

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0137  
Expires March 31, 2007

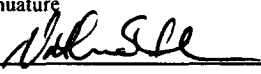

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>NM 0606</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>Atlantic A #2105 2105A</b>
3b. Phone No. (include area code) <b>(505) 325-6800</b>		9. API Well No. <b>36-045-32922</b>
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface <b>1800' fsl, 1150' fel</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>I S29, T31N, R10W</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 6.25 miles north east of Aztec</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) <b>1150'</b>		16. No. of Acres in lease <b>2394.72</b>
17. Spacing Unit dedicated to this well <b>333 1/2</b>		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>Approx. 500'</b>
19. Proposed Depth <b>2960'</b>		20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>GL 6063'</b>		22. Approximate date work will start* <b>05/15/05</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>2/24/05</b>
Title <b>Drilling Engineer</b>		
Approved by (Signature) 	Name (Printed/Typed) <b>AFM</b>	Date <b>5-23-05</b>
Title <b>FFO</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

2005 FEB 28 PM 12 20  
RECEIVED  
FARMINGTON NM

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

District II  
PQ Drawer DD, 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 <b>30-045-32922</b>		*Pool Code <b>71629</b>	*Pool Name <b>BASIN FRUITLAND COAL</b>
*Property Code <b>21161</b>	*Property Name <b>ATLANTIC A</b>		*Well Number <b>2105</b>
*OGRID No. <b>162928</b>	*Operator Name <b>ENERGEN RESOURCES CORPORATION</b>		*Elevation <b>6063'</b>

<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
I	29	31N	10W		1800	SOUTH	1150	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
<sup>12</sup> Dedicated Acres <b>333.1</b> <del>334.18</del> Acres - <b>5/2</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

<sup>16</sup> 5269.44'	LOT 4	LOT 3	LOT 2	LOT 1
	LOT 5	LOT 6	LOT 7	LOT 8
	LOT 12	LOT 11	LOT 10	LOT 9
	LOT 13	LOT 14	LOT 15	LOT 16
5431.80'				2630.76'
29				1150'
5467.44'				2678.94'
RECEIVED 2005 FEB 28 PM 12 20 OT0 FARMINGTON NM				

<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

**2/22/05**  
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.

Survey Date: **FEBRUARY 4, 2005**

Signature and Seal of Professional Surveyor

**JASON C. EDWARDS**  
REGISTERED PROFESSIONAL SURVEYOR  
NEW MEXICO  
15269

**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

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

Form C-103

May 27, 2004

WELL API NO.

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name:  
Atlantic A

8. Well Number

211S

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 I: 1800 feet from the South line and 1150 feet from the East line

Section 29 Township 31N Range 10W NMPM County San Juan

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

6063' 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 >200'

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 HIM 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 02/24/05

Type or print name Nathan Smith

E-mail address: nsmith@energen.com

Telephone No. 505.325.6800

For State Use Only

APPROVED BY [Signature]

DEPUTY OIL & GAS INSPECTOR, DIST. 28

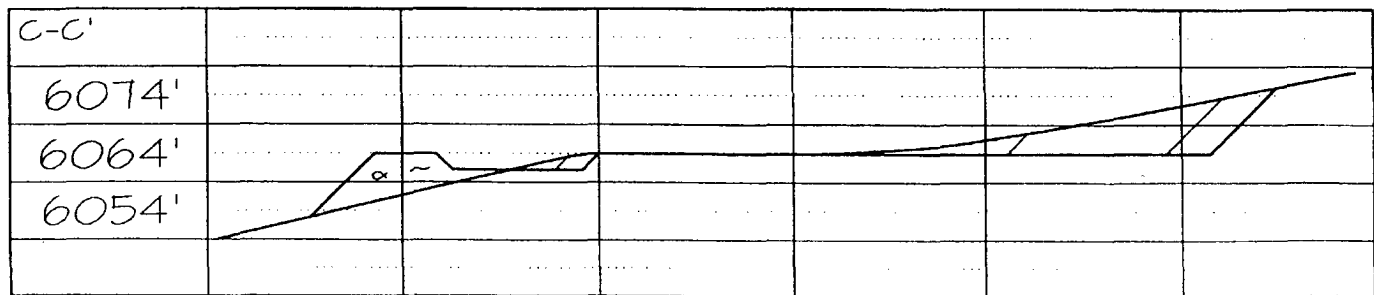
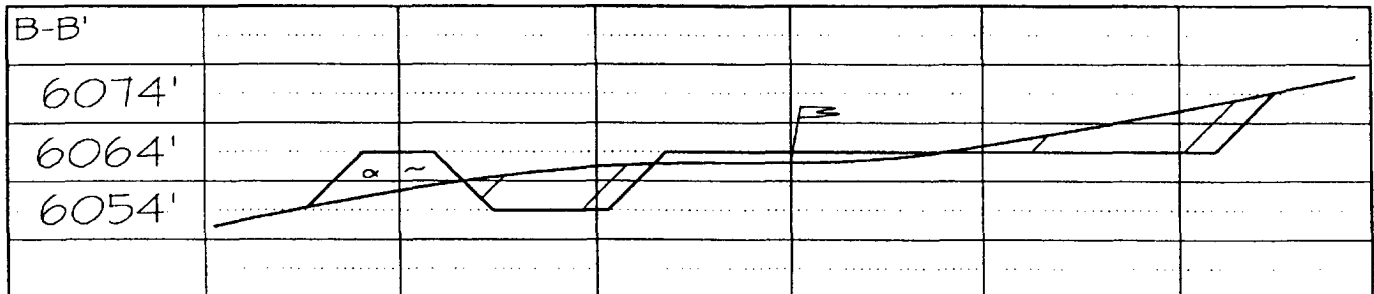
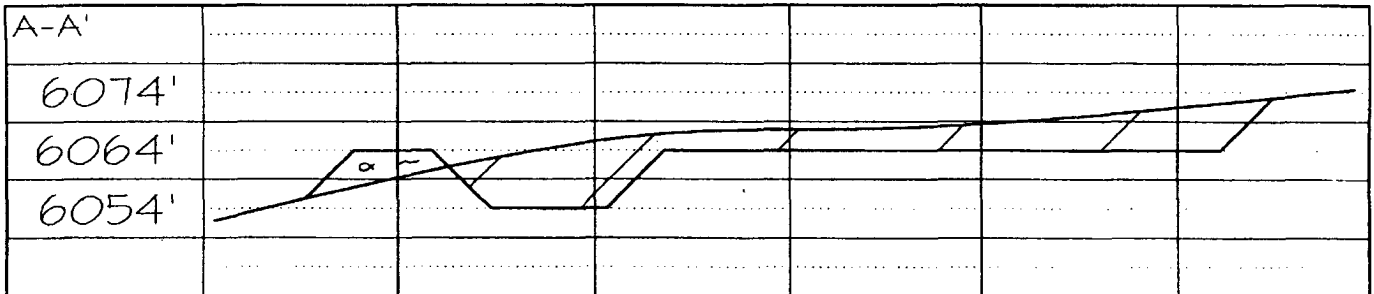
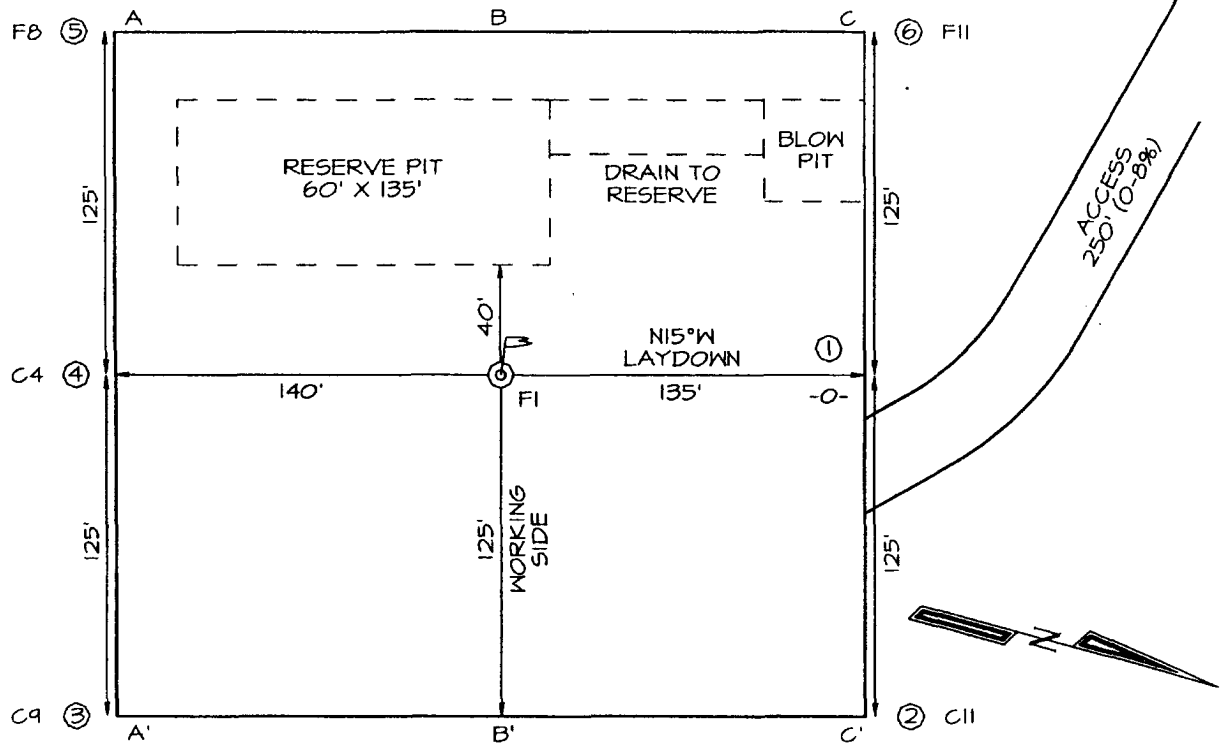
TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Conditions of Approval, if any:

MAY 27 2005

**ENERGEN RESOURCES CORPORATION ATLANTIC A #211S  
1800' FSL & 1150' FEL, SECTION 29, T31N, R10W, NMPM  
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6063'**

**LATITUDE: 36°52'02"**  
**LONGITUDE: 107°53'58"**  
DATUM: NAD1927



## Operations Plan

February 24, 2005

### **Atlantic A #211S**

#### **General Information**

Location	1800' fsl, 1150' fel nese S29, T31N, R10W San Juan County, New Mexico
Elevations	6063' GL
Total Depth	2960' (MD)
Formation Objective	Basin Fruitland Coal

#### **Formation Tops**

Nacimiento	Surface
Ojo Alamo Ss	1365'
Kirtland Sh	1460'
Fruitland Fm	2385'
Top Coal	2545'
Bottom Coal	2760'
Pictured Cliffs Ss	2765'
<b>Total Depth</b>	<b>2960'</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 8.3 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: 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'-2960'	7 7/8"	5 ½"	15.5 ppf	J-55 LT&C
Tubing	0'-2900'		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: 160 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 187.9 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 435 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 145 sks of Standard (Class B) cement with 5.0 #/sk Gilsonite, and ¼ #/sk Flocele (15.2ppg, 1.24 ft<sup>3</sup>/sk). (1032.36 ft<sup>3</sup> of slurry, 100 % excess to circulate to surface).

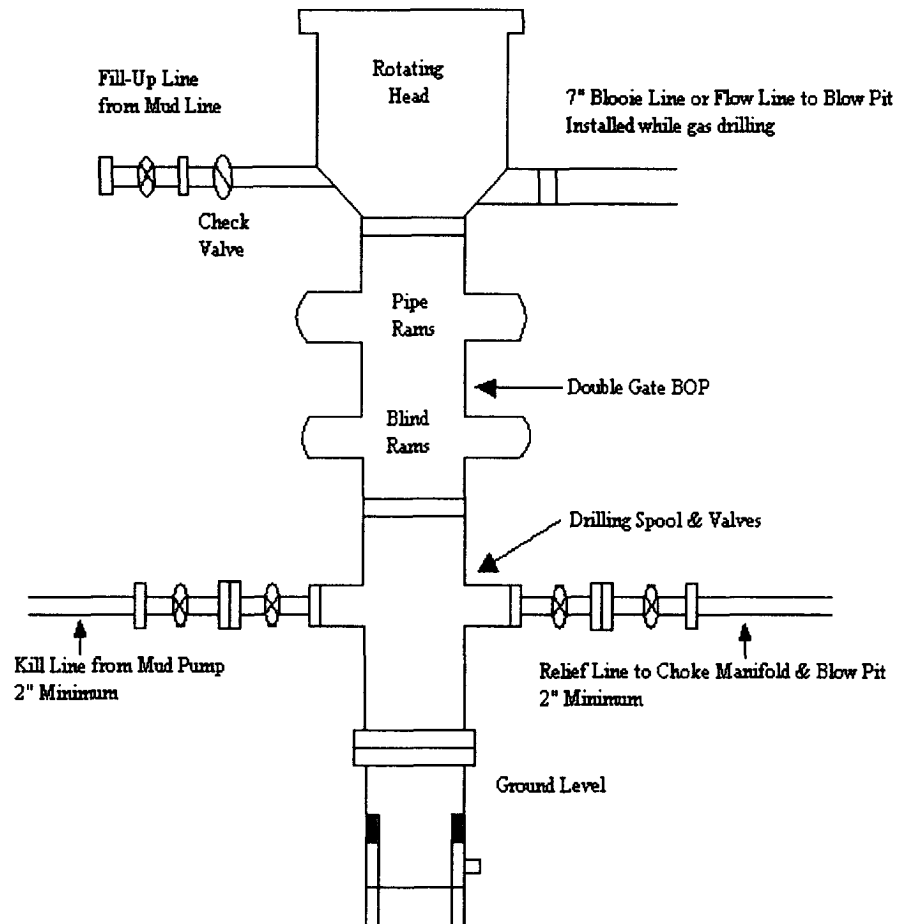
**Pump 30 sks of flyash scavenger spacer consisting of 15.0 % Benonite and 0.15 % HR-5 ahead of cement**

## 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.

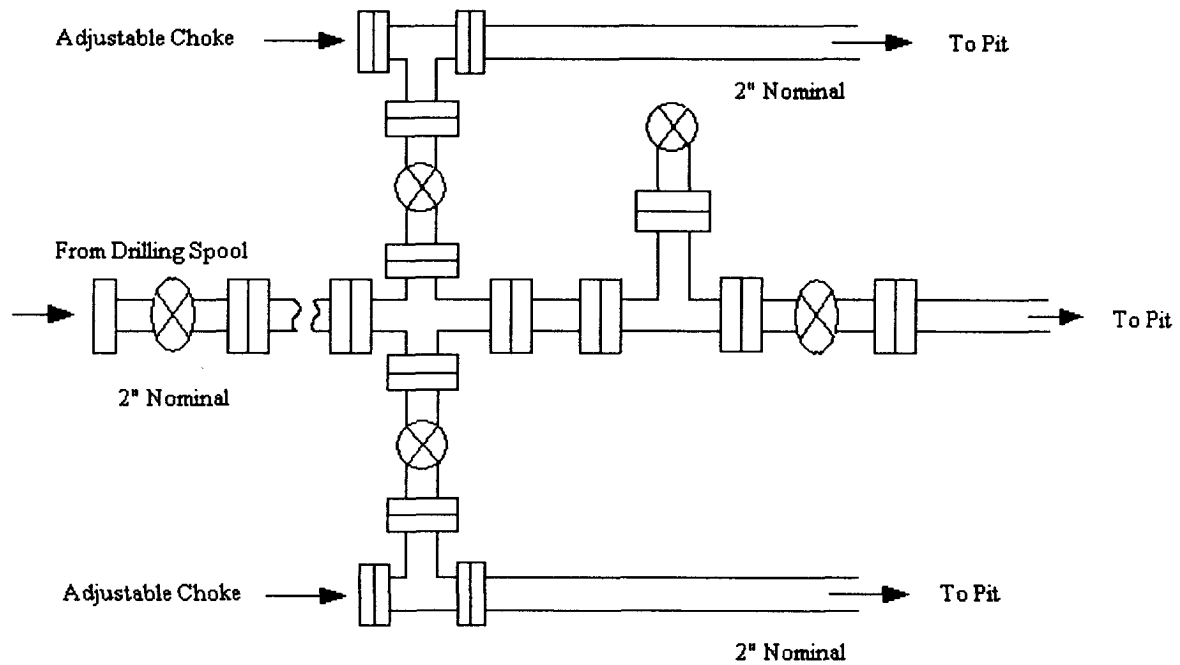
## Energen Resources Corporation

### Typical BOP Configuration for Gas Drilling



# Energen Resources Corporation

## Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD