

RESUBMITTAL

Oil Cons.

N.M. DIV. Dist. 2

POTASH

UNITED STATES
DEPARTMENT OF THE INTERIOR1301 W. Chaparral Avenue
Artesia, NM 88210FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

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, TX 79702-7340

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

At surface 990' FNL & 1980' FEL

At proposed prod. zone

Same

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

20 miles southeast of Loving, NM

15. DISTANCE FROM PROPOSED*

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

990'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED

TO THIS WELL

40

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

1320'

19. PROPOSED DEPTH

8350'

20. ROTARY OR CABLE TOOLS

Rotary

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

3539' Ground Level

CARLSBAD CONTROLLED WATER BASIN

22. APPROX. DATE WORK WILL START*

Upon Approval

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" H-40	32.75#	650'	550 SXS C1 "C"
9-7/8"	7-5/8" J-55	26.40#	4250'	1000 SXS C1 "C"
6-3/4"	4-1/2" J-55	11.60#	8350'	1000 SXS C1 "H"

WITNESS
WITNESS

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 DEDICATION PLAT
EXHIBIT "C-1" - TOPO MAP
EXHIBIT "D" - DRILLING RIG LAYOUT
EXHIBIT "E" - 3M BOP EQUIPMENT

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

IN ABOVE SPACE DESCRIBE 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

Cathy Imberle

TITLE Sr. Operations Tech

DATE 07/15/03

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

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:

ACTING

STATE DIRECTOR

APPROVED BY

S/Janice L. Canby

TITLE

DATE

12 SEP 2003

*See Instructions on Reverse Side

APPROVAL FOR 1 YEAR

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.

4. Casing and Cementing Program

<u>Hole Size</u>	<u>Casing</u>		<u>Casing OD</u>	<u>Weight, Grade, Coupling, Cond,</u>
	<u>From</u>	<u>To</u>		
14-3/4"	0'	650'	10-3/4"	32.75# H-40 STC used
9-7/8"	0'	4,250'	7-5/8"	26.40# J-55 LTC used
6-3/4"	0	8,350'	4-1/2"	11.60# J-55,N-80 LTC new

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 650'

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 550 sx of Class C cement.

7-5/8" intermediate casing set at 4250'

The intermediate casing will be set within 150' of the top of the Delaware to isolate all salt stringers.

Centralize the bottom 3 joints.

Cement to surface with 1000 sx of Class C cement.

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

Centralize bottom 6 jts., plus all potential producing intervals.

Top of cement to be at ±1900'.

A 2-stage cement job will be required with a DV tool at ±5500'.

Stage 1: 350sx Class H

Stage 2: 650 sx Class H.

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. At the drilling contractor's option, 5M BOP's may be substituted. H²S trim will not be required.

Before drilling out from under the 13-3/8" casing, all BOP's and accessory equipment will be tested to 1300 psi. 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:
 $(.052)(10 \text{ ppg})(4250') - (0.22 \text{ psi/ft})(4250') = 1275 \text{ psi}$
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 2500 psi. 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:
 $(.052)(8.4 \text{ ppg})(8350') - (0.22 \text{ psi/ft})(8350') = 1810 \text{ psi}$
Minimum BOP requirements: 5M BOP stack and manifold system

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 3615 psi. (8350' x .433 psi/ft = 3615 psi.)

The maximum anticipated bottom hole temperature is 127° 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 first quarter, 2004. 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.

DRILLING PROGRAM

Attached to Form 3160-3

Pogo Producing Company

Patton "17" Federal No. 12
990' FNL & 1980' FEL
Unit Letter B, NW/NE
Section 17, T24S, R31E
Eddy 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>
Permian	Surface	Fresh water at +250'
Rustler Anhydrite	500'	-----
Top of Salt	900'	-----
Base of Salt	2800'	-----
Lamar Lime	4360'	-----
Delaware Sands	4390'	-----
Bone Spring	8204'	Oil
Total Depth	8350'	

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 650' into the Rustler anhydrite and circulating cement to surface. Potash will be protected by setting 7-5/8" intermediate casing at 4250' and circulating cement to surface. 4-1/2" production casing will be set at TD, and cement will be brought back to at least 3000', 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.

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:

<u>Depth</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Viscosity (sec)</u>	<u>Water Loss (cc)</u>
0-650'	Fresh water	8.4	28	NC
650-4250'	Brine	10.0	29	NC
4250-TD	Fresh	8.4	28-32	16

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 (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 might be monitoring drilling penetration rate and hydrocarbon shows from 4250' to TD.

8. Logging, Testing, and Coring Program:

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

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 86211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
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	Pool Code 96650	Pool Name Cotton Draw Bone Springs, SW
Property Code 20010	Property Name PATTON 17 FEDERAL	Well Number 12
OGRID No. 017891	Operator Name POGO PRODUCING COMPANY	Elevation 3539

Surface Location

UL or lot No. B	Section 17	Township 24 S	Range 31 E	Lot Idn	Feet from the 990	North/South line NORTH	Feet from the 1980	East/West line EAST	County EDDY
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Bottom Hole Location If Different From Surface

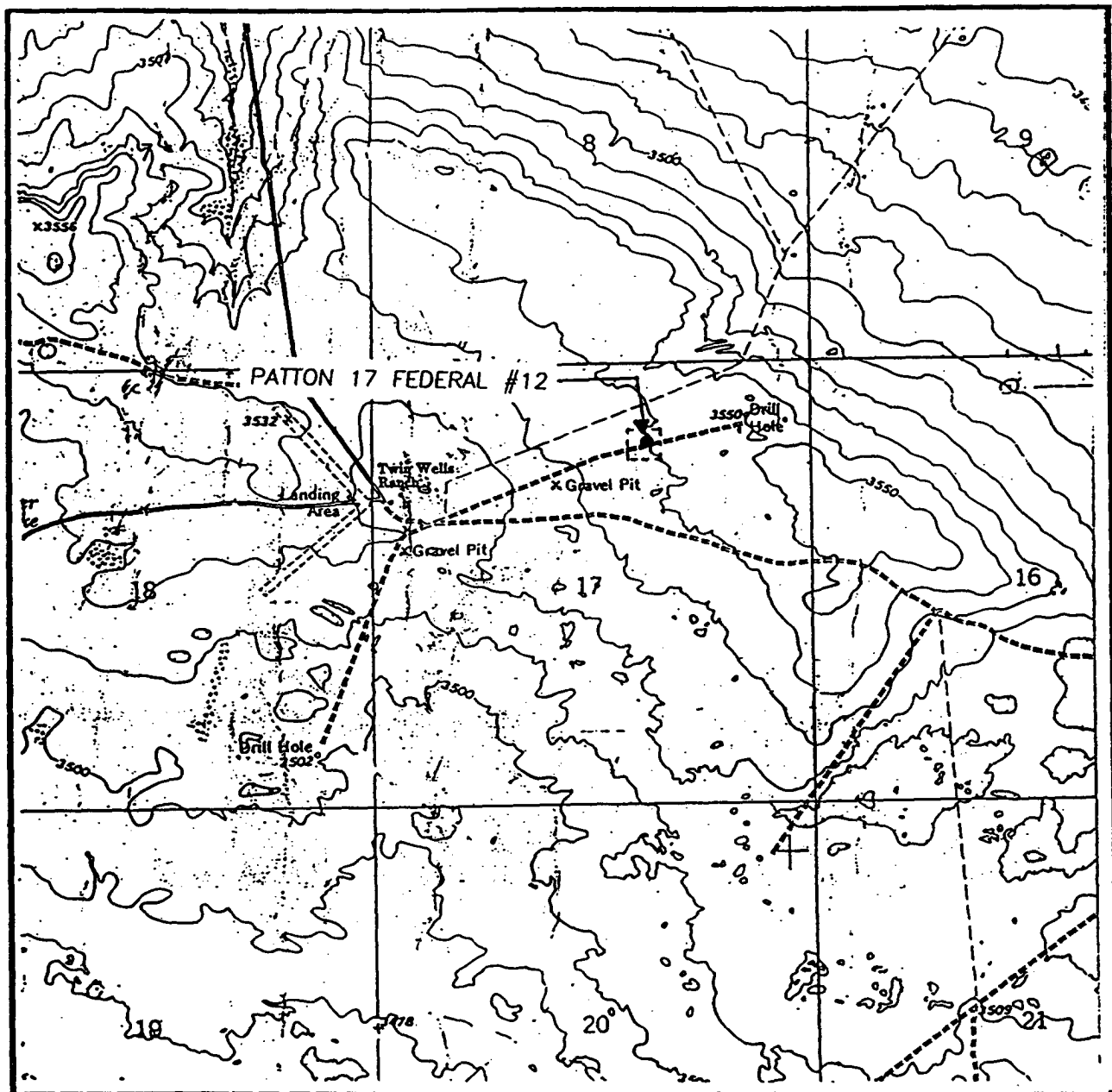
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>OPERATOR CERTIFICATION</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>James M.C. Ritchie, Jr.</i> Signature JAMES M.C. Ritchie, Jr. Printed Name AGENT Title JAN. 28, 1998 Date</p>
<p>EXHIBIT "C"</p>	<p>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>DECEMBER 31, 1997</p> <p>Date Surveyed Signature of Surveyor Professional Surveyor RONALD J. EIDSON NEW MEXICO 87-11-2106 05-98</p> <p>Certification No. JOHN W. C. 676 RONALD J. EIDSON 3239 PROFESSIONAL SURVEYOR 12641</p>

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
BIG SINKS - 10'

SEC. 17 TWP. 24-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 990' FNL & 1980' FEL

ELEVATION 3539

OPERATOR POGO PRODUCING COMPANY

LEASE PATTON 17 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

BIG SINKS, N.M.

EXHIBIT "C-1"
JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

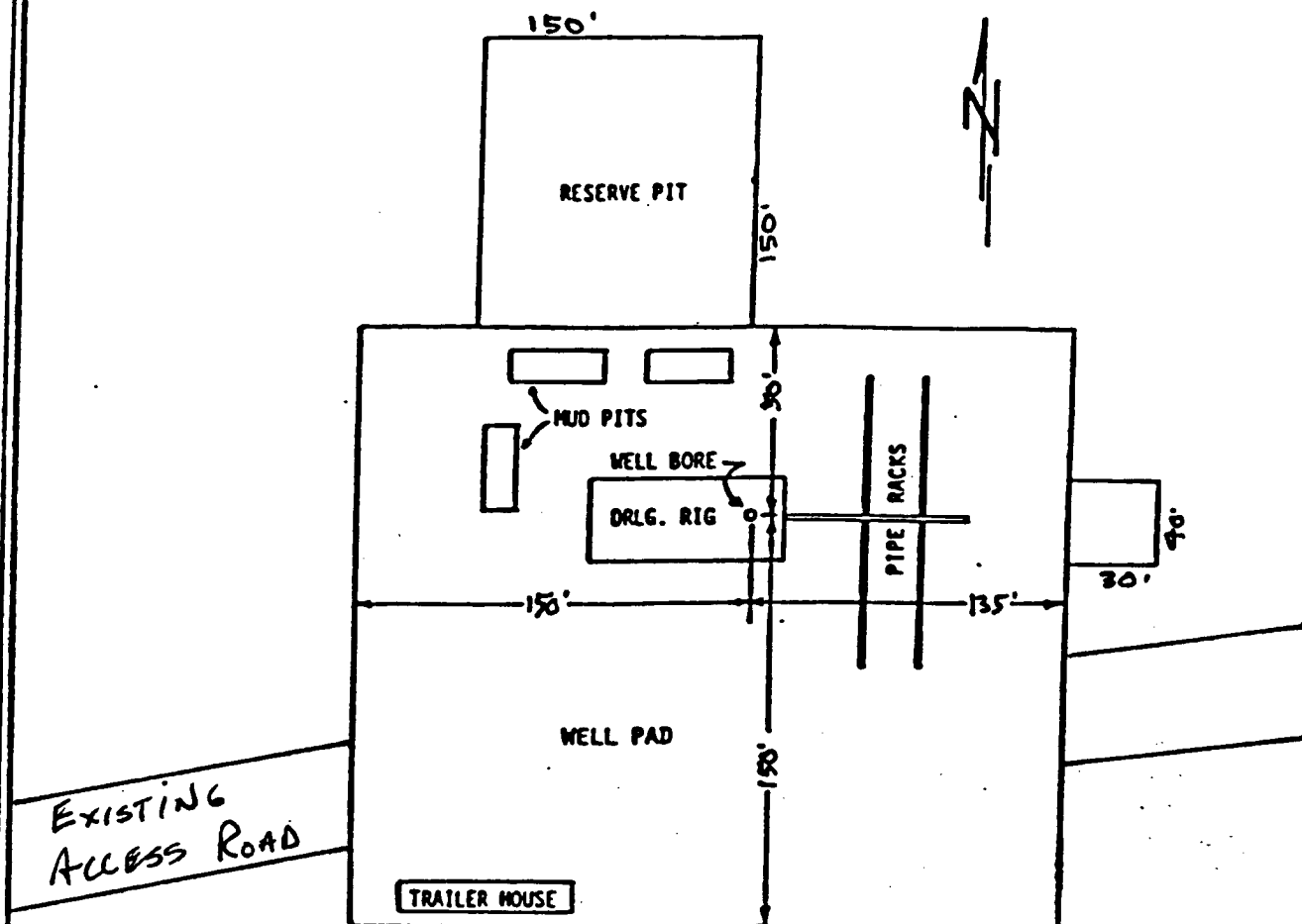
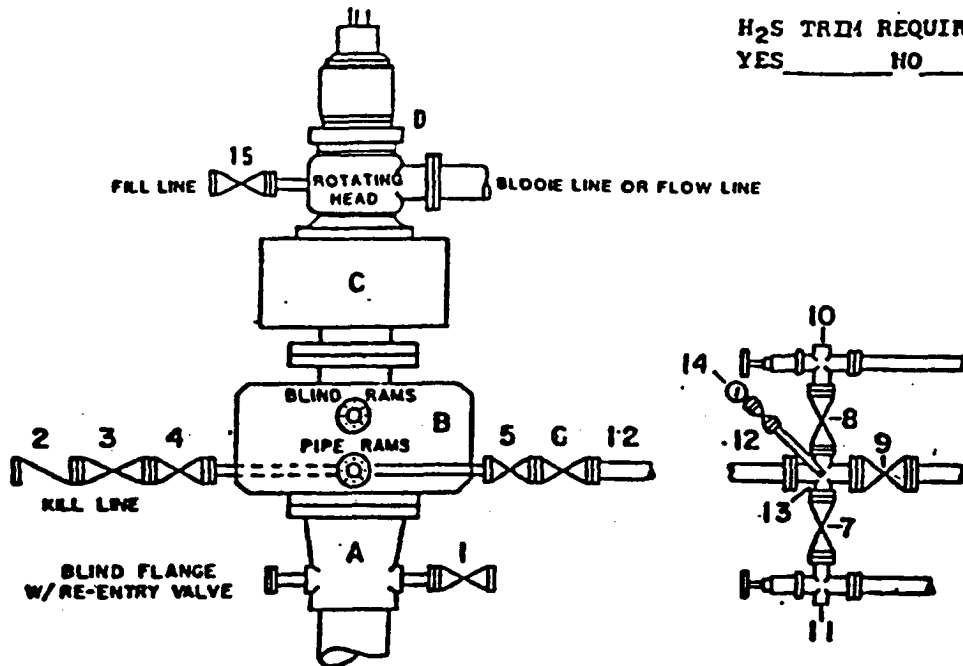


EXHIBIT "D"
 POGO Producing Company
 PATTON "17" Fed. No. 12
 DRILLING RIG LAYOUT
 SCALE: None

DRILLING CONTROL **CONDITION III-B 3000 PSI WP**



H₂S TRIM REQUIRED
 YES _____ NO _____

DRILLING CONTROL

MATERIAL LIST - CONDITION III - B

- | | |
|----------------|---|
| A | Wellhead |
| B | 3000# W.P. Dual ram type preventer, hydraulic operated with 1" steel, 3000# W.P. control lines (where sub-structure height is adequate, 2 - 3000# W.P. single ram preventers may be utilized with 3000# W.P. drilling spool with 2" minimum flanged outlet for kill line and 3" minimum flanged outlet for choke line. The drilling spool is to be installed below the single ram type preventers). |
| C | 3000# W.P. Annular Preventer with 1" steel, 3000# W.P. control lines. |
| D | Rotating Head with fill up outlet and extended Bore line. |
| 1,3,4,
7,8, | 2" minimum 3000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve. |
| 2 | 2" minimum 3000# W.P. back pressure valve. |
| 5,6,9 | 3" minimum 3000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve. |
| 12 | 3" minimum Schedule 80, Grade B, seamless line pipe. |
| 13 | 2" minimum x 3" minimum 3000# W.P. flanged cross. |
| 10,11 | 2" minimum 3000# W.P. adjustable choke bodies. |
| 14 | Cameron Mud Gauge or equivalent (location optional in Choke line). |
| 15 | 2" minimum 3000# W.P. flanged or threaded full opening steel gate valve, or Halliburton Lo Torc Plug valve. |

SCALE	DATE	EST. NO.	DRG. NO.
DRAWN BY			
CHECKED BY			
APPROVED BY			

EXHIBIT E

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Pogo Producing Company
Well Name & No. Patton 17 Federal #12
Location: 720' FNL, 720' FEL, Section 17, T. 24 S., R. 31 E., Eddy County, New Mexico
Lease: NM-89172

I. DRILLING OPERATIONS REQUIREMENTS:

The Bureau of Land Management (BLM) is to be notified at the Carlsbad Resource Area Office, 620 East Greene St., Carlsbad, NM 88220, (505) 887-6544 for wells in Eddy County in sufficient time for a representative to witness:

1. Spudding
2. Cementing casing: 10-3/4 inch 7-5/8 inch 4-1/2 inch
3. BOP tests
4. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
5. The API No. assigned to the well by NMOCDC shall be included on the subsequent report of setting the first casing string.
6. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The 10-3/4 inch surface casing shall be set at 650 feet and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.
2. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is to be circulated to the surface.
3. The minimum required fill of cement behind the 4-1/2 inch production casing is to tie back at least 200 feet into the intermediate casing.
4. Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

III. PRESSURE CONTROL:

The BOPE shall be installed before drilling below the 10-3/4 inch casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced. Before drilling below the 10-3/4 inch surface casing shoe, the blowout preventer assembly shall consist of a minimum of: One Annular Preventer and/or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve

Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.

The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

02/25/98
acs