

30.045-23257

75 Suttle Street Durango, CO 81303 970.247.4220 Phone 970.247.4227 Fax www.greenanalytical.com

13 March 2019

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

RE: API

NMOCD

MAR 1 3 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

Deldie Zufett

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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Project: API

380 Airport Rd. Durango CO, 81303 Project Name / Number: [none]

Project Manager: Sabre Beebe

Reported:

03/13/19 09:49

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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BP America 380 Airport Rd.

Durango CO, 81303

Project: API

Project Name / Number: [none]
Project Manager: Sabre Beebe

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03/13/19 09:49

Bolack 002

1902141-02 (Water)

		170.	2141-02 (VV	atti					
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	I	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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 Project: API

 380 Airport Rd.
 Project Name / Number: [none]
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 Durango CO, 81303
 Project Manager: Sabre Beebe
 03/13/19 09:49

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)			Prep	ared & Ana	lyzed: 02/25	5/19				
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B902178-BS1)			Prep	ared & Ana	lyzed: 02/25	5/19				
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)			Prep	ared & Ana	lyzed: 02/25	5/19				
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)			Prep	ared & Ana	lyzed: 02/26	5/19				
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B902185-DUP1)	Sou	rce: 1902112-	01 Prep	ared & Ana	lyzed: 02/26	5/19				
Total Dissolved Solids	305	10.0	mg/L		320			4.79	20	
Reference (B902185-SRM1)			Prep	ared & Ana	lyzed: 02/26	5/19				
Total Dissolved Solids	415	10.0	mg/L	380		109	85-115			
Batch B902207 - General Prep - Wet Chem										
Blank (B902207-BLK1)			Prep	ared & Ana	lyzed: 02/2	8/19				
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B902207-BS1)			Prep	ared & Ana	lyzed: 02/2	8/19				
Alkalinity, Total as CaCO3	102	10.0	mg/L	100	•	102	85-115			
LCS Dup (B902207-BSD1)			Pren	ared & Ana	lyzed: 02/2	8/19				
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)	Sou	rce: 1902137-	01 Prep	ared & Ana	lyzed: 03/0	1/19				
Specific Gravity	1.013	0.8000	No Unit		1.013			0.00	20	
Batch B903004 - General Prep - Wet Chem										
Duplicate (B903004-DUP1)	Sou	rce: 1902141-	01 Prep	ared & Ana	lyzed: 02/2	6/19				
Conductivity	1390	10.0	uS/cm		1400			0.715	20	
Reference (B903004-SRM1)			Pren	ared & Ana	lyzed: 02/2	6/19				
Conductivity	509	10.0	uS/cm	491	-	104	90-110.1			
Batch B903008 - General Prep - Wet Chem										

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Project: API

380 Airport Rd. Durango CO, 81303 Project Name / Number: [none]
Project Manager: Sabre Beebe

Reported:

03/13/19 09:49

General Chemistry - Quality Control (Continued)

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch B903008 - General Prep - Wet Chem (Continued)

Duplicate (B903008-DUP1)	Source: 1						
рН	6.28	pH Units	pH Units 6.25			0.479	20
Reference (B903008-SRM1)		Prepar					
рН	8.97	pH Units	9.13		97.8-102.2		

Total Recoverable Metals by ICP (E200.7) - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B902186 - Total Rec. 200.7/200.8/200.2										
Blank (B902186-BLK1)			Prep	pared: 02/26	/19 Analyz	ed: 02/28/19	9			
Iron	ND	0.050	mg/L							
LCS (B902186-BS1)			Prep	ared: 02/26	19 Analyz	ed: 02/28/19	9			
Iron	4.09	0.050	mg/L	4.00		102	85-115			
LCS Dup (B902186-BSD1)			Prep	pared: 02/26	/19 Analyz	ed: 02/28/19	9			
Iron	4.12	0.050	mg/L	4.00		103	85-115	0.746	20	

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Reported:

Durango CO, 81303 Project Manager: Sabre Beebe 03/13/19 09:49

Dissolved Metals by ICP - Quality Control

		Reporting		Spike	Source		%REC		RPD					
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes				
Batch B902176 - Diss. 200.7/200.8														
Blank (B902176-BLK1)			Prep	ared & Ana	lyzed: 02/2:	5/19								
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											
.CS (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							
.CS Dup (B902176-BSD1)			Prep	ared & Ana	lyzed: 02/2:	5/19								
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					

0.100

5.02

mg/L

5.00

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Strontium

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85-115

1.25

20

100



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Durango CO, 81303

Project Manager: Sabre Beebe

03/13/19 09:49

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 MDL Report Limit
Method Detection Limit

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

FORM-006 COC - Revision 5.0

(970) 247-4220 Fax: (970) 247-4227 service@greenanalytical.com or dzufelt@greenanalytical.com

75 Suttle St Durango, CO 81303

Company or Client	npany or Client: BP AYNE VICCE					Bill to (if different):									A	NAL	YSI	SR	EQU	EST					
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