

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

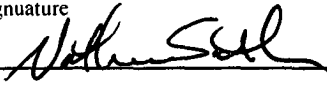
APPLICATION FOR PERMIT TO DRILL OR REENTER

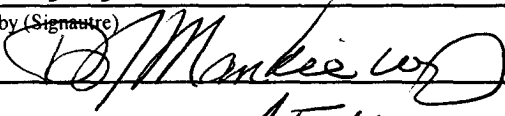
1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. SF-078208 078125
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input 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		8. Lease Name and Well No. Sunray B #215S
3b. Phone No. (include area code) (505) 325-6800		9. APL Well No. 30-045-33324
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 1750' fnl, 775' fwl At proposed prod. zone		10. Field and Pool, or Exploratory Basin Fruitland Coal
14. Distance in miles and direction from nearest town or post office* Approximately 6.0 miles north east of Aztec.		11. Sec., T., R., M., or Blk. and Survey or Area E S15, T30N, R10W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 775'	16. No. of Acres in lease 637.11	12. County or Parish San Juan
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. Approx. 200'	19. Proposed Depth 3230' +/-	13. State NM
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 6438'	22. Approximate date work will start* 10/15/05	17. Spacing Unit dedicated to this well 319.34 W 1/2
23. Estimated duration 14 days		20. BLM/BIA Bond No. on file

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature 	Name (Printed/Typed) Nathan Smith	Date 8/29/05
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Title Drilling Engineer		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 10/18/05
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.

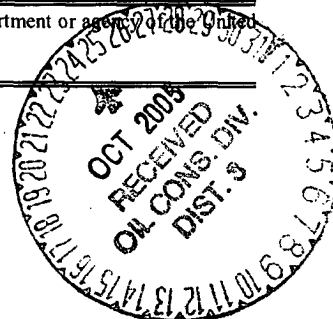
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on page 2)

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

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

NMOCD



687.11 Acre  
SF-078208

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

District II  
PO 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

29 PM 1 42

☐ AMENDED REPORT

RECEIVED

070 FARMINGTON NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number <b>30-045-33324</b>		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code <b>21410</b>	*Property Name SUNRAY B		*Well Number 215S
*GRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION		*Elevation 6438'

<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
E	15	30N	10W		1750	NORTH	775	WEST	SAN JUAN

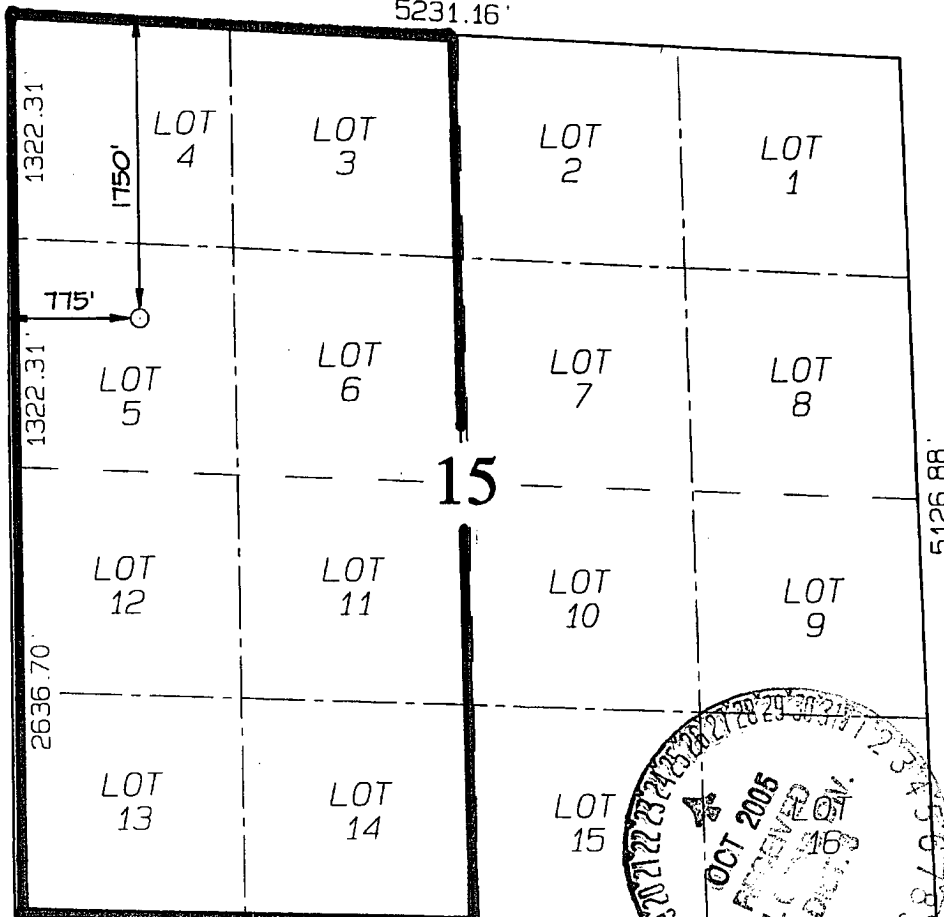
<sup>11</sup> Bottom Hole Location If Different From Surface

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 319.34 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

5231.16'



<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

8/29/05  
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: JULY 11, 2005

Signature and Seal of Professional Surveyor



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. <b>30-045-33324</b>	
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name: <b>Sunray B</b>	
8. Well Number <b>215S</b>	
9. OGRID Number <b>162928</b>	
10. Pool name or Wildcat <b>Basin Fruitland Coal</b>	
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 <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other	
2. Name of Operator <b>Energen Resources Corporation</b>	
3. Address of Operator <b>2198 Bloomfield Highway, Farmington, NM 87401</b>	
4. Well Location Unit Letter <b>E</b> : <b>1750</b> feet from the <b>North</b> line and <b>775</b> feet from the <b>West</b> line Section <b>15</b> Township <b>30N</b> Range <b>10W</b> NMPM County <b>San Juan</b>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) <b>6438' GL</b>	
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type <b>Drill</b> Depth to Groundwater <b>&gt;100'</b> Distance from nearest fresh water well <b>&gt;1000'</b> Distance from nearest surface water <b>250'</b>	
Pit Liner Thickness: <b>12</b> 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 BLM 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  TITLE Drilling Engineer DATE 08/29/05

Type or print name **Nathan Smith**

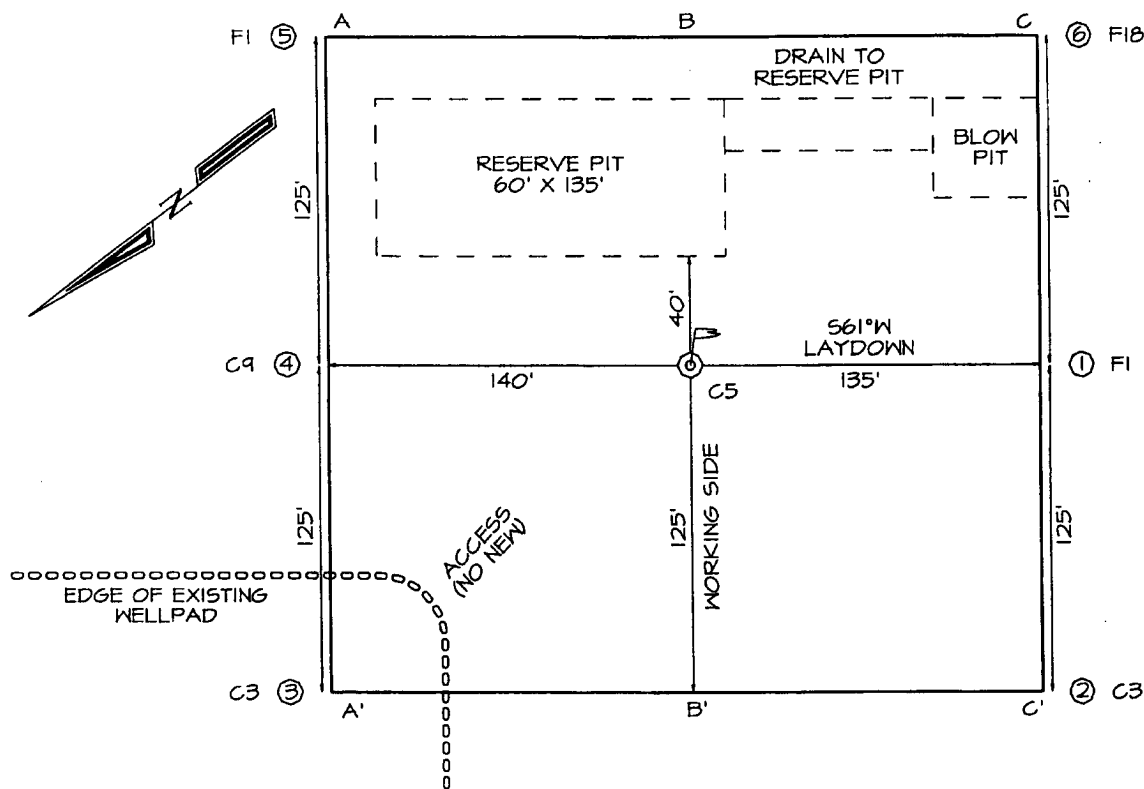
E-mail address: nsmith@energen.com  
Telephone No. 505.325.6800

