

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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


APPLICATION FOR PERMIT TO DRILL OR REENTER

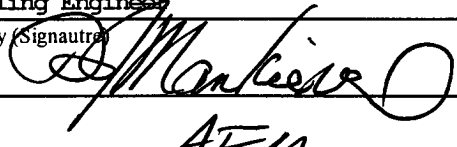
|   |   |  |
|---|---|--|
| 1a. Type of Work<br><input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER  |   | 5. Lease Serial No.<br><b>SF 076958</b>                                      |
| 1b. Type of Well<br><input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> 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<br><b>Energen Resources Corporation</b>   |   | 7. Unit or CA Agreement Name and No.   |
| 3a. Address<br><b>2198 Bloomfield Highway Farmington, New Mexico 87401</b>  |   | 8. Lease Name and Well No.<br><b>Cohn 29-10-25 #1S</b>                       |
| 3b. Phone No. (include area code)<br><b>(505) 325-6800</b>  |   | 9. API Well No.<br><b>30-045-33323</b>                                       |
| 4. Location of Well (Report location clearly and in accordance with any State requirements)*<br>At surface <b>1175' fsl, 1210' fel</b><br>At proposed prod. zone  |   | 10. Field and Pool, or Exploratory<br><b>Basin Fruitland Coal</b>            |
| 14. Distance in miles and direction from nearest town or post office*<br><b>Approximately 2.25 miles south of Blanco</b>  |   | 11. Sec., T., R., M., or Blk. and Survey or Area<br><b>P S25, T29N, R10W</b> |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any)<br><b>1175'</b>  | 16. No. of Acres in lease   | 12. County or Parish<br><b>San Juan</b>                                      |
| 17. Spacing Unit dedicated to this well<br><b>320 E 1/2</b>   | 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.<br><b>Approx. 500'</b> | 13. State<br><b>NM</b>   |
| 19. Proposed Depth<br><b>2110' +/-</b>  | 20. BLM/BIA Bond No. on file  |  |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br><b>GL 5618'</b>  | 22. Approximate date work will start*<br><b>10/25/05</b>  | 23. Estimated duration<br><b>14 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.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan  | 5. Operator certification.   |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

|   |   |                        |
|---|---|------------------------|
| 25. Signature<br> | Name (Printed/Typed)<br><b>Nathan Smith</b> | Date<br><b>8/25/05</b> |
|---|---|------------------------|

|  |                                    |                        |
|--|------------------------------------|------------------------|
| Approved by (Signature)<br> | Name (Printed/Typed)<br><b>AFM</b> | Date<br><b>9/26/05</b> |
| Title<br><b>Drilling Engineer</b>  | Office<br><b>FFO</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.

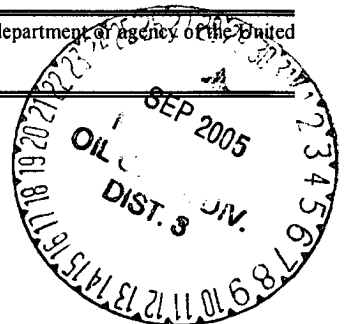
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on page 2)

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

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

NMOCD



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

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 15, 2000

DISTRICT II  
611 South First, Artesia, N.M. 88210

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

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                             |   |                     |                                 |
|-----------------------------|---|---------------------|---------------------------------|
| *API Number<br>30-045-33323 |   | *Pool Code<br>71629 | *Pool Name<br>UP FRUITLAND COAL |
| *Property Code<br>34187     | *Property Name<br>COHN 29-10-25                 |                     | *Well Number<br>1S              |
| *OGRID No.<br>162928        | *Operator Name<br>ENERGEN RESOURCES CORPORATION |                     | *Elevation<br>5618'             |

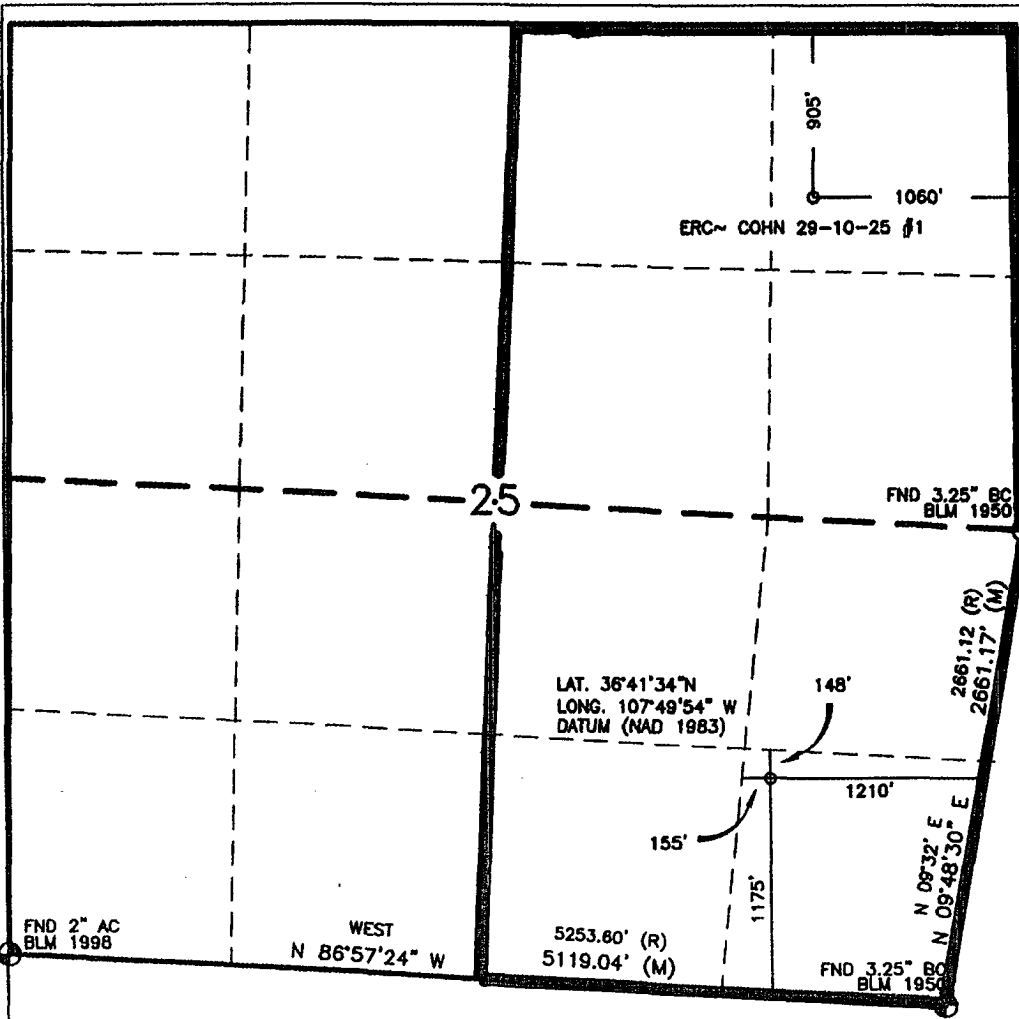
<sup>10</sup> Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| P             | 25      | 29N      | 10W   |         | 1175'         | SOUTH            | 1210'         | EAST           | SAN JUAN |

<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 |
|--|---------|----------|-------|---------|-----------------|--------------------|---------------|----------------|--------|
| Dedicated Acres<br>320<br>352.00 Acres - E/2 |         |          |       |         | Joint or Infill | Consolidation Code | Order No.     |                |        |

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



<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

*Nathan Smith*  
Signature  
Nathan Smith  
Printed Name  
Drilling Engineer  
Title  
7-21-05  
Date

<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.

JUNE 21, 2005

Date of Survey  
Signature and Seal of Professional Surveyor

DAVID R. RUSSELL  
REGISTERED PROFESSIONAL SURVEYOR  
NEW MEXICO  
18201  
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

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

Form C-103

May 27, 2004

WELL API NO. 30-045-33323

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name:

Cohn 29-10-25

8. Well Number

1S

9. OGRID Number

162928

10. Pool name or Wildcat

Basin Fruitland Coal

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 ☐ Gas Well ☒ Other

2. Name of Operator

Energen Resources Corporation

3. Address of Operator

2198 Bloomfield Highway, Farmington, NM 87401

4. Well Location

Unit Letter P : 1175 feet from the South line and 1210 feet from the East line

Section 25 Township 29N Range 10W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

5618' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Drill Depth to Groundwater >100' Distance from nearest fresh water well >1000' Distance from nearest surface water >250'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume \_\_\_\_\_ bbls; Construction Material \_\_\_\_\_

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 COMPLETION ☐

OTHER: Build drilling pit ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

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 plans to build a lined pit according to "OCD Pit and Below-grade Tank Guidelines", as issued on November 1, 2004. Energen anticipates the submittal of a C-144 for closure of this pit in accordance with BIM and "OCD Pit and Below-grade Tank Guidelines".

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ , a general permit ☐ or an (attached) alternative OCD-approved plan ☐

SIGNATURE Nathan Smith TITLE Drilling Engineer DATE 08/25/05

Type or print name Nathan Smith

E-mail address: nsmith@energen.com  
Telephone No. 505.325.6800

For State Use Only

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 09 DATE SEP 29 2005

Conditions of Approval, if any:

# ENERGEN RESOURCES CORPORATION

COHN 29-10-25 #1S

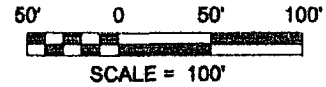
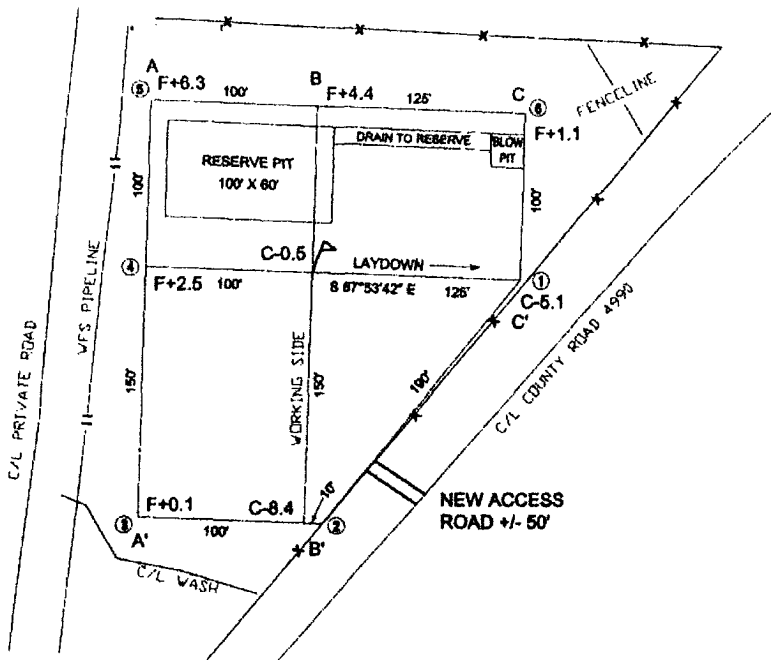
1175' FSL & 1210' FEL

LOCATED IN THE SE/4 SE/4 OF SECTION

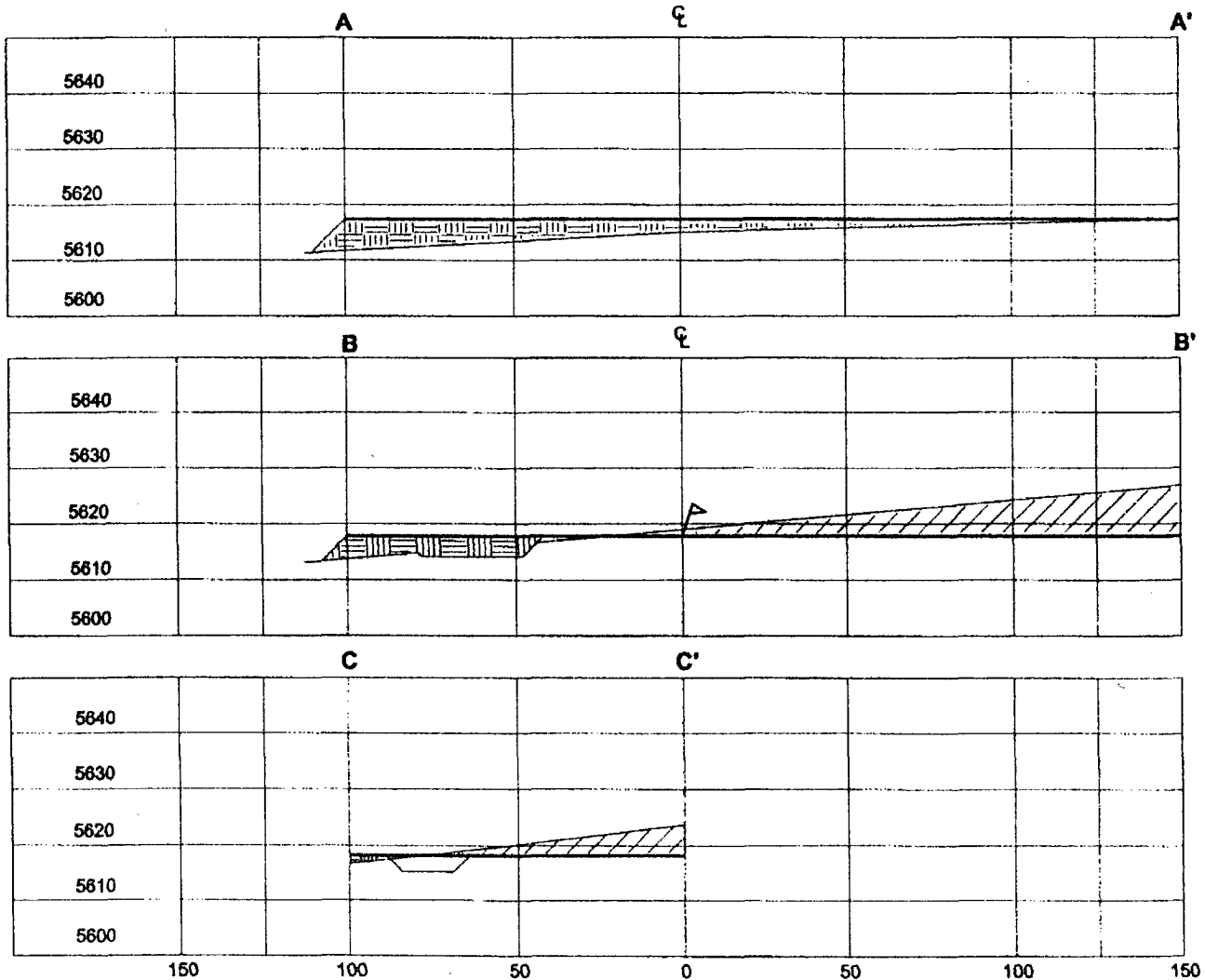
25, T29N, R10W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

ELEVATION: 5618', NAVD 88



LATITUDE: 36°41'34"N  
LONGITUDE: 107°49'54"W  
DATUM: NAD 83



HORIZ. SCALE: 1"=50'  
VERT. SCALE: 1"=30'



**Russell Surveying**  
1409 W. Aztec Blvd. #5  
Aztec, New Mexico 87410

WO NO.

RW NO. 0570304

DATE 07/18/05

SCALE 1" = 1000'

SURVEYED 07/11/05

RANGE 10-W, N.M.P.M.

COUNTY SAN JUAN STATE NEW MEXICO SECTION 25 TOWNSHIP 29-N

FROM 0+00 = 22+01.75 ON XTO ENERGY, INC.- LEFKOVITZ GAS COM B NO. 1E

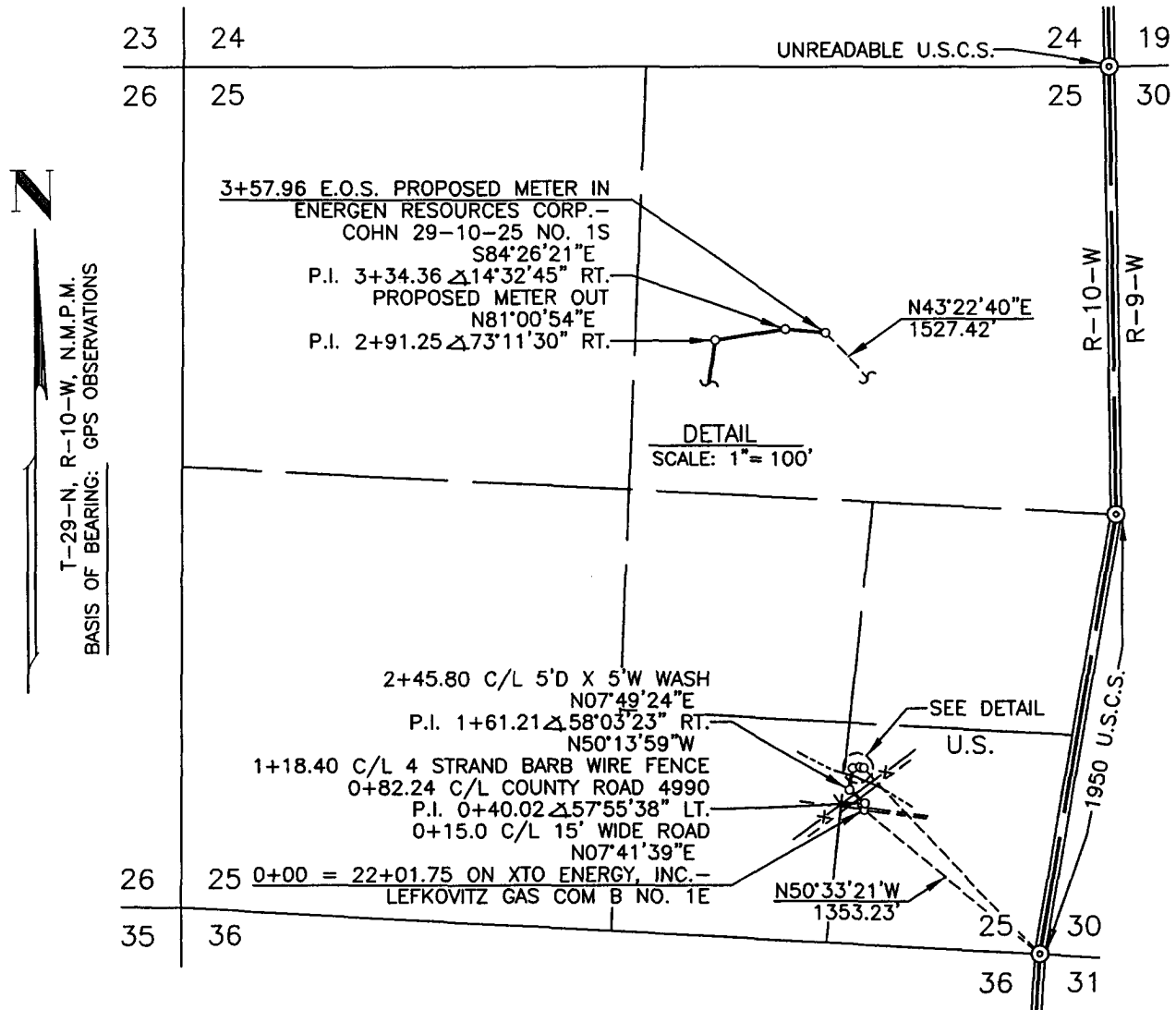
(BTF-67-1, R/W NO. 8270124)(MC NO. 94411)

Y SAN JUAN

STATE NEW MEXICOSECTION 25

TOWNSHIP 29-N

RANGE 10-W, N.M.P.M.



DWN. BY TC

CONSTR. COMMENCED

APPL. DWG.

## SLACK CHAIN

CKD. BY MD

CONSTR. COMPLETED

DATE

PIPE SIZE 4.50" O.D.[illegible]

NOTE: WELL FLAG  
SURVEY LOOP'S EXISTING ROAD  
LOCATION NOT BUILT  
SURVEY LOOP'S WFS PIPELINE  
NEED TUA AT COUNTY ROAD 4990 CROSSING

|           | SUBDIVISION        | OWNER         | LESSEE                      | METER(S) | RODS   | ACRE(S) |
|-----------|--------------------|---------------|-----------------------------|----------|--------|---------|
| OWNERSHIP | SE/4 SE/4, SEC. 25 | UNITED STATES | FRED GILBERT ARMENTA, et al |          | 21.695 | 0.329   |
|           |                    |               |                             |          |        |         |
|           |                    |               |                             |          |        |         |
|           |                    |               |                             |          |        |         |
| REV.      |                    |               |                             |          |        |         |
|           |                    |               |                             |          |        |         |

FM24 (Rev. 1/99)

BTf-088-01

## Operations Plan

August 25, 2005

### **Cohn 29-10-25 #1S**

#### **General Information**

|                     |   |
|---------------------|---|
| Location            | 1175' fsl, 1210' fel<br>sese S25, T29N, R10W<br>San Juan County, New Mexico |
| Elevations          | 5618' GL  |
| Total Depth         | 2110' (MD)  |
| Formation Objective | Basin Fruitland Coal  |

#### **Formation Tops**

|                    |              |
|--------------------|--------------|
| Nacimiento         | Surface      |
| Ojo Alamo Ss       | 1039'        |
| Kirtland Sh        | 1082'        |
| Fruitland Fm       | 1671'        |
| Top Coal           | 1713'        |
| Bottom Coal        | 1957'        |
| Pictured Cliffs Ss | 1957         |
| <b>Total Depth</b> | <b>2110'</b> |

#### **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 low solids fresh water/polymer mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.3 ppg to 8.9 ppg.

Blowout Control Specifications:

A 2000 psi minimum double ram or annulus BOP stack (figure 1) 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.

Logging Program:

Open hole logs: Induction/Gamma Ray and Density Logs

Coring: None

Natural Gauges: Surface and/or every 500' to TD.

## Tubulars

### Casing, Tubing, & Casing Equipment:

| String     | Interval   | Wellbore | Casing | Csg Wt   | Grade     |
|------------|------------|----------|--------|----------|-----------|
| Surface    | 0'-300'    | 12 1/4"  | 8 5/8" | 24.0 ppf | J-55 ST&C |
| Production | 300'-2110' | 7 7/8"   | 5 1/2" | 15.5 ppf | J-55 LT&C |
| Tubing     | 0'-2090'   |          | 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.

Production 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 centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended.

## Wellhead

8 5/8" 2000 x 5 1/2" Larkin casing head. 5 1/2" 2000 x 2" tubing head.

## Cementing

Surface Casing: 225 sks Std (class B) with 2.0 % CaCl<sub>2</sub> and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft<sup>3</sup>/sk <sup>247</sup>247 ft<sup>3</sup> of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 1000 psi for 30 min.

Production Casing: Before cementing, circulate hole at least 1 1/2 hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 300 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl<sub>2</sub>, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.3 ppg, 1.96 ft<sup>3</sup>/sk) and a tail of 145 sks of Standard (Class B) cement with 5.0 #/sk Gilsonite, and 1/4 #/sk Flocele (15.2ppg, 1.24 ft<sup>3</sup>/sk). ~~739.3~~ <sup>748</sup>748 ft<sup>3</sup> of slurry, 100 % excess to circulate to surface).

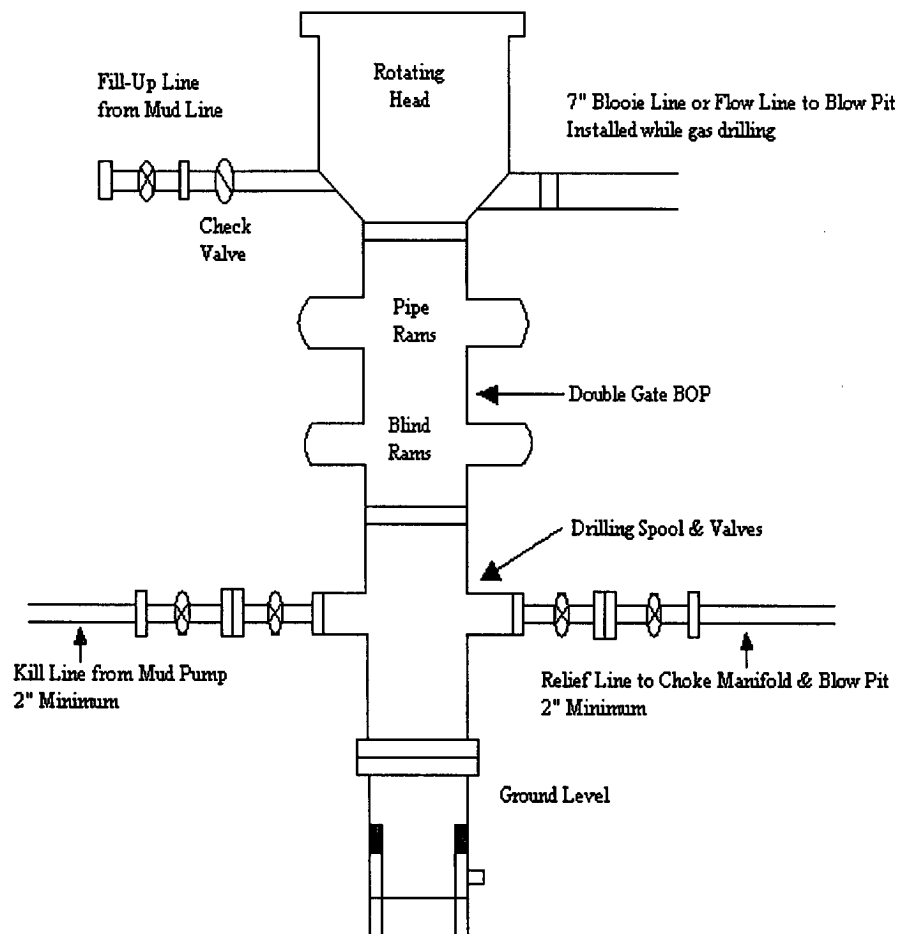
Pump 30 sks of flyash scavenger spacer consisting of 15.0 % Benonite and 0.15 % HR-5 ahead of cement

## 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.
- 4) No abnormal temperatures or pressures are anticipated.
- 5) This gas is dedicated.

## Energen Resources Corporation

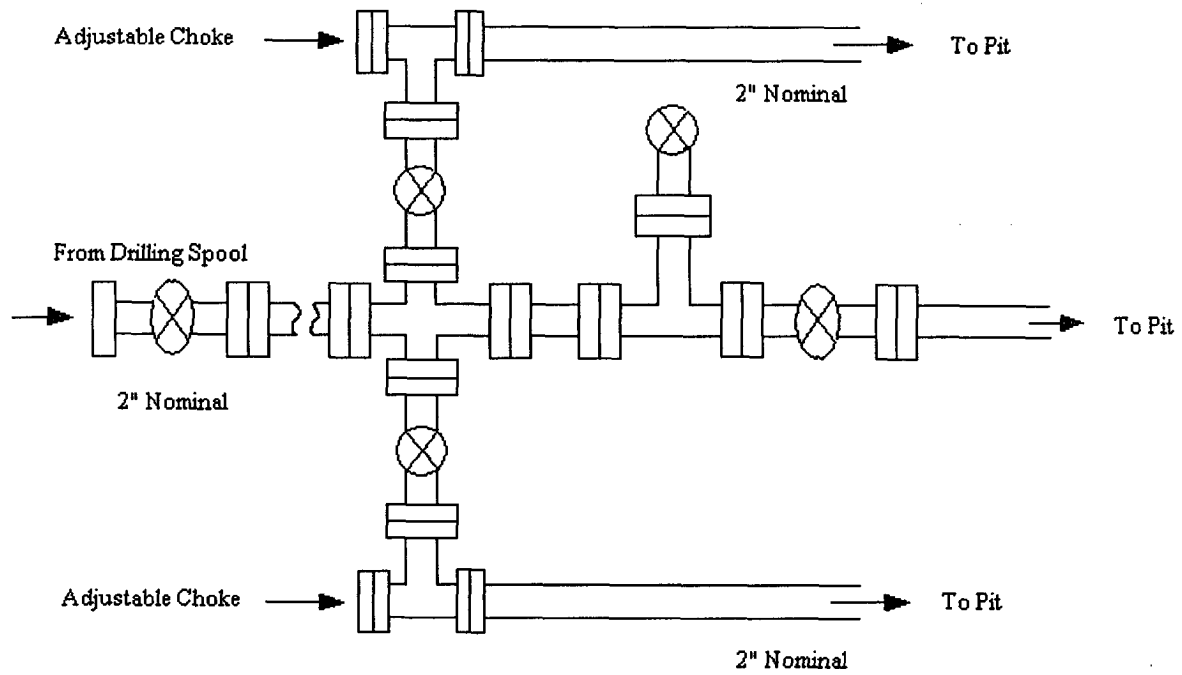
### Typical BOP Configuration for Gas Drilling





## Energen Resources Corporation

### Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD