CLEARY PETROLEUM CORPORATION

MIDLAND DISTRICT
October 19, 1977

DRILLING PROGRAM

WELL: Cleary Petroleum Corporation
New Mexico Federal No. 2-A
1980' FNL & 1980' FEL
Section 4, T-21-S, R-32-E
Lea County, New Mexico

ELEVATION: 3688 GR.

SURFACE FORMATION: Quaternary alluvium and bolson deposits.

ESTIMATED FORMATION TOPS:

Formation	Estimated Depth	Remarks
B/Red Bed/Top Anhydrite	1400'	No show
Yates	3300'	No show
Capitan Reef	3500'	Prob. water
Del. Mtn. Sands	5200'	Prob. water
Bone Spring	8450'	Prob. water
Wolfcamp	10850'	Poss. show oil or gas
Strawn	12400'	Poss. show/oil
Atoka Sand	12700'	Poss. show/gas
Atoka Carbonates	12900'	No show
Morrow Upper Sands	13450-13650'	Prod. gas
Morrow Lower Sands	13750-T.D.	Prod. gas
Total Depth	14250'	

ESTIMATED DRILLING TIME: 55 days

Samples: 10' samples 3000' to total depth.

Drilling Time Record: Geolograph-Surface to T.D. Hand kept drilling time as directed by geologist.

Coring: None

Testing: Possible one test in middle Morrow?

Logging: Run #1 - Surface to thru Salado Formation 0'-3500'
GR-Acoustic-Caliper.
Run #2 - Base Intermediate to T.D.
GR-Acoustic Neutron, Guard, Forxo
Welex Logging Co.

Similar Well: Cleary Petroleum No.1 New Mexico Federal

Known Drilling Hazard in Area: Possible lost circulation in Capitan Reef 3600'-4400'.
Possible high pressure in Wolfcamp and Atoka Sand.

Oil or Gas Shows: If any indications are noted and geologist not at well site, please call:

W. J. "Bill" Henry — Office 915-682-4484, Home 915-694-4520

or

Cleary Petroleum Corp. Buddy J. Knight — Office 915-683-4793, Home 915-684-6263

Consulting Geologist: W J Henry
William J. Henry

District Production Manager: Buddy J Knight
Buddy J. Knight

ATTACHMENT I

/mlb

CLEARY PETROLEUM CORPORATION
NEW MEXICO FEDERAL #2-A
LEA COUNTY, NEW MEXICO

CASING & CEMENTING PROGRAM

Surface Casing:

17½" hole size; set approximately 470' of 13 3/8, 54.5 #K-55 new casing using 350 sx of Class "C" cmt. containing 4% gel, 2% Calcium Chloride with ¼# flocele per sk, tail in with 300 sx Class "C" cmt. containing 2% Calcium Chloride with ¼# flocele per sk.

Intermediate Casing:

12¼" hole size; set approximately 5200' 9 5/8" 40# and 43.5# N-80 & J-55 new casing, cmt to surface using DV Multiple Stage tool at approximately 3350'. The first stage cmt. will consist of 850 sx of Halliburton Light cmt. containing 5# of Gilsonite & ¼# flocele per sk., tail in with 300 sx of Class "C" containing 2% Calcium Chloride & ¼# flocele per sk. The second stage cmt. will consist of 2000 sx Halliburton Light cmt. containing 15% salt and ¼# flocele per sk. tail in with 100 sx Class "C" cmt. containing 2% Calcium Chloride & ¼# flocele per sk.

Production String:

7 7/8" hole size; set 5½" 20# & 17# N-80 LT & C & 17# N-80 buttress from 14,250' to surface. Cmt. with 150 sx Halliburton Light cmt. containing 0.6% Halad-22, 5# Gilsonite & ¼# flocele, tail in with 525 sx of Class "H" containing 0.8% Halad-22, 0.4% CRF-2, 3# KCL, & ¼# flocele/sk. All 5½" casing will be new.

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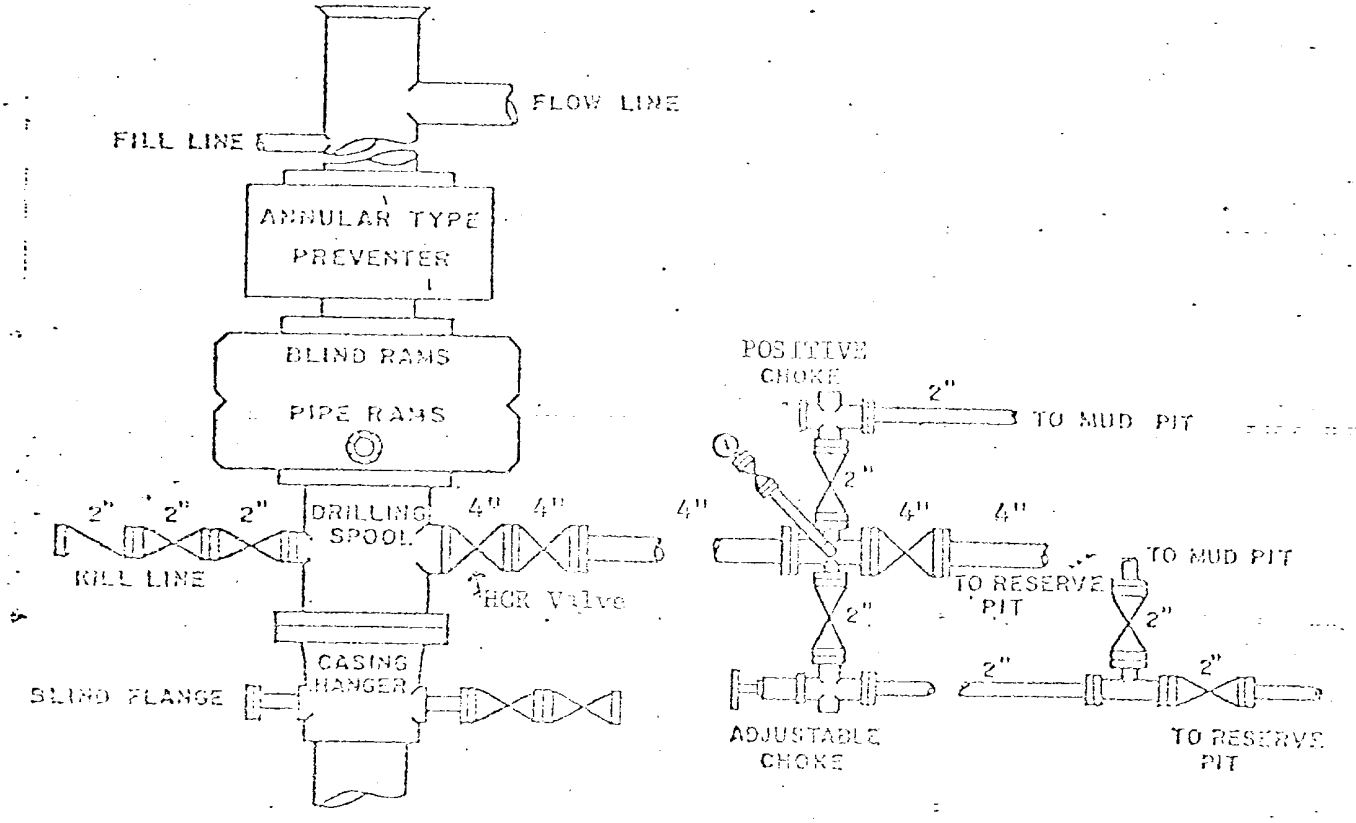
ATTACHMENT II

3000 lb. WP BOP

RIG #1

12" Shaffer Type B Hydraulic BOP 3000 PSI
12" GK Hydril 3000 WP
160 Gallon - 7 Station Koomey Accumulator with Remote Control
5000 lb. WP Choke Manifold
10" Type U Cameron 5000 WP, Double BOP



ATTACHMENT III

CLEARY PETROLEUM CORPORATION
NEW MEXICO FEDERAL #2-A
LEA COUNTY, NEW MEXICO

RECOMMENDED DRILLING FLUID PROGRAM

Depth '	Mud Weight ppg	Viscosity sec/qt	API Filtrate cc		
0' -- 470'	8.5-9.0	35-42	NC		

Spud with Drilling Gel and Lime maintaining as needed to set 13-3/8 pipe.

470' -- 5600'	8.5-10.0	32-34	NC		

Drill out with fresh water letting native viscosity increase to 32 to 34 sec/qt. Around 1600', add 10 ppg brine water for salt stringers. Add and maintain 3% to 5% oil. Use Paper for seepage.

5600' -- 11000'	8.5-8.8	28-30	NC		

Drill with fresh water, adding Lime for pH and Paper for seepage. Use Visbestos sweeps for hole cleaning.

11000' -- 14250'	10.0-10.2	30-34	Below 10		

Displace with 10.0 ppg brine maintaining pH with Caustic Soda. At 13500', mud up with KCL, Drispac, Starch, and Soda Ash to produce the above properties. Adjust the mud weights and viscosities as hole conditions warrant.

DRAWWORKS:
Brewster N-75 grooved drum for 1 1/4" line, 40" DRC hydromatic brake, 2 Foster Cathreads, Bear automatic driller

ENGINE AND DRIVE GROUP"
3-Waukesha F-3520 gas butane engines, rated at 550 HP each, 3 engine Brewster inline compound

PUMPS AND MUD SYSTEM:
2-1,000HP PZ-9 Gardener Denver triplex pumps w/forged steel fluid ends, compound driven pump suctions charged with 5x6 Mission centrifugal pump

3-Mud pits, 900 bbl. total w/low pressure mud system, w/60 HP electric motor 5x6 Mission centrifugal pump

1-Swaco 4 Clone 8" desander, powered by Waukesha 195 GLBD gas engine and Mission 5x6 centrifugal pump

1-Link Belt Vibrating Shale Shaker

DERRICK:
Lee C. Moore 133', 760,000# nominal capacity-racking capacity 14,000' of 4 1/2" drillpipe

SUBSTRUCTURE:
Lee C. Moore 16', 650,000# casing capacity, set back of 350,000#

ROTARY:
Brewster RSH 22" rotary table w/split and solid bushings

BLOCKS:
Brewster 5 sheave traveling block (400 ton capacity)

HOOK:
1 - Bryon Jackson 4300 super triplex (350ton)

SWIVEL:
Brewster 8 SX swivel (400 ton capacity)

OTHER EQUIPMENT:
12,000' of 4 1/2" Grade E 16.60 drillpipe
Drill Collars - 6", 7", 8", 9 1/2" as required for standard size hole
1-OMSCO Kelly Cock, 10,000 P.S.I.
1-Hydril 12"--900 GK Hydraulic Stripper type BOP
1-Cameron type U, double, 1500 series ram type blow-out preventor
1-4", 1500 series, 5,000# WP choke manifold w/5,000# BCR Cameron valve
160 gallon Koomey Accumulator 7-station w/remote control stand
2-500 bbl. horizontal water tanks
1-175 KW-AC 3 phase light plant, powered by GK Waukesha
1-35 KW-AC 3 phase light plant, powered by Hercules gas engine
2-way radio communications
3-Modern air conditioned trailer houses
Fully equipped with vapor-proof lighting

ATTACHMENT V

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

CLEARY PETROLEUM CORPORATION
NEW MEXICO FEDERAL #2-A
1980' FNL and 1980' FEL, Sec. 45, T-21-S,R-32-E
LEA COUNTY, NEW MEXICO
LEASE NEW MEXICO 14791

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS

   A. Exhibit "A" is a portion of a highway map showing the location of the proposed well as staked. Five miles southeast of Halfway, New Mexico, and 34 miles northwest of Eunice, New Mexico on State Highway 176. A caliche road goes south from Highway 176 for 1.3 miles, right 1.7 miles to New Mexico Federal "D" #1, right 0.5 miles. New road will be constructed 0.3 mile to the right to proposed wellsite.

   B. Exhibit "B" is a plat showing all existing roads within a one mile radius of the wellsite, and the planned access road.

   C. Entry and exit to the proposed location will be from State Highway 176 south past Pubco Federal Well No. 1, next right to New Mexico Federal "D" #1 plus 1.7 and additional 0.3 mile over new caliche road.

2. PLANNED ACCESS ROADS:

   A. Length and Width: New road required will be 12 feet wide and 1500 feet long to connect to existing lease road to east. This new road is labeled and color coded red on Exhibit "B". The Center line of the proposed new road from the beginning to the wellsite has been staked and flagged with the stakes being visible from any one to the next.

   B. Surfacing Material: Six inches of caliche, water, compacted, and graded.

C. Maximum Grade: 3 percent.

D. Turnouts: No new turnouts will be needed.

E. Drainage Design: New road will have a drop of 6 inches from center line on each side.

F. Culverts: None required.

G. Cuts and fills: None required.

H. Gates, Cattleguards: No additional gates or cattleguard will be required.

3. LOCATION OF EXISTING WELLS:

A. Existing wells within a one-mile radius are shown on Exhibit "B".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. Location of the proposed tank battery production unit and flow line from New Mexico Federal No. 2-A are shown on Exhibit "C". If well produces salt water it will be collected in a 210 barrel fiberglass tank by the production unit. It will be hauled to disposal to Laguna Gatuna Salt Lake. The flow line will not be buried. A Hi-Lo safety valve will be installed on the wellhead to shut in the well in the event of a line failure.

B. If the proposed well is completed for production, the tank battery, production unit, and flow line will be located on the well pad, and no additional surface disturbance will occur. (As shown on Exhibit "C")

5. LOCATION AND TYPE OF WATER SUPPLY:

A. There is no adequate water supply in the area for drilling. Water will be purchased and trucked to the wellsite over the existing and proposed roads shown on Exhibit "A" and "C".

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche for surfacing the road and the well pad will be obtained from an exisiting pit in Lot 3 of Sec. 4, T-21-S, R-32-E. The pit is approximately 700 feet north of New Mexico Federal No. 1 well, operated by Cleary Petroleum Corporation. The pit is on land owned by The Bureau of Land Management. Location of the pit is shown on Exhibit "B". Royalty will be paid to The Bureau of Land Management by the road and location construction company.

7. METHODS OF HANDLING WASTE DISPOSAL:

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. Water produced during tests will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.

D. Current laws and regulations pertaining to the disposal of human waste will be complied with.

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 trash pits are shown on Exhibit "D".

F. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

A. None required.

9. WELLSITE LAYOUT:

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

B. Only minor levelling of the wellsite will be required. No significant cuts and fills will be necessary.

C. The reserve pit will be plastic lined.

D. The pad and pit area has been 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 location cleaned of all trash and junk to leave the wellsite in an aesthetically pleasing condition as possible.

B. Any unguarded pits containing fluids will be fenced until all are filled.

C. After abandonment of the well, surface restoration will be in accordance with The Bureau of Land Management requirements. Pits will be filled and location will be cleaned. The pit area, well pad, and all unneeded access road will be ripped to promote re-vegetation. Rehabilitation should be accomplished within 90 days after abandonment. Any special rehabilitation and/or re-vegetation requirements of the surface management agency will be complied with and accomplished as expeditiously as possible. All pits should be filled and levelled within 90 days after abandonment.

11. OTHER INFORMATION:

A. Topography: Land surface is gently sloping to the northwest. From the wellsite, the land surface slopes gently to the northwest at about 50 feet per mile.

B. Soil: Soil is a deep fine sand underlain by caliche.

C. Flora and Fauna: The vegetative cover is generally sparse and consists of mesquite, yucca, shinnery oak, sandsage and perennial native range grasses. Wildlife in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove, quail, and an occasional antelope.

D. Ponds and Streams: There are no rivers, streams, lakes or ponds in the area.

E. Residences and Other Structures: The nearest occupied dwelling is a ranch house 3 miles northwest of the wellsite.

F. Archaelogical, Historical and Cultural Sites: None observed in the area.

G. Land Use: Grazing and hunting in season.

H. Surface Ownership: Wellsite and new roads are on Federal surface.

12. OPERATOR'S REPRESENTATIVE:

The field representatives responsible for assuring compliance with the approved surface use and operations plan are as follows:

Buddy J. Knight
District Production Manager
P. O. Drawer 2358
Midland, Texas 79702
Office Phone: (915) 683-4793
Home Phone: (915) 684-6263

Douglas W. Rice
Asst. District Production Manager
P. O. Drawer 2358
Midland, Texas 79702
Office Phone: (915) 683-4793
Home Phone: (915) 684-4724

13. CERTIFICATIONS:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently 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 Cleary Petroleum Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

October 7, 1977

Buddy J. Knight
District Production Manager

/mlb

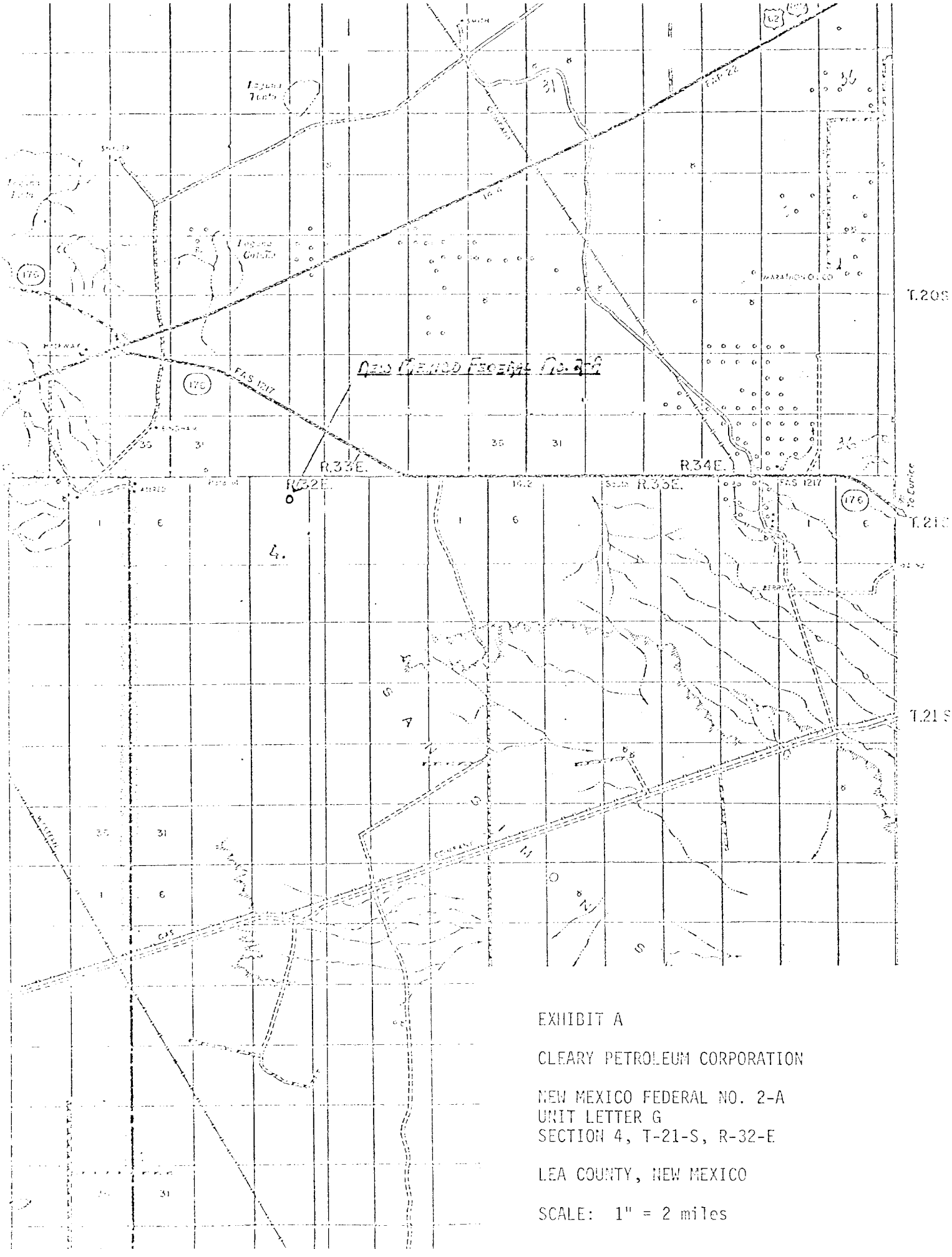


EXHIBIT A

CLEARY PETROLEUM CORPORATION

NEW MEXICO FEDERAL NO. 2-A
UNIT LETTER G
SECTION 4, T-21-S, R-32-E

LEA COUNTY, NEW MEXICO

SCALE: 1" = 2 miles

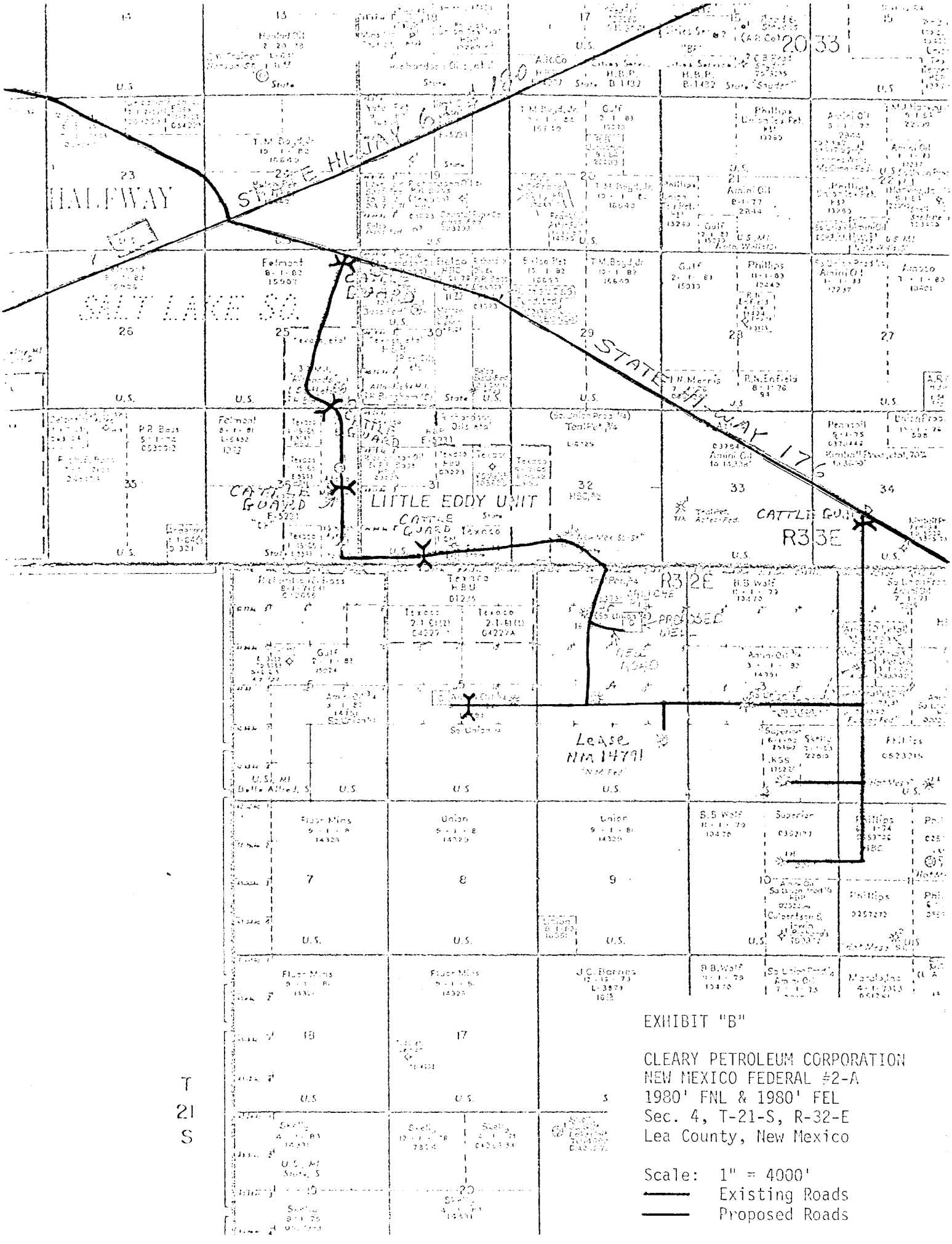


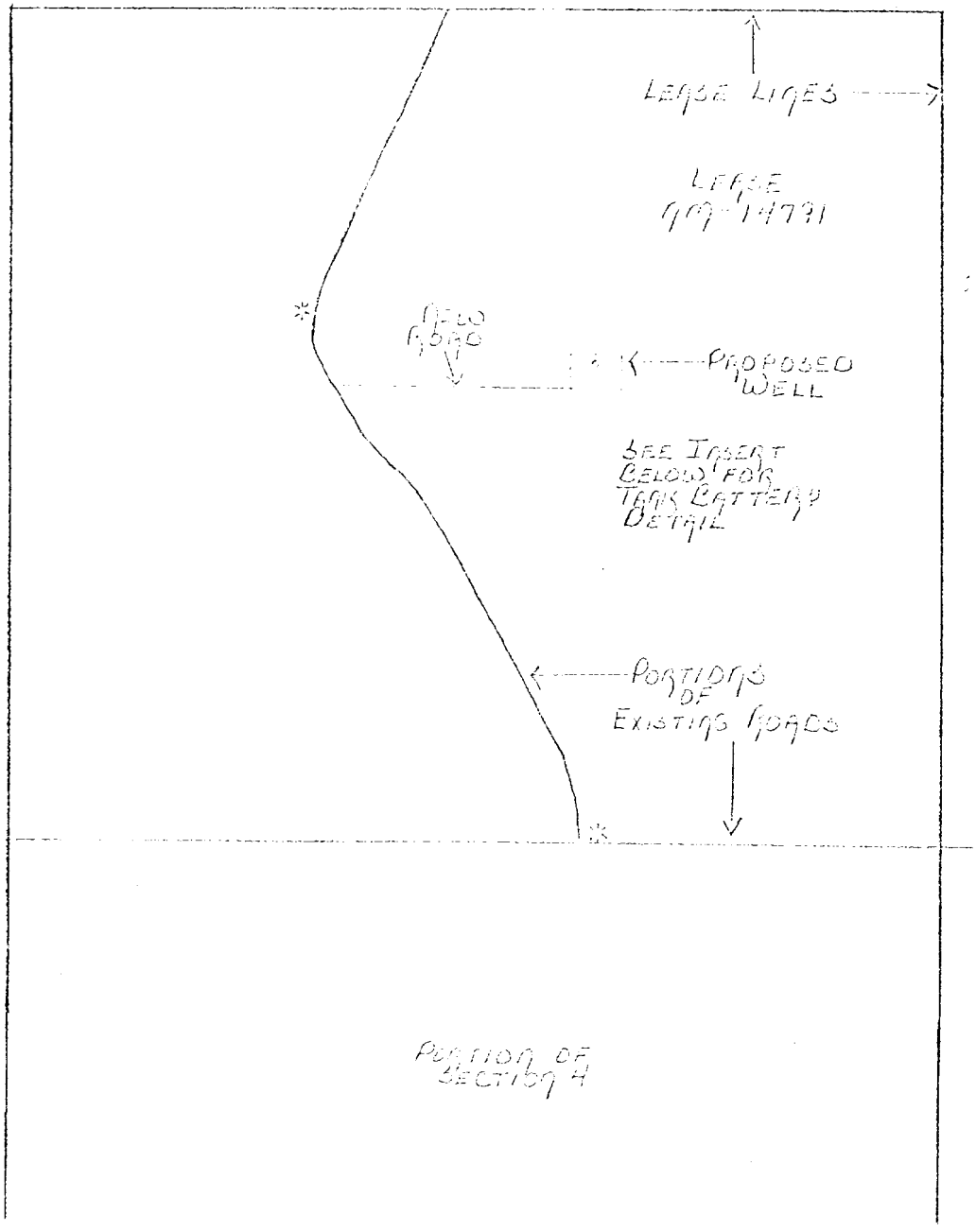
EXHIBIT "B"

CLEARY PETROLEUM CORPORATION
NEW MEXICO FEDERAL #2-A
1980' FNL & 1980' FEL
Sec. 4, T-21-S, R-32-E
Lea County, New Mexico

Scale: 1" = 4000'

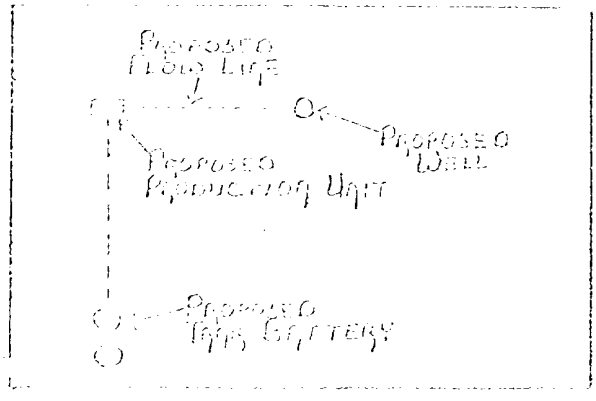
——— Existing Roads

——— Proposed Roads



SCALE: 1" = 1000'

DETAIL OF TANK BATTERY



SCALE: 1" = 100'

EXHIBIT "C"

CLEARY PETROLEUM CORPORATION
NEW MEXICO FEDERAL #2-A
1980' FNL & 1980' FEL
Section 4, T-21-S, R-32-E
Lea County, New Mexico

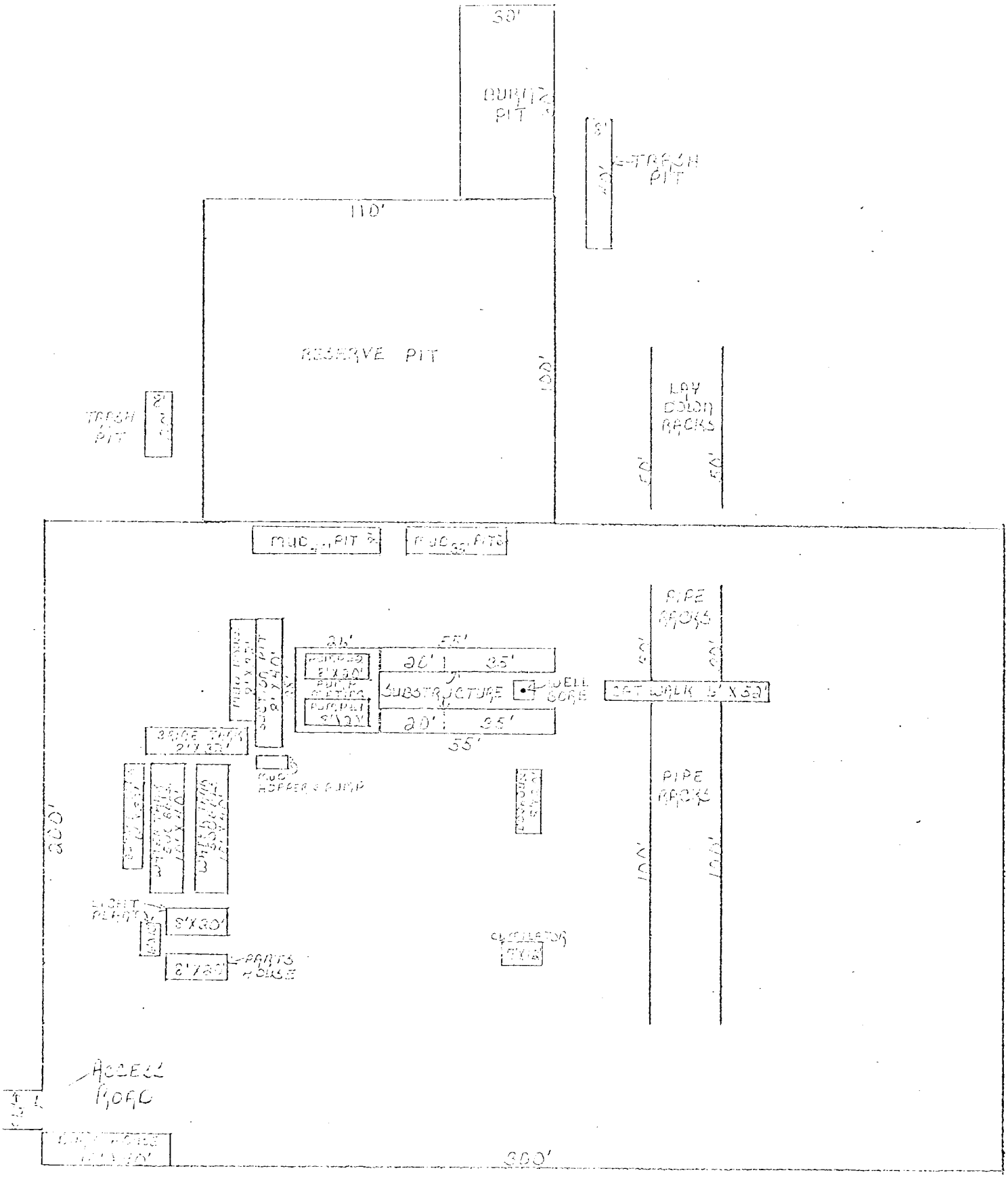


EXHIBIT "D"

RIG LAYOUT
CLEARY PETROLEUM CORPORATION
NEW MEXICO FEDERAL #2-A

Scale: 1" = 40'