

NMOC

COPY

SUBMIT IN TI ICATE*

(Other instructions on
reverse side)Form approved.
Budget Bureau No. 42-R1425.UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

30-015-22680

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

Union Oil Company of California ✓

3. ADDRESS OF OPERATOR

P. O. Box 671

Midland, Texas 79702

SEP - 1 1978

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

At surface
660' FNL & 2310' FEL

At proposed prod. zone

RECEIVED
O. C. C.
ARTESIA, OFFICE

5. LEASE DESIGNATION AND SERIAL NO.

NM 0473303-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Pennzoil Federal

9. WELL NO.

2

10. FIELD AND POOL, OR WILDCAT

Unders. Esperanza Delaware

11. SEC., T., R., M., OR BLK.
AND SURVEY OR AREA

Sec. 10, T-22-S, R-27-E

12. COUNTY OR PARISH

Eddy

13. STATE

New Mexico

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

3 miles East of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED* 660' to lease line
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT. 330' to drlg unit line
(Also to nearest drlg. unit line, if any)

16. NO. OF ACRES IN LEASE

160 239.84

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

3550'

20. ROTARY OR CABLE TOOLS

Rotary

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

3119' GL

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
11"	8-5/8"	24#	500'	300 sacks (cmt to surface)
7-7/8"	4-1/2"	10.5#	3550'	500 sacks (to be determined by log)

3000# WP hydraulic BOP from 500' to TD

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U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

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.

J. R. Hughes

TITLE Dist. Drlg. Superintendent DATE August 1, 1978

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Instructions

General: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

Items 15 and 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

Item 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.



NMOCC COPY
United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Drawer U
Artesia, New Mexico 88210

August 31, 1978

Union Oil Company of California
Attention: Mr. J. R. Hughes
P. O. Box 671
Midland, Texas 79702

Union Oil Company of California
Pennizoil Federal Well No. 2
660 FNL 2310 FEL Sec. 10, T22S, R27E
Eddy County Lease No. NM-0473303-A

Above Data Required on Well Sign

Gentlemen:

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 3,550 feet to test the Delaware formation is hereby approved subject to compliance with the OIL AND GAS OPERATING REGULATIONS (30 CFR 221) and the following conditions:

1. Drilling operations authorized are subject to compliance with the GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL LEASES, dated July 1, 1978.
2. Prior to commencing construction of road, pad, or other associated developments, operator will provide the dirt contractor with a copy of the SURFACE USE PLAN and his approval including the GENERAL REQUIREMENTS.
3. Submit a Daily Report of Operations from spud date until the Well Completion Report (form 9-330) is filed. The progress report should be not less than 8" x 5" in size and each page should identify the well.
4. All above-ground structures and equipment shall be painted in accordance with the attached Painting Requirements. The color used should simulate sandstone brown (Federal Standard Color #595A, color 20318 or 30318).

Sincerely yours,

(Orig. Sgd.) ALBERT R. STALL

Albert R. Stall
Acting District Engineer

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form 1-1-77
Supersedes 6-12-68
Effective 1-1-69

All distances must be from the outer boundaries of the Section

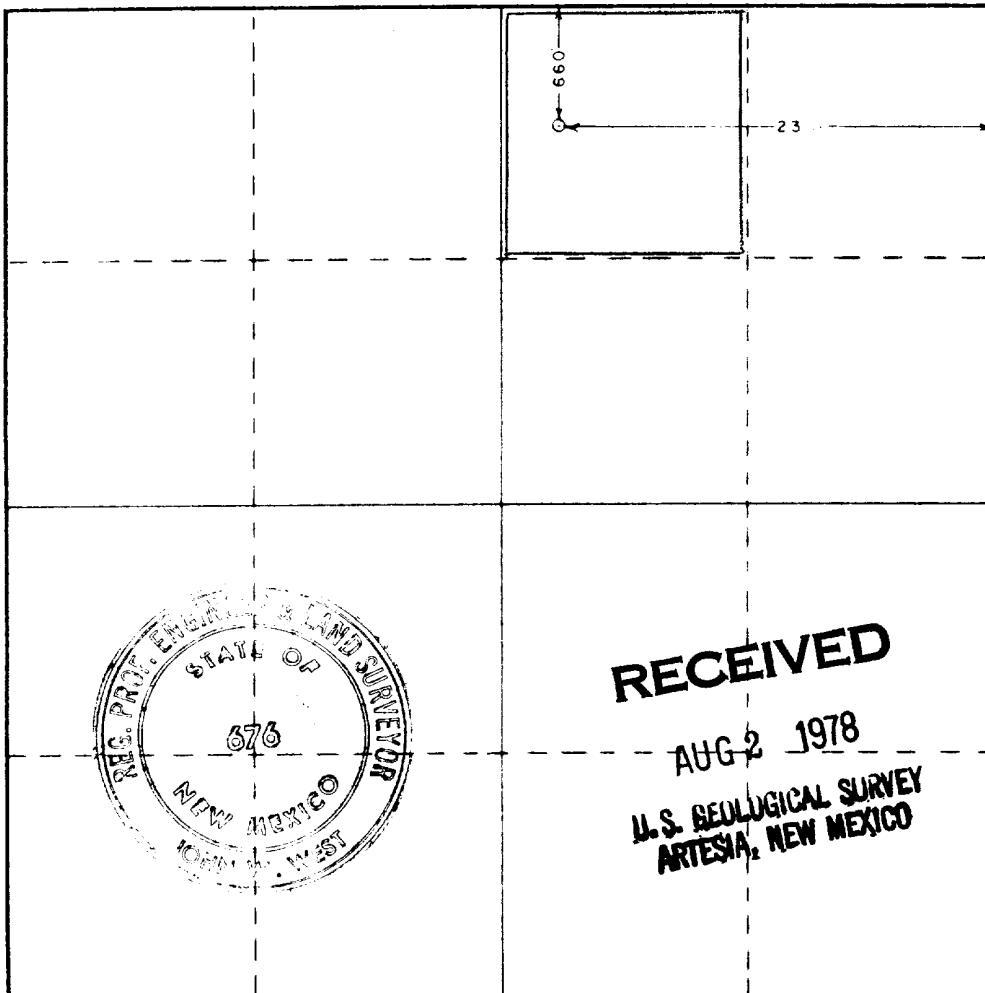
Operator UNION OIL CO. OF CALIFORNIA			Lease PENNZOIL FEDERAL		Well No. 2
Tract Letter B	Section 10	Township 22 SOUTH	Range 27 EAST	County EDDY	
Actual Footage Location of Well: 660 feet from the NORTH line and 2310 feet from the EAST line					
Ground Level Elev. 3119.0	Producing Formation Delaware		Pool Esperanza Delaware		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

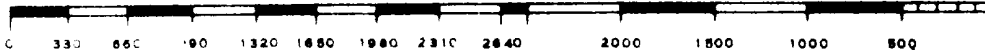
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name J.R. Hughes
Position District Drilling Supt.
Company Union Oil Co. of California
Date August 1, 1978

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 JULY, 20, 1978
Registered Professional Engineer and/or Land Surveyor Ronald J. Eidson

Certificate No. John W. West 676
Ronald J. Eidson 3239



MULTI-POINT SURFACE USE AND OPERATIONS PLAN

UNION OIL COMPANY OF CALIFORNIA

PENNZOIL FEDERAL WELL NO. 2

660' FNL & 2310' FEL of Section 10, T-22-S, R-27-E

Eddy County, New Mexico

RECEIVED

AUG 2 1978

**U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO**

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 copy of a topographic map showing the location of the proposed well as staked. Two miles east of Carlsbad on U.S. Hwy 62, turn right on Black Top (Potash Refinery Road) and 1-7/10 miles to Black Top (road to sewer treatment area). Turn right (west) 7/10 mile to Black Top. Turn left (south) 1/8 mile to the proposed location.
- B. Exhibits "A" and "B" are plats showing all existing roads within a 3 mile radius of the well site and the planned access road. The well will be drilled within 300 feet of an existing road.
- C. All existing oil field caliche roads and private ranch roads will be repaired as necessary. Repairs will consist of replacing the eroded caliche surface with a new caliche surface 6 inches deep and 12 feet wide, watered and compacted.

2. PLANNED ACCESS ROADS:

- A. Length and Width: The new road required will be 12 feet wide and 220 feet long.
- B. Surfacing Material: None.
- C. Maximum Grade: 3 Percent.
- D. Turnouts: None required.
- E. Drainage Design: New road will have a drop of 3-4 inches from center line on each side.

2. PLANNED ACCESS ROADS - Cont'd

- F. Culverts: None required.
- G. Cuts and Fills: None required.
- H. Cattleguards: None 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 and flow line from well No. 2 are shown on Exhibit "D". There are no water disposal lines or injection lines.
- B. If the well is productive, 1200 feet of 3" flow line will be constructed to the existing tank battery 660' north of the Union Tracy No. 1.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. Water will be purchased and trucked to the well site over the existing and proposed roads shown on Exhibits "A" and "B".

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. No caliche required.

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.

7. METHODS OF HANDLING WASTE DISPOSAL - Cont'd

- 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 pit is shown on Exhibit "C".
- F. All trash and debris will be buried or removed from the well site within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

- A. None required.

9. WELLSITE LAYOUT:

- A. Exhibit "C" shows the relative location and dimensions of the well pad, mud pits, reserve pit, trash pit and location of major rig components.
- B. Only minor leveling of the well site will be required. No significant cuts and fills will be necessary.
- C. Part of 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 well site in an aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. After abandonment, any special rehabilitation and/or revegetation requirements of the surface management agency will be complied with and accomplished as expeditiously as possible. All pits should be filled and leveled within 90 days after abandonment.

11. OTHER INFORMATION:

- A. Topography: Land surface is gently rolling hills to level.
- B. Soil: Soil is a shallow fine sand underlain by caliche.

11. OTHER INFORMATION - Cont'd

- C. Flora and Fauna: The vegetative cover is generally sparse and consists of mesquite, yucca, sand sage and perennial native range grasses. Wild life in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove and quail.
- D. Ponds and Streams: The Pecos river runs $\frac{1}{2}$ mile due south of the proposed location shown on Exhibits "A" and "B".
- E. Residence and Other Structures: The nearest occupied dwelling is a farm house $\frac{1}{2}$ mile north west of the well site. The Carlsbad sewage treatment plant is $\frac{1}{8}$ mile south west of the well site.
- F. Archeological, Historical and Cultural Sites: None observed in the area.
- G. Land Use: Grazing
- H. Surface Ownership: Well site and 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:

Guy Harrod
1201 West Ave "N"
Lovington, New Mexico
Home Phone: 505-396-3174
Office Phone: 505-396-3608

J. L. White
3412 Sinclair
Midland, Texas 79701
Home Phone: 915-694-6576
Office Phone: 915-682-9731

13. CERTIFICATION:

I hereby certify that I, or persons under by 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 Union Oil Company of California and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

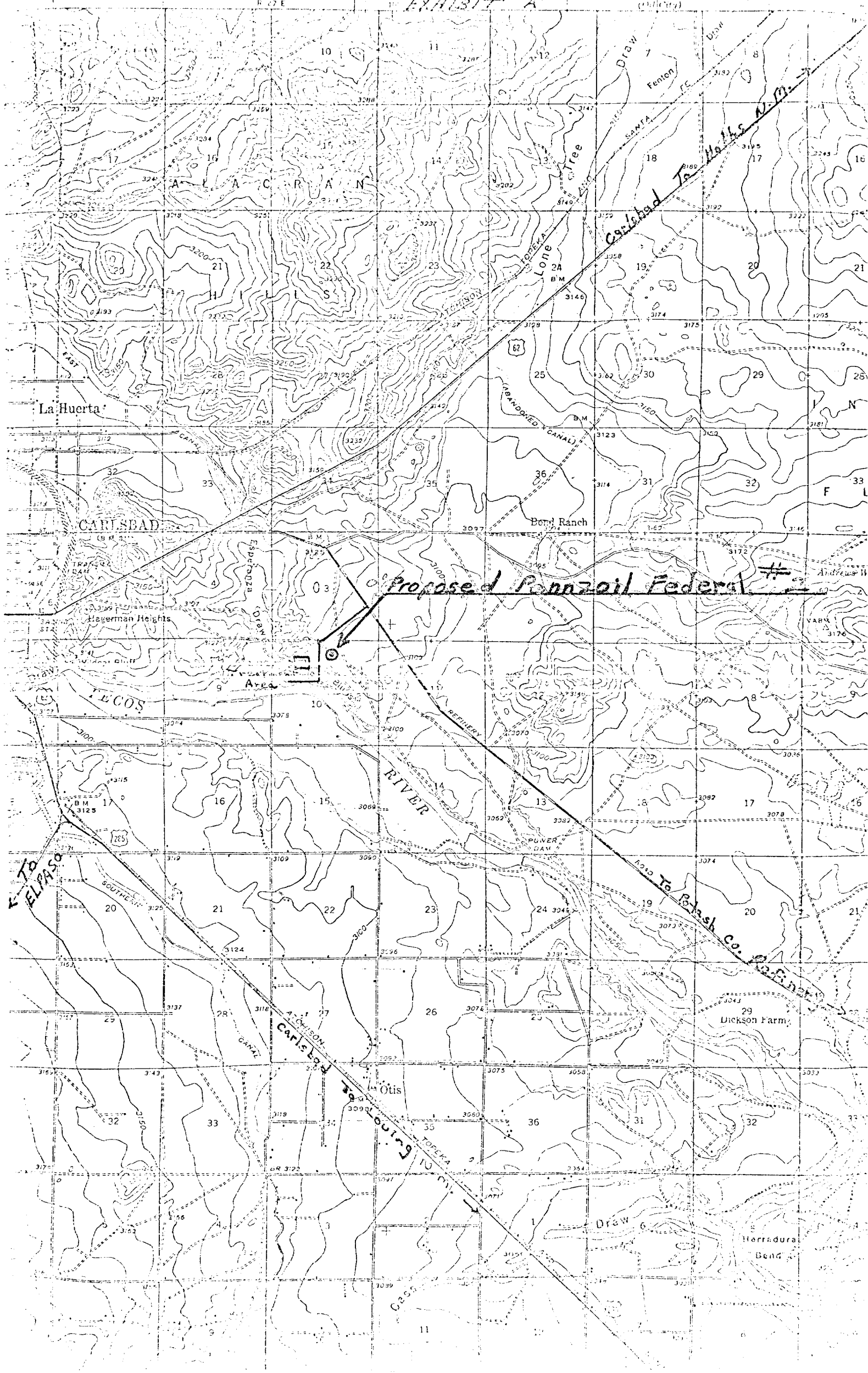
Date

8-1-78

Name and Title

W. J. Supt.

EXHIBIT 'A'

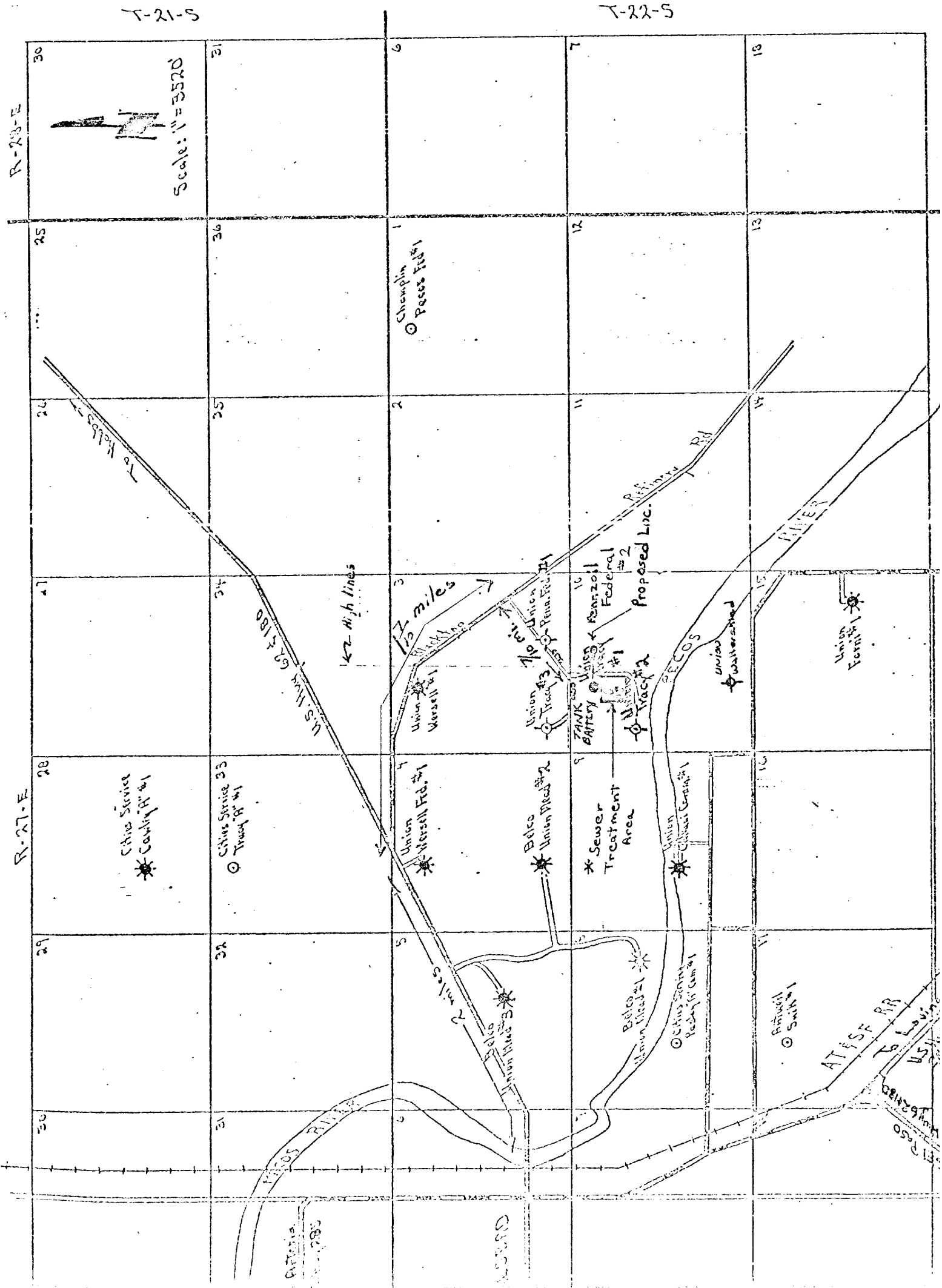


GEOLOGICAL SURVEY



UNION OIL COMPANY OF CALIFORNIA
 Pennzoil Federal Well No. 2
 Location: 660' FNL + 2310' FEL, Sec. 10,
 T-22-S, R-27-E, Eddy Co., New Mexico

EXHIBIT "B"



Union Oil Company of California

Pennzoil Federal Well No. 2

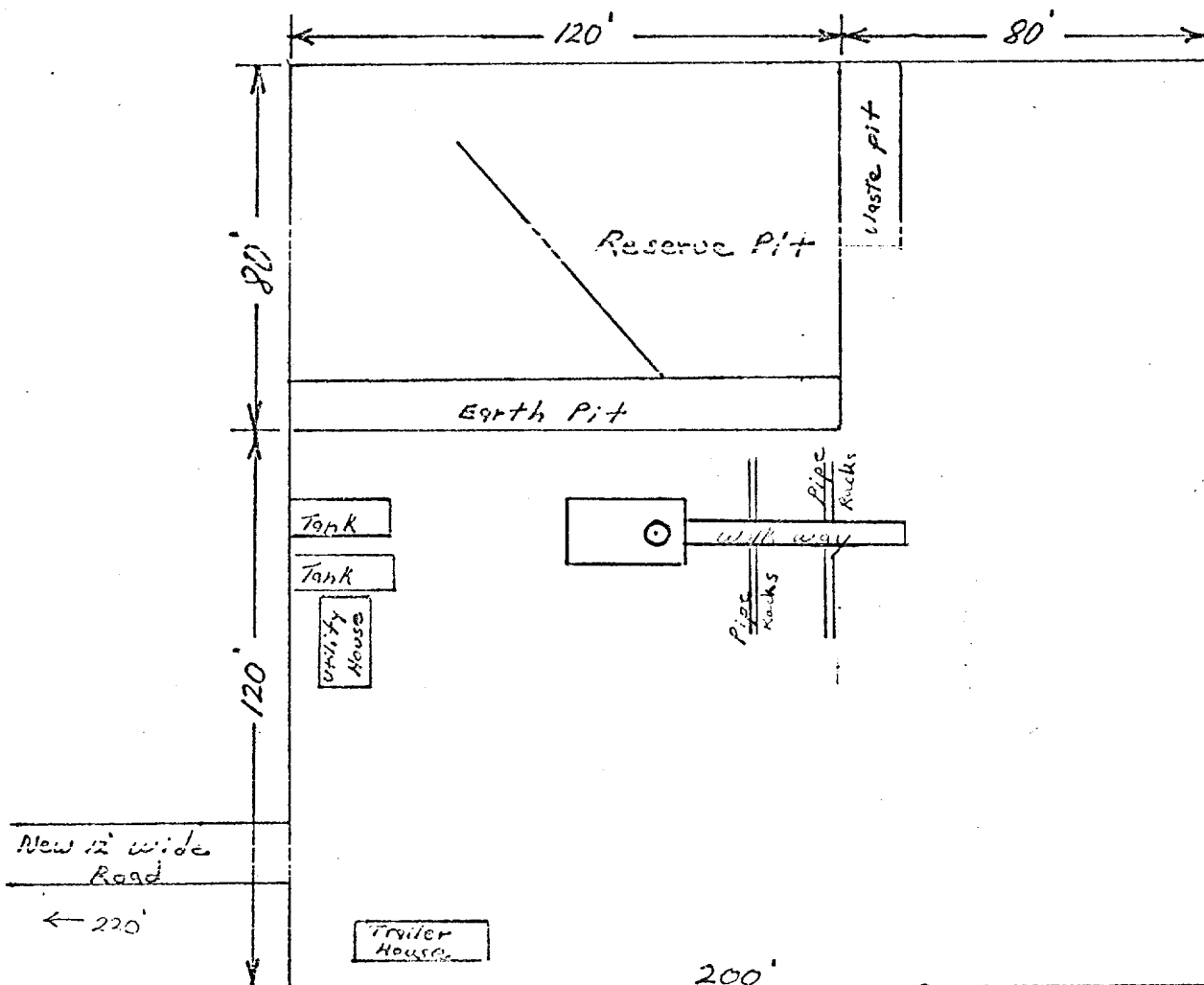
Location: 660' FNL & 2310' FEL, Sec. 10, T-22-S,

R-27-E, Eddy Co., New Mexico

EXHIBIT "C"



Scale = 1" = 40'



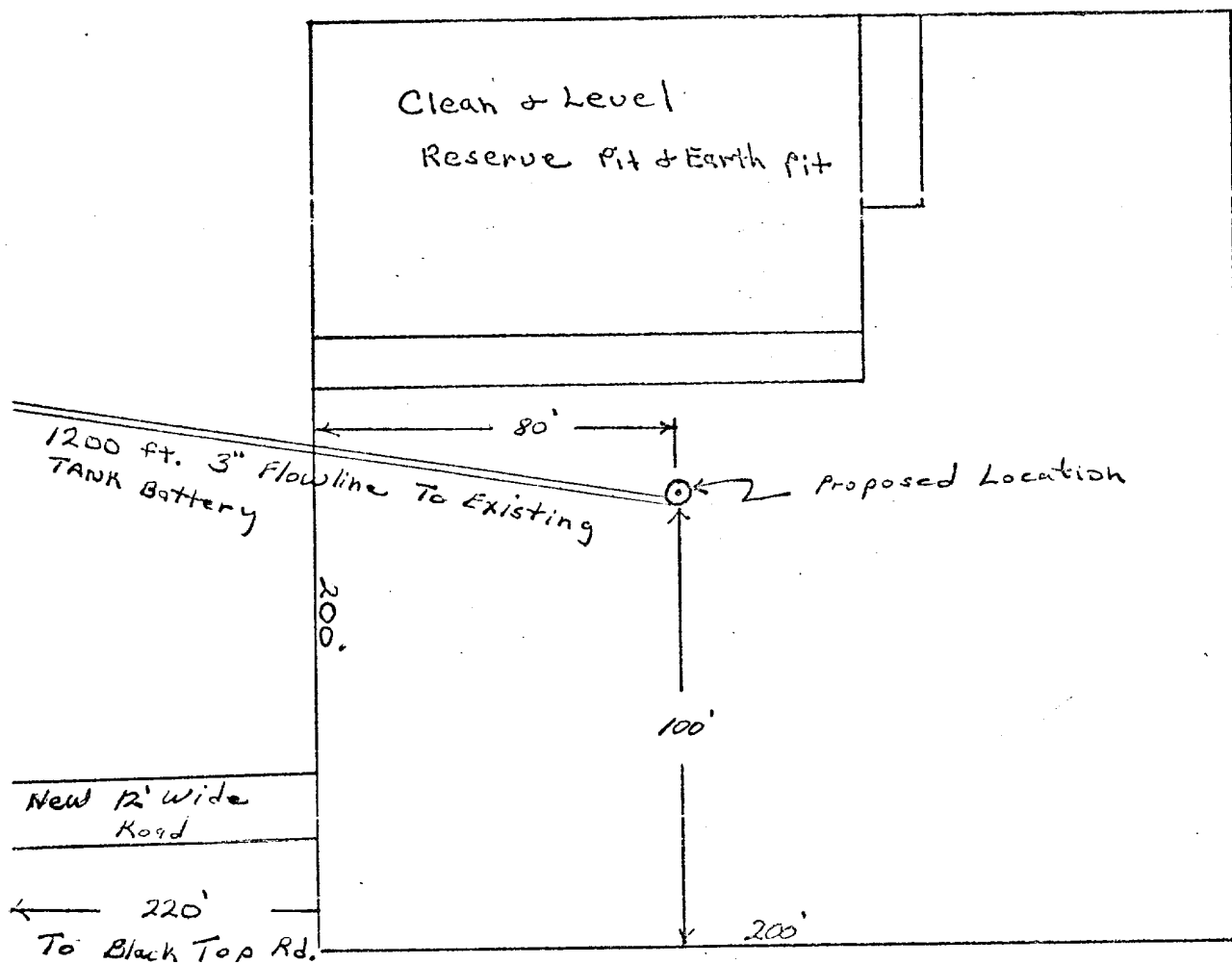
Union Oil Company of California
Pennzoil Federal Well No. 2
Location: 660' FNL & 2310' FEL, Sec. 10,

T-22-S, R-27-E, Eddy Co., New Mexico
Elev. 3119.0 ft.

EXHIBIT D



Scale: 1" = 40'



UNION OIL COMPANY OF CALIFORNIA
DISTRICT OFFICE - MIDLAND, TEXAS

DRILLING PROGRAM

Field: Esperanza (Delaware)

Location: 660' FNL & 2310' FEL of Section
10, T-22-S, R-27-E, Eddy County, New Mex.

Well Name: PENNZOIL FEDERAL WELL NO. 2

Estimated Total Depth: 3550'

Drilling Data: 10' drilling time 1800'-TD

Samples: 10'-1800' to TD

Estimated Formation Tops:

Top Salt	500'
Top Delaware	2050'
Top Manzanita	2810'
Top Lower Tracy Sand	3415'

Logs: Gamma Ray Sonic & Dual Laterolog 3550' to surface csg.

DSTs: None

Cores: None

Deviation: 5° maximum with rate of change not to exceed 1° per 100'.

Casing & Mud Program:

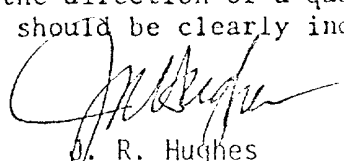
Depth	Size Hole	Casing	Cement	W.O.C.	Mud		
					Wt.	Vis.	W.L.
0-500'	11"	8-5/8"	*300	18	As needed to spud		
500-2800'	7-7/8"	-	-	-	Fresh water		
2800-3500'	7-7/8"	4 1/2"	**500	6	5% KCL water		

Rig to be released after nipping up 4 1/2" casing.

* 300 sx Class "C" w/4% gel & 2% CaCl₂.

** Cement for production to be 50/50 pozmix.

NOTE: Changes in the above program will be at the direction of a qualified Union Oil Company of California representative and should be clearly indicated on the program posted at the rig.


J. R. Hughes
District Drilling Superintendent

JRH:JLW:1b
1-18-78

*J.S.
RWC
LHP*

CR-15A
5/72

UNION OIL COMPANY OF CALIFORNIA

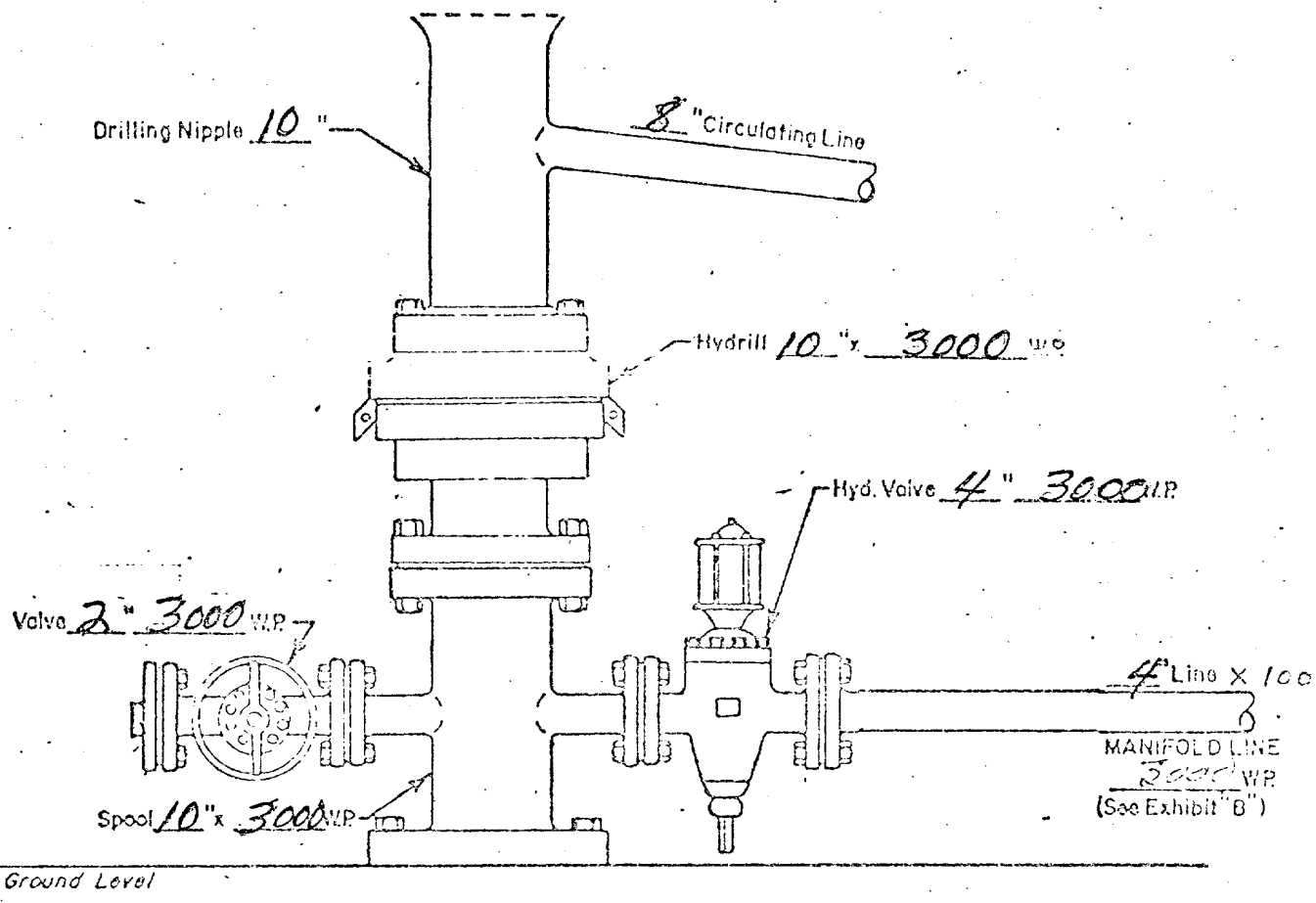
EXHIBIT A-

Pennzoil Federal Well No. 2

WELL NAME: ~~T-22-S~~

LOCATION: ~~660' FNL~~ ^{2310'} ~~FEL~~ SEC. 10,

T-22-S R-27-E Edgely County, N.M.



WELL HEAD B.O.P.
3000 W.P.

- ☐ Manual
- ☒ Hydraulic

CASING AND TUBING DESIGN

172 Pennzoil Federal #2

FIELD Esperanza

NO Production COUNTY Eddy STATE New Mexico DATE 12-14-77 DESIGN BY d.l.m.

4 1/2" HOLE SIZE 2 7/8" MUD WT. I 9.8 #/g. HYD CR. I 502 psi/ft. MUD WT. II 8.8 #/g. HYD. CR. II 457 psi/ft. M.S.P.

TOP	LENGTH	DESCRIPTION	WEIGHT W/ BF W/O BF	TENSION -top of section	MINIMUM STRENGTH TENSION	TDF PRESS. @ bottom	COLLAPSE RESIST. tension	CDF BURST PRESSURE	INTERVAL MINIMUM YIELD	EDF PER FT.
			lbs	lbs	1000 lbs	psi	psi	psi	psi	psi

2	3550'	1050-K-55 SPD	31095	27075	146	317	1806	222	1586	4780	3.02
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New Casing

Formulae:

Collapse resistance in tension =
X (Collapse pressure rating)

Calculations:

Total Cost

