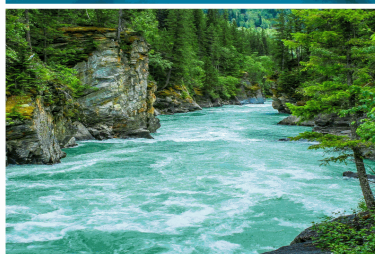


Report to:

Sabre Beebe

PO Box 22024

Tulsa, OK 74121-2024



5796 U.S. Hwy 64
Farmington, NM 87401

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



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

BP America Production Co.

Project Name: Bradenhead Water Samples

Work Order: P009105

Job Number: 03143-0424

Received: 9/30/2020

Revision: 2

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.

Date Reported: 10/28/20

Sabre Beebe
PO Box 22024
Tulsa, OK 74121-2024



Project Name: Bradenhead Water Samples
Workorder: P009105
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,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Lopez
Laboratory Administrator
Office: 505-632-1881
rlopez@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

BP America Production Co.	Project Name:	Bradenhead Water Samples	Reported:
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	10/28/20 09:51

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Florance 117	P009105-01A	Aqueous	09/24/20	09/30/20	Poly 500mL
Jaquez GCA3E	P009105-02A	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	Reported: 10/28/2020 9:51:30AM
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Florance 117

P009105-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L	Analyst: RL			Batch: 2040014
Total Dissolved Solids	14400	50.0	1	10/02/20	10/06/20	H2
Wet Chemistry by 9040C/4500H+B	pH Units	pH Units	Analyst: RL			Batch: 2041001
pH @25°C	9.31		1	10/05/20 10:09	10/05/20 17:05	H5
Wet Chemistry by SM2320B	mg/L	mg/L	Analyst: JL			Batch: 2041005
Total Alkalinity (as CaCO ₃ at pH 4.5)	52.0	10.0	1	10/05/20	10/05/20	
Wet Chemistry by 9050A/2510B	uS/cm	uS/cm	Analyst: RL			Batch: 2041008
Specific Conductance (@ 25 C)	16200	10.0	1	10/05/20	10/05/20	
Dissolved Metals by EPA 6010C	mg/L	mg/L	Analyst: AY			Batch: 2040022
Calcium	66.5	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	25.8	2.00	2	10/01/20	10/01/20	
Sodium	4080	20.0	10	10/01/20	10/01/20	
Sodium Absorption Ratio	138		1	10/02/20	10/02/20	
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: NE			Batch: 2040030
Fluoride	ND	5.00	20	10/02/20	10/02/20	
Chloride	51.4	40.0	20	10/02/20	10/02/20	
Nitrite-N	ND	5.00	20	10/02/20 10:29	10/02/20 14:13	H1
Nitrate-N	ND	5.00	20	10/02/20 10:29	10/02/20 14:13	H1
o-Phosphate-P	ND	5.00	20	10/02/20 10:29	10/02/20 14:13	H1
Sulfate	9670	40.0	20	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	Reported: 10/28/2020 9:51:30AM
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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	Reported: 10/28/2020 9:51:30AM
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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.	Project Name:	Bradenhead Water Samples	Reported:
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	10/28/2020 9:51:30AM

Wet Chemistry by SM2320B

Analyst: JL

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

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			
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		



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	Reported: 10/28/2020 9:51:30AM
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Wet Chemistry by 9050A/2510B

Analyst: RL

Analyte	Result uS/cm	Reporting Limit uS/cm	Spike Level uS/cm	Source Result uS/cm	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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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	Reported: 10/28/2020 9:51:30AM
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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	Reported: 10/28/2020 9:51:30AM
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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	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Sabre Beebe	10/28/20 09:51

- 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.





envirotech
Analytical Laboratory

Ph (505) 632-1881 Fx (505) 632-1865

envirotech-inc.com
labadmin@envirotech-inc.com

Envirotech Analytical Laboratory

Printed: 9/30/2020 3:37:38PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	BP America Production Co.	Date Received:	09/30/20 14:00	Work Order ID:	P009105
Phone:	(800) 284-2244	Date Logged In:	09/30/20 14:59	Logged In By:	Alexa Michaels
Email:		Due Date:	10/07/20 17:00 (5 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?
2. Does the number of samples per sampling site location match the COC?
3. Were samples dropped off by client or carrier?
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?
5. Were all samples received within holding time?

Yes No

☐ ☒ ☐ ☒ ☒ ☒ ☐ ☒

Carrier: UNKNOWN

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?

Yes No

☐ ☒

Standard TAT ☒ 24-hr rush ☐ Immediate ☐ 48-hr rush ☐ 72-hr rush ☐

Sample Cooler

7. Was the sample cooler received in good condition?
8. Was the sample(s) received in tact, i.e., not broken?
9. Was the sample cooler received with custody/security seals intact?
10. Were samples received with custody/security seals intact?
11. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C

Yes No N/A

☐ ☐ ☒ ☒ ☐ ☐ ☒ ☒ ☐ ☒

Note: Thermal preservation is not required, if samples are received w/I 15 minutes of sampling

12. If no visible ice, record the temperature. Actual sample temperature: 19.3°C

Sample Container

13. Are VOC samples collected in VOA Vials?
14. Is the head space less than 6-8 mm (pea sized or less)?
15. Was a trip blank (TB) included for VOC analyses?
16. Are non-VOC samples collected in the correct containers?
17. Is the appropriate volume/weight or number of sample containers collected?

Yes No N/A

☐ ☐ ☒ ☐ ☐ ☒ ☒ ☐ ☒ ☐
Field Label

18. Were field sample labels filled out with the minimum information:

Yes No

☒ ☐

Sample ID ☒ Date/time collected ☒ Collectors name ☒

Sample Preservation

19. Does the COC or field labels indicate the samples were preserved?
20. Were VOCs preserved with 1:1 HCl?
21. Are IOC/WET correctly preserved with H2SO4 or other?
22. Is lab filtration required and/or requested for dissolved metals?
23. Are metals preserved with 5N (1:1) HNO3?

Yes No N/A

☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☒
Multiphase Sample Matrix

24. Does the sample have more than one phase, i.e., multiphase?
25. If so, does the COC specify which phase(s) is to be analyzed?

Yes No N/A

☐ ☒ ☐ ☒
Subcontract Laboratory Information

26. Was a subcontract laboratory specified by the client and if so who?

Yes No

☐ ☒

Subcontract Lab: NA

Client Instruction

COC was created by Alexa M. per Sabre Beebe.
Email to: sabree.beebe@bp.com

Comments/Resolution

COC not provided at the time of drop off.
Samples received out of hold time for Nitrate, Nitrite, & O-Phosphate-P. Samples were received with an insufficient amount of time to prepare and analyze TDS within the holding time.

AM
SCO Initials

9/30
Date

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

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

COMMENTS

Action 13350

COMMENTS

Operator:				OGRID:		Action Number:	Action Type:
	SIMCOE LLC	1199 Main Ave., Suite 101	Durango, CO81301		329736	13350	GAS ANALYSIS

Created By	Comment	Comment Date
mkuehling	total dissolved solids for bradenhead water is 14400 - you will need to take a sample of the production water and submit analysis within 30 days from 2/5/2021	02/05/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
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 13350

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
SIMCOE LLC 1199 Main Ave., Suite 101 Durango, CO81301			329736	13350	GAS ANALYSIS
OCD Reviewer	Condition				
mkuehling	tds is 14400 on bradenhead - will need a water analysis from production water submitted				