

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

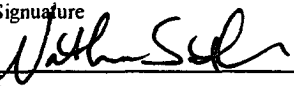
APPLICATION FOR PERMIT TO DRILL OR REENTER

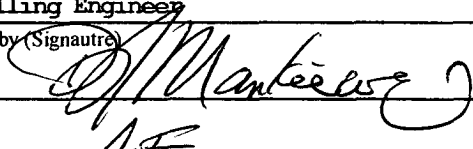
1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM 59704
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name 3-CH
2. Name of Operator Energex 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 26 A #10
3b. Phone No. (include area code) 505.325.6800		9. API Well No. 30-039-30140
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 745' fnl, 1540' fel At proposed prod. zone 760' ²fnl, 1400' fel		10. Field and Pool, or Exploratory Basin Fruitland Coal
14. Distance in miles and direction from nearest town or post office* Approximately 6.3 miles southeast of Arboles, CO		11. Sec., T., R., M., or Blk. and Survey or Area (B) S26, T32N, R5W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 745'	16. No. of Acres in lease 1760.0	17. Spacing Unit dedicated to this well 320 E/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50'	19. Proposed Depth 7364' (MD)	20. BLM/BIA Bond No. on file NM 2707
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7215' GL	22. Approximate date work will start* 4/1/2007	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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Approved by (Signature) 	Name (Printed/Typed) AF	Date 4/10/07
Title Drilling Engineer	Office FEO	

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. **Min. BOPE testing requirement: 750th**

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)

RCVD APR 12 '07
NOTIFY AZTEC OCD 24 HRS.
PRIORITY CASING & CEMENT
OIL CONS. DIV.HOLD G104 FOR **directional survey**
change **instatios to Carracas 26A #2**
H

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 Edo 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
RCVD APR12'07

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-03A-30140		*Pool Code 71629	*Pool Name FRUITLAND COAL	OIL CONS. DIV. DIST. 3
*Property Code 35663	*Property Name CARRACAS 26A			*Well Number 10
*OGRD No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION			*Elevation 7215'

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	26	32N	5W		745'	NORTH	1540'	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
O	26	32N	5W		760'	SOUTH	1400'	EAST	RIO ARriba

12 Dedicated Acres 320.44 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

<p>FND 2" BC GLO 1924</p> <p>N 89°50'09" W N 89°52' W</p> <p>2644.59' (M) 2644.29' (R)</p> <p>1540'</p> <p>26A #2</p> <p>LAT. 36.95643° N LONG. 107.32783° W DATUM (NAD 1983)</p> <p>5262.71' (M) 5280.00' (R)</p> <p>5280.00' (R)</p> <p>N 0°01'17" W N 0°00' W</p> <p>1400'</p> <p>BH LOCATION</p> <p>5308.33' (M) 5289.24' (R)</p> <p>FND 2" BC GLO 1924</p> <p>N 89°53'24" W N 89°56' W</p>		<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Nathan Smith</i> Signature</p> <p>Nathan Smith Printed Name</p> <p>Drilling Engineer Title</p> <p>12/11/06 Date</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>AUGUST 14, 2006 Date of Survey</p> <p>Signature and Seal of Professional Surveyor: <i>David R. Russell</i></p> <p>DAVID R. RUSSELL NEW MEXICO REGISTERED PROFESSIONAL LAND SURVEYOR 10201</p> <p>DAVID RUSSELL Certificate Number 10201</p>
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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. 30-039-30140

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name:

Carracas 26 A

8. Well Number

#10

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 Hwy Farmington, NM 87401

4. Well Location

Unit Letter B : 745 feet from the North line and 1540 feet from the East line

Section 26 Township 32N Range 5W NMPM County Rio Arriba

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

7215' GL

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 _____

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

REMEDIAL WORK ☐ ALTERING CASING ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

CASING TEST AND CEMENT JOB ☐

OTHER: Build a drilling pit ☒

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 EIM 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

