

RESUBMITTAL

New Mexico Oil Conservation Division, District I  
1625 N. French Drive  
Albuquerque, NM 87106Form 3160-3  
(July 1992)UNITED STATES  
DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

POTASH

SUBMIT IN TRIPLICATE, WITH APPROVED  
Other instructions on  
reverse side) OMB NO. 1004-0136  
Expires: February 28, 1995

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

893

b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Pogo Producing Company

R-111-P Potash

3. ADDRESS AND TELEPHONE NO.

P. O. Box 10340, Midland, TX 79702-7340 432-685-8100

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

At surface 1650' FNL &amp; 660' FEL, Section 31, T21S, R32E

At proposed prod. zone same

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

Approximately 30 miles East of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED

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

660'

16. NO. OF ACRES IN LEASE

320

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

8800'

20. ROTARY OR CABLE TOOLS

Rotary

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

3689.7' GR

Carlsbad Controlled Water Basin

22. APPROX. DATE WORK WILL START

When Approved

23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2	J-55 13-3/8	54.5	850	700 sks - circ to surface
12-1/4	J-55 8-5/8	32 & 24	4500	1400 sks - circ to surface
7-7/8	J-55, N-80 5-1/2	17 & 15.5	8800	1300 sks - tie back to + 4300'

1. Drill 17-1/2" hole to 850'. Run & set 850' of 13-3/8" 54.5# J-55 ST&C csg. Cmt w/ 500 sks Lite tail in w/ 200 sks CI "C". Circ cmt to surface.
2. Drill 12-1/4" hole to 4500'. Run & set 4500' of 8-5/8" J-55 ST&C csg. Bottom 2300' 32#, middle 1200' 24# & top 1000' 32# csg. Cmt w/ 1200 sks Lite tail in w/ 200 sks CI "C". Circ cmt to surface.
3. Drill 7-7/8" hole to 8800'. Run & set 8800' of 5-1/2" csg. Bottom 2800' 17# N-80 LT&C, middle 5000' 15.5# J-55 LT&C, top 1000' 17# J-55 LT&C. Cmt w/ 600 sks CI "H" tail in w/ 700 sks CI "C". Bring cmt back to at least 4300' - 200' in 8-5/8" intermediate csg.
4. After setting production csg, pay zone will be perforated & stimulated as necessary. See attached for Supplemental Drilling Data, BOP sketches, Surface Use and Operations Plan.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHEDOPER. OGRID NO. 17891  
PROPERTY NO. 9327  
POOL CODE 40299  
EFF. DATE 10-1-03  
API NO. 30-025-36435

SIGNED

Cathy Imbert

TITLE Sr. Operation Tech

DATE 08/13/03

(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:

APPROVED BY

151 JESSE J. JUVEN

TITLE

STATE DIRECTOR

DATE

SEP 25 2003

\*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.

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

District II  
811 South First, Artesia, NM 88210

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

District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-102  
Revised October 18, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-025-36435		2 Pool Code 40299		3 Pool Name Lost Tank Delaware	
4 Property Code 9327		5 Property Name Federal 31			6 Well Number 4
7 GRID No. 017891		8 Operator Name Pogo Producing Company			9 Elevation 3689.7'

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
H	31	21	32		1650	North	660	East	Lea

