

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

MAY 16 2008

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

Bureau of Land Management
Farmington Field Office

5. Lease Serial No.
USA SF-079090 079090

RCVD AUG 11 '08
OIL GUNS DIV.
DIST. 3

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		6. If Indian, Allottee or Tribe Name	
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		7. Unit or CA Agreement Name and No.	
2. Name of Operator Energen Resources Corporation		8. Lease Name and Well No. San Juan 32-5 Unit #21	
3a. Address 2010 Afton Place Farmington, New Mexico 87401		9. API Well No. 30-039-30534	
3b. Phone No. (include area code) (505) 325-6800		10. Field and Pool, or Exploratory Mesa Verde	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 1840 fsl, 1565 fwl K, 23, 32N, 6W At proposed prod. zone 1700 fsl, 760 fwl L, 22, 32N, 6W		11. Sec., T., R., M., or Blk. and Survey or Area (K) Sec 23, T32N, R6W	
14. Distance in miles and direction from nearest town or post office* Approx 9 miles SE Arboles, CO		12. County or Parish Rio Arriba	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 760'		13. State NM	
16. No. of Acres in lease 480.00		17. Spacing Unit dedicated to this well 5/20m 4/2 - 320.00	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 75'		19. Proposed Depth 9564' MD	
20. BLM/BIA Bond No. on file NM 2707		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6340' GL	
22. Approximate date work will start* 7/15/08		23. Estimated duration 35 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 5/16/08
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Title Drilling Engineer		
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Approved by (Signature) 	Name (Printed/Typed) A. F. M.	Date 8/7/08
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Title AFM	Office FFO
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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)

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

Hold C104
for Directional Survey
and "As Drilled" plat

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

NMOCD

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

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

procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

RECEIVED

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

State of New Mexico
Energy, Minerals & Natural Resources Department MAY 16 2008

Form C-102
Revised October 12, 2005

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

Submit to Appropriate District Office
Bureau of Land Management
Mington Field Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

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

RCVD AUG 11 '08
AMENDED REPORT

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

WELL LOCATION AND ACREAGE DEDICATION PLAT OIL CONS. DIV.

¹ API Number 30-039-30534	² Pool Code 72319	³ Pool Name Blanco M.V. (LEWIS)	DIST. 3
⁴ Property Code 21996	⁵ Property Name 32-5 UNIT		⁶ Well Number 21
⁷ OGRID No. 162928	⁸ Operator Name ENERGEN RESOURCES CORPORATION		⁹ Elevation 6340'

¹⁰ Surface Location

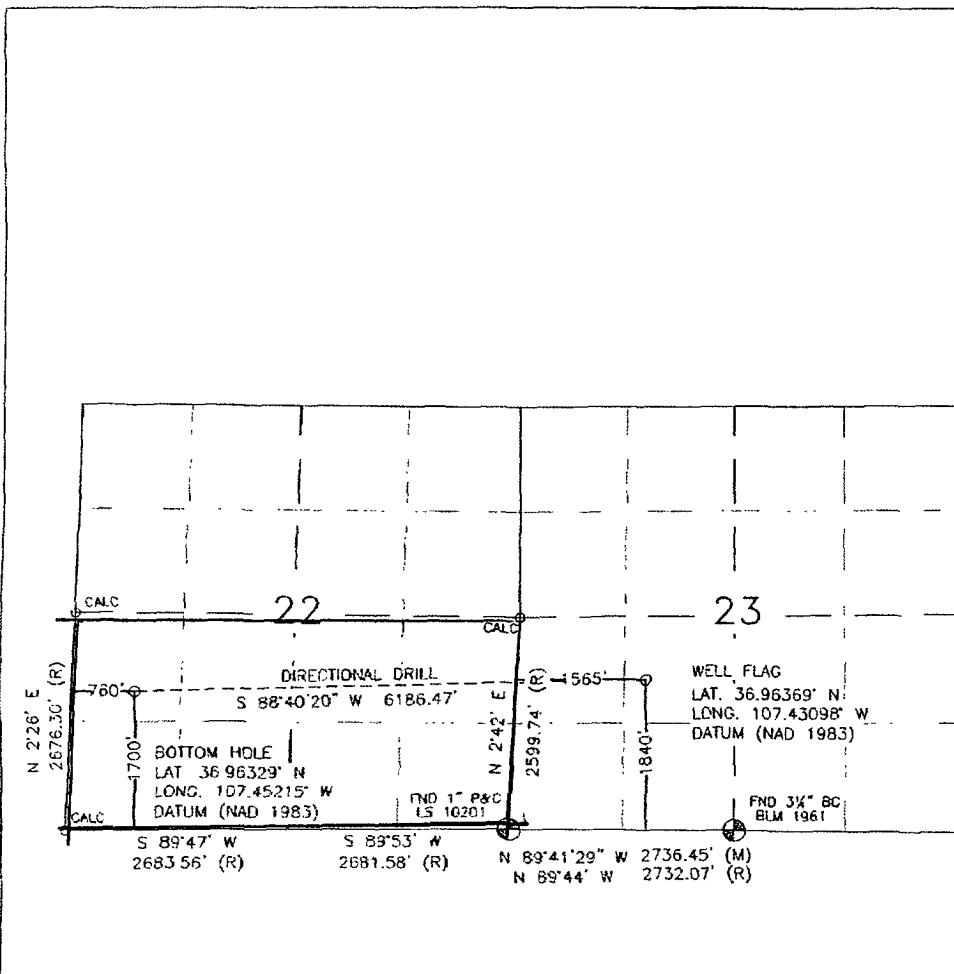
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	23	32N	6W		1840'	SOUTH	1565'	WEST	RIO ARriba

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
L	22	32N	6W		1700'	SOUTH	760'	WEST	RIO ARriba
¹² Dedicated Acres 320.00 5/2 CM			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

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17 OPERATOR CERTIFICATION

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.

Signature: *Nathan Smith* Date: 5/15/08

Printed Name: Nathan Smith

18 SURVEYOR CERTIFICATION

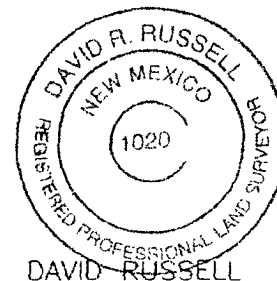
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

SEPTEMBER 26, 2007

Date of Survey

Signature and Seal of Professional Surveyor:

David R. Russell



DAVID RUSSELL
Certificate Number 10201

Operations Plan

May 16, 2008

San Juan 32-5 Unit #21

General Information

Location	1840 fsl, 1565 fwl at surface 1700 fsl, 760 fwl at bottom nws 22, T32N, R6W Rio Arriba County, New Mexico
Elevations	6340' GL
Total Depth	9564' (MD), 4440' (TVD)
Formation Objective	Lewis Shale - Otero

Formation Tops

San Jose	Surface
Nacimiento	760' (TVD)
Ojo Alamo Ss	2060' (TVD)
Kirtland Sh	2410' (TVD), 2411' (MD)
Fruitland Fm	2830' (TVD), 2844' (MD)
Top Coal Interval	2920' (TVD), 2940' (MD)
Pictured Cliffs	3040' (TVD), 3071' (MD)
Lewis Shale	3360' (TVD), 3438' (MD)
Huerfanito Bentonite	4130' (TVD), 4606' (MD)
Top of Navajo City	4302' (TVD), 5078' (MD)
Base of Navajo City	4440' (TVD)
Total Depth	4440' (TVD), 9564' (MD)

Drilling

Surface Wellbore: wellbore will be drilled with spud mud.

Intermediate Wellbore: wellbore will be drilled with a Low Solids Non-Dispersed mud with densities expected to range from 8.8 ppg to 9.2 ppg, or Air/Mist as the wellbore dictates.

Production Wellbore: 6 1/4" wellbore will be drilled with Air/Mist.

Projected KOP is 2075' TVD with 2.48°/100' doglegs. Anticipated BHP is 500 psi.

