

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

30-015-22290

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

RECEIVED

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 Building, Midland, Texas 79701

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

At surface

660' FNL & 1980' FWL of Sec 9

At proposed prod. zone

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

4½ miles southeast of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED*

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

660'

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

NA

16. NO. OF ACRES IN LEASE

160

19. PROPOSED DEPTH

12,100

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

20. ROTARY OR CABLE TOOLS

Rotary

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

3146 GR

22. APPROX. DATE WORK WILL START*

September 10, 1977

23.

PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|--------------|----------------|-----------------|---------------|---------------------------------------|
| 17½ | 13-3/8 | 48 | 350 | 400 sx |
| 11 | 8-5/8 | 24-32 | 5400 | 1800 sx LW + 200 |
| 7-7/8 | 4-1/2 | 11.6 | 12,100 | 700 sx or sufficient to cover all pay |

Propose to drill surface hole to 350' without BOPs. After cementing casing and installing bradenhead, will nipple up 12" API 3000 psi BOPs and drill intermediate hole to 5400'. Will utilize brine water as drilling fluid to prevent enlarging hole. Will then set 8-5/8" casing and cement with volume adequate to raise cement to surface. Will then nipple up 12" API 3000 psi BOPs and drill to total depth with cut brine. Maximum mud weight should not exceed 10.6 PPG based upon information from offset wells.

Operator's acreage for the subject well has not been dedicated to a gas purchaser.

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

Michael P. Houston

TITLE

Division Engineer

DATE

August 16, 1977

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

CONDITIONS OF APPROVAL IF ANY:

SEP 6 - 1977

R. L. CLARK

ACTING DISTRICT ENGINEER

THIS APPROVAL IS RESCINDED IF OPERATIONS
ARE NOT COMMENCED WITHIN 3 MONTHS.

EXPIRES SEP 6 - 1977

*See Instructions On Reverse Side

XC: JLF, JWH, 6 USGS, RHN, MEC, FILE

**MEXICO OIL CONSERVATION COMMISSION
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

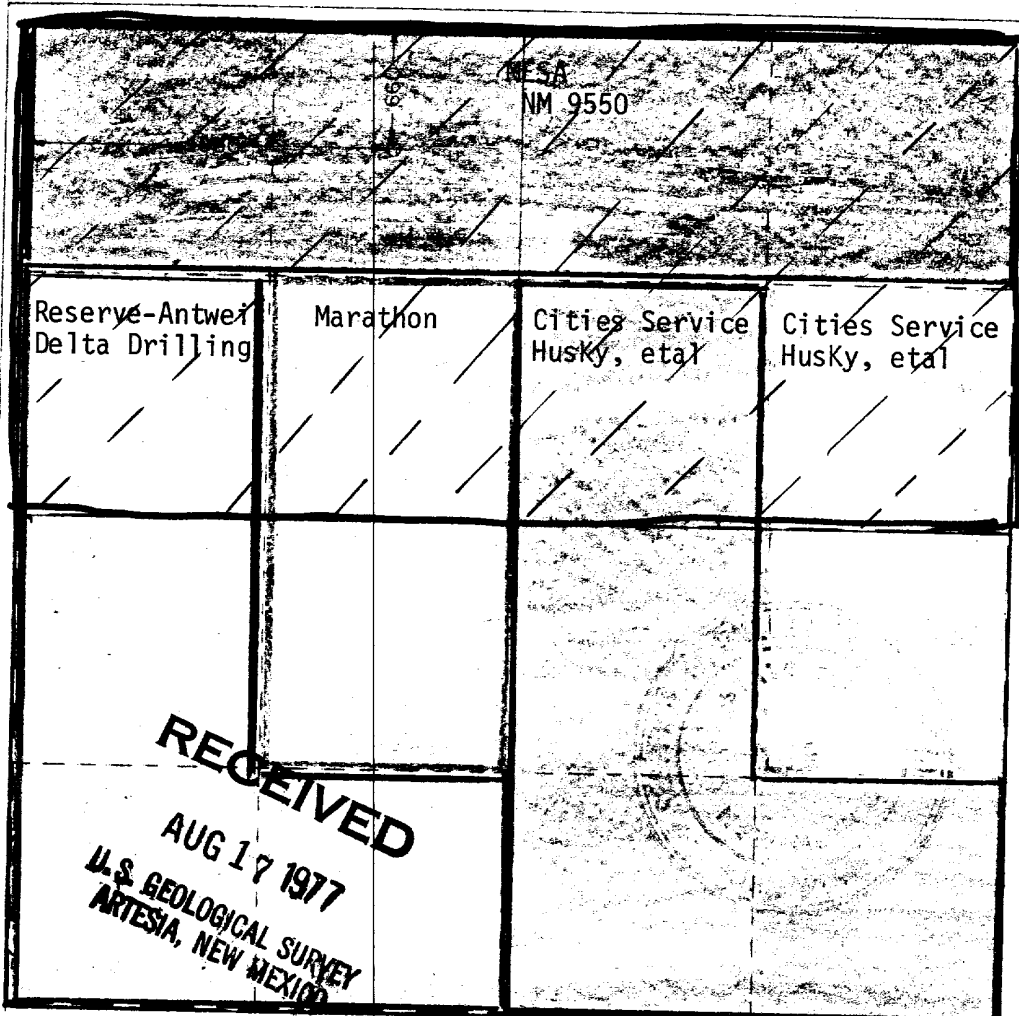
| | | | | | |
|--|--------------------------------------|-------------------------------|---------------------------------------|--|----------------------|
| Operator Mesa Petroleum Co. | | | Lease Bindel Fed. Com. | | Well No. 1 |
| Section 9 | Township 23 South | Range 27 East | County Eddy | | |
| Actual Well Location at Well: 660 feet from the North line and 1980 feet from the West line | | | | | |
| Ground Level Elev. 3146.4 | Producing Formation Morrow | Loc. Carlsbad, So., | Dedicated Acreage 320 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 Communitization in process.

