

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires March 31, 2007


APPLICATION FOR PERMIT TO DRILL OR REENTER

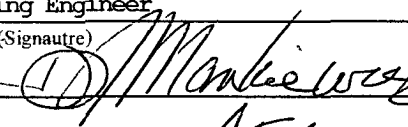
1a Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM 28277
1b Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> 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. Carracas 29 B #9
3b. Phone No. (include area code) 505.325.6800		9. API Well No. 30-039-30139
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 1565' fsl, 1610' fwl At proposed prod zone 1880' fsl, 760' fwl		10. Field and Pool, or Exploratory Basin Fruitland Coal
14 Distance in miles and direction from nearest town or post office* Approximately 8.6 miles east southeast of Arboles, CO		11. Sec., T, R., M., or Blk and Survey or Area (K) S29, T32N, R4W
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drg. unit line, if any) 760'	16. No. of Acres in lease 2560.0	12. County or Parish Rio Arriba
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50'	19 Proposed Depth 6105' (MD)	13. State NM
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 7266' GL	22. Approximate date work will start* 6/15/2007	17. Spacing Unit dedicated to this well E/2
		20. BLM/BIA Bond No. on file NM 2707
		23. Estimated duration 25 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 12/11/06
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Title Drilling Engineer		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 8/17/07
Office FFU		RCVD AUG 21 '07 OIL CONS. DIV.

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. **Mun. BOPC test requirement: 750# DIST. 3**

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)

 **HOLD 0104 FUNDING**
SurveyDRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"REQUIREMENTS".

NMOCD

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

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

2006 DEC 11 PM 3 51

☐ AMENDED REPORT

RECEIVED
WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30039-30139	*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 31624 35647	*Property Name CARRACAS 29B	*Well Number 9
*GRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION	*Elevation 7266

¹⁰ Surface Location

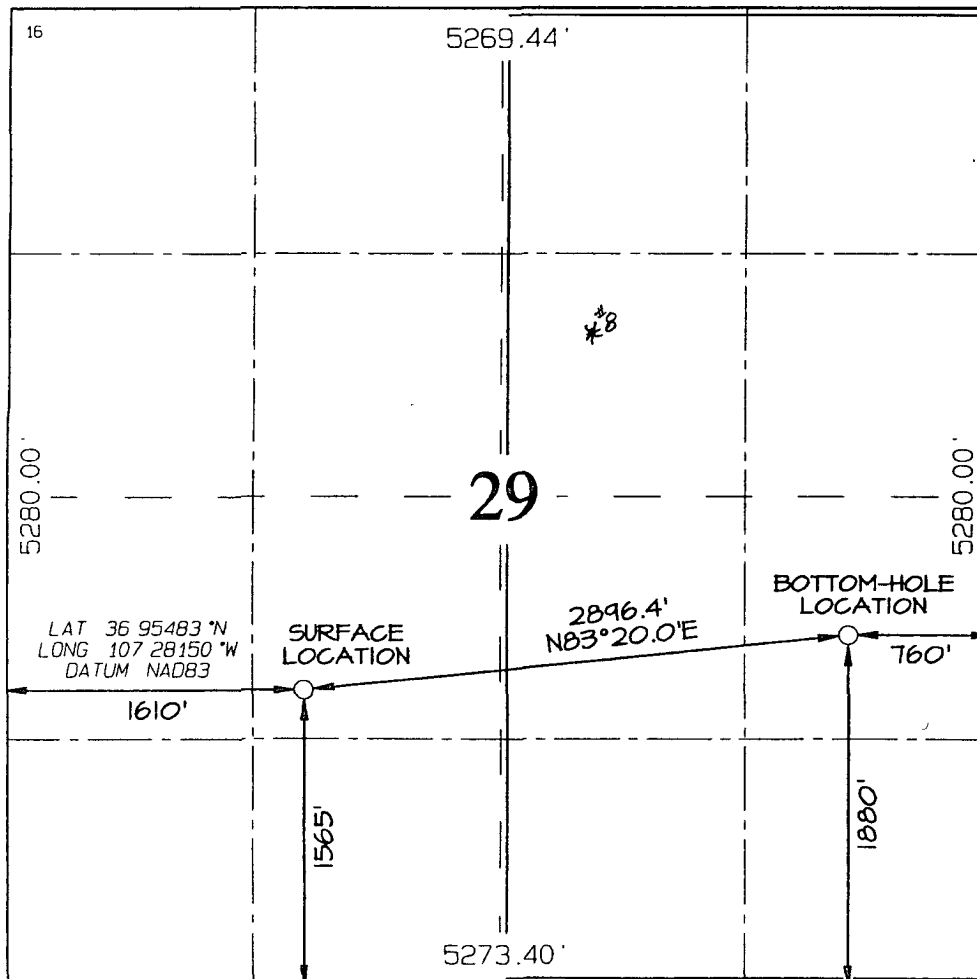
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	29	32N	4W		1565	SOUTH	1610	WEST	RIO ARriba

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
I	29	32N	4W		1880	SOUTH	760	EAST	RIO ARriba

¹² Dedicated Acres 320.0 Acres - (E/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



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

12/11/06
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

Date of Survey: AUGUST 2, 2006

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

Form C-103
May 27, 2004

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

WELL API NO. 30039-30139
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: Carracas 29 B
8. Well Number #9
9. OGRID Number 162928
10. Pool name or Wildcat Basin Fruitland Coal

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Drill Depth to Groundwater >200' 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 _____

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 Energen Resources Corporation
3. Address of Operator 2198 Bloomfield Hwy Farmington, NM 87401	4. Well Location Unit Letter <u>K</u> : <u>1565</u> feet from the <u>South</u> line and <u>1610</u> feet from the <u>West</u> line Section <u>11</u> Township <u>32N</u> Range <u>4W</u> NMPM County <u>Rio Arriba</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7266' GL	

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 a 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' issued on November 1, 2004 and also plans to submit a C-144 form for the closure of such 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 12/11/2006

Type or print name Nathan Smith E-mail address: nsmith@energen.com Telephone No. 505.326.6800

For State Use Only

APPROVED BY [Signature] TITLE Deputy Oil & Gas Inspector, District #3 DATE AUG 28 2007

Conditions of Approval, if any:

Operations Plan

December 11, 2006

Carracas 29 B #9

General Information

Location	1565' fsl, 1610' fwl at surface 1880' fsl, 760' fwl at bottom nese S29, T32N, R4W Rio Arriba County, New Mexico
Elevations	7266' GL
Total Depth	6105' (MD), 4003' (TVD)
Formation Objective	Basin Fruitland Coal

Formation Tops

San Jose	Surface
Nacimiento	2251' (TVD)
Ojo Alamo Ss	3390' (TVD), 3517' (MD)
Kirtland Sh	3517' (TVD), 3699' (MD)
Fruitland Fm	3629' (TVD), 3919' (MD)
Top Coal	3981' (TVD), 4891' (MD)
Bottom Coal	4003' (TVD)
Total Depth	4003' (TVD), 6105' (MD)

Drilling

The 12 ¼" wellbore will be drilled with a fresh water mud system.

The 8 ¾" 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 8.9 ppg to 9.5 ppg.

Projected KOP is 2125' TVD with 3.09°/100' doglegs.

The 6 ¼" 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.

Blowout Control Specifications:

A 2000 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: None

Mud logs: From 3696' (TVD), 4000' (MD) to TD.

Surveys: Surface to KOP every 500' and a minimum of every 250' for directional.

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-200'	12 1/4"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	0'-3992' (TVD) 5050' (MD)	8 3/4"	7"	23.0 ppf	J-55 LT&C
Production	3981'-4003' (TVD) 5020'-6105' (MD)	6 1/4"	4 1/2"	11.6 ppf	J-55 LT&C
Tubing	0'-5000' (MD)		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.

Intermediate 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 and rigid centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended.

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

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: 125 sks Std (class B) with 2.0 % CaCl₂ and 1/4 #/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 600 psi for 30 min.

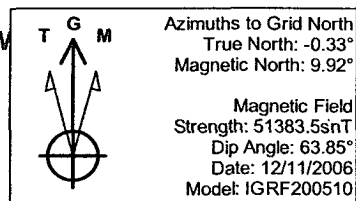
Intermediate Casing: Before cementing, circulate hole at least 1 1/2 hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 700 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.3 ppg, 1.96 ft³/sk) and a tail of 125 sks Sks with 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk). (1498 ft³ of slurry, 100 % excess to circulate to surface). Test casing to 1200 psi for 30 min.

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. This gas is dedicated.



Project: Carson National Forest; S29, T32N, R5W
Site: Carracas Mesa
Well: Carracas 29 B #9
Wellbore: Preliminary Design
Plan: Plan #1 (Carracas 29 B #9/Preliminary Design)

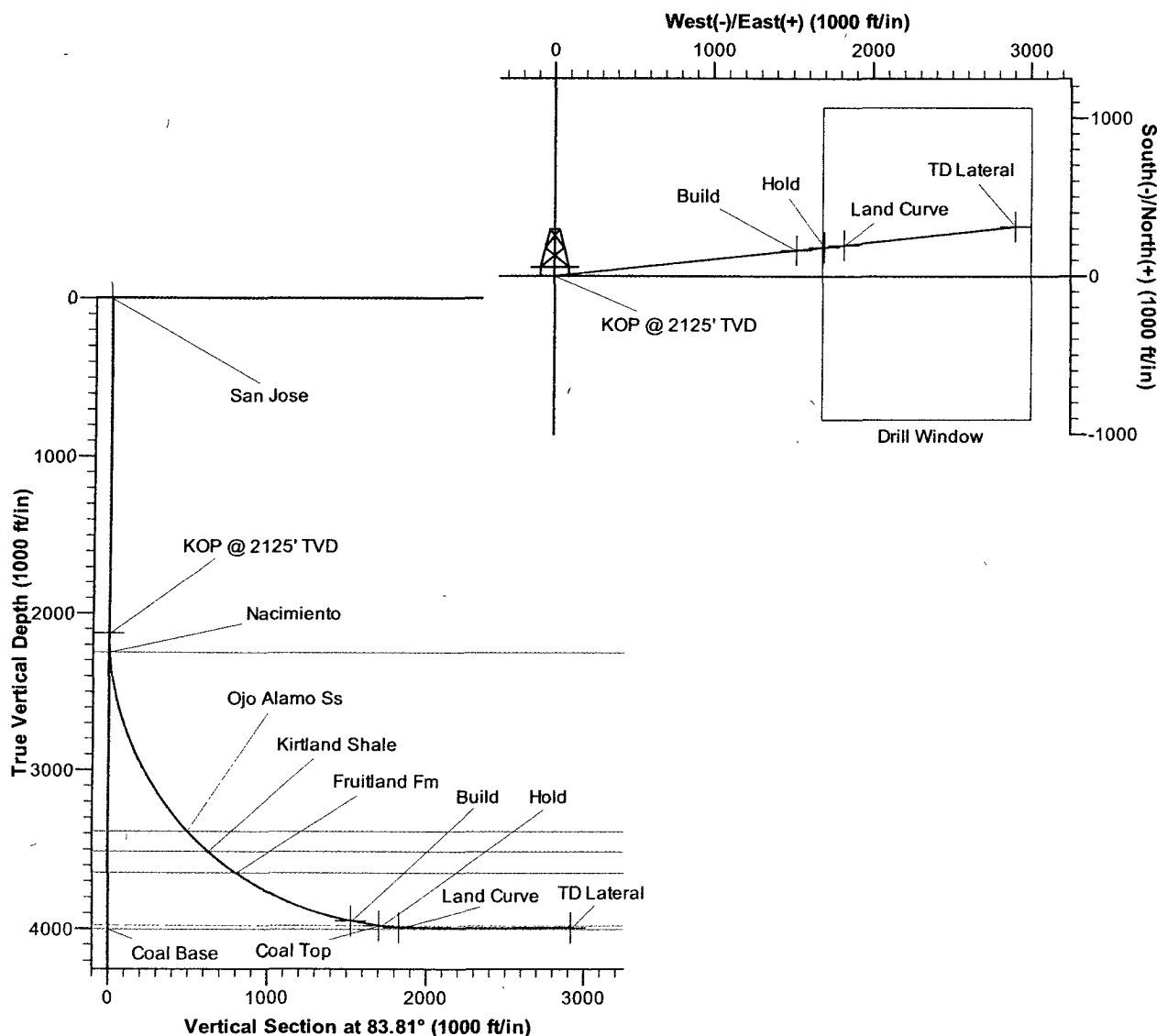


PROJECT DETAILS: Carson National Forest; S29, T32N, R5W	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Western Zone
System Datum:	Mean Sea Level