Blowout Control Specifications:

A 3000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. During air drilling operations, a Shaffer Type 50 or equivalent rotating head will be installed on top of the stack. 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: FMI (Focused Micro Imaging)

Mud logs: 3300' TVD, 3361' MD to TD

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

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-320	12 1/4"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	0'-5750' (MD) 0-4387' (TVD)	8 3/4"	7"	26.0 ppf	J-55 LT&C
Prod Liner	4350'-4400' (TVD) 5700'-9560' (MD)	6 1/4"	4 1/2"	11.6 ppf	J-55 LT&C
Tubing	0'-5650' (MD)		2 3/8"	4.7 ppf	J-55

Casing Equipment:

Surface Casing: Texas Pattern Guide Shoe on bottom of first joint and an insert float valve on top of first joint. Casing centralization with 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.

Liner: Bull nose guide shoe on bottom of first joint, Packers Plus liner hanger and frac sleeves at frac intervals.

Wellhead

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

Cementing

Surface Casing: 175 sks Type V with 2.0 % CaCl₂ and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk 206.5 ft³ of slurry to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min. Nipple up BOP after WOC. Test BOP to 250 psi low, 1200 psi high for 15 min each. Test choke manifold to 1200 psi for 30 min.

Intermediate Casing: Depending on wellbore conditions, cement may consist of 800 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 150 sks Type V with 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk). (1721 ft³ of slurry to circulate to surface). WOC 12 hours. Test casing to 1200 psi for 30 min. Test BOP to 250 psi low, 1200 psi high for 15 min each. Test choke manifold to 1200 psi for 30 min.

Production Liner: NO CEMENT, Open Hole Completion

****Cement volumes subject to change if caliper logs are ran****

Other Information

- 1) This well will be an open hole completion lined with an uncemented pre-drilled liner. The Otero portion of the Lewis Shale will be fracture stimulated.
- 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. This gas is dedicated.

Project: S/2 Sec. 22, T32N, R6W
 Site: Eul Canyon
 Well: San Juan 32-5 Unit #21
 Wellbore: Preliminary Plan
 Plan: Plan #1 (San Juan 32-5 Unit #21/Preliminary Plan)

