

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0137  
Expires March 31, 2007


## 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>NM-012202</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>Energen Resources Corporation</b>			7. Unit or CA Agreement Name and No.		
3a. Address <b>2198 Bloomfield Highway Farmington, New Mexico 87401</b>			8. Lease Name and Well No. <b>Federal 28-8-33 #2S</b>		
3b. Phone No. (include area code) <b>(505) 325-6800</b>			9. API Well No. <b>30-045-33108</b>		
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface <b>1680' fsl, 1465' fel</b> At proposed prod. zone			10. Field and Pool, or Exploratory <b>Basin Fruitland Coal</b>		
14. Distance in miles and direction from nearest town or post office* <b>Approximately 11.0 miles south east of Blanco</b>			11. Sec., T., R., M., or Blk. and Survey or Area <b>J S33, T28N, R08W</b>		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) <b>1465'</b>		16. No. of Acres in lease <b>935.36</b>		17. Spacing Unit dedicated to this well <b>295.36</b> <b>320 S 1/2</b>	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>Approx. 350'</b>		19. Proposed Depth <b>2311'</b>		20. BLM/BIA Bond No. on file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>GL 5840'</b>		22. Approximate date work will start* <b>07/05/05</b>		23. Estimated duration <b>14 days</b>	

## 24. Attachments

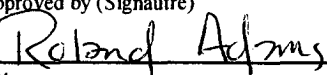
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 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 	Name (Printed/Typed) <b>Nathan Smith</b>	Date <b>5/20/05</b>
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Title

**Drilling Engineer**

Approved by (Signautre) 	Name (Printed/Typed) <b>ROLAND ADAMS</b>	Date <b>8/11/05</b>
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Title

**Acting AFM**

Office

**FARMINGTON DISTRICT OFFICE**

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)

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

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

**NMOC**

District I  
PO Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised February 21, 1994

District II  
PO Drawer DD, Artesia, NM 88211-0719

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

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number <b>30-045-33108</b>		*Pool Code <b>71629</b>	*Pool Name <b>BASIN FRUITLAND COAL</b>
*Property Code <b>300440</b>	*Property Name <b>FEDERAL 28-8-33</b>		*Well Number <b>25</b>
*OGRID No. <b>162928</b>	*Operator Name <b>ENERGEN RESOURCES CORPORATION</b>		*Elevation <b>5840'</b>

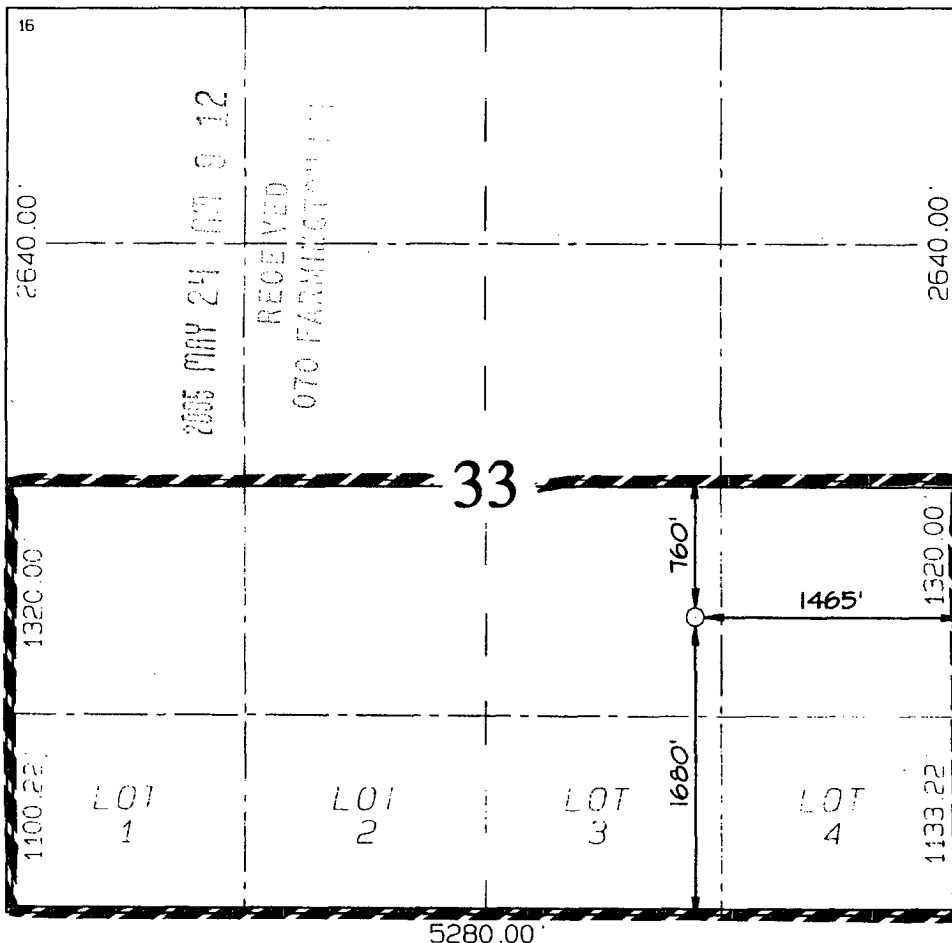
<sup>10</sup> Surface Location

UL or lot no. <b>J</b>	Section <b>33</b>	Township <b>28N</b>	Range <b>8W</b>	Lot Idn	Feet from the <b>1680</b>	North/South line <b>SOUTH</b>	Feet from the <b>1465</b>	East/West line <b>EAST</b>	County <b>SAN JUAN</b>
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<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
<sup>12</sup> Dedicated Acres <b>320 295.36 Acres - (S/2)</b> <b>295.36</b>					<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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  
5280.00'



<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

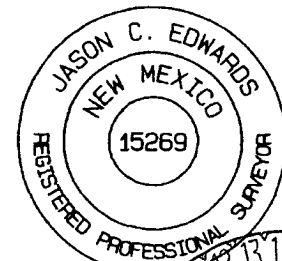
**5/20/05**  
Date

<sup>18</sup> SURVEYOR CERTIFICATION

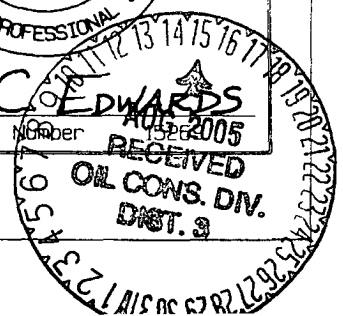
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: **APRIL 14, 2005**

Signature and Seal of Professional Surveyor



**JASON C. EDWARDS**  
Certificate Number **15269**



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  
May 27, 2004

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

WELL API NO.

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name:  
Federal 28-8-33

8. Well Number

2S

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 J : 1680 feet from the South line and 1465 feet from the East line

Section 33 Township 28N Range 08W NMPM County San Juan

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

5840' 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 ☐

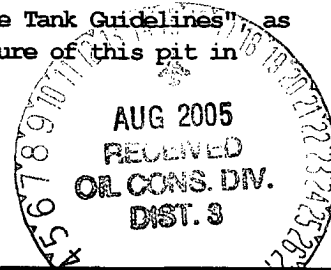
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

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 BLM 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 05/20/05

Type or print name Nathan Smith

E-mail address: nsmith@energen.com

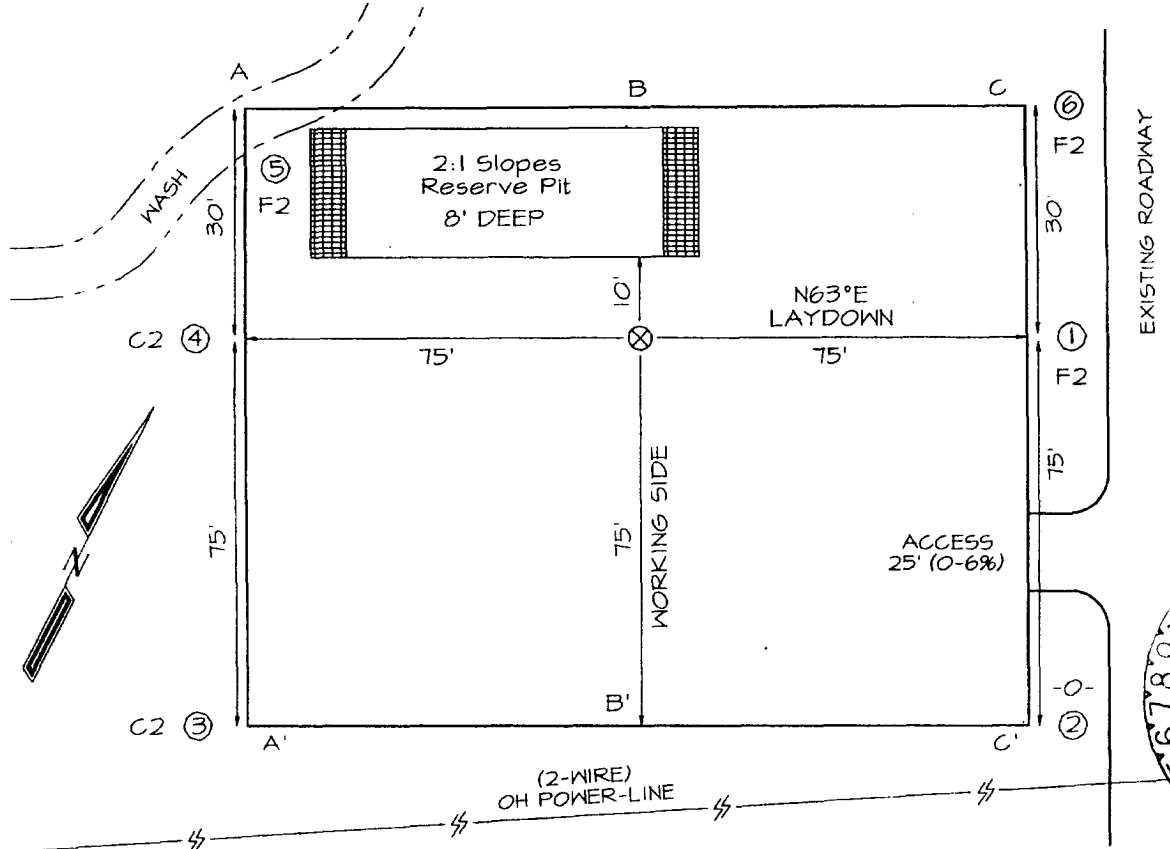
Telephone No. 505.325.6800

For State Use Only

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 3 DATE AUG 15 2005

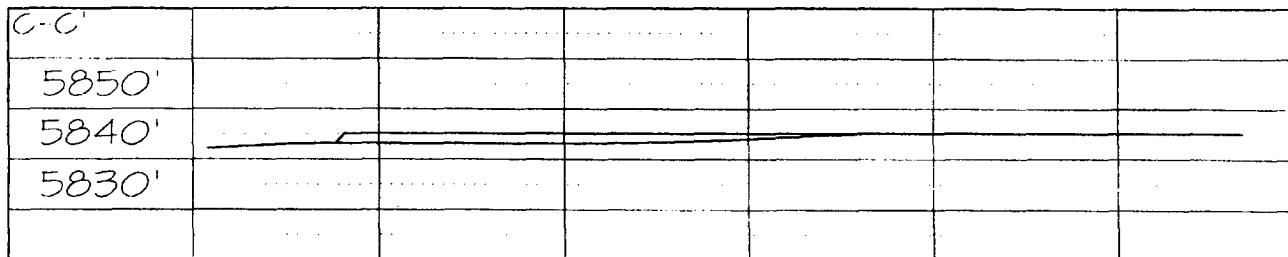
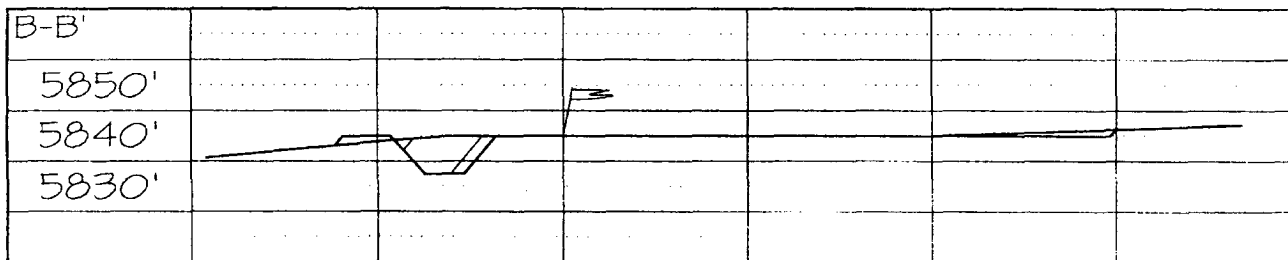
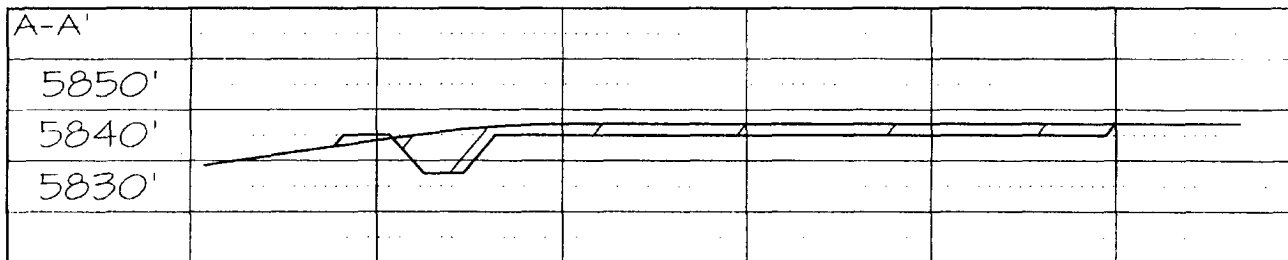
Conditions of Approval, if any:

**ENERGEN RESOURCES CORPORATION FEDERAL 28-8-33 #2S  
1680' FSL & 1465' FEL, SECTION 33, T28N, R8W, NMPM  
SAN JUAN COUNTY, NEW MEXICO GROUND ELEVATION: 5840'**



LATITUDE: 36°36'57"  
LONGITUDE: 107°40'54"  
DATUM: NAD1927

AUG 2005  
RECEIVED  
OIL CONS. DIV.  
DIST. 3



Note: Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least two (2) working days prior to construction

## Operations Plan

May 20, 2005

