

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

OCT 20 2009

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. USA NMNM 30351	
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 2010 Afton Place Farmington, New Mexico 87401		8. Lease Name and Well No. Carracas 16 A #1 H	
3b. Phone No. (include area code) (505) 325-6800		9. API Well No. 30039 30824	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 98 FNL, 2374 FEL At proposed prod. zone 760 1420 754 FSL, 2102 FWL		10. Field and Pool, or Exploratory Basin Fruitland Coal	
11. Sec., T., R., M., or Blk. and Survey or Area (B) Sec. 16, T32N, 5W NMPM		12. County or Parish Rio Arriba	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approx 36.5 miles NE of Gobernador, NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 95'		16. No. of Acres in lease 1280.00	
17. Spacing Unit dedicated to this well 320.00 acres W/2		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50'	
19. Proposed Depth 7812' MD		20. BLM/BIA Bond No. on file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7223' GL		22. Approximate date work will start* April 1, 2010	
23. Estimated duration 25		24. Attachments	

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must 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 must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM |

RCVD JAN 27 '10

OIL CONS. DIV.

DIST. 3

25. Signature 	Name (Printed/Typed) Jason Kincaid	Date 10/7/2009
-------------------	---------------------------------------	-------------------

Title
DRILLING ENGINEER

Approved by (Signature) 	Name (Printed/Typed) AFM	Date 11/19/2010
-----------------------------	-----------------------------	--------------------

Title
AFM

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.

(Continued on page 2)

Hold C104

for Directional Survey
and "As Drilled" plat

*(Instructions on page 2)

NOTIFY AZTEC OCD 24 HRS. FEB 12 2010
PRIOR TO CASING & CEMENT

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

This section is for technical and procedural information only. It is not to be used for legal purposes and is subject to 43 CFR 3165.3 and 43 CFR 3165.4

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

DISTRICT I
1626 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised October 12, 2005

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

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

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-30824		*Pool Code 71629	*Pool Name BASIN FRIUTLAND COAL
*Property Code 35854 37935	*Property Name CARRACAS 16A		*Well Number 1 H
*GRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION		*Elevation 7223'

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
B	16	32N	5W		98'	NORTH	2374'	EAST	RIO ARRIBA

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
N	16	32N	5W		760'	SOUTH	1420'	WEST	RIO ARRIBA

¹² Dedicated Acres 320 w/p	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. RCVD FEB 5 '10 OIL CONS. DIV.
---	-------------------------------	----------------------------------	---

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 **DIST. 3**

¹⁶		¹⁷ OPERATOR CERTIFICATION	
<p>N 89°56'24" W 2644.32' (M)</p> <p>N 89°58' W 2843.30' (R)</p> <p>FND 2" BC GLO 1924</p> <p>ENTRY POINT LAT. 36.98526° N LONG. 107.37065° W DATUM (NAD 1983)</p> <p>1800'</p> <p>5280.00' (R) 5280.54' (M)</p> <p>N 0°03' W N 0°04'15" E</p> <p>1420'</p> <p>760'</p> <p>FND 2" BC GLO 1924</p> <p>S 89°56' W S 89°49'58" W</p> <p>5286.00' (R) 5285.20' (M)</p> <p>FND 2.5" BC GLO 1924</p> <p>DIRECTIONAL DRILL S 57°47'21" W 1315.12'</p> <p>SURFACE LOCATION LAT. 36.98720° N LONG. 107.36680° W DATUM (NAD 1983)</p> <p>DIRECTIONAL DRILL S 05°47'19" W 3735.51'</p>		<p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner or a compulsory pooling order heretofore entered by the division.</p> <p>2-4-10</p> <p>Signature _____ Date _____</p> <p>Jason Kincaid</p> <p>Printed Name _____</p> <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>NOVEMBER 24, 2008</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: _____</p> <p>DAVID R. RUSSELL</p> <p>Certificate Number 10201</p>	

10/7/2009



OPERATIONS PLAN

WELL NAME.....Carracas 16A #1
JOB TYPE.....Horizontal OPE FTC
DEPT.....Drilling and Completions
PREPARED BY.....Jason Kincaid