PROJECT DETAILS: S/2 Sec. 22, T32N, R6W

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone

System Datum: Mean Sea Level

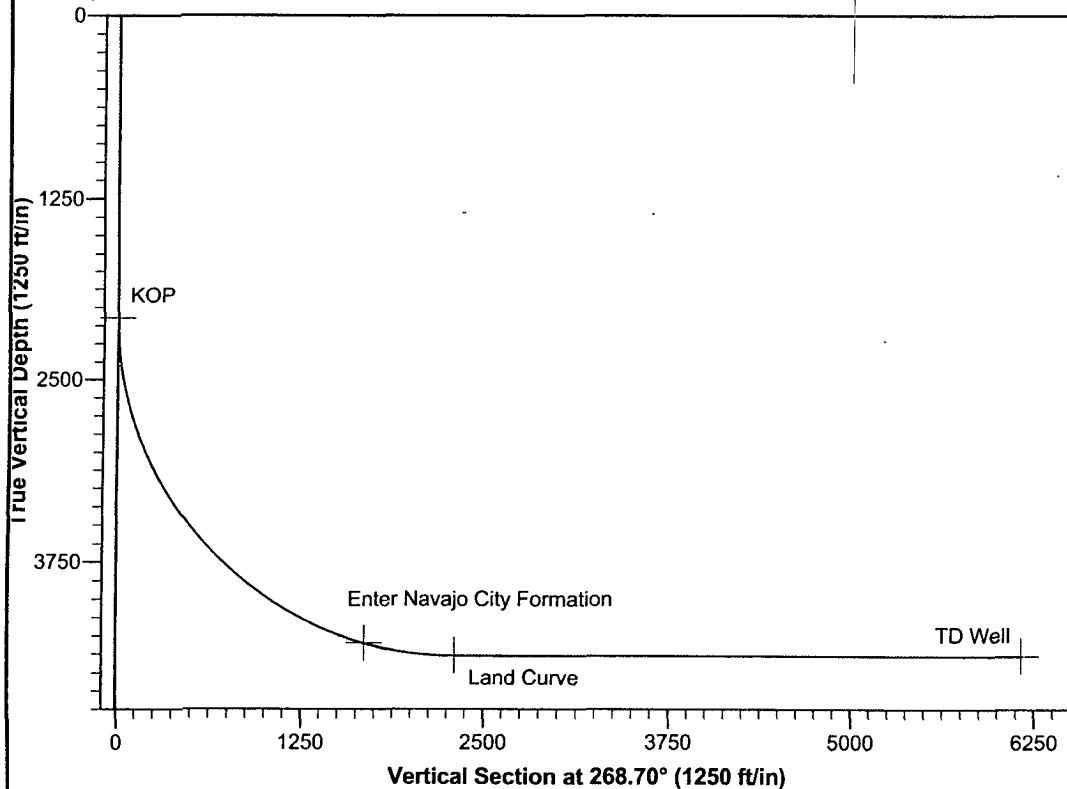
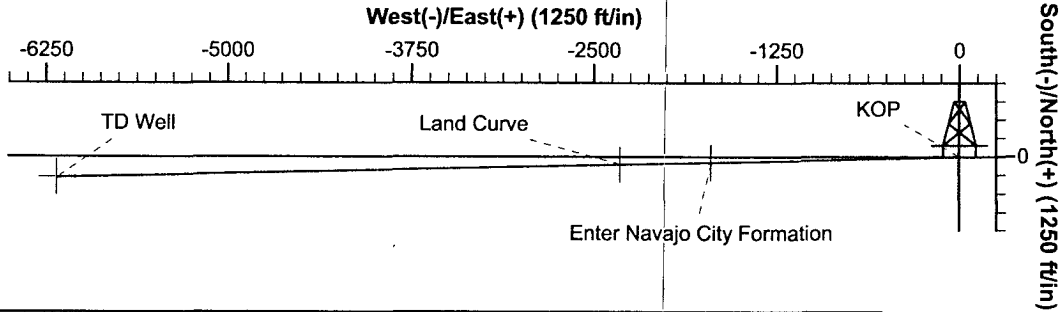


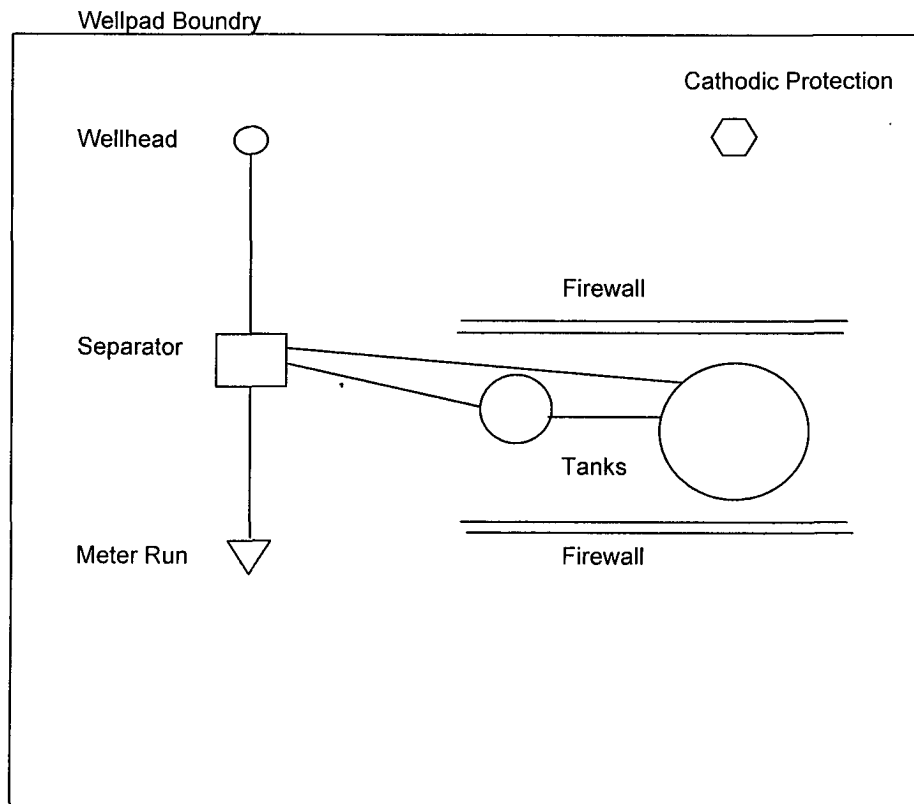
Azimuths to True North
 Magnetic North: 10.14°