### Federal 28-8-33 #1S

#### General Information

Location	1680' fsl, 1465' fcl T28N, R08W San Juan County, New Mexico
Elevations	5840' GL
Total Depth	2312' (MD)
Formation Objective	Basin Fruitland Coal

#### Formation Tops

Nacimiento	Surface
Ojo Alamo Ss	1176'
Kirtland Sh	1311'
Fruitland Fm	1816'
Top Coal	1991'
Bottom Coal	2111'
Pictured Cliffs Ss	2111'
Total Depth	2311'

#### 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'-2311'	7 7/8"	5 1/2"	15.5 ppf	J-55 LT&C
Tubing	0'-2275'		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

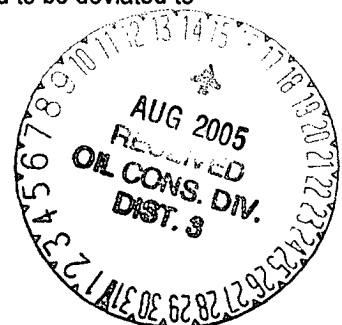
Surface Casing: 225 sks Std (class B) with 2.0 % CaCl<sub>2</sub> and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft<sup>3</sup>/sk<sup>2166</sup> 247 ft<sup>3</sup> of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 1000 psi for 30 min.

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 325 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). (810.3 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**

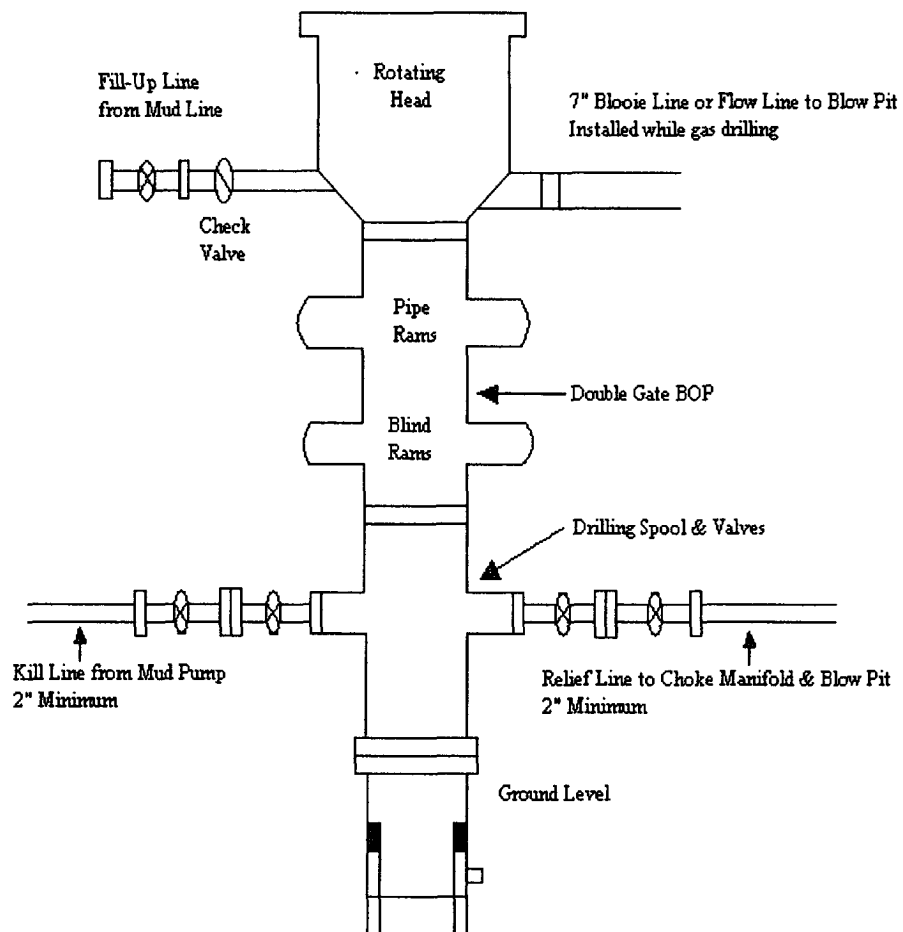
## Other Information

- 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.



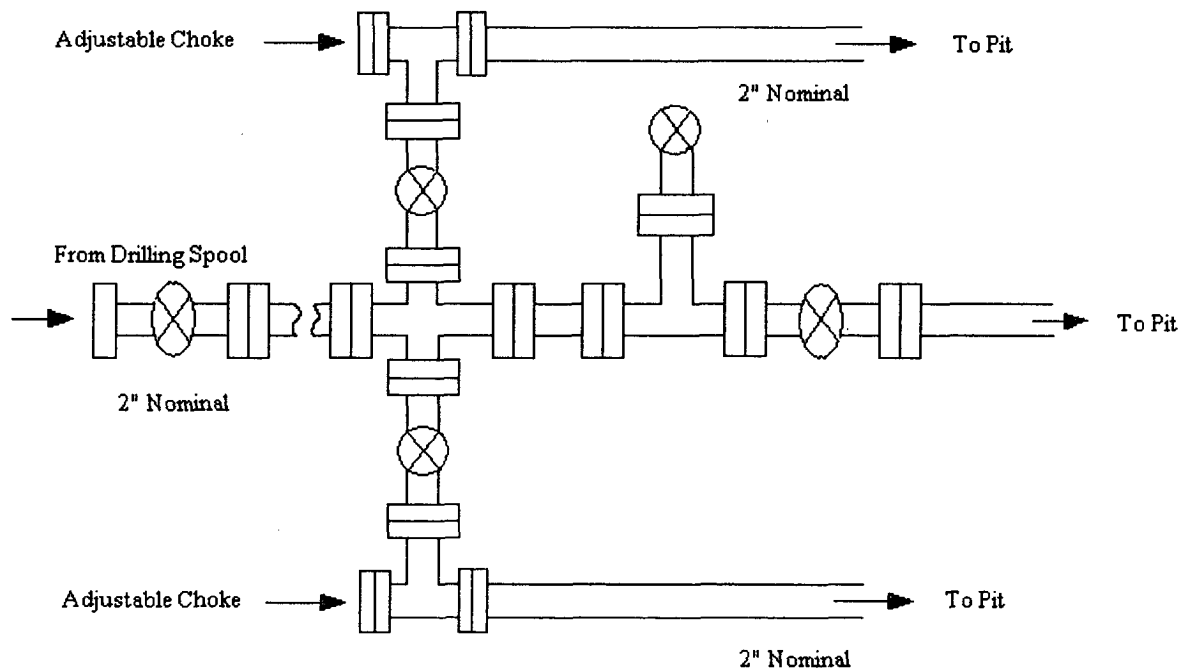
## Energen Resources Corporation

### Typical BOP Configuration for Gas Drilling



# Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD



# ENERGEN RESOURCES CORPORATION

Federal 28-8-33 #1S

## MULTI-POINT SURFACE USE PLAN

1. Existing Road

Please refer to map No.1 which show the existing roads. New roads which will be required have been marked on this map. All existing and new roads will be properly maintained during the duration of this project.

2. Planned Access Road - Refer to Map No. 1.

The required new access road is shown on Map No. 1. The gradient, shoulder, crowning and other design elements will meet or exceed those specified by the responsible government agency. The new access road surface will not exceed twenty feet (20') in width. No additional turnarounds or turnouts will be required. Upon completion of the project, the access road will be adequately drained to control soil erosion. Approximately 25' of new access road will be constructed. Pipelines are indicated on Map No. 1A.

3. Location of Existing Wells - Refer to Map 1A

4. Location of Existing and/or Proposed Facilities if Well is Productive

- a. On the Well Pad - Refer to Plat No. 1, anticipated production facilities plat.
- b. Off the Well Pad - Anticipated facilities off the well pad will be applied for as required.

5. Location and Type of Water Supply

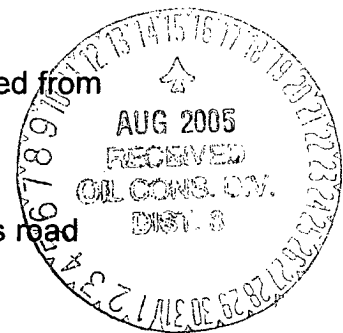
Water for the proposed project will be trucked and obtained from San Juan River.

6. Source of Construction Materials

No additional materials will be required to build either the access road or the proposed location.

7. Methods of Handling Waste Materials

All garbage and trash materials will be stored in a trash basket and removed from the site for proper disposal. A portable toilet will be provided for human waste and serviced in a proper manner. If liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time the reserve pit can be properly covered over to prevent run-off from carrying waste materials into the watershed. If earthen pits are located in natural drainage, diversion ditches will be constructed to prevent run off into pits. Generation of hazardous waste is not anticipated. Federal regulations will be adhered to regarding handling and disposal of such waste if so generated.



8. Wellsite Layout

Refer to the location diagram and to the wellsite cut and fill diagram (Figure No. 4). The blow pit will be constructed with a 2'/160' grade to allow positive drainage to the reserve pit and prevent liquids in the blow pit.

9. Plans for Restoration of the Surface

After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeding operations will be performed during the time period set forth by the responsible governmental agency. The permanent location, facilities will be painted as designated by the responsible governmental agency.

10. Surface Ownership

BLM Federal Land

11. Other Information

Environmental stipulations as outlined by the responsible government agency will be adhered to. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.

12. Operator=s Representative and Certification

Gary Brink, General Manager - San Juan, 2198 Bloomfield Highway, Farmington, New Mexico 87401, telephone (505) 325-6800. I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan, are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Energen Resources Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.



Nathan Smith  
Drilling Engineer

