

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

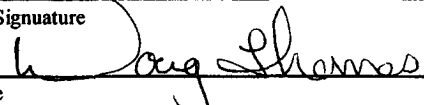
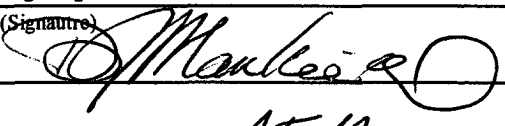
## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>SE 78097</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>2198 Bloomfield Highway Farmington, New Mexico 87401</b>		8. Lease Name and Well No. <b>Federal 31-11-28 #4</b>
3b. Phone No. (include area code) <b>(505) 325-6800</b>		9. API Well No. <b>30045 32781</b>
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface <b>1566' ENL 894' FWL</b> At proposed prod. zone		10. Field and Pool, or Exploratory <b>Basin Fruitland Coal</b>
11. Sec., T., R., M., or Blk. and Survey or Area <b>E-Sec. 28, T31N, R11W NMEM</b>		12. County or Parish <b>San Juan</b>
13. State <b>NM</b>		14. Distance in miles and direction from nearest town or post office* <b>approximately 5 miles north of Atec, NM</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) <b>849'</b>	16. No. of Acres in lease <b>2475.61</b>	17. Spacing Unit dedicated to this well <b>W 1/2</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>1700'</b>	19. Proposed Depth <b>2790'</b>	20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>6038' GL</b>	22. Approximate date work will start* <b>11/30/2005</b>	23. Estimated duration <b>15 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>Doug Thomas</b>	Date <b>12/22/04</b>
Title <b>Drilling Superintendent</b>		
Approved by (Signature) 	Name (Printed/Typed) <b>AFM</b>	Date <b>5-9-05</b>
Title <b>AFM</b>	Office <b>FFB</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)

NMOC

## 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 &amp; 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

2004 DEC 28 AM 9 37 ☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-045-32781		2 Pool Code		3 Pool Name 070 FRUITLAND COAL	
4 Property Code 300459		5 Property Name FEDERAL 31-11-28			6 Well Number 4
7 OGRID No. 162928		8 Operator Name ENERGEN RESOURCES CORPORATION			9 Elevation 6038'

## 10 Surface Location

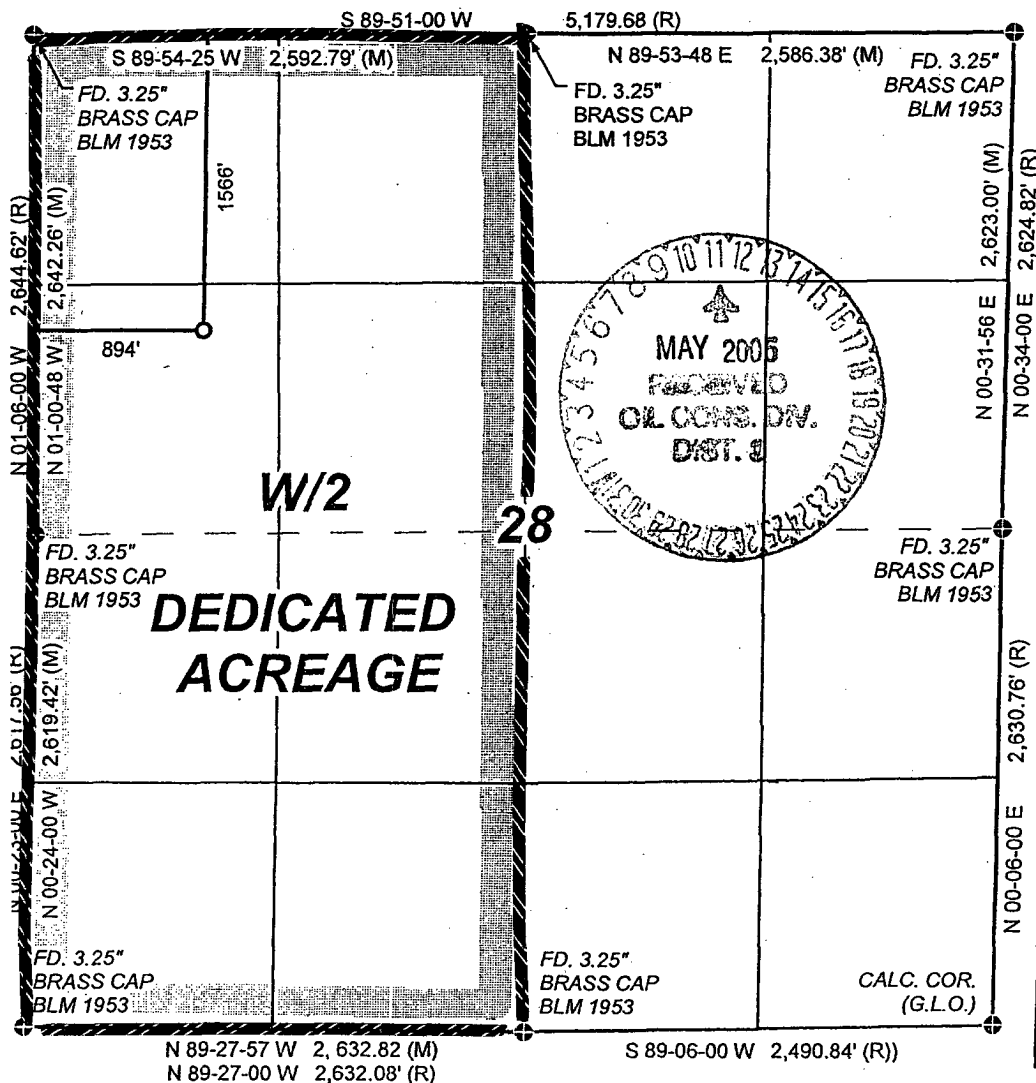
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	28	31N	11W		1566	NORTH	894	WEST	SAN JUAN

## 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 320	13 Joint or Infill	14 Consolidation Code	15 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



## 17 OPERATOR CERTIFICATION

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

*Way Thomas*  
Signature

Doug Thomas  
Printed Name

Drilling Superintendent  
Title and E-mail Address

12/27/04  
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.

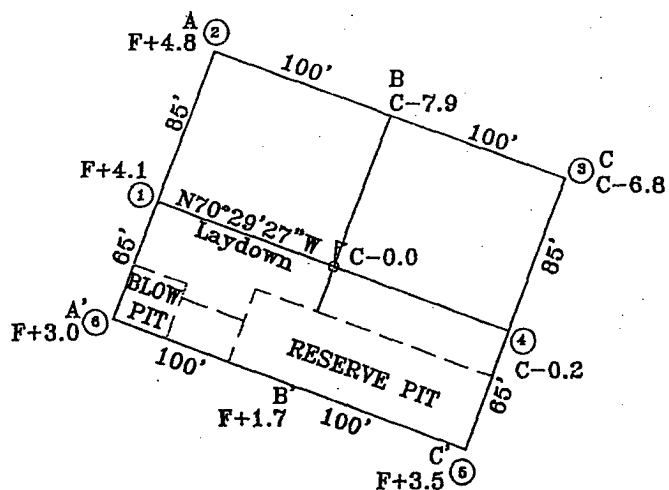
11/19/04  
Date of Survey

*R. Howard Daggett*  
Signature and Seal of Professional Surveyor

NM #9679  
Certificate Number

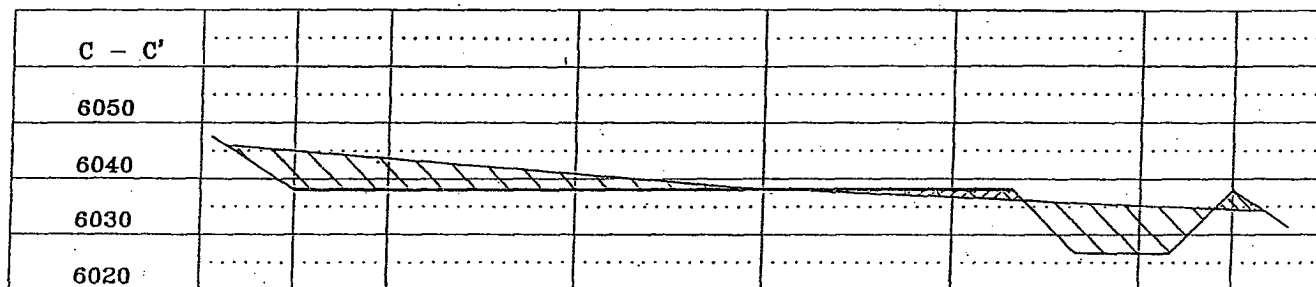
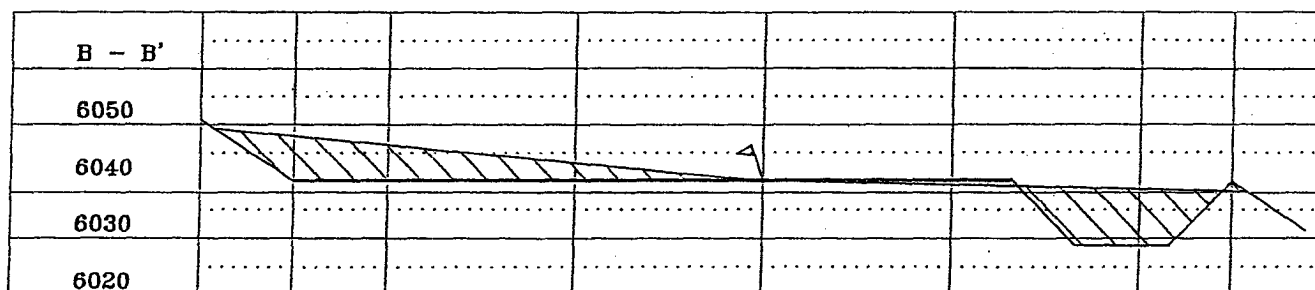
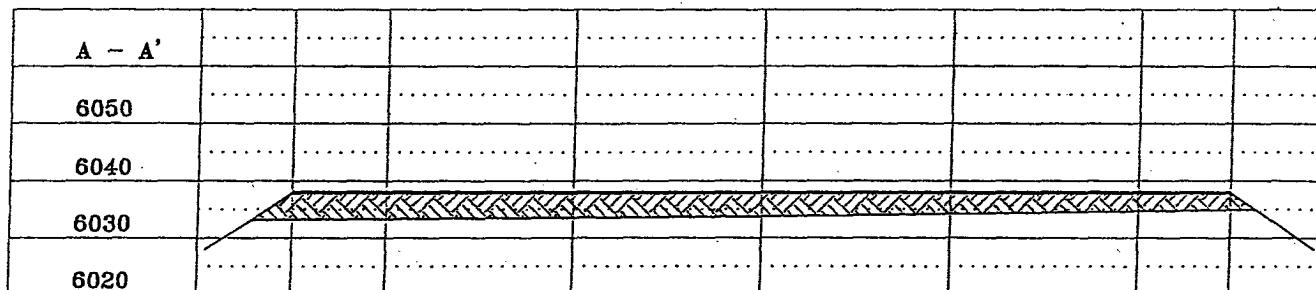


FEDERAL 31-11-28 #4  
1566' FNL & 894' FWL  
LOCATED IN THE NW/4 OF SECTION 28,  
T31N, R11W, N.M.P.M.,  
SAN JUAN COUNTY, NEW MEXICO  
ELEVATION: 6038', NAVD 88



LATITUDE: 36°52'23"N  
LONGITUDE: 108°00'08"W  
DATUM: NAD 83

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## Operations Plan

December 21, 2004

### **Federal 31-11-28 #4**

#### **General Information**

Location	1566' fnl, 0894' fwl swnw S28, T31N, R11W San Juan County, New Mexico
Elevations	6038' GL
Total Depth	2790' (MD)
Formation Objective	Basin Fruitland Coal

#### **Formation Tops**

Nacimiento	Surface
Ojo Alamo Ss	1010'
Kirtland Sh	1065'
Fruitland Fm	2150'
Top Coal	2365'
Bottom Coal	2590'
Pictured Cliffs Ss	2590'
Total Depth	2790'

*ABHP ~ 1200 psi*

#### **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/GR/VHRD logs

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'-2790'	7 7/8"	5 ½"	15.5 ppf	J-55 LT&C
Tubing	0'-2790'		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 ½" Larkin casing head. 5 ½" 2000 x 2" tubing head.

## Cementing

Surface Casing: 225 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 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 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<sub>2</sub>, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.96 ft<sup>3</sup>/sk) and a tail of 150 sks of Standard (Class B) cement with 5.0 #/sk Gilsonite and ¼ #/sk Flocele (15.2 ppg, 1.24 ft<sup>3</sup>/sk). ~~407 ft<sup>3</sup>~~ of slurry, 100 % excess to circulate to surface and is subject to change with caliper log volumes). 1019

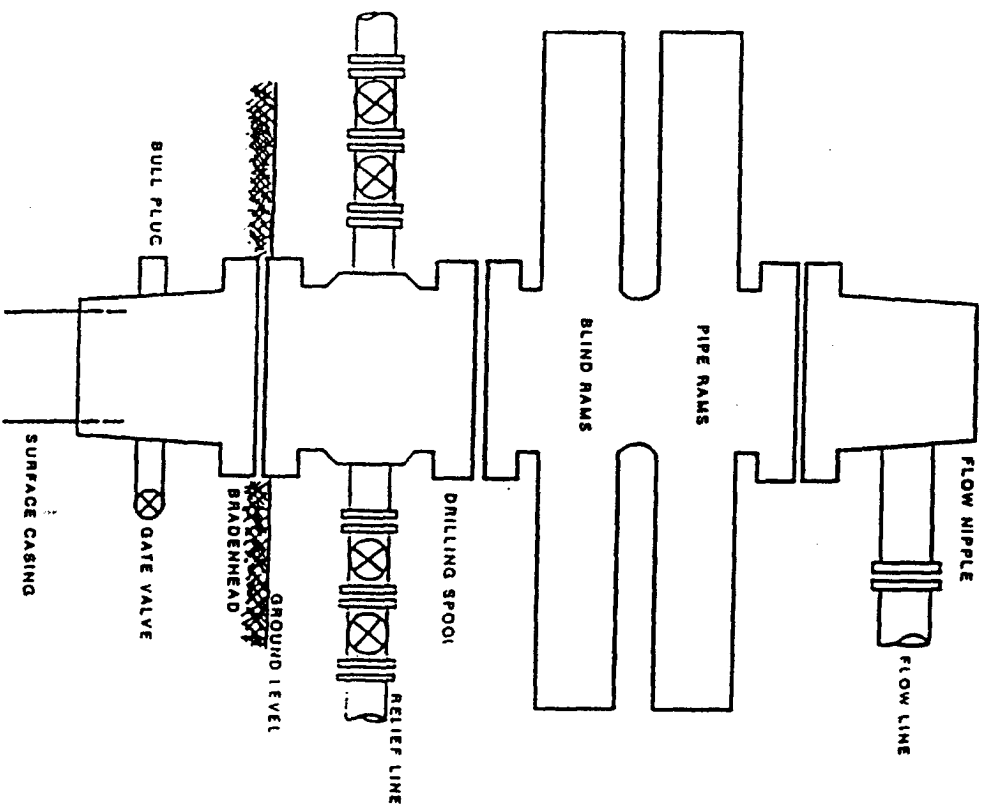
\*\*\*Pump 30 sacks of flyash spacer/scavenger ahead of lead cement consisting of San Juan Flyash, 15.0 % Bentonite, and 0.15 % HR-5.\*\*\*

## Other Information

- 1) This well will be a 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.

# Figure #1

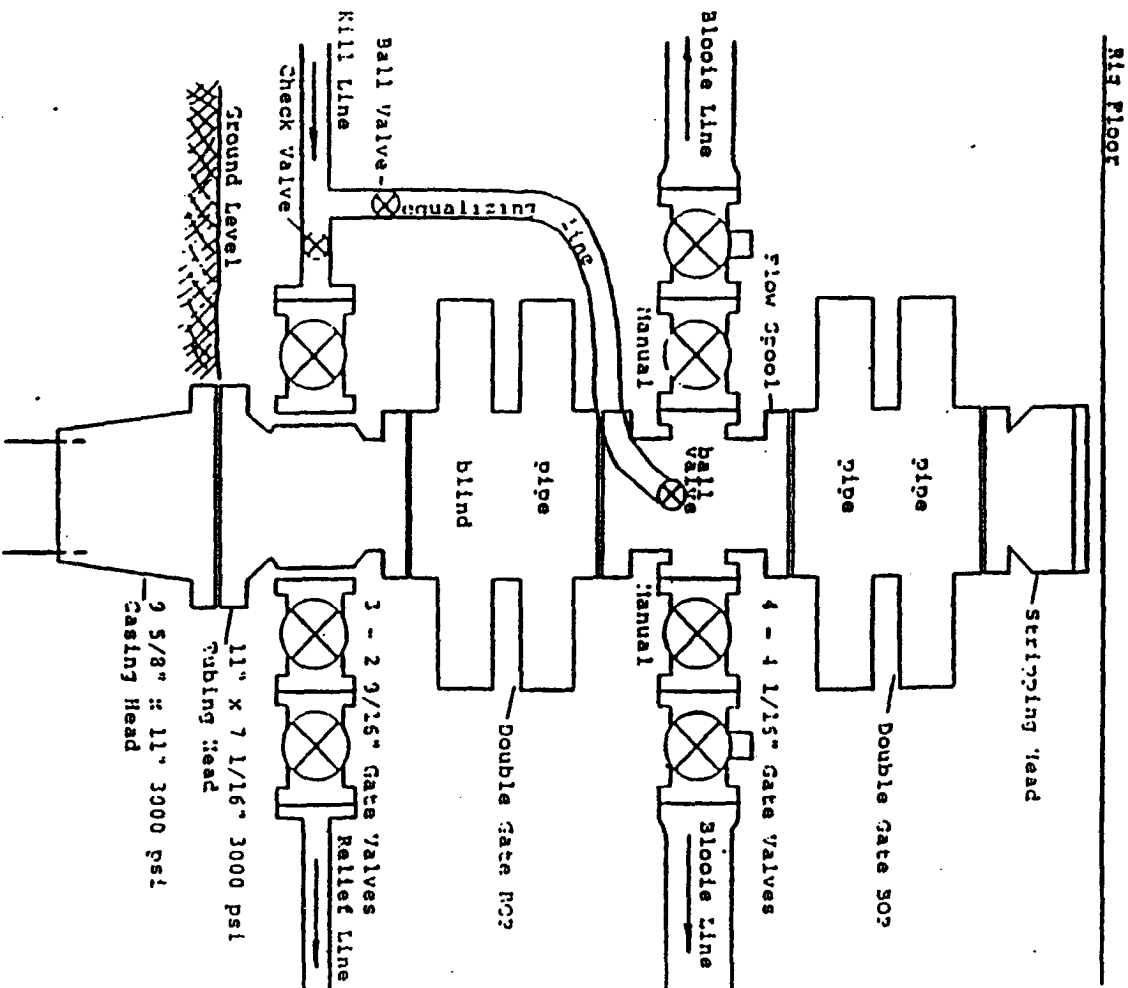
TYPICAL B.O.P.E. INSTALLATION  
FOR A FRUITLAND COAL WELL  
(to intermediate TD)



Series 900 double gate BOP  
Rated at 3000 psi working pressure

# Figure #2

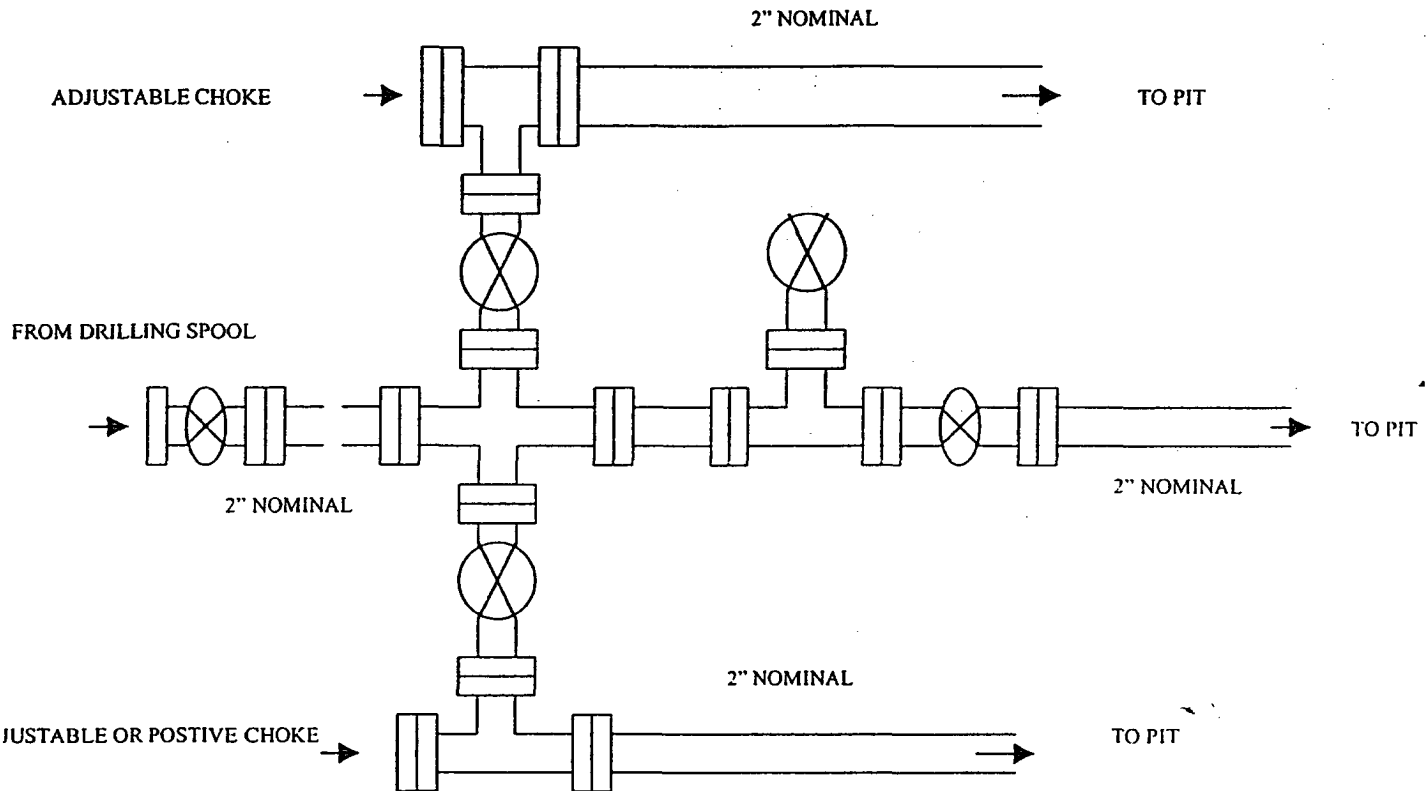
FRUITLAND COAL WELL  
TYPICAL BOP CONFIGURATION  
7 1/16" 3000 psi (minimum) BOP STACK  
(from intermediate to total depth)



# 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.