



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/III/3district.htm>

BRADENHEAD TEST REPORT

(submit 1 copy to above address)

OIL CONS. DIV DIST. 3

APR 17 2014

Date of Test 3-19-14 Operator Energen Resources API #30-0 3923240

Property Name WO Hughes Well No. 6 Location: Unit J Section 8 Township 24 Range 3

Well Status (Shut-In or Producing) Initial PSI: Tubing 0 Intermediate N/A Casing 82 Bradenhead 81

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Testing TIME	PRESSURE			INTERM	
	BH	Bradenhead Int	Csg	Int	Csg
5 min	6	0	82		
10 min	1		82		
15 min	1		82		
20 min	1		82		
25 min	<1		82		
30 min	<1	✓	82		

	FLOW CHARACTERISTICS	
	BRADENHEAD	INTERMEDIATE
Steady Flow	X Really Light	Blow
Surges		
Down to Nothing		
Nothing		
Gas		
Gas & Water	X Light	MIST
Water		

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

CLEAR _____ FRESH _____ SALTY _____ SULFUR _____ BLACK _____

5 MINUTE SHUT-IN PRESSURE

BRADENHEAD 11

INTERMEDIATE _____

REMARKS:

VENTED GAS THROUGH A 1/4 ORPHIS FLUID ARRIVED IN 8 MINUTES
THE FLUID WAS A LIGHT MIST, THE LIGHT MIST STOPPED AFTER 1.00 MIN.
10 MINUTES STILL A LIGHT BLOW REALLY LIGHT BLOW HARD TO BUDGE AT 20 MIN AT 30 MIN LIGHT BLOW,

By MICHAEL L DEAN

Witness _____

PRODUCTION FOREMAN

(Position)

E-mail address _____



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

Analysis No: EN140218
Cust No: 73500-14510

Well/Lease Information

Customer Name: ENERGEN RESOURCES CORP.
Well Name: WO HUGHES 6 BHD
County/State: RIO ARRIBA
Location:
Field:
Formation: DAKOTA
Cust. Stn. No.: 93244

Source: BRADENHEAD
Pressure: 81 PSIG
Sample Temp: DEG. F
Well Flowing: N
Date Sampled: 03/19/2014
Sampled By: MICHAEL DEAN
Foreman/Engr.: MICHAEL DEAN

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.097	0.1210	0.00	0.0106
CO2	0.644	0.1100	0.00	0.0098
Methane	72.433	12.3370	731.57	0.4012
Ethane	10.008	2.6890	177.11	0.1039
Propane	7.172	1.9850	180.45	0.1092
Iso-Butane	1.150	0.3780	37.40	0.0231
N-Butane	3.817	1.2090	124.52	0.0766
I-Pentane	1.513	0.5560	60.53	0.0377
N-Pentane	1.425	0.5190	57.12	0.0355
Hexane Plus	0.741	0.3320	39.06	0.0245
Total	100.000	20.2360	1407.77	0.8321

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0049
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1418.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1393.3
REAL SPECIFIC GRAVITY: 0.8359

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

DRY BTU @ 14.650: 1410.3
DRY BTU @ 14.696: 1414.7
DRY BTU @ 14.730: 1418.0
DRY BTU @ 15.025: 1446.4

CYLINDER #: 4245
CYLINDER PRESSURE: 68 PSIG
DATE RUN: 4/2/14 12:00 AM
ANALYSIS RUN BY: PATRICIA KING



ENERGEN RESOURCES CORP.
WELL ANALYSIS COMPARISON

Lease: WO HUGHES 6 BHD
Stn. No.: 93244
Mtr. No.:

BRADENHEAD
DAKOTA

04/07/2014
73500-14510

Smpl Date: 03/19/2014
Test Date: 04/02/2014
Run No: EN140218

Nitrogen: 1.097
CO2: 0.644
Methane: 72.433
Ethane: 10.008
Propane: 7.172
I-Butane: 1.150
N-Butane: 3.817
I-Pentane: 1.513
N-Pentane: 1.425
Hexane+: 0.741

BTU: 1418.0
GPM: 20.2360
SPG: 0.8359



68#

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

2030 Afton Place, Farmington, NM 87401 • 505/325-6622

Company ENERGEN RESOURCES

Pressure (PSIG) 81

Well Name WD HUGHES 6

Sample Temp. (Deg. F) _____

Location/Source BRADENHEAD

Well Flowing ☐ Yes ☒ No

Lease/County RIO ARriba

Date Sampled 3-19-14

Formation DK

Sampled By MICHAEL L. DEAN

Meter No. 93244

Cylinder No. 4245

Contact MICHAEL L. DEAN 330-0342

Remarks BRADENHEAD TEST



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

Analysis No: EN140219
Cust No: 73500-14515

Well/Lease Information

Customer Name: ENERGEN RESOURCES CORP.
Well Name: WO HUGHES 6 CSG
County/State: RIO ARRIBA
Location:
Field:
Formation: DAKOTA
Cust. Stn. No.: 93244

Source: CASING
Pressure: 82 PSIG
Sample Temp: DEG. F
Well Flowing: N
Date Sampled: 03/19/2014
Sampled By: MICHAEL DEAN
Foreman/Engr.: MICHAEL DEAN

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.007	0.1110	0.00	0.0097
CO2	0.851	0.1460	0.00	0.0129
Methane	74.946	12.7600	756.96	0.4151
Ethane	9.237	2.4810	163.47	0.0959
Propane	6.531	1.8070	164.32	0.0994
Iso-Butane	0.924	0.3040	30.05	0.0185
N-Butane	3.069	0.9720	100.12	0.0616
I-Pentane	1.243	0.4570	49.73	0.0310
N-Pentane	1.275	0.4640	51.11	0.0318
Hexane Plus	0.917	0.4110	48.34	0.0303
Total	100.000	19.9130	1364.09	0.8063

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0045

BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1373.4

BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1349.5

REAL SPECIFIC GRAVITY: 0.8097

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

DRY BTU @ 14.650: 1365.9

DRY BTU @ 14.696: 1370.2

DRY BTU @ 14.730: 1373.4

DRY BTU @ 15.025: 1400.9

CYLINDER #: 4097

CYLINDER PRESSURE: 86 PSIG

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

ANALYSIS RUN BY: PATRICIA KING



ENERGEN RESOURCES CORP.
WELL ANALYSIS COMPARISON

Lease: WO HUGHES 6 CSG
Str. No.: 93244
Mtr. No.:

CASING
DAKOTA

04/07/2014
73500-14515

Smpl Date: 03/19/2014
Test Date: 04/02/2014
Run No: EN140219

Nitrogen: 1.007
CO2: 0.851
Methane: 74.946
Ethane: 9.237
Propane: 6.531
I-Butane: 0.924
N-Butane: 3.069
I-Pentane: 1.243
N-Pentane: 1.275
Hexane+: 0.917

BTU: 1373.4
GPM: 19.9130
SPG: 0.8097



86#

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

2030 Afton Place, Farmington, NM 87401 • 505/325-6622

Company ENERGEN RESOURCES

Pressure(PsIG) 81

Well Name WD HUGHES 6

Sample Temp (Deg. F) _____

Location/Source CASINL

Well Flowing ☐ Yes ☒ No

Lease/County ZIO ARIZONA

Date Sampled 3-19-14

Formation DK

Sampled By MICHAEL L DEAN

Meter No 93244

Cylinder No. 4097

Contact MICHAEL L. DEAN

Remarks _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

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

MAR 21 2014

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.

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)

1743' FSL, 1341' FEL Sec. 8, T24N, R03W, (J)

N.M.P.M.

5. Lease Serial No.

Fee

6. If Indian, Allottee or Tribe Name

Common

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

8. Well Name and No.

W O Hughes #6

9. API Well No.

30-039-23240

10. Field and Pool, or Exploratory Area

Lindrith Gallup Dakota

11. County or Parish, State

San Juan NM

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

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- | | | | |
|---|---|--|--|
| <input type="checkbox"/> Acidize | <input type="checkbox"/> Deepen | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Alter Casing | <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Reclamation | <input checked="" type="checkbox"/> Well Integrity |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete | <input type="checkbox"/> Other |
| <input type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | |
| <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back | <input type="checkbox"/> 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 W O Hughes #6 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 25 '14
OIL CONS. DIV.
DIST. 3

Notify NMOCD 24 hrs
prior to beginning
operations

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

Title

Date

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.

Office

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.