

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0136  
Expires: November 30, 2000

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-079488A	
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 Highway		8. Lease Name and Well No. Carson 5C	
3b. Phone No. (include area code) 505-325-6800		9. API Well No. 30 039 27073	
4. Location of Well (Report location clearly and in accordance with any State requirements) At surface 1140' FSL, 1690' FEL At proposed prod. zone		10. Field and Pool, or Exploratory Blanco Mesaverde	
14. Distance in miles and direction from nearest town or post office* 7 miles northeast of Gobernador, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec. 30, T30N, R04W - N.M.P.M.	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 1140'		12. County or Parish Rio Arriba	
16. No. of Acres in lease 1786.72		13. State NM	
17. Spacing Unit dedicated to this well E 1/2		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1250'	
19. Proposed Depth 7029'		20. BLM/BIA Bond No. on file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7372' GL		22. Approximate date work will start* September 2003	
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 <i>Vicki Donaghey</i>	Name (Printed/Typed) Vicki Donaghey	Date 09/19/02
Title Production Assistant		
Approved by (Signautre) <i>/s/ David J. Mankiewicz</i>	Name (Printed/Typed)	Date MAY 7 2004
Title 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 Reverse)

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

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

NMOCD

District I  
PO Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102

Revised February 21, 1994

District II  
PO Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

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

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number <b>30-039 27073</b>	*Pool Code <b>72319</b>	*Pool Name <b>BLANCO MESAVERDE</b>
*Property Code <b>21185</b>	*Property Name <b>CARSON</b>	*Well Number <b>5C</b>
*GRID No. <b>162928</b>	*Operator Name <b>ENERGEN RESOURCES CORPORATION</b>	*Elevation <b>7372'</b>

<sup>10</sup> Surface Location

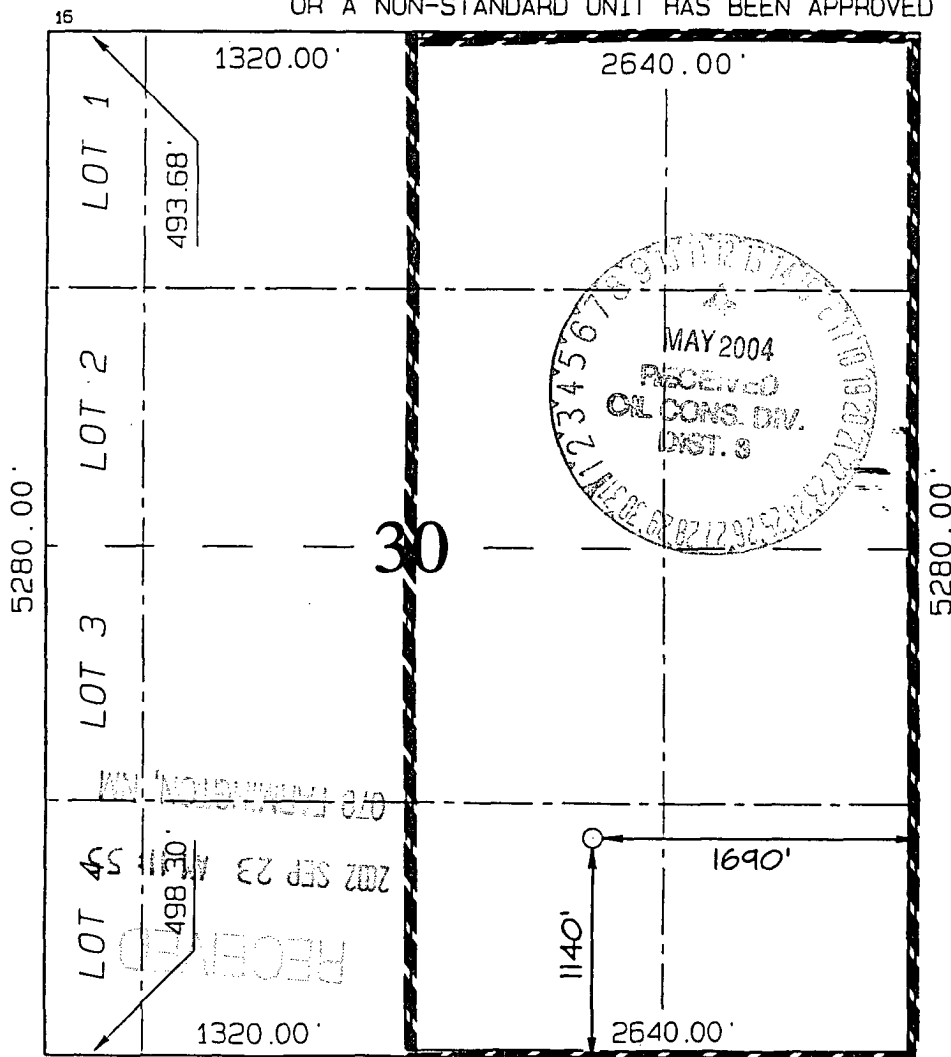
UL or lot no.	Section	Township	Range	Lot Ion	Feet from the	North/South line	Feet from the	East/West line	County
0	30	30N	4W		1140	SOUTH	1690	EAST	RIO ARriba

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ion	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres <b>320.00 Acres - (E/2)</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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



<sup>17</sup> OPERATOR CERTIFICATION

I hereby certify that the information  
contained herein is true and complete  
to the best of my knowledge and belief

*Dev Thomas*  
Signature

*Dev Thomas*  
Printed Name

Production Superintendant

Title

*5/18/04*  
Date

<sup>18</sup> 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: JUNE 17, 2002

Signature and Seal of Professional Surveyor



*JASON C. EDWARDS*  
Certificate Number 15269

## OPERATIONS PLAN

WELL NAME: Carson #5C

LOCATION: 1140' FSL, 1690' FEL, Section 30, T30N, R4W, Rio Arriba County, NM

FIELD: Blanco Mesaverde

ELEVATION: 7372' GR

### FORMATION TOPS:

Surface	San Jose	Huerfanito Benonite	5069
Nacimiento	2204	Cliff House	5929
Ojo Alamo	3459	Menefee	6234
Kirtland	3689	Point Lookout	6479
Fruitland	3894	Mancos Sh	6974
Pictured Cliffs	4109		
Lewis	4404	<b>Total Depth</b>	<b>7029</b>

### LOGGING PROGRAM:

Open Hole Logs:

Surface to intermediate: None

Inter TD to total depth: Temp/HRI/CNT; LDT/GR, MRIL

Mud Logs: None

Coring: None

Natural Gauges: Every 500' from intermediate T. D. to T. D.

MUD PROGRAM: Fresh water low solids mud from surface to intermediate T. D. Air/mist from intermediate casing point to T. D.

### CASING PROGRAM:

<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>CSG SIZE</u>	<u>WT.</u>	<u>GRADE</u>
12 1/4"	200'	9 5/8"	36#	J-55
8 3/4"	4604'	7"	20 & 23#	J-55
6 1/8"	4454'-7124'	4 1/2"	10.5#	J-55

### TUBING PROGRAM:

7000	2 3/8"	4.7	J-55
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WELLHEAD: 11" 3000 x 9 5/8" casing head. 11" 3000 x 7 1/16" 3000 xmas tree.

### BOP SPECIFICATIONS:

An 11" 2000 psi minimum double gate BOP stack (Figure 1) 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 be used.

### CEMENTING:

9 5/8" surface casing - Cement with 110 sks Class B Cement with 1/4# flocele/sk and 2% calcium chloride (130 cu. ft. of slurry, 100% excess to circulate to surface). WOC 12 hrs. Test casing to 600# for 30 minutes.

Texas Pattern Guide Shoe on bottom. 3 bow type centralizers spaced throughout the string.

7" intermediate casing:

Cement with 475 sks 65/35 Class B Poz with 6% gel, 2% calcium chloride, 10% gilsonite, and 1/4# flocele/sk. Tail with 100 sks Class B w/2% calcium chloride, 10% gilsonite and 1/4# flocele/sk. (1038 cu. ft. of slurry, 50% excess to circulate to surface). WOC 12 hrs. If cement does not circulate, run temperature survey in 8 hrs. to determine TOC. Test casing to 1200 psi for 30 minutes.

Cement nose guide shoe on bottom with a self-fill insert float valve on top of shoe joint. 10 bow spring centralizers spaced every 3rd joint off bottom. Two turbolating centralizers at the base of the Ojo Alamo.

4 1/2" Production Liner

Cement with 300 sks 50/50 poz with 2% gel, 5 PPS gilsonite, .4% halad - 9 and 1/4# flocele/sk (378 cu. ft., 50% excess to tie into intermediate casing string). WOC 18 hrs prior to completion.

Cement nose guide shoe on bottom with float collar on top of shoe joint.

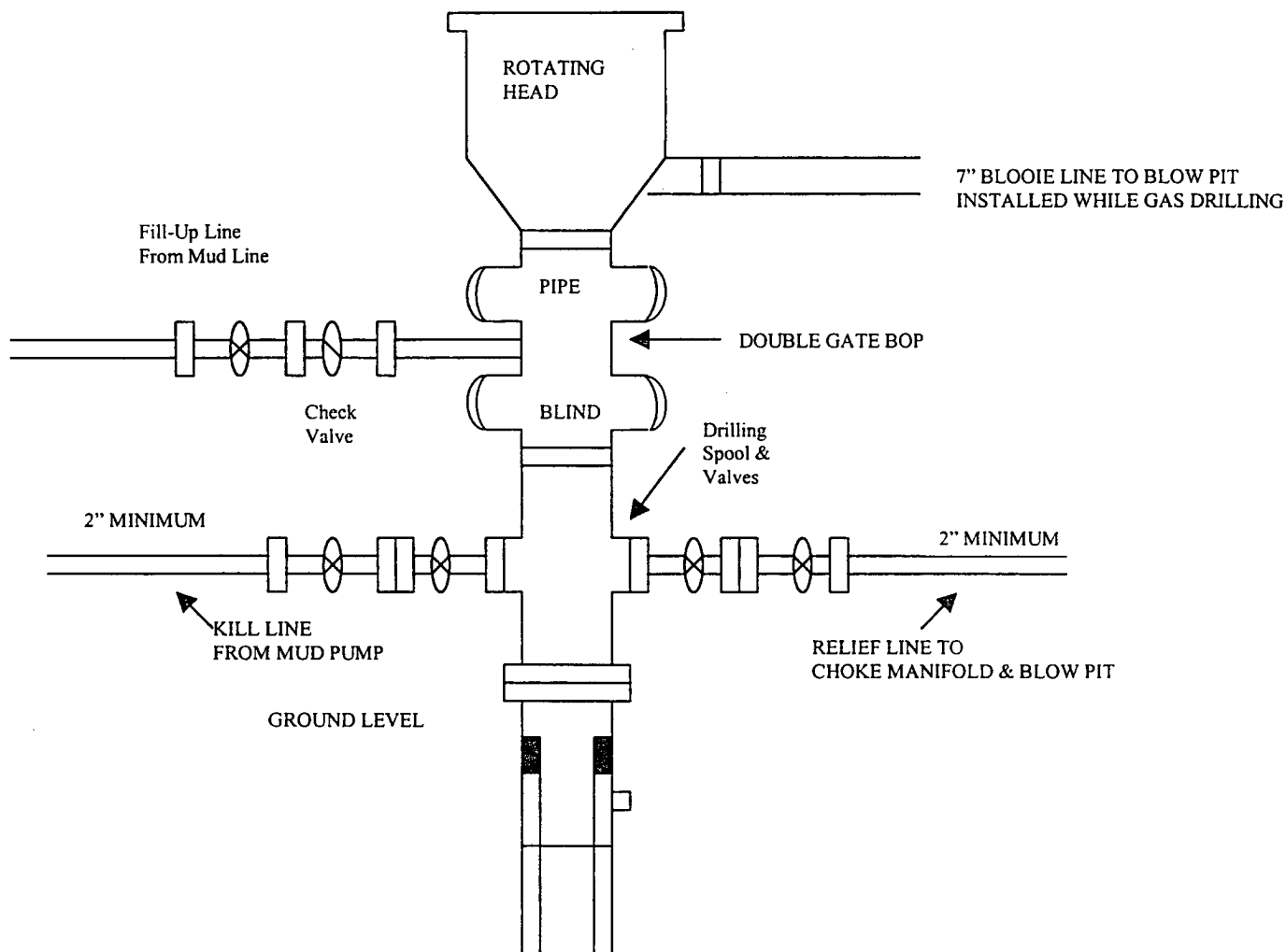
### OTHER INFORMATION:

- 1) The Blanco Mesa Verde will be completed.
- 2) No abnormal temperatures or pressures are anticipated.
- 3) Anticipated pore pressure for the Fruitland Coal is 800, Pictured Cliffs 900 and the Mesaverde is 1100.
- 4) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control.
- 5) This gas is dedicated.

# ENERGEN RESOURCES CORPORATION

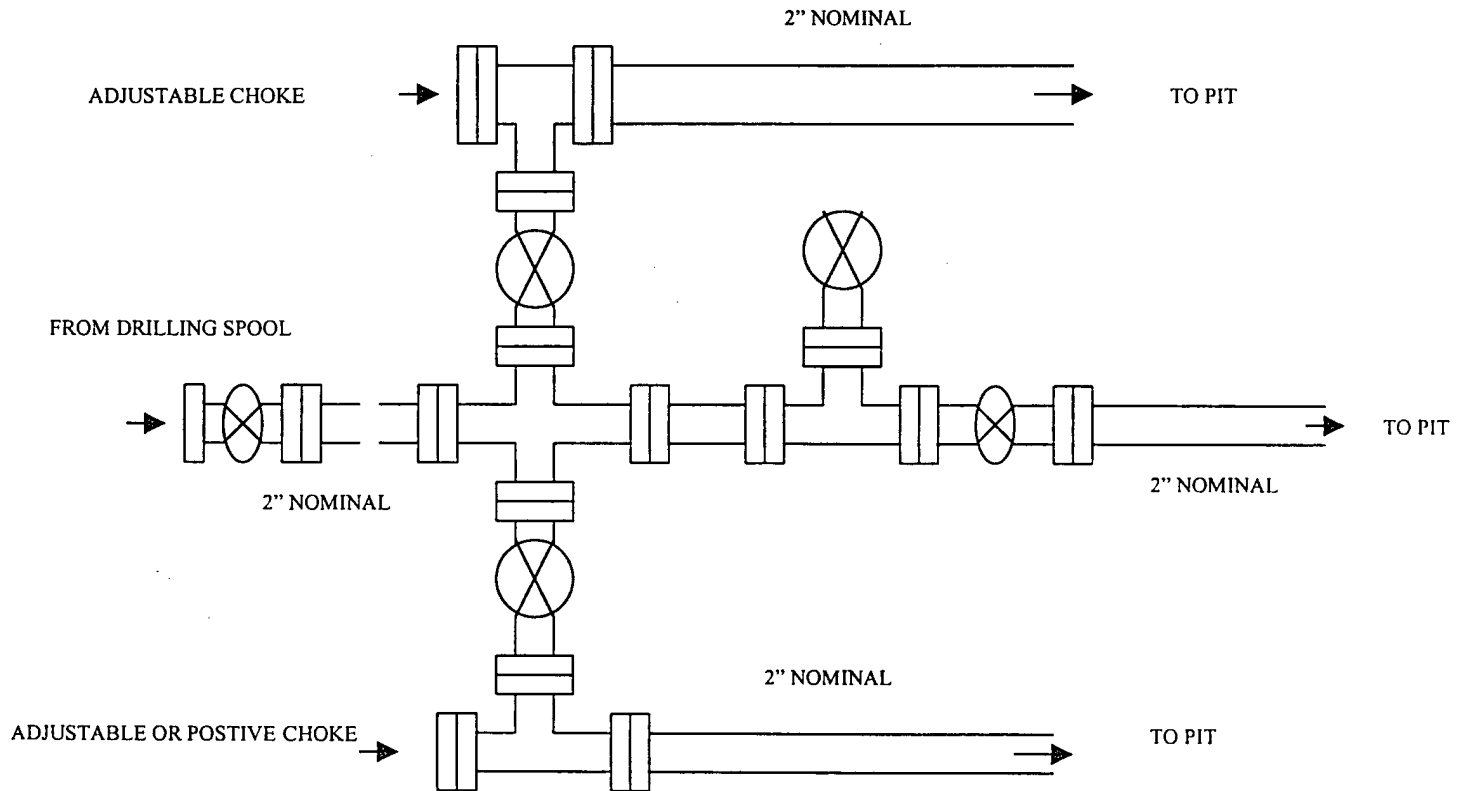
Mesa Verde / Dakota Well

## BOP Configuration



Minimum BOP installation for a Mesaverde well from Surface to Total Depth. 11' Bore, 2000 psi minimum working pressure double Gate BOP to be equipped with blind and pipe rams. A Schaffer Type 50 or equivalent rotating head to be installed on the top of The BOP. All equipment is 2000 psi working pressure or greater.

**ENERGEN RESOURCES CORPORATION**  
Choke Manifold Configuration  
2M psi System



Minimum choke manifold installation from surface to Total Depth.  
2" minimum, 2000 psi working pressure equipment with two chokes.

**ENERGEN RESOURCES CORPORATION CARSON #5C**  
**1140' FSL & 1690' FEL, SECTION 30, T30N, R4W, NMPM**  
**RIO ARriba COUNTY, NEW MEXICO GROUND ELEVATION: 7372'**

LATITUDE: 36°46'43"  
 LONGITUDE: 107°17'33"  
 DATUM: NAD1927

