



NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC NM 87410
(505) 334-6178 FAX: (505) 334-6170
[http://emnr.state.nm.us/ocd/District II/3district.htm](http://emnr.state.nm.us/ocd/District%20II/3district.htm)

OIL CONS. DIV DIST. 3

BRADENHEAD TEST REPORT

(submit 1 copy to above address)

APR 17 2014

Date of Test 3-19-14 Operator Energen Resources API #30-0 3930502

Property Name McCroden Well No. 8B Location: Unit M Section 3 Township 25 Range 3

Well Status(Shut-In or Producing) Initial PSI: Tubing 40 Intermediate N/A Casing 43 Bradenhead 43

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Testing	PRESSURE			INTERM	
	Bradenhead			Int	Csg
	BH	Int	Csg		
TIME					
5 min	43		43		
10 min	42		42		
15 min	42		42		
20 min	41		41		
25 min	40		40		
30 min	39		39		

FLOW CHARACTERISTICS	
BRADENHEAD	INTERMEDIATE
Steady Flow <u>X</u>	
Surges	
Down to Nothing	
Nothing	
Gas <u>X</u>	
Gas & Water	
Water	

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR _____ FRESH _____ SALTY _____ SULFUR _____ BLACK _____

5 MINUTE SHUT-IN PRESSURE BRADENHEAD 43 INTERMEDIATE _____

REMARKS:

ALL VENTING WAS THROUGH A 1/4" ORIFICE

By MICHAEL L DEAN

Witness _____

PRODUCTION FOREMAN

(Position)

E-mail address _____



2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: EN140215
Cust No: 73500-14495

Well/Lease Information

Customer Name: ENERGEN RESOURCES CORP.
Well Name: MCCRODEN 8B BHD
County/State: RIO ARRIBA
Location:
Field:
Formation:
Cust. Stn. No.: 36812-303

Source: BRADENHEAD
Pressure: 43 PSIG
Sample Temp: 43 DEG. F
Well Flowing: Y
Date Sampled: 03/19/2014
Sampled By: MICHAEL DEAN
Foreman/Engr.: MICHAEL DEAN

Remarks:

Analysis

Component:	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.463	0.0510	0.00	0.0045
CO2	0.519	0.0890	0.00	0.0079
Methane	80.708	13.7310	815.15	0.4470
Ethane	9.299	2.4960	164.57	0.0965
Propane	4.315	1.1930	108.57	0.0657
Iso-Butane	0.919	0.3020	29.89	0.0184
N-Butane	1.311	0.4150	42.77	0.0263
I-Pentane	0.597	0.2190	23.89	0.0149
N-Pentane	0.434	0.1580	17.40	0.0108
Hexane Plus	1.435	0.6420	75.64	0.0475
Total	100.000	19.2960	1277.87	0.7396

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0038

BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1285.7

BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1263.3

REAL SPECIFIC GRAVITY: 0.7421

GPM, BTU, and SPG calculations as shown
above are based on current GPA factors.

DRY BTU @ 14.650: 1278.7

DRY BTU @ 14.696: 1282.7

DRY BTU @ 14.730: 1285.7

DRY BTU @ 15.025: 1311.4

CYLINDER #: 6073

CYLINDER PRESSURE: 44 PSIG

DATE RUN: 4/2/14 12:00 AM

ANALYSIS RUN BY: PATRICIA KING



ENERGEN RESOURCES CORP.
WELL ANALYSIS COMPARISON

Lease: MCCRODEN 8B BHD
Stn. No.: 36812-303
Mtr. No.:

BRADENHEAD

04/07/2014
73500-14495

Smpl Date: 03/19/2014
Test Date: 04/02/2014
Run No: EN140215

Nitrogen: 0.463
CO2: 0.519
Methane: 80.708
Ethane: 9.299
Propane: 4.315
I-Butane: 0.919
N-Butane: 1.311
I-Pentane: 0.597
N-Pentane: 0.434
Hexane+: 1.435

BTU: 1285.7
GPM: 19.2960
SPG: 0.7421



44#

☐ Helium ☐ Hydrogen ☐ Oxygen
☐ C6+ ☐ C9+ ☐ BTEX

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Company ENGLEN RESOURCES

Pressure (PSIG) 43

Well Name MCCRODEN 8B

Sample Temp (Deg. F) 43 ° AMB

Location/Source BRADENHEAD

Well Flowing ☒ Yes ☐ No

Lease/County RIO ARIZONA

Date Sampled 3-19-2004

Formation _____

Sampled By _____

Meter No 36812-303

Cylinder No. 6073

Contact MICHAEL L DEAN 330-0342

Remarks BRADENHEAD TEST



2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: EN140216
Cust No: 73500-14500

Well/Lease Information

Customer Name: ENERGEN RESOURCES CORP.
Well Name: MCCRODEN 8B CSG
County/State: RIO ARRIBA
Location:
Field:
Formation: MESA VERDE
Cust. Stn. No.: 36812-303

Source: CASING
Pressure: 43 PSIG
Sample Temp: 43 DEG. F
Well Flowing: Y
Date Sampled: 03/19/2014
Sampled By: MICHAEL DEAN
Foreman/Engr.: MICHAEL DEAN

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.463	0.0510	0.00	0.0045
CO2	0.469	0.0800	0.00	0.0071
Methane	80.646	13.7220	814.52	0.4467
Ethane	9.281	2.4910	164.25	0.0964
Propane	4.321	1.1950	108.72	0.0658
Iso-Butane	0.926	0.3040	30.11	0.0186
N-Butane	1.333	0.4220	43.49	0.0268
I-Pentane	0.618	0.2270	24.73	0.0154
N-Pentane	0.458	0.1670	18.36	0.0114
Hexane Plus	1.485	0.6650	78.28	0.0491
Total	100.000	19.3240	1282.45	0.7417

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0039
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1290.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1268.0
REAL SPECIFIC GRAVITY: 0.7443

GPM, BTU, and SPG calculations as shown
above are based on current GPA factors.

DRY BTU @ 14.650: 1283.5
DRY BTU @ 14.696: 1287.5
DRY BTU @ 14.730: 1290.5
DRY BTU @ 15.025: 1316.3

CYLINDER #: 6036
CYLINDER PRESSURE: 40 PSIG
DATE RUN: 4/2/14 12:00 AM
ANALYSIS RUN BY: PATRICIA KING



ENERGEN RESOURCES CORP.
WELL ANALYSIS COMPARISON

Lease: MCCRODEN 8B CSG
Stn. No.: 36812-303
Mtr. No.:

CASING
MESA VERDE

04/07/2014
73500-14500

Smpl Date: 03/19/2014
Test Date: 04/02/2014
Run No: EN140216

Nitrogen: 0.463
CO2: 0.469
Methane: 80.646
Ethane: 9.281
Propane: 4.321
I-Butane: 0.926
N-Butane: 1.333
I-Pentane: 0.618
N-Pentane: 0.458
Hexane+: 1.485

BTU: 1290.5
GPM: 19.3240
SPG: 0.7443



40#

☐ Helium

☐ Hydrogen

☐ Oxygen

☐ C6+

☐ C9+

☐ BTEX

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Company ENTERGEN RESOURCES

Pressure (PSIG) 43

Well Name MCCRODEN # B

Sample Temp (Deg. F) 43° Amb.

