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31 August 2020

Michael Hannigan  
Kinder Morgan  
17801 Hwy 491  
Cortez, CO 81321  
RE: EC/pH/SAR

Enclosed are the results of analyses for samples received by the laboratory on 08/26/20 14:45. This data replaces the previous report (See case narrative). If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jeremy D. Allen".

Jeremy D Allen For Debbie Zufelt  
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (\*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



Kinder Morgan  
17801 Hwy 491  
Cortez CO, 81321

Project: EC/pH/SAR  
Project Name / Number: Drilling Pit Soil Samples YF-3 Surface  
Project Manager: Michael Hannigan

Reported:  
08/31/20 09:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
YF-3-SB-1	2008318-01	Solid	08/26/20 09:40	08/26/20 14:45	
YF-3-SB-6	2008318-02	Solid	08/26/20 09:45	08/26/20 14:45	
YF-3-SB-8	2008318-03	Solid	08/26/20 09:50	08/26/20 14:45	

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Jeremy D Allen For Debbie Zufelt, Reports Manager

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The sample IDs for 2008318-01 to 2008318-03 should begin with "YF" and not "YE". This reissued report corrects this mistake and replaces the previous report dated "2008318 GAL FINAL 08 28 20 1643 08/28/20 16:44:01".

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: EC/pH/SAR Project Name / Number: Drilling Pit Soil Samples YF-3 Surface Project Manager: Michael Hannigan	Reported: 08/31/20 09:43
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**YF-3-SB-1**

**2008318-01 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	34.4	0.100	0.017	mg/L	1	08/28/20 14:08	EPA200.7		AES
Conductivity	238			umho/cm @ 25.0°C	1	08/28/20 11:15	ASA#9 10-3.3		VJW
Magnesium	12.5	0.100	0.023	mg/L	1	08/28/20 14:08	EPA200.7		AES
pH	7.55			pH Units	1	08/28/20 07:49	ASA#9 10-3.2		VJW
SAR	0.16			No Unit	1	08/28/20 14:08	Calculation		AES
Sodium	4.44	1.00	0.101	mg/L	1	08/28/20 14:08	EPA200.7		AES

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**YF-3-SB-6**

**2008318-02 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	194	0.200	0.033	mg/L	2	08/28/20 13:57	EPA200.7		AES
Conductivity	1340			umho/cm @ 25.0°C	1	08/28/20 11:15	ASA#9 10-3.3		VJW
Magnesium	80.3	0.200	0.047	mg/L	2	08/28/20 13:57	EPA200.7		AES
pH	7.69			pH Units	1	08/28/20 07:49	ASA#9 10-3.2		VJW
SAR	0.25			No Unit	1	08/28/20 13:57	Calculation		AES
Sodium	16.6	2.00	0.201	mg/L	2	08/28/20 13:57	EPA200.7		AES

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**YF-3-SB-8**

**2008318-03 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	288	0.200	0.033	mg/L	2	08/28/20 14:01	EPA200.7		AES
Conductivity	1650			umho/cm @ 25.0°C	1	08/28/20 11:15	ASA#9 10-3.3		VJW
Magnesium	91.7	0.200	0.047	mg/L	2	08/28/20 14:01	EPA200.7		AES
pH	7.62			pH Units	1	08/28/20 07:49	ASA#9 10-3.2		VJW
SAR	0.22			No Unit	1	08/28/20 14:01	Calculation		AES
Sodium	17.1	2.00	0.201	mg/L	2	08/28/20 14:01	EPA200.7		AES

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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 B201717 - Paste Extract**

<b>Duplicate (B201717-DUP1)</b>		<b>Source: 2008317-01</b>		Prepared: 08/27/20		Analyzed: 08/28/20				
pH	7.54		pH Units		7.46			1.07	20	
<b>Duplicate (B201717-DUP2)</b>		<b>Source: 2008320-05</b>		Prepared: 08/27/20		Analyzed: 08/28/20				
pH	7.54		pH Units		7.54			0.00	20	
<b>Duplicate (B201717-DUP3)</b>		<b>Source: 2008326-02</b>		Prepared: 08/27/20		Analyzed: 08/28/20				
pH	9.18		pH Units		9.14			0.437	20	
<b>Reference (B201717-SRM1)</b>				Prepared: 08/27/20		Analyzed: 08/28/20				
pH	7.19		pH Units	6.98		103	95-105			
<b>Reference (B201717-SRM2)</b>				Prepared: 08/27/20		Analyzed: 08/28/20				
pH	7.20		pH Units	6.98		103	95-105			

**Batch B201718 - Paste Extract**

<b>Duplicate (B201718-DUP1)</b>		<b>Source: 2008317-01</b>		Prepared: 08/27/20		Analyzed: 08/28/20				
Conductivity	1910		umho/cm @ 25.0°C		1940			1.19	20	
<b>Duplicate (B201718-DUP2)</b>		<b>Source: 2008320-05</b>		Prepared: 08/27/20		Analyzed: 08/28/20				
Conductivity	882		umho/cm @ 25.0°C		821			7.16	20	
<b>Duplicate (B201718-DUP3)</b>		<b>Source: 2008326-02</b>		Prepared: 08/27/20		Analyzed: 08/28/20				
Conductivity	2180		umho/cm @ 25.0°C		2300			5.36	20	
<b>Reference (B201718-SRM1)</b>				Prepared: 08/27/20		Analyzed: 08/28/20				
Conductivity	2990		umho/cm @ 25.0°C	2930		102	90-110			
<b>Reference (B201718-SRM2)</b>				Prepared: 08/27/20		Analyzed: 08/28/20				
Conductivity	2690		umho/cm @ 25.0°C	2930		91.8	90-110			

**Batch B201719 - Paste Extract**

<b>Blank (B201719-BLK1)</b>				Prepared: 08/27/20		Analyzed: 08/28/20				
Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
SAR	0.00		No Unit							
Sodium	ND	1.00	mg/L							

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**Saturated Paste Extraction - Quality Control  
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B201719 - Paste Extract (Continued)**

<b>Duplicate (B201719-DUP1)</b>		<b>Source: 2008317-01</b>		<b>Prepared: 08/27/20</b>		<b>Analyzed: 08/28/20</b>		
Calcium	396	0.200	mg/L		407		2.60	20
Magnesium	94.6	0.200	mg/L		97.1		2.66	20
SAR	0.28		No Unit		0.29		3.51	20
Sodium	24.1	2.00	mg/L		24.7		2.24	20
<b>Duplicate (B201719-DUP2)</b>		<b>Source: 2008320-05</b>		<b>Prepared: 08/27/20</b>		<b>Analyzed: 08/28/20</b>		
Calcium	136	0.100	mg/L		126		7.88	20
Magnesium	38.0	0.100	mg/L		34.7		9.09	20
SAR	0.27		No Unit		0.28		3.64	20
Sodium	14.0	1.00	mg/L		13.6		3.06	20
<b>Duplicate (B201719-DUP3)</b>		<b>Source: 2008326-02</b>		<b>Prepared: 08/27/20</b>		<b>Analyzed: 08/28/20</b>		
Calcium	ND	0.100	mg/L		475			20
Magnesium	ND	0.100	mg/L		18.7			20
SAR	1.88		No Unit		1.90		1.06	20
Sodium	ND	1.00	mg/L		155			20
<b>Reference (B201719-SRM1)</b>				<b>Prepared: 08/27/20</b>		<b>Analyzed: 08/28/20</b>		
SAR	5.63		No Unit	5.79	97.2	90-110		
<b>Reference (B201719-SRM2)</b>				<b>Prepared: 08/27/20</b>		<b>Analyzed: 08/28/20</b>		
SAR	5.64		No Unit	5.79	97.4	90-110		

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### Notes and Definitions

- 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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