

OIL & GAS  
U.S. GEOLOGICAL SURVEY  
ROSWELL, NEW MEXICO

Form 9-331 C  
(May 1963)

SUBMIT IN TRIPLICATE\*  
(Other instructions on  
reverse side)

Form approved.  
Budget Bureau No. 42-R1425.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

30-005-61136

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-15863
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME
2. NAME OF OPERATOR MESA PETROLEUM CO.			7. UNIT AGREEMENT NAME
3. ADDRESS OF OPERATOR 1000 VAUGHN BLDG./ MIDLAND, TEXAS 79701-4493			8. FARM OR LEASE NAME COTTONWOOD FEDERAL
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements*) At surface 1980' FNL & 660' FEL SE/4 NE/4 C. D. ARTESIA, OFFICE			9. WELL NO. 2
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 30 miles north/northeast of Roswell, New Mexico			10. FIELD AND POOL, OR WILDCAT UNDESIGNATED ABO
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 660'/660'		16. NO. OF ACRES IN LEASE 320	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA ut H SEC 26, T6S, R25E
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1320'		19. PROPOSED DEPTH 4200'	12. COUNTY OR PARISH CHAVES
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3770' GR		13. STATE NEW MEXICO	
22. APPROX. DATE WORK WILL START* October 15, 1981			

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"	48#	900'	SURFACE
11"	8 5/8"	24#	1600'	ISOLATE WATER, OIL & GAS
7 7/8"	4 1/2"	10.5#	4200'	COVER ALL PAY

Propose to drill 17 1/2" hole to approximately 900' to set 13 3/8" surface casing and cement to surface. Will reduce hole to 11" and drill to approximately 1600' to set 8 5/8" casing. Will nipple up RAM type BOPs, reduce hole to 7 7/8" and drill to total depth. Drilling medium will be air, foam, or mud as required.

xc: USGS (6), TLS, CEN RCDS, ACCTG, ROSWELL, MEC, PARTNERS, LAND, FILE, REM

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 P. J. Nicks TITLE REGULATORY COODINATOR DATE 9-28-81

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY APPROVED TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

(Orig. Sgd.) GEORGE H. STEWART

OCT 2 1981

FOR

JAMES A. GILLHAM  
DISTRICT SUPERVISOR

\*See Instructions On Reverse Side

## OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-102  
Revised 10-1-78STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

All distances must be from the outer boundaries of the Section.

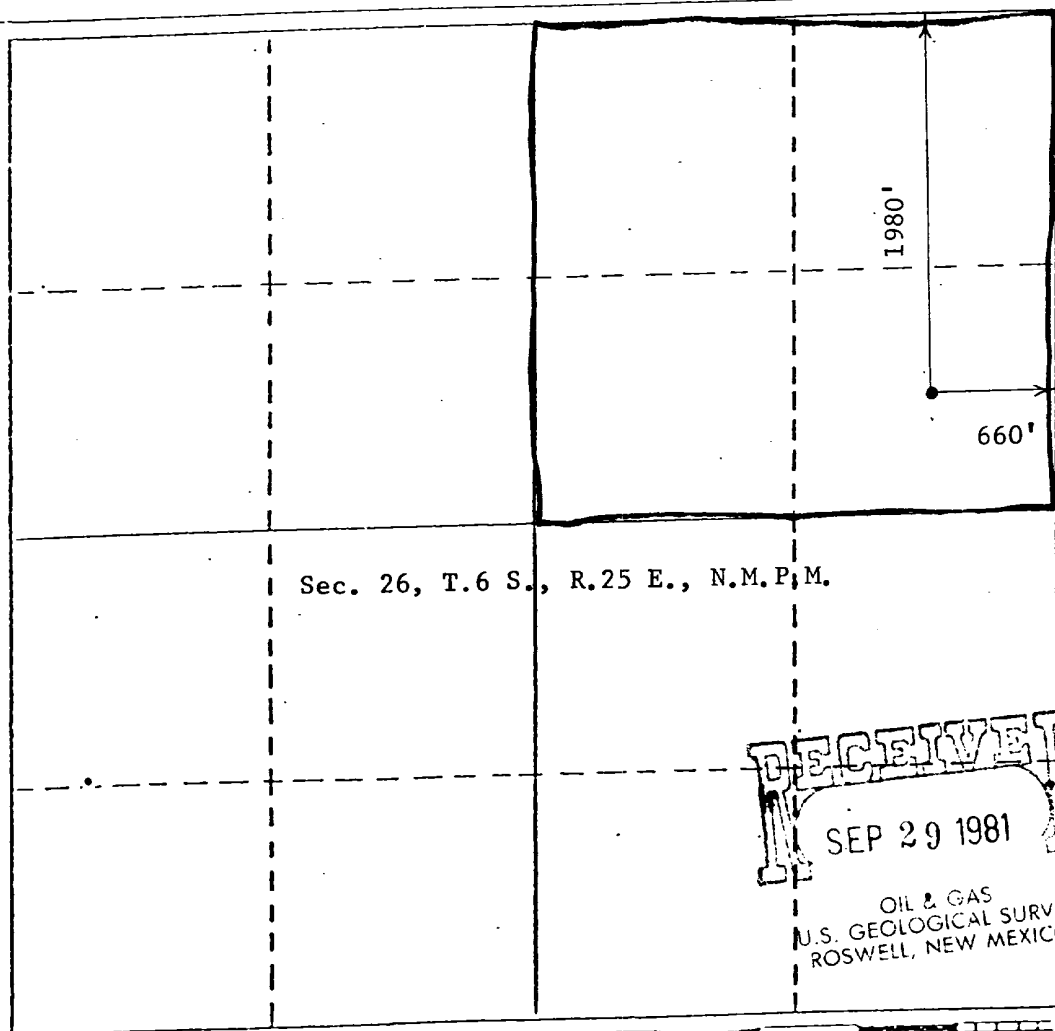
Operator <b>Mesa Petroleum Co.</b>		Lease <b>Cottonwood Federal</b>		Well No. <b>#2</b>
Unit Letter <b>H</b>	Section <b>26</b>	Township <b>6 South</b>	Range <b>25 East</b>	County <b>Chaves</b>
Actual Footage Location of Well: 1980 feet from the North line and 660 feet from the East line				
Ground Level Elev. <b>3770</b>	Producing Formation <b>ABO</b>	Pool <b>Undesignated</b>		Dedicated Acreage: <b>NE 1/4-160</b> 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 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 Division.



## CERTIFICATION

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

*L.D. Reed*  
Name

**L.D. Reed**  
Position

**Regulatory Agent**  
Company

**Mesa Petroleum Co.**

Date  
**9/29/81**

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.

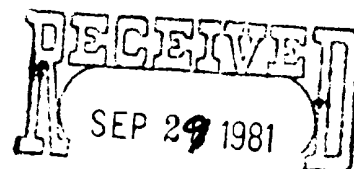
Date Surveyed  
**September 25, 1981**  
Registered Professional Engineer  
and/or Licensed Surveyor  
**John D. Jaquess, P.E. & L.S.**  
Certificate No. **6290**

MESA PETROLEUM CO.  
COTTONWOOD FEDERAL #2  
1980' FNL & 660' FEL, SEC 26, T6S, R25E  
CHAVES COUNTY, NEW MEXICO  
LEASE NM - 15863

In conjunction with Form 9331-C, Application For Permit to Drill subject well, the following additional information is provided:

1. Applicable portions of the GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL LEASES, Roswell District, Geological Survey of September 1, 1980 will be adhered to.
2. Geological markers are estimated as follows:

Seven Rivers	Surface
San Andres	778
Glorieta	1476
Yeso	1783
Tubb	3014
Abo	3668
3. Hydrocarbon bearing strata may occur in the ABO formation(s). No fresh water is expected to be encountered below 900'
4. The Casing and Blowout Preventer Program will be determined by hole conditions as encountered. (See Exhibit VI) Anticipate drilling with air or foam using ram type preventer and rotating head for well control. The 13 3/8" casing will be set at approximately 900' to protect any fresh water zones and cemented to the surface. The 8 5/8" casing will be set at approximately 1600' if water zones have been encountered or omitted if not and ram type preventers installed. Sufficient amounts and kinds of cement would be used to ensure any water, gas, or oil zones encountered are isolated and shut off down to the casing point if run. The 4 1/2" production casing will be set at total depth or shallower depending upon the depth of the deepest commercial hydrocarbon bearing strata encountered.
5. No drill stem tests or coring program is planned. The logging program may consist of a GR-CNL from surface total depth and FDC from casing point to total depth.
6. Anticipated drilling time is fifteen days with completion operations to follow as soon as a completion unit is available.



OIL & GAS  
U.S. GEOLOGICAL SURVEY  
ROSWELL, NEW MEXICO

MULTI-POINT SURFACE USE AND OPERATION PLAN  
MESA PETROLEUM CO  
COTTONWOOD FEDERAL #2  
1980' FNL & 660' FEL, SEC 26, T6S, R25E  
CHAVES COUNTY, NEW MEXICO  
LEASE NM - 15863

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operational plan in both the actual and post drilling completion operations.

