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## Analytical Report

BP America Production Co.

Project Name: Bradenhead Water Samples

Work Order: E010127

Job Number: 03143-0424

Received: 9/30/2020

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
10/28/20

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc, holds the Utah TNI certification NM009792018-1 for data reported.  
Envirotech Inc, holds the Texas TNI certification T104704557-19-2 for data reported.

Report to:  
Sabre Beebe  
PO Box 22024  
Tulsa, OK 74121-2024



5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Date Reported: 10/28/20

Sabre Beebe  
PO Box 22024  
Tulsa, OK 74121-2024



Project Name: Bradenhead Water Samples  
Workorder: E010127  
Date Received: 9/30/2020 2:00:00PM

Sabre Beebe,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 9/30/2020 2:00:00PM, under the Project Name: Bradenhead Water Samples.

The analytical test results summarized in this report with the Project Name: Bradenhead Water Samples apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

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### Sample Summary

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/20 11:57
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Jaquez GCA3E	E010127-01A	Aqueous	09/24/20	09/30/20	Poly 500mL



### Sample Data

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/2020 11:57:28AM
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#### Jaquez GCA3E

#### E010127-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Wet Chem/Gravimetric by SM2540C</b>	mg/L	mg/L	Analyst: RL		Batch: 2040014	
Total Dissolved Solids	<b>19300</b>	100	1	10/02/20	10/06/20	H2
<b>Wet Chemistry by 9040C/4500H+B</b>	pH Units	pH Units	Analyst: RL		Batch: 2041001	
pH @25°C	<b>12.4</b>		1	10/05/20 10:09	10/05/20 17:05	H5
<b>Wet Chemistry by SM2320B</b>	mg/L	mg/L	Analyst: RL		Batch: 2041005	
Total Alkalinity (as CaCO3 at pH 4.5)	<b>2140</b>	10.0	1	10/05/20	10/05/20	
<b>Wet Chemistry by 9050A/2510B</b>	uS/cm	uS/cm	Analyst: RL		Batch: 2041008	
Specific Conductance (@ 25 C)	<b>25700</b>	10.0	1	10/05/20	10/05/20	
<b>Dissolved Metals by EPA 6010C</b>	mg/L	mg/L	Analyst: RL		Batch: 2040022	
Calcium	<b>9.30</b>	2.00	2	10/01/20	10/01/20	
Iron	ND	4.00	2	10/01/20	10/01/20	
Magnesium	ND	2.00	2	10/01/20	10/01/20	
Potassium	<b>33.8</b>	2.00	2	10/01/20	10/01/20	
Sodium	<b>6430</b>	40.0	20	10/01/20	10/01/20	
Sodium Absorption Ratio	<b>581</b>		1	10/02/20	10/02/20	
<b>Anions by EPA 300.0/9056A</b>	mg/L	mg/L	Analyst: RL		Batch: 2040030	
Fluoride	ND	12.5	50	10/02/20	10/02/20	
Chloride	<b>114</b>	100	50	10/02/20	10/02/20	
Nitrite-N	ND	12.5	50	10/02/20 10:29	10/02/20 14:37	H1
Nitrate-N	ND	12.5	50	10/02/20 10:29	10/02/20 14:37	H1
o-Phosphate-P	ND	12.5	50	10/02/20 10:29	10/02/20 14:37	H1
Sulfate	<b>11400</b>	100	50	10/02/20	10/02/20	



### QC Summary Data

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/2020 11:57:28AM
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#### Wet Chem/Gravimetric by SM2540C

Analyst: RL

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2040014-BLK1)**

Prepared: 09/29/20 Analyzed: 10/01/20

Total Dissolved Solids ND 10.0

**LCS (2040014-BS1)**

Prepared: 09/29/20 Analyzed: 10/01/20

Total Dissolved Solids 106 10.0 100 106 55-134

**Duplicate (2040014-DUP1)**

Source: P009094-01 Prepared: 09/29/20 Analyzed: 10/01/20

Total Dissolved Solids 673 10.0 644 4.40 5



### QC Summary Data

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/2020 11:57:28AM
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#### Wet Chemistry by 9040C/4500H+B

Analyst: RL

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

**LCS (2041001-BS1)**

Prepared: 10/05/20 Analyzed: 10/05/20

pH	8.01		8.00		100	98.75-101.25			
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**Duplicate (2041001-DUP1)**

Source: E010012-01 Prepared: 10/05/20 Analyzed: 10/05/20

pH	6.45			6.46			0.155	20	
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### QC Summary Data

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/2020 11:57:28AM
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#### Wet Chemistry by SM2320B

Analyst: JL

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**LCS (2041005-BS1)**

Prepared: 10/05/20 Analyzed: 10/05/20

Total Alkalinity (as CaCO3 at pH 4.5)	265	10.0	250		106	70-130			
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**Duplicate (2041005-DUP1)**

Source: P009094-01 Prepared: 10/05/20 Analyzed: 10/05/20

Total Alkalinity (as CaCO3 at pH 4.5)	420	10.0		392			6.90	20	
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### QC Summary Data

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/2020 11:57:28AM
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#### Wet Chemistry by 9050A/2510B

Analyst: RL

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

**Blank (2041008-BLK1)**

Prepared: 10/05/20 Analyzed: 10/05/20

Specific Conductance (@ 25 C) ND 10.0

**LCS (2041008-BS1)**

Prepared: 10/05/20 Analyzed: 10/05/20

Specific Conductance (@ 25 C) 1390 10.0 1410 98.7 98-102

**Duplicate (2041008-DUP1)**

Source: E010012-01 Prepared: 10/05/20 Analyzed: 10/05/20

Specific Conductance (@ 25 C) 49500 10.0 49600 0.202 20



### QC Summary Data

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/2020 11:57:28AM
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#### Dissolved Metals by EPA 6010C

Analyst: AY

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2040022-BLK1)**

Prepared: 10/01/20 Analyzed: 10/01/20

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

**LCS (2040022-BS1)**

Prepared: 10/01/20 Analyzed: 10/01/20

Calcium	54.8	1.00	50.0		110	80-120			
Iron	108	2.00	100		108	80-120			
Magnesium	52.7	1.00	50.0		105	80-120			
Potassium	5.47	1.00	5.00		109	80-120			
Sodium	22.1	2.00	20.0		110	80-120			

**Matrix Spike (2040022-MS1)**

Source: P009105-01 Prepared: 10/01/20 Analyzed: 10/01/20

Calcium	120	2.00	50.0	66.5	107	75-125			
Iron	116	4.00	100	ND	116	75-125			
Magnesium	57.0	2.00	50.0	ND	114	75-125			
Potassium	30.9	2.00	5.00	25.8	101	75-125			
Sodium	4180	20.0	20.0	4080	535	75-125			M2

**Matrix Spike Dup (2040022-MSD1)**

Source: P009105-01 Prepared: 10/01/20 Analyzed: 10/01/20

Calcium	121	2.00	50.0	66.5	108	75-125	0.598	20	
Iron	114	4.00	100	ND	114	75-125	1.24	20	
Magnesium	55.9	2.00	50.0	ND	112	75-125	1.88	20	
Potassium	29.4	2.00	5.00	25.8	72.0	75-125	4.84	20	M2
Sodium	4100	20.0	20.0	4080	130	75-125	1.95	20	M2



### QC Summary Data

BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Bradenhead Water Samples Project Number: 03143-0424 Project Manager: Sabre Beebe	<b>Reported:</b> 10/28/2020 11:57:28AM
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#### Anions by EPA 300.0/9056A

Analyst: NE

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2040030-BLK1)**

Prepared: 10/02/20 Analyzed: 10/02/20

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 (2040030-BS1)**

Prepared: 10/02/20 Analyzed: 10/02/20

Fluoride	2.60	0.250	2.50		104	90-110			
Chloride	25.0	2.00	25.0		99.8	90-110			
Nitrite-N	2.71	0.250	2.50		108	90-110			
Nitrate-N	2.61	0.250	2.50		104	90-110			
o-Phosphate-P	12.3	0.250	12.5		98.5	90-110			
Sulfate	24.4	2.00	25.0		97.7	90-110			

**Matrix Spike (2040030-MS1)**

Source: P009094-01 Prepared: 10/02/20 Analyzed: 10/02/20

Fluoride	3.55	0.250	2.50	0.913	105	80-120			
Chloride	28.8	2.00	25.0	4.17	98.7	80-120			
Nitrite-N	1.96	0.250	2.50	ND	78.4	80-120			M3
Nitrate-N	2.63	0.250	2.50	ND	105	80-120			
o-Phosphate-P	12.3	0.250	12.5	ND	98.2	80-120			
Sulfate	173	2.00	25.0	156	66.6	80-120			M2

**Matrix Spike Dup (2040030-MSD1)**

Source: P009094-01 Prepared: 10/02/20 Analyzed: 10/02/20

Fluoride	3.52	0.250	2.50	0.913	104	80-120	0.763	20	
Chloride	28.9	2.00	25.0	4.17	98.8	80-120	0.104	20	
Nitrite-N	1.97	0.250	2.50	ND	78.6	80-120	0.255	20	M3
Nitrate-N	2.61	0.250	2.50	ND	104	80-120	0.763	20	
o-Phosphate-P	12.2	0.250	12.5	ND	97.9	80-120	0.302	20	
Sulfate	180	2.00	25.0	156	92.8	80-120	3.71	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.



### Definitions and Notes

BP America Production Co.	Project Name:	Bradenhead Water Samples	<b>Reported:</b> 10/28/20 11:57
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	

- H1 Sample was received past holding time and analyzed per client request.
- H2 Sample was receive with an insufficient amount of time to prepare and analyze the sample within the method prescribed holding time. The analysis was performed as quickly as possible per client request.
- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample was performed as quickly as possible.
- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- M3 Matrix spike recovery was outside quality control limits due to matrix interference. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

E010127

Client: <u>BP</u>				Bill To		Lab Use Only				TAT		EPA Program				
Project: <u>Bradenhead Water samples</u>				Attention: <u>Sabre Beebe</u>		Lab WO# <u>P009105</u>		Job Number <u>03143-0424</u>		1D	3D	RCRA	CWA	SDWA		
Project Manager: <u>Sabre Beebe</u>				Address:		<u>RL 1028120</u>				Analysis and Method		State				
Address:				City, State, Zip		DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	CATION / ANION PKG	NM	CO	UT	AZ
City, State, Zip				Phone: <u>970-779-9398</u>									TX	OK		
Phone: <u>970-779-9398</u>				Email: <u>Sabre.Beebe@BP.com</u>		Remarks										
Email: <u>Sabre.Beebe@BP.com</u>				Report due by:		<p><del>10/00 9/21 A 1 Florance H7 1</del></p> <p>— 9/21 A 1 Jaquez GCAZE 2</p> <p>per S. Beebe received past 48 hold time (Expired)</p>										
Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number											

Additional Instructions: COC Filled out entirely by Alexa M. per Sabre Beebe Approval 9/30  
API: 3004523559

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: Sean Casaus

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 5 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <u>Y/N</u> T1 <u>19.3</u> T2 <u>19.4</u> T3 <u>19.1</u> AVG Temp °C <u>19.26</u>
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

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.



5795 US Highway 64, Farmington, NM 87401  
 24 Hour Emergency Response Phone: (800) 302-1879

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**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 13357

**CONDITIONS OF APPROVAL**

Operator:		OGRID:	Action Number:	Action Type:
SIMCOE LLC	1199 Main Ave., Suite 101 Durango, CO81301	329736	13357	GAS ANALYSIS

OCD Reviewer	Condition
mkuehling	total dissolved solids are 19300 - please submit water analysis on production water - how much water flowed during test