

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

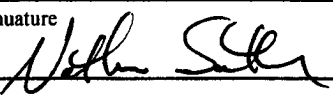
APPLICATION FOR PERMIT TO DRILL OR REENTER

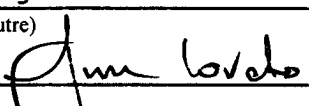
1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. SF 080917
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Energex Resources Corporation /62928		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. Hart Canyon 5 #1S 300414
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 1990' fnl, 1240' fw1 At proposed prod. zone		9. API Well No. 30-045-33521
14. Distance in miles and direction from nearest town or post office* Approximately 4.75 miles north east of Aztec		10. Field and Pool, or Exploratory Basin Fruitland Coal 71629
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 1240'		11. Sec., T., R., M., or Blk. and Survey or Area E S5, T30N, R10W
16. No. of Acres in lease 2538.18		12. County or Parish San Juan
17. Spacing Unit dedicated to this well 322.11 N 1/2		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. Approx. 1000'		20. BLM/BIA Bond No. on file NM 2707
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 6166'		22. Approximate date work will start* 04/25/06
		23. Estimated duration 14 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) Nathan Smith	Date 1/11/06
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Title Drilling Engineer		
Approved by (Signautre) 	Name (Printed/Typed) Adam Lovato	Date 1/31/06
Title Admng ADM		Office

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.

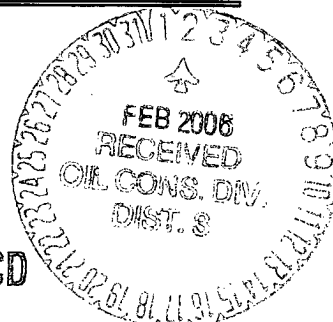
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(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



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

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

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

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-33521	*Pool Code 71629	*Pool Name Basin FRUITLAND COAL (Gas)
*Property Code 300414	*Property Name HART CANYON 5	*Well Number 1S
*GRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION	*Elevation 6166'

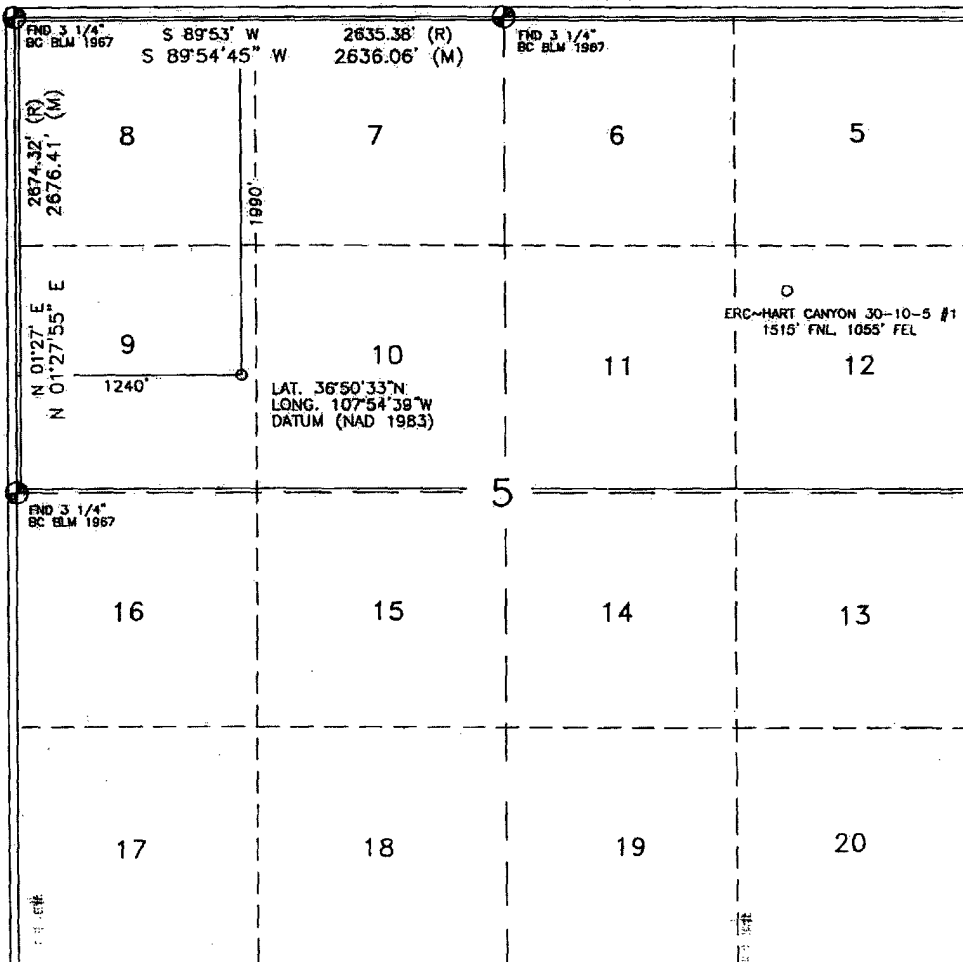
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	5	30N	10W	9	1990'	NORTH	1240'	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 322.11 322.07 Acres - (N/2)					¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ 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



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

1/11/06
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 10 2005
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 30-045-33521

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name:

Hart Canyon 5

8. Well Number

1S

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 E: 1990 feet from the North line and 1240 feet from the West line

Section 05 Township 30N Range 10W NMPM County San Juan

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

6166' 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 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 Nathan Smith TITLE Drilling Engineer DATE 12/27/05

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

Type or print name Nathan Smith

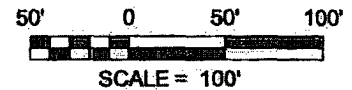
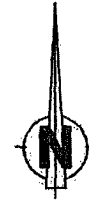
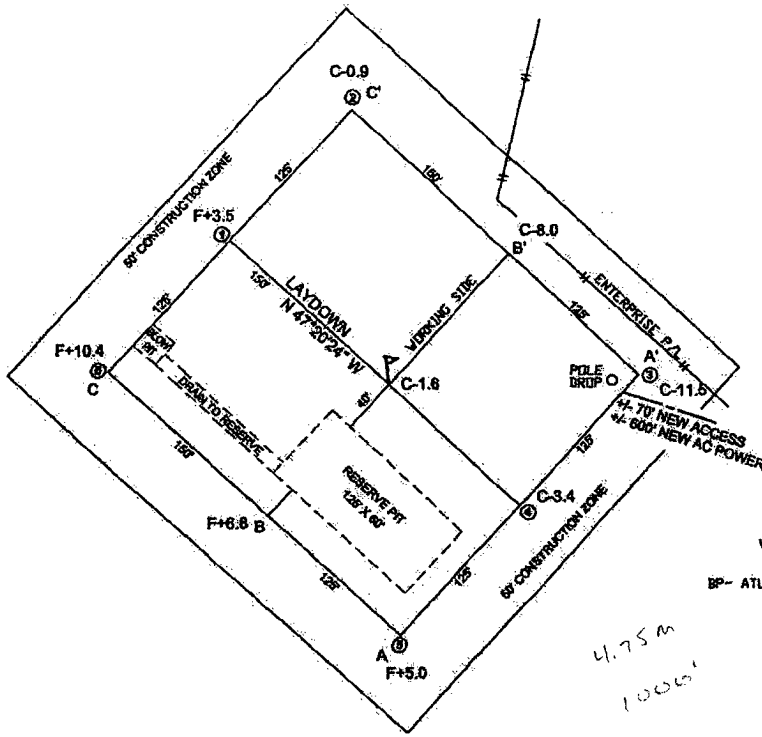
For State Use Only