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.

Michael P. Houston

Name
Michael P. Houston

Position
Division Engineer

Company
Mesa Petroleum Co

Date
August 16, 1977

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.

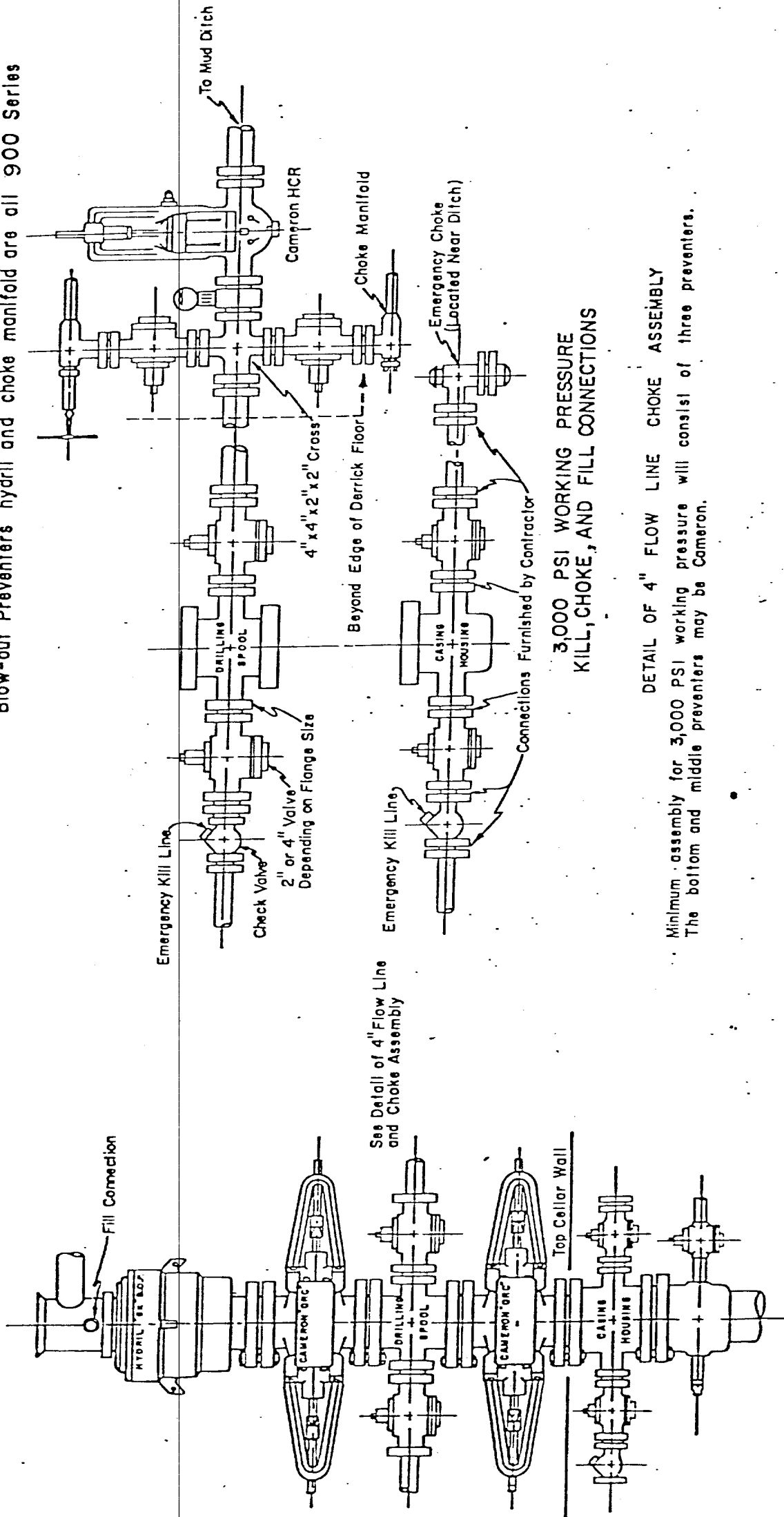
Date Surveyed
August 10, 1977

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No.
676

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



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.

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

APPLICATION FOR DRILLING
MESA PETROLEUM CO
BINDEL FEDERAL COM #1
EDDY COUNTY, NEW MEXICO

In conjunction with permitting subject well for drilling Section 9, Township 23 South, Range 27 East, Eddy County, New Mexico, Mesa Petroleum Co submits the following:

1. The geologic surface formation series is Ochoan.
2. The estimated tops of geologic markers are as follows:

| | | | |
|--------------------|---------|---------------|---------|
| Base Salt | 1790' | Atoka | 10,725' |
| Lamar | 2020' | Morrow | 11,500' |
| Delaware SS | 2120' | Mississippian | 12,040' |
| Cherry Canyon | 2860' | | |
| Bone Springs | 5510' | | |
| 3rd Bond Spring SS | 8530' | | |
| Wolfcamp | 8815' | | |
| Strawn | 10,460' | | |

3. The depth at which water, oil, or gas are expected is:

| | |
|---------|---------------------|
| 2,800' | Oil - Cherry Canyon |
| 10,800' | Gas - Atoka |
| 11,700' | Gas - Morrow |

4. Casing and Blowout Preventer Program:

Surface: 350' of 13-3/8" 48# H-40 ST&C new casing cemented with 400 sacks or sufficient to circulate cement to surface. Will nipple up 12" API 3000 WP bradenhead and install 12" API 3000 psi WP BOP stack (consisting of 1 pipe ram, 1 blind ram, and 1 bag type BOP) to drill 11" intermediate hole.

Intermediate: 5400' of 8-5/8" and 24# and 32# K-55 new casing cemented with 2000 sacks so as to circulate cement to the surface. Will install 12" API 3000 x 10" API 3000 psi WP casinghead spool and nipple up 12" 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.

Prod: 12,100' of 4½" 11.6# N-80 and S-95 to total depth. Casing will be cemented with 700 sacks or sufficient volume to cover all pay intervals.

Choke, kill, and fill lines are indicated on Exhibit VI. BOPs will be tested with independent concern prior to drilling below top of Wolfcamp.

5. Circulating Medium and Control equipment.

- 0-350' Drill 17½" hole with fresh water spud mud, while circulating through a small portion of the lined reserve pit. Mud weight 8.6-9.2 PPG with 45-85 viscosity.
- 350-5400' Drill 11" hole with saturated brine water and periodically "sweep" hole with flosal pills. Saturated brine is necessary to prevent leaching salt sections and encouraging hole enlargement. Circulate through a controlled portion of lined reserve pit. Mud weight 10.0-10.3 PPG with 28-32 viscosity.
- 5400-9000' Drill 7-7/8" hole with fresh water while circulating through reserve pit. At 9,000', will return to steel pits and utilize pit volume totalizer and flowline and flowline sensor, to monitor drilling conditions. Mud weight 8.8-9.2 PPG with 29-34 viscosity.
- 9000-12,100' Start adding brine water, while circulating through steel pits. Will continue to utilize pit level and flowline sensors to monitor drilling operations. Will add drilling choke and mud-gas separator to assist in controlling drilling conditions. Mud weight 10-10.4 as required with 32-36 viscosity.