SURFACE LOCATION	
Easting:	2884327.45
Northing:	2167354.75

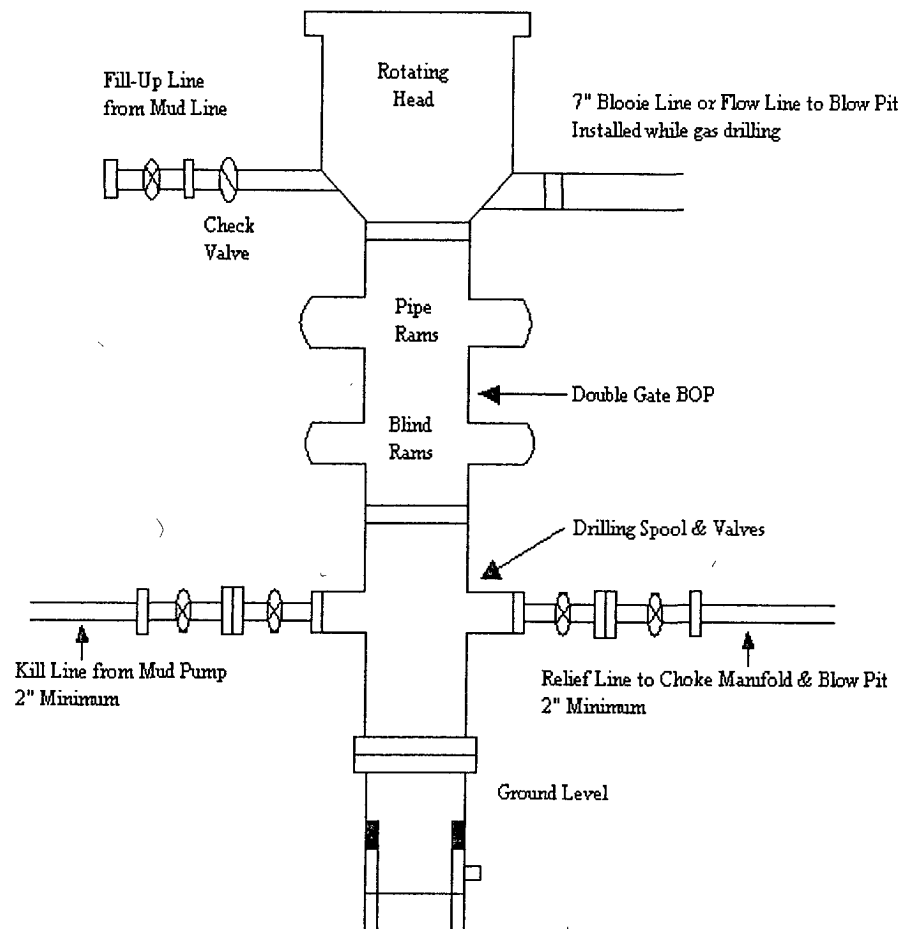
SECTION DETAILS

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	2125.0	0.00	0.00	2125.0	0.0	0.0	0.00	0.00	0.0	KOP @ 2125' TVD
3	4713.1	79.97	83.81	3951.0	165.1	1522.4	3.09	83.81	1531.3	Build
4	4891.5	80.67	83.78	3981.0	184.1	1697.2	0.39	-2.27	1707.2	Hold
5	5017.8	89.33	83.89	3992.0	197.6	1822.2	6.86	0.70	1832.9	Land Curve
6	6105.7	90.67	83.72	3992.0	315.0	2903.7	0.12	-7.18	2920.7	TD Lateral



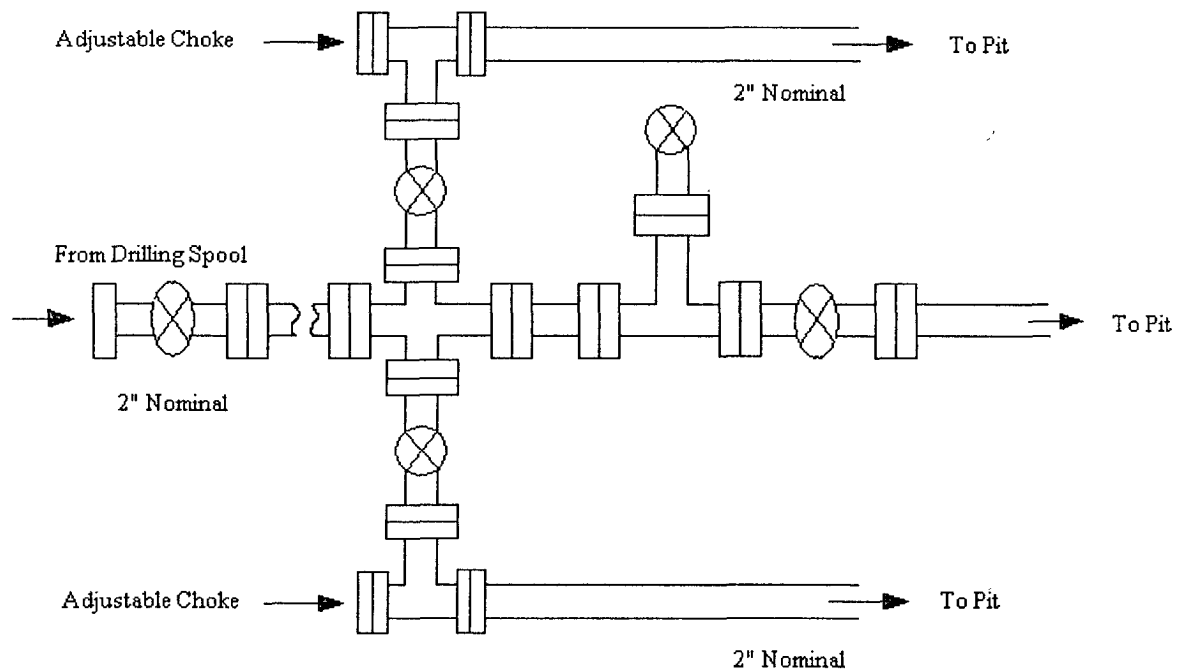
Energen Resources Corporation

Typical BOP Configuration for Gas Drilling



Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration

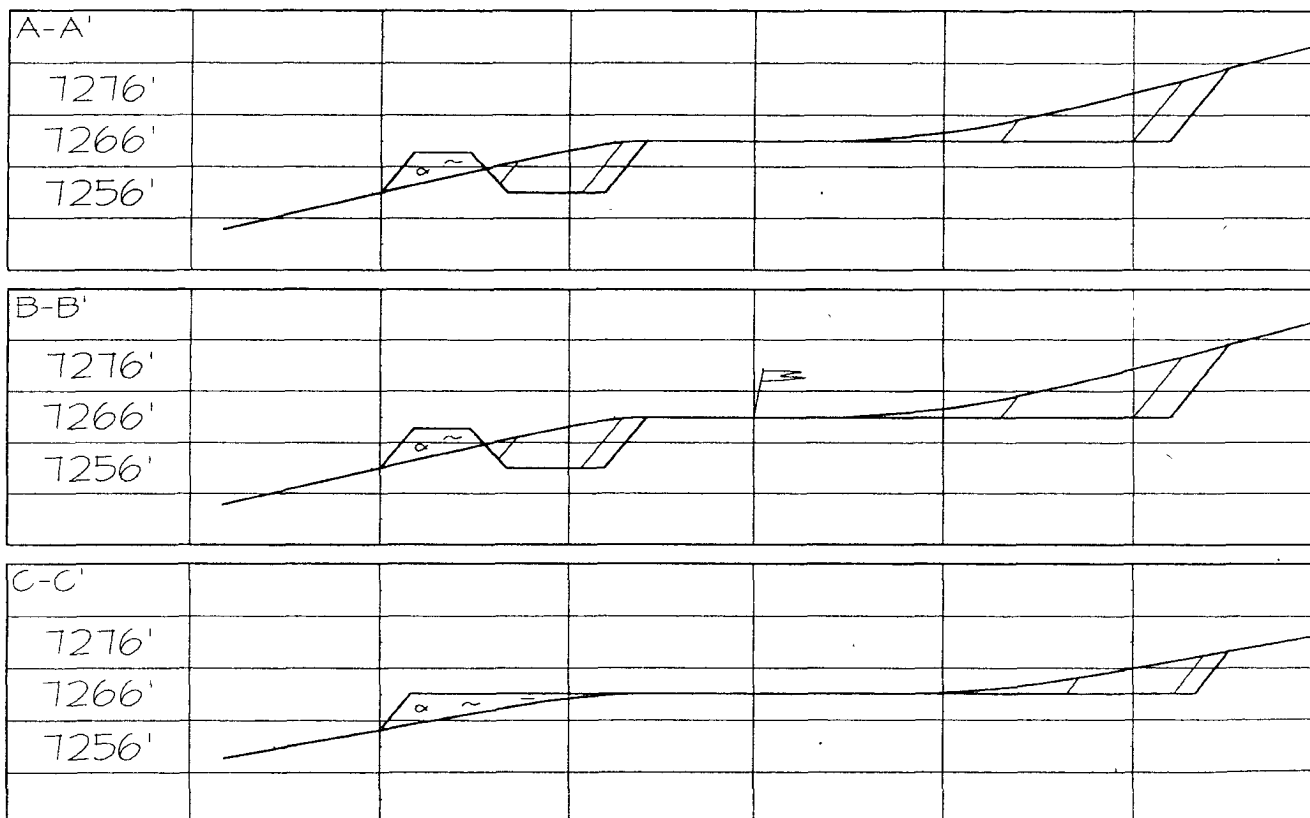


Choke manifold installed from surface to TD

The site plan shows a rectangular area with several key features and dimensions:

- Top Boundary:** A dashed line with a semi-circular extension on the right side, labeled "FIO ⑤" on the left and "⑥ F6" on the right.
- Left Boundary:** A vertical line labeled "FIO ⑤" at the top and "C14 ③" at the bottom.
- Right Boundary:** A vertical line labeled "⑥ F6" at the top and "② CB" at the bottom.
- Bottom Boundary:** A horizontal line labeled "A'" on the left, "B'" in the middle, and "C'" on the right.
- Internal Dimensions and Features:**
 - Top Section:** A rectangular area labeled "21 Slopes Reserve Pit 8' DEEP". Below it is the "ENERGEN CARRACAS 29A #1 WELLHEAD".
 - Middle Section:** A horizontal line labeled "100'" in the center. To the right of the wellhead is a "N39°E LAYDOWN" area, also labeled "100'".
 - Bottom Section:** A horizontal line labeled "125'" in the center. Below it is a "SEPARATOR" and a "TANK".
 - Access and Roadway:** An "EXISTING ROADWAY" is shown on the left, with an "ACCESS (NO NEW)" area below it.
 - Meter Run:** A "METER RUN" is indicated on the left side, near the bottom.
 - Working Side:** A vertical line labeled "125' WORKING SIDE" is shown on the right side of the bottom section.
 - Edge of Existing Wellpad:** A dashed line with a semi-circular extension on the right side, labeled "EDGE OF EXISTING WELLPAD".

LATITUDE: 36.95483° N
LONGITUDE: 107.28150° W



Note Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least two (2) working days prior to construction

GRAPHIC SCALE 1"=1000'.
0 1000 2000



FOUND
1972 BLM
BRASS CAP

30
—
31

FOUND
1972 BLM
BRASS CAP

A circular professional seal for Jason C. Edwards. The outer ring contains the text "JASON C. EDWARDS" at the top and "REGISTERED PROFESSIONAL SURVEYOR" at the bottom. The inner ring contains the text "NEW MEXICO". The center of the seal contains the license number "15269".

N46°53'54"E 2056 72'

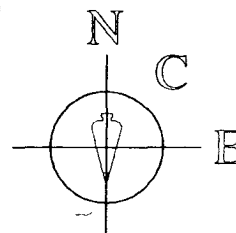
NO° 29' 00" W 5257.77' (MEASURED)
NO° 03' W 5280.00' (RECORD)

PLAT NOTE

BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR C&B I'S IN THE AREA OF THIS PROJECT

3252 FT / 197 RODS

ENERGEN RESOURCES
2198 Bloomfield Highway
FARMINGTON, NM 87401



Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 325-2654 (Office)
(505) 326-5650 (Fax)

SHEET 3 OF 4	CHECKED JCE
FILENAME 3242962	DRAWN BY SLE

JASON C. EDWARDS Date. September 15, 2006
Jason C Edwards
New Mexico LS #15269