

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## 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 ☐

## 2. NAME OF OPERATOR

Atlantic Richfield Company

## 3. ADDRESS OF OPERATOR

P. O. Box 1710, Hobbs, New Mexico 88240

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

At surface

1980' FSL &amp; 330' FWL (Unit letter T)

At proposed prod. zone  
as above

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

4 miles north of Carlsbad, New Mexico

## 15. DISTANCE FROM PROPOSED\*

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

See Exhibit

"B"

## 16. NO. OF ACRES IN LEASE

308.48

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

1650'

## 19. PROPOSED DEPTH

11,400'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

308.48

## 20. ROTARY OR CABLE TOOLS

Rotary

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

3151.7' GR

## 22. APPROX. DATE WORK WILL START\*

8/15/77

## 23.

## PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT       |
|--------------|----------------|-----------------|---------------|--------------------------|
| 17-1/2"      | 13-3/8" OD     | 54.5#           | 500'          | 500 sx, circ to surface  |
| 12-1/4"      | 9-5/8" OD      | 36#             | 2,500'        | 2000 sx, circ to surface |
| 7-7/8"       | 5-1/2" OD      | 15.5 & 17#      | 11,400'       | 1000 sx                  |

Propose to drill a development well and test the producing capabilities of the Morrow Gas. Gas not dedicated.

RECEIVED

Blowout Preventer Program attached.

AUG 3 1977

O. C. C.  
ARTESIA, OFFICEWell No. 1 in same production unit  
produces from Strawn formation

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

TITLE Dist. Drlg. Supt.

DATE 7/18/77

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

DECLARED WATER BASIN

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

AUG 2-1977

R. L. ...

ACTING DISTRICT ENGINEER

THIS APPROVAL IS RESCINDED IF OPERATIONS  
ARE NOT COMPLETED WITHIN 3 MONTHS.  
EXPIRES 10-1-1977  
See Instructions On Reverse SideNOTIFY USGS IN SUFFICIENT TIME TO  
WITNESS CEMENTING THE 974" CASING.DATE 7/18/77  
C-MENT BEHIND THE  
CASING MUST BE CIRCULATED

NEW MEXICO CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DECLARATION PLAT

Form G-10  
Supersedes G-128  
1-1-76

Atlantic Richfield Co.

Kurland Fed.

2

L 6 21 South 27 East D Eddy  
1980 South 330 West

3151.7

Morrow

~~West~~ Burton Flat *Morrow*

308.48

**RECEIVED**

**JUL 19 1977**

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

I, the undersigned, declare that the subject well is located on the tract below:

I have examined the lease, or leases, to the well, and I declare and identify the same as follows:

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I have examined the lease, or leases, to the well, and I declare and identify the same as follows:

1980

**CERTIFICATION**

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

Dist. Dir. Supt.

Atlantic Richfield Company

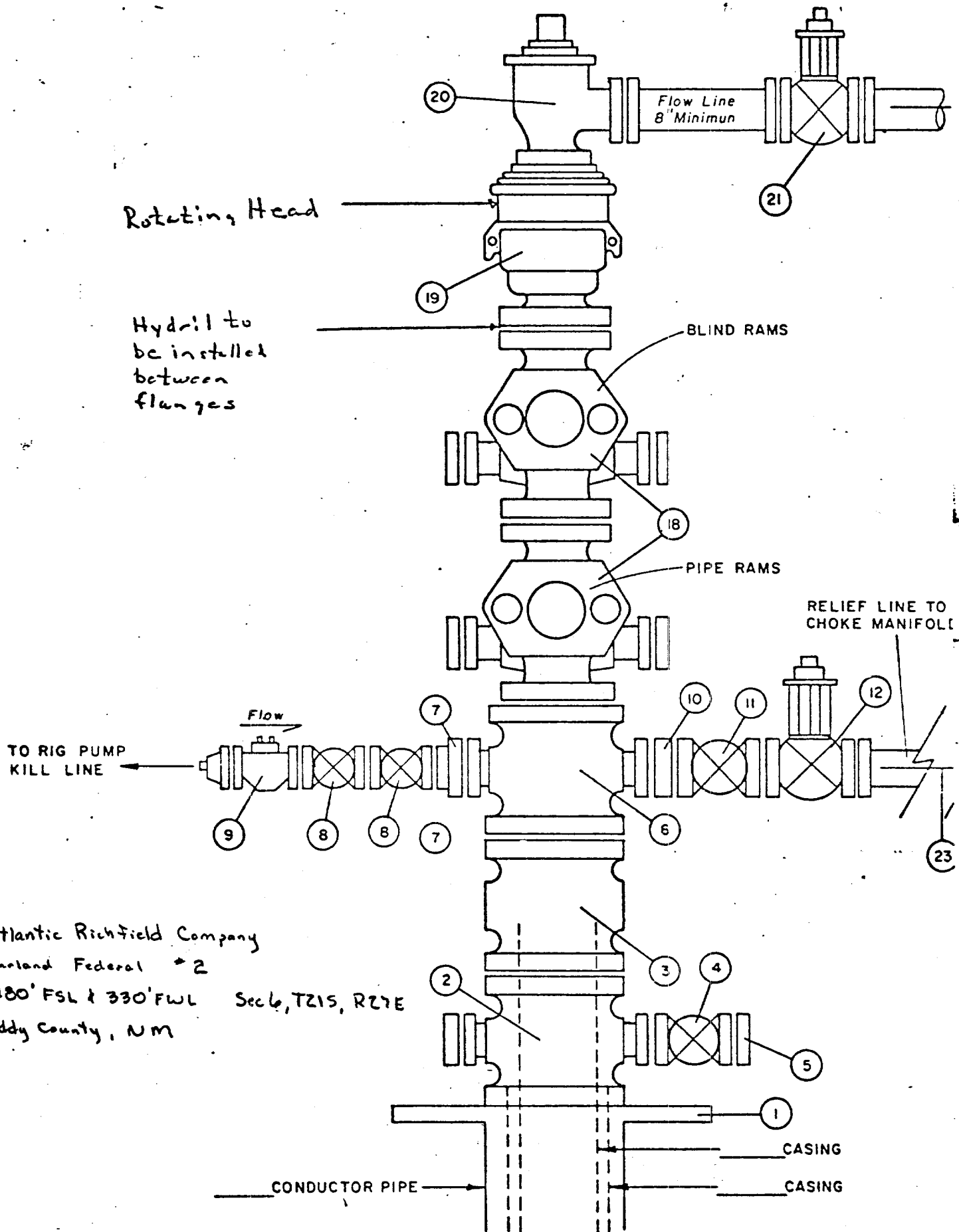
7/18/77

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

July 12, 1977

*John W. West*

676



Atlantic Richfield Company  
 Kurland Federal #2  
 1980' FSL & 330' FWL Sec 6, T21S, R27E  
 Eddy County, NM

To supplement USGS Form 9-331C "Application for Permit to Drill, Deepen or Plugback", the following additional information is submitted to comply with USGS Order NTL-6.

Operator: Atlantic Richfield Company  
Lease & Well No: Kurland Federal #2  
Location: Unit Letter T  
Section 6-21S-27E, Eddy County, N.M.  
Lease, New Mexico  
Development well X Exploratory well \_\_\_\_\_

1. See Well Location and Acreage Dedication Plat Form C-102.
2. See Form 9-331C for elevation above sea level of unprepared location.
3. The geologic name of the surface formation is:  
Basil salt, top of tansill
4. The type of drilling tools and associated equipment to be utilized will be: Rotary.

5. The proposed drilling depth will be 11,400'.

6. The estimated tops of important geologic markers are:

|              |       |          |       |               |         |
|--------------|-------|----------|-------|---------------|---------|
| Yates        | 435'  | Dean     | 3220' | Atoka         | 10,255' |
| Capitan Reef | 860'  | Wolfcamp | 3760' | Morrow        | 10,810' |
| Delaware     | 2570' | Penn     | 9330' | Mississippian | 11,350' |
| Bone Springs | 4600' | Strawn   | 9930' |               |         |

7. The estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are:

|                    |        |
|--------------------|--------|
| Capitan Reef Water | 850'   |
| Wolfcamp           | 8760'  |
| Strawn Gas         | 9930'  |
| Atoka Gas          | 10255' |
| Morrow Gas         | 10810' |

8. The proposed casing program including the size, grade and weight-per-foot of each string has been indicated on Form 9-331C. All strings of casing will be New X Used \_\_\_\_\_.

9. See Form 9-331C for amount of cmt. Cmt Type and Additives as follows:

13-3/8" OD csg: 464 cu ft Cl C cmt cont'g 4% gel, 2% CaCl, 1/4# LCM/sk followed by 231 cu ft Cl C cont'g 2% CaCl.

9-5/8" OD csg: 1434 cu ft Cl C Thik-set cont'g 10# Gilsonite/sk, 1/2#/sk Flocele, 2% CaCl followed by 132 cu ft Cl C cont'g 2% CaCl.

5-1/2" OD csg: 1233 cu ft Cl H cont'g 5# KCL/sk, .5% FLA & .3% CFR-2.

10. The pressure control diagram is attached to Form 9-331C. The following additional information of the pressure control equipment is as follows:

13-3/8" OD Csg: Size: Bore 13-3/8" SRR  
 Pressure Ratings: 3000# WP, 6000# T  
 Testing Procedure: Pressure tested to 2000# when installed.  
 Testing Frequency: To be tested when installed and operated daily.

9-5/8" OD Csg: Size: Bore 11" SRRA  
 Pressure Ratings: 5000# WP, 10,000#T  
 Testing Procedures: Pressure tested to 2000# when installed.  
 Testing Frequency: To be tested when installed & operated daily. Will perform yellow jacket pressure test and inspection when on trip for 2nd bit under 9-5/8" OD csg to 5000 PSIG. Copy of test to be furnished your office. See diagram of Blowout Preventer Program.

11. The type and characteristics of the proposed circulating medium or mediums to be employed for rotary drilling and the quantities and types of mud and weighting material to be maintained will be as follows:

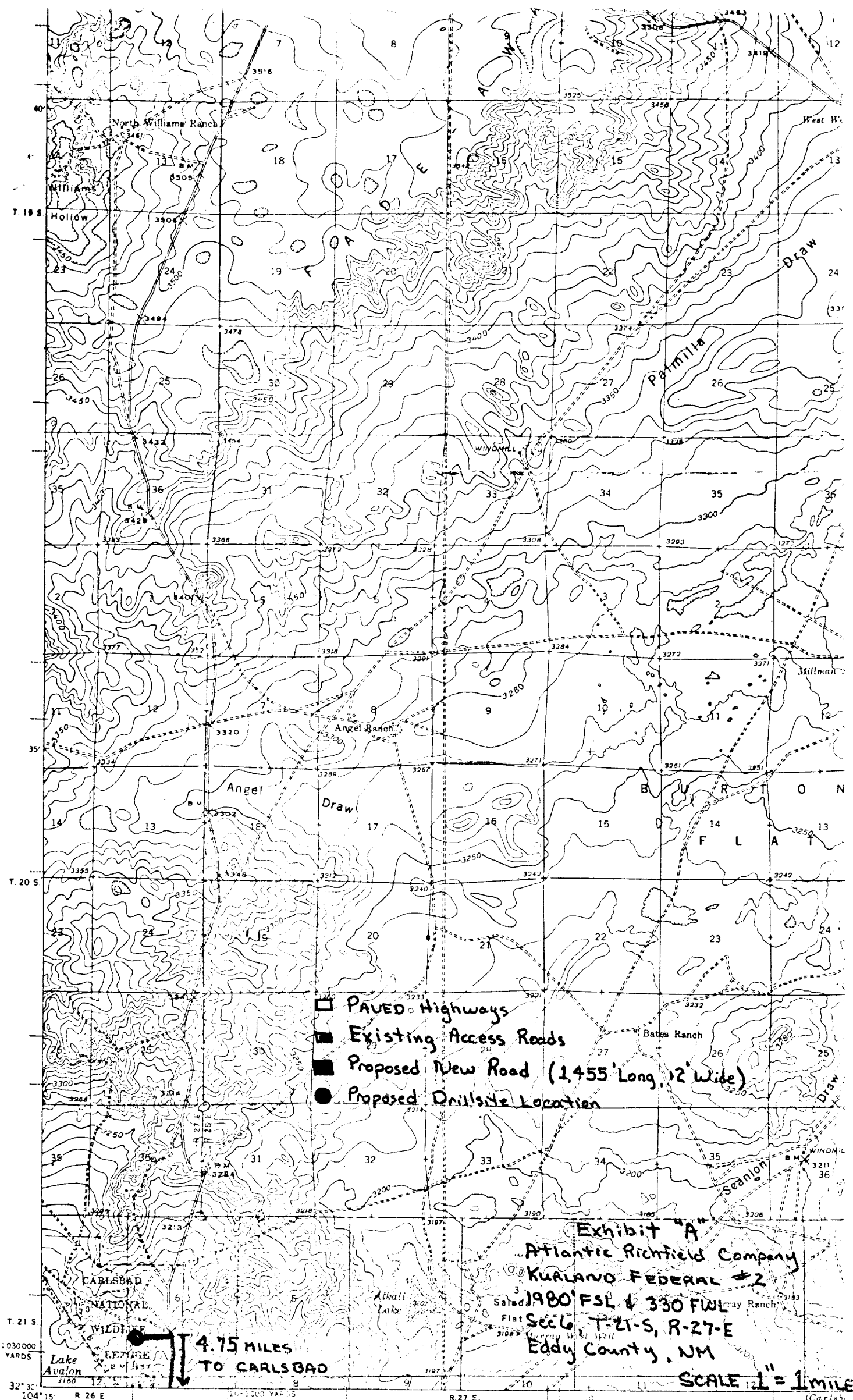
|           |         |                                                             |
|-----------|---------|-------------------------------------------------------------|
| 0' -      | 500'    | Spud Mud. Use fresh water & drill w/o returns if necessary. |
| 500' -    | 2,500'  | Use fresh water & drill w/o returns if necessary.           |
| 2,500' -  | 8,600'  | Fresh water w/LCM as needed to control seepage.             |
| 8,600' -  | 10,700' | KCL brine w/Vis high enough to obtain good samples.         |
| 10,700' - | 11,400' | 4% KCL brine polymer 35 Vis, 6-10 WL.                       |

12. The testing, logging and coring programs will be:

| <u>Drill Stem Test</u> | <u>Logs</u>      | <u>Coring</u> |
|------------------------|------------------|---------------|
| 1 - Bone Springs       | DLL-FDC 8000'-TD | None          |
| 1 - Strawn             | GR-CNL 0'-TD     |               |
| 1 - Morrow             |                  |               |
| 1 - Atoka              |                  |               |

13. There are no abnormal pressures or temperatures expected to be encountered.
14. The anticipated starting date will be 8/15/77 and completed approx 10/15/77
15. The auxiliary equipment to be used will consist of: Kelly cocks & a sub on floor w/full opening valve to be used when needed. Mud logging will be a one-man unit 9000'-TD.

  
 District Drilling Supt.



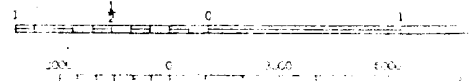
- PAVED Highways
- Existing Access Roads
- Proposed New Road (1,455' Long, 12' Wide)
- Proposed Drillsite Location

Exhibit "A"  
Atlantic Richfield Company  
KUALANO FEDERAL #2  
1980' FSL & 330 FWL  
Sec 6 T-21-S, R-27-E  
Eddy County, NM  
SCALE 1" = 1 mile

Topography by Max J. Gleissner, S. T. Penick  
M. C. McClellan, and C. E. Walker  
Surveyed in 1935 and 1938

ROAD CLASSIFICATION

TRUE NORTH  
MAGNETIC NORTH



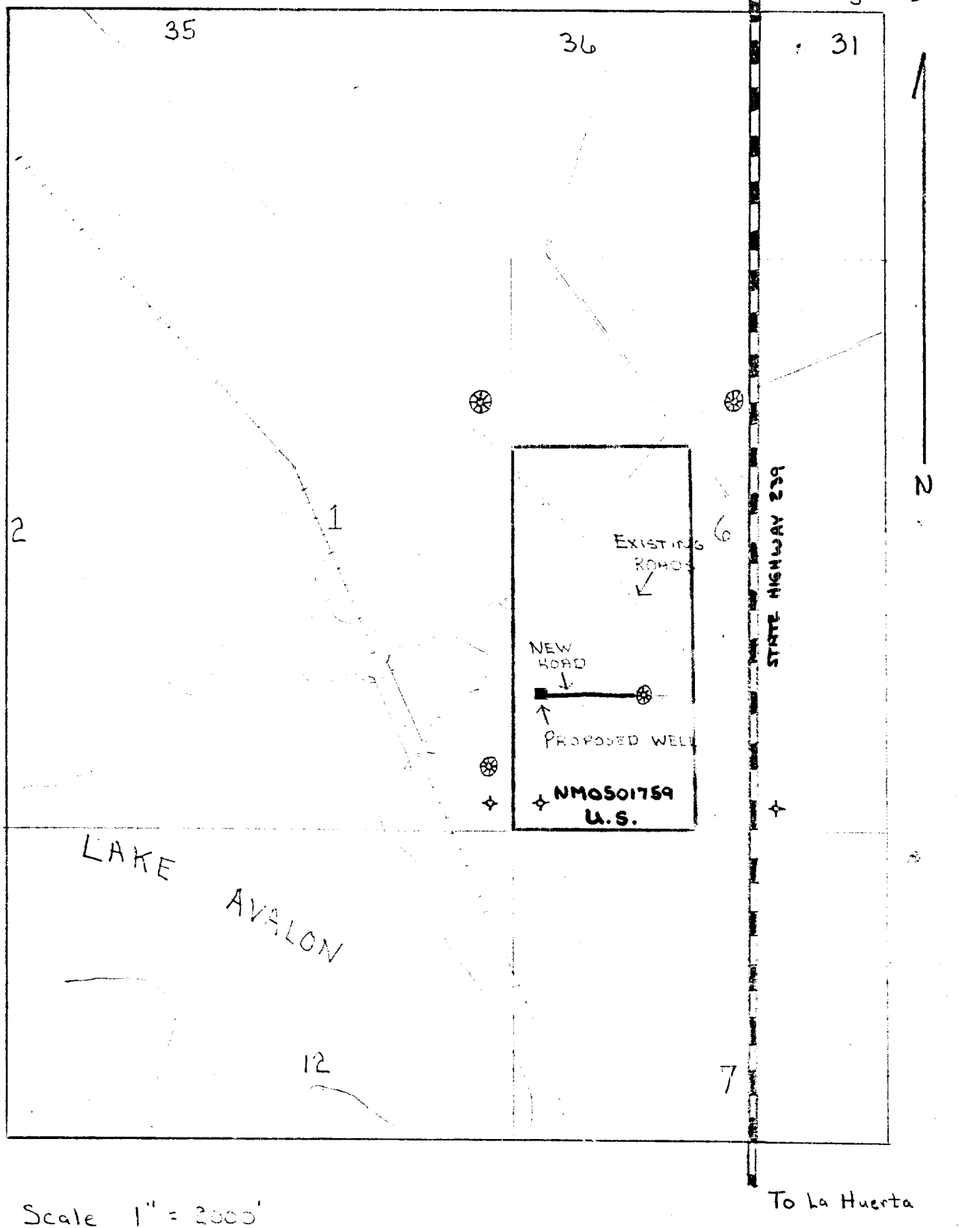


EXHIBIT "B"

ATLANTIC RICHFIELD COMPANY

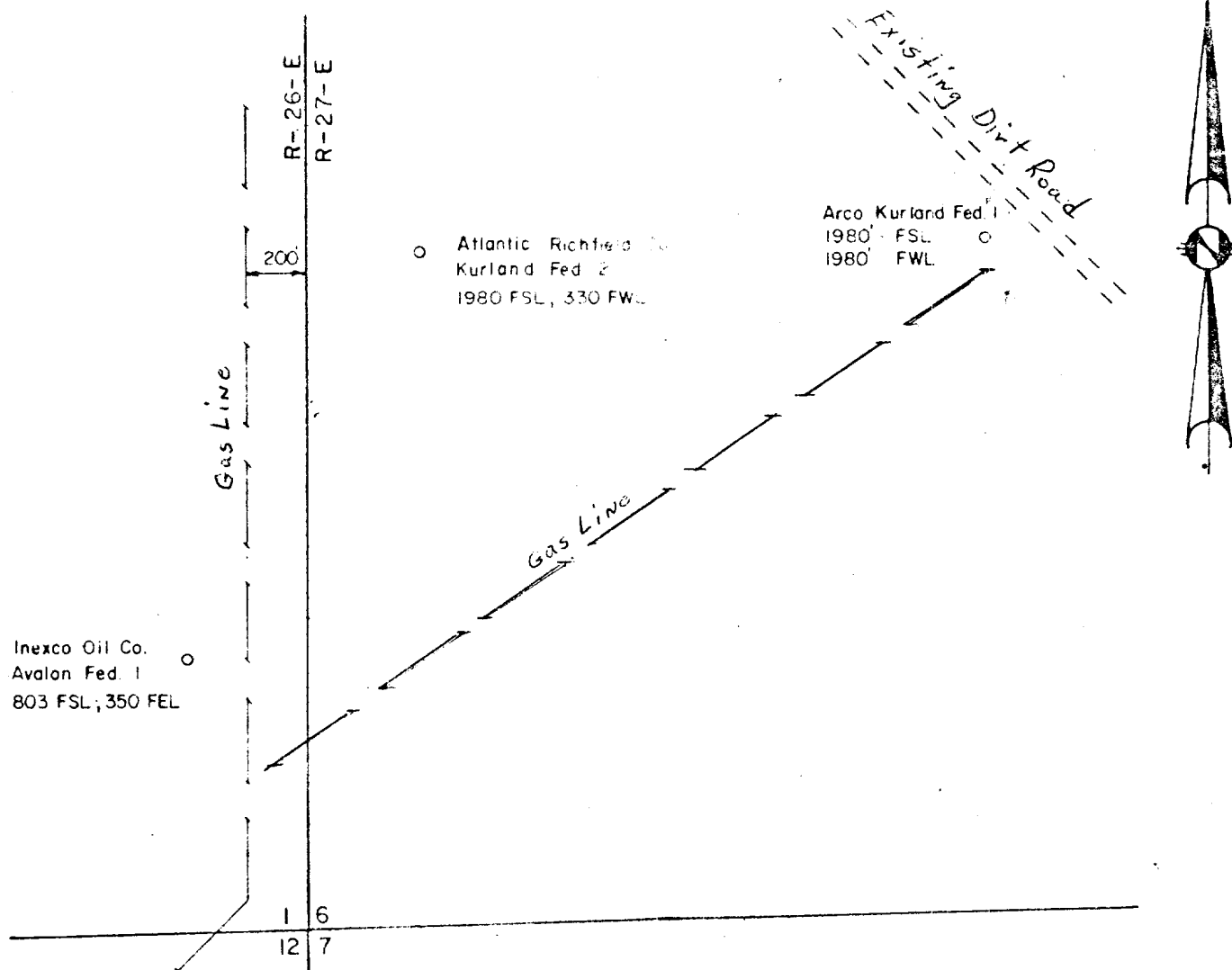
KURLAND FEDERAL #2

1980'ESL & 330'FWL Sec 6, T21N, R27E

Eddy County, NM







### EXHIBIT "E"

#### ATLANTIC RICHFIELD CO.

Kurland Fed. No. 2 located in Section 6, Township 21 South, Range 27 East, N.M.P.M., Eddy County, New Mexico.

JOHN W. WEST ENGINEERING COMPANY  
CONSULTING ENGINEERS HOBBS, NEW MEXICO

|                    |                 |
|--------------------|-----------------|
| Scale 1"=500'      | Drawn by LB     |
| Date July 13, 1977 | Sheet of Sheets |

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*John W. West*  
JOHN W. WEST, N.M. P.E. & L.S. NO. 676  
TEXAS R.P.S. NO. 1138