1. Existing Roads:

- A. Exhibit I is a portion of a highway map showing the location of the proposed well as staked. The proposed well is approximately 30 miles northeast of Roswell, New Mexico
- B. Directions: travel north from Roswell on Us Highway 285 to mile marker 137 and turn east on "Cottonwood Ranch" road for 18 miles then north on lease road 3/4 mile (1/4 mile north of Cottonwood Fed #1) to the location.

2. Planned Access Road:

- A. Length and width: The new access road will be 12' wide (20' ROW) and approximately 1320' of new road.

(See Exhibit II)

- B. Construction: The new road will be constructed by grading and topping with compacted caliche. The surface will be crowned, with drainage on both sides. (See Exhibit III)
- C. Culverts, Gates and Cattleguards: None
- D. Cut and Fill: None

3. Location of Existing Wells:

Existing wells within a one -mile radius are depicted by Exhibit IV.

## Multi-Point Surface Use and Operation Plan

Page 2

### 4. Location of Existing and/or Proposed Facilities:

If the well proves to be commercial, the necessary production facilities, gas separation process equipment and tank battery, will be installed on the drilling pad.

### 5. Location and Type of Water Supply:

It is planned to drill the proposed well with water. Water will be obtained from commercial sources and will be trucked to the wellsite over the existing roads and proposed access road shown on Exhibits I and II.

### 6. Source of Construction Materials:

Caliche for surfacing the road and wellsite pad will be obtained by the dirt contractor from an approved pit. Probable pit is located: Unknown

### 7. Methods of Handling Waste Disposal:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. All pits will be fenced with normal fencing material to prevent livestock from entering the area.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted to the USGS for approval.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- F. 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.
- G. All trash and debris will be buried or removed from the wellsite within 30 days after finished and/or completion operations.

### 8. Ancillary Facilities: None required.

## Multi-Point Surface Use and Operation Plan

Page 3

### 9. Wellsite Layout:

- A. Exhibit V shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged.
- B. Some leveling of the wellsite may be required. See Exhibit III for additional details.
- C. The reserve pit will not be plastic lined.

### 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 a condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment, if drying conditions permit.

### 11. Other Information:

- A. Topography: See NMAS, Inc. Report
- B. Soil: The topsoil at the wellsite is sandy loam.
- C. Flora and Fauna: See NMAS, Inc. Archaeological Report for vegetative types.
- D. Ponds and Streams: Five mile draw is 1 1/2 miles to the south.
- E. Residences and Other Structures: Cottonwood Ranch is 3/4 miles southeast of the location.

Multi-Point Surface Use and Operation Plan

Page 4

- F. Land Use: Grazing.
- G. Surface Ownership: The wellsite is on federal surface.
- H. NMAS, Inc. has conducted an archaeological study of this site and provides this report to interested parties.

12. Operator's Representatives:

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

J. James  
P. O. Box 298  
Roswell, New Mexico  
(505-622-0992) - Office  
(505-622-0234) - Home

W. R. Miertschin  
1000 Vaughn Building  
Midland, Texas 79701  
(915-683-5391) - Office  
(915-682-6535) - Home

13. Certification:

I hereby certify that I, or person 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 Mesa Petroleum Co. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

9-28-81

DATE

R. P. Houston

for

MICHAEL P. HOUSTON  
OPERATIONS MANAGER

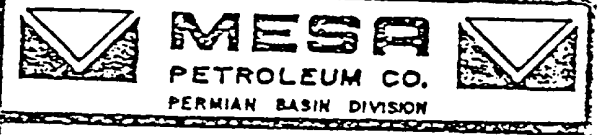
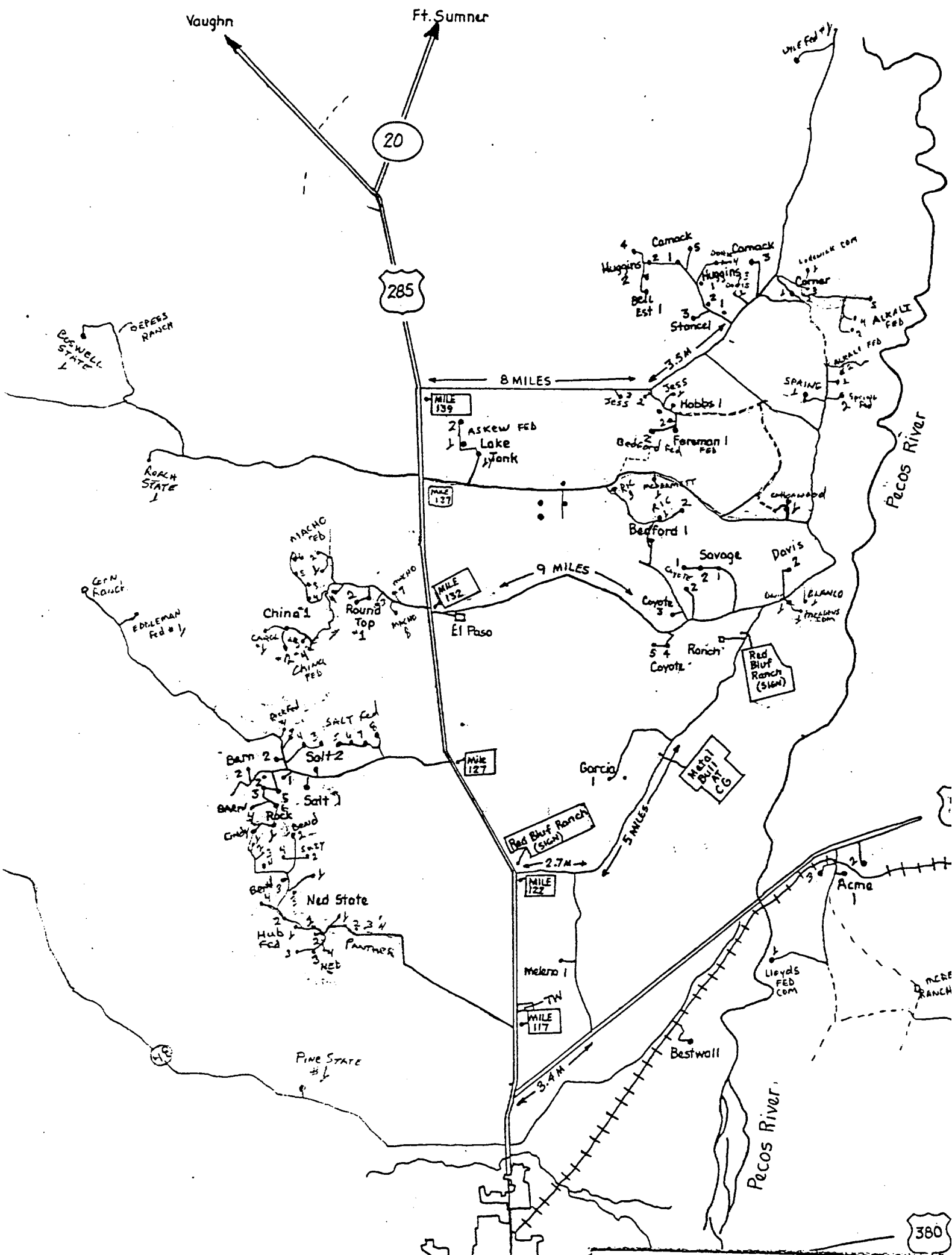


EXHIBIT I

AREA ROADS FOR PROPOSE  
COTTONWOOD FEDERAL #2

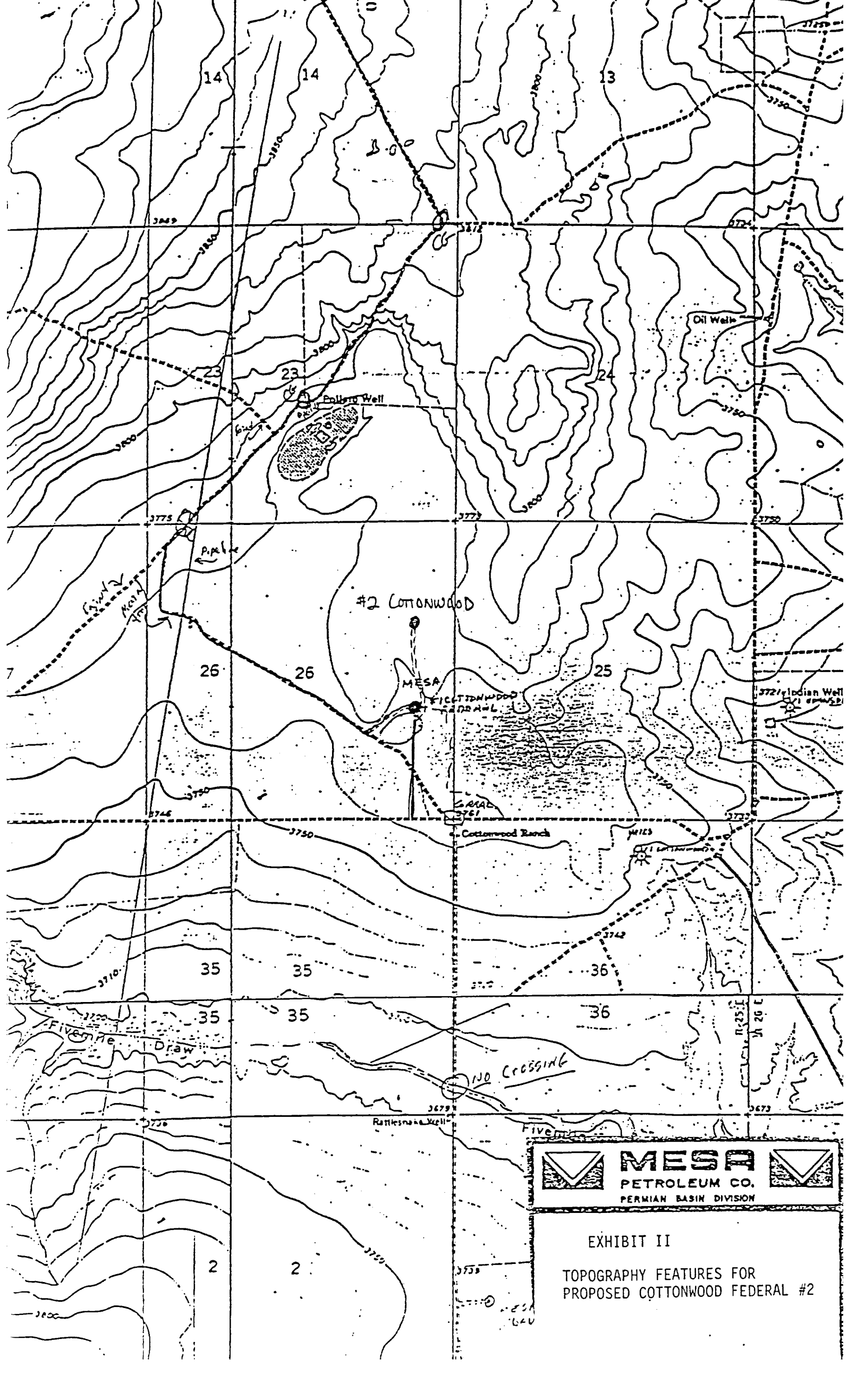
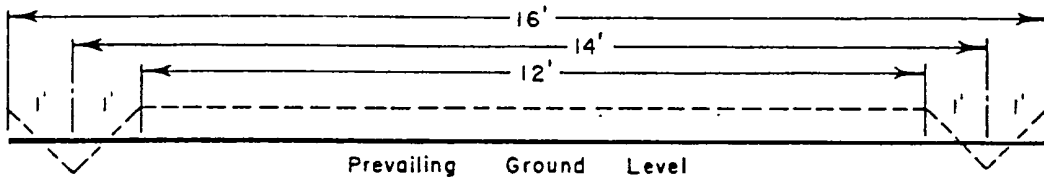


EXHIBIT II

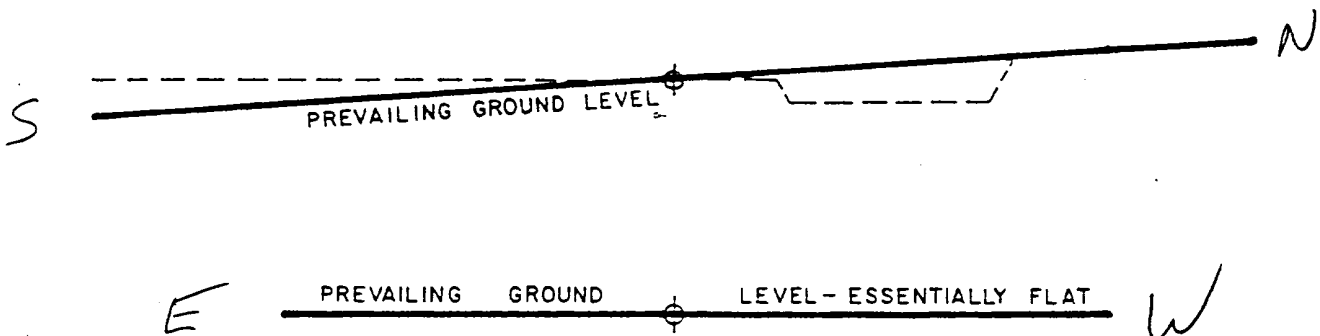
TOPOGRAPHY FEATURES FOR  
PROPOSED COTTONWOOD FEDERAL #2

R - O - W 16'





### ROADWAY CROSS SECTION

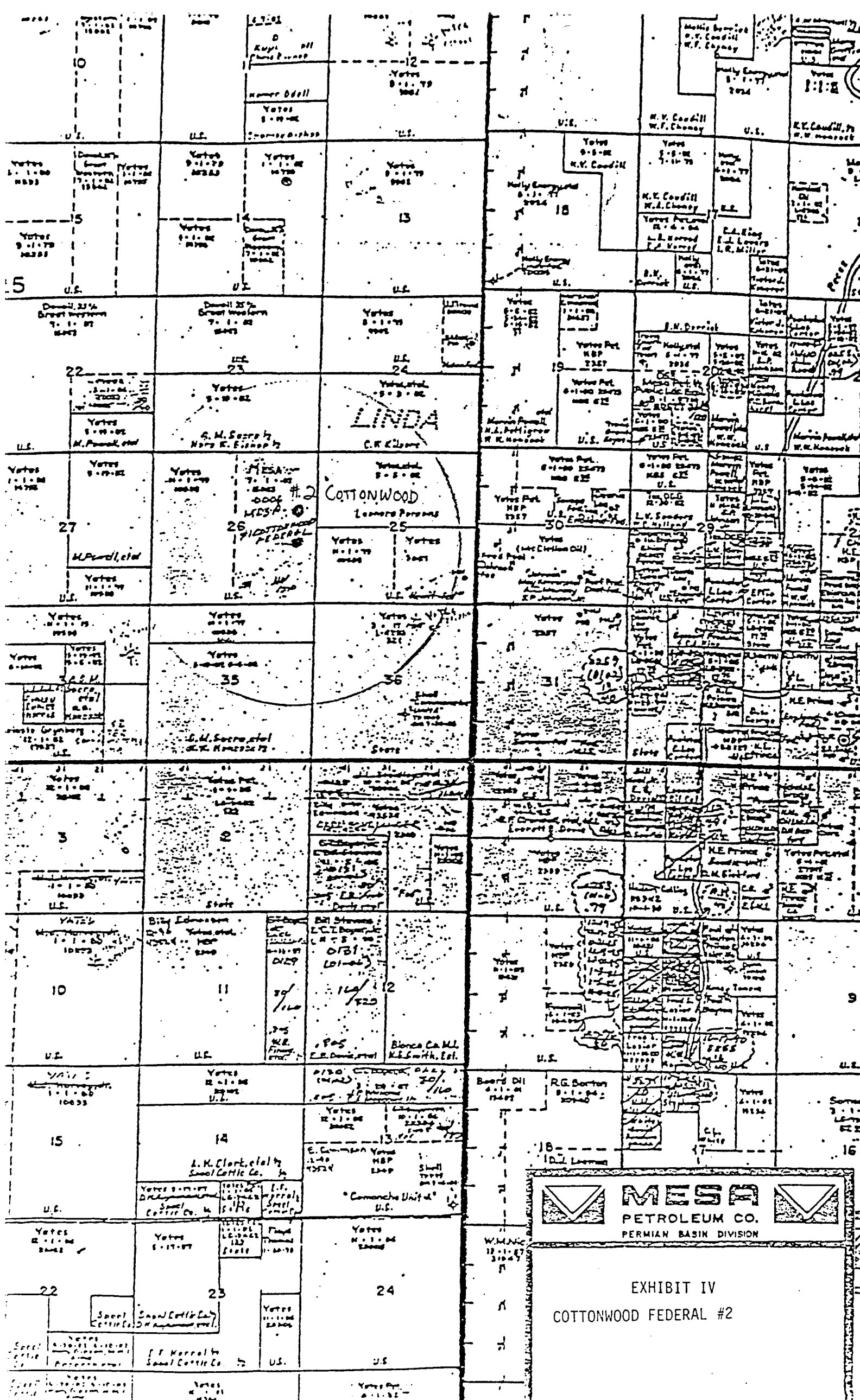
Horizontal Scale 1" = 3'

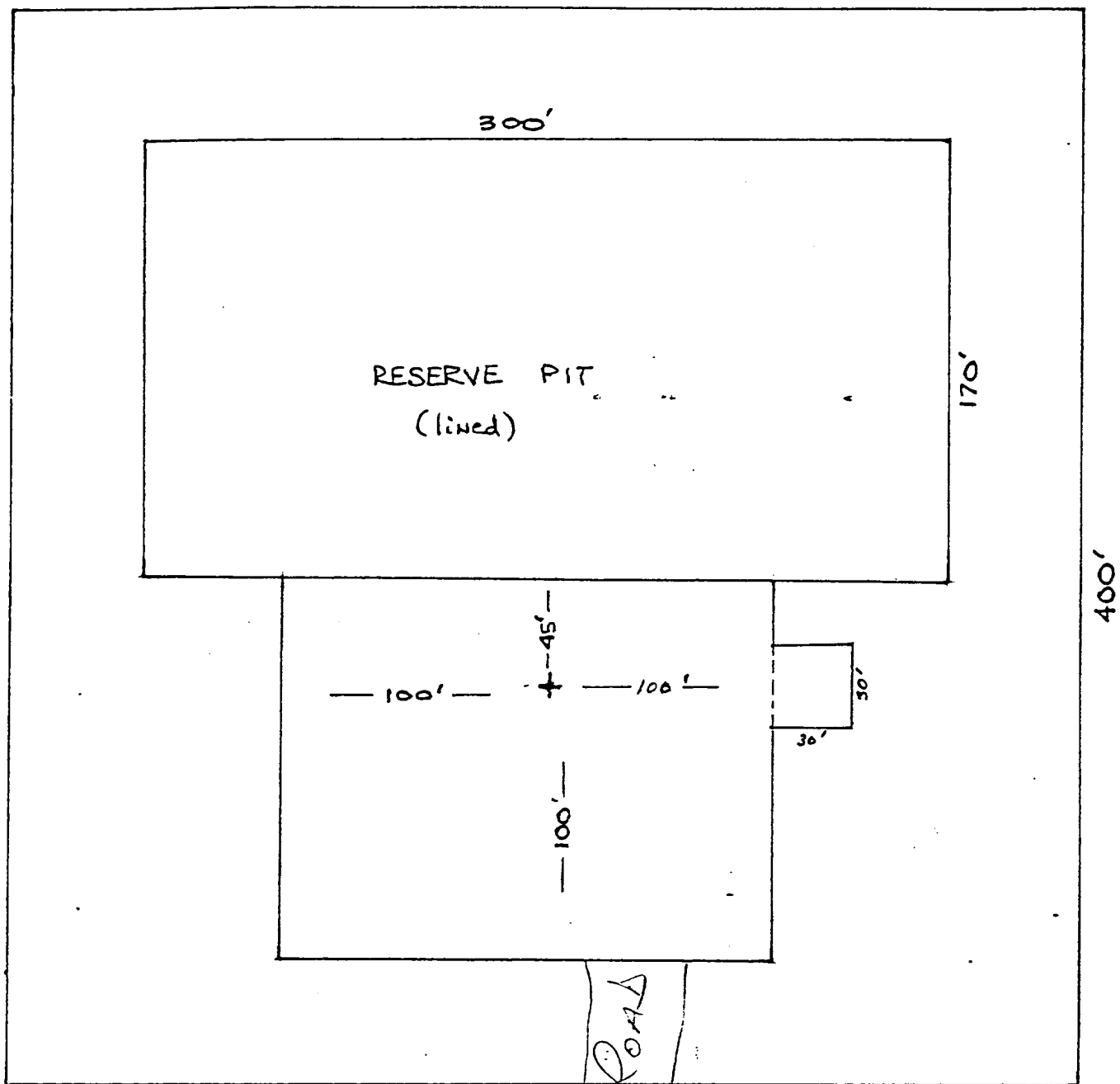


### LOCATION CROSS SECTION

Horizontal Scale 1" = 50'



		<b>MESA</b>	
		PETROLEUM CO.	
		PERMIAN BASIN DIVISION	
<b>EXHIBIT III</b>			
<b>LOCATION CONSTRUCTION</b>			
APP. REM	DATE 3-5-80		DRAWN BY: M.L.P.
		SCALE: AS NOTED	



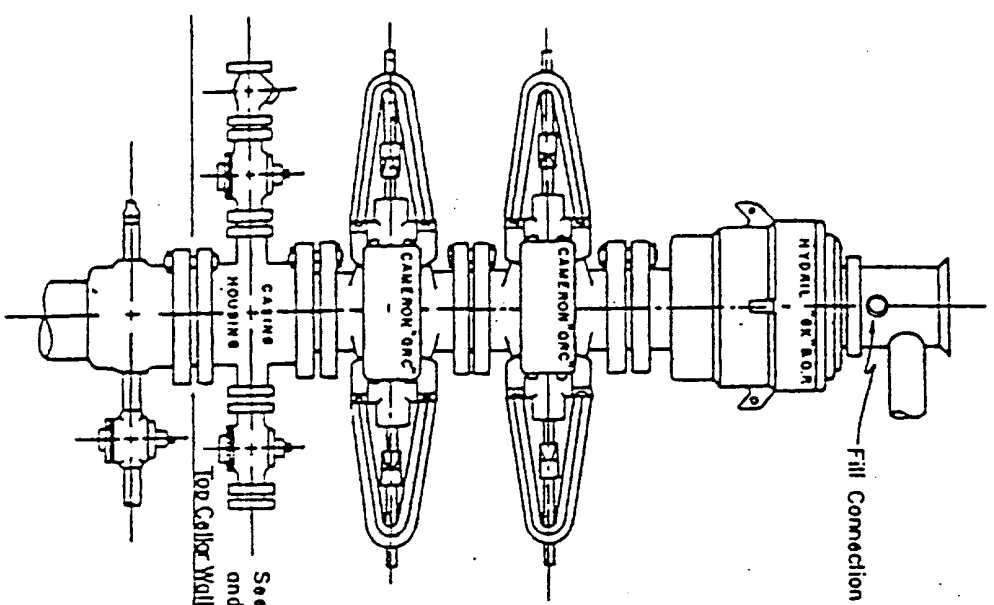


400'

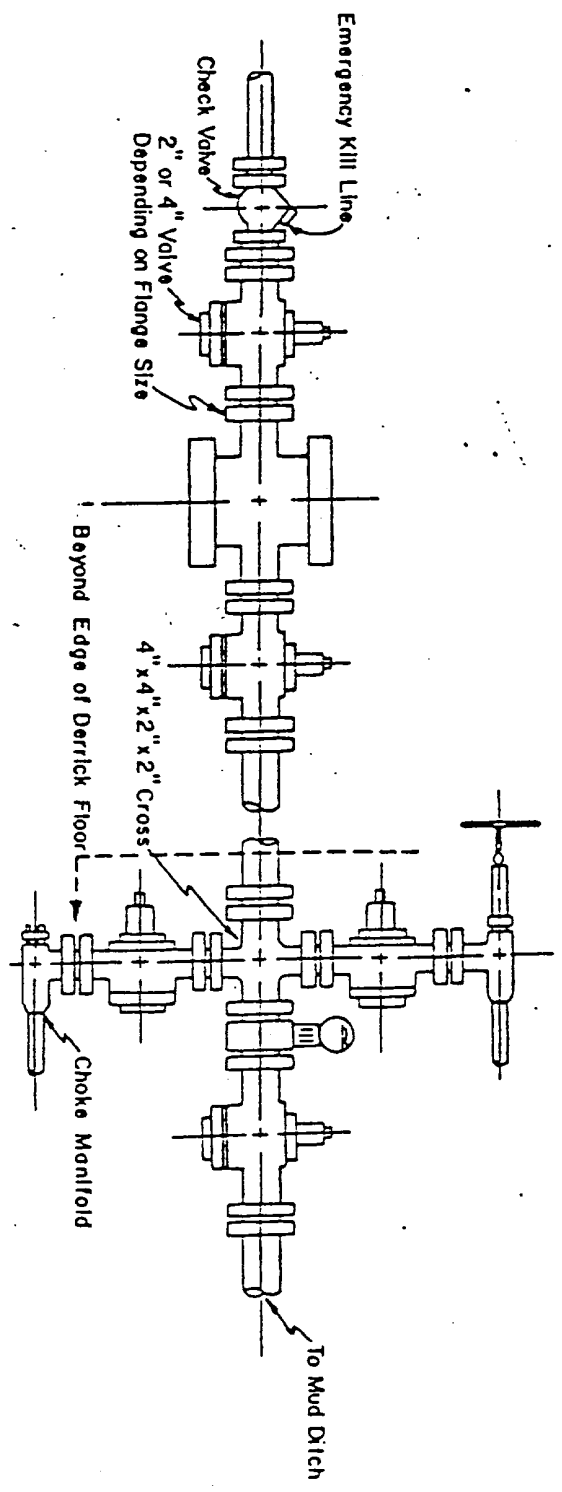
ACCESS ROAD

	<b>MESA</b> PETROLEUM CO. PERMIAN BASIN DIVISION	
<p>EXHIBIT V</p> <p>ONE-MILE RADIUS LAND MAP FOR PROPOSED COTTONWOOD FEDERAL #2</p>		

Blow-out Preventers hydril and choke manifold are all 900 Series



3,000 PSI WORKING PRESSURE  
BLOW-OUT PREVENTER HOOK-UP

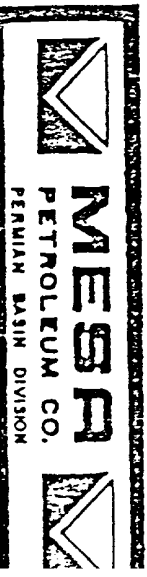


3,000 PSI WORKING PRESSURE  
KILL, CHOKE, AND FILL CONNECTIONS

DETAIL OF 4" FLOW LINE CHOKE ASSEMBLY

Minimum assembly for 3,000 PSI working pressure will consist of three preventers.  
The bottom and middle preventers may be Cameron.

NOTE: HYDRIL not installed on shallow-low pressure wells.  
RAM type BOPs are API 10" X 3000 PSI



E X H I B I T  
V I