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20 November 2019

Steve Moskal  
BP America  
380 Airport Rd.  
Durango, CO 81303  
RE: Table 910

Enclosed are the results of analyses for samples received by the laboratory on 11/08/19 14:28.  
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is fluid and cursive, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

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.



BP America  
380 Airport Rd.  
Durango CO, 81303

Project: Table 910  
Project Name / Number: Leroy McCaw B#1  
Project Manager: Steve Moskal

**Reported:**  
11/20/19 09:52

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS09	1911105-01	Solid	11/08/19 13:10	11/08/19 14:28	
SS10	1911105-02	Solid	11/08/19 13:20	11/08/19 14:28	

Green Analytical Laboratories

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt, Reports Manager

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BP America  
380 Airport Rd.  
Durango CO, 81303Project: Table 910  
Project Name / Number: Leroy McCaw B#1  
Project Manager: Steve MoskalReported:  
11/20/19 09:52

## SS09

## 1911105-01 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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## General Chemistry

% Dry Solids	93.4			%	1	11/15/19 16:45	EPA160.3/1684		VJL
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## Saturated Paste Extraction

Calcium	38.6	0.500	0.064	mg/L	5	11/18/19 13:42	EPA200.7		AES
Conductivity	3630			umho/cm @ 25.0°C	1	11/15/19 14:40	ASA#9 10-3.3		VJL
Magnesium	9.44	0.500	0.094	mg/L	5	11/18/19 13:42	EPA200.7		AES
pH	8.04			pH Units	1	11/15/19 12:30	ASA#9 12-2.6		VJL
SAR	17.2			No Unit	1	11/18/19 13:42	Calculation		AES
Sodium	459	5.00	1.83	mg/L	5	11/18/19 13:42	EPA200.7		AES

## Total Metals by ICP

Barium	309	5.00	0.049	mg/kg dry	100	11/15/19 14:19	6010B		AES
Cadmium	<5.00	5.00	0.122	mg/kg dry	100	11/15/19 14:19	6010B		AES
Chromium	18.8	5.00	0.075	mg/kg dry	100	11/15/19 14:19	6010B		AES
Copper	19.5	5.00	0.117	mg/kg dry	100	11/15/19 14:19	6010B		AES
Lead	11.8	10.0	0.576	mg/kg dry	100	11/15/19 14:19	6010B		AES
Nickel	14.1	5.00	0.213	mg/kg dry	100	11/15/19 14:19	6010B		AES
Selenium	<20.0	20.0	1.42	mg/kg dry	100	11/15/19 14:18	6010B		AES
Silver	<1.00	1.00	0.191	mg/kg dry	100	11/15/19 14:19	6010B		AES
Zinc	53.9	10.0	0.165	mg/kg dry	100	11/15/19 14:19	6010B		AES

## Total Metals by ICPMS

Arsenic	2.22	1.00	0.214	mg/kg dry	1000	11/18/19 13:07	6020A		AES
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## Total Mercury by CVAA

Mercury	<0.0428	0.0428	0.0179	mg/kg dry	200	11/15/19 09:44	EPA7471		LLG
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## Hot Water Extractable

Boron	<1.20	1.20	0.059	mg/L	4	11/18/19 15:00	EPA200.7		AES
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Project Manager: Steve MoskalReported:  
11/20/19 09:52

## SS10

## 1911105-02 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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## General Chemistry

% Dry Solids	65.0			%	1	11/15/19 16:45	EPA160.3/1684		VJL
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## Saturated Paste Extraction

Calcium	128	0.200	0.026	mg/L	2	11/18/19 13:44	EPA200.7		AES
Conductivity	1740			umho/cm @ 25.0°C	1	11/15/19 14:40	ASA#9 10-3.3		VJL
Magnesium	21.7	0.200	0.038	mg/L	2	11/18/19 13:45	EPA200.7		AES
pH	6.73			pH Units	1	11/15/19 12:30	ASA#9 12-2.6		VJL
SAR	5.10			No Unit	1	11/18/19 13:44	Calculation		AES
Sodium	237	2.00	0.734	mg/L	2	11/18/19 13:44	EPA200.7		AES

## Total Metals by ICP

Barium	324	5.00	0.049	mg/kg dry	100	11/15/19 14:36	6010B		AES
Cadmium	<5.00	5.00	0.122	mg/kg dry	100	11/15/19 14:36	6010B		AES
Chromium	6.52	5.00	0.075	mg/kg dry	100	11/15/19 14:36	6010B		AES
Copper	15.8	5.00	0.117	mg/kg dry	100	11/15/19 14:36	6010B		AES
Lead	11.8	10.0	0.576	mg/kg dry	100	11/15/19 14:36	6010B		AES
Nickel	7.68	5.00	0.213	mg/kg dry	100	11/15/19 14:36	6010B		AES
Selenium	<20.0	20.0	1.42	mg/kg dry	100	11/15/19 14:35	6010B		AES
Silver	<1.00	1.00	0.191	mg/kg dry	100	11/15/19 14:36	6010B		AES
Zinc	61.0	10.0	0.165	mg/kg dry	100	11/15/19 14:36	6010B		AES

## Total Metals by ICPMS

Arsenic	2.32	1.00	0.214	mg/kg dry	1000	11/18/19 13:17	6020A		AES
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## Total Mercury by CVAA

Mercury	<0.0615	0.0615	0.0256	mg/kg dry	200	11/15/19 09:44	EPA7471		LLG
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## Hot Water Extractable

