

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

2. TYPE OF WELL

OIL WELL ☒GAS WELL ☐OTHER ☐SINGLE ZONE ☐MULTIPLE ZONE ☐

3. NAME OF OPERATOR

TENNECO OIL COMPANY

4. ADDRESS OF OPERATOR

1860 Lincoln St., Suite 1200, Denver, Colorado 80295

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

At surface

1980'FNL and 1980'FEL, Unit G

At proposed prod. zone

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

See Point 1:b of Surface Use Plan

15. DISTANCE FROM PROPOSED*

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

16. NO. OF ACRES IN LEASE

240

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.

19. PROPOSED DEPTH

+4000

20. ROTARY OR CABLE TOOLS

Rotary

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

2981.6' GL

22. APPROX. DATE WORK WILL START*

9-25-77

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	+ 500'	Suff. to circulate to surface.
7-7/8"	5-1/2"	15.5#	+4000'	Suff. to circulate back up into surface casing.

1. The geologic name of this surface formation is the Ogallala Lime (Miocene).
- 2&3. Formation Tops (Estimated)
- | | | |
|----------|---------|------------------------------|
| Salado | + 1150' | Salt |
| Yates | + 2610' | Possible oil or gas producer |
| 7 Rivers | + 2840' | Possible oil or gas producer |
| Queen | + 3465' | Oil and gas |
| Penrose | + 3565' | Oil and gas |
4. Run 8-5/8" OD, K-55 new casing to +500' and circulate cement to surface. Run 5 1/2" OD, 15.5#, K-55 new casing to T. D. and cement with a sufficient amount to circulate up into surface casing in two stages. Casinghead will be a 10" 900 series w/a 3000 psi rating.
5. Blowout preventors: Hydraulic, double ram, 10". One set of rams will be provided for each size drill pipe in the hole. One set of blind rams at all times. Fill line will be 2", kill line will be 2", choke relief line will be 2" with variable choke. BOP's will be installed, tested and in working order before drilling below surface casing and shall be maintained ready for use until drilling operations are completed. BOP's, drills, and tests will be recorded in the drillers logs.
6. We will use; spud mud = 0-+500'. (8.5 - 9.0 lb. per gallon) Bring gel = 500'-TD. (9.0 - 10.0 lb. per gallon)
7. Auxiliary Equipment
- Kelly cock will be in use at all times.
 - Stabbing valve to fit drill pipe will be present on floor at all times.
 - Mud monitoring will be visual, no abnormal pressures are anticipated in this area.
 - Floats at bits.
 - Drill string safety valve (s) to fit all pipe in the drill string will be maintained on the rig floor while drilling operations are in progress.
8. This well will be pump tested after recovery of any load oil or water. No cores will be taken. DLL-GR, CNL-FDC-GR caliper, and BHC Sonic logs will be taken. Any other evaluation that may be necessary during the drilling of this well will be conducted as needed.
9. No abnormal pressures or temperatures are anticipated. See point #5 for blowout prevention equipment.
10. The drilling of this well will take approximately eight days. The gas is not dedicated to any purchaser as of this date.
11. Your office (Telephone 505/393-3612) will be notified of spudding in sufficient time to witness cementing operations. Immediate notice will be given on blowouts, fires, spills, and accidents involving life-threatening injuries or loss of life. Prior approval will be obtained before appreciably changing drilling program or commencing plugging operations, plug back work, casing repair work or corrective cementing operations.

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 prevention program, if any.

24.

SIGNED

A. D. Myers

TITLE

Div. Production Manager

DATE

APPROVED

(This space for Federal or State office use)

PERMIT NO.

ATTACHED TO
CONS OF APP

APPROVAL DATE

SEP 6 1977

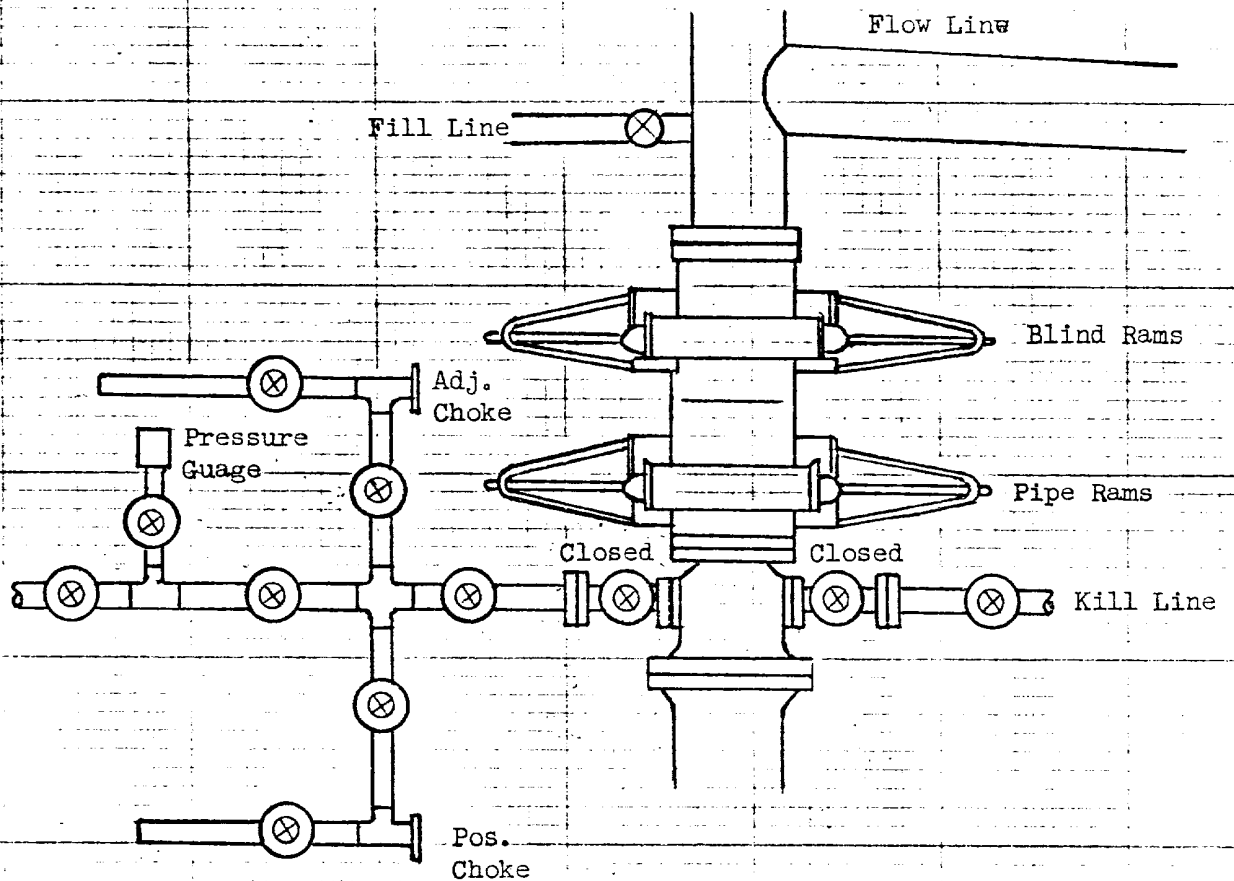
APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

ARTHUR R. BROWN
DISTRICT ENGINEER

DATE



All valves 2"

All BOPs, flanges, spools, valves, & lines must be series 900 or 3000 psi working press.

Choke manifold must be at ground level and extended out from under substructure.

TENNECO OIL COMPANY

REQUIRED MINIMUM BLOWOUT PREVENTOR

HOOKUP

Denver, Colorado

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form O-102
Supersedes O-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

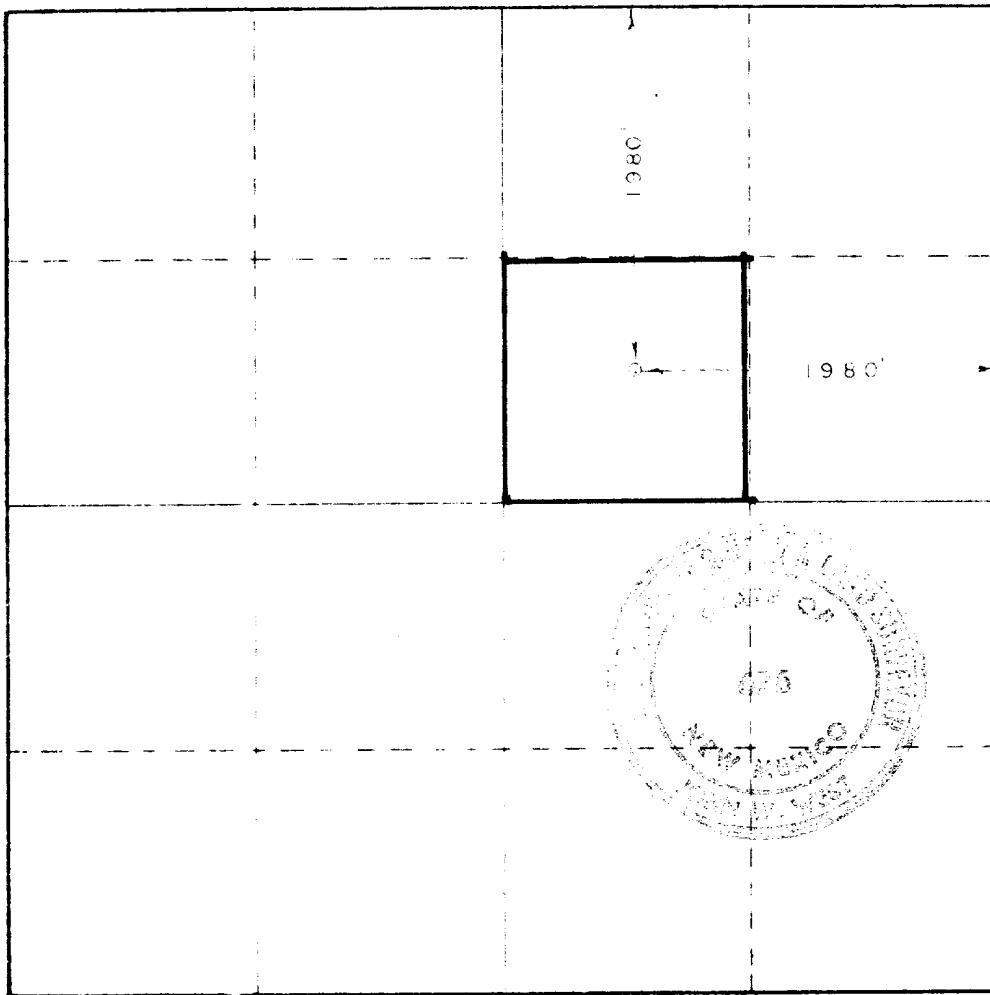
Operator TENNECO OIL COMPANY			Lease Leonard Brothers "A"		Well No. 2
Tract Letter G	Section 23	Township 26 South	Range 37 East	County Lea	
Actual Well Location of Well: 1980 feet from the north line and 1980 feet from the east line					
Ground Elev. 2981.6	Producing Formation Queen-Panose	Pool Leonard Queen South		Dedicated Acreage 40 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 interests 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 interests, has been approved by the Commission.



CERTIFICATION

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

Name
Ted V. Drabik

Position
Production Analyst

Company
Tenneco Oil Company

Date
May 2, 1977

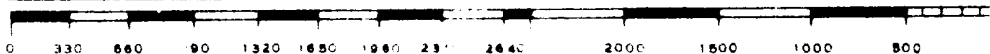
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
April 7, 1977

Registered Professional Engineer and/or Land Surveyor

[Signature]

Certificate No. **676**



W. W. HOBBS, N. M.
CIT. CO. - JAMES COOK

1918

1918

SURFACE USE PLAN

1. Existing Roads
 - a. See surveyor's plat for actual staking.
 - b. This well site is located approximately 5 miles SE and 1¼ miles E of Jal, N.M. Drive SE on 18 for 5 miles and turn E on Lease Road. Follow map on Exhibit "B" from there.
 - c. See exhibit "B" for access roads.
 - d. This is not an exploratory well.
 - e. See Exhibit "B" for one mile radius road map.
 - f. No improvements or maintenance is anticipated for existing roads.
2. Planned Access Roads
 - a&b. See Exhibit "B". We plan to construct 350' of 12' wide road. We will construct water bars where necessary. This area is nearly level.
 - c. There will be no turnouts.
 - d&e. Water bars will be constructed where required to prevent erosion. New road will have a 6" drop from center line on each side. Road will be cut into any arroyos and sloped across bottom to maintain normal drainage. Cuts and fills will be kept to a minimum.
 - f. We will use six inches of caliche, bladed, watered, and compacted on the road surface.
 - g. No gates, cattleguards, or fences will be needed.
 - h. Proposed road has been center line flagged.
3. Location of Existing Wells
 - a-i. See Exhibits "B" and "C" for locations of existing wells.
4. Location of Existing and or Proposed Facilities.
 - a&b. See Exhibit "D".
 - c. Rehabilitation will commence immediately following removal of drilling and completion equipment from location. Pits will be backfilled and leveled as soon as practical to to original condition. (See section 10 below)
 - d. We are hereby applying for construction of all necessary lines to the tank battery as shown on Exhibit "D".
5. Location and Type of Water Supply
 - a&b. Water will be hauled from Jal, New Mexico over existing roads.
 - c. No water well will be drilled.
6. Source of Construction Materials
 - a-d. Caliche for surfacing new road and location will be hauled over existing roads from pits located in Sec.23, 14, & 15 T26S, R37E. Caliche will be bought from the Federal Gov't. No new access roads across federal or Indian lands will be needed.
7. Methods for Handling Waste Disposal
 - a. Cuttings will be disposed of in the reserve pit.
 - b&c. Drilling fluids and produced water will be collected in the reserve pit and hauled away to an approved disposal system or a separate disposal application will be submitted. Any produced oil will be run to the tank.
 - d&e. All detrimental debris will be hauled away or burned or buried with a minimum cover of 36" of dirt. Barrel trash containers will be placed around location during drilling and completion operations.
 - f. See section 4:c above and section 10 below for clean up operations.
8. Ancilliary Facilities
 - a. No camps or airstrips will be needed.
9. Well Site Lay out
 - a-c. See Exhibit "A"
 - d. Pits will be lined with plastic and covered with a fine mesh netting if necessary for the protection of wildlife if fluids are found to be toxic.
10. Plans for Restoration of Surface
 - a. See section 4:c and section 7:a-f.
 - b. Location will be reseeded as per BLM specifications if well is productive. If unproductive, roads and location will be ripped and reseeded as per BLM specifications.
 - c. Prior to rig release, pits will be fenced and so maintained until cleanup.
 - d. If any oil is on the pit, it will be removed or flagged.
 - e. See section 4:c for time table.

(continued on next page)

11. Other Information

- Site is located in low rolling sand hills as can be seen on Exhibit "B". The soil is very sandy with sparse vegetation. The vegetation consists of grass, wood, shinnery and other semi desert plants.
- The surface is used for grazing.
- There are no ponds or streams within $\frac{1}{2}$ mile of location. No buildings residences or water wells are within $\frac{1}{2}$ mile of location.
- A sign identifying and locating well will be maintained at the drill site with the spudding of this well.
- There were no archeological resources observed at this site.
- All open pits will be fenced.

12. Operator's Representative.

- Field personnel who can be contacted concerning compliance of this Surface Use Plan are as follows: Darrell Brown, 1860 Lincoln, Suite 1200, Denver, Colorado 80295
Office = 303/292-9920 ext. 254 Home = 303/771-8297

13. Certification

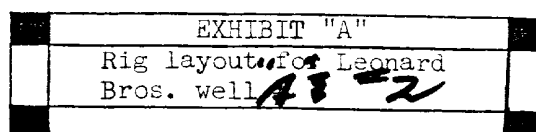
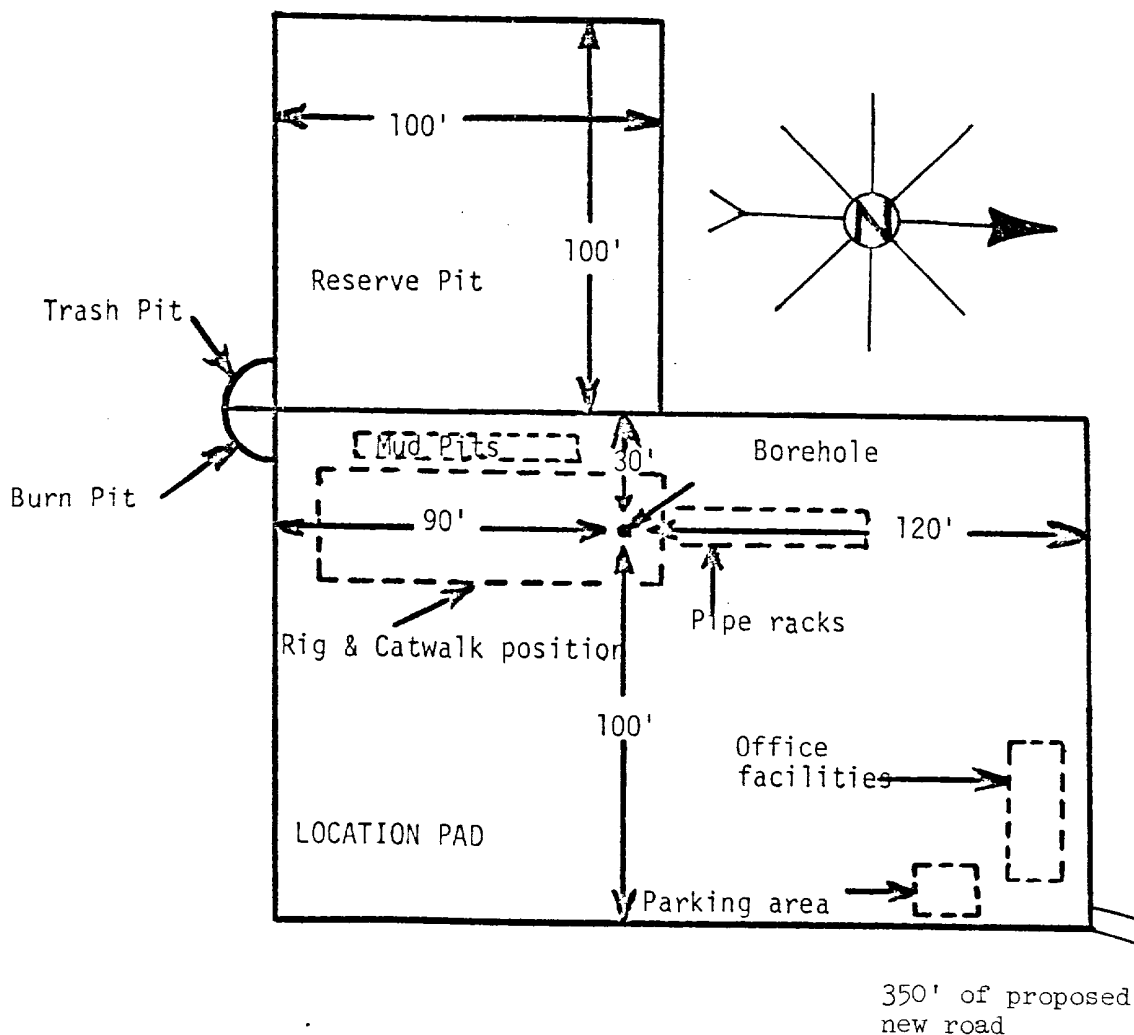
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions as they actually exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the proposed work performed by Tenneco Oil Company and its contractors and sub-contractors will conform to this plan.

APR 14 1977

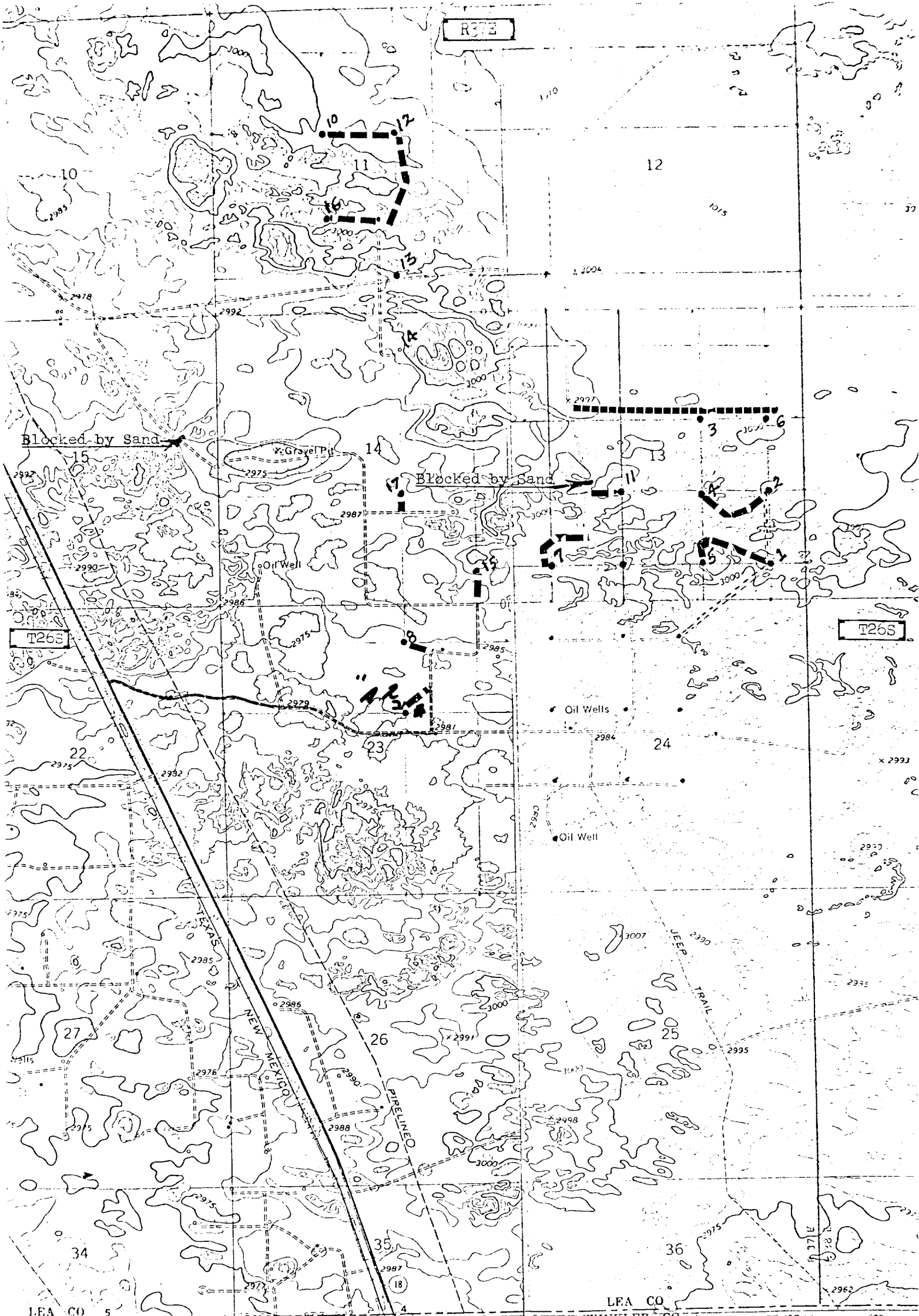
Date

D.E. Brown
D.E. Brown
Division Drilling Engineer

Due to shifting sand dunes, some sand may have to be pushed off location, but major cuts or fills will be kept to a minimum in this nearly level terrain.



Scale 1" = 50'



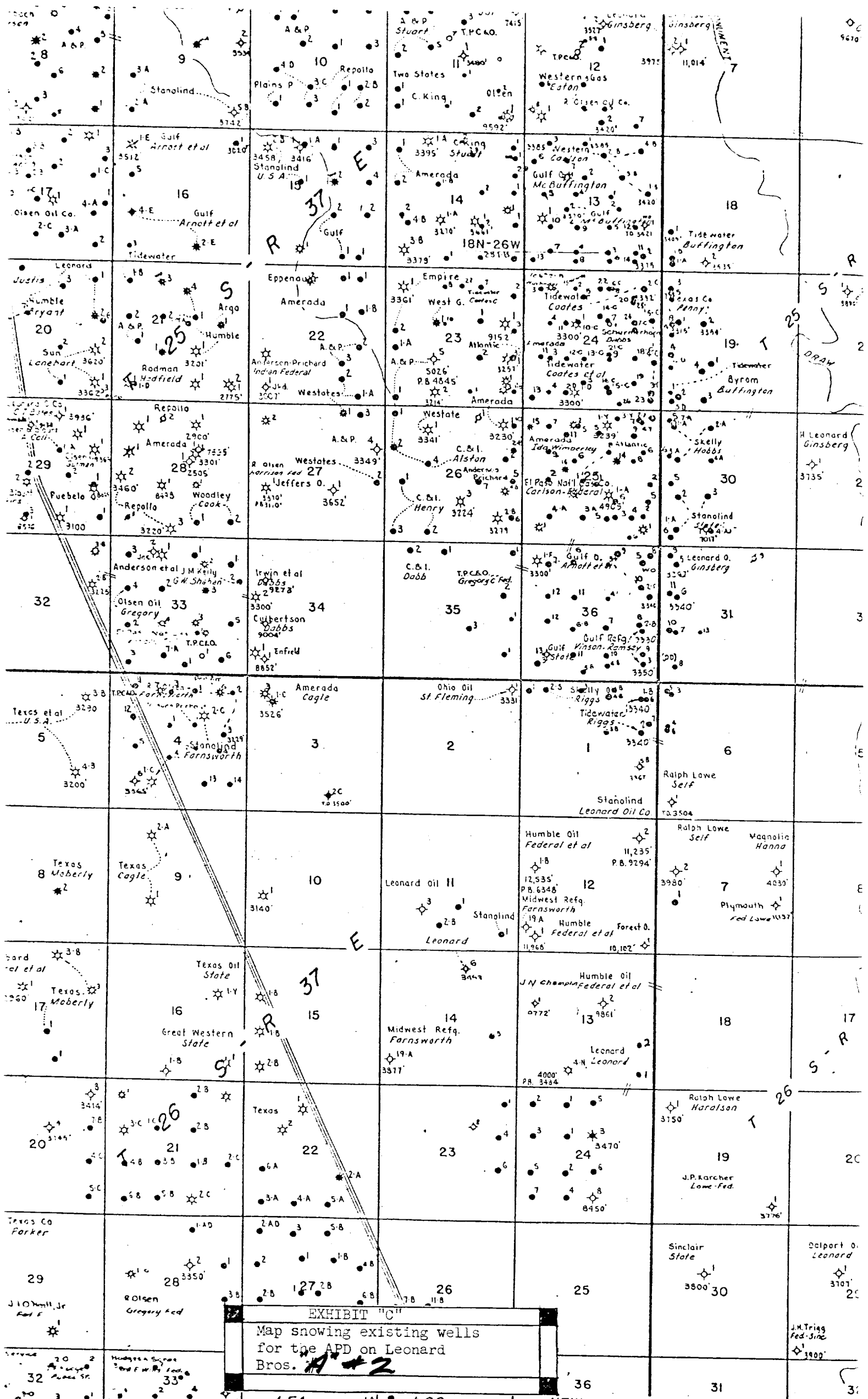
WINKLER CO 675000 E 103° 07' 30" WINKLER CO 260000 FEET (TEX.) 679

ROAD CLASSIFICATION Mapped, edited, and published by the Geological Survey
Primary highway, all weather, hard surface Light-duty road, all weather, improved surface Control by USGS and USC&GS
Topography by photogrammetric methods from aerial

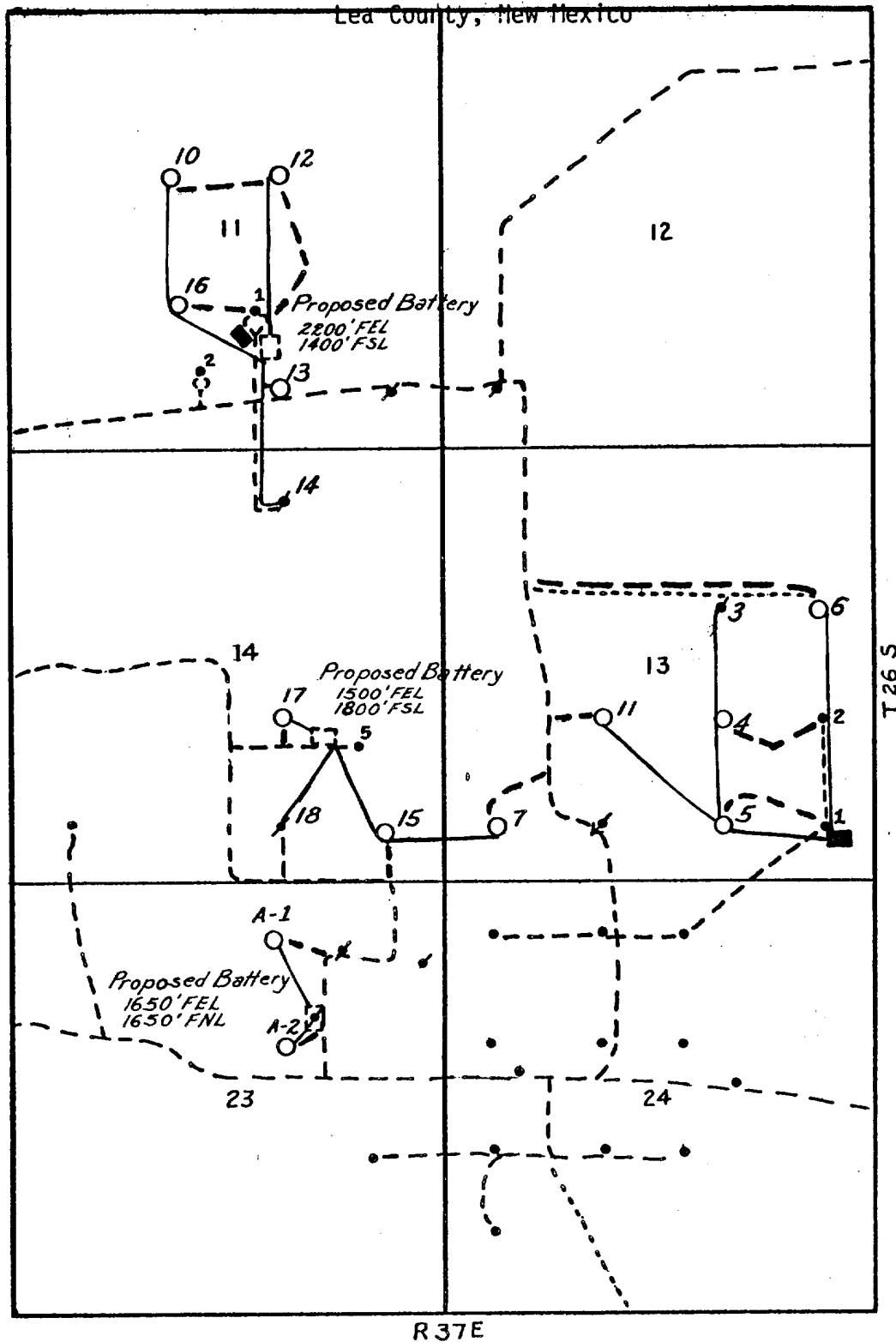
Old Trail to be reworked
New Road
Unimproved weather

EXHIBIT "B"
Portions of the U.S.G.S.'s
Quadrangle Maps for Jal, N.M.
and Jal SE, Tex.-N. Mex.
showing roads and wells for the
APD on Leonard Bros. A2

68. Field checked 1969
1927 North American datum
ed on Texas coordinate system,
New Mexico coordinate system.
Transverse Mercator grid ticks.

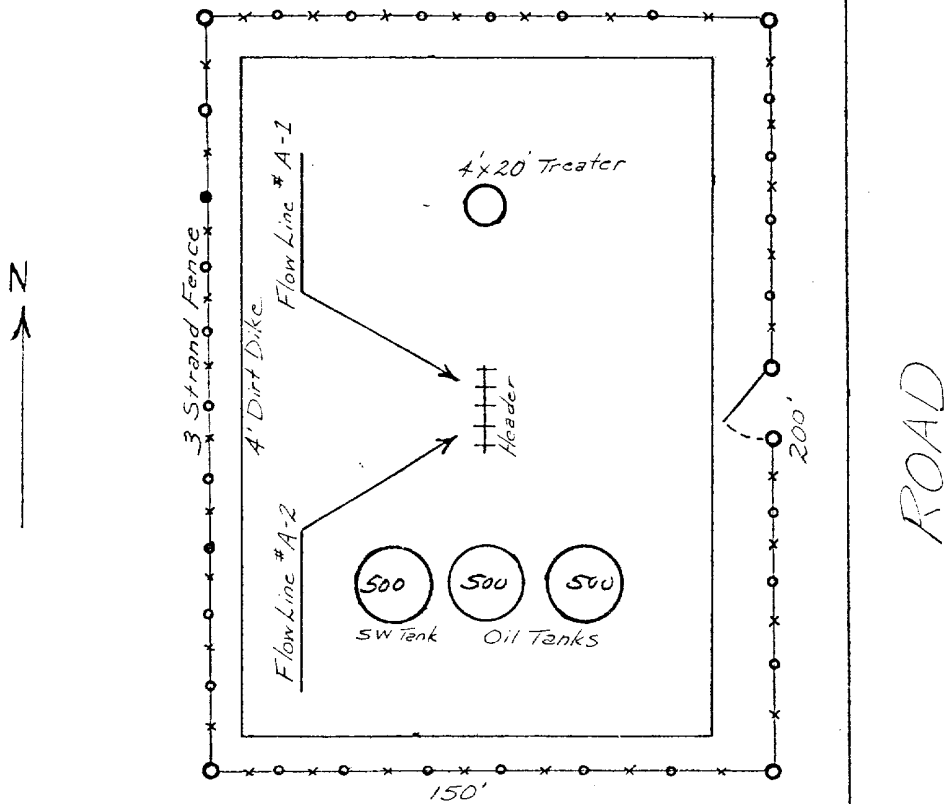


TENNECO OIL COMPANY
EXHIBIT D-1
Leonard Bros. Development - Leonard Queen South Pool
Sec. 11, 13, 14, & 23-T26S-R37E
Lea County, New Mexico



- | | |
|-------------------------------|-------------------------|
| • Existing Locations or Wells | — Existing Roads |
| ○ Proposed Locations | --- Existing Trails |
| ■ Existing Battery | - - Proposed Roads |
| □ Proposed Battery | — Flow Lines on Surface |

TENNECO OIL COMPANY
Exhibit D-3
Leonard Brothers A #1 and #2
Sec. 23 T26S-R37E
Lea County, New Mexico



Tank Battery and Flow Lines

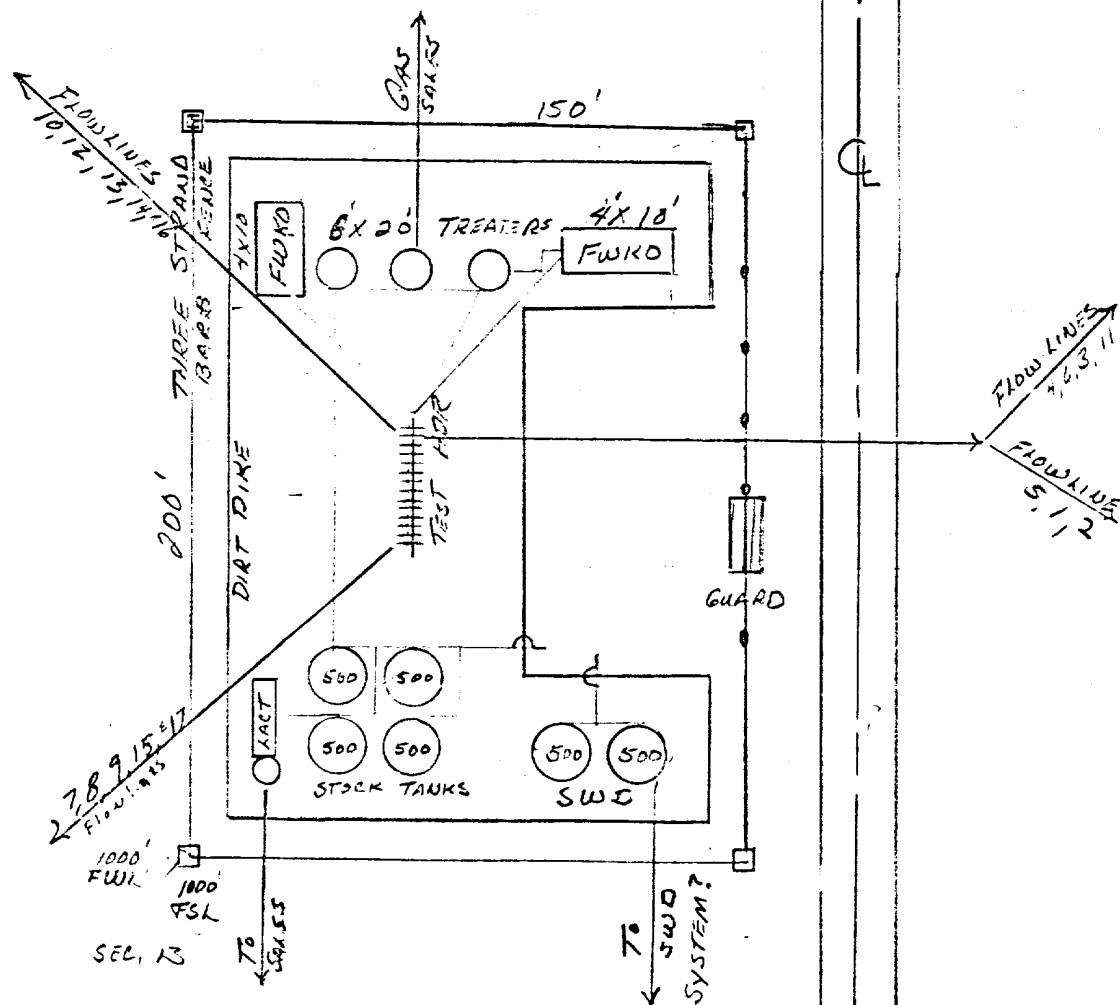
If production is encountered, a central tank will be located approximately from 1000'-1150' FWL and 1000'-1200' FSL of Sec.13, T26S, R37E in Lea County, New Mexico. A 3' high dirt dike will enclose and contain possible spills. The entire location will be enclosed with a 3' strand barb wire fence to exclude domestic animals and wildlife from entering. A cattle guard will be built on the east side to facilitate entering. Approximately 20 feet of road will be built connecting the cattleguard and an existing road. Road and entrance will be surfaced with caliche as explained in the Surface Use Plan.

All flowlines will be run to the tank battery test header paralleling each other as closely as possible to create the least amount of surface disturbance that is possible.

SUBJECT	LEONARD BROS. PROPOSED CENTRAL TANK BATTERY
LOCATION	LEA CO. N.M.
BY	DRG
DATE	4-6-77

ESTIMATED PRODUCTION:

700 BOPD W/14 WELLS
700 BOPD W/14 WELLS



SCALE 1"=100'

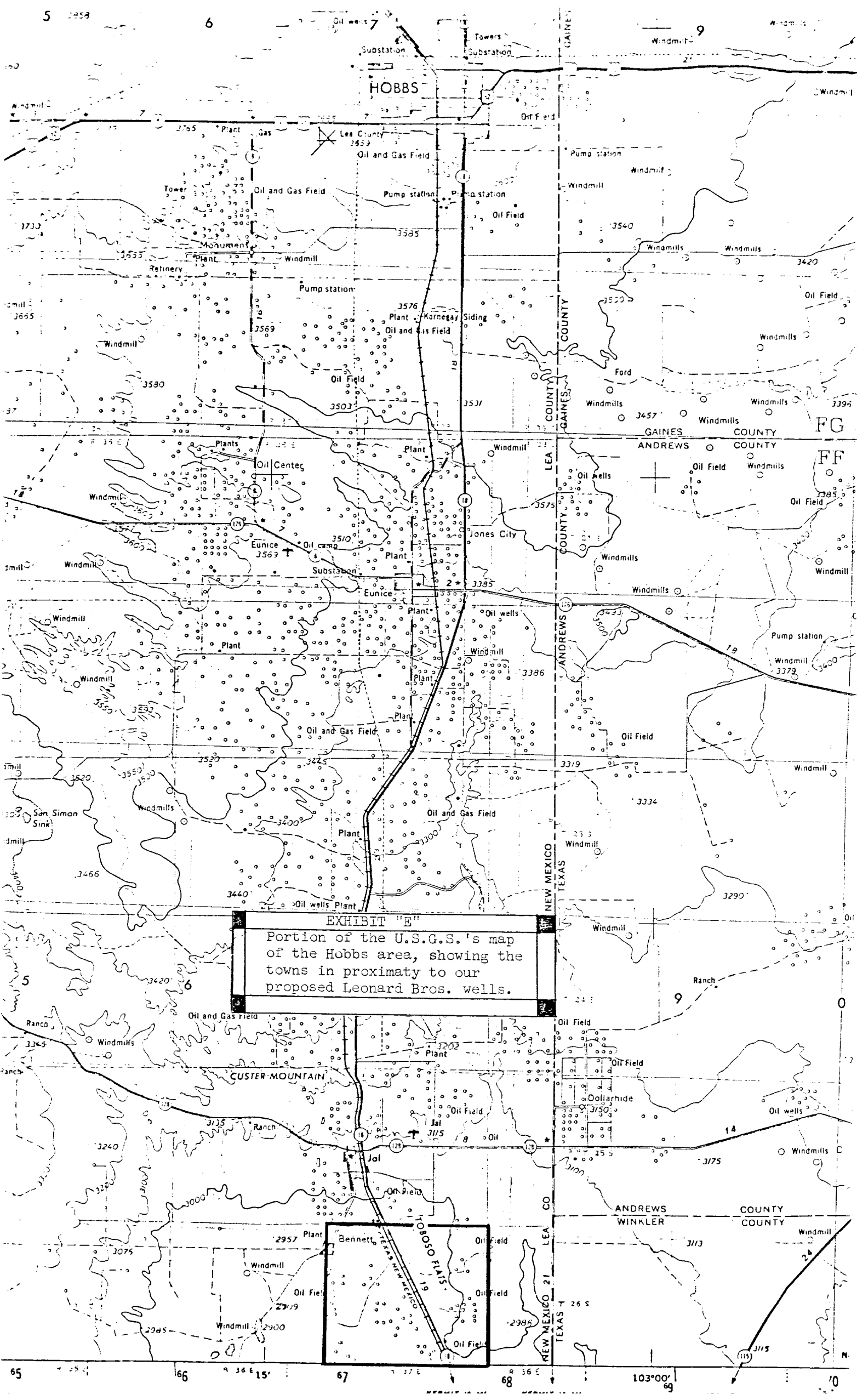


EXHIBIT "E"
Portion of the U.S.G.S.'s map
of the Hobbs area, showing the
towns in proximity to our
proposed Leonard Bros. wells.

U. S. Geological Survey

HOBBS DISTRICT

Tenneco Oil Company No. 2 Leonard Bros "A" SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23-26S-37E Lea County, N. M.

Above Data Required on Well Sign

CONDITIONS OF APPROVAL

1. Drilling operations authorized are subject to compliance with the attached General Requirements for Drilling Operations on Federal Oil and Gas Leases, dated January 1, 1977.
2. Notify this office (telephone (505) 393-3612) when the well is to be spudded and in sufficient time for a representative to witness all cementing operations. Attached are names and telephone numbers of Geological Survey and Bureau of Land Management personnel who are available for consultation during construction, drilling, completion, and rehabilitation activities.
3. Immediate notice is required of all blowouts, fires, spills, and accidents involving life-threatening injuries or loss of life.
4. Secure prior approval of the District Engineer for variance from the approved drilling program and before commencing plugging operations, plug-back work, casing repair work, corrective cementing operations, or suspending drilling operations indefinitely.
5. Blowout prevention equipment is to be installed, tested, and in working order before drilling below the surface casing and shall be maintained ready for use until drilling operations are completed.
6. Operations must be in compliance with the provisions of the landowner agreement concerning surface disturbance and surface restoration.