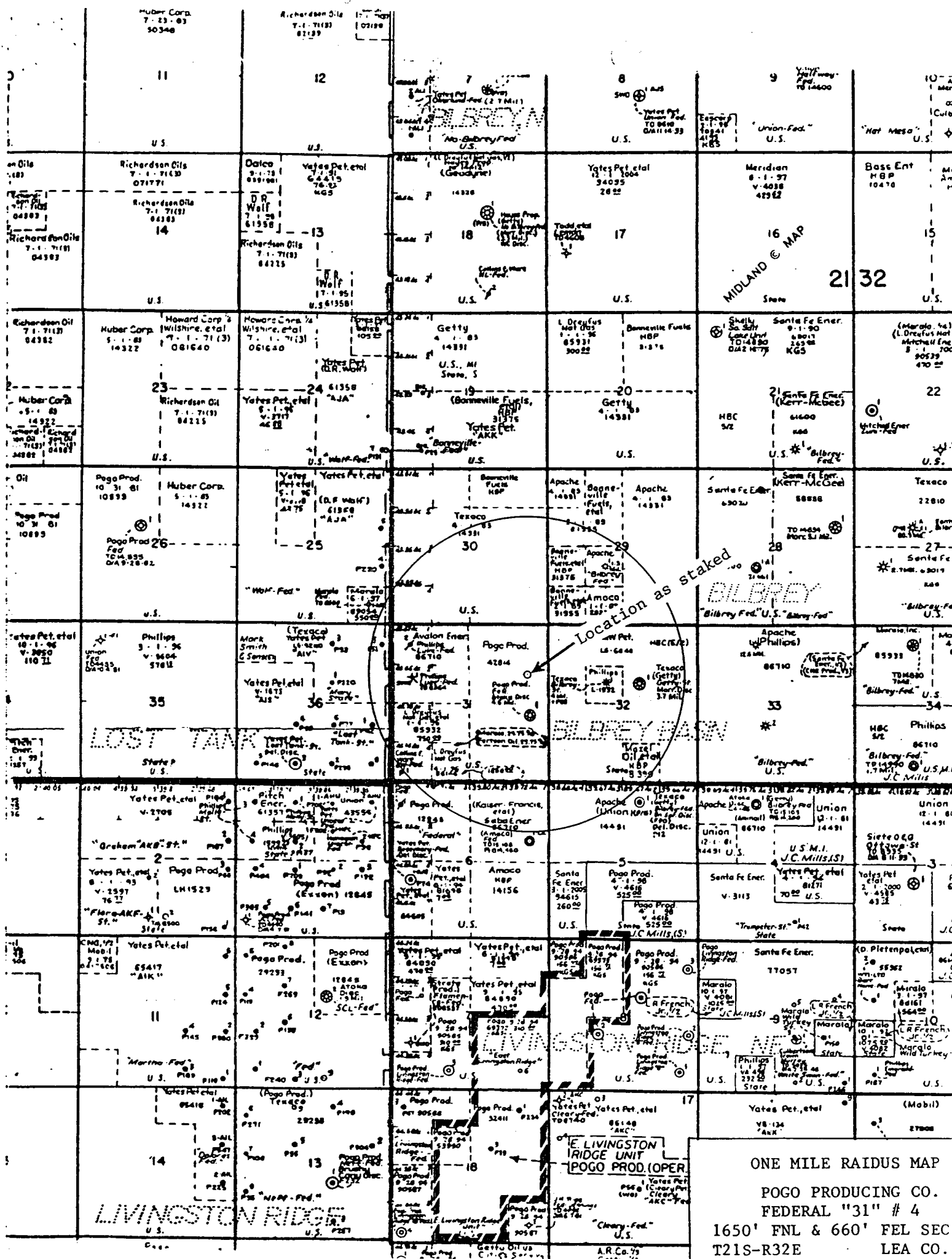
11 Bottom Hole Location If Different From Surface

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

12 Dedicated Acres 40	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

16				17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief  Cathy Tomberlin Signature Cathy Tomberlin Printed Name Operation Tech Title 04/20/01 Date
				18 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 Signature and Seal of Professional Surveyer:  Certificate Number



ONE MILE RAIDUS MAP

POGO PRODUCING CO.  
FEDERAL "31" # 4

1650' FNL & 660' FEL SEC  
T21S-R32E LEA CO.

## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
  - A. Characteristics of H2S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems
  - D. Principle and operation of H2S detectors, warning system and briefing areas.
  - E. Evacuation procedure, routes and first aid
  - F. Proper use of 30 minute pressure demand air pack
2. H2S Detection and Alarm Systems
  - A. H2S detectors and audio alarm system to be located at bell nipple end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock at briefing area should be high enough to be visible.
  - C. There should be a windsock at entrance to location.
4. Condition Flags and Signs
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicated potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well control equipment
  - A. See exhibit "E"
6. Communication
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalkboard is inappropriate.
  - C. Two way radio will be used to communicate off location in case emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
7. Drillstem Testing
  - A. All testing will be done in daylight hours.
  - B. Exhausts will be watered.
  - C. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
  - D. If location is near any dwelling a closed D.S.T. will be performed.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
9. If H<sub>2</sub>S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H<sub>2</sub>S scavengers if necessary.

SUPPLEMENTAL DRILLING DATA

PCGO PRODUCING COMPANY  
FEDERAL "31" WELL NO. 4

1. SURFACE FORMATION: Quaternary.

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Rustler Anhydrite	800'
Delaware Lime	4600'
Cherry Canyon	5600'
Brushy Canyon	7300'

3. ANTICIPATED POSSIBLE HYDROCARBON BEARING ZONE:

Delaware	Oil
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4. PROPOSED CASING AND CEMENTING PROGRAM:

<u>CASING SIZE</u>	<u>SETTING DEPTH</u>		<u>WEIGHT</u>	<u>GRADE</u>	<u>JOINT</u>
	<u>FROM</u>	<u>TO</u>			
13 3/8"	0	850'	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#	J-55	LTC
"	1000'	6000'	15.5#	J-55	LTC
"	6000'	8800'	17#	N-80	LTC

MINIMUM DESIGN FACTORS: Collapse 1.125 Burst 1.1 Tension 1.7

13 3/8" casing is to be set at approximately 850' in 17-1/2" hole. Casing to be cemented with 500 sacks of Light cement tailed in with 200 sacks of Class "C". Cement to circulate.

8 5/8" casing is to be set at approximately 4500' in 11" hole. Casing is to be cemented with 1200 sacks of Light cement tailed in with 200 sacks of Class "C". Cement to circulate.

5 1/2" casing is to be set at 8800' in 7 7/8" hole. Casing is to be cemented with 600 sacks of Class "H" cement tailed in with 700 sx Class "C". Cement to tie back to 8 5/8" casing.

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.

6. CIRCULATING MEDIUM:

<u>Surface to 850 feet:</u>	Fresh water spud mud. Viscosity 30 to 36 as required for hole cleaning.
<u>850 feet to 4500 feet:</u>	Brine conditioned as necessary for control of viscosity. Weight 9.8 to 10.0. PH 9 to 10. Viscosity 32 to 36.
<u>4500 feet to T.D.:</u>	Water based drilling fluid conditioned as necessary for control of weight, viscosity, ph and water-loss. Weight 9 to 10. Viscosity 38 - 45. ph 9-10. Filtrate while drilling pay zone 6-15.

7. AUXILIARY EQUIPMENT:

A mudlogging trailer will be used while drilling below Intermediate casing.

8. TESTING, LOGGING, AND CORING PROGRAMS:

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:

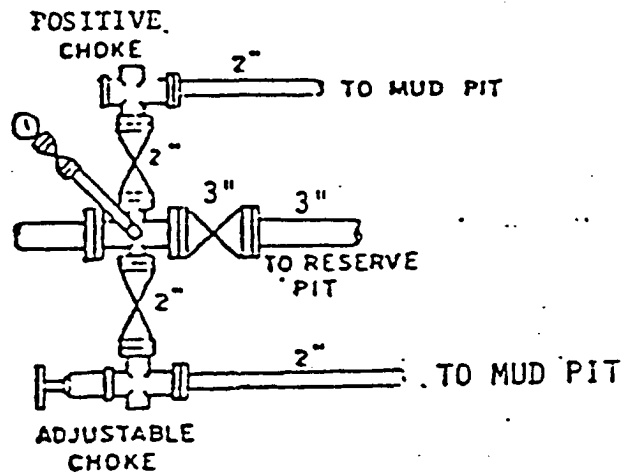
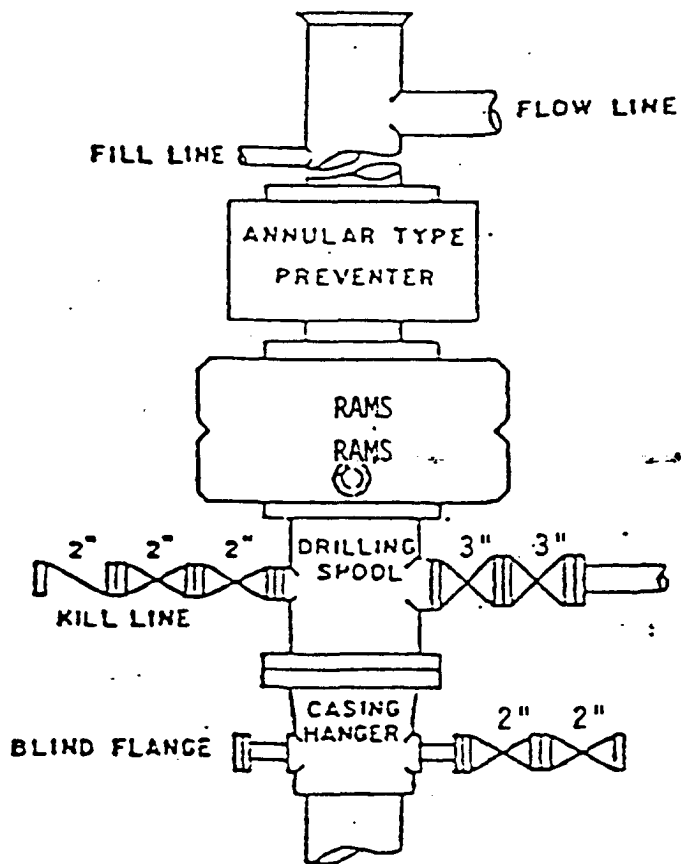
None anticipated.

Expected bottom hole pressure is approximately 3700 psi.

Expected bottom hole temperature is approximately 130 degrees Fahr

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



SURFACE USE AND OPERATIONS PLAN

FOR

POGO PRODUCING COMPANY  
FEDERAL "31" WELL NO. 4  
1650'FNL & 660' FEL OF SECTION 31.T-21S. R-32E  
LEA COUNTY, NEW MEXICO

LOCATED: 30 miles east of Carlsbad, New Mexico.

FEDERAL LEASE NUMBER: NM-42814

LEASE DATE: April 1, 1981. Lease is in producing status.

ACRES IN LEASE: 320.

RECORD LESSEE: Pogo Producing Company

SURFACE OWNERSHIP: Federal.

GRAZING PERMITTEE: J.C. Mills  
P.O. Drawer "G"  
Abernathy, Texas 79311

POOL: Undesignated Lost Tank Delaware

POOL RULES: Statewide. 40 acres for oil.

EXHIBITS:

- A. Road Map
- B. Plat showing Existing wells and Existing roads
- C. Drilling Rig Layout
- D. Topo Plat

## 1. EXISTING ROADS

A. Exhibit "A" is a portion of a road map showing the location of the proposed well as staked. The proposed well site can be reached by, either going south off US 62-180, or by going north off State 128. Point "A" on the plat is on US 62-180 at milepost 66.8, approximately 37 miles west of Hobbs, New Mexico, where Lea County Road C-29 goes south. To go to the proposed well site from this point, exit US 62-180 to the south on the paved road and go 8.9 miles to arrive at point "C". See Exhibits "B" and "D". Turn east onto the caliche road and go east 0.62 miles, north 0.52 mile, and 0.18 miles east and the location will be around 400' to the north.

Point "B" on the plat is on State 128 at milepost 17.6, approximately 36 road miles west of Jal, New Mexico, where Eddy County Road 798 goes north. To go to the proposed well site from this point, go north on Eddy 798 12.5 miles to arrive at the above named Point "C".

B. Exhibit "B" shows existing pertinent roads in the vicinity of the proposed reentry. Existing roads are color coded.

## 2. PLANNED ACCESS ROADS:

A. Length and Width: The new road will be 12 feet wide and approximately 400' long, and labeled and color coded red on Exhibit "B". The centerline of the road will be staked and flagged.

B. Surfacing Material: Caliche. Watered, compacted and graded.

C. Maximum Grade: Less than one percent.

D. Turnouts: Not needed.

E. Drainage Design: The new road will be crowned with drainage to the side.

F. Culverts: None needed.

G. Cuts and Fills: None necessary.

H. Gates and Cattle Guards: Not needed. No fences involved.

## 3. LOCATION OF EXISTING WELLS:

A. Existing wells in the immediate area are shown on Exhibit "B".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. Production Facilities are already located on well # 1. The existing production facilities will be utilized for further production.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. It is not planned that a water well will be drilled. Water necessary for drilling operations will be purchased and trucked to the well site, or will be moved to the well site by a temporary pipeline laid on the ground alongside existing and proposed roads.

6. SOURCE OF CONSTRUCTION MATERIAL:

A. Caliche needed for construction work will be taken, if present, from a pit opened on-site within the 400' X 450' work area. Otherwise, caliche will be taken from an existing pit located on State land in the SW1/4NE1/4 of Section 32, T-21S, R-32E, Lea County, New Mexico, and will be trucked to the well site over existing and proposed roads. Location of caliche pit is shown on Exhibits "B" & "D".

7. METHODS OF HANDLING WASTE MATERIAL:

A. Drill cuttings will be disposed of in the drilling pits.

B. Drilling fluids will be allowed to evaporate in the drilling pits until pits are dry.

C. All trash, junk, and other waste material will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill.

D. Water produced during test will be disposed of in the drilling pits.

E. Oil produced during tests will be stored in test tanks until sold.

8. ANCILLARY FACILITIES:

A. None necessary.

9. WELL SITE LAYOUT:

- A. Exhibit "C" shows relative location and dimensions of the well pad, mud pits, reserve pit and the location of major drilling rig components.
- B. Clearing and levelling of the well site will be required
- C. The pad and pit area is staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location will be cleaned of all trash and junk to leave the well site in an as aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until the pits are dry.
- C. After abandonment, all equipment, trash and junk will be removed and the well site will be cleaned. Any special rehabilitation and/or special revegetation requirements of the surface management agency will be complied with and will be accomplished as rapidly as possible.

11. OTHER INFORMATION:

- A. Topography: The land surface in the area is undulating and dunny. In the immediate area of the well site, land slope is to the southwest.
- B. Soil: Top soil at the well site is a loamy sand.
- C. Flora and Fauna: The vegetative cover is moderate and includes mesquite, javelina bush, yucca, weeds and range grasses. Wildlife in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove and quail.
- D. Ponds and Streams: There are no rivers, ponds, lakes or streams in the area.
- E. Residences and Other Structures: There are no occupied dwellings or other structures within a mile of the proposed well site.

F. Archaeological, Historical, and Cultural Sites: An archeological reconnaissance is to be accomplished and a report furnished.

G. Land Use: Grazing and wildlife habitat.

H. Surface Ownership: Federal

12. OPERATOR'S REPRESENTATIVE:

Richard L. Wright  
Division Operations Manager  
Pogo Producing Company  
P.O. Box 10340  
Midland, Texas 79702  
432-685-8100

13. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Pogo Producing Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 19 U.S.C. 1001 for the filing of a false statement.

Date: 6/25/93

James M.C. Ritchie, Jr.  
Agent

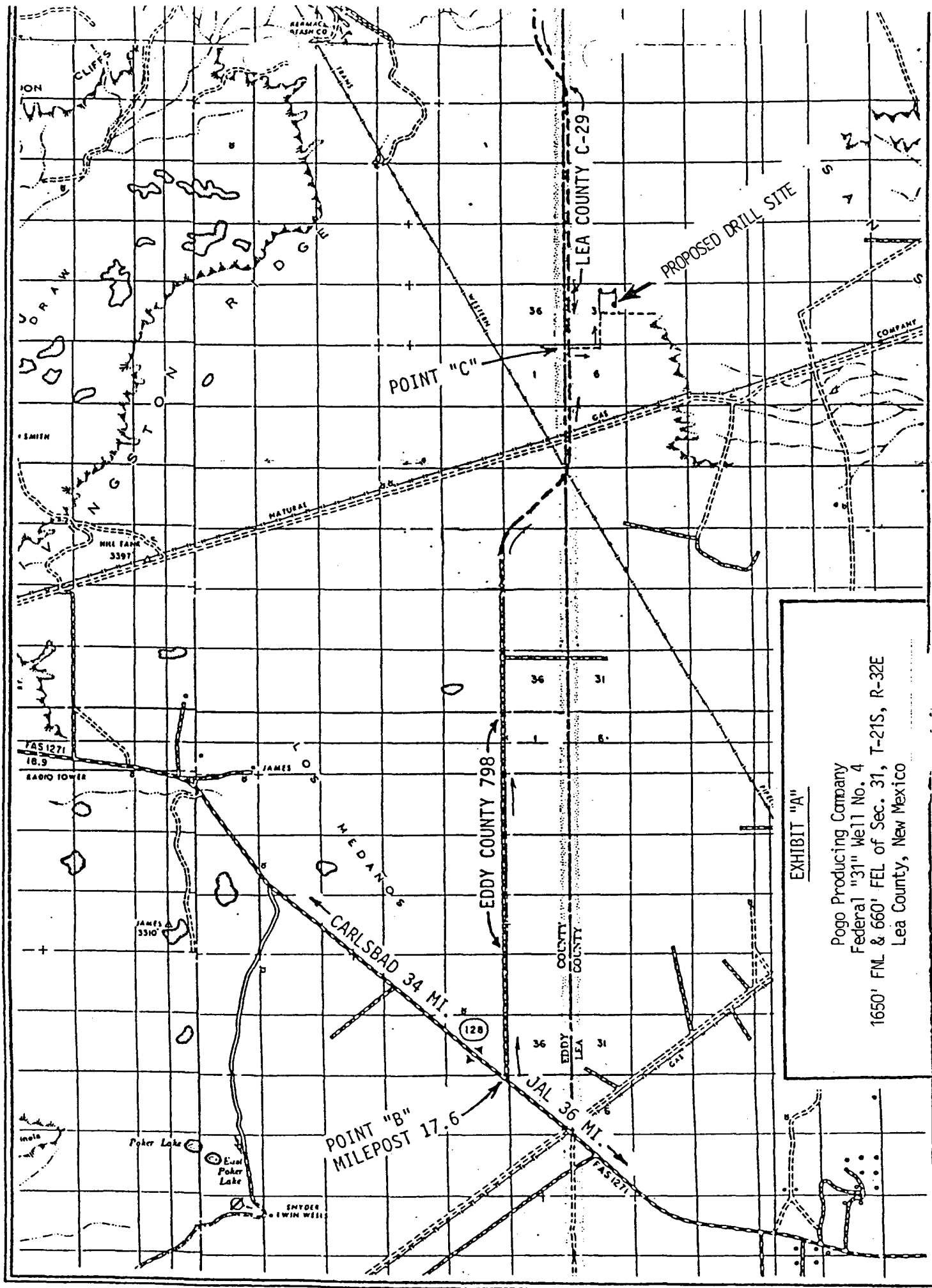
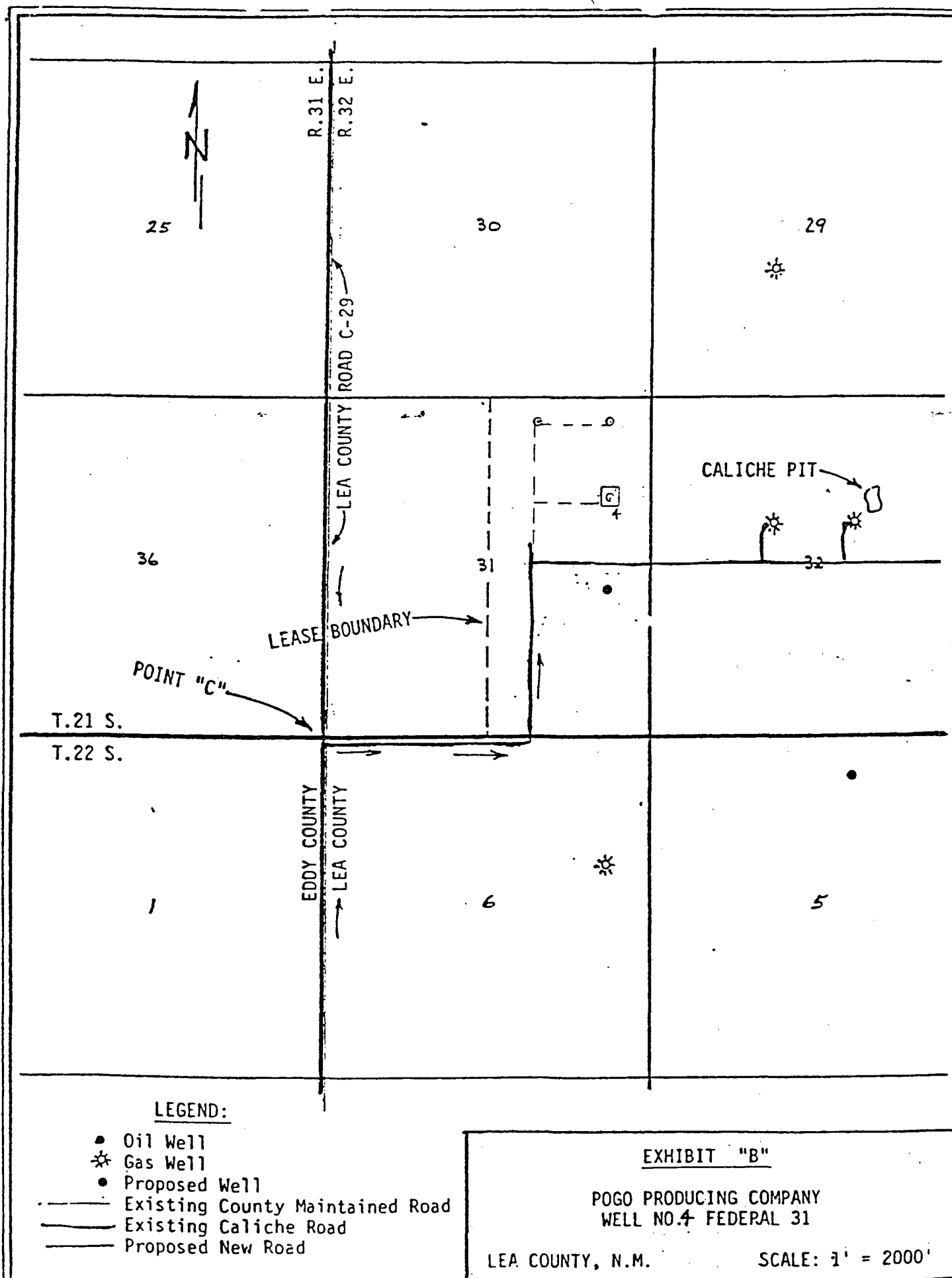
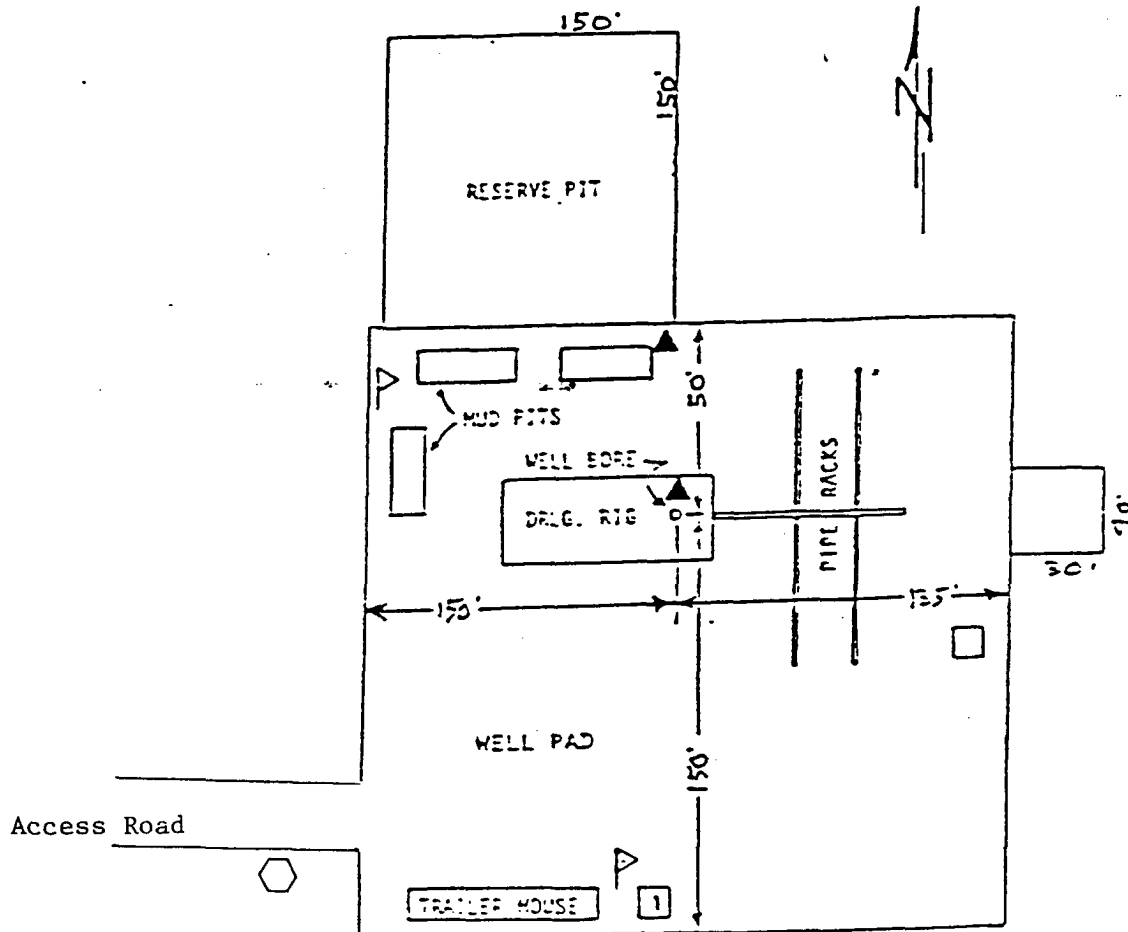


EXHIBIT "A"

Pogo Producing Company  
 Federal "31" Well No. 4  
 1650' FNL & 660' FEL of Sec. 31, T-21S, R-32E  
 Lea County, New Mexico





LEGEND:

- ⬡ Caution/Danger Sign
- Briefing Area
- 1 Briefing Area - Primary
- ▲ H2S Monitor
- ▷ Wind Sock

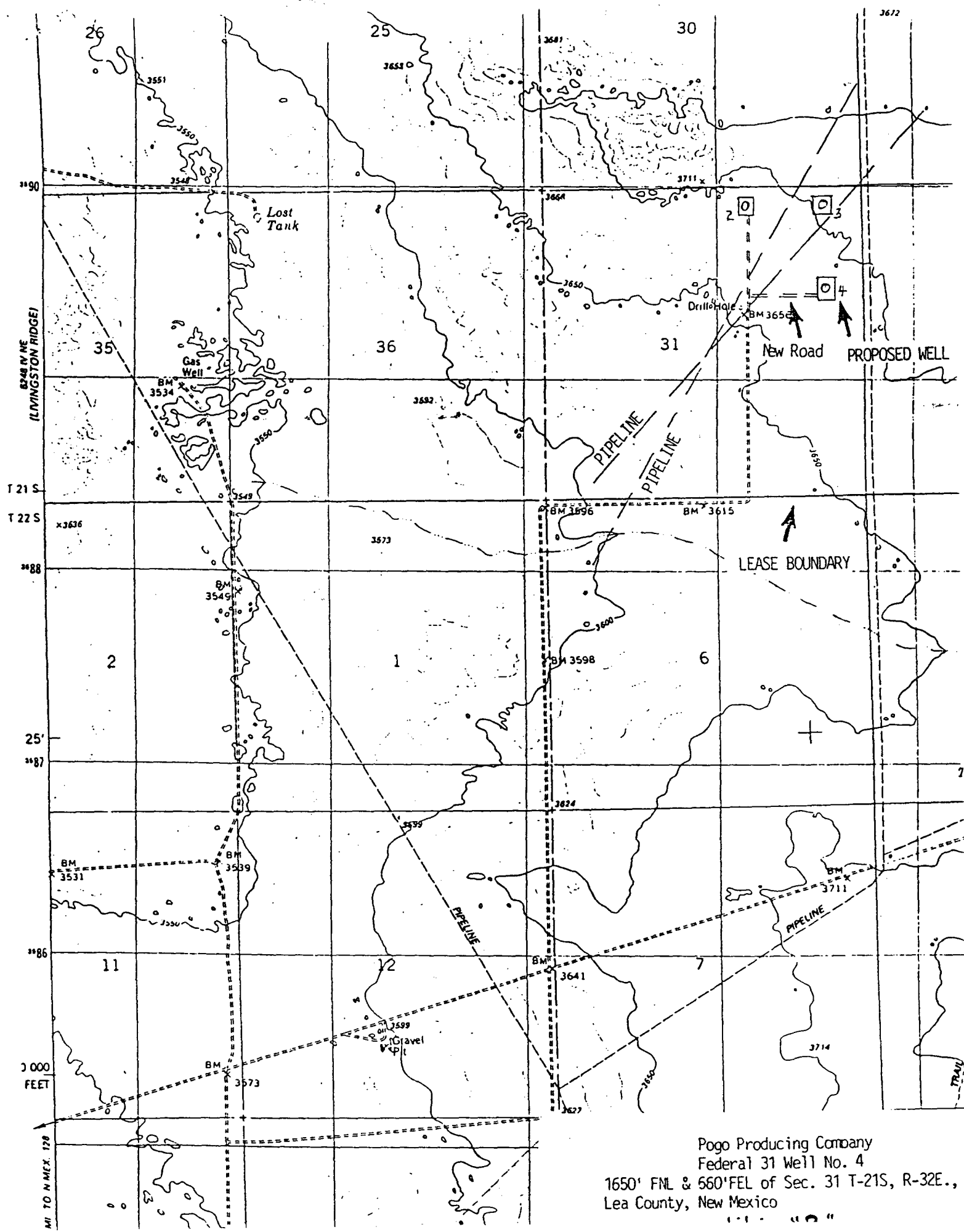
Prevailing Wind  
Direction - Southwest

POGO PRODUCING COMPANY  
FEDERAL "31" WELL NO. 4

DRILLING LAYOUT PLAT

Scale None





Pogo Producing Company  
Federal 31 Well No. 4  
1650' FNL & 560' FEL of Sec. 31 T-21S, R-32E.,  
Lea County, New Mexico