Location/Source CASIN6

Well Flowing ☒ Yes ☐ No

Lease/County TRIO ARIZONA

Date Sampled 3-19-14

Formation MV

Sampled By MICHAEL LIDEAN

Meter No 36812-303

Cylinder No. 60360

Contact MICHAEL LIDEAN 330-0342

Remarks BRADENHEAD TEST



2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: EN140217
Cust No: 73500-14505

Well/Lease Information

Customer Name: ENERGEN RESOURCES CORP.
Well Name: MCCRODEN 8B TBG
County/State: RIO ARRIBA
Location:
Field:
Formation: MESA VERDE
Cust. Stn. No.: 36812-303

Source: TUBING
Pressure: 40 PSIG
Sample Temp: 43 DEG. F
Well Flowing: Y
Date Sampled: 03/19/2014
Sampled By: MICHAEL DEAN
Foreman/Engr.: MICHAEL DEAN

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.486	0.0540	0.00	0.0047
CO2	0.723	0.1240	0.00	0.0110
Methane	81.224	13.8160	820.36	0.4499
Ethane	9.379	2.5170	165.98	0.0974
Propane	4.297	1.1880	108.12	0.0654
Iso-Butane	0.891	0.2930	28.97	0.0179
N-Butane	1.237	0.3910	40.36	0.0248
I-Pentane	0.510	0.1870	20.40	0.0127
N-Pentane	0.353	0.1280	14.15	0.0088
Hexane Plus	0.900	0.4030	47.44	0.0298
Total	100.000	19.1010	1245.79	0.7224

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0036

BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1253.2

BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1231.4

REAL SPECIFIC GRAVITY: 0.7247

GPM, BTU, and SPG calculations as shown
above are based on current GPA factors.

DRY BTU @ 14.650: 1246.4

DRY BTU @ 14.696: 1250.3

DRY BTU @ 14.730: 1253.2

DRY BTU @ 15.025: 1278.3

CYLINDER #: 6144

CYLINDER PRESSURE: 39 PSIG

DATE RUN: 4/2/14 12:00 AM

ANALYSIS RUN BY: PATRICIA KING



ENERGEN RESOURCES CORP.
WELL ANALYSIS COMPARISON

Lease: MCCRODEN 8B TBG
Stn. No.: 36812-303
Mtr. No.:

TUBING
MESA VERDE

04/07/2014
73500-14505

Smpl Date: 03/19/2014
Test Date: 04/02/2014
Run No: EN140217
Nitrogen: 0.486
CO2: 0.723
Methane: 81.224
Ethane: 9.379
Propane: 4.297
I-Butane: 0.891
N-Butane: 1.237
I-Pentane: 0.510
N-Pentane: 0.353
Hexane+: 0.900
BTU: 1253.2
GPM: 19.1010
SPG: 0.7247



39#

☐ Helium ☐ Hydrogen ☐ Oxygen
☐ C6+ ☐ C9+ ☐ BTEX

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Company ENERGEN RESOURCESPressure(PSIG) 40Well Name MCCRACKEN 8BSample Temp (Deg. F) Amb 43°Location/Source ~~RIO ARriba~~ TUBINGWell Flowing ☒ Yes ☐ NoLease/County RIO ARribaDate Sampled 3-19-14Formation MUSampled By MICHAEL L DEANMeter No 36812 - 303Cylinder No. LO144Contact MICHAEL L DEAN 330-0342Remarks BROADENHEAD TEST

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

MAR 21 2014

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Energen Resources Corporation

3a. Address

2010 Afton Place, Farmington, NM 87401

3b. Phone No. (include area code)

(505) 325-6800

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

995' FSL, 965' FWL Sec.03, T25N, R03W
(M) SW/SW

5. Lease Serial No.

NMM-03779 SF-079616

6. If Indian, Allottee or Tribe Name

Office

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.

McCroden #8B

9. API Well No.

30-039-30502

10. Field and Pool, or Exploratory Area

Blanco Mesaverde

11. County or Parish, State

Rio Arriba NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☒ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

The McCroden #8B failed a bradenhead test on 3/19/2014. Energen Resources intends to investigate the cause of the failure and determine whether to make repairs and return to production or permanently plug and abandon the well.

RCVD MAR 26 '14

OIL CONS. DIV.

DIST. 3

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Collin Placke

Title District Engineer

Signature

Collin Placke

Date 3/21/14

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Original Signed: Stephen Mason

Title

Date MAR 24 2014

Office

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RECEIVED