Magnetic Field
 Strength: 51238.3snT
 Dip Angle: 63.80°
 Date: 5/16/2008
 Model: IGRF200510

SECTION DETAILS

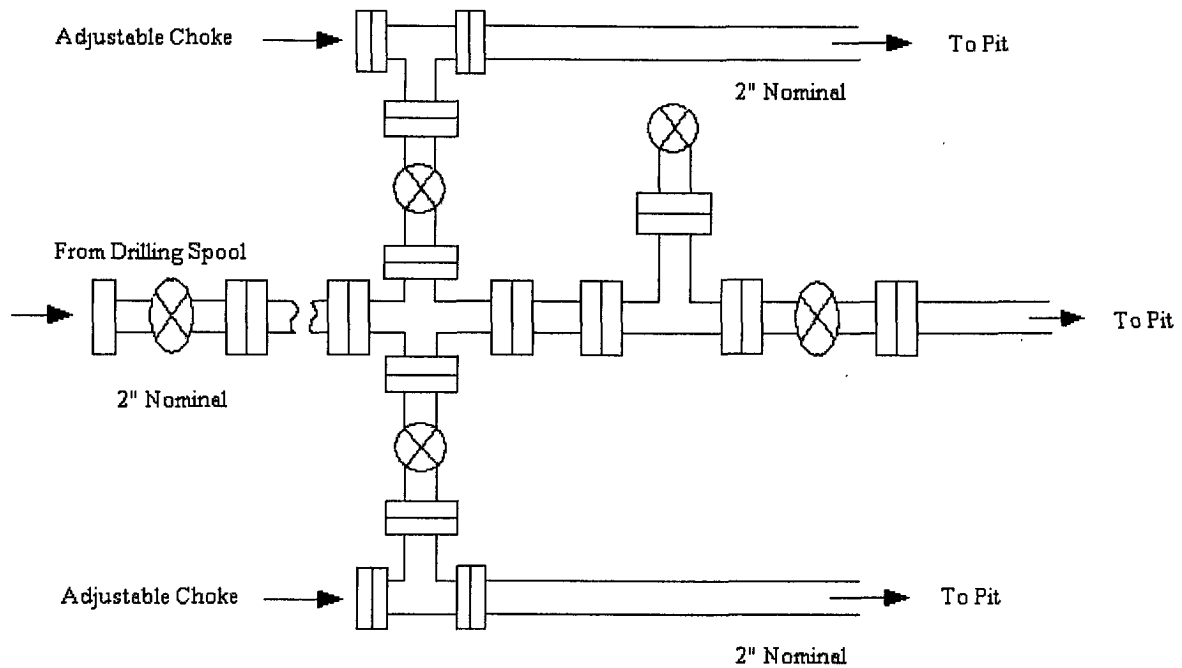
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2075.0	0.00	0.00	2075.0	0.0	0.0	0.00	0.00	0.0	KOP
3	5077.8	74.41	268.70	4302.0	-38.4	-1690.4	2.48	268.70	1690.8	Enter Navajo City Formation
4	5706.7	90.00	268.70	4387.0	-52.5	-2311.4	2.48	0.00	2312.0	Land Curve
5	9564.3	90.00	268.70	4387.0	-140.0	-6168.0	0.00	0.00	6169.6	TD Well





Anticipated Production Facilities and Layout for a MV and or DK Well

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

