

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

RCVD DEC 28 '06
OIL CONS. DIV.
DIST. 3

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 078416	
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 Hwy Farmington, NM 87401		8. Lease Name and Well No. Hardie A #211S	
3b. Phone No. (include area code) 505.325.6800		9. API Well No. 30-045-34054	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 2085' fsl, 685' fwl At proposed prod. zone		10. Field and Pool, or Exploratory Basin Fruitland Coal	
11. Sec., T., R., M., or Blk. and Survey or Area (L) S26, T29N, R8W		12. County or Parish San Juan	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximatley 9.75 miles east of Blanco	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 685'	16. No. of Acres in lease 480	17. Spacing Unit dedicated to this well 320 w/2	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 595'	19. Proposed Depth 3448'	20. BLM/BIA Bond No. on file NM 2707	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6671' GL	22. Approximate date work will start* 11/15/06	23. Estimated duration 14	

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) Nathan Smith	Date 9/25/06
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Title Drilling Engineer		
Approved by (Signature) 	Name (Printed/Typed) AEM	Date 12/27/06
Title PFO		

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)

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

DISTRICT II
811 South First, Artesia, N.M. 88210

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

RCVD DEC28'06

*API Number 30-045-34054		*Pool Code 71629	*Pool Name FRUITLAND COAL
*Property Code 21243	*Property Name HARDIE A		*Well Number 211 S
*OGRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION		*Elevation 6671'

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
L	26	29N	8W		2085'	SOUTH	685'	WEST	SAN JUAN

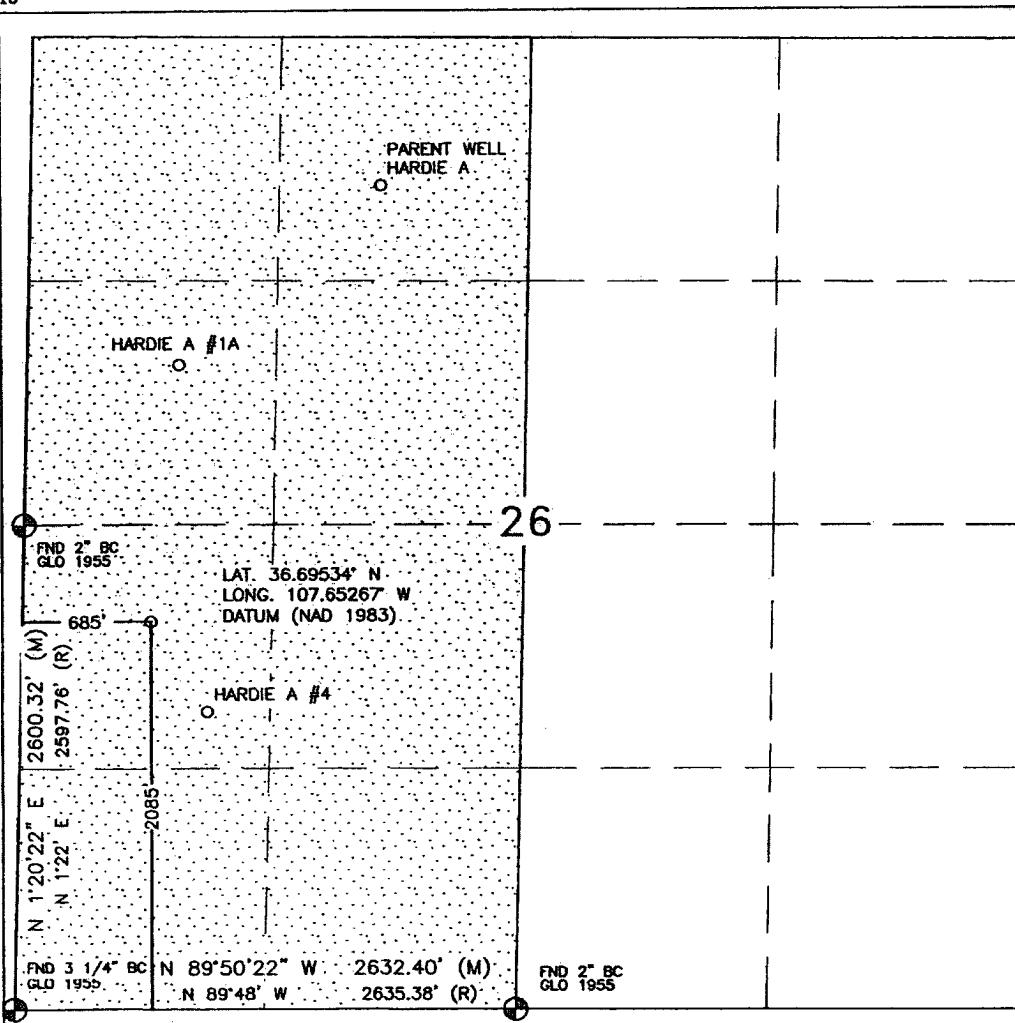
¹¹ Bottom Hole Location If Different From Surface

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 320 343.44 Acres - (W/2)	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

16



¹⁷ 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
9/27/06
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.

AUGUST 29, 2006

Date of Survey
Signature and Seal of Professional Surveyor:



DAVID RUSSELL
Certificate Number **10201**

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

Form C-103
May 27, 2004

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

WELL API NO. 30-045-34054

5. Indicate Type of Lease
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name:
Hardie 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 L : 2085' feet from the South line and 685' feet from the West line
Section 26 Township 29N Range 08W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6671' 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 >250'

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 Vicki Donaghey TITLE Regulatory Analyst DATE 09/26/06

Type or print name Vicki Donaghey

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

For State Use Only

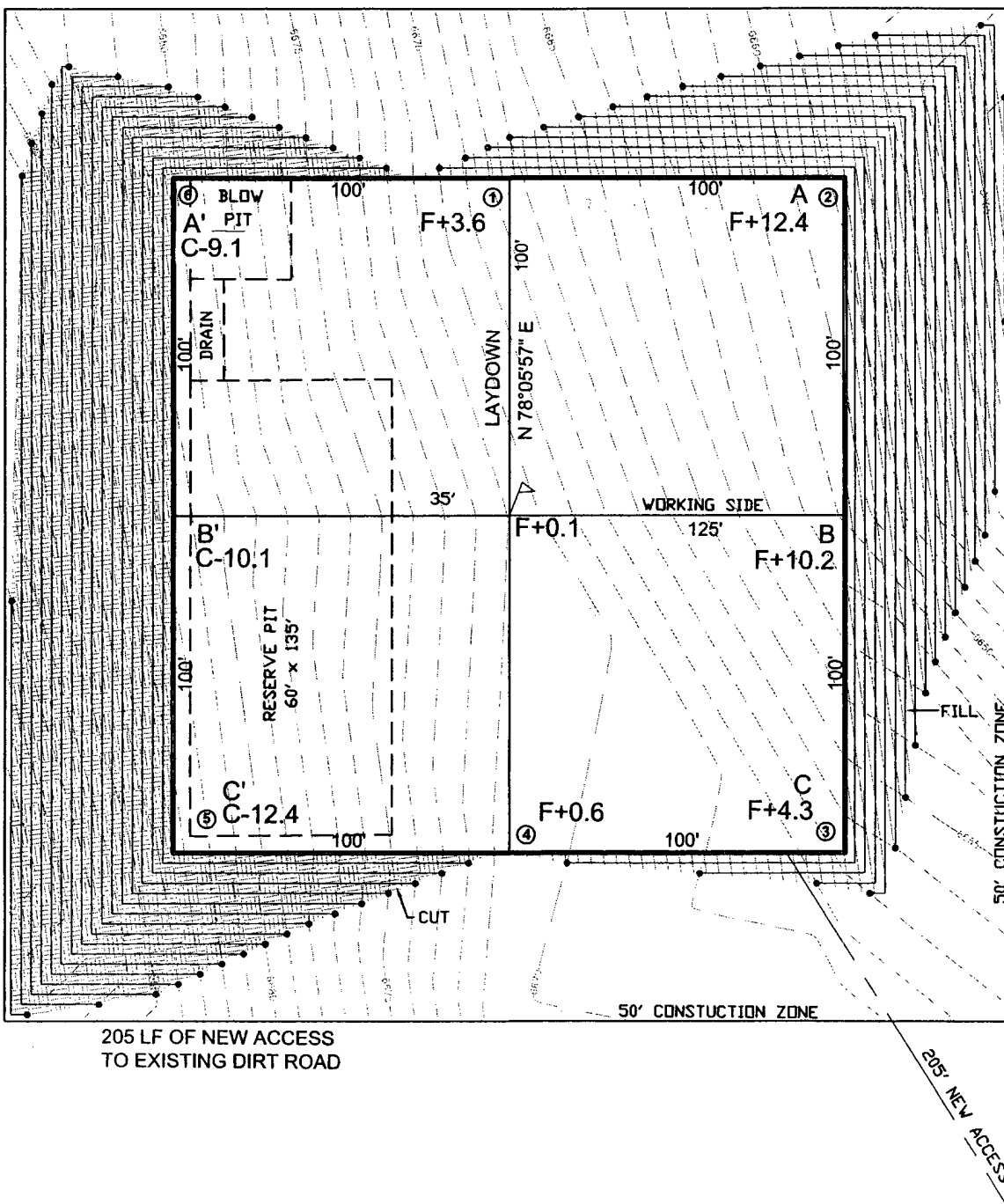
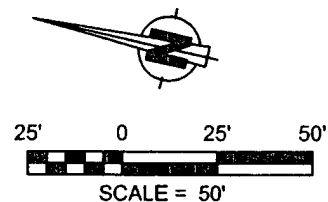
APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #4 DATE DEC 28 2006

Conditions of Approval, if any:

LATITUDE: 36.69534°N
LONGITUDE: 107.65267°W
DATUM: NAD 83

ENERGEN RESOURCES CORPORATION

HARDIE A #211S
2085' FSL & 685' FWL
LOCATED IN THE NW/4 SW/4 OF
SECTION 26, T29N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6671', NAVD 88
FINISHED PAD ELEVATION: 6671.0', NAVD 88

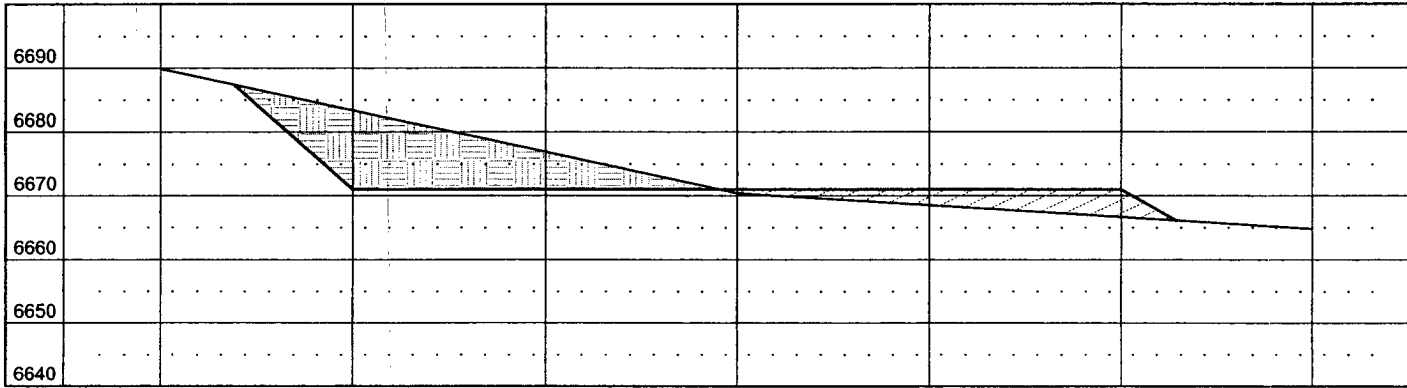
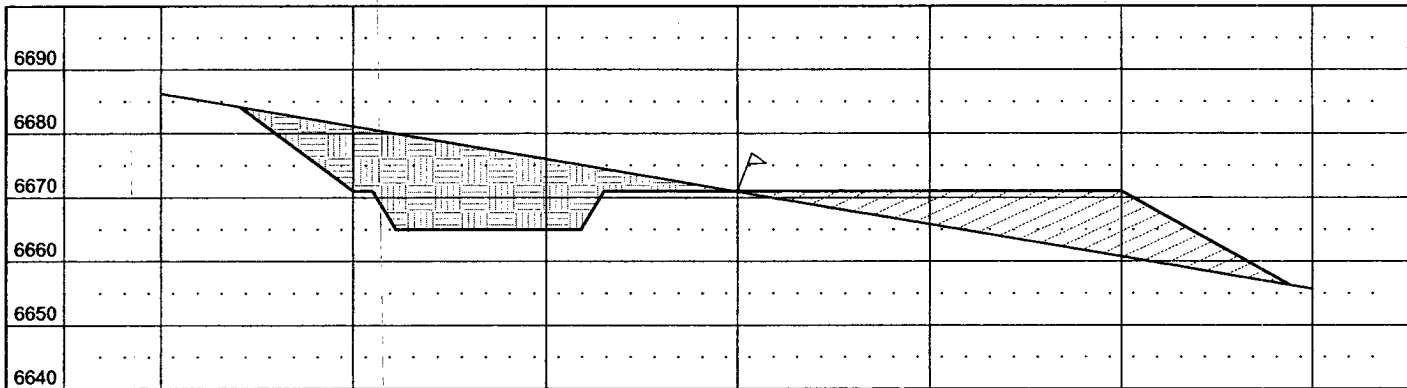


FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: ERG119
DATE: 08/31/06

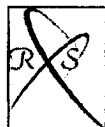


Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

FINISHED PAD ELEVATION: 6671.0', NAVD 88



ERT. SCALE: 1" = 30'
ORZ. SCALE: 1" = 50'
DB No.: ERG119
ATE: 08/31/06



Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

Operations Plan

September 11, 2006

Hardie A #211S

General Information

Location	2085' fsl, 685' fwl nws S26, T29N, R8W San Juan County, New Mexico
Elevations	6671' GL
Total Depth	3448' (MD)
Formation Objective	Basin Fruitland Coal

Formation Tops

San Jose	Surface
Nacimiento	923'
Ojo Alamo Ss	2293'
Kirtland Sh	2408'
Fruitland Fm	2938'
Top Coal	3063'
Bottom Coal	3248'
Pictured Cliffs Ss	3258'
Total Depth	3448'

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

Surveys: 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'-3448'	7 7/8"	5 ½"	15.5 ppf	J-55 LT&C
Tubing	0'-3380'		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 Type V with 2.0 % CaCl₂ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk 277 ft³ 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 525 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.94 ft³/sk) and a tail of 145 sks of type V cement with 1.0 % CaCl₂ and ¼ #/sk Flocele (15.4 ppg, 1.23 ft³/sk). (1192 ft³ of slurry, 100 % excess to circulate to surface).

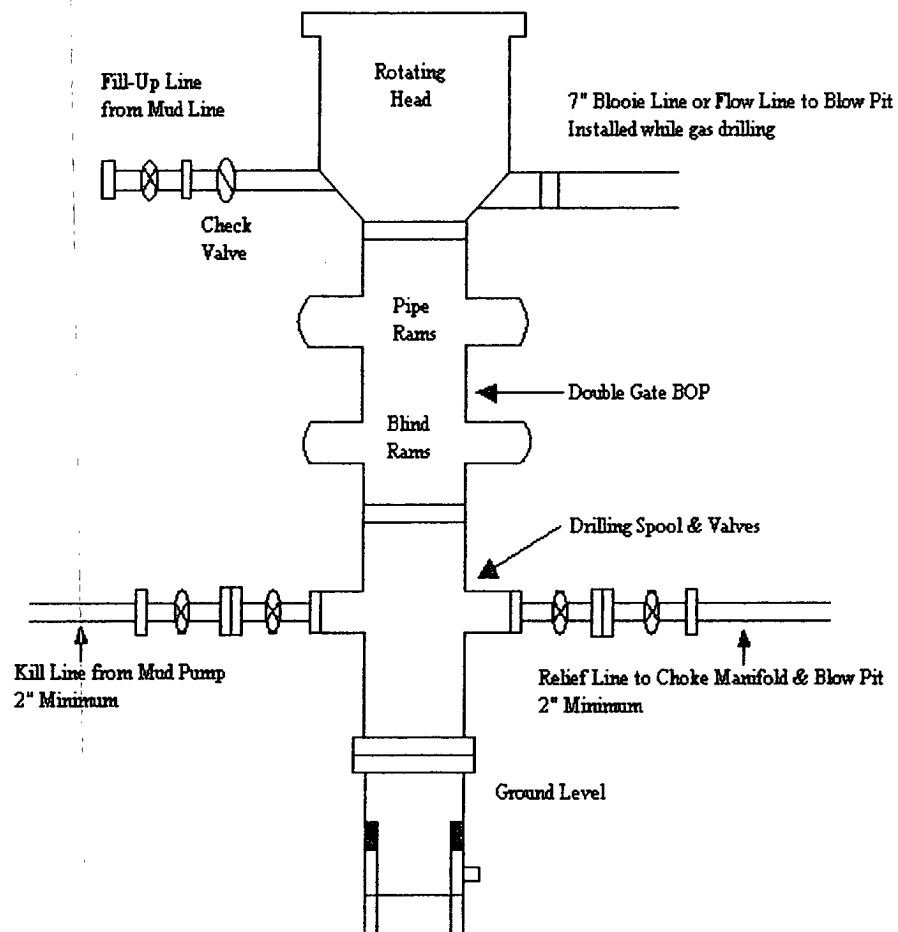
Pump 30 bbls gelled water based spacer ahead of cement to aide in hole cleaning.

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.

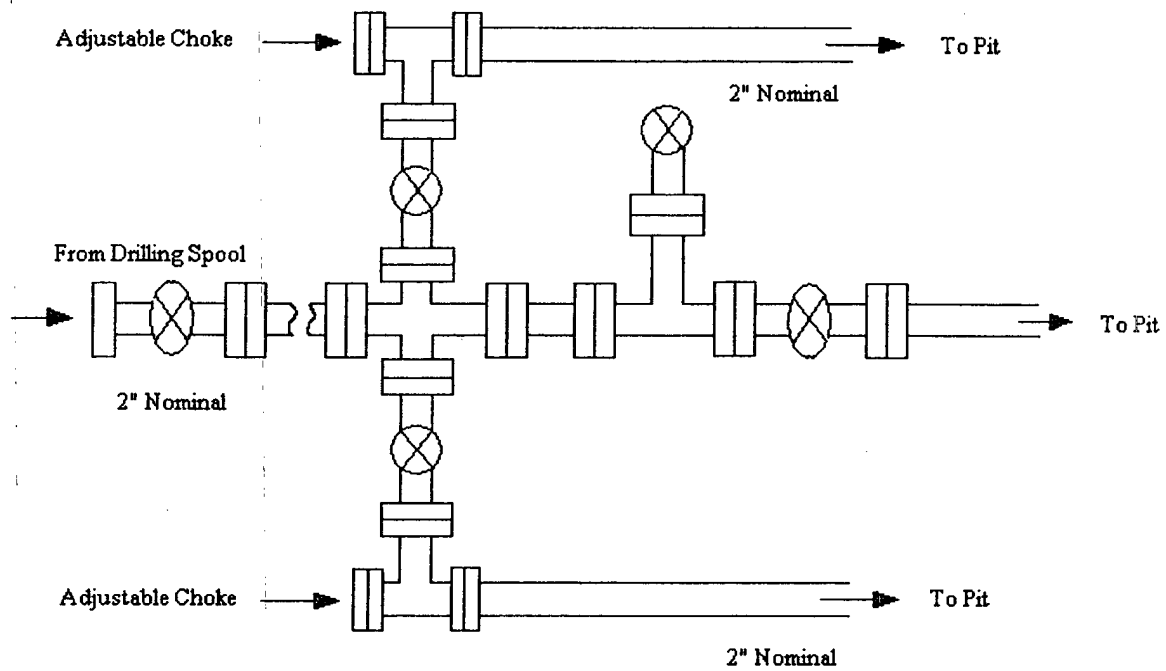
Energen Resources Corporation

Typical BOP Configuration for Gas Drilling



Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD