

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. NM-25365
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> CUMULATIVE ZONE <input type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME
2. NAME OF OPERATOR POGO PRODUCING COMPANY			7. UNIT AGREEMENT NAME
3. ADDRESS OF OPERATOR P.O. BOX 10340, MIDLAND, TEXAS 79702			8. FARM OR LEASE NAME NEFF FEDERAL
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 1980' FNL AND 660' FWL OF SECTION 25 At proposed prod. zone W. E			9. WELL NO. 2
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 28 MILES EAST OF CARLSBAD, NEW MEXICO			10. FIELD AND POOL, OR WILDCAT UNDES. LIVINGSTON RIDGE DELAWARE
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 660'			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SEC. 25, T. 22 S., R. 31 E.
16. NO. OF ACRES IN LEASE 640			12. COUNTY OR PARISH EDDY
17. NO. OF ACRES ASSIGNED TO THIS WELL 40			13. STATE NEW MEXICO
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1850'			20. ROTARY OR CABLE TOOLS ROTARY
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3531.7' GL			22. APPROX. DATE WORK WILL START* UPON APPROVAL

PROPOSED CASING AND CEMENTING PROGRAM					R-111-P Potash
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	
17-1/2"	13-3/8"	54.5#	840'	SUFFICIENT TO CIRCULATE	
11"	8-5/8"	24#, 32#, 28#	4500'	SUFFICIENT TO CIRCULATE	
7-7/8"	5-1/2"	15.5# & 17#	8500'	1040 SACKS (tie back)	

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

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

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

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 Wright TITLE Drilling and Production Supt. DATE January 15, 1991
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE 2-6-91
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 Dept. at

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

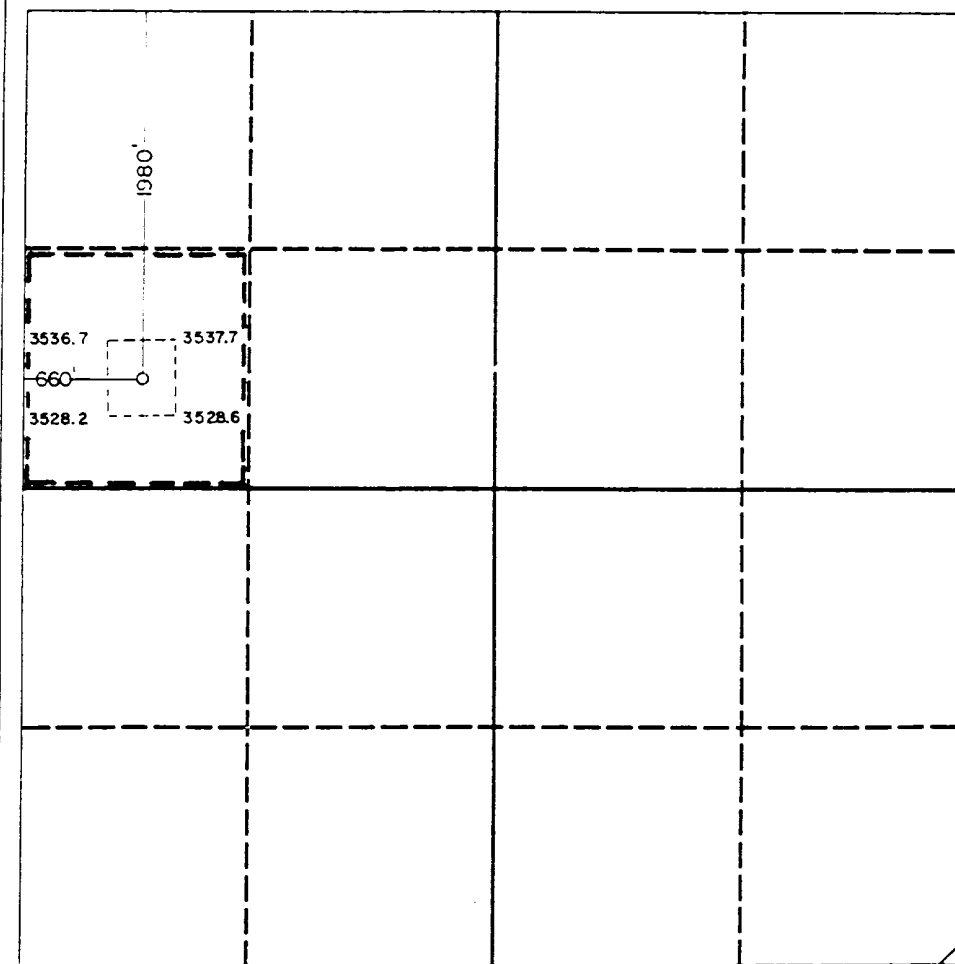
All Distances must be from the outer boundaries of the section

Operator POGO PRODUCING CO.			Lease NEFF FEDERAL		Well No. 2
Unit Letter E	Section 25	Township 22 SOUTH	Range 31 EAST	County EDDY	

Actual Footage Location of Well:

660 feet from the WEST line and 1980 feet from the NORTH line			
Ground level Elev. 3531.7	Producing Formation BRUSHY CANYON	Pool UNDES. LIVINGSTON RIDGE DELAWARE	Dedicated Acreage: 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary).
No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature
Richard Wright

Printed Name
Richard Wright

Position
Drilling and Prod. Supt.

Company
POGO PRODUCING COMPANY

Date
January 15, 1991

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
1-17-91

Signature & Seal of
Professional Surveyor

John W. West
Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

125630

SUPPLEMENTAL DRILLING DATA

FOR

POGO PRODUCING COMPANY
WELL NO.2 NEFF FEDERAL

1. SURFACE FORMATION: Quaternary.

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Rustler Anhydrite	750'
Salado Salt	2150'
Castile Anhydrite	3800'
Delaware Lime	4450'
Bell Canyon Sand	4500'
Cherry Canyon Sand	5350'
Brushy Canyon Sand	7000'

3. ANTICIPATED POSSIBLE HYDROCARBON BEARING ZONES:

Brushy Canyon	Oil
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4. PROPOSED CASING AND CEMENTING PROGRAM:

Casing design data sheet and cementing program are attached.

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 840 feet: Fresh Water.

840 feet to 4500 feet: Brine conditioned as necessary for viscosity control.

4500 feet to total depth: Water base drilling fluid conditioned as necessary for control of viscosity, PH, and water loss. Weighted as necessary for well control.

7. AUXILIARY EQUIPMENT:

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

8. TESTING, LOGGING, AND CORING PROGRAMS:

No drill stem tests are planned.

Compensated Neutron - Litho Density Log and Phasor Induction Log/GR from total depth back to intermediate casing. Gamma Ray log will be continued back to surface.

No coring is planned.

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

None anticipated.

10. ANTICIPATED STARTING DATE:

It is planned that operations will commence upon approval of this application, with drilling and completion operations lasting about 45 days.

PHILLIPS CASING AND TUBING, INC.

SIZE 13-3/8 - 5-1/2 DEPTH LOCATION
MUD WEIGHT 10.0 #/gal .519 psi/ft. MINIMUM
DESIGN FACTORS: COLLAPSE 1.125 BURST 1.1 TENSION 1.7

CASING DESIGN FOR: POGO PRODUCING COMPANY
NEFF FEDERAL WELL NO.2

DESCRIPTION		SETTING DEPTH	SECTION LENGTH	TENSION (1)			COLLAPSE (2)			BURST			COST	
				CUMULATIVE WEIGHT	STRENGTH 1000	DESIGN FACTOR	FORCE	STRENGTH	DESIGN FACTOR	FORCE	STRENGTH	DESIGN FACTOR		
13-3/8	54.5	K-55	ST&C	840	45,780	547	HI	436	1130	2.60	436	2730	HI	
8-5/8	32	J-55	ST&C											
8-5/8	24	J-55	ST&C	2300'	132,800	402	3.02	519	2530	HI	519	3930	HI	
8-5/8	32	J-55	ST&C	4300'	100,800	263	2.60	1193	1370	1.14	1193	2950	2.47	
8-5/8	28	S-80	ST&C	4500'	69,600	402	HI	2231	2530	1.13	2231	3930	1.76	
				200	5,600	414	HI	2335	3390	1.45	2335	2680	1.14	
5-1/2	17	K-55	LT&C	1000'										
5-1/2	15.5	K-55	ST&C	6000'	137,000	272	1.98	--	4910	HI	--	5320	HI	
5-1/2	17	N-80	LT&C	8500'	120,000	222	1.85	3114	4040	1.29	3114	4810	1.54	
				2500	42,500	348	HI	4411	6280	1.42	4411	7740	1.75	
2-7/8	6.5	N-80	EUE	8500'	55,250	145	2.62	5000	11,160	2.23	5000	10,570	2.11	overpull 89,710

DESIGN CONDITIONS

- (1) BOUYANCY ~~IS~~ IS NOT CONSIDERED.
(2) TENSION EFFECT ON COLLAPSE
RESISTANCE ~~CONSIDERED~~ IS NOT CONSIDERED
(3) FREIGHT ESTIMATED USING
THEORETICAL WEIGHT AND
APPROXIMATE MILEAGE

TOTAL COST FOB

FREIGHT (3)

NOTE: The above design is furnished
for informational purposes only.

TOTAL COST

Prepared by: *Robert G. Wright* Date 5-2-90



Pogo Producing Company

600 United Bank Building • Post Office Box 10340 • Midland, Texas 79702-7340 • 915/682-6822

POGO PRODUCING COMPANY

NEFF FEDERAL NO. 2
SECTION 25, T-22-S, R-31-E
EDDY COUNTY, NEW MEXICO

CEMENT PROGRAM

Surface 840' 13-3/8 csg in 17-1/2" hole + 100% excess for washout
1167 cu ft cmt volume ÷ 1.33 volume yield = 877 sacks class
"C" + 2% CaCl_2

Slurry should circulate to surface

Intermediate 4500' 8-5/8" in 11" hole + 120% excess for washout
3889 cu ft cmt volume need

Slurry (1) 3624 cu ft ÷ 2.01 yield = 1805 sacks Lite

Slurry (2) 265 cu ft ÷ 1.33 yield = 200 sacks class "C"

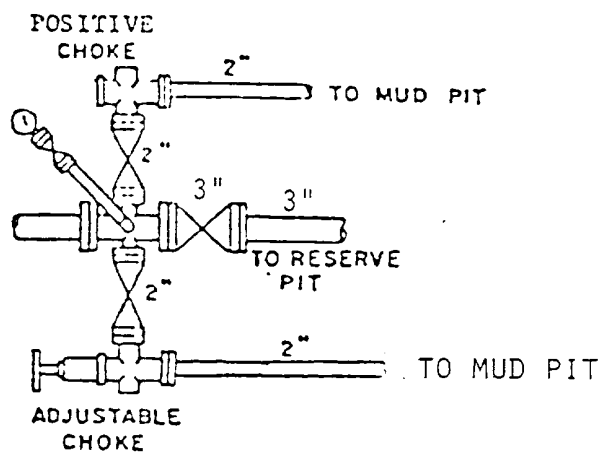
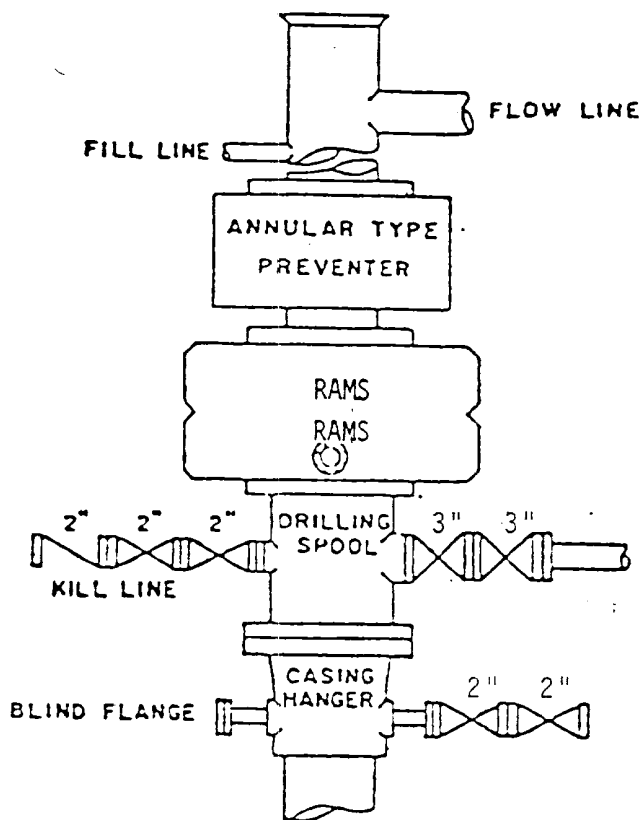
Slurry should circulate to surface

Production 8500' 5-1/2" in 7-7/8" hole + 75% excess for washout

Slurry (1) 697 cu ft ÷ 1.18 yield = 590 sacks class "H" -
top of cmt should be 6200'±

Stage collar set @ 6200'±

Slurry (2) 533 cu ft ÷ 1.18 yield = 450 sacks class "H" -
top of cmt should be 100' inside Inter. casing



BOP STACK

3000 PSI WORKING PRESSURE

BOP ARRANGEMENT

SURFACE USE AND OPERATIONS PLAN

FOR

POGO PRODUCING COMPANY
WELL NO.2 NEFF FEDERAL
1980' FNL & 660' FWL SEC.25, T.22 S., R.31 E.
EDDY COUNTY, NEW MEXICO

LOCATED: 28 air miles east of Carlsbad, New Mexico.

FEDERAL LEASE NUMBER: NM-25365.

LEASE ISSUED: June 1, 1975. Lease is in producing status.

ACRES IN LEASE: 640.

RECORD LESSEE: Pogo Producing Company.

SURFACE OWNERSHIP: Federal.

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

POOL: Undesignated Livingston Ridge Delaware.

POOL RULES: Statewide. 40 acre spacing 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 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 62-180 to the south on the paved road and go 13.4 miles. The proposed well site is on the east side of the road at a distance of about 860 feet from this point.

Point "B" on the plat is on State highway 128 at Milepost 17.6, about 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 8.2 miles and the proposed well site will be on the east side of the road at a distance of about 860 feet from this point.

B. Exhibit "B" is a plat showing existing pertinent roads in the vicinity of the proposed well site. Existing roads are color coded.

2. PLANNED ACCESS ROAD:

A. Length and Width: The new road will be 15 feet wide and about 700 feet long, and is shown labeled and color coded red on Exhibit "B". The centerline of the new road is staked and flagged.

The new access road will cross the rancher's existing buried water line, as shown on Exhibit "B", and will be built up to prevent damage to the water line.

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

C. Maximum Grade: Approximately one percent.

D. Turnouts: None necessary.

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

F. Culverts: One in ditch on east side of County road.

G. Cuts and Fills: None necessary.

H. Gates and Cattle Guards: None necessary. 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 from this well will be delivered to the existing lease tank battery located, as shown on Exhibit "B", at well No. 1 in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 25. The flow line will be 3" O.D. plastic pipe laid on the ground and will extend from the well to the tank battery as shown on Exhibit "B".

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 temporary pipeline laid on the ground alongside existing and proposed roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche needed for construction work will be taken, if present, from a pit opened on site within the 400'x 400' work area. Otherwise, caliche will be taken from the existing pit on Federal land in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 1, T.23 S., R.31 E., Eddy County, New Mexico. Caliche will be trucked to the well site over existing and proposed roads. Location of the caliche pit is shown on Exhibit "A".

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 the pits are dry.

C. Water produced during tests will be disposed of in the drilling pits

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

E. Trash, waste paper, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind. Location of the trash pit is shown on Exhibit "C".

F. All trash and debris will be buried or removed from the well site within thirty days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

A. None necessary.

9. WELL SITE LAYOUT:

A. Exhibit "C" shows the relative location and dimensions of the well pad, mud pits, reserve pit, and trash pit, and the location of major drilling rig components.

B. Clearing and levelling of the pad and pit area 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. Land surface in the immediate area of the well site slopes to the south. Regionally, drainage is to the southwest.

B. Soil: Top soil at the well site is sand.

C. Flora and Fauna: The vegetative cover is moderate and includes mesquite, shinnery oak, sand sage, yucca, weeds, and range grasses. Wildlife in the area is that typical of semi-desert land and includes coyotes, rabbits, rodents, reptiles, dove and quail.

D. Ponds and Streams: There are no rivers, lakes, ponds, 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 archaeological reconnaissance is to be accomplished and a report furnished.

G. Land Use: Grazing and wildlife habitat.

H. Surface Ownership: Federal.

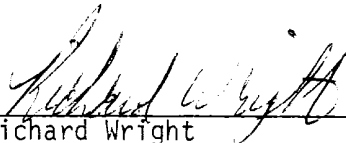
12. OPERATOR's REPRESENTATIVE:

Richard Wright
Drilling and Production Superintendent
Pogo Producing Company
P. O. Box 10340
Midland, Texas 79702
Office Phone: 915-682-6822

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 18 U.S.C. 1001 for the filing of a false statement.

January 11, 1991
Date: _____



Richard Wright
Drilling and Production Supt.
Pogo Producing Company

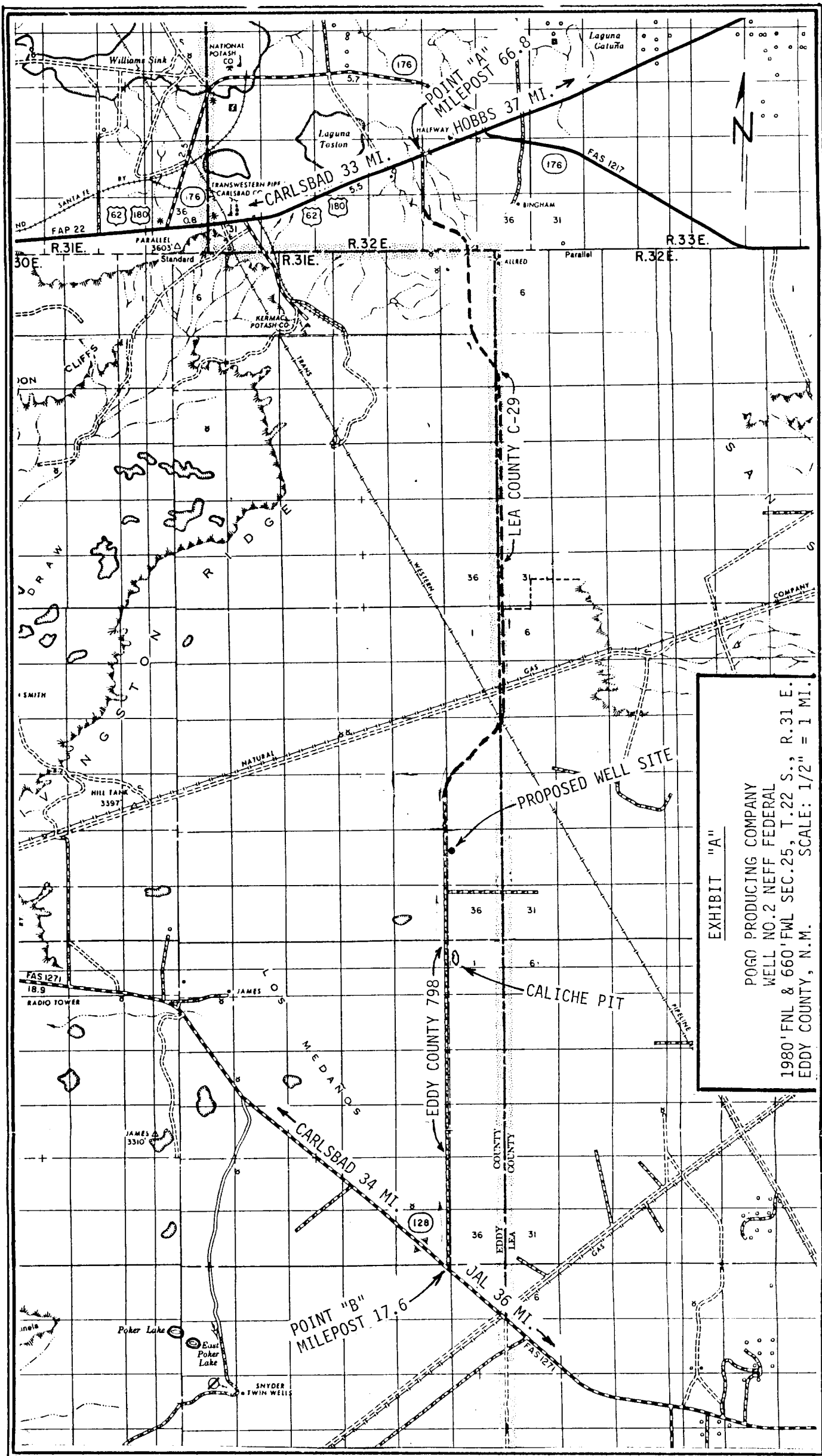
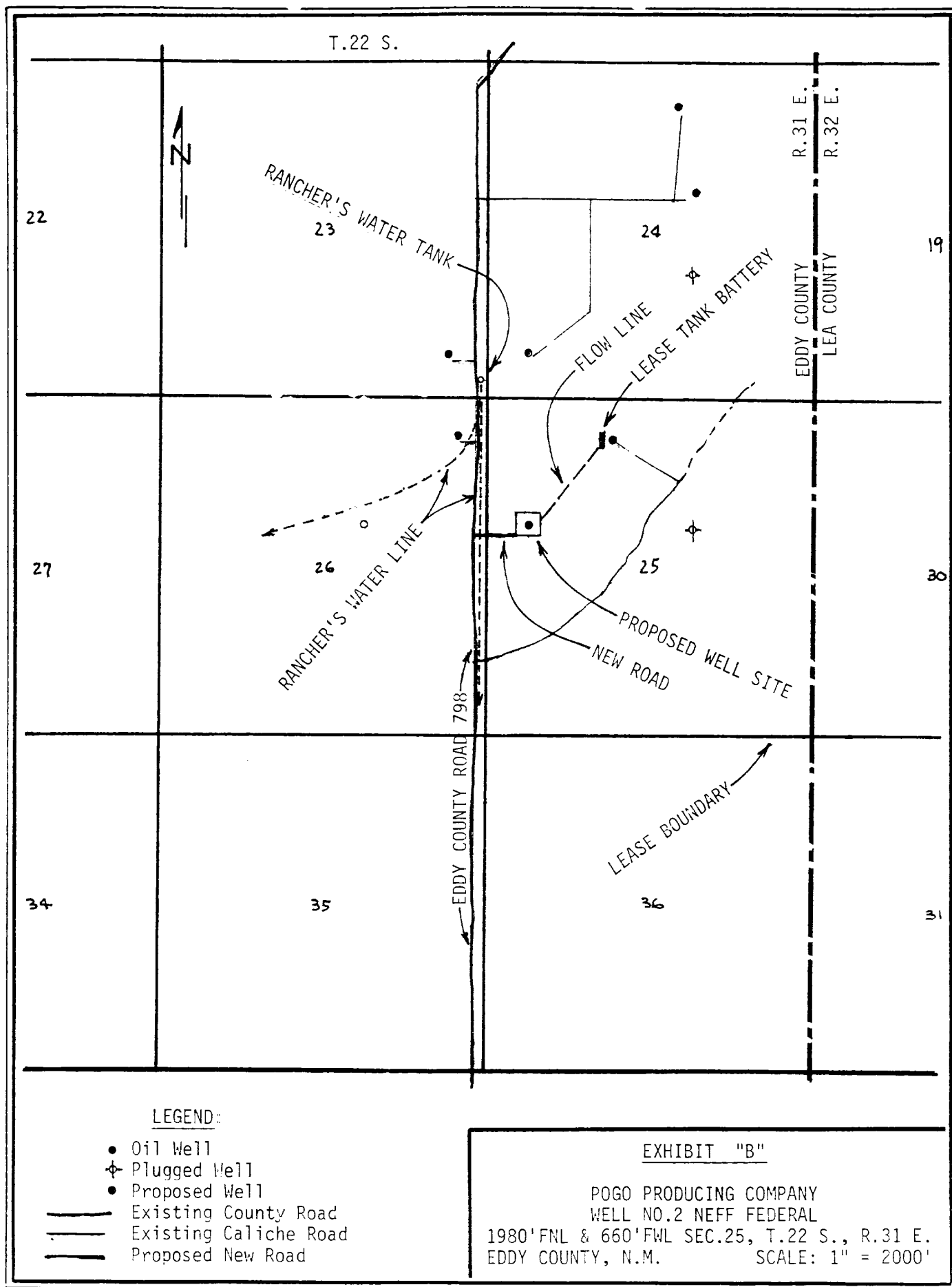


EXHIBIT "A"

POGO PRODUCING COMPANY
WELL NO. 2 NEFF FEDERAL
1980' FNL & 660' FWL SEC. 25, T. 22 S., R. 31 E.
EDDY COUNTY, N.M. SCALE: 1/2" = 1 MI.



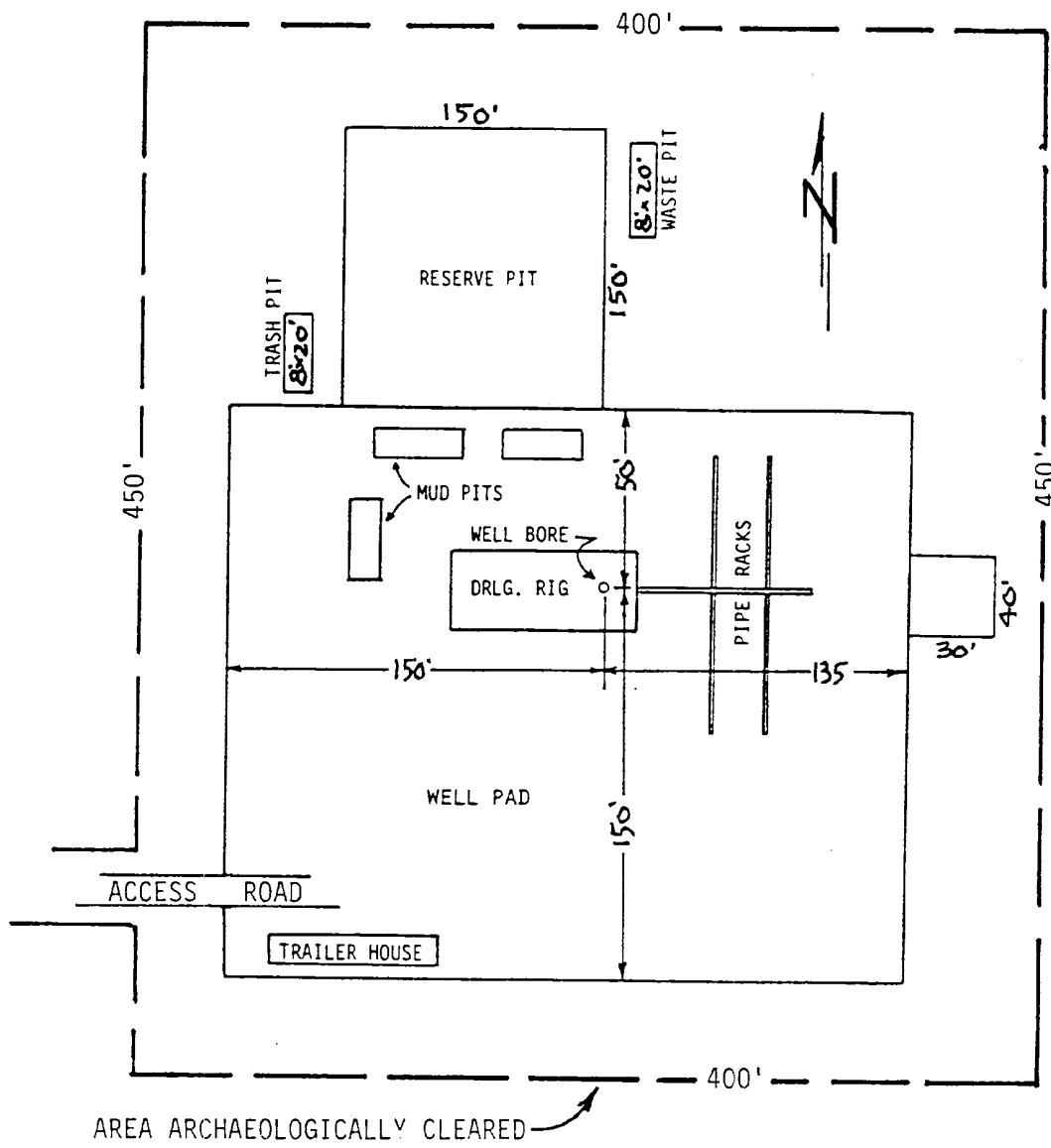


EXHIBIT "C"

PCGO PRODUCING COMPANY
WELL NO.2 NEFF FEDERAL
DRILLING RIG LAYOUT
SCALE: None

