N.M.O.C.D. COPY

C-SF

Form 9-331 C
(May 1963)

SUBMIT IN ...PLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-005-60757

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED
JUL 29 1980
O. C. D.
ARTESIA, OFFICE

RECEIVED
JUL 18 1980
U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

1a. TYPE OF WORK
DRILL [x] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL
OIL WELL [ ] GAS WELL [x] OTHER SINGLE ZONE [x] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR
Mesa Petroleum Co

3. ADDRESS OF OPERATOR
1000 Vaughn Building/Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
1980' FSL & 1980' FEL
At proposed prod. zone
Same

5. LEASE DESIGNATION AND SERIAL NO.
NM-23264

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
SALT FEDERAL

9. WELL NO.
2

10. FIELD AND POOL, OR WILDCAT
Undesignated Abo

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 8, T8S, R23E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
20 miles N/NW of Roswell

12. COUNTY OR PARISH
Chaves

13. STATE
N. Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
1980/660	640	160
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
2000'	3500'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
4066.5' GR

22. APPROX. DATE WORK WILL START*
August 27, 1980

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	700'	240 LW/100 "C"
7-7/8"	4-1/2"	10.5#	3500'	310 LW/360 POZ "C"

Propose to drill surface hole to 700' without BOPs. After cementing 8-5/8" casing at 700' and installing bradenhead, will nipple up 10" API 3000 psi BOPs and drill 7-7/8" hole to total depth of 3500'. Drilling fluid will consist of fresh water and fresh water additions, however, mud weight may increase from 8.8 ppg to as high as 10.2 - 10.3 ppg due to leaching of salt stringers. After log evaluation, 4-1/2" casing may be run to total depth and cemented (with cement being raised to surface pipe or surface).

Gas sales are not dedicated.

USGS (6) TLS, JWH, Con Rels, Acct, MEC, JBH, Partner, File

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. Martin TITLE Regulatory Coordinator DATE July 16, 1980

(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

NE. MEXICO OIL CONSERVATION COMMISSI

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Mesa Petroleum Co.	Salt Federal	2

Unit Letter	Section	Township	Range	County
J	8	8 South	23 East	Chaves

Actual Footage Location of Well:
1980 feet from the South line and 1980 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
4066.5	Abo	Undesignated	SE/4 160 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

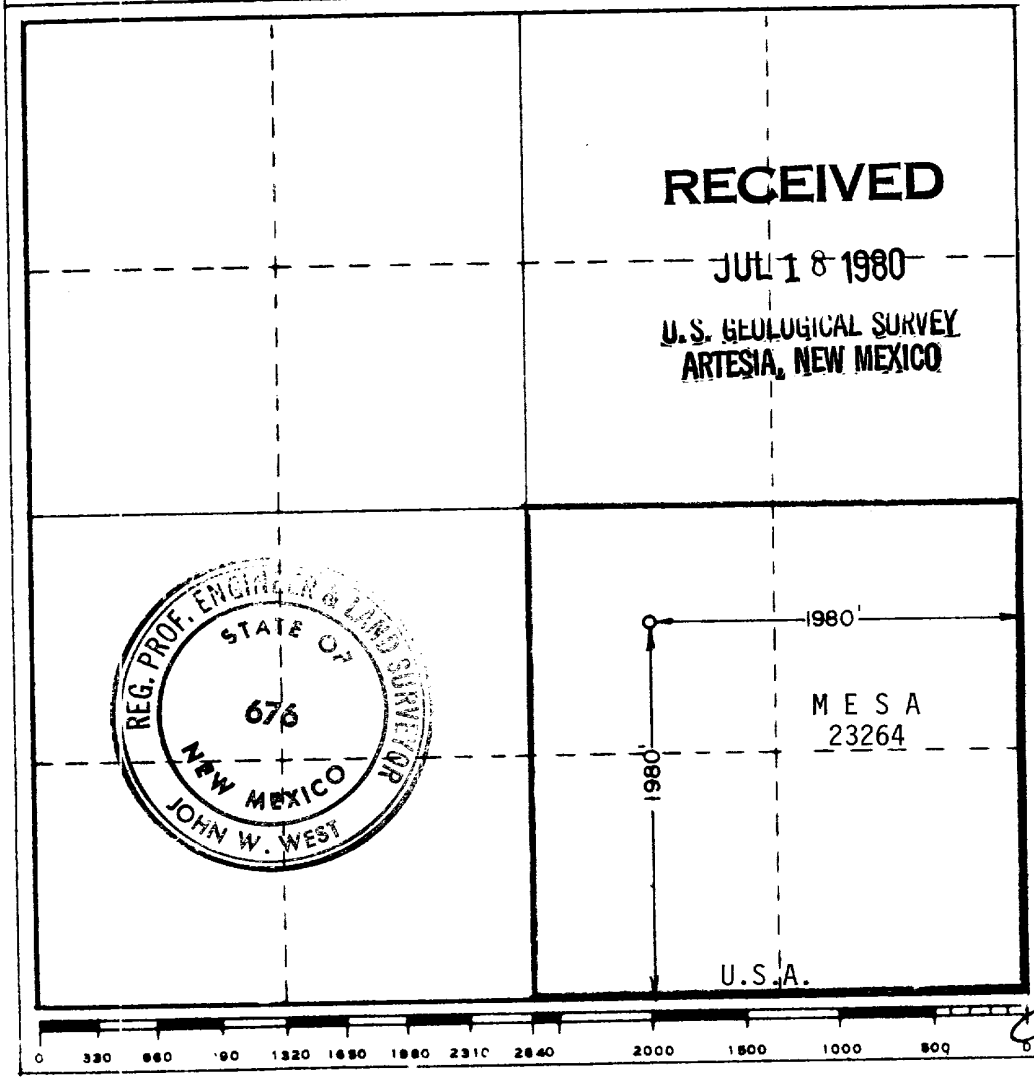
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