For State Use Only

APPROVED BY  TITLE DEPUTY OIL & GAS INSPECTOR, DIST. IV DATE OCT 24 2005

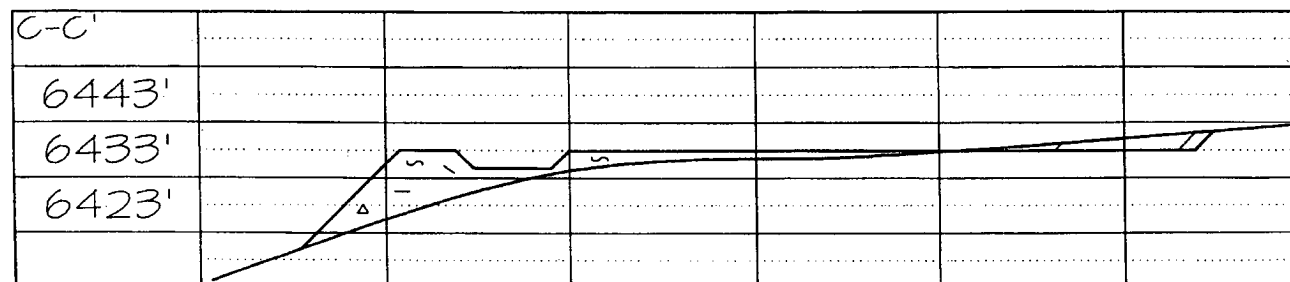
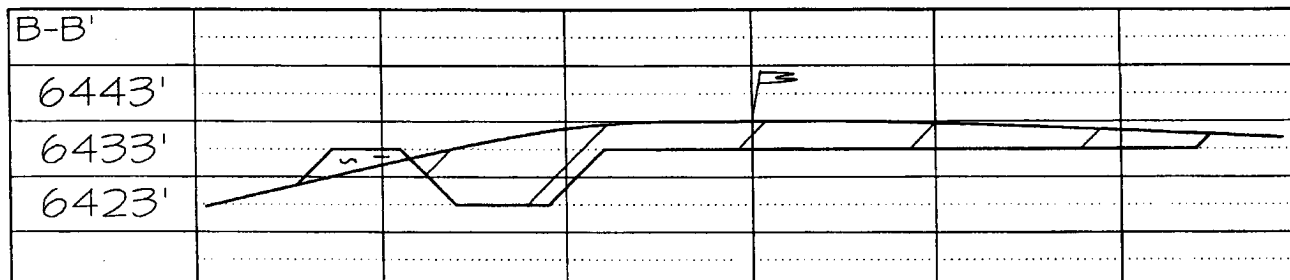
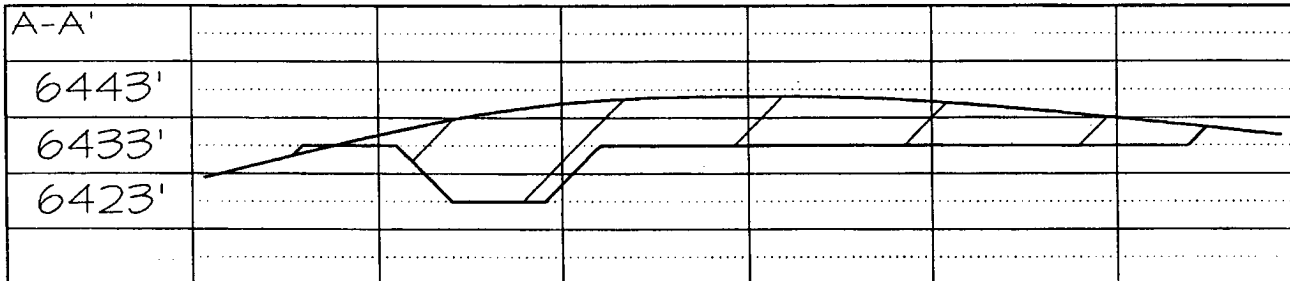
Conditions of Approval, if any:

**ENERGEN RESOURCES CORPORATION SUNRAY B #215S**  
**1750' FNL & 775' FWL, SECTION 15, T30N, R10W, NMPM**  
**SAN JUAN COUNTY, NEW MEXICO GROUND ELEVATION: 6438'**



N 36.91472°  
W 107.975° ~ PLAT NOTE ~  
ROUND CORNER #6  
DURING CONSTRUCTION  
TO AVOID EXCESS FILL

**LATITUDE: 36°48'53"**  
**LONGITUDE: 107°52'39"**  
DATUM: NAD1927



## **Operations Plan**

August 29, 2005

### **Sunray B #215S**

#### **General Information**

Location	1750' fnl, 775' fwl swnw S15, T30N, R10W San Juan County, New Mexico
Elevations	6438' GL
Total Depth	3230' (MD)
Formation Objective	Basin Fruitland Coal

#### **Formation Tops**

San Jose	Surface
Ojo Alamo Ss	1736'
Kirtland Sh	1856'
Fruitland Fm	2678'
Top Coal	2855'
Bottom Coal	3053'
Pictured Cliffs Ss	3053'
<b>Total Depth</b>	<b>3230'</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: Surface and/or every 500' to TD

## 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'-3230'	7 7/8"	5 ½"	15.5 ppf	J-55 LT&C
Tubing	0'-3200'		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 266 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 500 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). (1159.8 ft<sup>3</sup> of slurry, 100 % excess to circulate to surface).

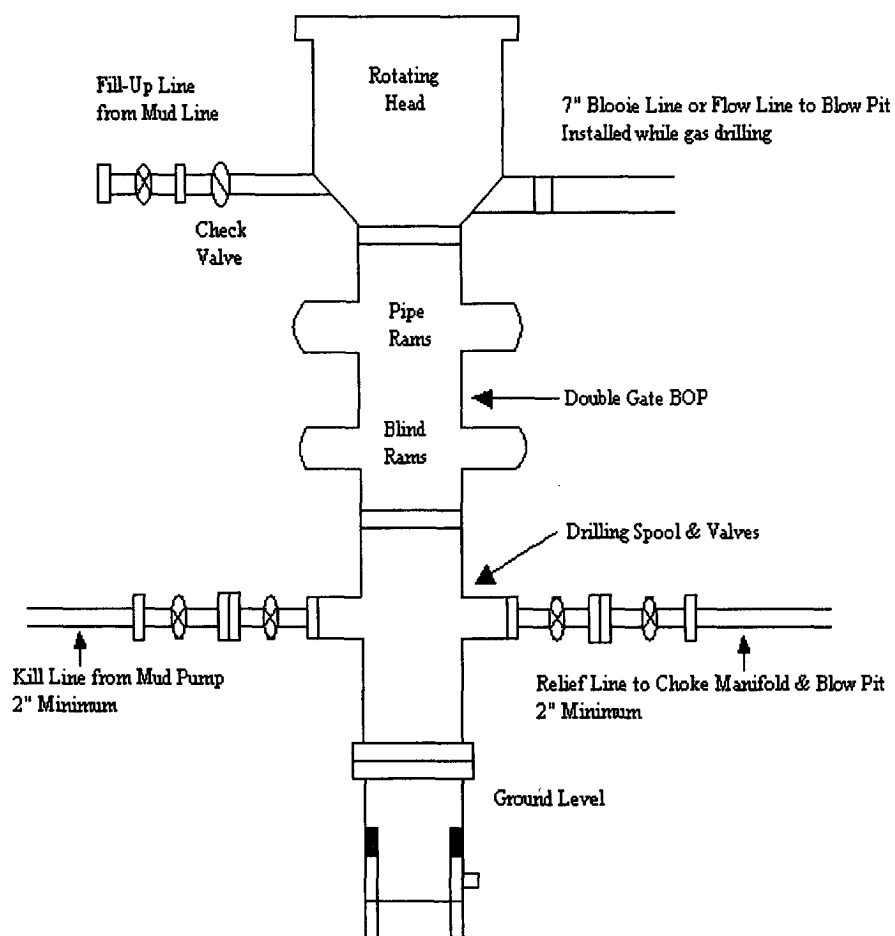
**Pump 30 sks of flyash scavenger spacer consisting of 15.0 % Benonite and 0.15 % HR-5 ahead of cement**

## 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.

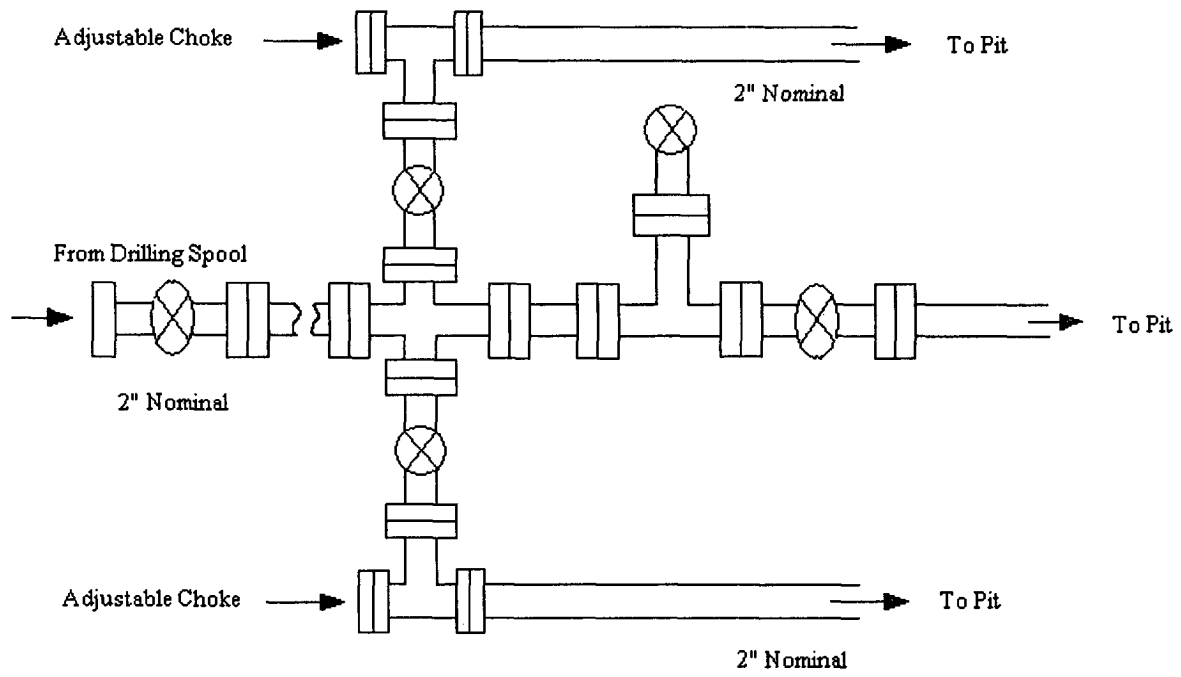
## Energen Resources Corporation

### Typical BOP Configuration for Gas Drilling



## Energen Resources Corporation

### Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD