



30-045-23257

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13 March 2019

Sabre Beebe
BP America
380 Airport Rd.
Durango, CO 81303
RE: API

NMOC
MAR 13 2019
DISTRICT III

Enclosed are the results of analyses for samples received by the laboratory on 02/25/19 12:30.
If you need any further assistance, please feel free to contact me.

Sincerely,

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.



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BP America 380 Airport Rd. Durango CO, 81303	Project: API Project Name / Number: [none] Project Manager: Sabre Beebe	Reported: 03/13/19 09:49
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Bolack 002	1902141-02	Water	02/25/19 08:45	02/25/19 12:30	

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Bolack 002

1902141-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	160	10.0		mg/L	5	02/28/19	2320 B		JDA
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	5	02/28/19	2320 B		JDA
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	5	02/28/19	2320 B		JDA
Alkalinity, Total as CaCO3*	160	10.0		mg/L	5	02/28/19	2320 B		JDA
Chloride*	4700	200	20.5	mg/L	200	02/25/19	EPA300.0		AES
Conductivity*	15700	10.0		uS/cm	1	02/26/19	2510 B		JDA
pH*	6.81			pH Units	1	02/26/19	EPA150.1		JDA
Resistivity	63.7			ohm/cm	1	03/01/19	2510 B		JDA
Total Dissolved Solids*	8220	20.0		mg/L	2	02/26/19	EPA160.1		jda
Specific Gravity	1.008	0.8000		No Unit	1	03/01/19	ASTM D1429-03		JDA
Sulfate*	<200	200	42.6	mg/L	200	02/25/19	EPA300.0		AES
Total Recoverable Metals by ICP (E200.7)									
Iron*	51.5	1.00	0.348	mg/L	20	02/28/19	EPA200.7		AES
Dissolved Metals by ICP									
Hardness	141	13.2	2.19	mg/L	20	02/25/19	2340 B		AES
Barium*	4.02	0.400	0.042	mg/L	20	02/25/19	EPA200.7		AES
Calcium*	44.2	2.00	0.257	mg/L	20	02/25/19	EPA200.7		AES
Iron*	11.1	1.00	0.553	mg/L	20	02/25/19	EPA200.7		AES
Magnesium*	7.42	2.00	0.375	mg/L	20	02/25/19	EPA200.7		AES
Manganese*	<0.400	0.400	0.054	mg/L	20	02/25/19	EPA200.7		AES
Potassium*	30.0	20.0	1.91	mg/L	20	02/25/19	EPA200.7		AES
Sodium*	2980	20.0	7.34	mg/L	20	02/25/19	EPA200.7		AES
Strontium*	6.04	2.00	0.057	mg/L	20	02/25/19	EPA200.7		AES
Cation/Anion Balance	-54								

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General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B902178 - General Prep - Wet Chem										
Blank (B902178-BLK1) Prepared & Analyzed: 02/25/19										
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B902178-BS1) Prepared & Analyzed: 02/25/19										
Chloride	23.7	1.00	mg/L	25.0		94.8	90-110			
Sulfate	24.0	1.00	mg/L	25.0		95.9	90-110			
LCS Dup (B902178-BSD1) Prepared & Analyzed: 02/25/19										
Chloride	23.6	1.00	mg/L	25.0		94.4	90-110	0.495	20	
Sulfate	23.5	1.00	mg/L	25.0		93.9	90-110	2.08	20	
Batch B902185 - General Prep - Wet Chem										
Blank (B902185-BLK1) Prepared & Analyzed: 02/26/19										
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B902185-DUP1) Source: 1902112-01 Prepared & Analyzed: 02/26/19										
Total Dissolved Solids	305	10.0	mg/L		320			4.79	20	
Reference (B902185-SRM1) Prepared & Analyzed: 02/26/19										
Total Dissolved Solids	415	10.0	mg/L	380		109	85-115			
Batch B902207 - General Prep - Wet Chem										
Blank (B902207-BLK1) Prepared & Analyzed: 02/28/19										
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B902207-BS1) Prepared & Analyzed: 02/28/19										
Alkalinity, Total as CaCO3	102	10.0	mg/L	100		102	85-115			
LCS Dup (B902207-BSD1) Prepared & Analyzed: 02/28/19										
Alkalinity, Total as CaCO3	100	10.0	mg/L	100		100	85-115	1.98	20	
Batch B903002 - General Prep - Wet Chem										
Duplicate (B903002-DUP1) Source: 1902137-01 Prepared & Analyzed: 03/01/19										
Specific Gravity	1.013	0.8000	No Unit		1.013			0.00	20	
Batch B903004 - General Prep - Wet Chem										
Duplicate (B903004-DUP1) Source: 1902141-01 Prepared & Analyzed: 02/26/19										
Conductivity	1390	10.0	uS/cm		1400			0.715	20	
Reference (B903004-SRM1) Prepared & Analyzed: 02/26/19										
Conductivity	509	10.0	uS/cm	491		104	90-110.1			
Batch B903008 - General Prep - Wet Chem										

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**General Chemistry - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B903008 - General Prep - Wet Chem (Continued)

Duplicate (B903008-DUP1)

Source: 1902141-01 Prepared & Analyzed: 02/26/19

pH	6.28		pH Units		6.25			0.479	20	
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Reference (B903008-SRM1)

Prepared & Analyzed: 02/26/19

pH	8.97		pH Units	9.13		98.2	97.8-102.2			
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Total Recoverable Metals by ICP (E200.7) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B902186 - Total Rec. 200.7/200.8/200.2

Blank (B902186-BLK1)

Prepared: 02/26/19 Analyzed: 02/28/19

Iron	ND	0.050	mg/L							
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LCS (B902186-BS1)

Prepared: 02/26/19 Analyzed: 02/28/19

Iron	4.09	0.050	mg/L	4.00		102	85-115			
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LCS Dup (B902186-BSD1)

Prepared: 02/26/19 Analyzed: 02/28/19

Iron	4.12	0.050	mg/L	4.00		103	85-115	0.746	20	
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Dissolved 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 B902176 - Diss. 200.7/200.8

Blank (B902176-BLK1)

Prepared & Analyzed: 02/25/19

Barium	ND	0.020	mg/L							
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Manganese	ND	0.020	mg/L							
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Strontium	ND	0.100	mg/L							

LCS (B902176-BS1)

Prepared & Analyzed: 02/25/19

Barium	2.38	0.020	mg/L	2.50		95.4	85-115			
Calcium	5.06	0.100	mg/L	5.00		101	85-115			
Iron	4.97	0.050	mg/L	5.00		99.5	85-115			
Magnesium	25.1	0.100	mg/L	25.0		100	85-115			
Manganese	2.44	0.020	mg/L	2.50		97.8	85-115			
Potassium	10.3	1.00	mg/L	10.0		103	85-115			
Sodium	4.01	1.00	mg/L	4.05		99.0	85-115			
Strontium	5.08	0.100	mg/L	5.00		102	85-115			

LCS Dup (B902176-BS1)

Prepared & Analyzed: 02/25/19

Barium	2.37	0.020	mg/L	2.50		94.9	85-115	0.455	20	
Calcium	4.96	0.100	mg/L	5.00		99.2	85-115	1.95	20	
Iron	4.83	0.050	mg/L	5.00		96.6	85-115	2.92	20	
Magnesium	24.5	0.100	mg/L	25.0		98.0	85-115	2.28	20	
Manganese	2.40	0.020	mg/L	2.50		96.0	85-115	1.81	20	
Potassium	10.6	1.00	mg/L	10.0		106	85-115	2.84	20	
Sodium	3.91	1.00	mg/L	4.05		96.7	85-115	2.42	20	
Strontium	5.02	0.100	mg/L	5.00		100	85-115	1.25	20	

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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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