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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'.

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
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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	

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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
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**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
<b>Saturated Paste Extraction</b>									
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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**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
<b>Saturated Paste Extraction</b>									
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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**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 & 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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**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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**Total Metals by ICPMS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B911154 - EPA 3050M</b>										
<b>Blank (B911154-BLK1)</b> Prepared: 11/15/19 Analyzed: 11/18/19										
Arsenic	ND	0.100	mg/kg dry							
<b>LCS (B911154-BS1)</b> Prepared: 11/15/19 Analyzed: 11/18/19										
Arsenic	4.90	0.100	mg/kg dry	5.00		98.0	80-120			
<b>LCS Dup (B911154-BSD1)</b> 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
<b>Batch B911137 - EPA 7471</b>										
<b>Blank (B911137-BLK1)</b> Prepared: 11/14/19 Analyzed: 11/15/19										
Mercury	ND	0.0002	mg/kg wet							
<b>LCS (B911137-BS1)</b> Prepared: 11/14/19 Analyzed: 11/15/19										
Mercury	0.0053	0.0002	mg/kg wet	0.00500		107	85-115			
<b>LCS Dup (B911137-BSD1)</b> 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
<b>Batch B911148 - Hot Water Soluble Metals Extract</b>										
<b>Blank (B911148-BLK1)</b> Prepared: 11/14/19 Analyzed: 11/18/19										
Boron	ND	1.20	mg/L							
<b>Duplicate (B911148-DUP1)</b> 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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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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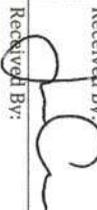
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 75 Suttle St Durango, CO 81303

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: BP America Production Co.		P.O. #:		Bill to (if different):																
Project Manager: Steve Moskal		Company:		ANALYSIS REQUEST																
Address: 1199 Main Ave Suite 101		Attn:																		
City: Durango		Address:																		
State: CO Zip: 81301		City:																		
Phone #: (505) 330 9179		State:																		
Email: steven.moskal@bpx.com		Phone #:																		
Additional Report To:		Fax or Email:																		
Project Name: Le Roy McLean B #1		Zip:																		
Project Number:																				
Sampler Name (Print): Emma Miller																				
FOR LAB USE ONLY																				
Lab I.D.	Sample Name or Location	Collected		Matrix (check one)			# of containers													
		Date	Time	GROUNDWATER	SURFACEWATER	WASTEWATER	PRODUCEDWATER	OTHER :	No preservation (general)	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	Other:	Other:						
1911-105-01	SS09	11/01/19	1310																	
-02	SS10	11/8/19	1320					X												
Relinquished By: 		Received By: 		Date: 11/8/19		Time: 1420		Temperature at receipt: 10.0/9.8°C		CHECKED BY: #1 no in		Report to State? (Circle)		Yes		No				
Relinquished By:		Received By:		Date:		Time:														
Relinquished By:		Received By:		Date:		Time:														
Delivered By: (Circle One)		UPS - FedEx - Kangaroo - Other:																		

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\* Chain of Custody must be signed in "Relinquished By:" as an acceptance of services and all applicable charges.

† GAL cannot always accept verbal changes. Please fax or email written change requests.