Form 3160-3
(April 2004)

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

5. Lease Serial No.
SF 78139

1a. Type of Work [X] DRILL [ ] REENTER

6. If Indian, Allotee or Tribe Name

1b. Type of Well [ ] Oil Well [X] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

7. Unit or CA Agreement Name and No.

2. Name of Operator
Energen Resources Corporation

RECEIVED

8. Lease Name and Well No.
Federal 30-9-26 #2S

3a. Address
2198 Bloomfield Highway Farmington, New Mexico 87401

3b. Phone No. (include area code)
(505) 325-6800

9. API Well No.
30-045-32737

4. Location of Well (*Report location clearly and in accordance with any State equirements*)*
At surface 849' FNL 1698' FWL
At proposed prod. zone

10. Field and Pool, or Exploratory
Basin Fruitland Coal

11. Sec., T., R., M., or Blk. and Survey or Area
Sec.26,T30N,R09W NMPM

14. Distance in miles and direction from nearest town or post office*
6.5 miles east of Blanco, 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)
849'

16. No. of Acres in lease
2560

17. Spacing Unit dedicated to this well
W 1/2 320.00

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
240'

19. Proposed Depth
2839'

20. BLM/BIA Bond No. on file

21. Elevations (Show whether DF, KDB, RT, GL, etc.
5947'

22. Approximate date work will start*
03/05

23. Estimated duration
6 days

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

24. Attachments

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

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
Doug Thomas

Name (*Printed/Typed*)
Doug Thomas

Date
12/03/04

Title
Drilling Superintendent

Approved by (Signature)
Matthew Kresse

Name (*Printed/Typed*)

Date
2-4-05

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.

*(Instructions on page 2)*

NMOCD

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised June 10, 2003
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 |
|---|---|---|
| 30-045-32737 | | BASIN FRUITLAND COAL |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| 300454 | FEDERAL 30-9-26 | 2S |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 162928 | ENERGEN RESOURCES CORPORATION | 5947' |

## [10] Surface Location

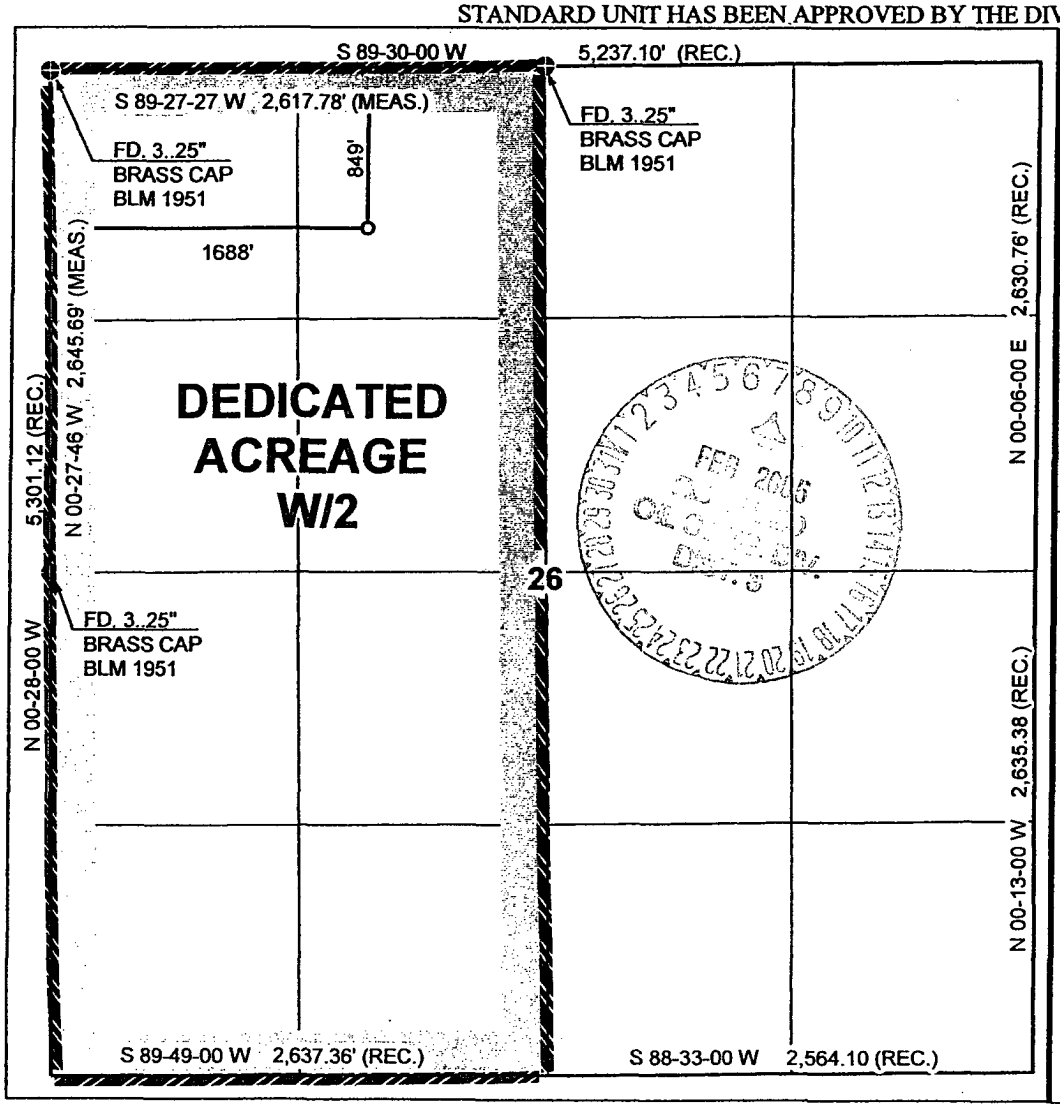
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| C | 26 | 30N | 9W | | 849 | NORTH | 1688 | WEST | SAN JUAN |

## [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 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] 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




## [17] OPERATOR CERTIFICATION

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

Signature

DOUG THOMAS
Printed Name

Drilling Superintendent
Title and E-mail Address

12/3/04
Date

## [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.*

10/22/04
Date of Survey

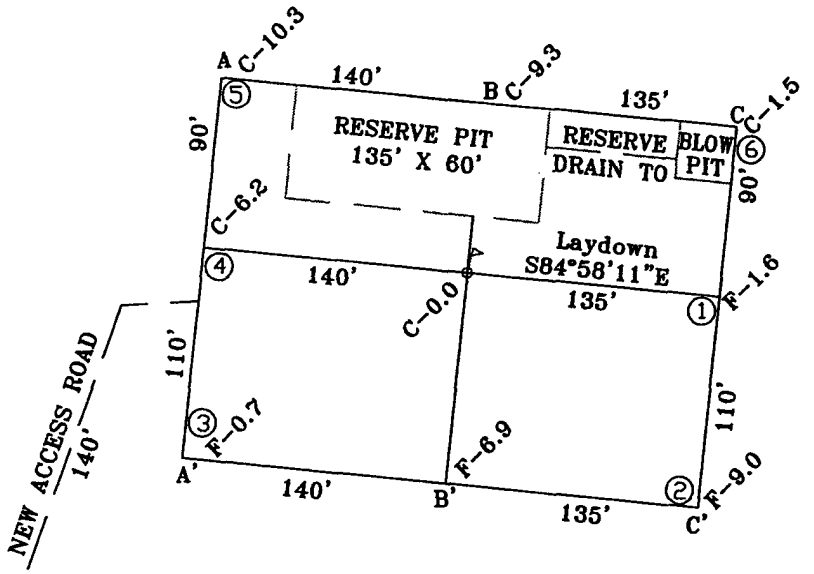
Signature and Seal of Professional Surveyor

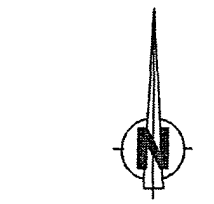
R. HOWARD DAGGETT
NEW MEXICO
9679
REGISTERED PROFESSIONAL LAND SURVEYOR

NM #9679
Certificate Number

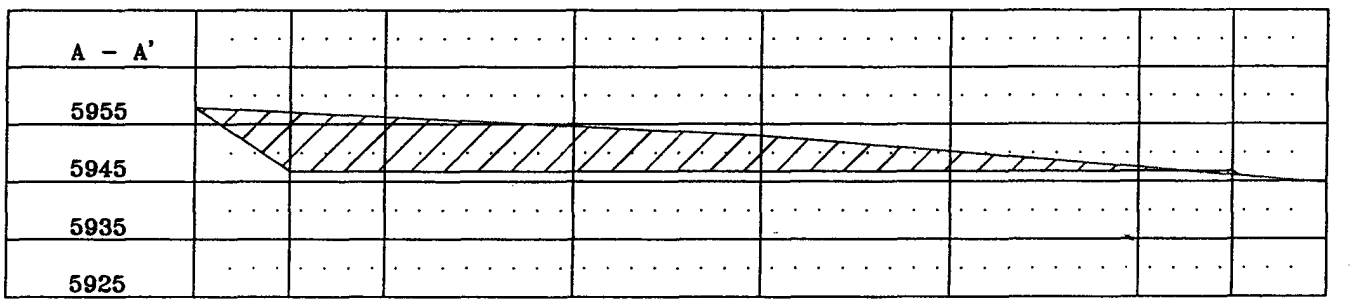
# ENERGEN RESOURCES CORPORATION

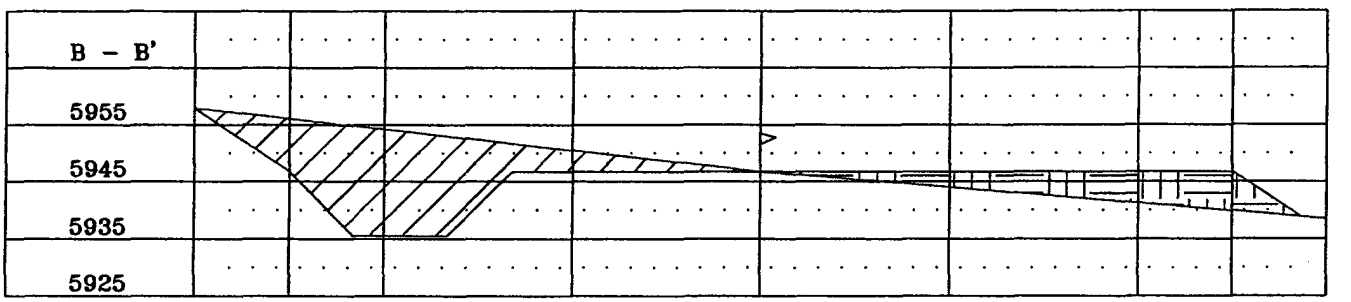
FEDERAL 30-9 26 #2S
849' FNL, 1688' FWL
LOCATED IN THE NE/4 NW/4 OF
SECTION 26, T30N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
ELEVATION: 5947', NAVD 88

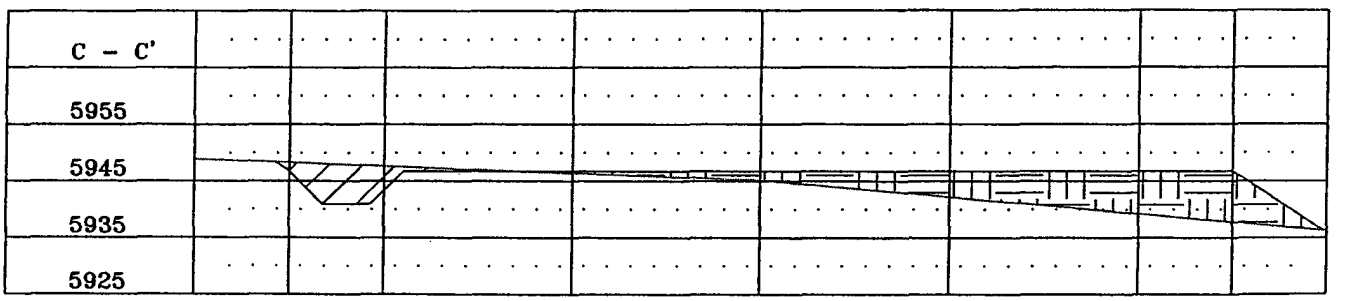


LATITUDE: 36°47'13"N
LONGITUDE: 107°45'12"W
DATUM: NAD 83



# Operations Plan

December 3, 2004

## Federal 30-9-26 #2S

### General Information

| | |
|---|---|
| Location | 0849' fnl, 1688' fwl<br>S27, T30N, R09W<br>San Juan County, New Mexico |
| Elevations | 5947' GL |
| Total Depth | 2839' (MD) |
| Formation Objective | Basin Fruitland Coal |

### Formation Tops

| | |
|---|---|
| Nacimiento | Surface |
| Ojo Alamo Ss | 1514' |
| Kirtland Sh | 1614' |
| Fruitland Fm | 2339' |
| Top Coal | 2439' |
| Bottom Coal | 2639' |
| Pictured Cliffs Ss | 2654' |
| **Total Depth** | **2839'** |

### Drilling

The 12 ¼" 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 8.9 ppg to 9.5 ppg.
Blowout Control Specifications:

An 11" 2000 psi minimum double gate BOP stack (figure 1) 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 stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle available and drill string valve to fit each drill string will be available on the rig floor during drilling operations.

Logging Program:

Open hole logs: Surface to TD use Induction/GR and Density logs at TD
Mud logs: Check with Greg Jennings
Coring: None
Natural Gauges: None

## Tubulars

Casing, Tubing, & Casing Equipment:

| String | Interval | Wellbore | Casing | Csg Wt | Grade |
|---|---|---|---|---|---|
| Surface | 0'-300' | 12 ¼" | 8 5/8" | 24.0 ppf | J-55 ST&C |
| Production | 300'-2839' | 7 7/8" | 5 ½" | 15.5 ppf | J-55 LT&C |
| Tubing | 0'-2800' | | 2 3/8" | 4.7 ppf | J-55 |

Casing Equipment:

Surface Casing: Texas Pattern Guide Shoe on bottom. 4 bow spring centralizers spaced every other joint from bottom.

Production Casing: Cement nose guide shoe with self fill insert float collar on top of bottom joint. 10 bow spring centralizers spaced every 2nd joint off bottom. Two turbolating centralizers at the base of the Ojo Alamo.

## Wellhead

8 5/8" 2000 x 5 ½" Larkin casing head. 5 ½" 2000 x 2" tubing head.

## Cementing

Surface Casing: 225 sks Std (class B) with 2.0 % $CaCl_2$ and ¼ #/sk Flocele (15.6 ppg, 1.18 $ft^3$/sk ~~248~~ 266 $ft^3$ 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 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 425 sks 65/35 with 6.0 % Bentonite, 2.0 % $CaCl_2$, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.96 $ft^3$/sk) and a tail of 140 sks Standard (Class B) with 5.0 #/sk Gilsonite, ¼ #/sk Flocele (15.2 ppg, 1.26 $ft^3$/sk). ~~(984.0~~ 1009 $ft^3$ of slurry, 100 % excess to circulate to surface).

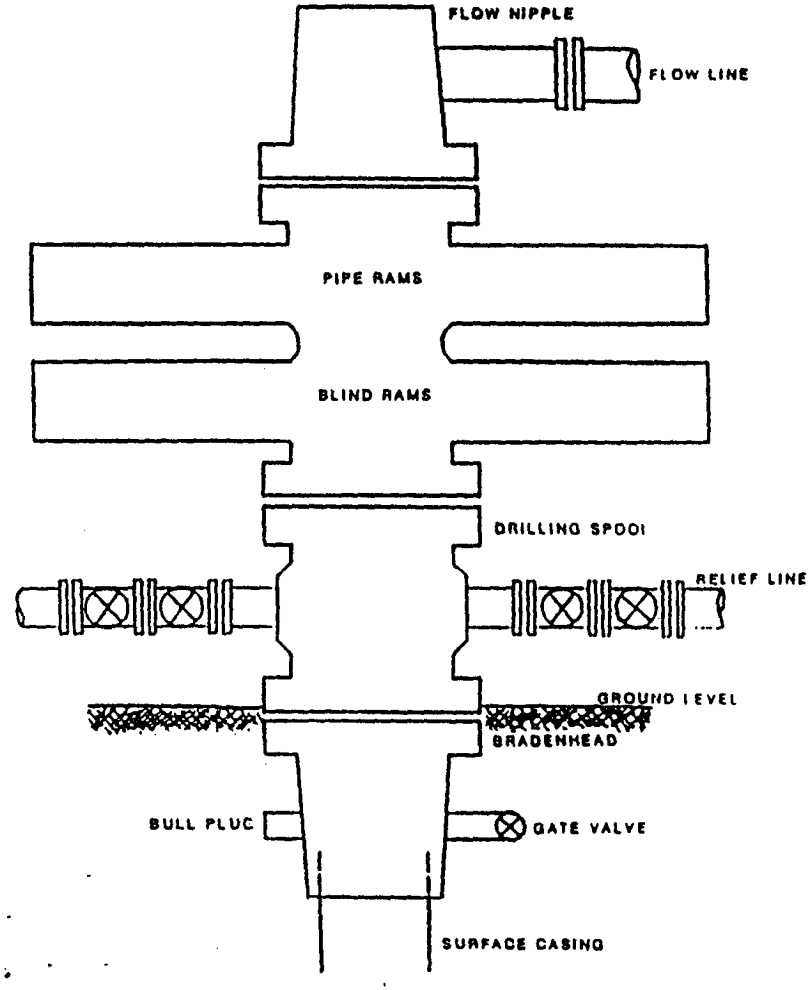
**Pump 30 bbls of Flyash spacer/scavenger, consisting of: San Juan Poz, 15.0 % Bentonite, and 0.15 % HR-5 ahead of lead cement.**

## Other Information

1) This well will be 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.

# Figure #1

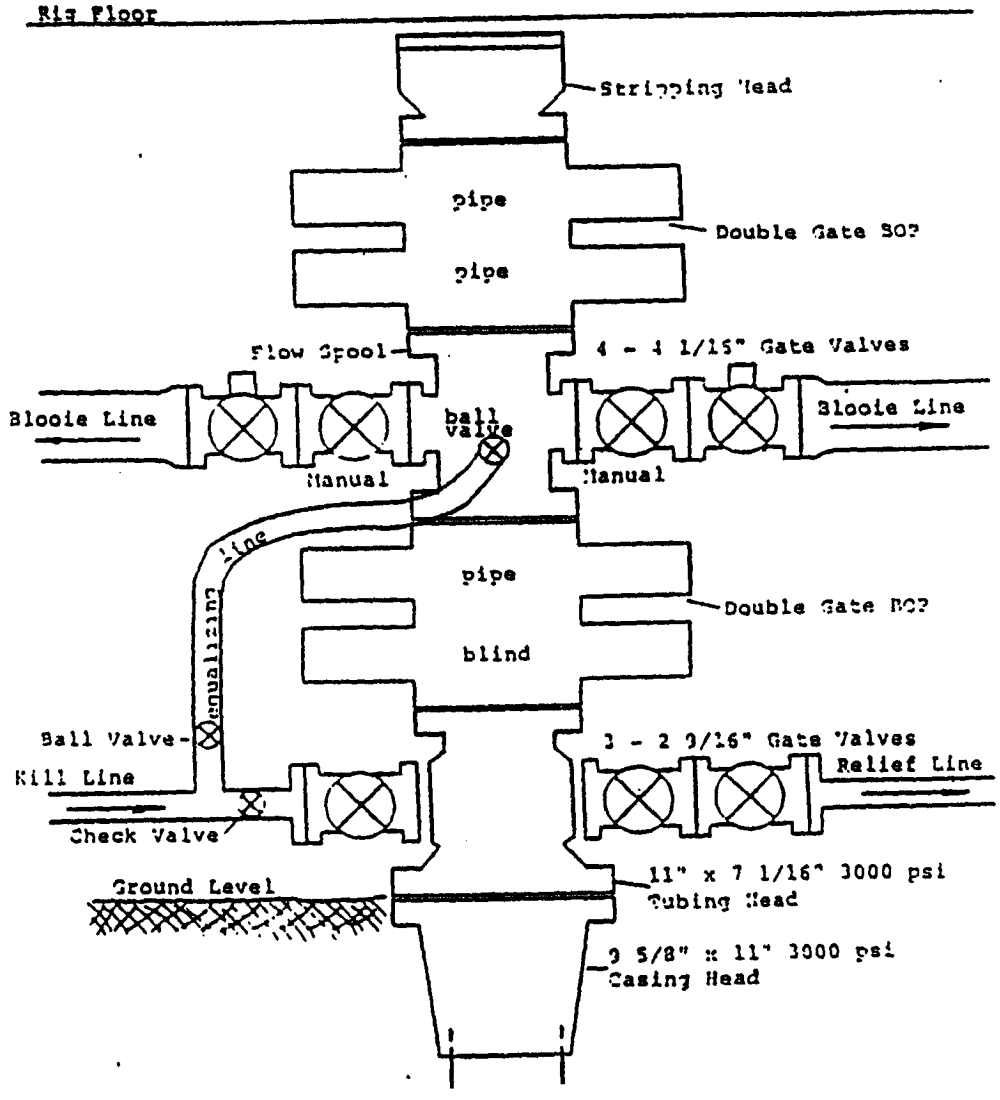
YPICAL B.O.P.E. INSTALLATION
'OR A FRUITLAND COAL WELL
(to Intermediate TD)




