

Report to:
Eric Thomas



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Practical Solutions for a Better Tomorrow

Analytical Report

Morningstar Operating LLC.

Project Name: Bradenhead Testing

Work Order: E305138

Job Number: 20100-0001

Received: 5/23/2023

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/5/23

5796 U.S. Hwy 64
Farmington, NM 87401

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



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.
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Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/5/23

Eric Thomas
811 S. Main Ave.
Aztec, NM 87410



Project Name: Bradenhead Testing
Workorder: E305138
Date Received: 5/23/2023 2:38:00PM

Eric Thomas,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/23/2023 2:38:00PM, under the Project Name: Bradenhead Testing.

The analytical test results summarized in this report with the Project Name: Bradenhead Testing 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

Morningstar Operating LLC. 811 S. Main Ave. Aztec NM, 87410	Project Name: Bradenhead Testing Project Number: 20100-0001 Project Manager: Eric Thomas	Reported: 06/05/23 13:24
-------------------------------------------------------------------	------------------------------------------------------------------------------------------------	---------------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FEDERAL 30-9-34 #1S	E305138-01A	Aqueous	05/23/23	05/23/23	Poly 500mL
	E305138-01B	Aqueous	05/23/23	05/23/23	Poly 500mL
	E305138-01C	Aqueous	05/23/23	05/23/23	Poly 500mL
	E305138-01D	Aqueous	05/23/23	05/23/23	Poly 500mL



Sample Data

Morningstar Operating LLC. 811 S. Main Ave. Aztec NM, 87410	Project Name: Bradenhead Testing Project Number: 20100-0001 Project Manager: Eric Thomas	Reported: 6/5/2023 1:24:41PM
-------------------------------------------------------------------	------------------------------------------------------------------------------------------------	----------------------------------------

FEDERAL 30-9-34 #15

E305138-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L	Analyst: KF		Batch: 2321071	
Total Dissolved Solids	9080	50.0	1	05/25/23	05/26/23	
Wet Chemistry by 9040C/4500H+B	pH Units	pH Units	Analyst: BA		Batch: 2321066	
pH @25°C	11.0		1	05/25/23 09:59	05/25/23 11:15	H5
Wet Chemistry by SM2320B	mg/L	mg/L	Analyst: JL		Batch: 2322044	
Total Alkalinity (as CaCO ₃ at pH 4.5)	204	10.0	1	06/01/23	06/01/23	
Wet Chemistry by 9050A/2510B	uS/cm	uS/cm	Analyst: KF		Batch: 2321048	
Specific Conductance (@ 25 C)	11000	10.0	1	05/24/23	05/24/23	
Dissolved Metals by EPA 6010C	mg/L	mg/L	Analyst: RKS		Batch: 2321068	
Calcium	292	100	100	05/25/23	05/26/23	
Iron	ND	200	100	05/25/23	05/26/23	
Magnesium	ND	100	100	05/25/23	05/26/23	
Potassium	207	100	100	05/25/23	05/26/23	
Sodium	2680	200	100	05/25/23	05/26/23	
Sodium Absorption Ratio (CALC)	41.9		1	06/01/23	06/01/23	
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: BA		Batch: 2321050	
Fluoride	ND	25.0	100	05/24/23	05/25/23	
Chloride	477	200	100	05/24/23	05/25/23	
Nitrite-N	ND	25.0	100	05/24/23 08:35	05/25/23 09:59	
Nitrate-N	ND	25.0	100	05/24/23 08:35	05/25/23 09:59	
o-Phosphate-P	ND	25.0	100	05/24/23 08:35	05/25/23 09:59	
Sulfate	6260	200	100	05/24/23	05/25/23	



QC Summary Data

Morningstar Operating LLC.	Project Name:	Bradenhead Testing	Reported:
811 S. Main Ave.	Project Number:	20100-0001	
Aztec NM, 87410	Project Manager:	Eric Thomas	6/5/2023 1:24:41PM

Wet Chem/Gravimetric by SM2540C

Analyst: KF

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

Blank (2321071-BLK1)					Prepared: 05/25/23 Analyzed: 05/26/23				
Total Dissolved Solids	ND	10.0							
LCS (2321071-BS1)					Prepared: 05/25/23 Analyzed: 05/26/23				
Total Dissolved Solids	74.0	10.0	100		74.0	55-134			
Duplicate (2321071-DUP1)					Source: E305138-01 Prepared: 05/25/23 Analyzed: 05/26/23				
Total Dissolved Solids	9040	50.0		9080		0.497	5		



QC Summary Data

Morningstar Operating LLC.	Project Name:	Bradenhead Testing	Reported:
811 S. Main Ave.	Project Number:	20100-0001	
Aztec NM, 87410	Project Manager:	Eric Thomas	6/5/2023 1:24:41PM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

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

LCS (2321066-BS1)	Prepared: 05/25/23 Analyzed: 05/25/23								
pH	7.98		8.00		99.9	98.75-101.25			
Duplicate (2321066-DUP1)	Source: E305138-01 Prepared: 05/25/23 Analyzed: 05/25/23								
pH	11.0			11.0		0.00	20		



QC Summary Data

Morningstar Operating LLC.	Project Name:	Bradenhead Testing	Reported:
811 S. Main Ave.	Project Number:	20100-0001	
Aztec NM, 87410	Project Manager:	Eric Thomas	6/5/2023 1:24:41PM

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 (2322044-BS1)					Prepared: 06/01/23 Analyzed: 06/01/23				
Total Alkalinity (as CaCO3 at pH 4.5)	256	10.0	250		102	70-130			
Duplicate (2322044-DUP1)					Source: E305138-01		Prepared: 06/01/23 Analyzed: 06/01/23		
Total Alkalinity (as CaCO3 at pH 4.5)	194	10.0		204		5.03	20		



QC Summary Data

Morningstar Operating LLC.	Project Name:	Bradenhead Testing	Reported:
811 S. Main Ave.	Project Number:	20100-0001	
Aztec NM, 87410	Project Manager:	Eric Thomas	6/5/2023 1:24:41PM

Wet Chemistry by 9050A/2510B

Analyst: KF

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

Blank (2321048-BLK1)	Prepared: 05/24/23 Analyzed: 05/24/23								
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2321048-BS1)	Prepared: 05/24/23 Analyzed: 05/24/23								
Specific Conductance (@ 25 C)	1430	10.0	1410		101	98-102			
Duplicate (2321048-DUP1)	Source: E305121-01 Prepared: 05/24/23 Analyzed: 05/24/23								
Specific Conductance (@ 25 C)	264	10.0		274			3.72	20	



QC Summary Data

Morningstar Operating LLC.	Project Name:	Bradenhead Testing	Reported:
811 S. Main Ave.	Project Number:	20100-0001	
Aztec NM, 87410	Project Manager:	Eric Thomas	6/5/2023 1:24:41PM

Dissolved Metals by EPA 6010C

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	%	%	%	%	

Blank (2321068-BLK1)

Prepared: 05/25/23 Analyzed: 05/26/23

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

LCS (2321068-BS1)

Prepared: 05/25/23 Analyzed: 05/26/23

Calcium	54.7	1.00	50.0	109	80-120
Iron	111	2.00	100	111	80-120
Magnesium	55.0	1.00	50.0	110	80-120
Potassium	5.49	1.00	5.00	110	80-120
Sodium	21.4	2.00	20.0	107	80-120

Matrix Spike (2321068-MS1)

Source: E305142-07

Prepared: 05/25/23 Analyzed: 05/26/23

Calcium	262	1.00	50.0	213	99.0	75-125
Iron	117	2.00	100	6.04	111	75-125
Magnesium	68.4	1.00	50.0	14.9	107	75-125
Potassium	45.4	1.00	5.00	38.6	135	75-125
Sodium	416	2.00	20.0	413	16.5	75-125

M4
M4

Matrix Spike Dup (2321068-MSD1)

Source: E305142-07

Prepared: 05/25/23 Analyzed: 05/26/23

Calcium	284	1.00	50.0	213	143	75-125	8.02	20	M4
Iron	119	2.00	100	6.04	113	75-125	1.86	20	
Magnesium	69.4	1.00	50.0	14.9	109	75-125	1.38	20	
Potassium	47.6	1.00	5.00	38.6	181	75-125	4.90	20	M4
Sodium	457	2.00	20.0	413	220	75-125	9.33	20	M4



QC Summary Data

Morningstar Operating LLC.	Project Name:	Bradenhead Testing	Reported:
811 S. Main Ave.	Project Number:	20100-0001	
Aztec NM, 87410	Project Manager:	Eric Thomas	6/5/2023 1:24:41PM

Anions by EPA 300.0/9056A

Analyst: BA

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

Blank (2321050-BLK1)

Prepared: 05/24/23 Analyzed: 05/24/23

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 (2321050-BS1)

Prepared: 05/24/23 Analyzed: 05/24/23

Fluoride	2.64	0.250	2.50	106	90-110
Chloride	24.9	2.00	25.0	99.4	90-110
Nitrite-N	2.62	0.250	2.50	105	90-110
Nitrate-N	2.64	0.250	2.50	105	90-110
o-Phosphate-P	12.5	0.250	12.5	100	90-110
Sulfate	25.0	2.00	25.0	99.9	90-110

LCS Dup (2321050-BSD1)

Prepared: 05/24/23 Analyzed: 05/24/23

Fluoride	2.66	0.250	2.50	106	90-110	0.581	20
Chloride	25.0	2.00	25.0	100	90-110	0.740	20
Nitrite-N	2.64	0.250	2.50	105	90-110	0.712	20
Nitrate-N	2.65	0.250	2.50	106	90-110	0.711	20
o-Phosphate-P	12.6	0.250	12.5	101	90-110	0.540	20
Sulfate	25.1	2.00	25.0	101	90-110	0.661	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

Morningstar Operating LLC.	Project Name:	Bradenhead Testing	
811 S. Main Ave.	Project Number:	20100-0001	Reported:
Aztec NM, 87410	Project Manager:	Eric Thomas	06/05/23 13:24

- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

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

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

Chain of Custody

[illegible]

Envirotech Analytical Laboratory

Printed: 5/23/2023 3:33:51PM

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:	Morningstar Operating LLC.	Date Received:	05/23/23 14:38	Work Order ID:	E305138
Phone:	(505) 330-4366	Date Logged In:	05/23/23 15:29	Logged In By:	Alexa Michaels
Email:	ethomas@ctfieldsvcs.com	Due Date:	05/31/23 17:00 (5 day TAT)		

Chain of Custody (COC)

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

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

Carrier: Eric Thomas**Comments/Resolution****Sample Turn Around Time (TAT)**

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

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

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

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? Yes

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

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

Date



envirotech Inc.

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Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
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Phone:(505) 334-6178 Fax:(505) 334-6170
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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 225805

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 225805
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	for record only	6/9/2023