Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

OCT 02 2008

## APPLICATION FOR PERMIT TO DRILL OR REENTER

| | |
|---|---|
| 1a. Type of Work: [X] DRILL [ ] REENTER | 5. Lease Serial No.: NM 019405 |
| 1b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone | 6. If Indian, Allotee or Tribe Name: |
| 2. Name of Operator: Energen Resources Corporation | 7. Unit or CA Agreement Name and No.: |
| 3a. Address: 2010 Afton Place Farmington, New Mexico 87401 | 3b. Phone No. (include area code): (505)325-6800 |
| 4. Location of Well (Report location clearly and in accordance with any State equirements)*<br>At surface 675' FSL 2275' FEL<br>At proposed prod. zone 690' FSL 1900' FEL | 8. Lease Name and Well No.: Bloomfield 3R<br>9. API Well No.: 30-045-34812<br>10. Field and Pool, or Exploratory: Basin Fruitland Coal<br>11. Sec., T., R., M., or Blk. and Survey or Area: O Sec.17,T29N,R11W NMPM |
| 14. Distance in miles and direction from nearest town or post office*: 1 miles northwest of Bloomfield, NM | 12. County or Parish: San Juan; 13. State: NM |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any): 675' | 16. No. of Acres in lease: ~~280~~ 320 |
| 17. Spacing Unit dedicated to this well: 320 E 1/2 | |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 1150' | 19. Proposed Depth: 2112' |
| 20. BLM/BIA Bond No. on file | |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.: 5711' GL | 22. Approximate date work will start*: 09/01/08 |
| 23. Estimated duration: 5 days | |

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must 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 must 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 BLM

| | | |
|---|---|---|
| 25. Signature: Jason Kincaid | Name (Printed/Typed): Jason Kincaid | Date: 8/27/2008 |
| Title: Drilling Engineer | | |
| Approved by (Signature): Matthew J. Kresse | Name (Printed/Typed): | Date: 11/7/08 |
| Title: AFM | Office: FFO | |

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 knowlingly 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.

(Continued on page 2)

*(Instructions on page 2)

HOLD C104 FOR Change of Status to Bloomfield #3

Hold C104 for Directional Survey and "As Drilled" plat

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

NOTIFY AZTEC OCD 24 HRS PRIOR TO CASING & CEMENT

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

NOV 18 2008

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

* need T&E survey

onsite OK

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised October 12, 2005

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

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] API Number | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 30-045-34812 | 71629 | Basin Fruitland Coal |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| 21171 | BLOOMFIELD | 3R |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 162928 | ENERGEN RESOURCES CORPORATION | 5711' |

## [10] Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 17 | 29N | 11W | | 675' | SOUTH | 2275' | EAST | SAN JUAN |

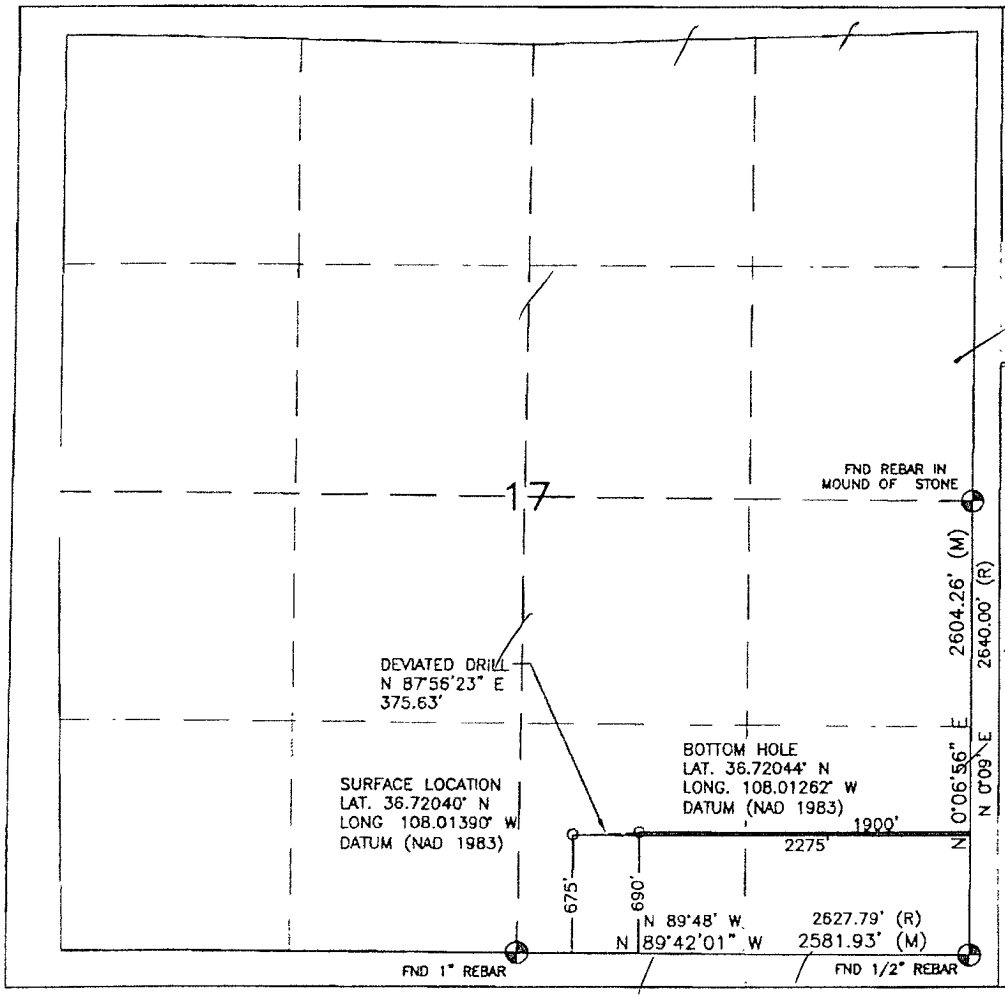
## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 17 | 29N | 11W | | 690' | SOUTH | 1900' | EAST | SAN JUAN |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 320.00 E/2 | | | |

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

[16]




## [17] 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.*

Jason K — 9/27/09
Signature — Date

Jason Kincaid
Printed Name

## [18] 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.*

JULY 15, 2008
Date of Survey

Signature and Seal of Professional Surveyor:

David R. Russell

DAVID R. RUSSELL NEW MEXICO 10201 REGISTERED PROFESSIONAL LAND SURVEYOR

DAVID RUSSELL
Certificate Number 10201

9/15/2008

ENERGEN RESOURCES

# OPERATIONS PLAN

**WELL NAME**.....Bloomfield #3R
**JOB TYPE**.....New Drill
**DEPT**.....Drilling and Completions
**RIG**.....Scorpion Drilling
**PREPARED BY**.....Jason Kincaid

## General Information

| | |
|---|---|
| Surface Location | 675 fsl, 2275 fel |
| Bottom Hole Location | 690 fsl, 1900 fel |
| S-T-R | Sec.17, T29N, R11W |
| County, State | San Juan, New Mexico |
| | |
| Elevations | 5711' GL |
| Total Depth | 2112' +/- (MD); 2060' (TVD) |
| Formation Objective | Basin Fruitland Coal |

## Formation Tops

| | |
|---|---|
| Nacimiento | Surface |
| Ojo Alamo SS | 570' |
| Kirtland Shale | 680' |
| Fruitland Fm | 1460' (TVD) |
| Top Coal | 1600' (TVD) |
| Bottom Coal | 1851' (TVD) |
| Pictured Cliffs | 1856' (TVD) |
| **Total Depth** | **2060' (TVD), 2112' +/- (MD)** |

## Drilling

The 12-1/4" wellbore will be drilled with a fresh water mud system.
The 7-7/8" wellbore will be drilled with a LSND mud essentially unweighted. Mud density is expected to range from 8.6ppg to 8.9ppg. Keep fluid loss between 4 and 6. KOP is 500' TVD. An "S" curve will be drilled initially building angle at 6°/100' and then dropping angle to 10° with a drop of 4°/100'. Anticipated bottom hole pressure is 1200 psi (8.38 ppg).

Blowout Control Specifications:

A 3000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. 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. **Pressure test BOP to 250 psi for 15 min and 2000 psi for 15 min.**

Logging Program:

Open hole logs: 7-7/8" wellbore gamma/induction density logs.
Mudlogs: From 1400' TVD to total depth
Surveys: Every 500' for vertical hole section and 250' while directional drilling to TD.

9/15/2008

ENERGEN RESOURCES

**Casing, Tubing, & Casing Equipment**

| String | Interval | Wellbore | Size | Wt | Grade |
|---|---|---|---|---|---|
| Surface | 0'- 300' | 12-1/4" | 8-5/8" | 24 lb/ft | J-55 ST&C |
| Production | 300'- 2112' MD | 7-7/8" | 5-1/2" | 15.5 lb/ft | J-55 LT&C |
| Tubing | 0'- 2100' MD | | 2 3/8" | 4.7 lb/ft | J-55 |

Casing Equipment:

Surface Casing: Depending on wellbore conditions, a Texas Pattern Guide Shoe on first joint with and insert float valve on top. Run standard bow spring centralizers as follows: every other joint from TD to surface.

Production Casing: Depending on wellbore conditions, a self fill float shoe on bottom of the first joint and a self fill insert float collar on top of the first joint. Run double bow spring centralizers as follows: two on bottom joint and one every other from 2112' to 1500', one every third joint to surface casing with two inside the surface casing, to achieve optimal standoff. Place marker joint above Fruitland Coal.

**Cementing**

Surface Casing: 250 sks Type V with 2.0 % $CaCl_2$ and ¼ #/sk Flocele (15.6 ppg, 1.18 $ft^3$/sk 250 $ft^3$ of slurry). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min. Test BOP as outlined in the drilling section

Production 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 290 sks 65/35 with 6.0 % Bentonite, 2.0 % $CaCl_2$, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.93 $ft^3$/sk) and a tail of 150 sks of Class G cement with 5.0 #/sk Gilsonite, and ¼ #/sk Flocele (15.4ppg, 1.18 $ft^3$/sk 732 $ft^3$ of slurry to circulate to surface).

**Other Information**

1) This well will be cased and the Basin Fruitland Coal fracture stimulated.
2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The production 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. Anticipated pressure is 1200 psi.
4) No abnormal temperatures or pressures are anticipated.
5) This gas is dedicated.

ENERGEN RESOURCES

**Project: Central Basin - SW S17, 29N, R11W**
**Site: Central Basin**
**Well: Bloomfield #3R**
**Wellbore: Modified S Curve**
**Plan: Preliminary Plan (Bloomfield #3R/Modified S Curve)**

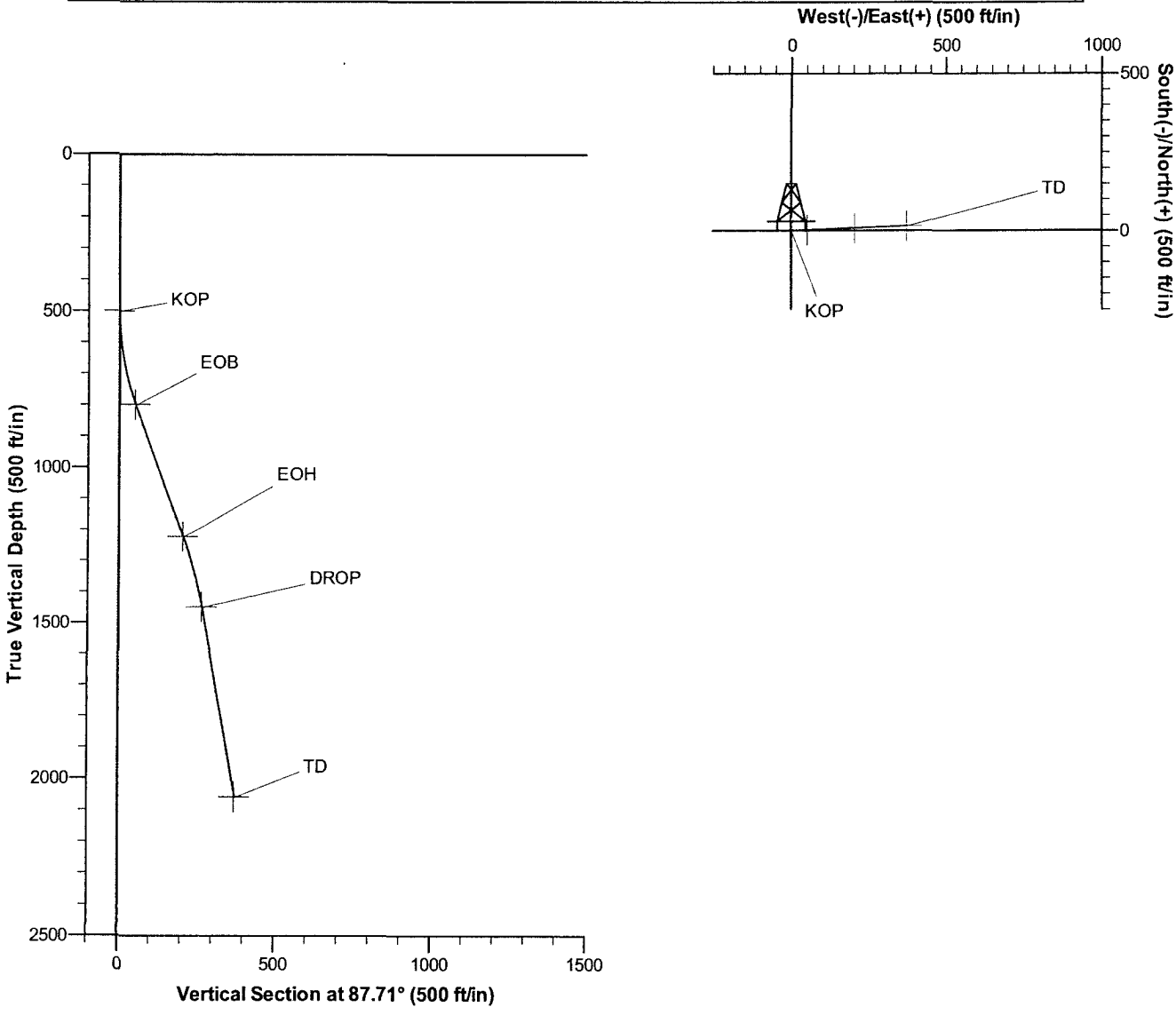
| PROJECT DETAILS: Central Basin - SW S17, 29N, R11W | |
|---|---|
| Geodetic System: | US State Plane 1983 |
| Datum: | North American Datum 1983 |
| Ellipsoid: | GRS 1980 |
| Zone: | New Mexico Central Zone |
| System Datum: | Mean Sea Level |


Azimuths to True North
Magnetic North: 10.33°

Magnetic Field
Strength: 50998.7snT
Dip Angle: 63.47°
Date: 8/18/2008
Model: IGRF200510

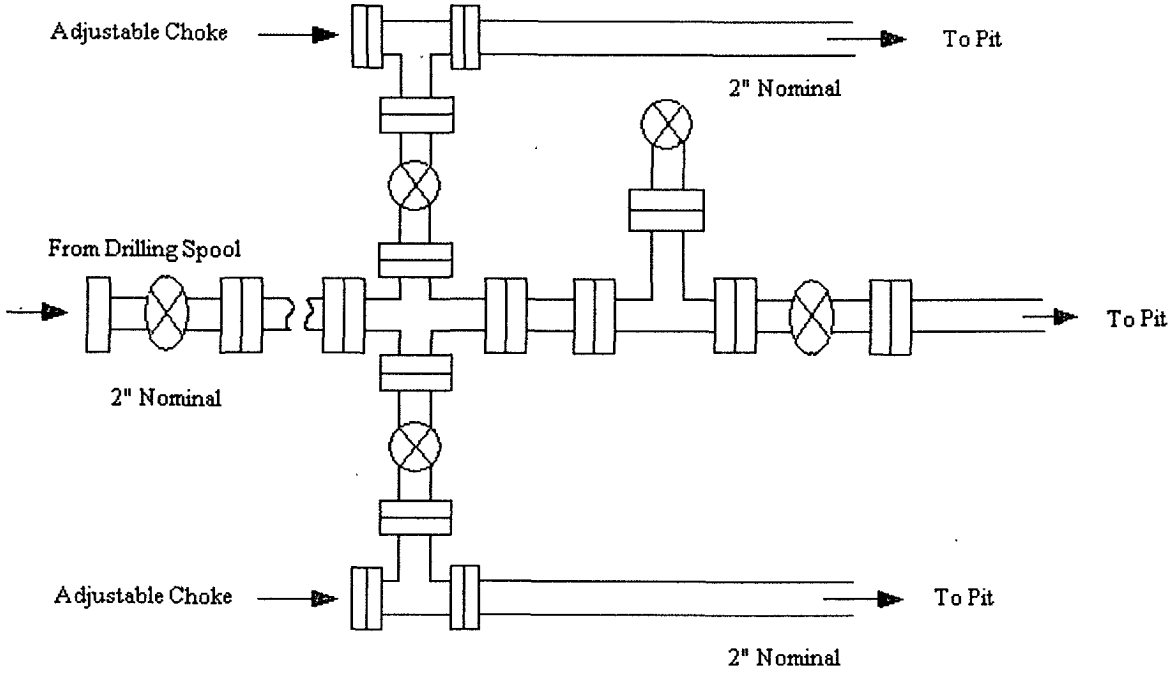
## SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | KOP |
| 3 | 806.2 | 20.02 | 87.73 | 800.0 | 2.1 | 52.9 | 6.54 | 87.73 | 52.9 | EOB |
| 4 | 1256.2 | 19.96 | 87.65 | 1222.9 | 8.3 | 206.6 | 0.01 | -155.79 | 206.8 | EOH |
| 5 | 1491.6 | 10.08 | 87.92 | 1450.0 | 10.7 | 267.5 | 4.19 | 179.73 | 267.7 | DROP |
| 6 | 2111.6 | 9.90 | 87.50 | 2060.6 | 15.0 | 375.0 | 0.03 | -158.50 | 375.3 | TD |



## 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