

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED  
OMB NO 1004-0137  
Expires March 31, 2007

JAN 22 2008


## APPLICATION FOR PERMIT TO DRILL OR REENTER

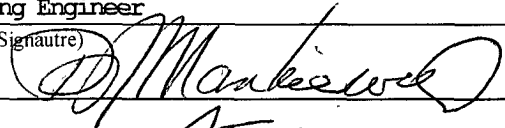
1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>MM 30351</b>	
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator <b>Energex Resources Corporation</b>		7. Unit or CA Agreement Name and No.	
3a. Address <b>2010 Afton Place Farmington, New Mexico 87401</b>		8. Lease Name and Well No. <b>Carracas 15 A #11</b>	
3b. Phone No. (include area code) <b>(505) 325-6800</b>		9. API Well No. <b>30-039-30469</b>	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface <b>120 fsl, 440 fel</b> At proposed prod. zone <b>900 fsl, 760 fwl</b>		10. Field and Pool, or Exploratory <b>Basin Fruitland Coal</b>	
14. Distance in miles and direction from nearest town or post office* <b>Approx. 8 SE of Arboles, CO</b>		11. Sec., T., R., M., or Blk. and Survey or Area <b>(P) Sec 15, T32N, R5W</b>	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) <b>120'</b>		12. County or Parish <b>Rio Arriba</b>	
16. No. of Acres in lease <b>1280.00</b>		13. State <b>NM</b>	
17. Spacing Unit dedicated to this well <b>S/2 - 320.0 acres</b>		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>75'</b>	
19. Proposed Depth <b>+/- 7483'</b> <b>6975' (MD)</b>		20. BLM/BIA Bond No. on file <b>Nm 2707</b>	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>7227' GL</b>		22. Approximate date work will start* <b>4/1/08</b>	
23. Estimated duration <b>25 days</b>			

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature 	Name (Printed/Typed) <b>Nathan Smith</b>	Date <b>1/11/08</b>
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Title <b>Drilling Engineer</b>	
Approved by (Signature) 	Name (Printed/Typed) <b>AFM</b>
Title <b>AFM</b>	Office <b>FEO</b>

Application approval 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.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

\*(Instructions on page 2)

**NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT**

Hold C104

for Directional Survey and "As Drilled" plat  
and possible NSL  
for part of lateral  
and for change in status to  
Carracas 15 A #16

This action is subject to technical and  
procedural review pursuant to 43 CFR 3165.3  
and appeal pursuant to 43 CFR 3165.4

NMOCD

BLM'S APPROVAL OR ACCEPTANCE OF THIS  
ACTION DOES NOT RELIEVE THE LESSEE AND  
OPERATOR FROM OBTAINING ANY OTHER  
AUTHORIZATION REQUIRED FOR OPERATIONS  
ON FEDERAL AND INDIAN LANDS

MAR 20 2009

DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised October 12, 2005

DISTRICT II  
1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

RCUD AUG 25 '08  
☐ AMENDED REPORT  
OIL CONS. DIV.

WELL LOCATION AND ACREAGE DEDICATION PLAT

DIST. 3

<sup>1</sup> API Number 30039-30469		<sup>2</sup> Pool Code 71629	<sup>3</sup> Pool Name BASIN FRUITLAND COAL
<sup>4</sup> Property Code 35652 35654	<sup>5</sup> Property Name CARRACAS 15A		<sup>6</sup> Well Number 11
<sup>7</sup> OGRID No. 162928	<sup>8</sup> Operator Name ENERGEN RESOURCES CORPORATION		<sup>9</sup> Elevation 7227'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	15	32N	5W		120'	SOUTH	440'	EAST	RIO ARRIBA

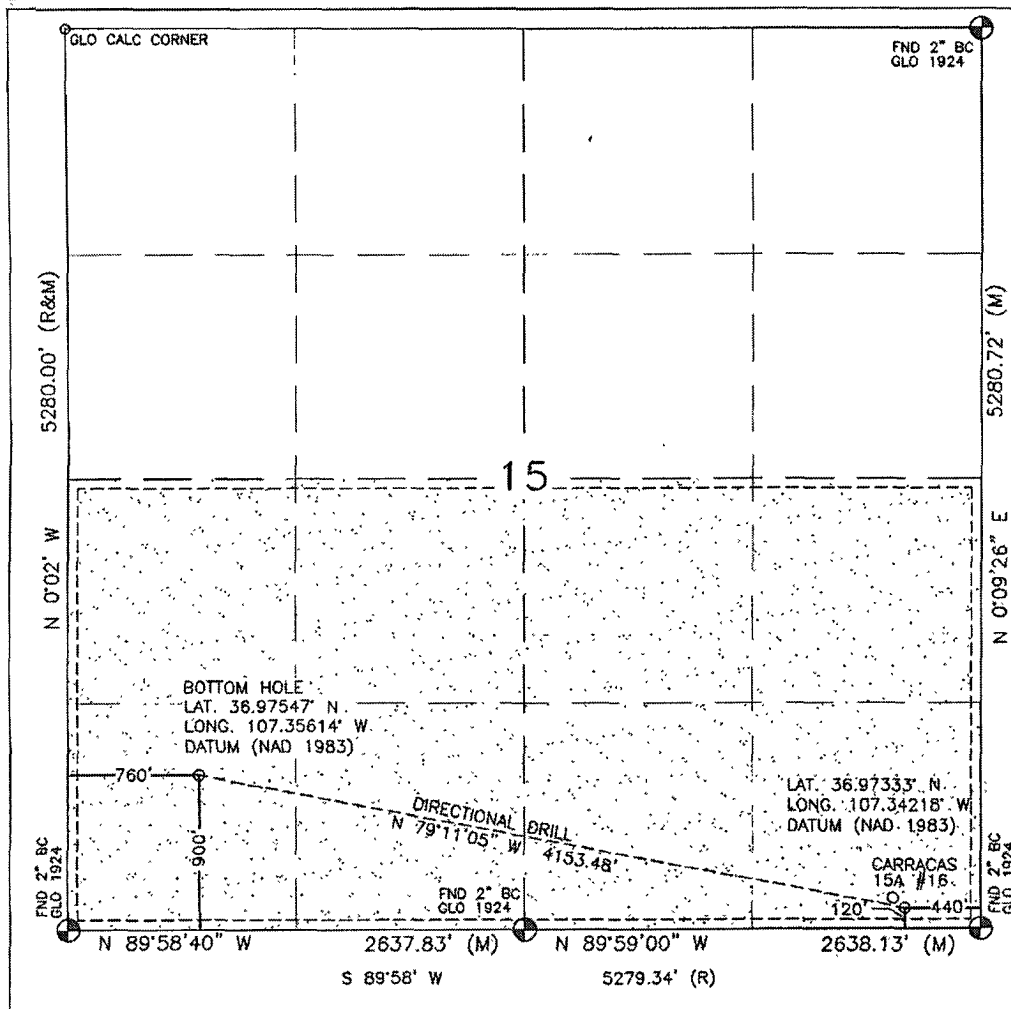
<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	15	32N	5W		900'	SOUTH	760'	WEST	RIO ARRIBA

<sup>12</sup> Dedicated Acres 320.00 Acres - S/2	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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<sup>17</sup> OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner or a compulsory pooling order heretofore entered by the division.

*Nathan Smith* 8/22/08  
Signature Date

Nathan Smith  
Printed Name

<sup>18</sup> SURVEYOR CERTIFICATION

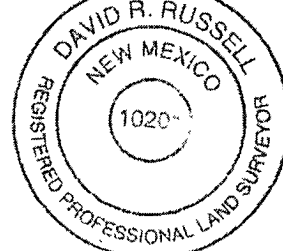
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

OCTOBER 13, 2005

Date of Survey

Signature and Seal of Professional Surveyor:

*David R. Russell*



DAVID RUSSELL

Certificate Number 10201

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 87240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO.
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. NM 30351
7. Lease Name or Unit Agreement Name: Carracas Unit 15 A
8. Well Number 11
9. OGRID Number 162928
10. Pool name or Wildcat Basin Fruitland Coal
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7227' GR

SUNDRY NOTICES AND REPORTS ON WELLS  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH  
PROPOSALS.)

1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other
2. Name of Operator Energen Resources Corporation
3. Address of Operator 2198 Bloomfield Highway, Farmington, NM 87401
4. Well Location Unit Letter P : 120 feet from the south line and 440 feet from the east line Section 15 Township 32N Range 5W NMPM County Rio Arriba
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7227' GR

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: Resubmitt C-102 ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Energen Resources would like to resubmitt the C-102 form due to missing header information pertinent for APD processing.

A completed C-102 is attached for review.

RCVD AUG 25 '08  
OIL CONS. DIV.  
DIST. 3

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Nathan Smith TITLE Drilling Engineer DATE 8/22/08

Type or print name Nathan Smith E-mail address: \_\_\_\_\_ PHONE 505.325.6800

For State Use Only

APPROVED BY [Signature] TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Conditions of Approval (if any):

**Operations Plan**

May 14, 2008 ✓

**Carracas 15 A #11**

**General Information**

Location	120 fsl, 440 fsl at surface 900 fsl, 760 fwl at bottom swsw 15, T32N, R4W Rio Arriba County, New Mexico
Elevations	7227' GL
Total Depth	7482' (MD), 3785' (TVD)
Formation Objective	Basin Fruitland Coal

**Formation Tops**

San Jose	Surface
Nacimiento	1817' (TVD)
Ojo Alamo Ss	3142' (TVD), 3152' (MD)
Kirtland Sh	3282' (TVD), 3310' (MD)
Fruitland Fm	3642' (TVD), 3840' (MD)
Top Coal	3762' (TVD), 4330' (MD)
Bottom Coal	3785' (TVD)
Total Depth	3785' (TVD), 7483' (MD) ✓

**Drilling**

The 12 ¼" wellbore will be drilled with a fresh water mud system.

The 8 ¾" wellbore will be drilled with a low solids fresh water/polymer mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.9 ppg to 9.5 ppg.

**Projected KOP is 2700' TVD with 5.69°/100' doglegs.**

The 6 ¼" wellbore will be drilled with a fresh water or brine water system depending on reservoir characteristics. Anticipated BHP can be as high as 1100 psi.

Blowout Control Specifications:

A 2000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. During air drilling operations, a Shaffer Type 50 or equivalent rotating head will be installed on top of the stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle and drill string valve should be available to fit each drill string and be available on the rig floor during drilling operations.

Logging Program:

Open hole logs: None

Mud logs: From 3750' (TVD), 4181' (MD) to TD.

Surveys: Surface to KOP every 500' and a minimum of every 250' for directional.

## Tubulars

### Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-200'	12 ¼"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	0'-3762'(TVD) 4360' (MD)	8 ¾"	7"	23.0 ppf	J-55 LT&C
Production	3762'-3785' (TVD) 4330'-7483' (MD)	6 ¼"	4 ½"	11.6 ppf	J-55 LT&C
Tubing	0'-4100'(MD)		2 3/8"	4.7 ppf	J-55

### Casing Equipment:

Surface Casing: Depending on wellbore conditions, a Texas Pattern Guide Shoe on bottom. Casing centralization with standard bow spring centralizers to achieve optimal standoff.

Intermediate Casing: Depending on wellbore conditions, a Cement nose guide shoe with self fill insert float collar on top of bottom joint and casing centralization with standard bow spring and rigid centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended.

Liner: Bull nose guide shoe on bottom of first joint, H-Latch liner drop off tool on top of last joint.

## Wellhead

3000 psi 11" x 9 5/8" casing head. 9 5/8" x 7" x 2 3/8" 3000 psi Flanged Wellhead .

## Cementing

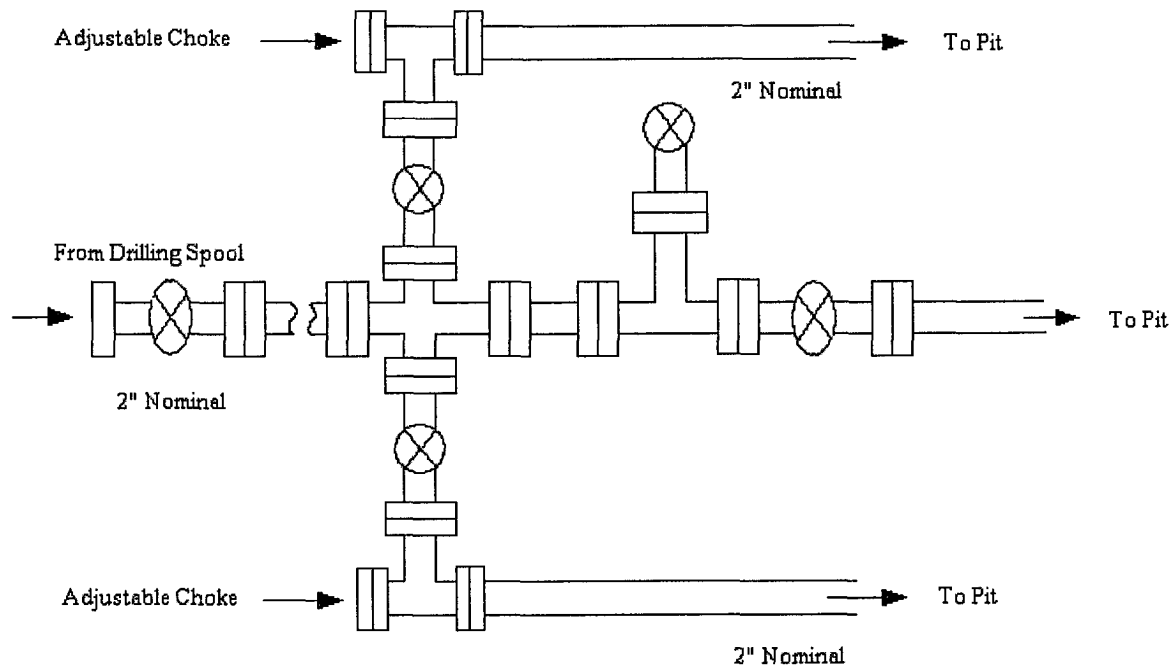
Surface Casing: 115 sks Std (class B) with 2.0 % CaCl<sub>2</sub> and ¼ #/sk Flocele (15.6 ppg, 1.18 ft<sup>3</sup>/sk 136 ft<sup>3</sup> of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 600 psi for 30 min. ✓

Intermediate Casing: Before cementing, circulate hole at least 1 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 555 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl<sub>2</sub>, 10 #/sk Gilsomite, and ½ #/sk Flocele (12.3 ppg, 1.96 ft<sup>3</sup>/sk) and a tail of 178 sks Type V with ¼ #/sk Flocele (15.6 ppg, 1.18 ft<sup>3</sup>/sk). (1297 ft<sup>3</sup> of slurry, 100% excess to circulate to surface). Test casing to 1200 psi for 30 min. ✓

## Other Information

- 1) This well will be an open hole completion lined with an uncemented pre-drilled liner. ✓
- 2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The intermediate string may need to be cemented in multiple stages with a slurry design deviated from that listed above.
- 3) If high reservoir pressures or water flows are encountered slurry design may need to be deviated to from those listed above to satisfy wellbore and formation conditions.
- 4) No abnormal temperatures or pressures are anticipated. This gas is dedicated.

**Energen Resources Corporation**  
Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD

## Energen Resources Corporation

### Typical BOP Configuration for Gas Drilling