R. E. Mathis

Name: R. E. MATHIS

Position: Regulatory Coordinator

Company: Mesa Petroleum Co

Date: July 17, 1980

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 9,1980

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No. JOHN W. WEST 676
PATRICK A. ROMERO 6668
Ronald J. Eidson 3239

N.M.O.C.D. COPY

United States Department of the Interior

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

RECEIVED
JUL 29 1980
O. C. D.
ARTESIA, OFFICE

July 28, 1980

Mesa Petroleum Company
1000 Vaughn Building
Midland, Texas 79701

Gentlemen:

MESA PETROLEUM COMPANY Salt Fed No. 2 1980 FSL 1980 FEL Sec. 8 T.8S R.23E Chaves County Lease No. NM-23264
Above Data Required on Well Sign

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 3,500 feet to test the Abo 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 attached 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 these Conditions of Approval including the attached General Requirements.

3. All access roads will be limited to a 12 foot wide driving surface, excluding turnarounds. Surface disturbance associated with road construction will be limited to 20 feet in width.

4. Submit a Daily Report of Operations from spud date until the well is completed and the Well Completion Report (form 9-330) is filed. The report should not be less than 8" x 5" in size and each page should identify the well.

5. All permanent above-ground structures and equipment shall be painted in accordance with the attached Painting Guidelines. The color used should simulate Sandstone Brown (Federal Standard No. 595A, color 20318 or 30318).

6. Before drilling below the 8-5/8" casing, the blowout preventer assembly will consist of a minimum of one annular type and two ram type preventers.

7. A kelly cock will be installed and maintained in operable condition.

8. After setting the 8-5/8" casing string and before drilling into the Wolfcamp formation, the blowout preventers and related control equipment shall be pressure tested to rated working pressures. Any equipment failing to test satisfactorily shall be repaired or replaced.

9. Notify the Survey by telephone 24 hours prior to spudding well.

10. Notify the Survey in sufficient time to witness the cementing of the 4-1/2" casing.

11. Cement behind the 8-5/8" and 4-1/2" casing must be circulated.

12. Please have anyone contacting the Survey in regard to this well to identify the well with all of the information required above for the well sign.

Sincerely yours,

(Orig. Sgd.) GEORGE H. STEWART

George H. Stewart
Acting District Engineer

APPLICATION FOR DRILLING

MESA PETROLEUM CO
SALT FEDERAL WELL NO. 2

CHAVES COUNTY, NEW MEXICO

July 16, 1980

LEASE: NM 23264

In conjunction with Form 9-331 C, Application for Permit to Drill subject well, the following items of pertinent information are submitted in accordance with U.S.G.S. requirements:

1. The geologic surface formation is San Andres.

2. Estimate tops of geologic markers are as follows:

Glorietta	630'
Yeso	810'
Abo	2880'
Wolfcamp (Hueco)	3480'

3. The estimated depths at which anticipated water, oil, or gas formations are expected to be encountered:

Water - San Andres at approximately 500'
Gas - Yeso at approximately 1100'
Gas - Abo at approximately 3300'

4. Casing and Blowout Preventer Program

Surface: 700' of 8-5/8", 24#, K55, ST&C new casing cemented with 240 sx LW + 100 sx "C" or volume sufficient to circulate cement to surface. Will nipple up 10" API 3000 WP braden head and install 10" API 3000 psi WP BOP stack (consisting of 1 pipe ram, 1 blind ram, and 1 bag type BOP) to drill 7-7/8" hole to total depth.

Production: 3500' of 4-1/2", 10.5#, K55, ST&C new casing cemented with 310 sx LW + 360 sx 50/50 Poz or volume sufficient to raise top of cement to at least 700' (or base of surface casing). Choke, kill and fill lines are indicated on Exhbiit I. BOPs will be tested prior to drilling below the 8-5/8" casing. A full opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times. The kelly cock, safety valve, choke and kill lines will be tested at the same time that BOPs tests are run. Operations opening and closing checks on all BOPs will be run on each trip, with daily operational check of pipe rams.

5. Circulating medium and control equipment.

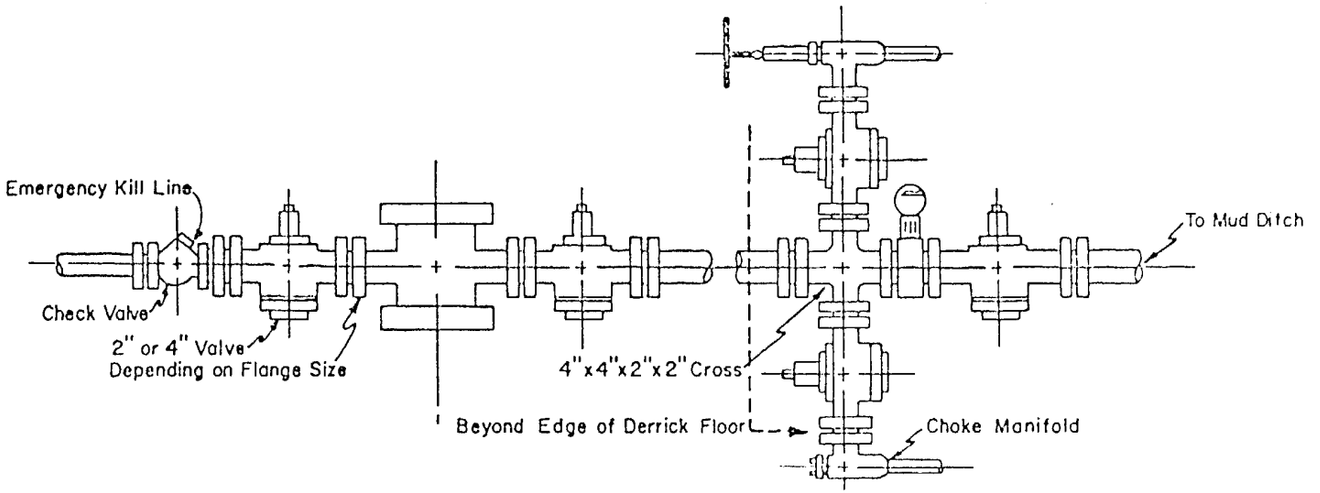
0 - 700'	Use fresh water spud mud with fresh water gel and soda ash or lime treated with lost circulation material (cottonseed hulls, fiber and paper) as hole conditions dictate. If total loss of returns occurs, mix 2 or 3 viscous slugs with LCM and attempt to regain circulation. If unsuccessful, consider drilling without returns to casing point and spot 150± bbls viscous slug treated with LCM on bottom to run pipe.
700 - 2700'	Drill out 8-5/8" casing with fresh water circulating reserve pit with additions of caustic soda for pH = 9.0 - 9.5 and chemicals for corrosion control. Mix paper, as needed, to control seepage and/or to sweep hole.
2700 - T.D.	Go through steel pits utilizing above fluid with fine screen shaker and desilter to control solids. Maintain mud weight less than 10 lb/gal with additions of fresh water while keeping chloride - ion concentration of 40,000-50,000 + ppm and KCL = 3%. At 2800' mud-up with starch and soda ash to control API water loss to 20-25 cc to T.D. Sea mud and salt water gel will be added to sweep hole or to raise viscosity of system sufficiently to clean hole to run logs and casing.

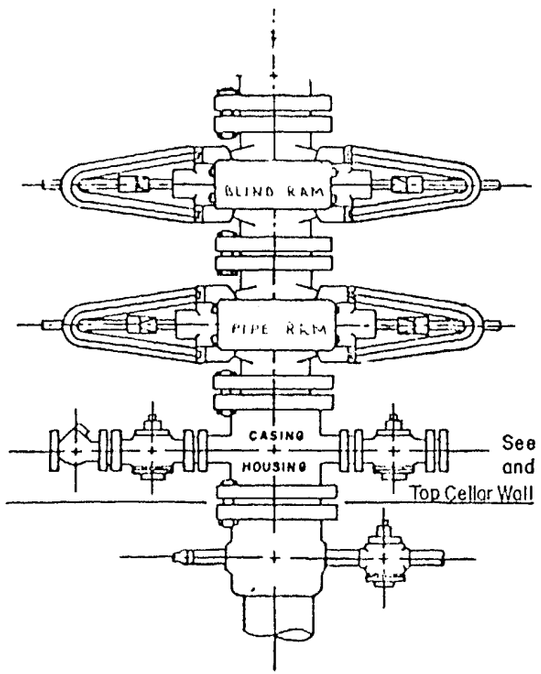
6. There is no coring program or drill stem tests planned for this well. The logging program may consist of a gamma ray log from total depth to surface, compensated neutron-density-caliper log and dual laterolog-micro spherically focused log run from 600' to total depth.

7. Maximum anticipated bottom hole pressure is 2100 psi at 3300' based upon bottom hole pressure gage on offset well. Mud weight required to offset this pressure is 7.0 ppg. It is probable that leaching of expected salt stringers could increase the mud weight to 10.0 - 10.2 ppg. Bottom hole temperature should not exceed 115°F. No sour gas is expected.

8. Anticiapted spud date is August 27, 1980 with completion of drilling operations expected by September 3, 1980. Completion operations (perforations and stimulation) will immediately follow successful drilling operations.

Blow-out Preventers 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.

MESA PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT I

BLOWOUT PREVENTER SCHEMATIC FOR

SALT FEDERAL #2

MULTI-POINT SURFACE USE AND OPERATION PLAN

MESA PETROLEUM CO
SALT FEDERAL WELL NO. 2
1980' FSL & 1980' FEL, Sec 8, T8S, R23E
CHAVES COUNTY, NEW MEXICO

July 16, 1980

LEASE: NM-23264

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 II is a portion of a highway map showing the location of the proposed well as staked. The proposed well is approximately 19 miles northwest of Roswell, New Mexico.

   B. Directions: Travel northwest of Roswell on Highway 285 for 16.6 miles. Turn west through cattleguard and travel approximately 5 miles on an improved existing road and then north 1000' to the location.

2. Planned Access Road

   A. Length and Width: The new access road will be 12' wide (16' ROW) and approximately 1000' long from the existing gravel road to the edge of the drilling pad. (See Exhibit III for details)

   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 IV)

   C. Culverts, Gates, and Cattleguards: none.

   D. Cut and Fill: In order for the location to be level, approximatley 3' of cut from the west side will be moved to the eastside for fill.

3. Location of Existing Wells

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

4. Location of Existing and/or Proposed Facilities

   A. There are no production facilities on this lease at the present time.

B. 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

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

6. Source of Construction Materials

A. Caliche for surfacing the road and the wellsite pad will be obtained from an existing pit in the SE/4, W. Sec 12, T8S, R33E, and will be purchased by the dirt contractor from the Federal Government. Top soil from the location will be stockpiled near the location for future rehabilitation use. No surface materials will be distrubed except for those necessary for the actual grading and leveling of the drillsite and access road.

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 finishing and/or completion operations.

8. Ancillary Facilities: None required.

9. Wellsite Layout:

   A. Exhibit VI 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 will be required. See Exhibit IV for additional details.

   C. The reserve pit will 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: The land surface in the vicinity of the wellsite is gently sloping to the north.

   B. Soil: The topsoil at the wellsite is sandy loam.

   C. Flora and Fauna: The vegetative cover consists of Tabosa and other prairie grasses, creosote bush, yucca, cactus, prairie flowers and other miscellaneous desert growth. Wildlife in the area probably includes those typical of semi-arid desert land. The area is used for sheep grazing.

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

   E. Residences and Other Structures: There are no residences or other structures in the vicinity of the proposed well.

   F. Land Use: Sheep grazing.

   G. Surface Ownership: The wellsite is on Federal surface.

   H. There is no evidence of any major archeaological, historical, or cultural sites in the area. NMAS, Inc. has conducted an archeaological

12. Operator's Representatives:

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

J. W. Hart
P. O. Box 1756
Hobbs, New Mexico 88240
(505-393-4425) - Office
(505-393-4317) - Home

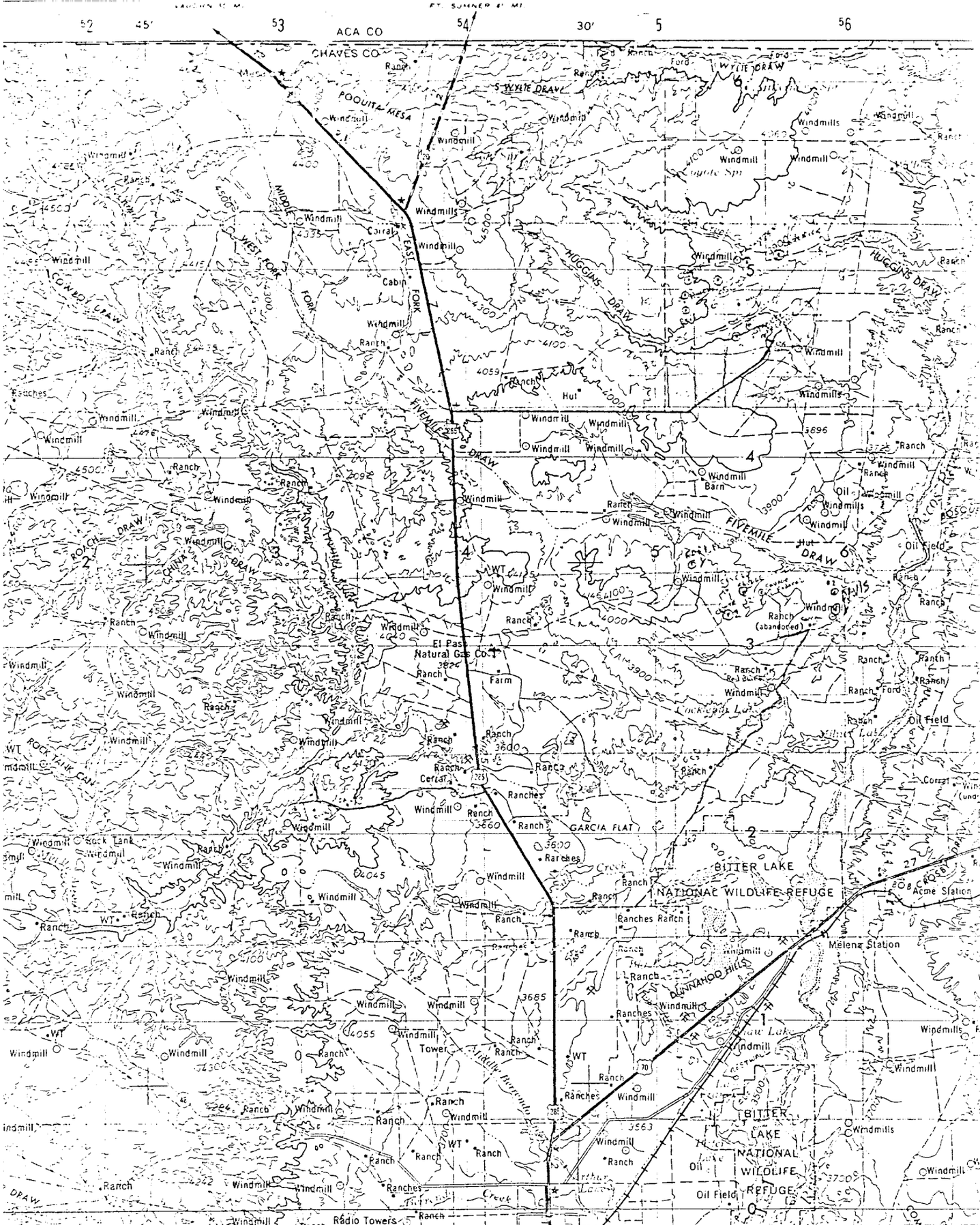
C. C. Wheeler
1000 Vaughn Building
Midland, Texas 79701
(915-683-5391) - Office
(915-683-6123) - Home

13. Certification

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 Mesa Petroleum Co and its contractors and subscontractors in conformity with this plan and the terms and conditions under which it is approved.

July 17, 1980
Date

Michael P. Houston
M. P. HOUSTON

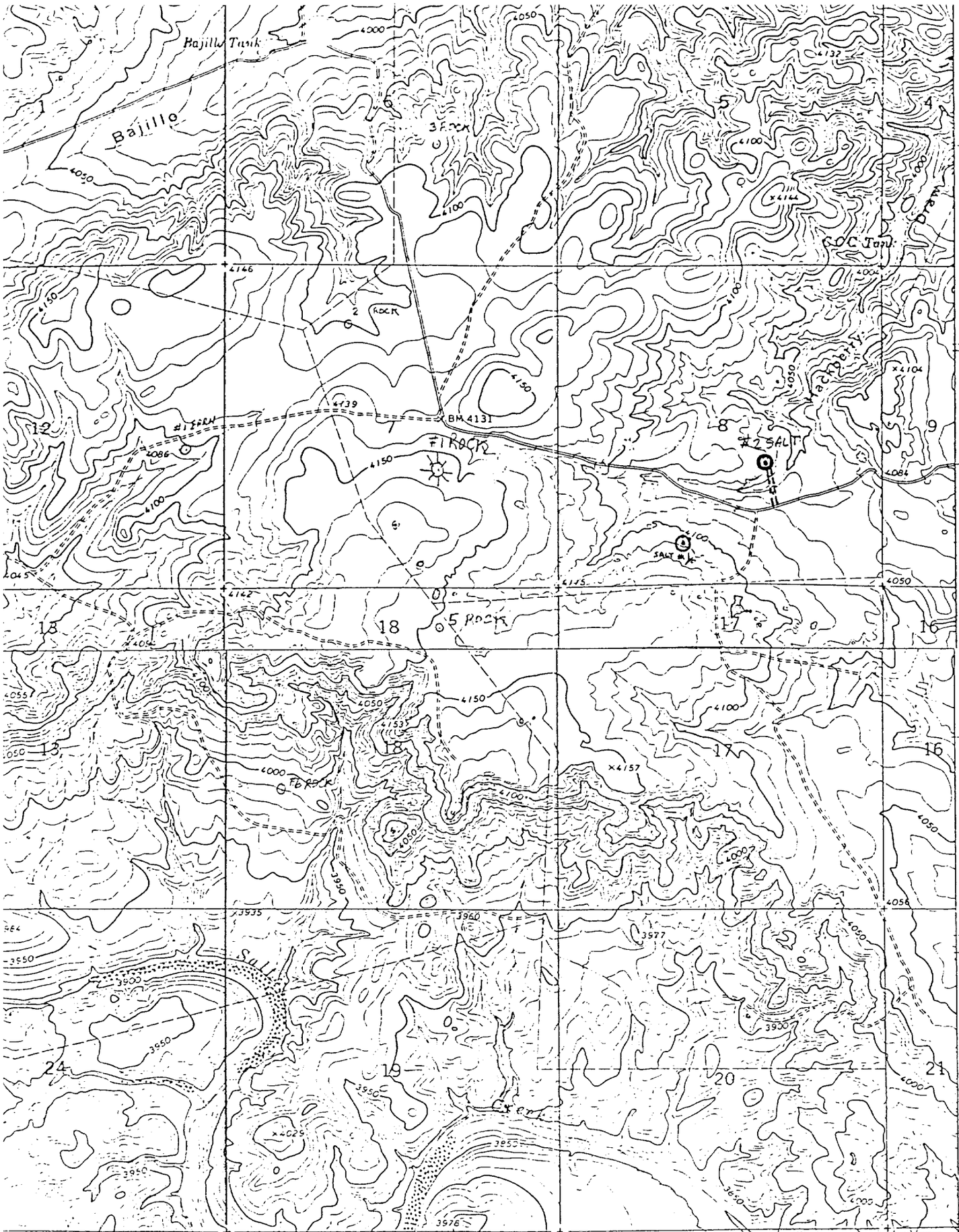


MESA PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT II

EXISTING ROADWAYS TO PROPOSED
SALT FEDERAL #2

BY:	DRAWN BY:
DATE:	SCALE:



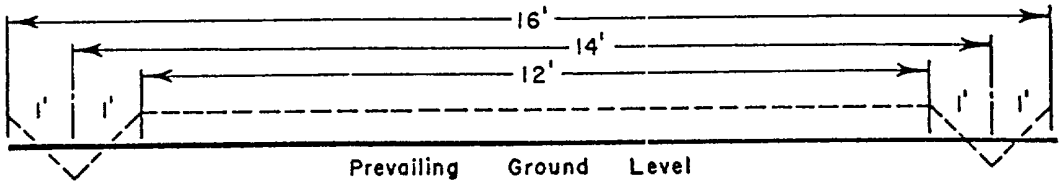
MESA
PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT III

TOPOGRAPHIC FEATURES FOR
PROPOSED SALT FEDERAL #2

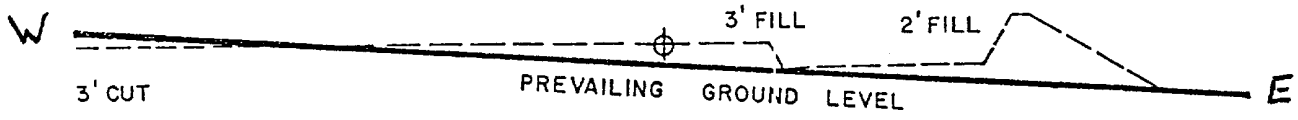
BY:	DRAWN BY:
DATE:	SCALE:

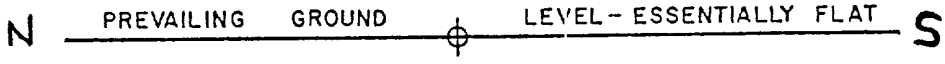
R - O - W 16'



ROADWAY CROSS SECTION

Horizontal Scale 1" = 3'





LOCATION CROSS SECTION

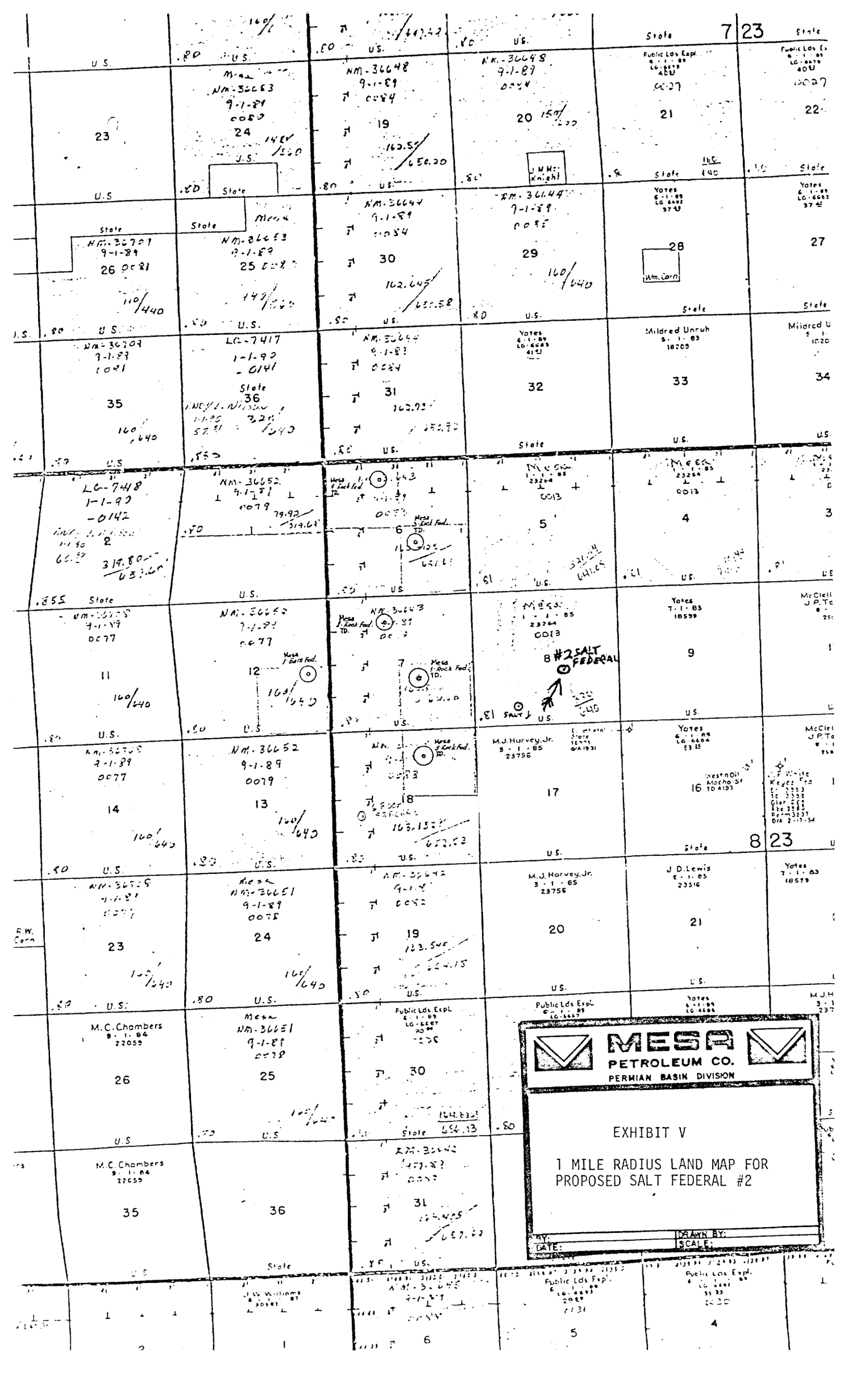
Horizontal Scale 1" = 50'

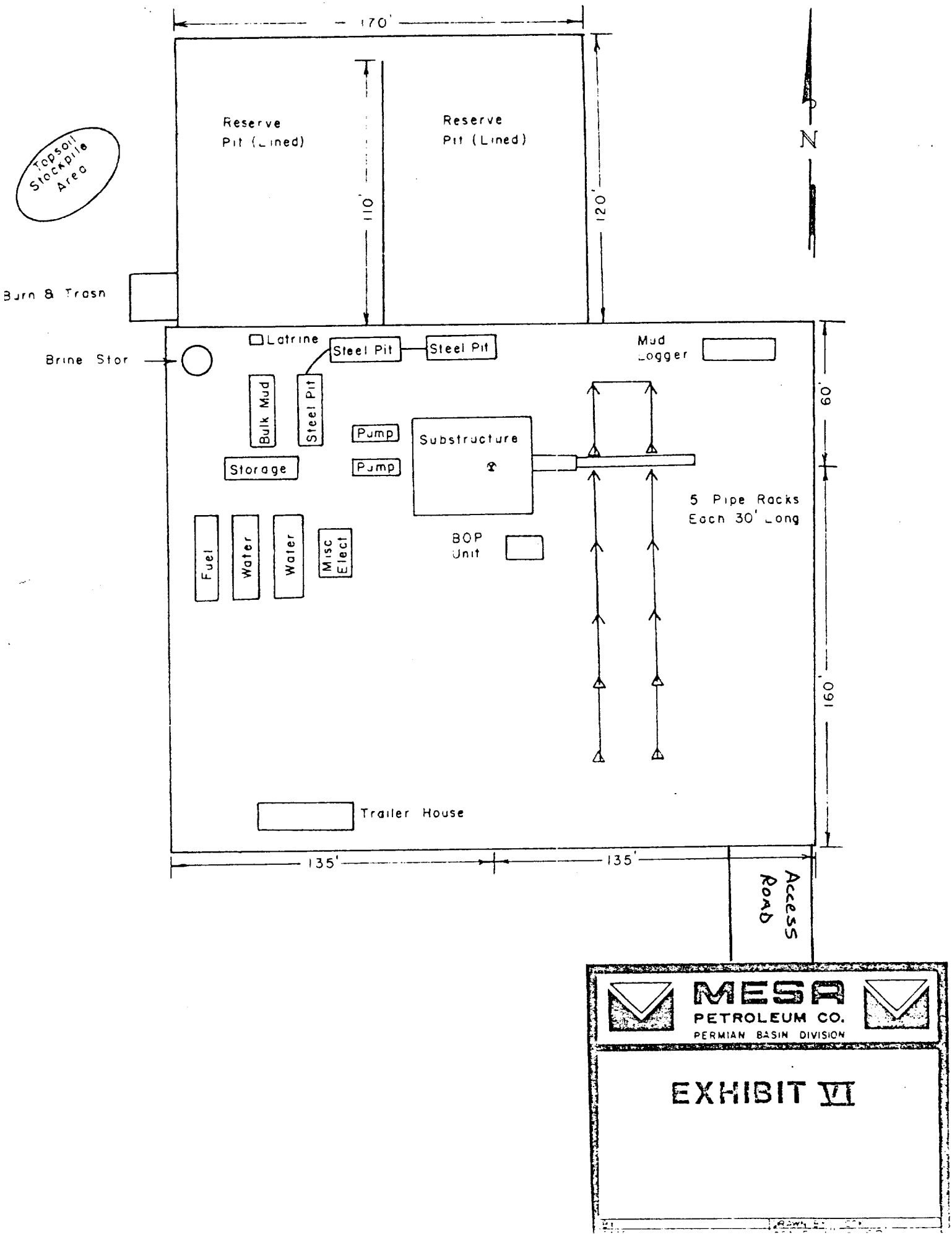
MESA PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT IV

LOCATION CONSTRUCTION

REM	MLP
3-5-80	AS NOTED


MESA
PETROLEUM CO.
PERMIAN BASIN DIVISION
EXHIBIT V
1 MILE RADIUS LAND MAP FOR
PROPOSED SALT FEDERAL #2
BY:
DATE:
DRAWN BY:
SCALE:



MESA
PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT VI