



Animas River Wetlands 4166 CR 203 Durango CO, 81301	Project: Animas River Wetlands Project Name / Number: [none] Project Manager: Ed Zink	Reported: 02/21/19 15:22
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**Phase 5 mixed**

**1902046-01 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
<b>General Chemistry</b>									
Organic Matter (450C 4-hour)	4.40	1.00		%	1	02/14/19	LOI SSSA#5 P1004		JDA
% Dry Solids	93.1			%	1	02/12/19	EPA160.3/1684	H1	JDA
<b>Soluble (DI Water Extraction)</b>									
Nitrate/Nitrite as N	7.14	0.215	0.066	mg/kg dry	10	02/14/19	EPA353.2		LLG
<b>Saturated Paste Extraction</b>									
Calcium	96.0	0.100	0.013	mg/L	1	02/18/19	EPA200.7		AES
Conductivity	806			umhos/cm	1	02/21/19	ASA#9 10-3.3		DJZ
Magnesium	22.6	0.100	0.019	mg/L	1	02/18/19	EPA200.7		AES
pH	7.40			pH Units	1	02/15/19	ASA#9 12-2.6		JDA
SAR	0.60			No Unit	1	02/18/19	Calculation		AES
Sodium	25.3	1.00	0.367	mg/L	1	02/18/19	EPA200.7		AES
<b>Total Metals by ICP</b>									
Aluminum	17500	25.0	10.4	mg/kg dry	500	02/18/19	6010B		AES
Boron	<30.0	30.0	3.31	mg/kg dry	100	02/18/19	6010B	M5	AES
Iron	34000	50.0	8.79	mg/kg dry	500	02/18/19	6010B		AES
<b>Total Metals by ICPMS</b>									
Antimony	<1.00	1.00	0.201	mg/kg dry	1000	02/19/19	6020A	M5	AES
Arsenic	12.8	1.00	0.214	mg/kg dry	1000	02/19/19	6020A		AES
Barium	180	0.500	0.113	mg/kg dry	1000	02/19/19	6020A		AES
Beryllium	0.790	0.500	0.0718	mg/kg dry	1000	02/19/19	6020A		AES
Cadmium	1.55	0.500	0.0413	mg/kg dry	1000	02/19/19	6020A		AES
Chromium	9.50	1.00	0.178	mg/kg dry	1000	02/19/19	6020A		AES
Copper	50.6	0.500	0.0952	mg/kg dry	1000	02/19/19	6020A		AES
Lead	154	0.500	0.0914	mg/kg dry	1000	02/19/19	6020A		AES
Manganese	823	2.00	0.0895	mg/kg dry	1000	02/19/19	6020A		AES
Nickel	11.7	1.00	0.0675	mg/kg dry	1000	02/19/19	6020A		AES
Selenium	1.06	1.00	0.639	mg/kg dry	1000	02/19/19	6020A		AES
Silver	1.09	0.500	0.0925	mg/kg dry	1000	02/19/19	6020A		AES
Thallium	<0.500	0.500	0.0957	mg/kg dry	1000	02/19/19	6020A		AES
Uranium	1.52	0.100	0.0817	mg/kg dry	1000	02/19/19	6020A		AES
Zinc	312	10.0	0.356	mg/kg dry	1000	02/19/19	6020A		AES

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Debbie Zufelt, Reports Manager

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Animas River Wetlands  
4166 CR 203  
Durango CO, 81301

Project: Animas River Wetlands  
Project Name / Number: [none]  
Project Manager: Ed Zink

Reported:  
02/21/19 15:22

**Phase 5 mixed**

**1902046-01 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
<b>Total Mercury by CVAA</b>									
Mercury	<0.0430	0.0430	0.0179	mg/kg dry	200	02/12/19	EPA7471		LLG
<b>ab-DTPA Extracted (Available)</b>									
Phosphorus, Total	<0.100	0.100	0.0360	mg/kg dry	2	02/20/19	EPA365.3	M5	JDA
Potassium	53.8	10.0	0.955	mg/kg dry	10	02/20/19	EPA200.7		AES
<b>Texture Classification 6Hr</b>									
Textural Class	SiL			%	1	02/19/19	Hydrometer, Modified Bouyoucos		JDA
Sand, Percent	26.3			%	1	02/19/19	Hydrometer, Modified Bouyoucos		JDA
Clay, Percent	17.5			%	1	02/19/19	Hydrometer, Modified Bouyoucos		JDA
Silt, Percent	56.2			%	1	02/19/19	Hydrometer, Modified Bouyoucos		JDA

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**General Chemistry - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B902059 - General Prep - Wet Chem**

<b>Duplicate (B902059-DUP1)</b>	<b>Source: 1902021-01</b>		Prepared: 02/11/19		Analyzed: 02/12/19					
% Dry Solids	75.4		%		74.8			0.799	20	

**Batch B902135 - Paste Extract**

<b>Blank (B902135-BLK1)</b>	Prepared & Analyzed: 02/14/19									
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Organic Matter (450C 4-hour)	ND	1.00	%							
<b>Duplicate (B902135-DUP1)</b>	<b>Source: 1902046-01</b>		Prepared & Analyzed: 02/14/19							
Organic Matter (450C 4-hour)	4.40	1.00	%		4.40			0.00	20	

**Soluble (DI Water Extraction) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B902077 - General Prep - Wet Chem**

<b>Blank (B902077-BLK1)</b>	Prepared: 02/12/19 Analyzed: 02/14/19									
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Nitrate/Nitrite as N	ND	0.020	mg/kg wet							
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<b>LCS (B902077-BS1)</b>	Prepared: 02/12/19 Analyzed: 02/14/19									
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Nitrate/Nitrite as N	1.04	0.020	mg/kg wet	1.00		104	80-120			
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<b>LCS Dup (B902077-BSD1)</b>	Prepared: 02/12/19 Analyzed: 02/14/19									
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Nitrate/Nitrite as N	1.06	0.020	mg/kg wet	1.00		106	80-120	2.02	20	
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**Saturated Paste Extraction - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B902112 - Paste Extract**

**Blank (B902112-BLK1)**

Prepared: 02/15/19 Analyzed: 02/18/19

Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							

**Duplicate (B902112-DUP1)**

Source: 1902046-01 Prepared: 02/15/19 Analyzed: 02/18/19

Calcium	98.6	0.100	mg/L		96.0			2.70	20	
Magnesium	23.3	0.100	mg/L		22.6			2.90	20	
SAR	0.61		No Unit		0.60			1.65	20	
Sodium	25.8	1.00	mg/L		25.3			2.09	20	

**Batch B902114 - Paste Extract**

**Duplicate (B902114-DUP1)**

Source: 1902046-01 Prepared & Analyzed: 02/15/19

pH	7.52		pH Units		7.40			1.61	20	
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**Total Metals by ICP - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B902119 - EPA 3050**

**Blank (B902119-BLK1)**

Prepared: 02/15/19 Analyzed: 02/18/19

Aluminum	ND	5.00	mg/kg dry							
Boron	ND	30.0	mg/kg dry							
Iron	ND	10.0	mg/kg dry							

**LCS (B902119-BS1)**

Prepared: 02/15/19 Analyzed: 02/18/19

Aluminum	382	5.00	mg/kg dry	400		95.4	80-120			
Boron	386	30.0	mg/kg dry	400		96.4	80-120			
Iron	365	10.0	mg/kg dry	400		91.1	80-120			

**LCS Dup (B902119-BSD1)**

Prepared: 02/15/19 Analyzed: 02/18/19

Aluminum	383	5.00	mg/kg dry	400		95.8	80-120	0.372	20	
Boron	393	30.0	mg/kg dry	400		98.2	80-120	1.80	20	
Iron	366	10.0	mg/kg dry	400		91.5	80-120	0.352	20	

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**Total Metals by ICPMS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B902120 - EPA 3050M**

**Blank (B902120-BLK1)**

Prepared: 02/15/19 Analyzed: 02/19/19

Antimony	ND	0.100	mg/kg dry							
Arsenic	ND	0.100	mg/kg dry							
Barium	ND	0.0500	mg/kg dry							
Beryllium	ND	0.0500	mg/kg dry							
Cadmium	ND	0.0500	mg/kg dry							
Chromium	ND	0.100	mg/kg dry							
Copper	ND	0.0500	mg/kg dry							
Lead	ND	0.0500	mg/kg dry							
Manganese	ND	0.200	mg/kg dry							
Nickel	ND	0.100	mg/kg dry							
Selenium	ND	0.100	mg/kg dry							
Silver	ND	0.0500	mg/kg dry							
Thallium	ND	0.0500	mg/kg dry							
Uranium	ND	0.0100	mg/kg dry							
Zinc	ND	1.00	mg/kg dry							

**LCS (B902120-BS1)**

Prepared: 02/15/19 Analyzed: 02/19/19

Antimony	4.85	0.100	mg/kg dry	5.00		97.0	80-120
Arsenic	4.82	0.100	mg/kg dry	5.00		96.4	80-120
Barium	4.84	0.0500	mg/kg dry	5.00		96.9	80-120
Beryllium	4.93	0.0500	mg/kg dry	5.00		98.6	80-120
Cadmium	4.85	0.0500	mg/kg dry	5.00		97.0	80-120
Chromium	5.04	0.100	mg/kg dry	5.00		101	80-120
Copper	5.28	0.0500	mg/kg dry	5.00		106	80-120
Lead	4.95	0.0500	mg/kg dry	5.00		98.9	80-120
Manganese	4.94	0.200	mg/kg dry	5.00		98.8	80-120
Nickel	5.06	0.100	mg/kg dry	5.00		101	80-120
Selenium	23.9	0.100	mg/kg dry	25.0		95.5	80-120
Silver	4.70	0.0500	mg/kg dry	5.00		93.9	80-120
Thallium	4.99	0.0500	mg/kg dry	5.00		99.8	80-120
Uranium	4.70	0.0100	mg/kg dry	5.00		94.1	80-120
Zinc	4.77	1.00	mg/kg dry	5.00		95.5	80-120

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**Total Metals by ICPMS - Quality Control  
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B902120 - EPA 3050M (Continued)</b>										
<b>LCS Dup (B902120-BSD1)</b>										
					Prepared: 02/15/19 Analyzed: 02/19/19					
Antimony	4.89	0.100	mg/kg dry	5.00		97.8	80-120	0.886	20	
Arsenic	4.81	0.100	mg/kg dry	5.00		96.3	80-120	0.131	20	
Barium	4.85	0.0500	mg/kg dry	5.00		96.9	80-120	0.0750	20	
Beryllium	4.76	0.0500	mg/kg dry	5.00		95.2	80-120	3.48	20	
Cadmium	4.86	0.0500	mg/kg dry	5.00		97.3	80-120	0.326	20	
Chromium	4.79	0.100	mg/kg dry	5.00		95.9	80-120	4.99	20	
Copper	5.03	0.0500	mg/kg dry	5.00		101	80-120	4.94	20	
Lead	5.02	0.0500	mg/kg dry	5.00		100	80-120	1.46	20	
Manganese	4.73	0.200	mg/kg dry	5.00		94.6	80-120	4.37	20	
Nickel	4.94	0.100	mg/kg dry	5.00		98.7	80-120	2.44	20	
Selenium	24.4	0.100	mg/kg dry	25.0		97.6	80-120	2.17	20	
Silver	4.81	0.0500	mg/kg dry	5.00		96.3	80-120	2.48	20	
Thallium	5.07	0.0500	mg/kg dry	5.00		101	80-120	1.58	20	
Uranium	4.69	0.0100	mg/kg dry	5.00		93.8	80-120	0.267	20	
Zinc	4.85	1.00	mg/kg dry	5.00		97.1	80-120	1.63	20	

**Total Mercury by CVAA - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B902064 - EPA 7471</b>										
<b>Blank (B902064-BLK1)</b>										
					Prepared: 02/11/19 Analyzed: 02/12/19					
Mercury	ND	0.0002	mg/kg wet							
<b>LCS (B902064-BS1)</b>										
					Prepared: 02/11/19 Analyzed: 02/12/19					
Mercury	0.0053	0.0002	mg/kg wet	0.00500		106	85-115			
<b>LCS Dup (B902064-BSD1)</b>										
					Prepared: 02/11/19 Analyzed: 02/12/19					
Mercury	0.0053	0.0002	mg/kg wet	0.00500		106	85-115	0.0188	20	

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**ab-DTPA Extracted (Available) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B902115 - ab-DTPA Extraction**

<b>Blank (B902115-BLK1)</b>		Prepared: 02/19/19 Analyzed: 02/20/19								
Potassium	ND	2.00	mg/kg dry							
<b>Duplicate (B902115-DUP1)</b>		Source: 1902046-01 Prepared: 02/19/19 Analyzed: 02/20/19								
Potassium	63.4	10.0	mg/kg dry		53.8			16.4	20	

**Batch B902133 - ab-DTPA Extraction**

<b>Blank (B902133-BLK1)</b>		Prepared: 02/19/19 Analyzed: 02/20/19								
Phosphorus, Total	ND	0.0500	mg/kg dry							
<b>LCS (B902133-BS1)</b>		Prepared: 02/19/19 Analyzed: 02/20/19								
Phosphorus, Total	0.516	0.0500	mg/kg dry	0.500		103	85-115			
<b>LCS Dup (B902133-BSD1)</b>		Prepared: 02/19/19 Analyzed: 02/20/19								
Phosphorus, Total	0.508	0.0500	mg/kg dry	0.500		102	85-115	1.56	20	

**Texture Classification 6Hr - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B902147 - Paste Extract**

<b>Duplicate (B902147-DUP1)</b>		Source: 1902046-01 Prepared & Analyzed: 02/19/19								
Clay, Percent	17.5		%		17.5			0.00	20	
Sand, Percent	27.5		%		26.3			4.46	20	
Silt, Percent	55.0		%		56.2			2.16	20	

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4166 CR 203  
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Reported:  
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Notes and Definitions

- M5 Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
- H1 Sample was received several days after collected and subsequently analyzed past hold time.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis  
\*Results reported on as received basis unless designated as dry.
- RPD Relative Percent Difference
- LCS Laboratory Control Sample (Blank Spike)
- RL Report Limit
- MDL Method Detection Limit

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