

NM OIL & GAS COMMISSION  
Drawn: UNITED STATES  
ARTESIA, NM 88204  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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

Form approved.  
Budget Bureau No. 42-R1425.

30-005-61219

C/SF  
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  
MESA PETROLEUM CO.

3. ADDRESS OF OPERATOR  
1000 VAUGHN BLDG./ MIDLAND, TEXAS 79701-4493  
NOV 16 1981

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)  
At surface 1980' FSL & 1980' FWL NE/SW 4  
At proposed prod. zone SAME  
ARTESIA OFFICE

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
36 miles north/northeast of Roswell, New Mexico

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 680  
17. NO. OF ACRES ASSIGNED TO THIS WELL 160  
18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 2600'

19. PROPOSED DEPTH 4200'

20. ROTARY OR CABLE TOOLS ROTARY  
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3843.6' GR  
22. APPROX. DATE WORK WILL START\* NOVEMBER 12, 1981

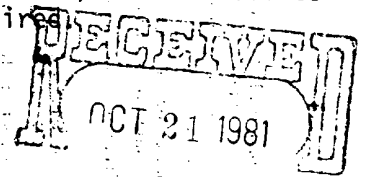
5. LEASE DESIGNATION AND SERIAL NO. NM - 40030  
6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
7. UNIT AGREEMENT NAME  
8. FARM OR LEASE NAME LODEWICK FEDERAL  
9. WELL NO. 3  
10. FIELD AND POOL, OR WILDCAT X UNDESIGNATED ABO  
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Ut-K SEC 17, T5S, R25E  
12. COUNTY OR PARISH CHAVES 13. STATE NEW MEXIC

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.

GAS IS DEDICATED



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

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

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 R. E. Mathis TITLE REGULATORY COORDINATOR DATE 10-20-81

(This space for Federal or State office use)

PERMIT NO. APPROVED APPROVAL DATE  
APPROVED BY JAMES A. GILLHAM TITLE DATE  
CONDITIONS OF APPROVAL, IF ANY NOV 13 1981  
DISTRICT SUPERVISOR

\*See Instructions On Reverse Side

Partial ID  
APE & PL Back  
11-20-81

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form O-112  
Supersedes O-128  
Effective 1-1-85

All distances must be from the outer boundaries of the Section

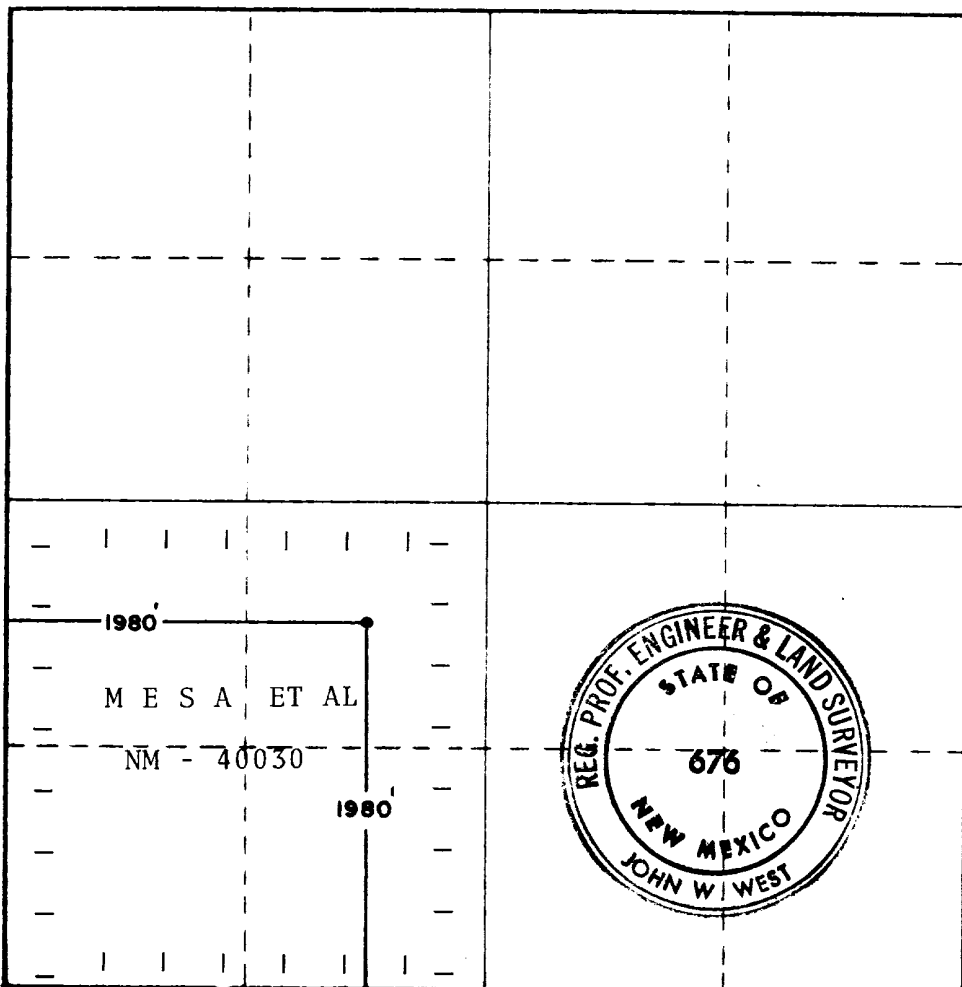
Operator <b>Mesa Petroleum Company</b>		Lease <b>Ludewick Federal</b>			Well No. <b>3</b>
Unit Letter <b>K</b>	Section <b>17</b>	Township <b>5 South</b>	Range <b>25 East</b>	County <b>Chaves</b>	
Actual Footage Location of Well: <b>1980</b> feet from the <b>south</b> line and <b>1980</b> feet from the <b>west</b> line					
Ground Level Elev. <b>3843.6</b>	Producing Formation <b>ABO</b>		Pool <b>UNDESIGNATED</b>	Dedicated Acreage: <b>SW/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 Commission.



CERTIFICATION

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

*R. E. Mathis*

Name  
**R. E. MATHIS**

Position  
**REGULATORY COORDINATOR**

Company  
**MESA PETROLEUM CO.**

Date  
**10-20-81**

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  
**10-10-81**

Registered Professional Engineer and/or Land Surveyor

*John W. West*

Certificate No. **JOHN W. WEST 676**  
**PATRICK A. SOMERO 6668**

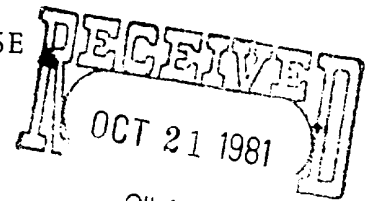
MESA PETROLEUM CO.  
LODEWICK FEDERAL #3  
1980' FSL & 1980' FWL, SEC 17, T5S, R25E  
CHAVES COUNTY, NEW MEXICO  
LEASE NO: NM 40030

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	637
Glorieta	1560
Tubb	3024
Abo	3655
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.

MESA PETROLEUM CO.  
LODEWICK FEDERAL #3  
1980' 1 2 & 1980' FWL, SEC 17, T5S, R25E  
CHAVES COUNTY, NEW MEXICO  
LEASE NO: NM 40030



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

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 36 miles northeast of Roswell, New Mexico
  
- B. Directions: Travel north from Roswell on US 285 approximately 25 miles to mile marker 139 and turn east on county road 8 miles, then northeast 6 miles then east 1 1/4 miles then south 3/4 mile to Comer #4 then west 1/2 mile to location.

2. Planned Access Road:

- A. Length and width: The new access road will be 12' wide (20' ROW) and approximately 1/2 mile of new road, of which 660' is on Federal surface.

(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:
  
- D. Cut and Fill: In order for the location to be level, approximately 3' will be moved from the north to the south for fill.

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 air. If needed, 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 be un-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: Red Spring Draw is 1/2 mile to the southeast.
- E. Residences and Other Structures: Benedict Ranch is 1/2 mile to the southwest.

Multi-Point Surface Use and Operation Plan

Page 4

- F. Land Use: Grazing.
- G. Surface Ownership: The wellsite is on private surface (Benedict).
- 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.

Oct. 20, 1981

DATE

Michael P. Houston

MICHAEL P. HOUSTON  
OPERATIONS MANAGER

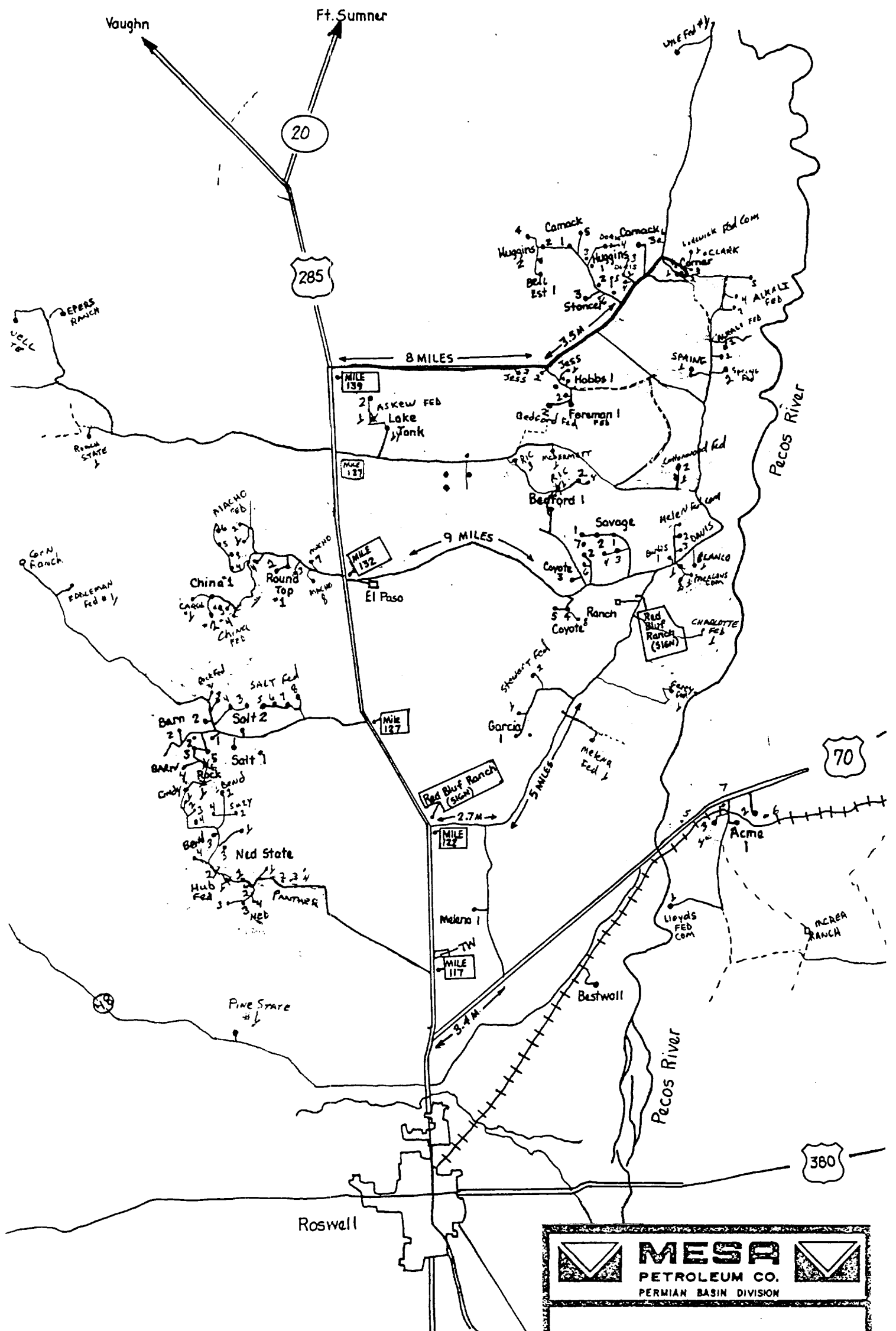
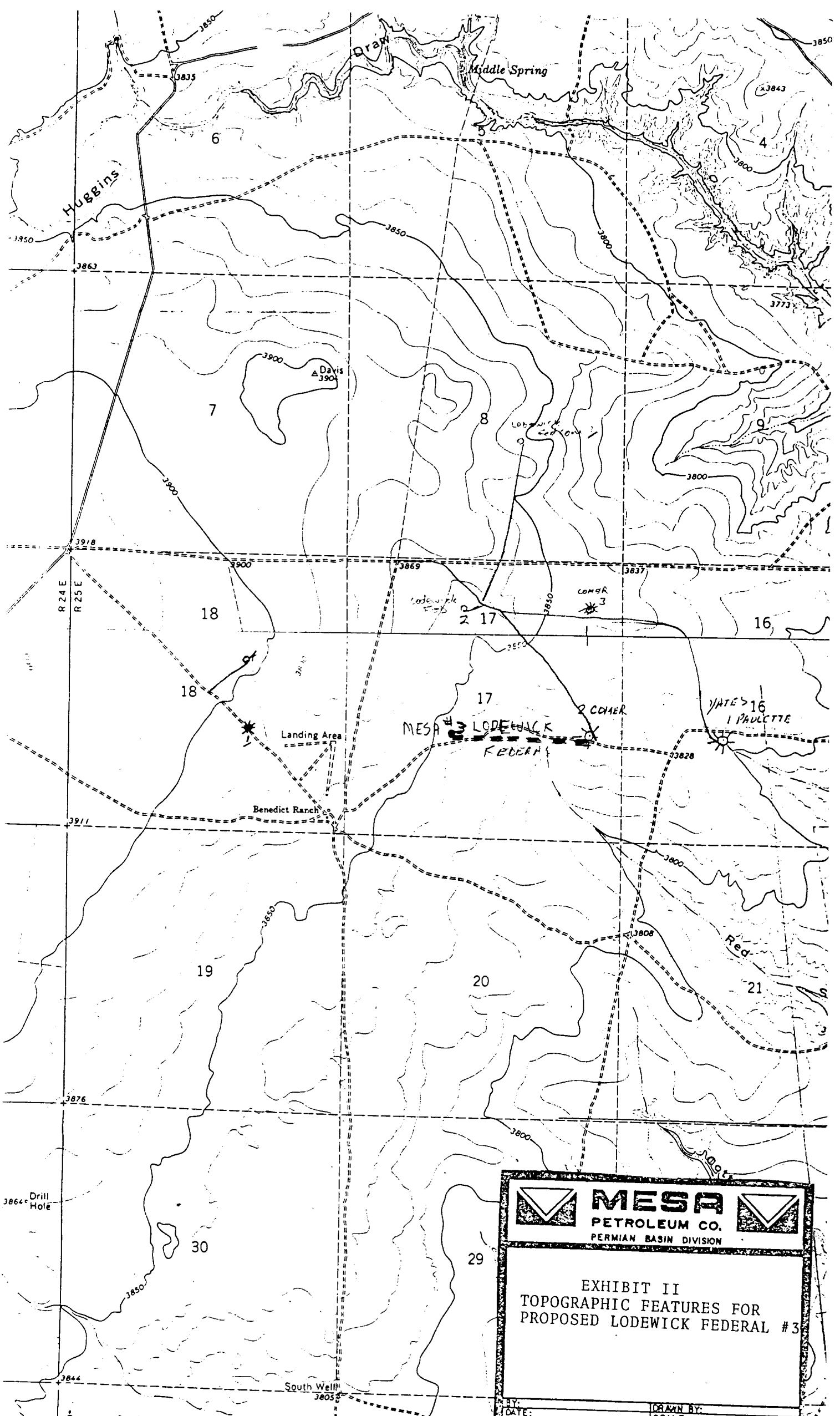


EXHIBIT I  
 AREA ROADS FOR PROPOSED  
 LODEWICK FEDERAL #3

BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_





**MESA**

PETROLEUM CO.

PERMIAN BASIN DIVISION

EXHIBIT II

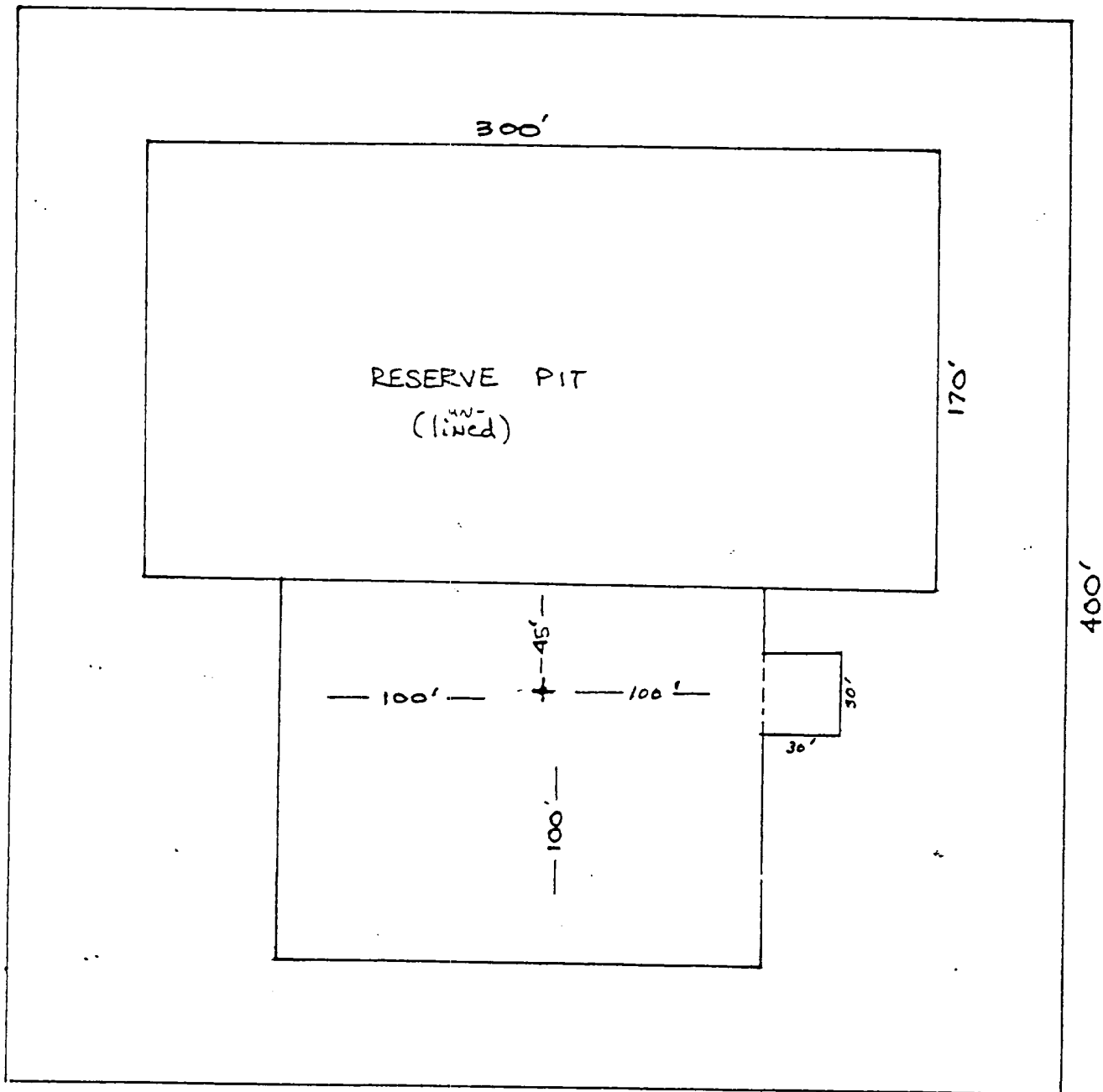
TOPOGRAPHIC FEATURES FOR

PROPOSED LODEWICK FEDERAL #3

BY:



DATE:

DRAWN BY:

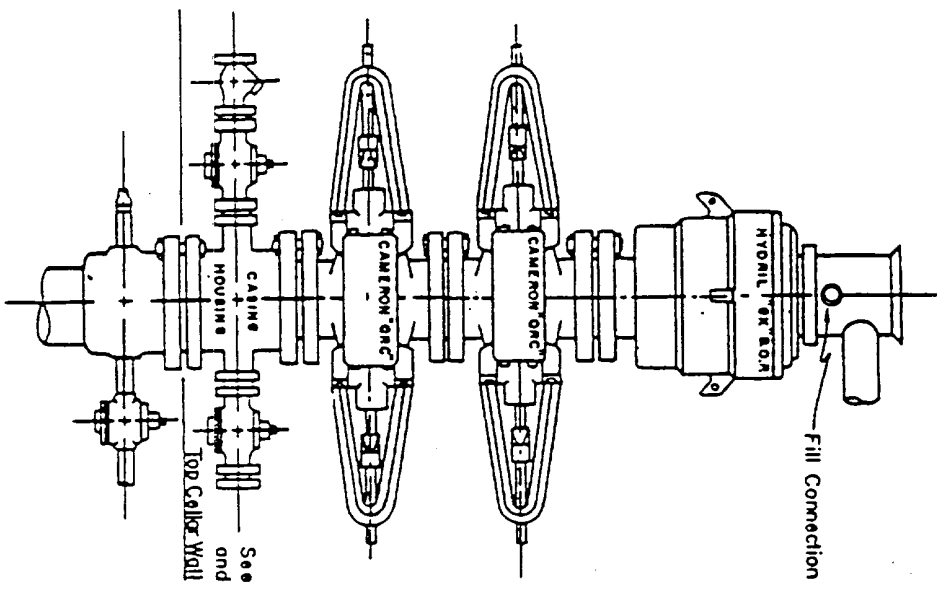


400'



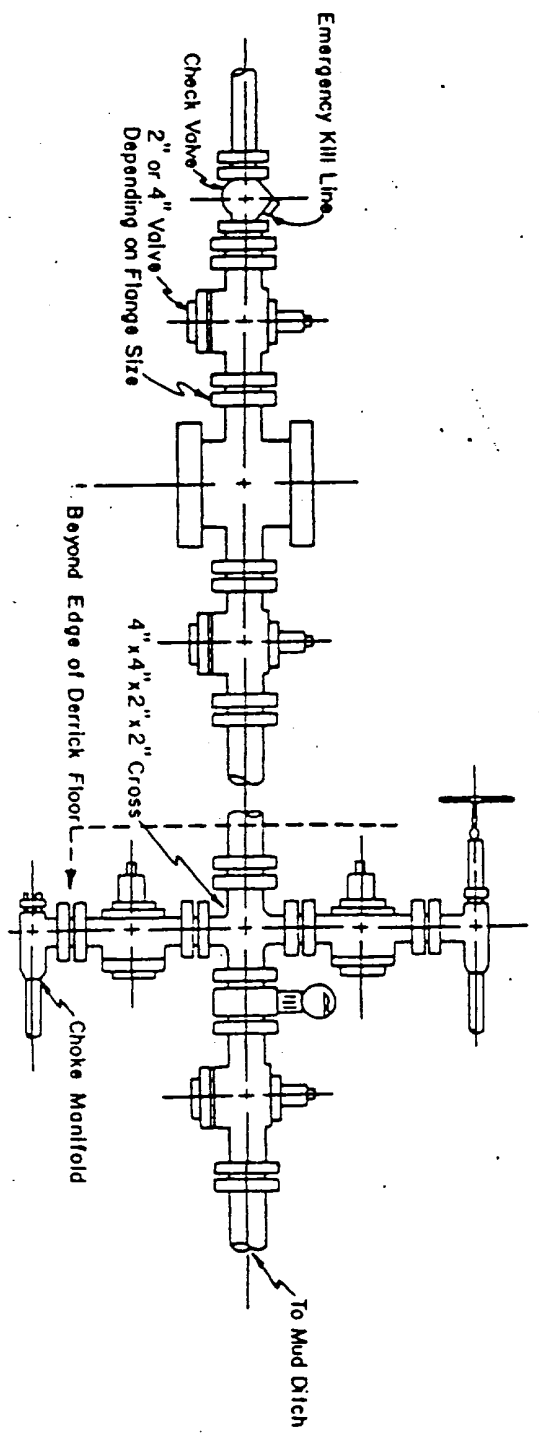
 <b>MESA</b> 
PETROLEUM CO. PERMIAN BASIN DIVISION
EXHIBIT V PROPOSED LODEWICK FEDERAL #

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



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

See Detail of 4" Flow Line  
and Choke Assembly




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

 <b>MESA</b> PETROLEUM CO. PERMIAN BASIN DIVISION	E X H I B I T V I
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