Series 900 double gate BOP
Rated at 3000 psi working pressure

# Figure #2

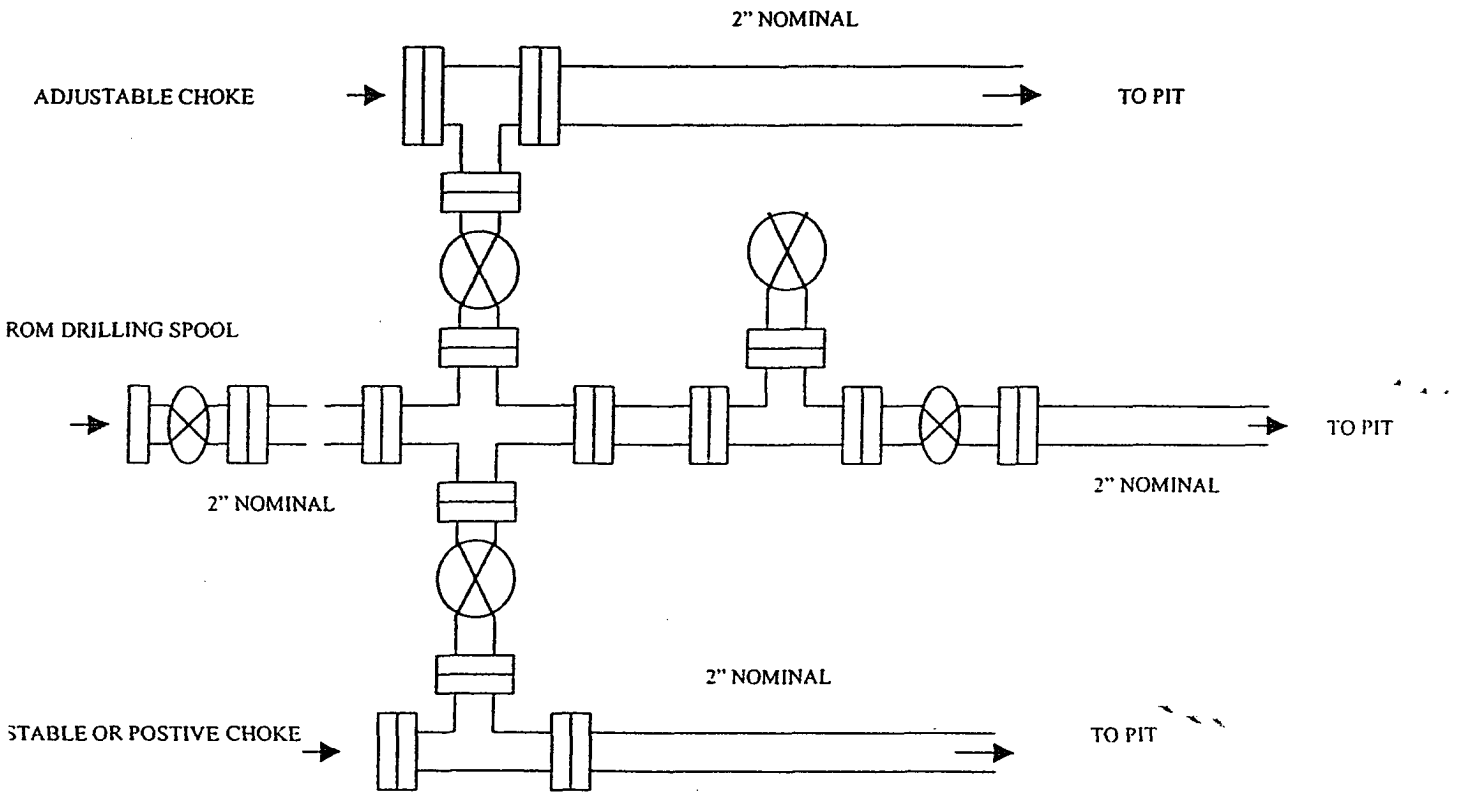
FRUITLAND COAL WELL
TYPICAL BOP CONFIGURATION
7 1/16" 3000 psi (minimum) BOP STACK
(From intermediate to total depth)



# ENERGEN RESOURCES CORPORATION

Choke Manifold Configuration

2M psi System




Minimum choke manifold installation from surface to Total Depth.
2" minimum, 2000 psi working pressure equipment with two chokes.