

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

30-025-32324
N.M. OIL CONS. COMMISSION
P.O. BOX 1980
HOBBS, NEW MEXICO 88240

Form approved.
Bureau No. 1004-0136
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒

GAS
WELL ☐

OTHER

SINGLE
ZONE ☒

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

POGO PRODUCING COMPANY

3. ADDRESS OF OPERATOR

P. O. BOX 10340, MIDLAND, TEXAS

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

At surface

480' FNL AND 330' FWL OF SECTION 18

At proposed prod. zone

Unit D

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

31 MILES EAST OF CARLSBAD, NEW MEXICO

15. DISTANCE FROM PROPOSED*

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

330'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

1170'

16. NO. OF ACRES IN LEASE

168.94

19. PROPOSED DEPTH

8750'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

44.44

20. ROTARY OR CABLE TOOLS

ROTARY

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

3632.4' GR

22. APPROX. DATE WORK WILL START*

UPON APPROVAL

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	54.5#	800'	SUFFICIENT TO CIRCULATE
11"	8-5/8"	24# & 32#	4500'	SUFFICIENT TO CIRCULATE
7-7/8"	5-1/2"	15.5# & 17#	8750'	TO TIE BACK TO 3500'

AFTER SETTING PRODUCTION CASING, PAY ZONE WILL BE PERFORATED
AND STIMULATED AS NECESSARY.

SEE ATTACHED FOR: SUPPLEMENTAL DRILLING DATA
BOP SKETCH
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN
SURFACE USE AND OPERATIONS PLAN

NOV 13 5 24 PM '93
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IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 Richard L. Wright TITLE Division Operations Mgr. DATE November 18, 1993

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY Richard MANUS TITLE Area Mgr. DATE 11-29-93

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

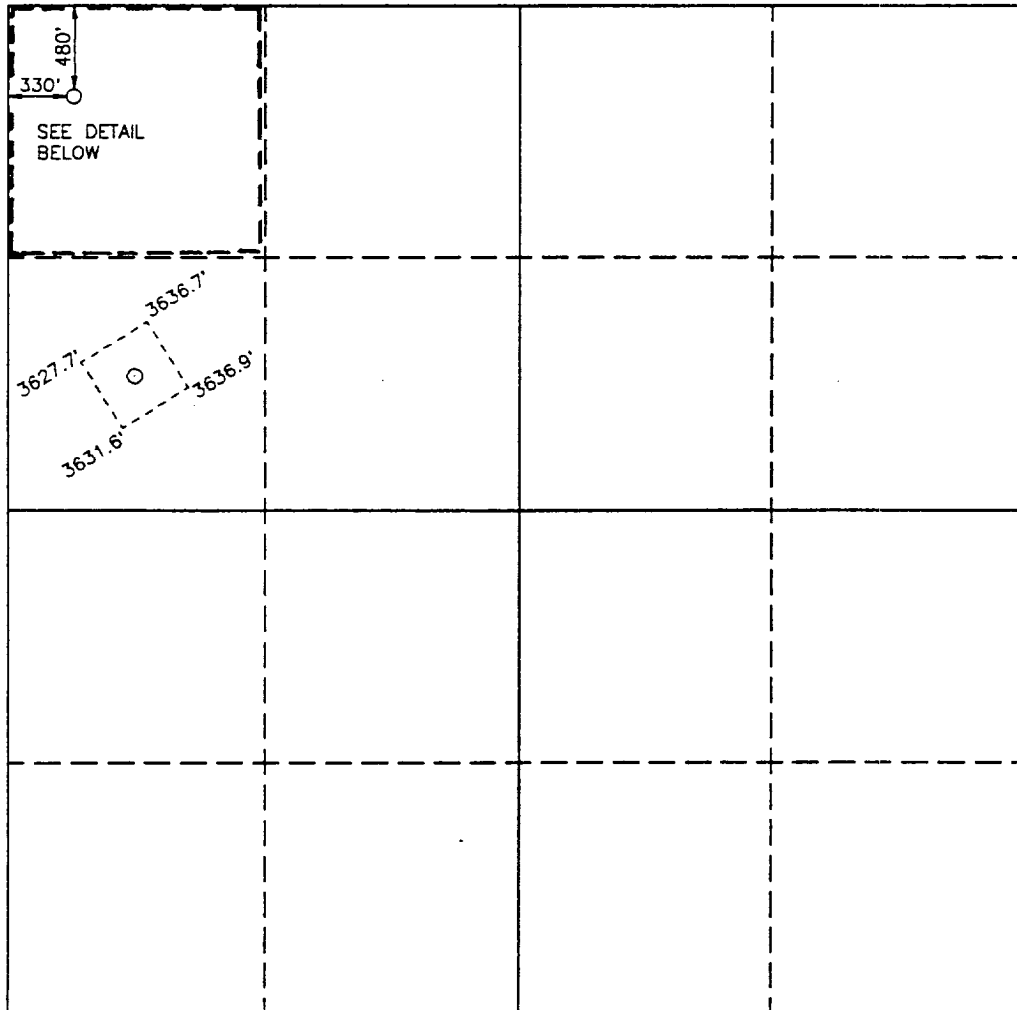
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator POGO PRODUCING COMPANY			Lease LIVINGSTON RIDGE 18 FEDERAL		Well No. 3
Unit Letter D	Section 18	Township 22 SOUTH	Range 32 EAST	NMPM	County LEA
Actual Footage Location of Well: 480 feet from the NORTH line and 330 feet from the WEST line					
Ground Level Elev. 3632.4'	Producing Formation DELAWARE		Pool UNDESIGNATED EAST LIVINGSTON RIDGE DELAWARE		Dedicated Acreage: 44.44 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
 3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
☐ Yes ☐ No If answer is "yes" type of consolidation _____
- If answer is "no" list of owners and tract descriptions which have actually been consolidated. (Use reverse side of this form necessary.) _____
- No allowable will be assigned to the well unit all interests have been consolidated (by communitization, unitization, forced-pooling, otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature

Printed Name

Richard L. Wright

Position

Division Operations Mgr.

Company

POGO PRODUCING COMPANY

Date

November 17, 1993

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 knowledge and belief.

Date Surveyed

NOVEMBER 3, 1993

Signature & Seal of
Professional Surveyor

GARY L. JONES
NEW MEXICO
1997
Certificate No. JOHN W. WEST 678
RONALD J. EDGAR 8226
PROFESSIONAL SURVEYOR GARY L. JONES 7977

93-14-2158

SUPPLEMENTAL DRILLING DATA

POGO PRODUCING COMPANY

LIVINGSTON RIDGE 18 FEDERAL WELL NO. 3

1. SURFACE FORMATION: Quaternary.

2. ESTIMATED TOPS OF GEOLOGICAL MARKERS:

Rustler	800'
Delaware	4600'
Bell Canyon	4650'
Cherry Canyon	5600'
Brushy Canyon	7300'

3. ANTICIPATED POSSIBLE HYDROCARBON BEARING ZONES:

Brushy Canyon	Oil
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4. PROPOSED CASING AND CEMENTING PROGRAM:

CASING SIZE	SETTING DEPTH		WEIGHT	GRADE	JOINT
	FROM	TO			
13-3/8"	0	800'	54.5#	J-55	STC
8-5/8"	0	1000'	32#	J-55	STC
"	1000'	2200'	24#	J-55	STC
"	2200'	4500'	32#	J-55	STC
5-1/2"	0	1000'	17#	N-80	LTC
"	1000'	6000'	15.5#	J-55	LTC
"	6000'	7000'	17#	J-55	LTC
"	7000'	8750'	17#	N-80	LTC

MINIMUM

DESIGN FACTORS: COLLAPSE 1.125 BURST 1.1 TENSION 1.7

13-3/8" casing to be cemented with 500 sacks of light cement tailed in with 200 sacks of Class "C" with 2% CaCl. Cement to circulate.

8-5/8" casing to be cemented with 1200 sacks of light cement with 10% salt tailed in with 200 sacks of premium cement with 1% CaCl. Cement to circulate.

5-1/2" production casing is to be cemented with approximately 500 sacks

of light cement followed by 400 sacks of premium cement. Cement to tie back to 3500 feet.

If, during drilling operations, need for stage cementing of casing is indicated, staging tool(s) will be run and positioned to best suit hole conditions at time casing is run.

Cement volumes may be adjusted and cement may have lost circulation and/or other additives depending on hole conditions at the time casing is run.

5. PRESSURE CONTROL EQUIPMENT:

Blowout prevention equipment, while drilling the 11" hole, will be either a 3000 psi working pressure double ram type preventer or a 3000 psi working pressure annular type preventer.

Blow out prevention equipment, while drilling below the 8-5/8" casing seat, will be a 3000 psi working pressure BOP stack. A BOP sketch is attached.

6. CIRCULATING MEDIUM:

Surface to 800 feet: Fresh water spud mud. Viscosity 30 to 36 as required for hole cleaning.

800 feet to 4500 feet: Brine conditioned as necessary for control of viscosity. Weight 9.8 to 10. pH 9 to 10. Viscosity 32 to 36.

4500 feet to T.D.: Water base drilling fluid conditioned as necessary for control of weight, viscosity, pH and water-loss. Weight 9 to 10. Viscosity 38-45. pH 9 to 10. Filtrate while drilling pay zone 6 to 15.

7. AUXILIARY EQUIPMENT:

A mud logging trailer will be in use while drilling below the intermediate casing.

8. TESTING, LOGGING, AND CORING PROGRAM:

Drill stem tests will be made when well data indicate a test is warranted.

It is planned that electric logs will include GR-CNL-Density logs and GR-DLL logs.

No coring is planned.

9. ABNORMAL PRESSURES, TEMPERATURES, OR HYDROGEN SULFIDE GAS:

No abnormal pressures or temperatures are expected.

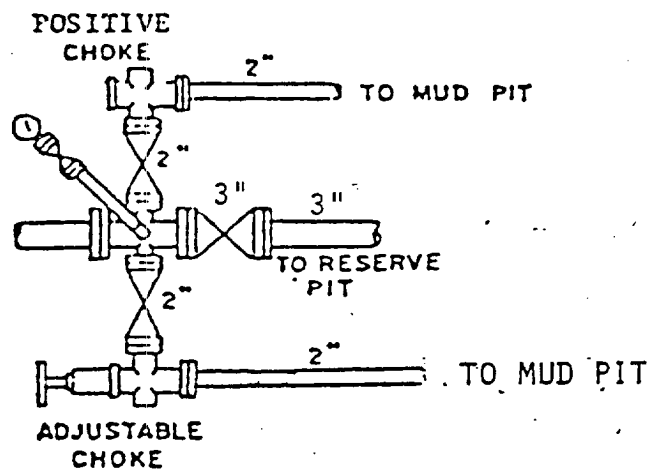
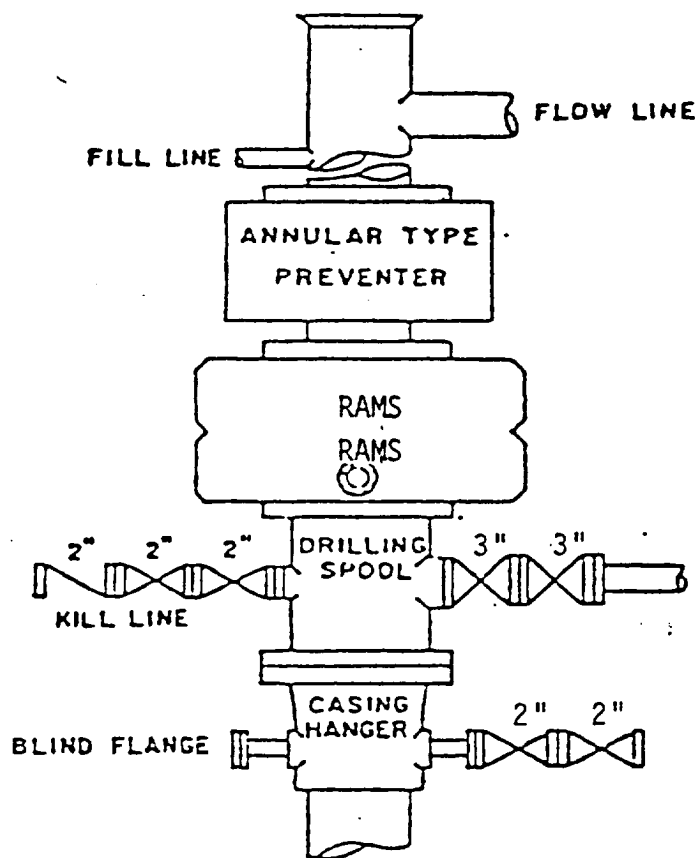
Expected bottom hole pressure is about 3500 psi.

Expected bottom hole temperature is about 125 degrees Fahr.

No hydrogen sulfide gas is expected. The production stream of Pogo Producing Company's wells in this area have been tested specifically for hydrogen sulfide gas and test results were negative. However, since it is possible that low-volume hydrogen sulfide gas may be present in permeable water zones of the Castile formation, drilling operations below the surface casing will be in accordance with the attached "HYDROGEN SULFIDE DRILLING OPERATIONS PLAN" until intermediate casing is set and cemented and this possible source of hydrogen sulfide gas is cased off.

10. ANTICIPATED STARTING DATE:

It is planned that operations will commence upon approval of this application, with drilling and completion operations lasting about 30 days.



BOP STACK

3000 PSI WORKING PRESSURE

BOP ARRANGEMENT