A full opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times. Kelly cock, safety valve, choke and kill lines will be tested at same time that BOP tests are run. A float will be run in the drill string just above the bit to further aid in safety.

6. There is no coring program planned for this well. It is probable that a drillstem test will be run in the Cherry Canyon (2600'-3000') and Atoka (1-,7-0'-11,000') and Morrow (11,400'-11,800'). The logging program will consist of a gamma ray log from total depth to surface. Neutron-density-caliper and dual laterolog will be run from 5400' total depth. A sonic and dual laterolog will be run from surface pipe to 5400'.
7. Maximum anticipated bottom hole pressure is 5500 psi at approximately 10,800' based on offset well data. Mud weight required to offset this pressure is 9.8 PPG. Bottom hole temperature should not exceed 180° F. No sour gas is expected.
8. Anticipated spud date is September 10, 1977. Completion of drilling operations are expected by November 1, 1977. Completion operations (perforating and stimulating) will immediately follow the drilling operations.

SURFACE USE AND OPERATIONS PLAN
MESA PETROLEUM CO
BINDEL FEDERAL COM #1

RECEIVED
AUG 17 1977
U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

The following information and plan is submitted for the subject well by Mesa Petroleum Co.

1. Existing roads in the vicinity of planned well are shown on attached Exhibit I. As shown, the planned well is approximately $4\frac{1}{2}$ miles southeast of Carlsbad, New Mexico. The subject well can be reached by traveling 3.3 miles south of Carlsbad on the old Cavern Highway, then turn east on a paved country road and travel 1 mile. Turn south and travel 1 mile on a caliche road. At this point, the subject location will be about $\frac{3}{8}$ mile southeast, across gentle sloping terrain.
2. The planned access road is depicted by attached Exhibit II. Grading, and topping with caliche, is all that is planned for the proposed access road. The access road will be 12 feet in width (20' ROW width). A typical cross section is shown by Exhibit III. There will be no culverts set because primary drainage for this immediate area is in a west to east direction. Elevation change from existing road to proposed location is about 15 feet in $\frac{3}{8}$ mile as indicated by Exhibit II. There are no fences between the present roadway and the proposed location, therefore, cattleguards or gates will not be necessary.
3. Exhibit IV illustrates all wells within a one mile radius.
4. If the subject well proves commercial, gas separation-process equipment and tank battery will be located on the subject well's drilling pad.
5. Both fresh and brine water utilized to drill the subject well will be hauled to location by truck transport over the existing and proposed access road. The source for brine and fresh water is near Carlsbad, New Mexico.
6. Top soil from the location proper will be stock piled near the location for future re-habilitation use. No surface materials will be disturbed except those necessary for the actual grading-leveling of the drill site and access road. All construction materials will be of local origin.
7. Drill cuttings will be accumulated in the earthen reserve pit which will also be plastic lined. After the pit has sufficiently dried following drilling operation, the solids accumulation will be buried. Trash and garbage will be contained in an earthen pit and buried once drilling operations are completed. Sewage will be collected in a pit at least 6' deep below an outside latrine; suitable chemicals will be added to aid decomposition of the waste material. The pit will be back filled following completion of drilling operations. All pits will be fenced with normal fencing material to prevent livestock from entering the area.

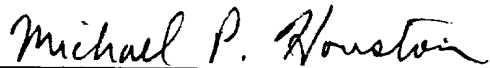
8. No ancillary facilities will be constructed.
9. Rig layout and cross section of the planned drilling site are shown on Exhibits III and V. The reserve pits will be lined with plastic material.
10. Following completion of drilling operations, all pits will be filled and the area surrounding the location will be leveled or returned to its natural grade. Top soil will be stored near the drillsite and utilized to rehabilitate the location once drilling operations have ceased. If the proposed well is not commercial, the drillsite and new access roadway will be graded to conform to original topography, top soil spread, and the entire location re-seeded. We will re-seed with seed type (and quantities) as recommended by the surface owner and BLM. All re-seeding will be done with reasonable effort to establish a more attractive soil stabilizing growth of vegetation than what previously existed at the site. Re-seeding will take place at the first opportunity following completion of operations in accordance with the recommended seasonal seeding periods.
11. The area around the drilling site has a gradual sloping trend to the east. Domestic livestock are grazed in the area. The surface at the location (and ROW for access roadway) are privately owned.
12. The Mesa Petroleum Co. representatives responsible for conducting this drilling operation are:

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

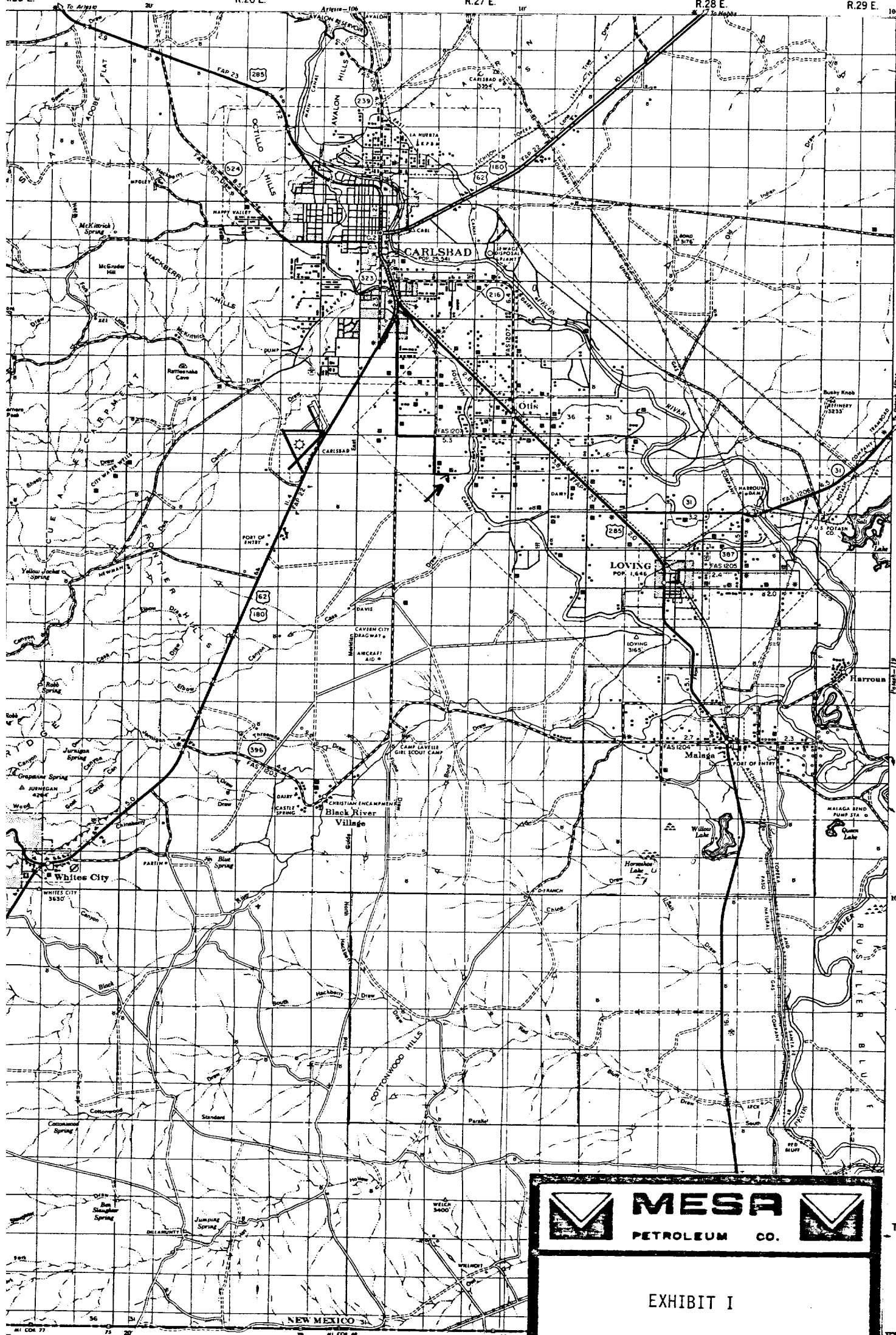
M. P. Houston
1000 Vaughn Building
Midland, Texas 79701
(915) 683-5391 Office
(915) 694-3442 Residence

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 be best of my knowledge, true and correct; and that work associated with the operations proposed herein will be performed by Mesa Petroleum Co and its' contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.


Michael P. Houston, Division Engineer

XC: JLF, MEC, LMC, RHN, JWH, 6 USGS, FILE 8-16-77
PARTNERS





**MESA**
PETROLEUM CO.

EXHIBIT I

Scale 1" = 3 miles