GENERAL INFORMATION

Surface Location	98 FNL 2374 FEL
S-T-R	(B) Sec.16, T32N, R05W
Bottom Hole Location	754 FSL 2102 FWL
S-T-R	(N) Sec.16, T32N, R05W
County, State	Rio Arriba, New Mexico
Elevations	7223' GL
Total Depth	7812' +/- (MD); 3734' (TVD)
Formation Objective	Basin Fruitland Coal

FORMATION TOPS

San Jose	Surface
Nacimiento	1878' (TVD)
Ojo Alamo Ss	3078' (TVD)
Kirtland Sh	3225' (TVD)
Fruitland Fm	3588' (TVD) 3752'MD
Top Target Coal	3723' (TVD) 4148'MD
Base Target Coal	3746' (TVD)
Total Depth	3734' (TVD), 7812' (MD)

DRILLING

Surface: 12-1/4" wellbore will be drilled with a fresh water mud system (spud mud).

Intermediate: 8-3/4" wellbore will be drilled with a LSND mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.4 ppg to 9.0 ppg.

Production: 6-1/4" wellbore will be drilled with a fresh water or brine water system depending on reservoir characteristics. Anticipated BHP can be as high as 1100 psi.

Projected KOP is 2750' TVD with 5.82°/100' doglegs.

Blowout Control Specifications:

A 3000 psi minimum double ram or annulus BOP stack 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. **Pressure test BOP to 250 psi for 15 min and 2000 psi for 15 min.**

Logging Program:

Open hole logs: None

Mudlogs: 3523' TVD, 3700' MD to TD

Surveys: Surface to KOP every 500' and a minimum of every 200' for directional.

10/7/2009

CASING, TUBING & CASING EQUIPMENT

String	Start Depth	End Depth	Wellbore	Size	Wt	Grade
Surface	0	200	12-1/4"	9-5/8"	32.3 lb/ft	H-40 ST&C
Intermediate	0	4295	8-3/4"	7"	23 lb/ft	J-55 LT&C
TVD	0	3734				
Prod. Liner	4195	7812	6-1/4"	4-1/2"	11.6 lb/ft	J-55 LT&C
TVD	3732	3734				
Tubing	0	4100	none	2-3/8"	4.7 lb/ft	J-55

Surface Casing: Texas Pattern Guide Shoe on bottom of first joint and an insert float valve on top of first joint. Casing centralization with a minimum of 3 standard bow spring centralizers to achieve optimal standoff.

Intermediate Casing: Self fill float shoe with self fill float collar on bottom and top of first joint. Casing centralization with double bow spring and centralizers to optimize standoff.

Production Liner: Bull nose guide shoe on bottom of first joint, H-Latch liner drop off tool on top of last joint.

WELLHEAD

11" 3000 x 9 5/8" weld/slip on casing head. 9 5/8" x 7"x 2 3/8" 3000 psi Flanged Wellhead.

CEMENTING

Surface Casing: 125 sks Type V with 2.0 % CaCl₂ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk 148 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min.

Intermediate Casing: Depending on wellbore conditions, cement may consist of 577 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.93 ft³/sk) and a tail of 150 sks Class G with ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk). (1290 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Test casing to 1200 psi for 30 min.

Production Liner: NO CEMENT, Open Hole Completion

Set slips with full string weight

If cement does not circulate, run temperature survey in 8 hrs. to determine TOC.

OTHER INFORMATION

- 1) This well will be an open hole completion lined with an uncemented pre-drilled liner.
- 2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The intermediate 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.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS JAN 06 2010

Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals. of Land
Farmington Field

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Energen Resources Corporation

3a. Address

2010 Afton Place, Farmington, NM 87401

3b. Phone No. (include area code)

(505) 325-6800

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SHL: (B) Sec.16, T32N, R05W 98'FNL & 2374'FEL

BHL: (N) Sec.16, T32N, R05W 760'FSL & 1420'FWL

5. Lease Serial No.

USA NMNM 30351

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.

Carracas 16A # 1

9. API Well No.

30-039-30824

10. Field and Pool, or Exploratory Area

Basin Fruitland Coal

11. County or Parish, State

Rio Arriba NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice

TYPE OF ACTION

☐ Acidize☐ Deepen☐ Production (Start/Resume)☐ Water Shut-Off☐ Alter Casing☐ Fracture Treat☐ Reclamation☐ Well Integrity☐ Casing Repair☐ New Construction☐ Recomplete☐ Other☒ Change Plans☐ Plug and Abandon☐ Temporarily Abandon☐ Convert to Injection☐ Plug Back☐ Water Disposal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Energen Resources would like to make the following changeS to the Carracas 16A #1. The changes will be pertaining to the landing point of the 7" int. casing and the BHL:

- * Change int. casing setting measured depth (MD) TD to 4712' MD and cement with 645 sks lead followed by 150 sks tail. 100% excess
- * Change the TD of the well to 8439' (MD) and run the 4 1/2" liner to this depth with a new liner top of 4650' (MD).
- * Change the bottom hole footage location to 760'FSL 1420'FWL

Attached is a revised C-102, directional drilling and operations plan.

RCVD JAN 27 '10

OIL CONS. DIV.

DIST. 3

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Jason Kincaid

Title Drilling Engineer

Signature

Date 1/6/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

AFM

Date

1/19/2010

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

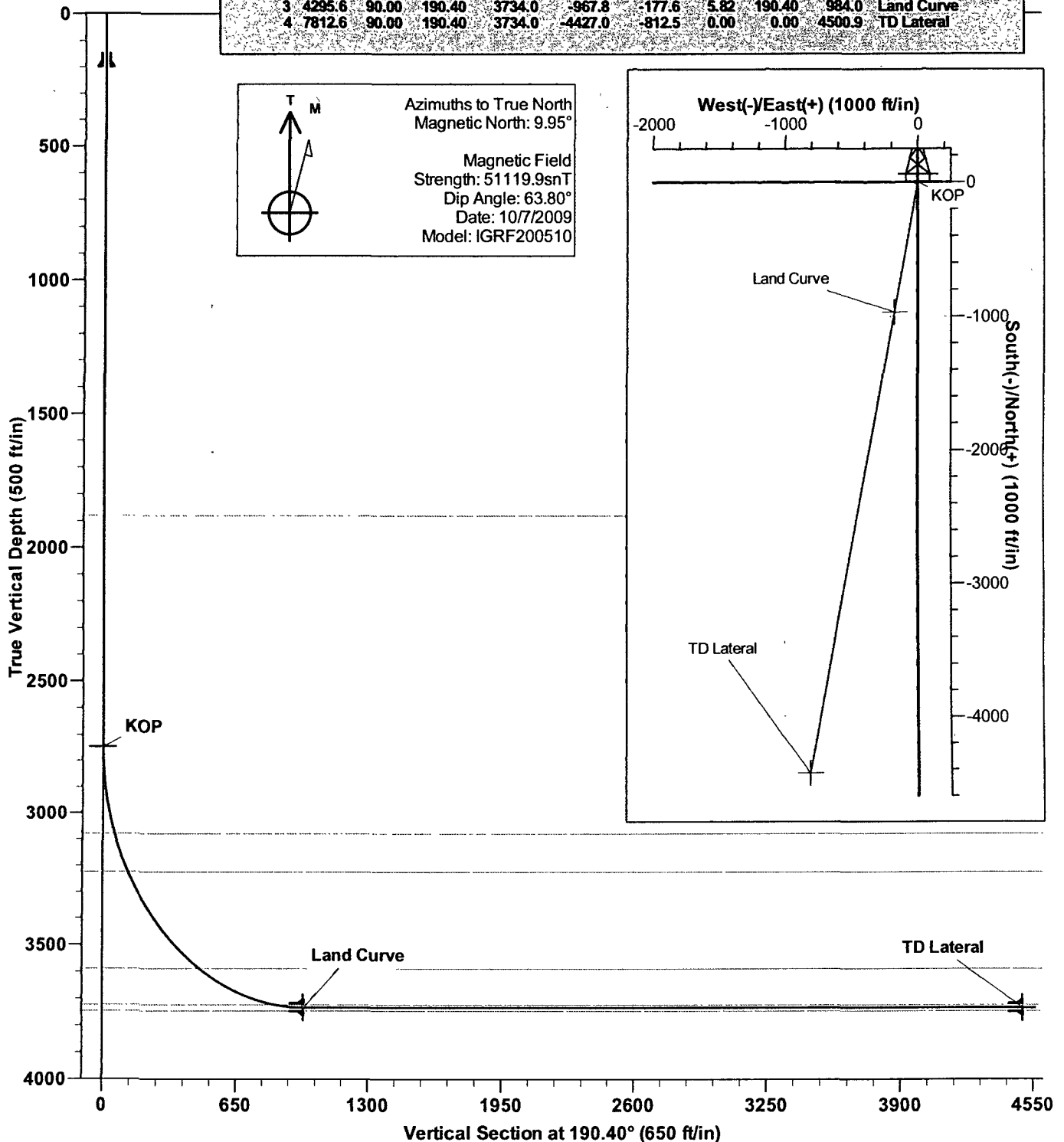
FFO

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes 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.

NMOCD

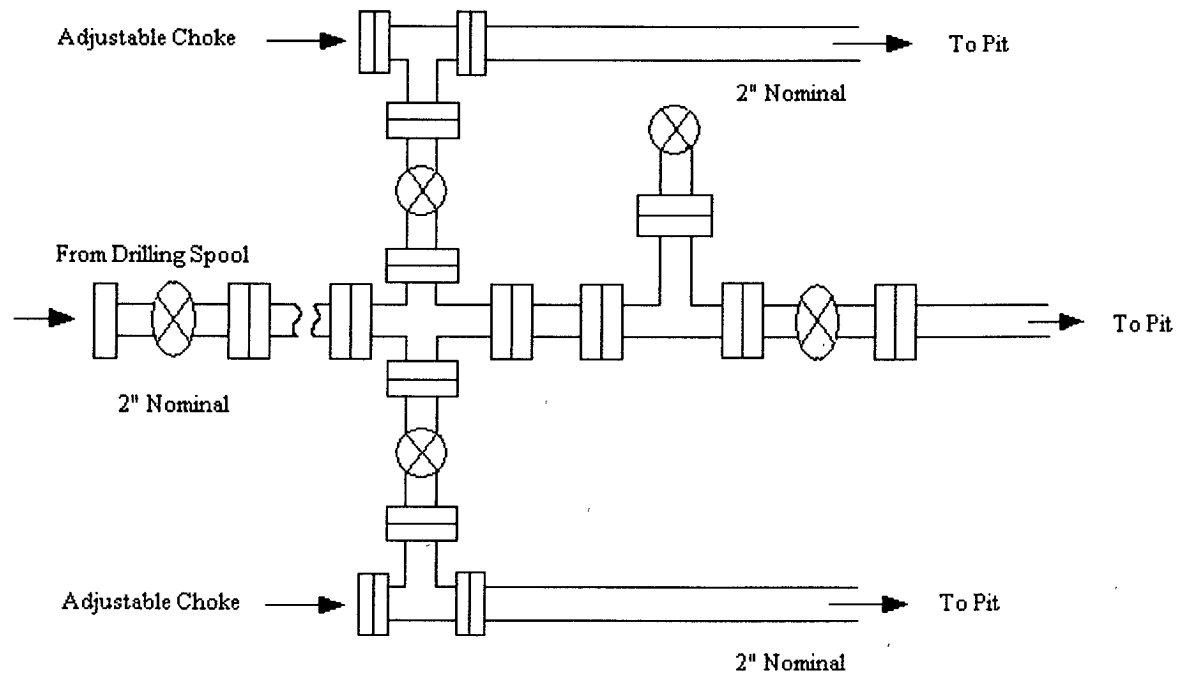
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2750.0	0.00	0.00	2750.0	0.0	0.0	0.00	0.00	0.0	KOP
3	4295.6	90.00	190.40	3734.0	-967.8	-177.6	5.82	190.40	984.0	Land Curve
4	7812.6	90.00	190.40	3734.0	-4427.0	-812.5	0.00	0.00	4500.9	TD Lateral



Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD

Energen Resources Corporation

Typical BOP Configuration for Gas Drilling