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 4 DATE FEB 02 2006

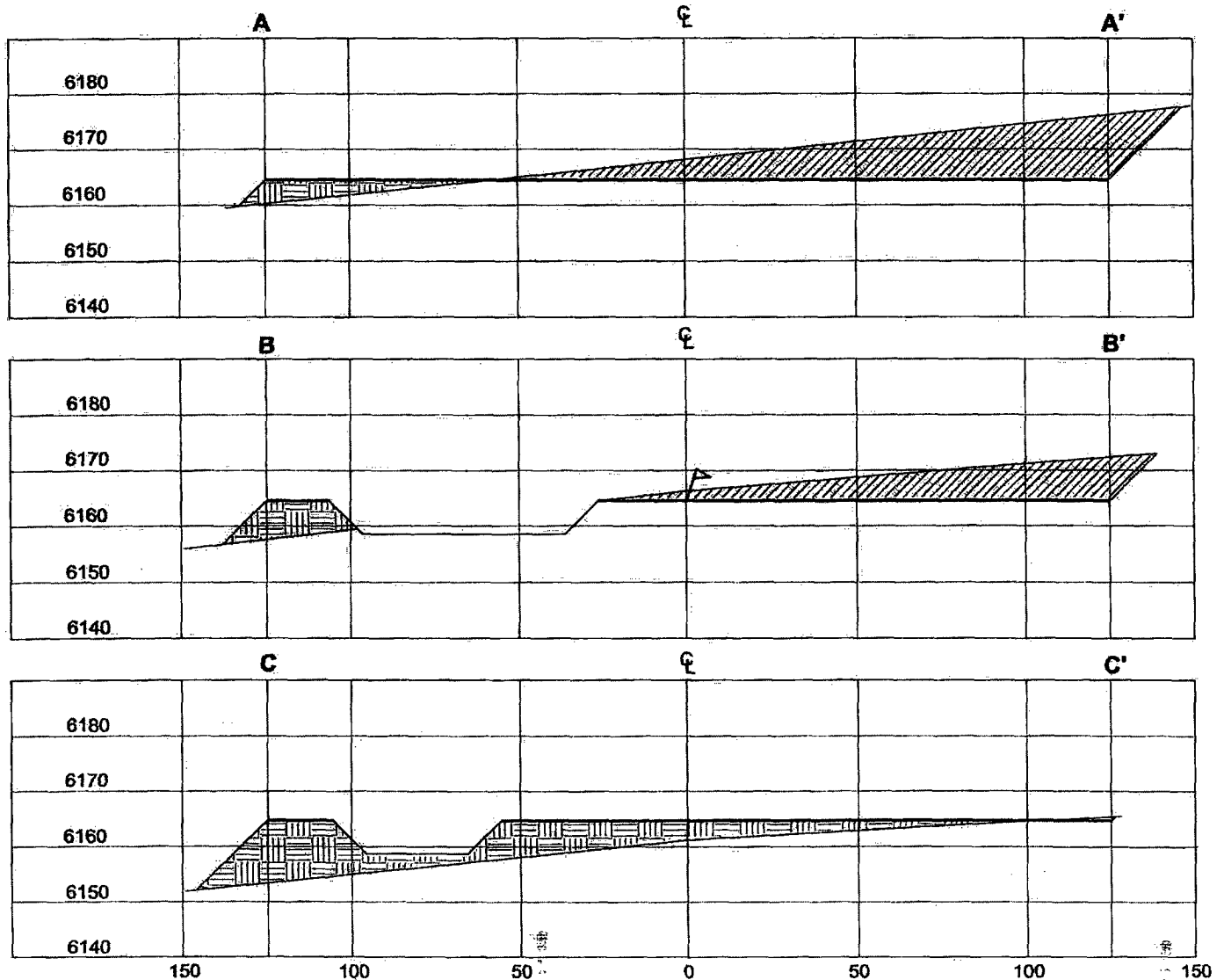
Conditions of Approval, if any:

ENERGEN RESOURCES CORPORATION

HART CANYON 30-10-5 #1S
 1990' FNL & 1240' FWL
 LOCATED IN THE SW/4 NW/4 OF SEC. 5,
 T30N, R10W, N.M.P.M.,
 SAN JUAN COUNTY, NEW MEXICO
 ELEVATION: 6166', NAVD 88



LATITUDE: 36°50'33"N 36.84250
 LONGITUDE: 107°54'39"W 107.91083
 DATUM: NAD 83



HORIZ. SCALE: 1"=50'
 VERT. SCALE: 1"=30'



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

Operations Plan

January 12, 2006

Hart Canyon 5 #1S

General Information

Location	1990' fnl, 1240' fwl swnw S5, T30N, R10W San Juan County, New Mexico
Elevations	6166' GL
Total Depth	3023' (MD)
Formation Objective	Basin Fruitland Coal

Formation Tops

Nacimiento	Surface
Ojo Alamo Ss	1398'
Kirtland Sh	1543'
Fruitland Fm	2398'
Top Coal	2578'
Bottom Coal	2823'
Pictured Cliffs Ss	2823'
Total Depth	3023'

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 ft to TD.

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'-3023'	7 7/8"	5 1/2"	15.5 ppf	J-55 LT&C
Tubing	0'-3140'		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 1/2" Larkin casing head. 5 1/2" 2000 x 2" tubing head.

Cementing

Surface Casing: 225 sks Std (class B) with 2.0 % CaCl₂ and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk 266 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 1000 psi for 30 min.

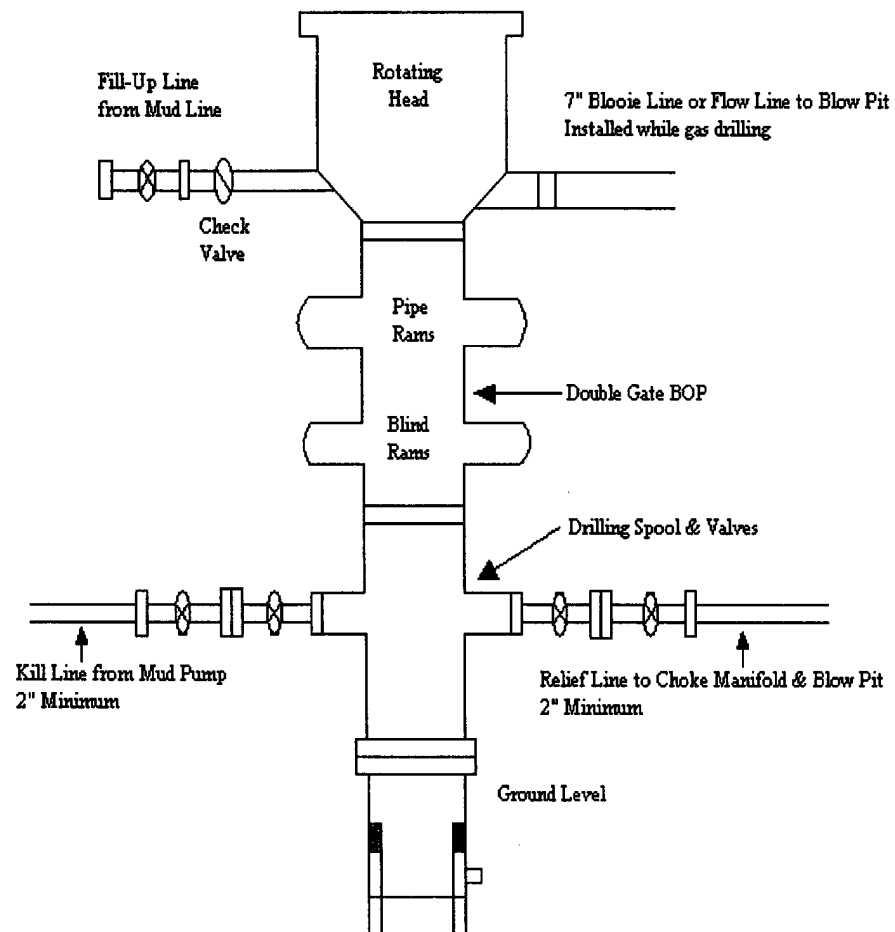
Production Casing: Before cementing, circulate hole at least 1 1/2 hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 450 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.3 ppg, 1.96 ft³/sk) and a tail of 145 sks of Standard (Class B) cement with 5.0 #/sk Gilsonite, and 1/4 #/sk Flocele (15.2ppg, 1.24 ft³/sk). (1062 ft³ of slurry, 100 % excess to circulate to surface).

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.

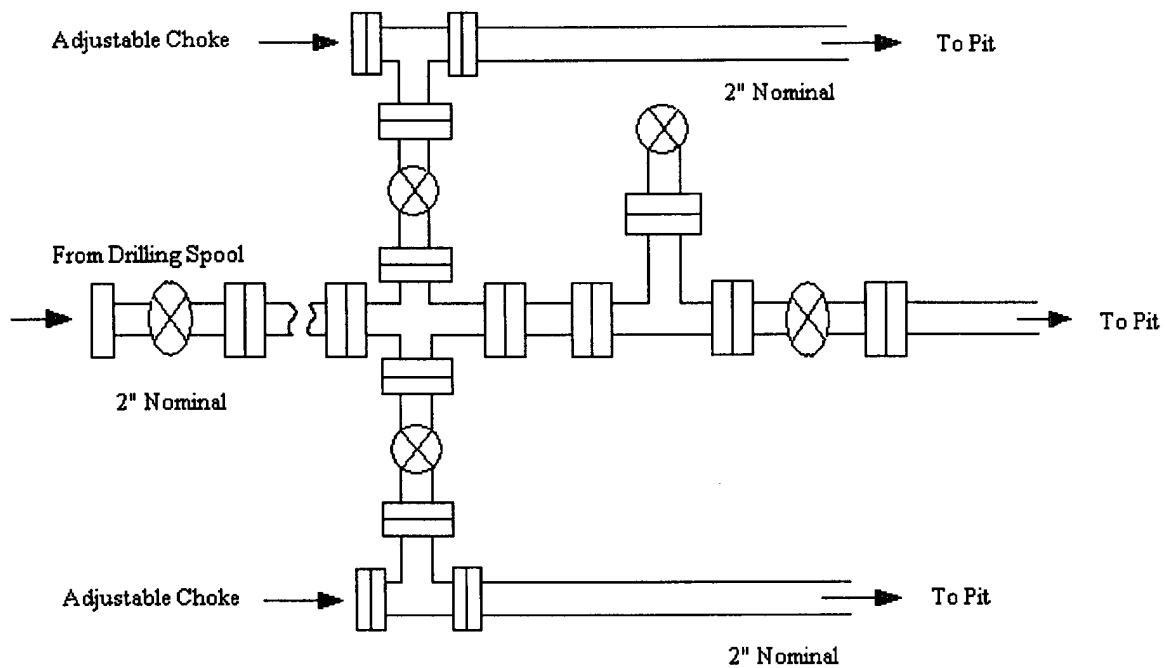
Energen Resources Corporation

Typical BOP Configuration for Gas Drilling



Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD