

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>SF078502</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 checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator <b>Energen Resources Corporation</b>		7. Uplift or Agreement Name and No.
3a. Address <b>2198 Bloomfield Highway Farmington, New Mexico 87401</b>		8. Lease Name and Well No. <b>Vandewart A 29-8-11 12S</b>
3b. Phone No. (include area code) <b>(505) 325-6800</b>		9. API Well No. <b>30-045-32764</b>
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface <b>660' FSL, 1905' 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>14.5 Miles NE of Blanco NM</b>		11. Sec., T., R., M., or Blk. and Survey or Area <b>O-Sec. 11, T29N, R08W NMEM</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) <b>660'</b>	16. No. of Acres in lease <b>1840</b>	12. County or Parish <b>San Juan</b> <input checked="" type="checkbox"/> 13. State <b>NM</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>2350'</b>	19. Proposed Depth <b>3279'</b>	17. Spacing Unit dedicated to this well <b>320 E 1/2</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>6382' GL</b>	22. Approximate date work will start* <b>March 05</b>	20. BLM/BIA Bond No. on file
23. Estimated duration <b>6 Days</b>		

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.  | 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 <i>Doug Thomas</i>	Name (Printed/Typed) <b>Doug Thomas</b>	Date <b>12/2/2004</b>
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Title  
**Drilling Superintendant**

Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) <b>AFM</b>	Date <b>2-16-05</b>
Title <b>AFM</b>	Office <b>FEO</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)

NMOCD

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

District II  
PO Drawer 00, Artesia, NM 88211-0719

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

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

State of New Mexico  
Energy, Minerals & Natural Resources Department

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

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30.045-32764		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 34649	*Property Name VANDEWART A 29-8-11		*Well Number 12S
*OGRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION		*Elevation 6382'

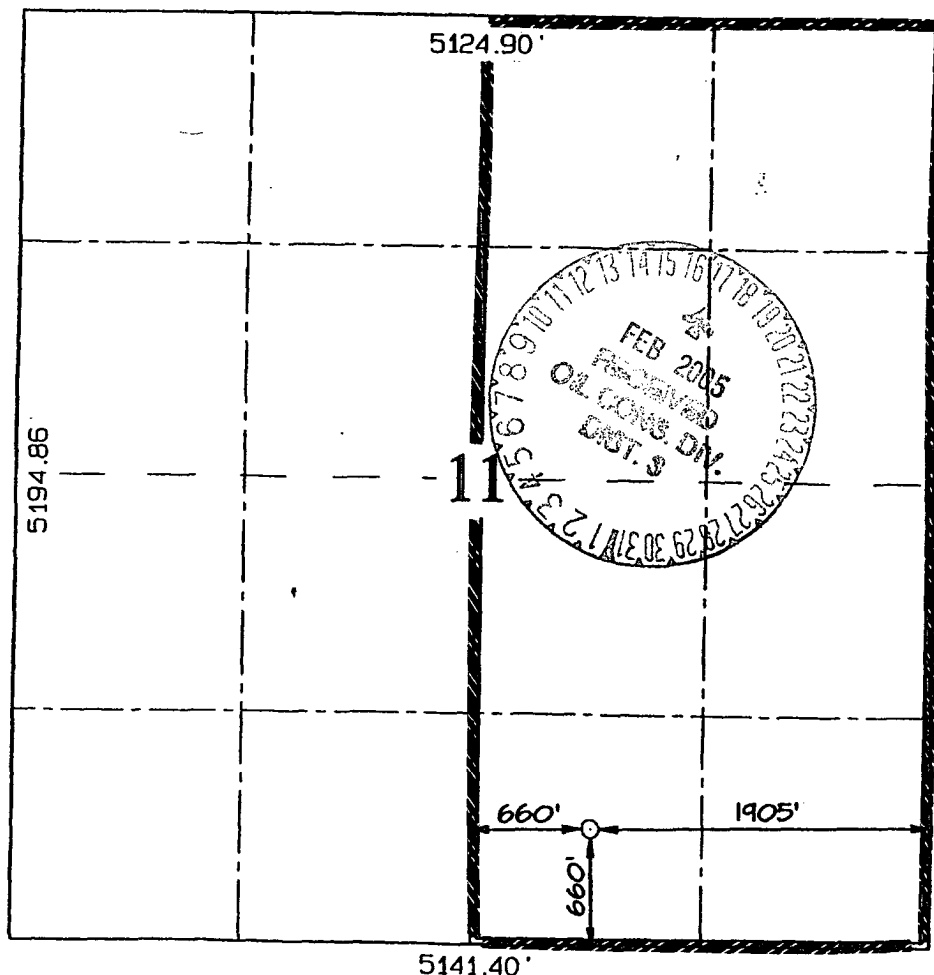
#### <sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	11	29N	8W		660	SOUTH	1905	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 320.0 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

Signature

Doug Thomas

Printed Name

Drilling Superintendant

Title

12.2.04

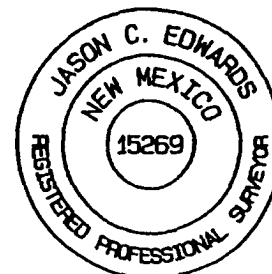
Date

#### <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.

Survey Date: SEPTEMBER 3, 2004

Signature and Seal of Professional Surveyor

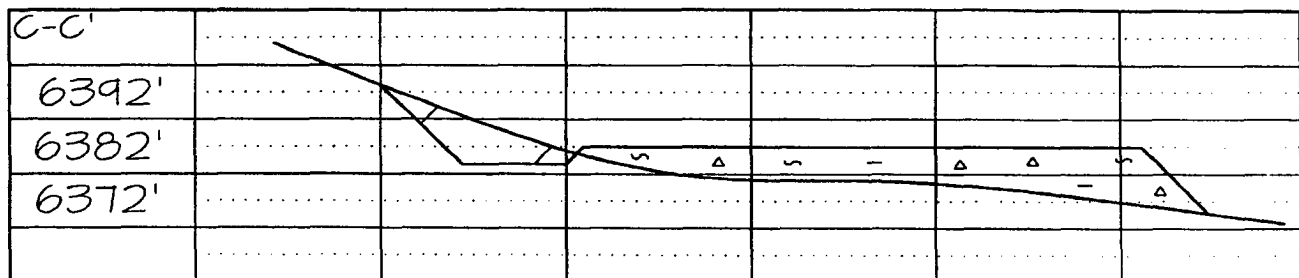
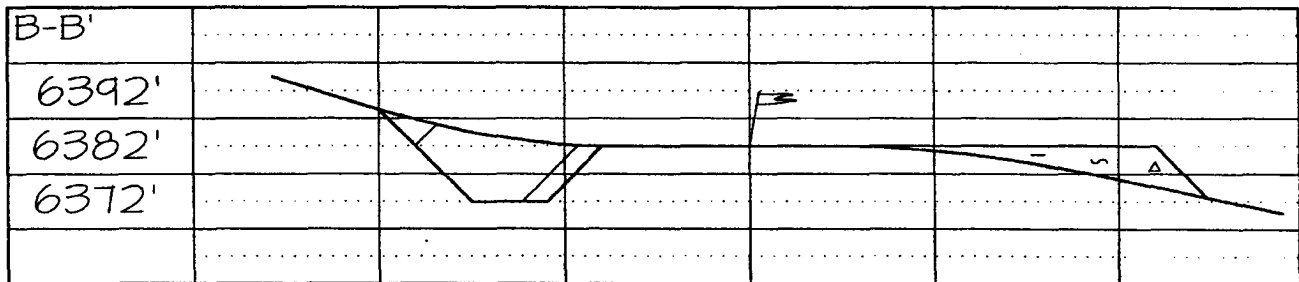
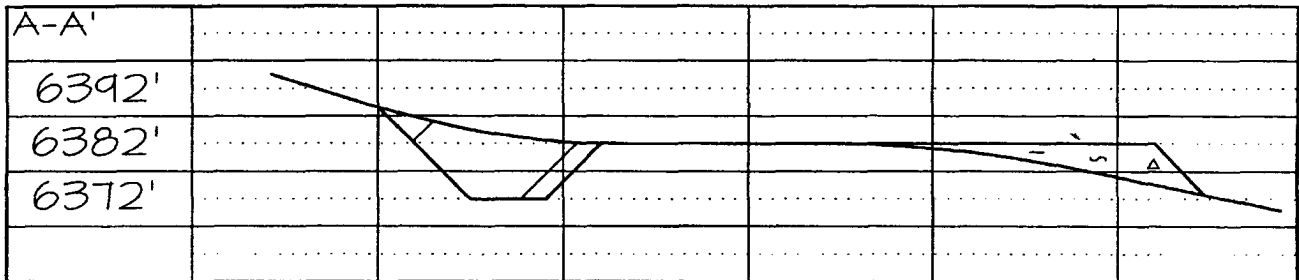
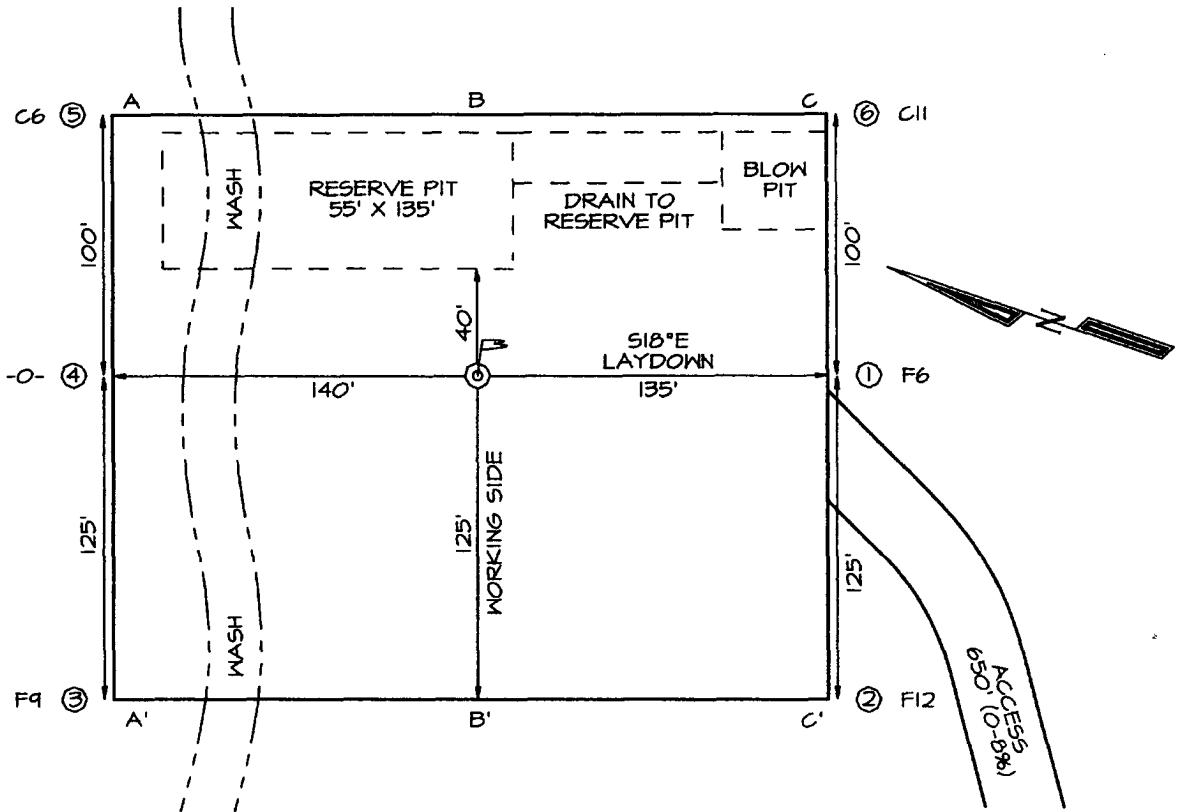


JASON C. EDWARDS

Certificate Number 15269

**ENERGEN RESOURCES VANDEWART A 29-8-11 #12S  
660' FSL & 1905' FEL, SECTION 11, T29N, R8W, NMPM  
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6382'**

**LATITUDE: 36°44'03"  
LONGITUDE: 107°38'32"  
DATUM: NAD1927**



## Operations Plan

October 25, 2004

### **Vandewart 29-8-11 #12S**

#### **General Information**

Location	0660' fsl, 1905' fel S11, T29N, R09W San Juan County, New Mexico
Elevations	6382' GL
Total Depth	3279' (MD)
Formation Objective	Basin Fruitland Coal

#### **Formation Tops**

San Jose	Surface
Nacimiento	724'
Ojo Alamo Ss	2044'
Kirtland Sh	2234'
Fruitland Fm	2784'
Top Coal	2834'
Bottom Coal	3079'
Pictured Cliffs Ss	3084'
<b>Total Depth</b>	<b>3279'</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 8.9 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 1/4"	8 5/8"	24.0 ppf	J-55 ST&C
Production	300'-3279'	7 7/8"	5 1/2"	15.5 ppf	J-55 LT&C
Tubing	0'-3200'		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 2<sup>nd</sup> joint off bottom. Two turbolating centralizers at the bas of the Ojo Alamo.

## 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>246</sup>248 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 500 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 225 sks Standard (Class B) with 5.0 #/sk Gilsonite, 1/4 #/sk Flocele (15.2 ppg, 1.26 ft<sup>3</sup>/sk). ~~1136.5~~ <sup>1264</sup>1264 ft<sup>3</sup> of slurry, 100 % excess to circulate to surface).

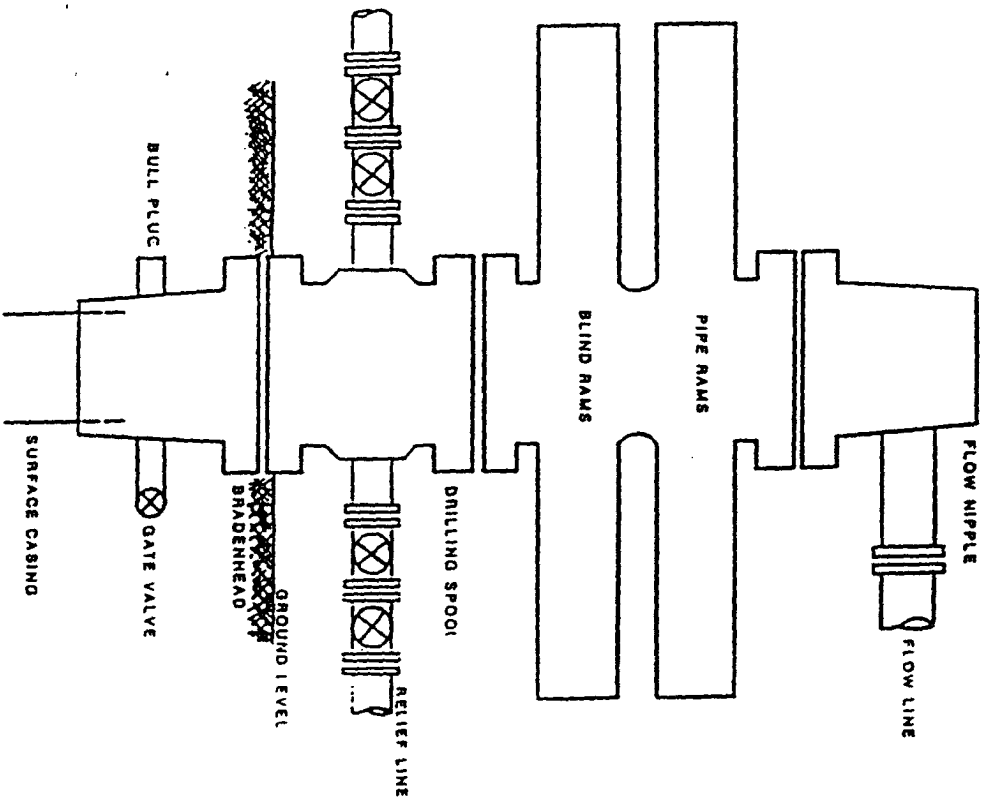
\*\*\* Pump 30 bbls of Flyash spacer/scavenger ahead of lead cement. Check with Halliburton\*\*\*

## 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

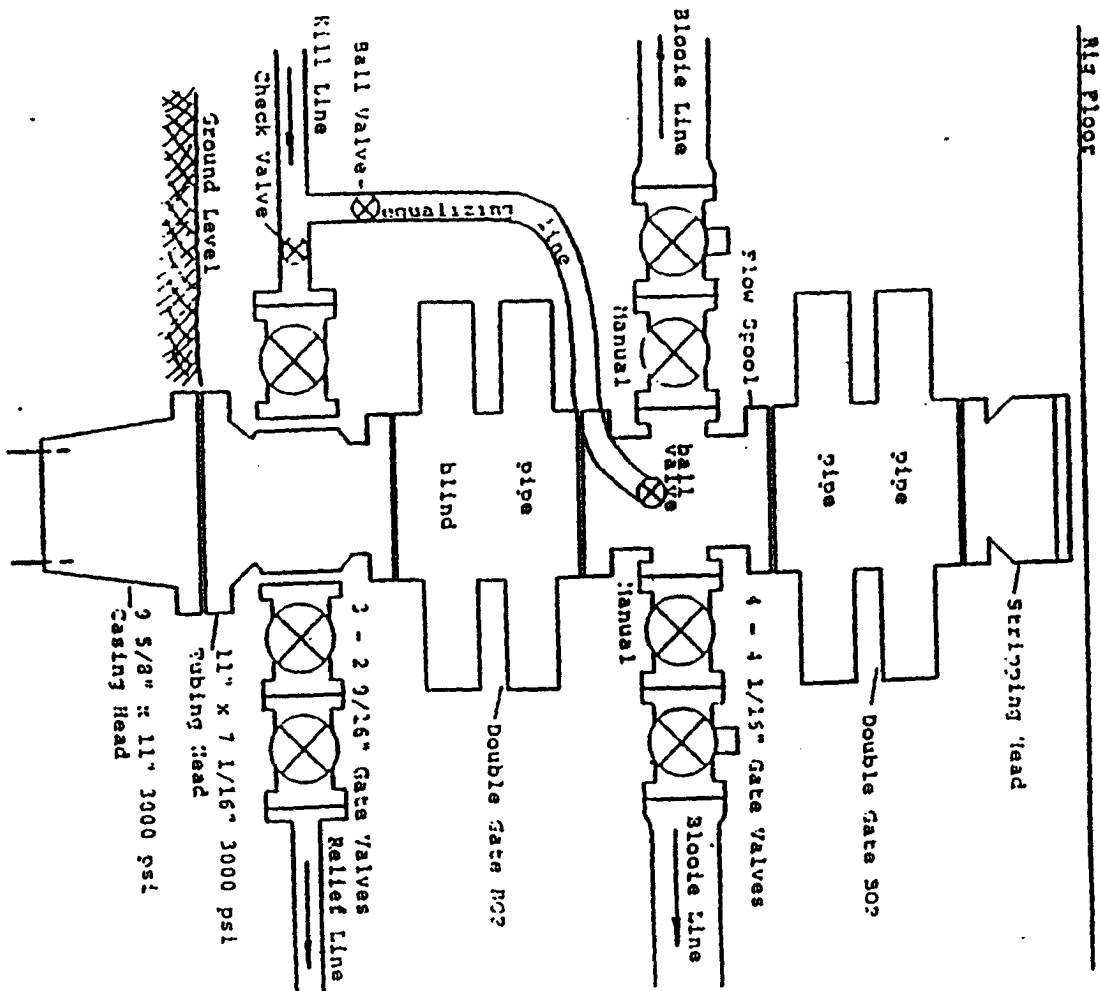
TYPICAL B.O.P.E. INSTALLATION  
FOR A FRUITLAND COAL WELL  
(to Intermediate TD)



Series 900 double gate BOP  
Rated at 3000 psi working pressure

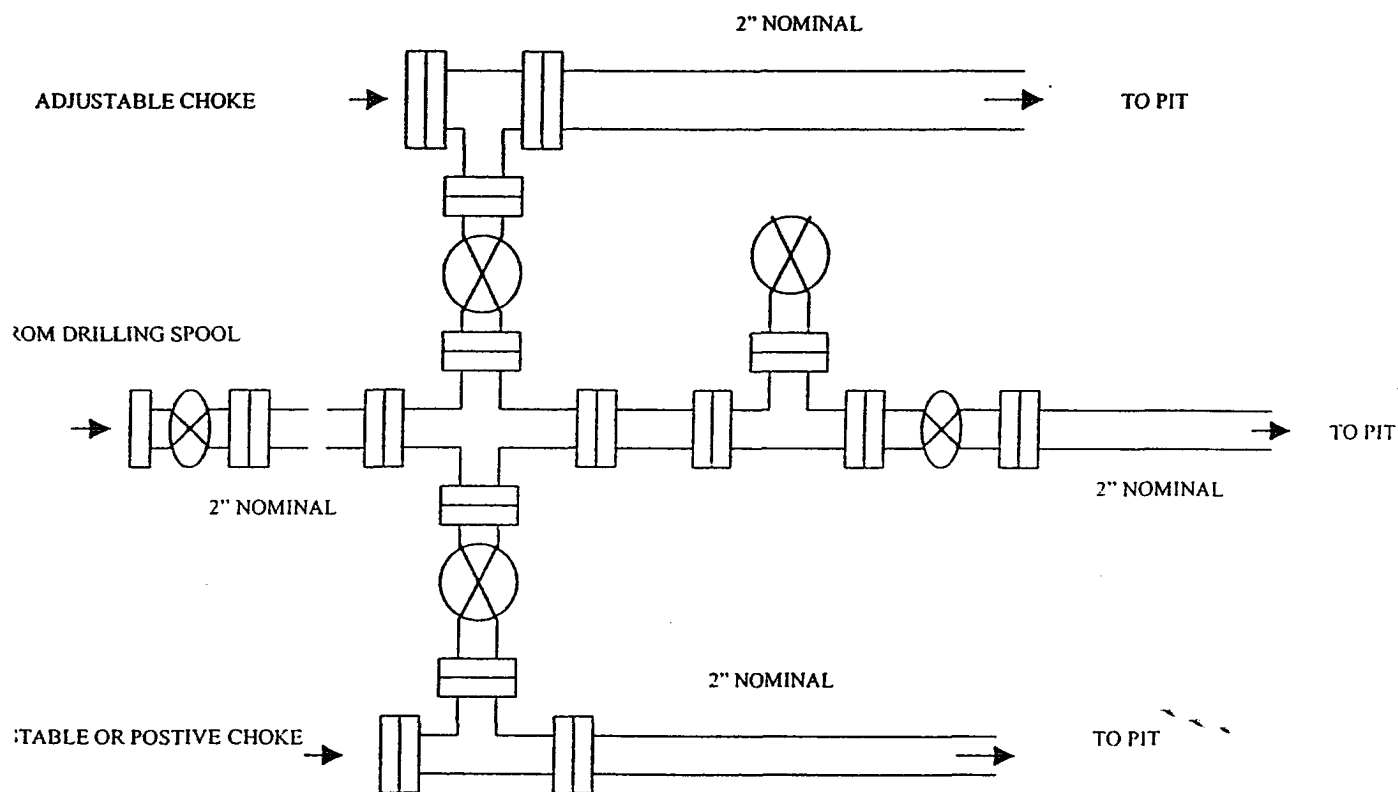
# Figure #2

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.