E-mail address: nsmith@energen.com

Type or print name Nathan Smith

Telephone No. 505.326.6800

For State Use Only

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #1 DATE APR 16 2007

Conditions of Approval, if any:

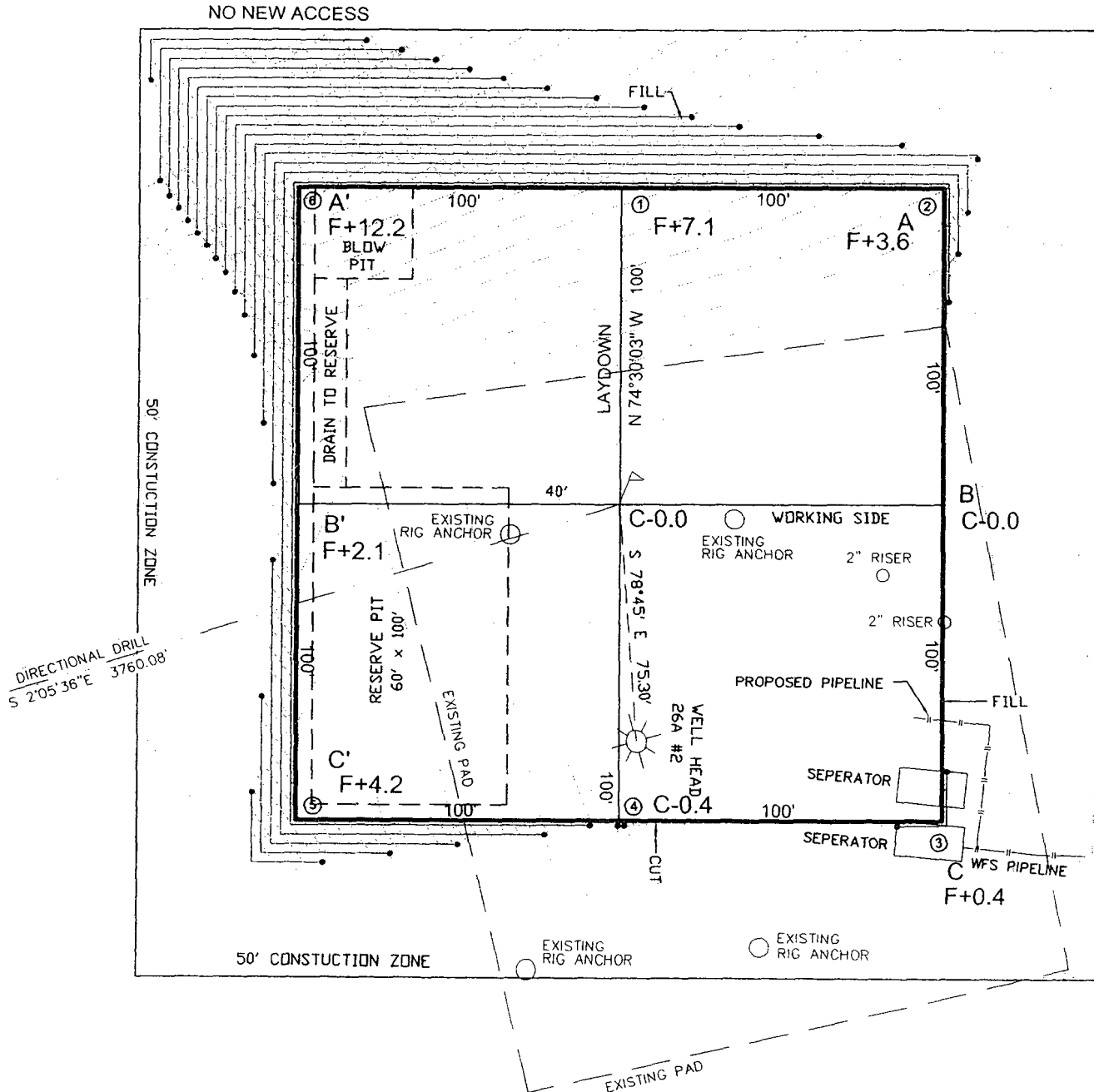
LATITUDE: 36.95643°N
LONGITUDE: 107.32783°W
DATUM: NAD 83

ENERGEN RESOURCES CORPORATION

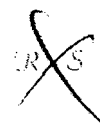
CARRACAS 26A #10
745' FNL & 1540' FEL
LOCATED IN THE NW/4 NE/4 OF
SECTION 26, T32N, R5W, N.M.P.M.,
RIO ARriba COUNTY, NEW MEXICO
GROUND ELEVATION: 7215', NAVD 88
FINISHED PAD ELEVATION: 7214.6', NAVD 88



25' 0 25' 50'
SCALE = 50'

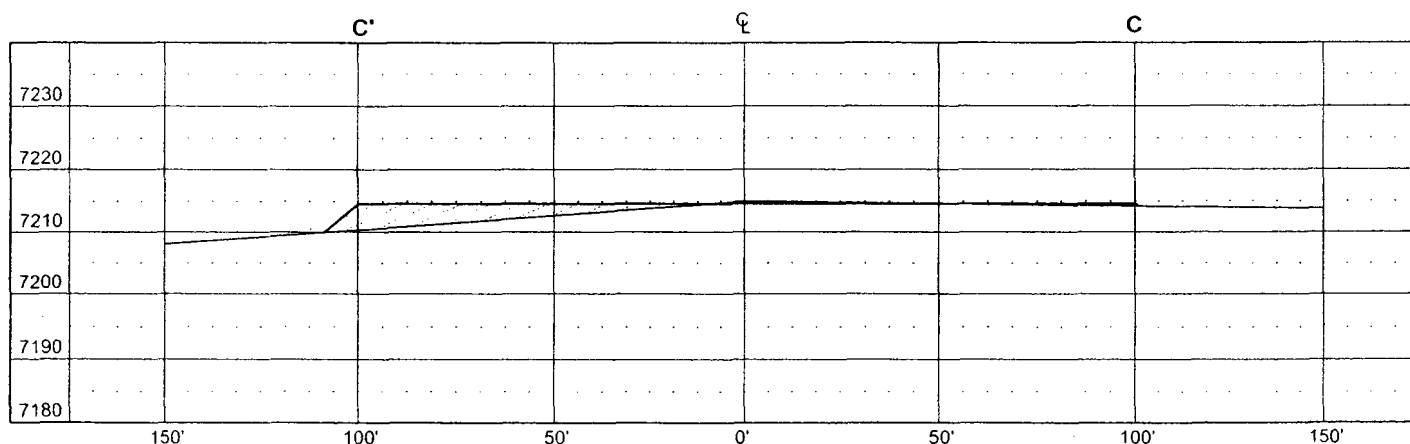
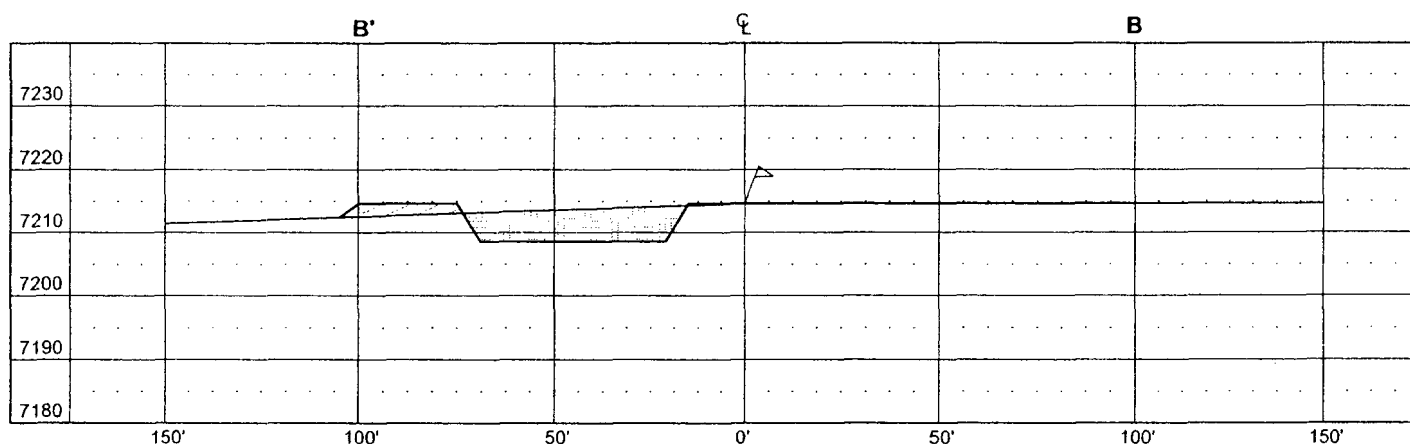
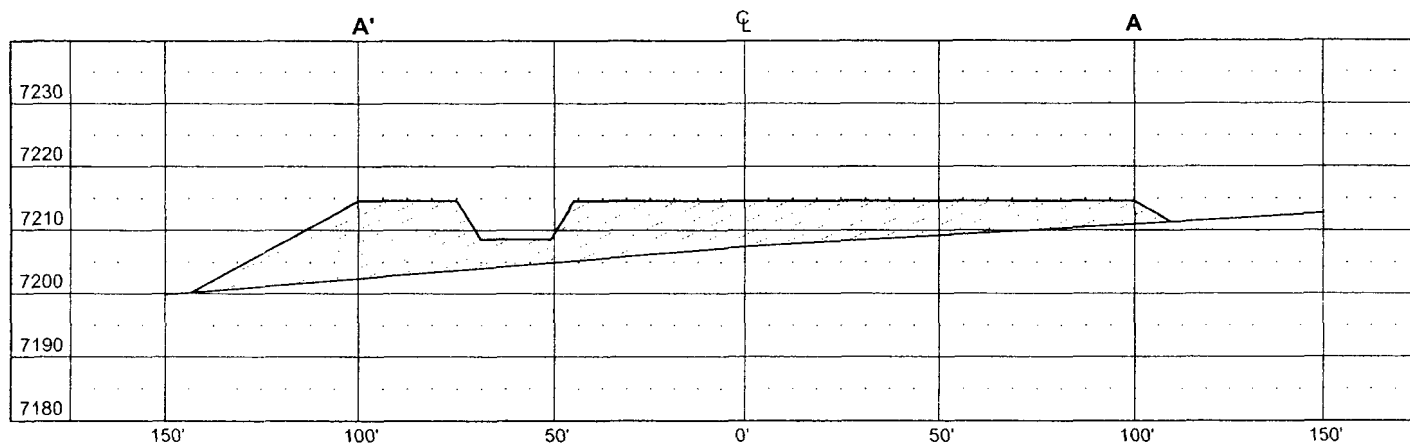


1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: ERG081
DATE: 10/05/06; REV1





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

CARRACAS 26A #10
745' FNL & 1540' FEL
LOCATED IN THE NW/4 NE/4 OF
SECTION 26, T32N, R5W, N.M.P.M.,
RIO ARriba COUNTY, NEW MEXICO
GROUND ELEVATION: 7215', NAVD 88
FINISHED PAD ELEVATION: 7214.6', NAVD 88



VERT. SCALE: 1" = 30'
HORIZ. SCALE: 1" = 50'
JOB No.: ERG081
DATE: 10/05/06; REV1

 CUT

 FILL

~~CRS~~

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

Operations Plan

December 11, 2006

Carracas 26 A #10

General Information

Location	745' fnl, 1540' fel at surface 760' fnl, 1400' fel at bottom swse S26, T32N, R5W Rio Arriba County, New Mexico
Elevations	7215' GL
Total Depth	7364' (MD), 3928' (TVD)
Formation Objective	Basin Fruitland Coal

Formation Tops

San Jose	Surface
Nacimiento	2010' (TVD)
Ojo Alamo Ss	3347' (TVD), 3348' (MD)
Kirtland Sh	3370' (TVD), 3372' (MD)
Fruitland Fm	3610' (TVD), 3641' (MD)
Top Coal	3903' (TVD), 4383' (MD)
Bottom Coal	3928' (TVD)
Total Depth	3928' (TVD), 7364' (MD)

Drilling

The 12 1/4" wellbore will be drilled with a fresh water mud system.

The 8 3/4" 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 3200' TVD with 8.55°/100' doglegs.

The 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.

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 3576' (TVD), 3600' (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'-3915' (TVD) 4600' (MD)	8 3/4"	7"	23.0 ppf	J-55 LT&C
Production	3903'-3928' (TVD) 4570'-7364' (MD)	6 1/4"	4 1/2"	11.6 ppf	J-55 LT&C
Tubing	0'-4525' (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.

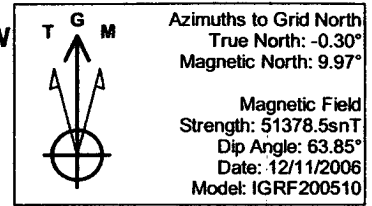
Intermediate Casing: Before cementing, circulate hole at least 1 1/2 hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 640 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.3 ppg, 1.96 ft³/sk) and a tail of 125 sks Sks with 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk). (1382 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; S26, 32N, 5W
Site: Middle Mesa
Well: Carracas 26 A #10
Wellbore: Preliminary Design
Plan: Plan #1 (Carracas 26 A #10/Preliminary Design)

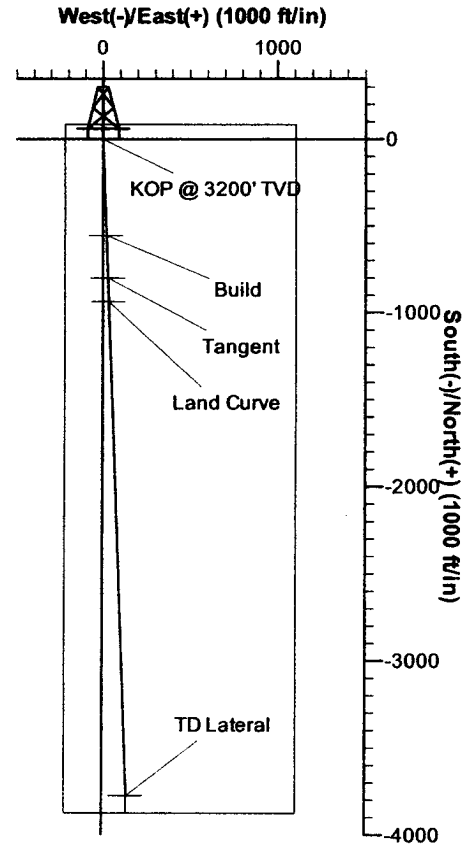
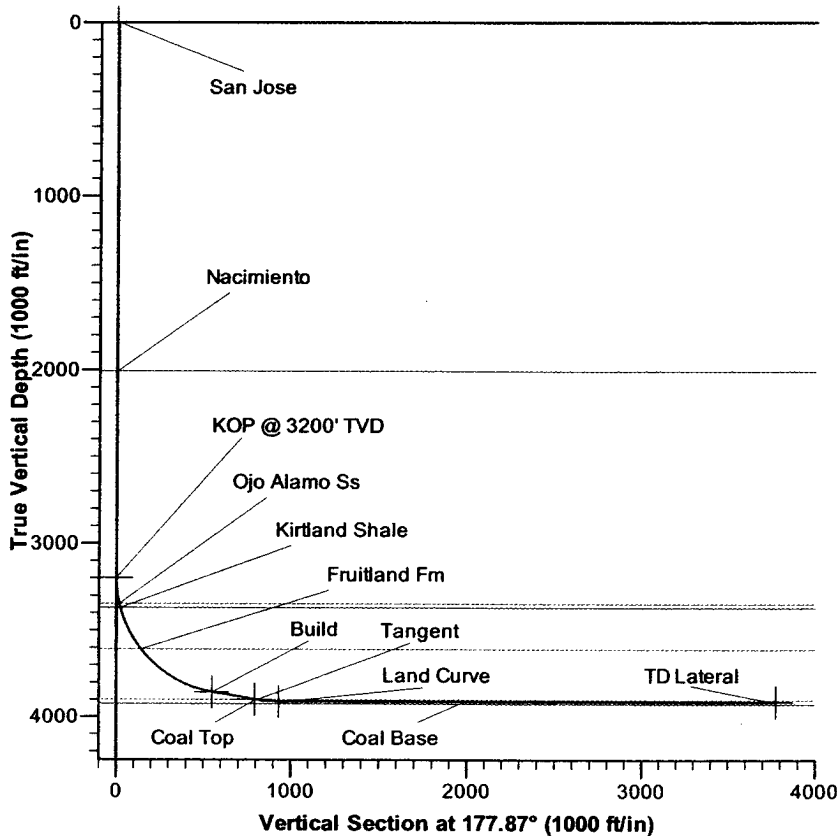


