

**DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**APPLICATION FOR PERMIT TO DRILL OR DEEPEN**

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☒

GAS WELL ☐

OTHER ☐

SINGLE ZONE ☒

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Pogo Producing Company

3. ADDRESS AND TELEPHONE NO.

P.O. Box 10340, Midland, Texas 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements\*)  
At surface

660' FNL & 1650' FEL of Section 27

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

30 air miles east southeast of Eunice, N.M.

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any)

990'

16. NO. OF ACRES IN LEASE

640

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

990'

19. PROPOSED DEPTH

9000'

17. NO. OF ACRES ASSIGNED TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3651' Ground Level

12. COUNTY OR PARISH 13. STATE

Lea Co.

N.M.

Sec. 27, T-22S, R-32E

Undes. Red Tank Bone Sprin.

11. SEC., T., R., M. OR BLK. AND SURVEY OR AREA

10. FIELD AND POOL, OR WILDCAT

6

8. FARM OR LEASE NAME, WELL NO.

Prize Federal

9. AM WELL NO.

6

7. UNIT AGREEMENT NAME

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

5. LEASE DESIGNATION AND SERIAL NO.

NM-81272

**23. PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
14 3/4"	10 3/4"	32# J55	800'	650 SX (circ)
9 7/8"	7 5/8"	26# J55, N80	4650'	1300 SX (circ)
6 3/4"	4 1/2"	11.6# J55, N80	9000'	1100 SX (4100') (TIE BACK)

The operator proposes to drill to a depth sufficient to test the Delaware and Bone Springs for oil. Specific programs are outlined in the following attachments:

**DRILLING PROGRAM**

**SURFACE USE AND OPERATING PLAN**

EXHIBIT A - ROAD MAP

EXHIBIT B - EXISTING WELL MAP

EXHIBIT C - LOCATION AND ACREAGE DEDICATION PLAT

EXHIBIT D - TOPO MAP

EXHIBIT D - DRILLING AND RIG LAYOUT

EXHIBIT E - 3M BOP EQUIPMENT

OPER. OGRID NO. 17891

PROPERTY NO. 134610

POOL CODE 51683

EFF. DATE 6/11/96

API NO. 30-025-32656

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*James M. C. Rott*

TITLE

Agent

DATE 4/26/96

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

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:

(ORIG. SGD.) RICHARD L. MANUS

Area Manager

APPROVED BY

TITLE

DATE

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, 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.

## DRILLING PROGRAM

Attached to Form 3160-3

Pogo Producing Company

Prize Federal Well No. 6  
660' FNL & 1650' FEL  
Unit Letter B, NW/NE  
Section 27, T22S, R32E  
Lea County, New Mexico

1. Geologic Name of Surface Formation: Permian
2. Estimated Tops of Important Geologic Markers and
3. Estimated Depths of Fresh Water, Oil, and Gas:

<u>Formation</u>	<u>Depth</u>	<u>Fluid Content</u>
Anhydrite	800'	-----
Lamar Lime	4700'	-----
Cherry Canyon	6100'	Oil
Brushy Canyon	7800'	Oil
Bone Springs	8800'	Oil

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 10 3/4" casing at 800' into the Rustler anhydrite and circulating cement to surface. Potash will be protected by setting 7-5/8" intermediate casing at 4600' and circulating cement to surface. 4-1/2" production casing will be set at TD, and cement will be tied back at least 200' into the 8-5/8" intermediate casing, thus ensuring that all zones are adequately isolated.

The pore pressure gradient is normal (+8.4 ppg) down through the Bone Springs. No abnormal pressures are anticipated.

4. Casing and Cementing Program

<u>Hole Size</u>	<u>Casing</u> <u>From</u>	<u>To</u>	<u>Casing OD</u>	<u>Weight, Grade, Coupling, Cond.</u>
14-3/4"	0'	800'	10-3/4"	32.75# J-55 STC
9-7/8"	0'	4,600'	7-5/8"	26.40# J-55,N-80 LTC
6-3/4"	0	9,000'	4-1/2"	11.60# J-55,N-80 LTC

All used casing will be drifted and hydrostatically tested to at least 90% of new pipe rating.

Minimum Design Factors: Collapse 1.125, Burst 1.1, Tension 1.7

10-3/4" surface casing set at 800'

The surface casing will be set into the Rustler anhydrite to protect all fresh water formations.

Centralize the bottom 3 joints and every 4th joint to surface.

Cement to surface with 650 sx of Class C with 4% gel, 2% CaCl<sub>2</sub>.

7-5/8" intermediate casing set at 4600'

The intermediate casing will be set within 100' of the top of the Delaware to isolate all salt stringers.

Centralize the bottom 3 joints.

Cement to surface with 1300 sx of 35/65 Pozmix Class H with 6% gel, 5% salt.

4-1/2" production casing set at TD'

Centralize every joint from TD to bottom of the intermediate casing.

Cement to tie back into 8-5/8" intermediate casing at least 200'.

A 2-stage cement job will be required with a DV tool at +5000'.

Stage 1: 350 sx 50/50 Pozmix Class H with 2% gel, 5% salt, 1/4# FC (14.2 ppg, 1.34 ft<sup>3</sup>/sx).

Stage 2: 750 sx 50/50 Pozmix Class H with 2% gel, 5% salt, 1/4# FC (14.2 ppg, 1.34 ft<sup>3</sup>/sx).

5. Minimum Specifications for Pressure Control:

9-7/8" hole

The following BOP equipment will be nipped up on the 10-3/4" casing and used continuously until TD is reached for the 9-7/8" hole.

The blowout preventer equipment (BOP) shown in Exhibit E will consist of a 3000 psi WP double ram type preventer and a 3M annular (bag type) preventer with rotating head. Both BOP's will be hydraulically operated. H2S trim will not be required.

Before drilling out from under the 10-3/4" casing, all BOP's and accessory equipment will be tested to 1000 psi with the rig pump. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

BLM method to calculate minimum BOP requirements:  
 $(.052)(10 \text{ ppg})(4600') - (0.22 \text{ psi/ft})(4600') = 1380 \text{ psi}$   
Minimum BOP requirements: 2M BOP stack and manifold system

6-3/4" hole

The following BOP equipment will be nipped up on the 7-5/8" casing and used continuously until TD is reached for the 6-3/4" hole.

The blowout preventer equipment (BOP) shown in Exhibit E will consist of a 3000 psi WP double ram type preventer and a 3M annular (bag type) preventer with rotating head. Both BOP's will be hydraulically operated. At the drilling contractor's option, 5M BOP's may be substituted. H2S trim will not be required.

Before drilling out from under the 7-5/8" intermediate casing, all BOP's and accessory equipment will be tested to 1000 psi with the rig pump. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

BLM method to calculate minimum BOP requirements:  
 $(.052)(8.4 \text{ ppg})(9000') - (0.22 \text{ psi/ft})(9000') = 2700 \text{ psi}$   
Minimum BOP requirements: 3M BOP stack and manifold system

6. Proposed Mud System:

The well will be drilled to TD with a combination of fresh water and 10# brine. The applicable depths and properties of this system are as follows:

Depth	Type	Weight (ppg)	Viscosity (sec)	Water Loss (cc)
0-800'	Fresh water	8.4	28	NC
800-4600'	Brine	10.0	29	NC
4600-TD	Fresh Water	8.4	30-34	NC

Sufficient mud materials to maintain mud properties and meet minimum lost circulation requirements will be kept at the wellsite at all times.

7. Auxiliary Well Control and Monitoring Equipment:

- a) A kelly cock will be kept in the string at all times.
- b) A full opening drill pipe stabbing valve (TIW/inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- c) An electronic pit volume totalizer system will not be used.  
The drilling fluids system will be visually monitored at all times.
- d) A mudlogging unit will be continuously monitoring drilling penetration rate and hydrocarbon shows from 2850' to TD.

8. Logging, Testing, and Coring Program:

- a) Drillstem tests will be run on the basis of drilling shows.
- b) The electric logging program will consist of:
  - 1) 6-3/4" hole - Gamma ray, dual induction log, compensated neutron and litho-density logs.
- c) No conventional cores are planned. Selected intervals may be sidewall cored based upon shows and openhole logs.
- d) Further testing procedures will be determined after the 4-1/2" production casing has been cemented at TD.

9. Abnormal Conditions, Pressures, Temperatures, and Potential Hazards:

No abnormal pressures, temperatures, or other potential hazard are anticipated.

No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported, or are known to exist at this depth in this area. No major lost circulation zones have been reported in offsetting wells.

The maximum anticipated bottom hole pressure is approximately 3464 psi. (9000' x .433 psi/ft = 3897 psi.)

The maximum anticipated bottom hole temperature is 132 deg F.

10. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is June 15, 1996. Once commenced, the drilling operation should be complete in 15 days. If the well is productive, an additional 30 days will be required for completion, testing, and installation of permanent facilities.

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Instruction on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-025-32656</b>	Pool Code <b>51683</b>	Pool Name <b>UNDES. RED TANK BONE SPRINGS</b>
Property Code <b>13460</b>	Property Name <b>PRIZE FEDERAL</b>	Well Number <b>6</b>
OGRID No. <b>17891</b>	Operator Name <b>POGO PRODUCING COMPANY</b>	Elevation <b>3651'</b>

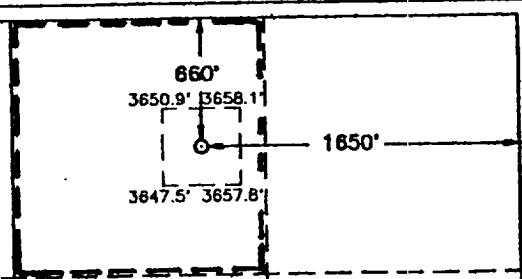
Surface Location

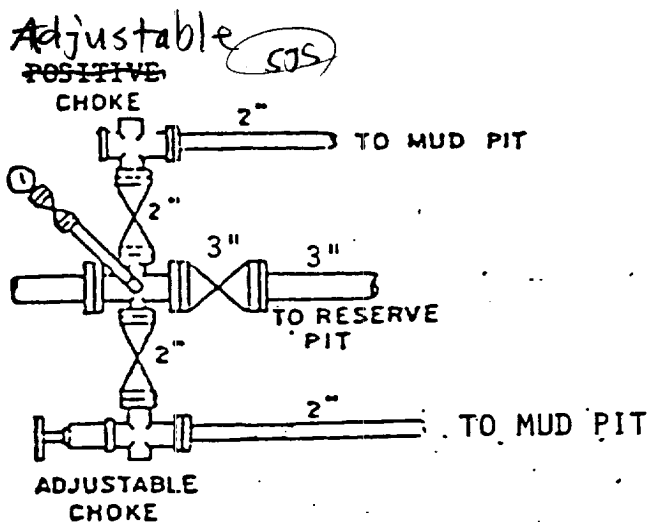
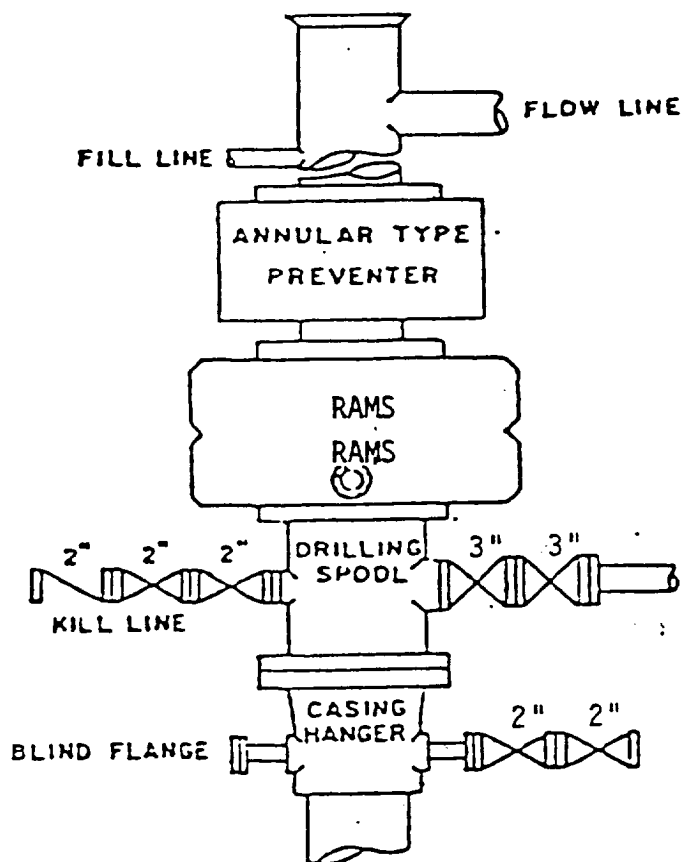
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>B</b>	<b>27</b>	<b>22 S</b>	<b>32 E</b>		<b>660</b>	<b>NORTH</b>	<b>1650</b>	<b>EAST</b>	<b>LEA</b>

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
Dedicated Acres <b>40</b>	Joint or Infill <b>N</b>	Consolidation Code	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

	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Richard L. Wright</i> Signature</p> <p><b>Richard L. Wright</b> Printed Name</p> <p><b>Division Operations Mgr.</b> Title</p> <p><b>July 18, 1994</b> Date</p>
	<p><b>SURVEYOR CERTIFICATION</b></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><b>JUNE 23 1994</b> Date Surveyed</p> <p><i>W. J. Jones</i> Signature of Professional Surveyor</p> <p><b>W. J. Jones</b> Printed Name</p> <p><b>94-1161879</b> Certificate No.</p> <p><b>PROFESSIONAL SURVEYOR</b> W. J. WEST, 676 ROBERT J. EIDSON, 3239 GARY L. JONES, 7977</p>



BOP STACK

3000 PSI WORKING PRESSURE

Exhibit "E"

BOP ARRANGEMENT