

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0136  
Expires: November 30, 2000

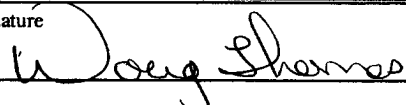
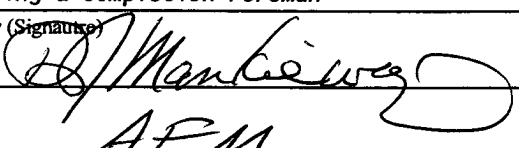
## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM 30586
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 Energen Resources Corporation		7. Unit or CA Agreement Name and No.
3a. Address 2198 Bloomfield Highway Farmington, New Mexico 87401	3b. Phone No. (include area code) (505)325-6800	8. Lease Name and Well No. Carracas 24A 12
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 2630' FSL, 980' FWL At proposed prod. zone		9. API Well No. 30039 27548
14. Distance in miles and direction from nearest town or post office* 36 miles NE of Gobernador, NM		10. Field and Pool, or Exploratory Basin Fruitland Coal
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 980'		11. Sec., T., R., M., or Blk. and Survey or Area L-Sec. 24-T32N-R05W NMPM
16. No. of Acres in lease 639.16		12. County or Parish Rio Arriba
17. Spacing Unit dedicated to this well 320 W/2		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2000'		19. Proposed Depth 4101'
20. BLM/BIA Bond No. on file		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7371' GL		22. Approximate date work will start* 05/04
		23. Estimated duration 5 days

## 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) Doug Thomas	Date 11/21/03
Title Drilling & Completion Foreman		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 11/10/04
Title FEO		

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 Reverse)

This action is subject to technical and procedural review pursuant to 43 CFR 161.4 and appeal pursuant to 43 CFR 3185.4

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

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

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

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

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

☐ AMENDED REPORT

2011/11/24 11:58

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-27548	*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 31444	*Property Name CARRACAS	*Well Number 24A-12
*GRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION	*Elevation 7371'

<sup>10</sup> Surface Location

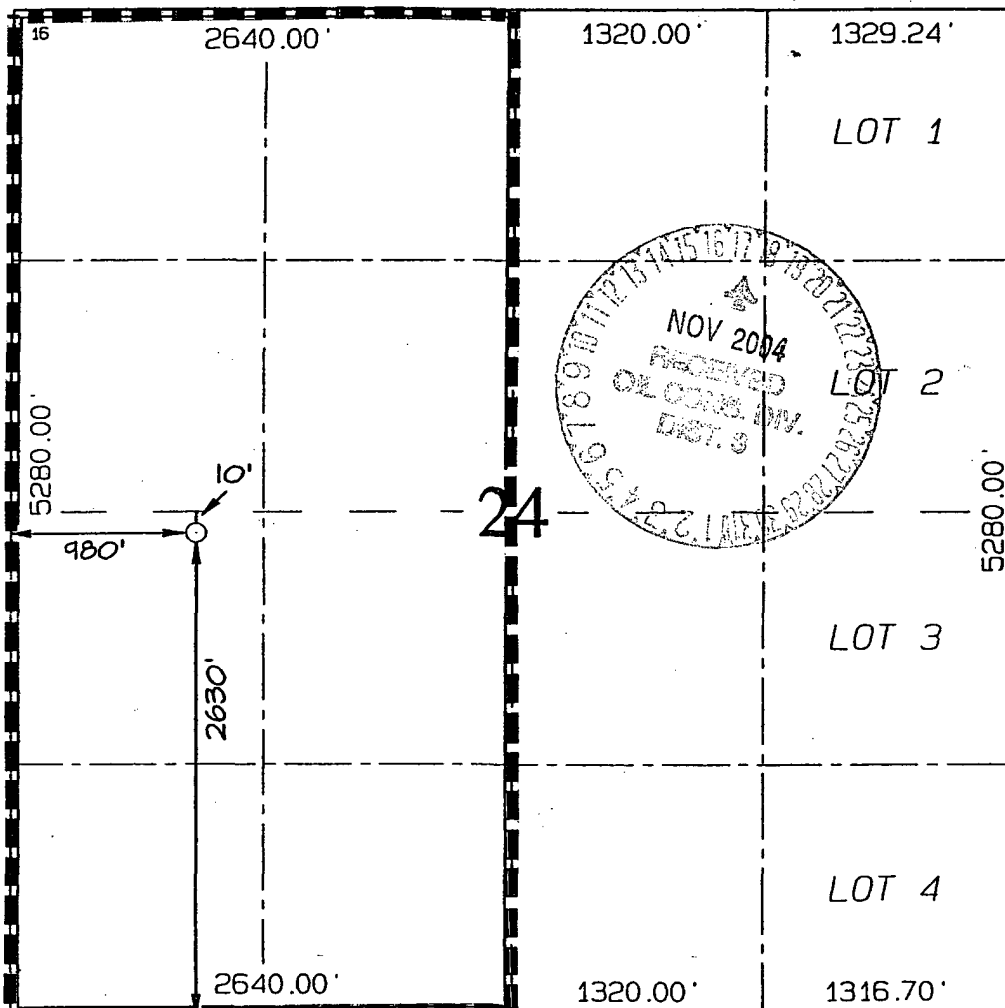
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	24	32N	5W		2630	SOUTH	980	WEST	RIO ARriba

<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 320.0 Acres - (W/2)	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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



<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

*Don Graham*  
Signature  
Don Graham

Printed Name  
Production Superintendant  
Title

Date  
11-19-03

<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: MAY 20, 2003

Signature and Seal of Professional Surveyor



*JASON C. EDWARDS*  
Certificate Number 15269

## OPERATIONS PLAN

WELL NAME: Carracas 24A #12

LOCATION: 2630' FSL, 980' FWL, Section 24, T32N, R5W, Rio Arriba County, NM

FIELD: Basin Fruitland Coal

ELEVATION: 7371' GL

### FORMATION TOPS:

Surface	San Jose
Nacimiento	2036
Ojo Alamo	3351
Kirtland	3471
Fruitland	3876

Total Depth           **4101**

### LOGGING PROGRAM:

#### Open Hole Logs:

Surface to intermediate- Yes

Inter TD to total depth: None

Mud Logs:               Intermediate to total depth

Coring:                 None

Natural Gauges:       Every 500' from intermediate TD to total depth

MUD PROGRAM: Fresh water low solids mud from surface to intermediate TD (9.0 PPG).  
Air/mist from intermediate casing point to total depth.

### CASING PROGRAM:

<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>CSG SIZE</u>	<u>WT.</u>	<u>GRADE</u>
12 1/4"	200'	9 5/8"	32.3#	H-40 – ST&C
8 3/4"	3946'	7"	23#	J-55 – LT&C
6 1/4"	3846'-4101'	5 1/2"	15.5#	J-55 – LT&C

### TUBING PROGRAM:

4050'	2 3/8"	4.7#	J-55
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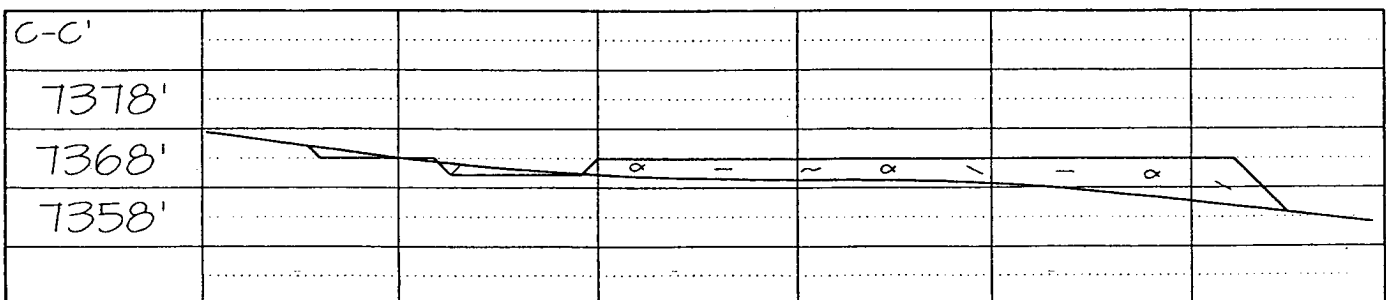
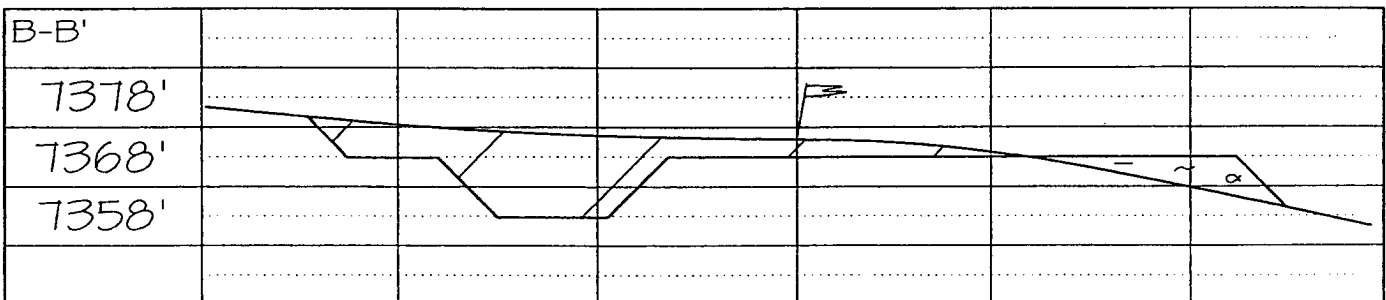
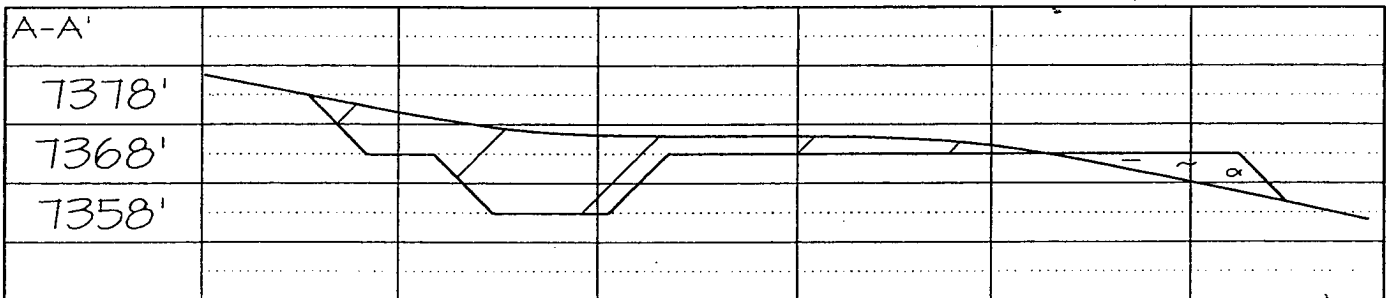
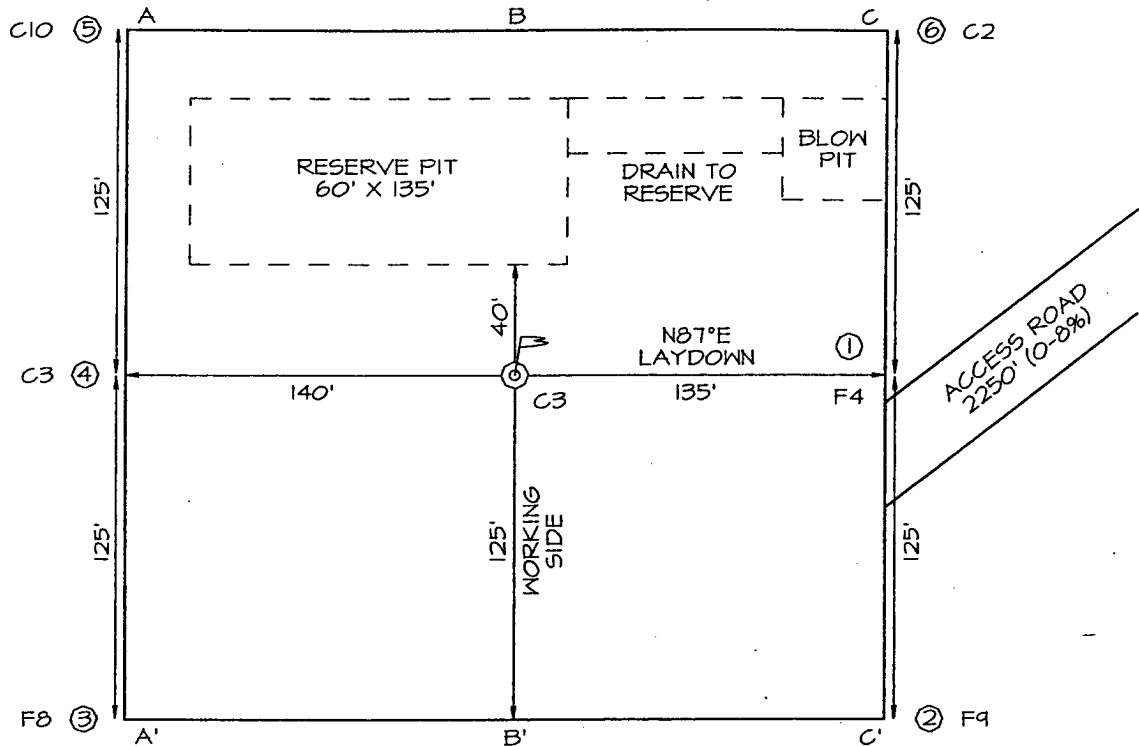
WELLHEAD: 11" 3000 x 9 5/8" casing head. 11" 3000 x 7 1/16" 3000 xmas tree.

### BOP 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 the stack. A 2" nominal, 2000 psi minimum choke manifold will be used. An upper Kelly Cock valve with handle available and drill string valve to fit each drill string will be available on the rig floor during drilling operations.

ENERGEN RESOURCES CORPORATION CARRACAS 24A #12  
 2630' FSL & 980' FWL, SECTION 24, T32N, R5W, NMPM  
 RIO ARriba COUNTY, NEW MEXICO  
 GROUND ELEVATION: 7371'

LATITUDE: 36°57'56"  
 LONGITUDE: 107°19'07"  
 DATUM: NAD1927



**CEMENTING:**

9 5/8" surface casing - cement with 110 sks Class B Cement with 1/4" flocele/sk and 2% calcium chloride (130 cu. ft. of slurry, 100% excess to circulate to surface). WOC 12 hrs. Test casing to 600# for 30 minutes.

Texas Pattern Guide Shoe on bottom. 3 bow type centralizers spaced throughout the string.

7" intermediate casing – cement with 520 sks 65/35 Class B Poz with 6% gel, 2% calcium chloride, 10% gilsonite, and 1/4# flocele/sk. Tail with 100 sks Class B w/2% calcium chloride, 10% gilsonite and 1/4# flocele/sk. (1127 cu. ft. of slurry, 90% excess to circulate to surface). WOC 12 hrs. If cement does not circulate, run temperature survey in 8 hrs. to determine TOC. Test casing to 1200 psi for 30 minutes.

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

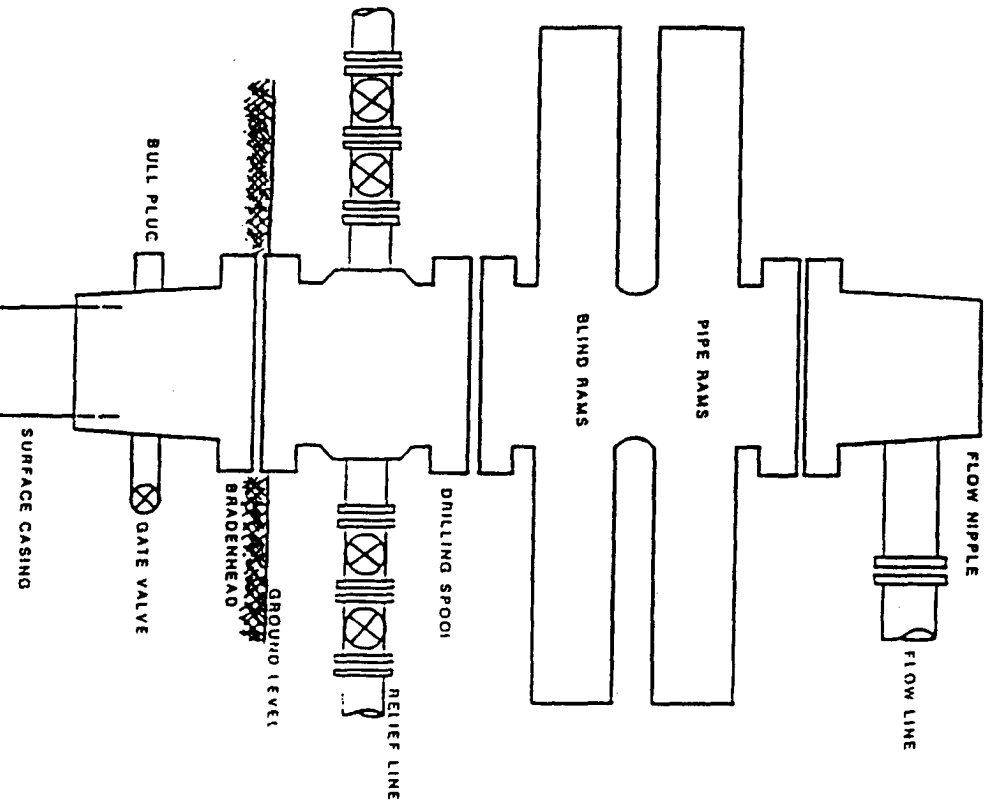
**5 1/2" liner – NO CEMENT**

**OTHER INFORMATION:**

- 1) The Basin Fruitland Coal will be completed.
- 2) No abnormal temperatures or pressures are anticipated.
- 3) If lost circulation is encountered sufficient LCM will be added to the mud system to maintain well control.
- 4) This gas is dedicated.
- 5) Anticipated pore pressure for the Fruitland is 700 psi.

# Figure #1

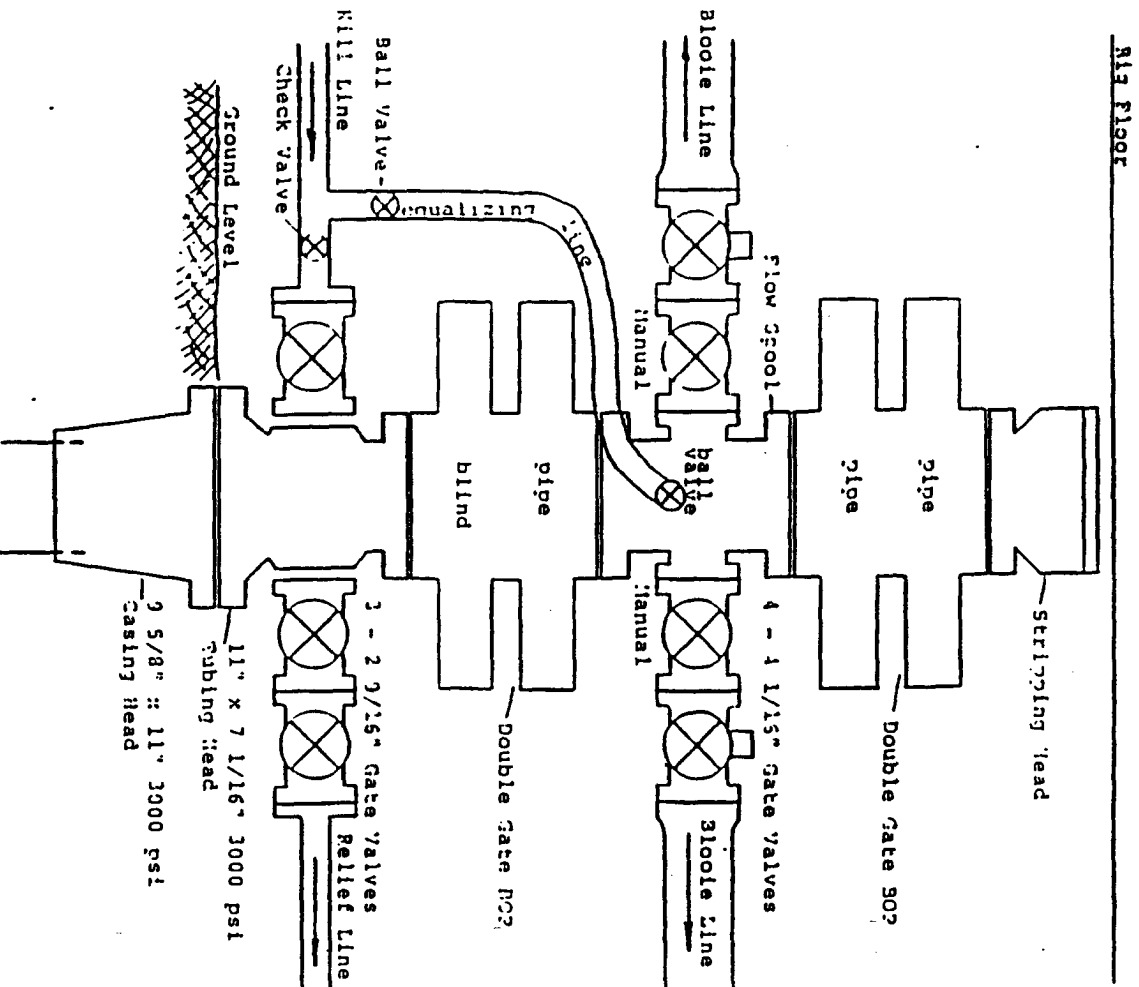
TYPICAL B.O.P.E. INSTALLATION  
FOR A FRUITLAND COAL WELL  
(to intermediate TD)



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)

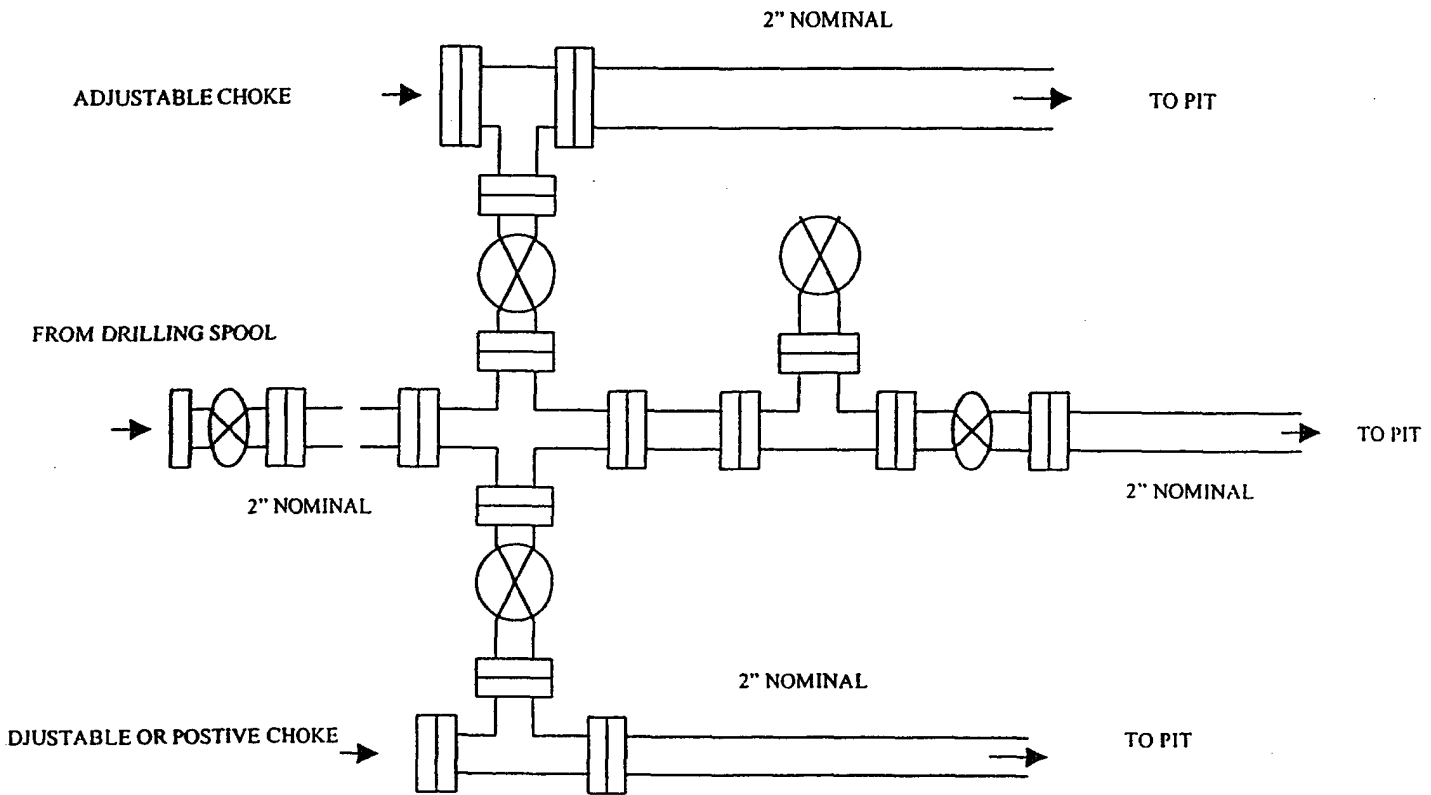


3 - 2 3/16" Gate Valves  
11" x 7 1/16" 3000 psi  
Casing Head  
9 5/8" x 11" 3000 psi

# 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.