PROJECT DETAILS: Carson National Forest; S26, 32N, 5W	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Western Zone
System Datum:	Mean Sea Level

SURFACE LOCATION	
Easting:	2870875.12
Northing:	2167862.63

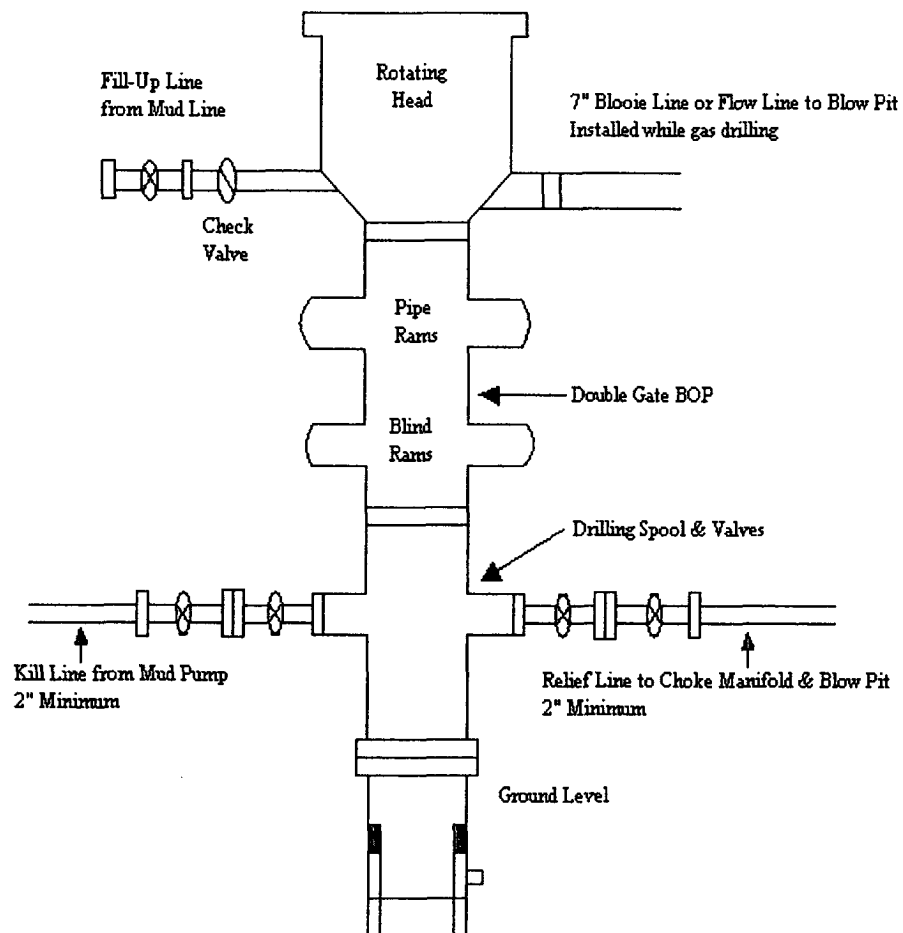
SECTION DETAILS

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	3200.0	0.00	0.00	3200.0	0.0	0.0	0.00	0.00	0.0	KOP @ 3200' TVD
3	4135.7	80.00	177.87	3860.0	-553.4	20.6	8.55	177.87	553.8	Build
4	4383.4	80.00	177.90	3903.0	-797.1	29.6	0.01	81.99	797.6	Tangent
5	4521.3	90.00	177.84	3915.0	-934.2	34.7	7.25	-0.37	934.8	Land Curve
6	7364.0	90.00	177.90	3915.0	-3775.0	140.4	0.00	90.20	3777.6	TD Lateral

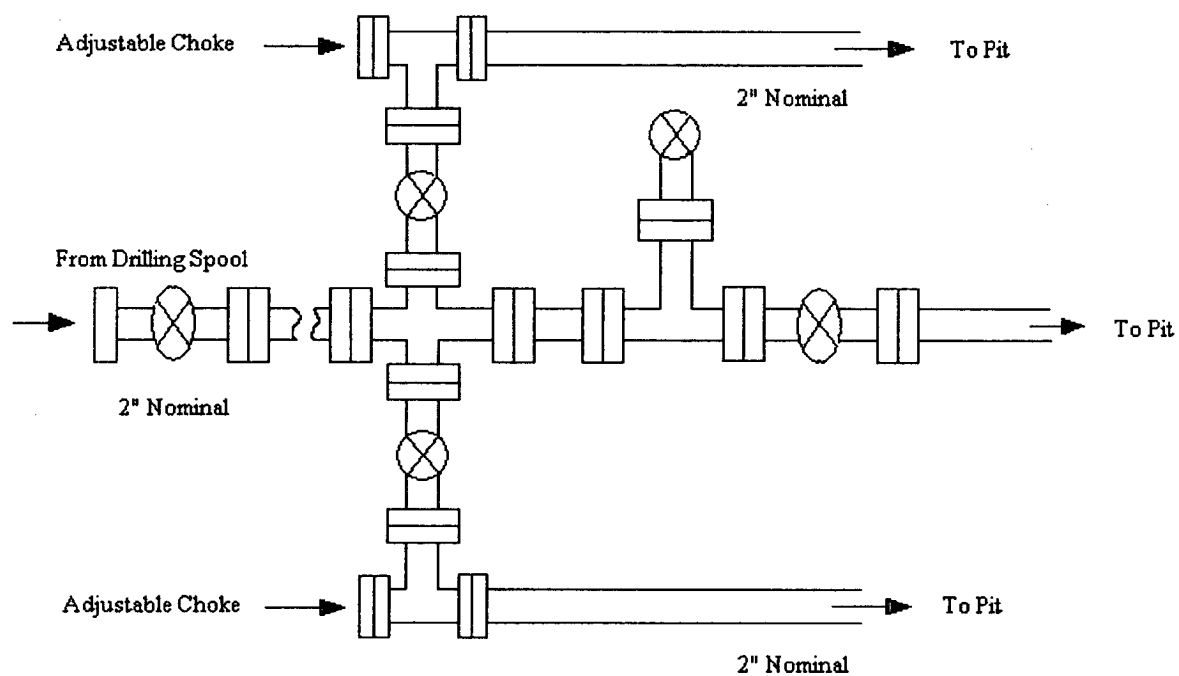


Energen Resources Corporation

Typical BOP Configuration for Gas Drilling



Energen Resources Corporation
Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD