NR	mg/L	0.05				NR	30	
Initial Cal. Cont. Recovery for Sulfide										
AE00543	04/29/2019 13:51				105		130			
		0.58	mg/L	0.05						
Laboratory Blank for Sulfide										

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AE00542	04/29/2019 13:51	<0.05	mg/L	0.05						
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Duplicate Spike Recovery for Sulfide

AE00499	04/29/2019 13:15	NR	mg/L		NR	70	130		NR	30
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Spike Recovery for Sulfide

AE00499	04/29/2019 13:15	NR	mg/L		NR	70	130			
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TDS-3445	Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
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Sample Duplicate RPD TDS

AE00494	04/24/2019 16:17	628	mg/L	10			0.635	15	
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TDS Lab Blank

AE00509	04/24/2019 16:17	<10	mg/L	10					
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Martix Spike RPD Total Dissolved Solids

AE00494	04/24/2019 16:17	1644	mg/L	10	101.2	69	131	0.727	15
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Sample Matrix Spike Recovery for TDS

AE00494	04/24/2019 16:17	1656	mg/L	10	102.4	69	131		
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TDS-3450	Result	Unit	RL	%REC	Lower Limit %	Upper Limit %	RPD	RPD Limit %	Qualifier
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Sample Duplicate RPD TDS

AE00504	04/25/2019 11:37	188	mg/L	10			2.15	15	
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TDS Lab Blank

AE00516	04/25/2019 11:37	<10	mg/L	10					
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Martix Spike RPD Total Dissolved Solids

AE00504	04/25/2019 11:37	1200	mg/L	10	101.6	69	131	0.66	15
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Sample Matrix Spike Recovery for TDS

AE00504	04/25/2019 11:37	1208	mg/L	10	102.4	69	131		
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LABORATORY ANALYSIS REPORT

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Login Completed by: Johannah Mayhew

Reviewed by:

- Shipping container/cooler in good condition? Yes
- Custody seals intact on shipping container/cooler? Not Present
- Custody seals intact on sample bottles? Not Present
- Chain of custody present? Yes
- Chain of custody signed when relinquished and received? Yes
- Chain of custody agrees with sample labels? Yes
- Samples in proper container/bottle? Yes
- Sample containers intact? Yes
- Sufficient sample volume for indicated test? Yes
- All samples received within holding time? **Not Present**
- Temp. Blank Received? Not Applicable
- Errors in Chain-of-custody? No
- Container or Temp Blank temperature 0.0-6.0C on Ice 0.5/1.2/1.6/-1.3
- Water- VOA vials have zero headspace? No VOA vials submitted
- Water- pH acceptable upon receipt? Yes
- Contact and Corrective Action Comments: Hand-delivered

Watershed Section Chain of Custody and Analytical Request Record (revision date: 4-4-2012)

Program Name/Project Name: WATERSHED PROTECTION / BADWATER CREEK				Contact Name: MICHAEL THOMAS				Page <u>1</u> of <u>2</u>							
Contact Address: 200 W. 17th St, CHEYENNE WY 82001				Contact Phone/Email: 777-2073 / michael.thomas@wyo.gov				Custody Seal Y / <input checked="" type="checkbox"/> N							
Comments: - ALL PRESERVED SAMPLES CHECKED FOR pH - DISSOLVED METALS / DOC FILTERED IN FIELD Hand-delivered 2019-04-24-001 PG1				Analysis Requested								Cooler Temperature: 0.5/1.2/1.6/-1.3 #1 2 3 4			
												On Ice <input checked="" type="checkbox"/> / N			
												For Laboratory Use Only			
Sample Name	Sample ID	Date	Time	# Containers	ALKALINITY	TDS, Cl, SO ₄ , F	DISSOLVED METALS	TOTAL METALS	DOC	NH ₄ , NO ₃ , NO ₂ , TN/P	SULFIDE				
¹ BADWATER CREEK - SITE 1	MST-19-113-1	4/23/19	0908	7	X	X	X	X	X	X	X				
² BADWATER CREEK - SITE 2	MST-19-113-2	4/23/19	1011	7	X	X	X	X	X	X	X				
³ FIELD BLANK	MST-19-113-3	4/23/19	1040	7	X	X	X	X	X	X	X				
⁴ BADWATER CREEK - SITE 3	MST-19-113-4	4/23/19	1130	7	X	X	X	X	X	X	X				
⁵ DRY CREEK - SITE 4	MST-19-113-5	4/23/19	1215	7	X	X	X	X	X	X	X				
⁶ BADWATER CREEK - SITE 5	MST-19-113-6	4/23/19	1329	7	X	X	X	X	X	X	X				
⁷ BADWATER CREEK - SITE 6	MST-19-113-7	4/23/19	1424	7	X	X	X	X	X	X	X				
⁸ BRIDGER CREEK - SITE 7	MST-19-113-8	4/23/19	1439	7	X	X	X	X	X	X	X				
⁹ BADWATER CREEK - SITE 8	MST-19-113-9	4/23/19	1453	7	X	X	X	X	X	X	X				
¹⁰ BADWATER CREEK - SITE 9	MST-19-113-10	4/23/19	1620	7	X	X	X	X	X	X	X				
¹¹ ALKALI CREEK - SITE 10	MST-19-113-11	4/23/19	1639	7	X	X	X	X	X	X	X				
¹² BADWATER CREEK - SITE 11	MST-19-113-12	4/23/19	1656	7	X	X	X	X	X	X	X				
¹³ BADWATER CREEK - SITE 12	MST-19-113-13	4/23/19	1758	7	X	X	X	X	X	X	X				
Preservation: 1=ice, 2=H ₂ SO ₄ , 3=HCL, 4=HNO ₃ , 5=NaOH, 6=other ZnAc, 7=other				1	1	4/1	4/1	3/1	3/1	5/1					
Custody Record MUST Be Signed				Relinquished by (name/date/time): MICHAEL THOMAS 4/24/19 @ 12:26				Received by (name/date/time):							
				Relinquished by (name/date/time):				Received by Laboratory (name/date/time): Johannah Mayhew 4/24/2019 12:26							

LABORATORY ANALYSIS REPORT

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Watershed Section Chain of Custody and Analytical Request Record (revision date: 4-4-2012)

Program Name/Project Name: WATERSHED PROTECTION / BADWATER CREEK					Contact Name: MICHAEL THOMAS					Page						
Contact Address: 200 W. 17th St, CHEYENNE WY 82001					Contact Phone/Email: 777-2073 / michael.thomas@wyo.gov					Cust						
Comments: SEE PAGE 1 Hand-delivered 2019-04-24-001 PG2					Analysis Requested											
					# Containers	ALKALINITY	TDS, Cl, SO ₄ , F	DISSOLVED METALS	TOTAL METALS	DOC	NH ₄ , NO ₃ -NO ₂ , TN/P	SULFIDE				
Sample Name	Sample ID	Date	Time	# Containers	ALKALINITY	TDS, Cl, SO ₄ , F	DISSOLVED METALS	TOTAL METALS	DOC	NH ₄ , NO ₃ -NO ₂ , TN/P	SULFIDE					O
1 BADWATER CREEK - SITE 12	MJT-19-113-14	4/23/19	1758	7	X	X	X	X	X	X	X					
2 BADWATER CREEK - SITE 13	MJT-19-113-15	4/23/19	1856	7	X	X	X	X	X	X	X					
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
Preservation: 1=ice, 2=H ₂ SO ₄ , 3=HCL, 4=HNO ₃ , 5=NaOH, 6=other ____, 7=other ____																
Custody Record MUST Be Signed					Relinquished by (name/date/time): MICHAEL THOMAS 4/24/19 @ 12:26					Received by (name/date/time):						
					Relinquished by (name/date/time):					Received by Laboratory (name/date/time): Shannon Magher 4/24/19						