Boron	1.43	1.20	0.059	mg/L	4	11/18/19 15:15	EPA200.7		AES
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11/20/19 09:52

## 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 B911159 - General Prep - Wet Chem

Duplicate (B911159-DUP1) Source: 1911105-01 Prepared &amp; Analyzed: 11/15/19

% Dry Solids	93.4		%		93.4			0.0363	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 B911145 - Paste Extract

Blank (B911145-BLK1) Prepared: 11/14/19 Analyzed: 11/18/19

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

Duplicate (B911145-DUP1) Source: 1911039-01 Prepared: 11/14/19 Analyzed: 11/18/19

Calcium	29.1	0.500	mg/L		34.6			17.2	20	
Magnesium	9.25	0.500	mg/L		9.34			1.04	20	
SAR	26.8		No Unit		26.5			1.35	20	
Sodium	649	5.00	mg/L		680			4.60	20	

## Batch B911146 - Paste Extract

Duplicate (B911146-DUP1) Source: 1911039-01 Prepared: 11/14/19 Analyzed: 11/15/19

Conductivity	3500		umho/cm @ 25.0°C		2670			26.8	20	R1
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## Batch B911147 - Paste Extract

Duplicate (B911147-DUP1) Source: 1911039-01 Prepared: 11/14/19 Analyzed: 11/15/19

pH	8.61		pH Units		8.69			0.925	20	
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Project Manager: Steve Moskal

Reported:  
11/20/19 09:52

### 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 B911153 - EPA 3050

##### Blank (B911153-BLK1)

Prepared & Analyzed: 11/15/19

Barium	ND	5.00	mg/kg dry
Cadmium	ND	5.00	mg/kg dry
Chromium	ND	5.00	mg/kg dry
Copper	ND	5.00	mg/kg dry
Lead	ND	10.0	mg/kg dry
Nickel	ND	5.00	mg/kg dry
Selenium	ND	20.0	mg/kg dry
Silver	ND	1.00	mg/kg dry
Zinc	ND	10.0	mg/kg dry

##### LCS (B911153-BS1)

Prepared & Analyzed: 11/15/19

Barium	186	5.00	mg/kg dry	200	93.2	80-120
Cadmium	175	5.00	mg/kg dry	200	87.3	80-120
Chromium	186	5.00	mg/kg dry	200	93.1	80-120
Copper	393	5.00	mg/kg dry	400	98.2	80-120
Lead	177	10.0	mg/kg dry	200	88.3	80-120
Nickel	177	5.00	mg/kg dry	200	88.7	80-120
Selenium	725	20.0	mg/kg dry	800	90.6	80-120
Silver	9.01	1.00	mg/kg dry	10.0	90.1	80-120
Zinc	166	10.0	mg/kg dry	200	82.8	80-120

##### LCS Dup (B911153-BSD1)

Prepared & Analyzed: 11/15/19

Barium	188	5.00	mg/kg dry	200	93.8	80-120	0.588	20
Cadmium	175	5.00	mg/kg dry	200	87.7	80-120	0.413	20
Chromium	187	5.00	mg/kg dry	200	93.7	80-120	0.563	20
Copper	394	5.00	mg/kg dry	400	98.5	80-120	0.338	20
Lead	175	10.0	mg/kg dry	200	87.7	80-120	0.686	20
Nickel	179	5.00	mg/kg dry	200	89.3	80-120	0.596	20
Selenium	728	20.0	mg/kg dry	800	91.0	80-120	0.425	20
Silver	9.06	1.00	mg/kg dry	10.0	90.6	80-120	0.614	20
Zinc	167	10.0	mg/kg dry	200	83.3	80-120	0.534	20

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Project: Table 910  
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Project Manager: Steve Moskal

Reported:  
11/20/19 09:52

### 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 B911154 - EPA 3050M

##### Blank (B911154-BLK1)

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic ND 0.100 mg/kg dry

##### LCS (B911154-BS1)

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic 4.90 0.100 mg/kg dry 5.00 98.0 80-120

##### LCS Dup (B911154-BSD1)

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic 5.03 0.100 mg/kg dry 5.00 101 80-120 2.65 20

### Total Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B911137 - EPA 7471

##### Blank (B911137-BLK1)

Prepared: 11/14/19 Analyzed: 11/15/19

Mercury ND 0.0002 mg/kg wet

##### LCS (B911137-BS1)

Prepared: 11/14/19 Analyzed: 11/15/19

Mercury 0.0053 0.0002 mg/kg wet 0.00500 107 85-115

##### LCS Dup (B911137-BSD1)

Prepared: 11/14/19 Analyzed: 11/15/19

Mercury 0.0053 0.0002 mg/kg wet 0.00500 106 85-115 0.113 20

### Hot Water Extractable - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B911148 - Hot Water Soluble Metals Extract

##### Blank (B911148-BLK1)

Prepared: 11/14/19 Analyzed: 11/18/19

Boron ND 1.20 mg/L

##### Duplicate (B911148-DUP1)

Source: 1911105-01

Prepared: 11/14/19 Analyzed: 11/18/19

Boron 0.836 1.20 mg/L 0.914 8.90 200

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Project: Table 910  
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**Reported:**  
11/20/19 09:52

### Notes and Definitions

R1	Duplicate sample RPD exceeded laboratory acceptance criteria. Sample(s) may be difficult to homogenize.
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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