

Analytical Report

Report Summary

Client: BP America Production Co.

Samples Received: 6/29/2020

Job Number: 03143-0424

Work Order: P006091

Project Name/Location: Bradenhead

Report Reviewed By:



Date: 7/7/20

Walter Hinchman, Laboratory Director



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BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Bradenhead
Project Number: 03143-0424
Project Manager: Sabre Beebe

Reported:
07/07/20 12:05

Sample Summary

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Heath G -C K1 #3004522197	P006091-01A	Aqueous	06/26/20	06/29/20	Poly 500mL

BP America Production Co.
 PO Box 22024
 Tulsa OK, 74121-2024

 Project Name: Bradenhead
 Project Number: 03143-0424
 Project Manager: Sabre Beebe

Reported:
 07/07/20 12:05

Heath G -C K1 #3004522197
P006091-01 (Water)

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L				Batch: 2026018
Total Dissolved Solids	10300	50.0	1	06/30/20	07/01/20	
Wet Chemistry by 9040C/4500H+B	pH Units	pH Units				Batch: 2027008
pH @25°C	11.2		1	06/30/20 08:03	06/30/20 13:01	H5
Wet Chemistry by SM2320B	mg/L	mg/L				Batch: 2027011
Total Alkalinity (as CaCO ₃ at pH 4.5)	337	10.0	1	06/30/20	06/30/20	
Wet Chemistry by 9050A/2510B	uS/cm	uS/cm				Batch: 2027003
Specific Conductance (@ 25 C)	13700	10.0	1	06/29/20	06/29/20	
Dissolved Metals by EPA 6010C	mg/L	mg/L				Batch: 2027007
Calcium	6.36	1.00	1	06/30/20	06/30/20	
Iron	ND	2.00	1	06/30/20	06/30/20	
Magnesium	ND	1.00	1	06/30/20	06/30/20	
Potassium	13.9	1.00	1	06/30/20	06/30/20	
Sodium	3490	100	50	06/30/20	07/01/20	
Sodium Absorption Ratio	381		1	07/01/20	07/01/20	
Anions by EPA 300.0/9056A	mg/L	mg/L				Batch: 2027004
Fluoride	ND	5.00	20	06/29/20	06/29/20	
Chloride	ND	40.0	20	06/29/20	06/29/20	
Nitrite-N	ND	5.00	20	06/29/20 14:18	06/29/20 18:46	H1
Nitrate-N	ND	5.00	20	06/29/20 14:18	06/29/20 18:46	H1
o-Phosphate-P	ND	5.00	20	06/29/20 14:18	06/29/20 18:46	H1
Sulfate	6960	40.0	20	06/29/20	06/29/20	

BP America Production Co.	Project Name:	Bradenhead	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	07/07/20 12:05

Wet Chem/Gravimetric by SM2540C - Quality Control

Analyte	Result	Reporting Limit	Spike Level	Source Result	REC	REC Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2026018-BLK1)

Prepared: 06/25/20 1 Analyzed: 06/30/20 1

Total Dissolved Solids	ND	10.0							
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LCS (2026018-BS1)

Prepared: 06/25/20 1 Analyzed: 06/30/20 1

Total Dissolved Solids	114	10.0	100		114	55-134			
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LCS Dup (2026018-BSD1)

Prepared: 06/25/20 1 Analyzed: 06/30/20 1

Total Dissolved Solids	115	10.0	100		115	55-134	0.873	5	
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BP America Production Co.	Project Name:	Bradenhead	Reported: 07/07/20 12:05
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	

Wet Chemistry by 9040C/4500H+B - Quality Control

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

LCS (2027008-BS1)

Prepared: 06/30/20 0 Analyzed: 06/30/20 1

pH	8.00	8.00	100	98.75-101.25
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Duplicate (2027008-DUP1)

Source: P006074-01

Prepared: 06/30/20 0 Analyzed: 06/30/20 1

pH	9.10	9.11	0.110	20
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Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	07/07/20 12:05

Wet Chemistry by SM2320B - Quality Control

Analyte	Result	Reporting Limit	Spike Level	Source Result	REC	REC Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

LCS (2027011-BS1)

Prepared & Analyzed: 06/30/20 1

Total Alkalinity (as CaCO ₃ at pH 4.5)	274	10.0	250		110	70-130
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LCS Dup (2027011-BSD1)

Prepared & Analyzed: 06/30/20 1

Total Alkalinity (as CaCO ₃ at pH 4.5)	270	10.0	250		108	70-130	1.47	20
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Wet Chemistry by 9050A/2510B - Quality Control

Analyte	Result	Reporting Limit	Spike Level	Source Result	REC	REC Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	

Blank (2027003-BLK1)

Prepared & Analyzed: 06/29/20 1

Specific Conductance (@ 25 C) ND 10.0

LCS (2027003-BS1)

Prepared & Analyzed: 06/29/20 1

Specific Conductance (@ 25 C) 1420 10.0 1410 101 98-102

Duplicate (2027003-DUP1)

Source: P006074-02

Prepared & Analyzed: 06/29/20 1

Specific Conductance (@ 25 C) 150 10.0 154 2.57 20

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PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	

Dissolved Metals by EPA 6010C - Quality Control

Analyte	Result	Reporting Limit	Spike Level	Source Result	REC	REC Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2027007-BLK1)

Prepared: 06/30/20 0 Analyzed: 06/30/20 1

Calcium	ND	1.00
Iron	ND	2.00
Magnesium	ND	1.00
Potassium	ND	1.00
Sodium	ND	2.00

LCS (2027007-BS1)

Prepared: 06/30/20 0 Analyzed: 06/30/20 1

Calcium	51.3	1.00	50.0	103	80-120
Iron	100	2.00	100	100	80-120
Magnesium	51.5	1.00	50.0	103	80-120
Potassium	5.25	1.00	5.00	105	80-120
Sodium	18.8	2.00	20.0	94.2	80-120

Matrix Spike (2027007-MS1)

Source: P006092-01

Prepared: 06/30/20 0 Analyzed: 06/30/20 1

Calcium	191	5.00	50.0	122	139	75-125	M2
Iron	111	10.0	100	ND	111	75-125	
Magnesium	74.0	5.00	50.0	23.4	101	75-125	
Potassium	33.4	5.00	5.00	27.7	114	75-125	
Sodium	207	10.0	20.0	185	110	75-125	

Matrix Spike Dup (2027007-MSD1)

Source: P006092-01

Prepared: 06/30/20 0 Analyzed: 06/30/20 1

Calcium	195	5.00	50.0	122	146	75-125	1.92	20	M2
Iron	116	10.0	100	ND	116	75-125	4.15	20	
Magnesium	76.3	5.00	50.0	23.4	106	75-125	3.06	20	
Potassium	34.7	5.00	5.00	27.7	139	75-125	3.69	20	M2
Sodium	215	10.0	20.0	185	147	75-125	3.48	20	M2

BP America Production Co.	Project Name:	Bradenhead	Reported: 07/07/20 12:05
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	

Anions by EPA 300.0/9056A - Quality Control

Analyte	Result	Reporting Limit	Spike Level	Source Result	REC	REC Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2027004-BLK1)

Prepared & Analyzed: 06/29/20 1

Fluoride	ND	0.250
Chloride	ND	2.00
Nitrite-N	ND	0.250
Nitrate-N	ND	0.250
o-Phosphate-P	ND	0.250
Sulfate	ND	2.00

LCS (2027004-BS1)

Prepared & Analyzed: 06/29/20 1

Fluoride	2.61	0.250	2.50	104	90-110
Chloride	24.8	2.00	25.0	99.4	90-110
Nitrite-N	2.51	0.250	2.50	101	90-110
Nitrate-N	2.59	0.250	2.50	104	90-110
o-Phosphate-P	12.8	0.250	12.5	103	90-110
Sulfate	24.9	2.00	25.0	99.5	90-110

LCS Dup (2027004-BSD1)

Prepared & Analyzed: 06/29/20 1

Fluoride	2.60	0.250	2.50	104	90-110	0.308	20
Chloride	24.8	2.00	25.0	99.2	90-110	0.193	20
Nitrite-N	2.56	0.250	2.50	102	90-110	1.81	20
Nitrate-N	2.58	0.250	2.50	103	90-110	0.387	20
o-Phosphate-P	12.8	0.250	12.5	102	90-110	0.140	20
Sulfate	24.8	2.00	25.0	99.2	90-110	0.302	20

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Reported:
 07/07/20 12:05

Notes and Definitions

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample was performed as quickly as possible.
- H1 Sample was received past holding time and analyzed per client request.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- ** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

[illegible]

Client: <u>ISP</u>				Bill To				Lab Use Only				TAT		EPA Program						
Project: <u>Breidenhead</u>				Attention:				Lab WO#		Job Number		1D	3D	RCRA	CWA	SDWA				
Project Manager: <u>Sabre BeeBee</u>				Address:				<u>P000091</u>		<u>03143-0424</u>										
Address:				City, State, Zip				Analysis and Method										State		
City, State, Zip				Phone:				DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0				NM	CO	UT	AZ
Email: <u>Celia @agasslab.com</u>				Email:													TX	OK		
Report due by:																				
Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number												Remarks			
9:20A	6-26-2020	AG	1	Heath GC KI # 3004522197	1												1-500 mL poly			
Additional Instructions: <u>Same as last sample, email blank coc to Celia</u>																				
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: <u>Celia Lobato-Luna</u>																				
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.												
<u>[Signature]</u>		6-29-20	6:17A	<u>Alanna OA</u>		6-29-20	6:17am	Lab Use Only												
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Received on ice: Y (N)												
								T1 21.5 T2 21.5 T3 21.6												
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	AVG Temp °C <u>64.6</u> <u>June-29</u> <u>21.5°</u>												
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																				
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																				
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																				