Form 9-331 C
(May 1963)

COPY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

C-SF

30-015-23101

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
DEC 17 1979
O. C. C.
ARTESIA, OFFICE

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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: 2130' FSL and 1800' FWL
At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.: NM 7066

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Williamson Federal Com

9. WELL NO.: 2

10. FIELD AND POOL, OR WILDCAT: Undesig. Diamond Mound Atoka ~~Morrow~~

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: K- Sec. 12-T16S-R27E

12. COUNTY OR PARISH: Eddy

13. STATE: New Mexico

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 11-1/2 miles east and south of Lake Arthur, N.M.

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 810'

16. NO. OF ACRES IN LEASE: 920

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 2496'

19. PROPOSED DEPTH: 9200'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3697.6

22. APPROX. DATE WORK WILL START*: December 1, 1979

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#	350'	400 sx - Circ to surface
11"	8-5/8"	24#	1700'	700 sx LW + 200 sx neat
7-7/8"	4-1/2"	11.6#	9200'	600 sx or sufficient to cover pay

Propose to drill 17-1/2" hole to approximately 350' without BOPs. Will run and cement 13-3/8" casing, then nipple up 12" API 3000 psi BOPs after drilling 11" hole to approximately 1700' using brine as drilling fluid. Will run and cement 8-5/8" casing to surface. Will nipple up BOPs, same as before (with ram, blind, and annular bag) and drill to total depth using fresh water and converting to KCL system near total depth.

Operator's gas is dedicated to Northern Natural Gas Company.

Approval of unorthodox location has been requested of the NMOCD due to topographical constraints.

NSL - 1091
10-29-79

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 10-22-79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE 12-14-79

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

xc: TLS, JWH, MEC, FILE, WI OWNERS JBH 11-6-79

N 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	Lease	Well No.
Mesa Petroleum Co	Williamson Federal Com	2

Unit Letter	Section	Township	Range	County
K	12	16 South	27 East	Eddy

Actual Footage Location of Well:
2130 feet from the South line and 1800 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage
3297.6	Atoka-Morrow	Undesignated Diamond Mound Atoka	S/2 320 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).

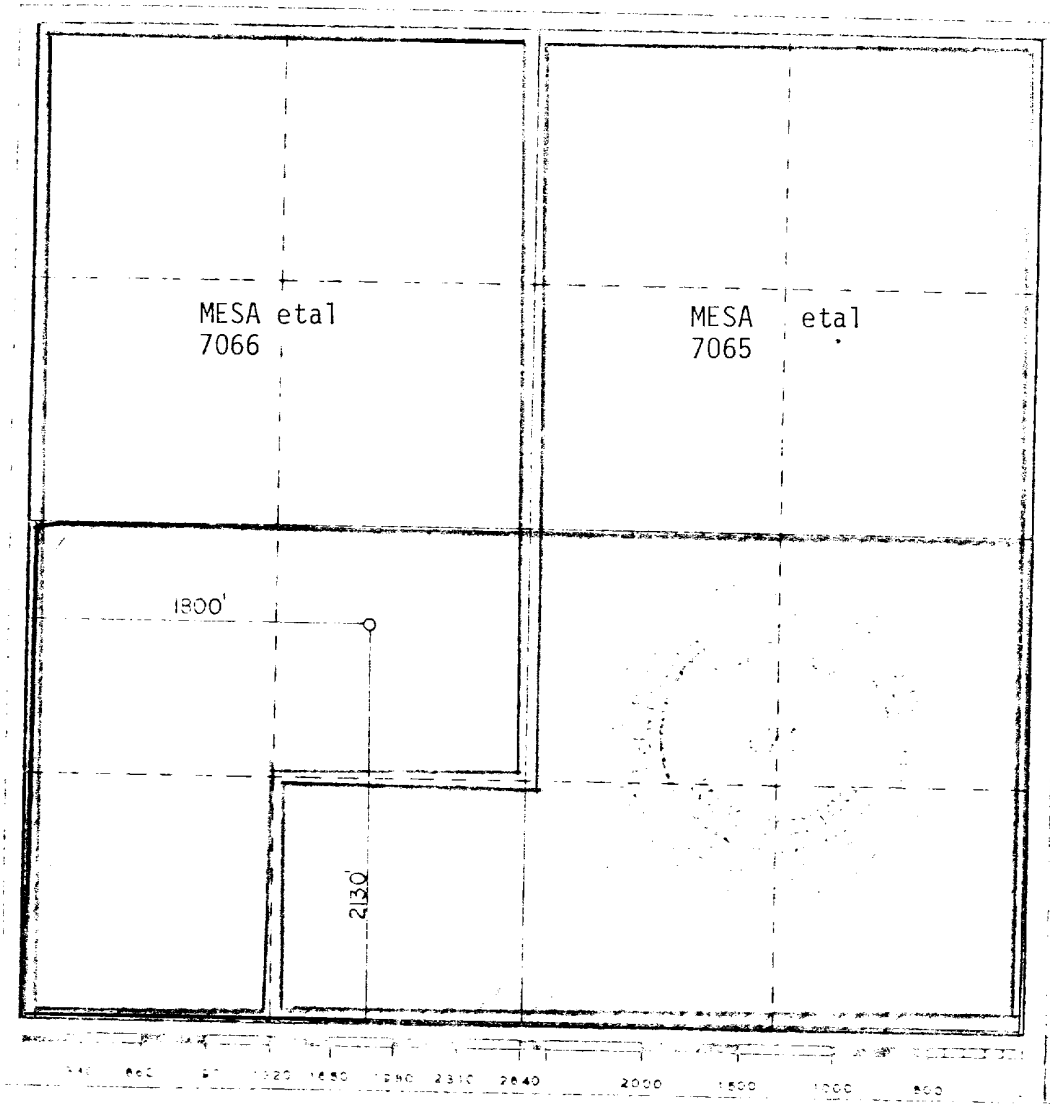
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

[ ] Yes [X] 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.

RECEIVED
DEC 17 1979
O. C. D.
ARTESIA, OFFICE



CERTIFICATION

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

Name: R. E. Mathis
Position: Regulatory Coordinator
Company: Mesa Petroleum Co
Date: 10-22-79

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 19, 1979

Registered Professional Engineer and/or Land Surveyor
Certificate No. John W. West 676
Ronald J. Eidson 3239

COPY

United States Department of the Interior

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

RECEIVED
DEC 17 1979
O. C. C.
ARTESIA, OFFICE

December 14, 1979

Mesa Petroleum Company
1000 Vaughn Building
Midland, Texas 79701

MESA PETROLEUM COMPANY Williamson Fed Com No. 2 2130 FSL 1800 FWL Sec. 12 T.16S R.27E Eddy County Lease No. NM 7066
Above Data Required on Well Sign

Gentlemen:

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 9,200 feet to test the Morrow 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. 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.

4. 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).

5. 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.

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

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

7. 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 by an independent service company. Any equipment failing to test satisfactorily shall be repaired or replaced. This office should be notified in sufficient time for a representative to witness the tests and shall be furnished a copy of the pressure test report.

8. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be installed and operating before drilling into the Wolfcamp formation and used until production casing is run and cemented. Monitoring equipment shall consist of the following:

   (1) A recording pit level indicator to determine pit volume gains and losses.

   (2) A mud volume measuring device for accurately determining mud volume necessary to fill the hole on trips.

   (3) A flow sensor on the flow-line to warn of any abnormal mud returns from the well.

9. Notify the Survey in sufficient time to witness the cementing of the 8-5/8" casing.

10. Cement behind the 13-3/8" and 8-5/8" casing must be circulated.

11. Special Stipulations: Follow existing "two track" ranch road to location (BLM).

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,

STEWART

George H. Stewart
Acting District Engineer

APPLICATION FOR DRILLING
MESA PETROLEUM CO.
WILLIAMSON FEDERAL COM WELL NO. 2
SECTION 12-T16S-R27E
EDDY COUNTY, NEW MEXICO
OCTOBER 22, 1979
LEASE NM-7066

In conjunction with Form 9-331C, Application for Permit to Drill subject well in Section 12, Township 16 South, Range 27 East, Eddy County, New Mexico, Mesa Petroleum Co. submits the following items of pertinent information in accordance with USGS requirements:

1. The geologic surface formation is Permian - Guadalupian Artesia Group.

2. The estimated tops of geologic markers are as follows:

Queen	980'
San Andres	1700'
Glorietta	3080'
Tubb	4440'
Abo	5180'
Wolfcamp	6420'
Wolfcamp Bursum	7280'
Strawn	8320'
Atoka	8750'
Morrow	8900'
T/Miss Chester Sh.	9060'
Miss Chester Lm.	9160'
Total Depth	9200'

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

Water - at approximately 2900', 3400', and 4410'
Gas - Lower Penn at approximately 8450' to 8550'
Gas - Atoka-Morrow at approximately 8750'

4. CASING AND BLOWOUT PREVENTER PROGRAM:

Surface: 350' of 13-3/8" 48# H-40 ST&C new casing cemented with 400 sx Class "H" with 1/4# flocele and 2% cc or sufficient volume to circulate cement to surface. Will install 12" API 3000 psi WP bradenhead and nipple up 10" API 3000 WP ram type BOPs to drill 11" intermediate hole.

Intermediate: 1700' of 8-5/8" 24# K-55 ST&C new casing cemented with 700 sx LW with 5# gilsonite, 1/4# flocele and 2% cc followed by 200 sx Class "C" with 2% cc or sufficient volume to circulate cement to bottom of surface casing. Will nipple up 12" API 3000 WP x 10" API 3000 WP casinghead spool and install 10" API 3000 psi WP BOP stack (consisting of 1 pipe ram, 1 blind ram, 1 bag type BOP) to drill 7-7/8" production hole.

Production: 9200' of 4-1/2" 11.6# K-55 LT&C new casing cemented with sufficient volume (estimated at 600 sx) to cover all pay. Cement will be Class "H" with 0.5% fluid loss additive and 5# KCL.

Choke, kill, and fill lines are indicated in Exhibit I. BOPs will be tested with rig pumps prior to drilling below 8-5/8" casing shoe. BOPs will be tested again by independent concern prior to reaching 6000'. BOPs will be worked once each day, with blind rams worked only on trips.

5. Circulating Medium and Control Equipment:

0'- 350' Drill 17-1/2" hole with fresh water spud mud, while circulating through a small portion of the plastic-lined reserve pit. Mud weight 8.6-9.2 PPG with 45-85 viscosity.

350'-1700' Drill 11" hole with brine water and periodically "sweep" hole with higher viscosity 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 9.8-10.1 PPG with 28-32 viscosity.

1700'-9200' Drill 7-7/8" hole with fresh water while circulating through reserve pit. Will attempt to drill to 8000' using water with some lost circulation materials, however, may have to mud up with gel-polymer system at approximately 5000' if losses are too high. Will drill from 8000-9000' with gel-polymer system. Maximum mud weight 9.2-9.5 with 40-45 viscosity.

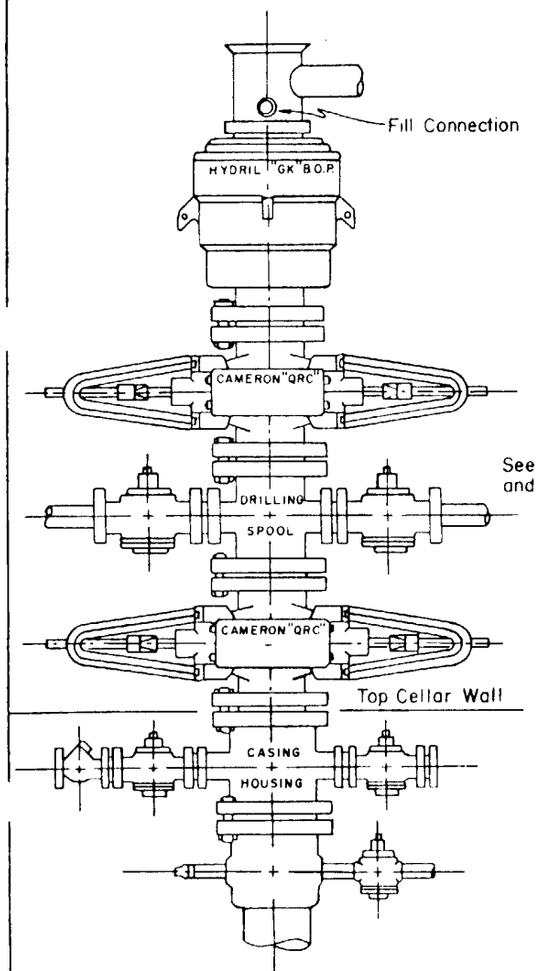
A full opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times. Kelly cock, safety valve, choke and kill lines will be tested at same time that BOP tests are run. A float will be run in the drill string just above the bit to further aid in safety.

6. There is no coring program planned for this well. It is possible that a drillstem test will be run in the Strawn (8300'-8400') and Atoka-Morrow (8750'-8850'). The logging program will consist of a gamma ray log from total depth to surface. Neutron-density-caliper and dual induction logs will be run from 1600' to total depth.

7. Maximum anticipated bottom hole pressure is 3300 psi at approximately 8500' based on offset well data. Mud weight required to offset this pressure is 7.5 PPG. Maximum bottom hole temperature should approach 130° F. No sour gas is expected.

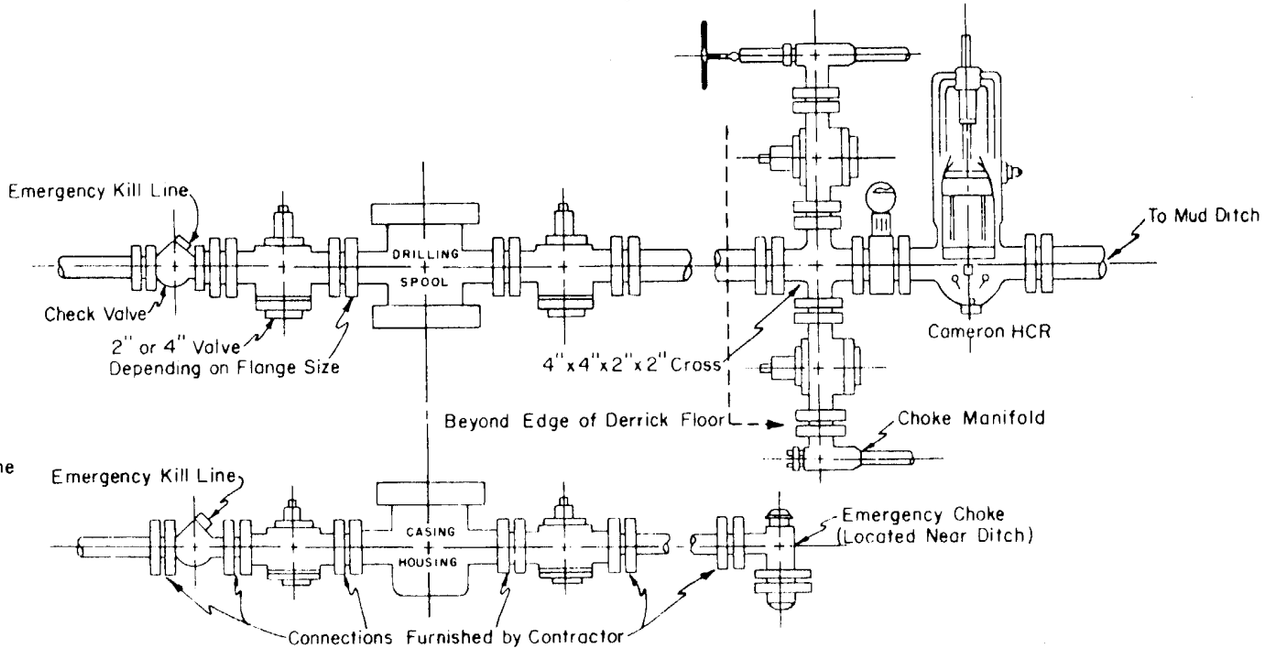
8. Anticipated starting date is December 1, 1979, with completion of drilling operations approximately January 1, 1980. Completion operations (perforating and stimulating) will immediately follow the drilling operations.

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



See Detail of 4" Flow Line and Choke Assembly

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

BOP for proposed

WILLIAMSON FED. COM. #2

BY:
DATE:
DRAWN BY:
SCALE:

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

MESA PETROLEUM CO.
WILLIAMSON FEDERAL COM WELL NO. 2
2130' FSL AND 1800' FWL, SECTION 12-T16S-R27E
EDDY COUNTY, NEW MEXICO
(DEVELOPMENT WELL)
LEASE NM-7066
OCTOBER 22, 1979

This plan is submitted with Form 9-331C, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operations.

1. EXISTING ROADS

A. Existing roads in the vicinity of the proposed location are shown in green on Exhibit II, attached. As indicated, the drillsite is located at a driving distance of approximately 11-1/2 miles east and south of Lake Arthur, New Mexico, including 11 miles of existing road and 1/2 mile of newly constructed road adjacent to the drillsite.

B. Travel east from Lake Arthur on highway 507, located at the northern edge of Lake Arthur. This road originates from alternate route 285 at a point recognizable by a former gasoline station, now a residence, painted white with green trim, on the west side of alternate route 285. The black top surface of the road changes to gravel after about 1.7 miles and, approximately 0.55 miles beyond this point, passes over a bridge across the Pecos River. Turn left after crossing the bridge and continue in a generally eastbound direction for about 2.05 miles. Take a right (southeast) turn at this point and continue for approximately 3.2 miles. Turn right (south) on a road adjacent to a double-wire electric high line and continue for approximately 2.0 miles. Turn left (east) on an oil field road for about 0.55 miles, passing en route Diamond Mound Federal Well No. 1 on the left, then turn south for .5 mile to the Williamson Federal Com #1. The new access road to be constructed to the proposed well will originate from the existing oil field road at the well pad, and is indicated by red ribbons and surveyor's stakes.

2. PLANNED ACCESS ROAD

A. The proposed access road is indicated on Exhibits II and III. This road will originate from the Williamson Federal Com No. 1. It will be constructed for a total distance of approximately one-half mile in a north-to-south direction, passing immediately east of the drilling pad and making a right turn into the southeast corner of the pad.

B. The road will be constructed by grading and topping with compacted caliche. The driving surface of the road will be 12 feet in width (20' right-of-way width, as shown in Exhibit V) with drainage on both sides of the road. One turnout will be constructed at the midpoint in the length of the road. No cattleguards or culverts will be necessary.

C. The center line of the proposed new road has been staked and flagged, and is clearly visible.

3. LOCATION OF EXISTING WELLS

A. All wells within a one-mile radius of the proposed well are indicated in Exhibit III.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

A. Existing: There is production equipment on the Williamson Fed Com #1 located in the same section as the proposed well. Production equipment consists of a wellhead and associated flowlines, tanks, and separation equipment. All equipment is located on the pad.

B. Proposed: If the well is capable of commercial production, either oil or gas, the necessary separation equipment, etc will be installed on the Williamson Federal Com #2 pad.

5. LOCATION AND TYPE OF WATER SUPPLY

A. Both fresh and brine water will be utilized to drill the subject well. the water will be obtained from commercial sources (brine water near Artesia, New Mexico, and fresh water near Lake Arthur, New Mexico), and will be hauled to the location by truck over the existing and proposed roads shown in Exhibits II and IV.

6. SOURCE OF CONSTRUCTION MATERIALS

A. Top soil from the location will be stockpiled near the location for future rehabilitation use. No surface materials will be disturbed except for those necessary for the actual grading and leveling of the drillsite and access road. With the exception of the 6" compacted caliche top coat, all construction materials will be of local origin. Caliche required for construction will be obtained from an existing pit located on federally owned surface at Diamond Mound, only a short distance west of, and in the same section as, the proposed well. This pit has been cleared for archaelogical purposes.

7. METHODS OF HANDLING WASTE DISPOSAL

A. Drill cuttings will be disposed of in the reserve pit, which will be plastic-lined.

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. Oil produced during operations will be stored in tanks until sold.

F. Current laws and regulations pertaining to the disposal of human waste will be complied with.

G. 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.

H. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES

A. None required.

9. WELLSITE LAYOUT

A. Exhibit VI shows the relative location and dimensions of the well pad, reserve pits, and major rig components.

B. The ground surface at the wellsite is relatively level, with upward slope from north to south. It is estimated that a cut of approximately 3' to 3-1/2' will be necessary in the southern portion of the drilling pad and that minor fill will be required at the drill hole to compensate for a very slightly higher elevation both east and west of the drill hole. The pad surface will be covered with 6 inches of compacted caliche.

C. The reserve pits will be plastic-lined.

D. The pad and pit area has been staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE

A. After drilling and/or completion operations have been finished, all equipment and other material not needed for further operations will be removed. Pits will be filled and the location cleaned of all trash and junk, so as to leave the wellsite in as aesthetically pleasing a condition as possible.

B. Any unguarded pits containing fluids will be fenced until they have been filled.

C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Mangaement 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.

11. OTHER INFORMATION

A. Topography: The proposed wellsite is located on a relatively level

shelf area with relief to the north and east and the structural feature Diamond Mound to the south and west.

B. The topsoil at the wellsite is gyp.

C. Flora and fauna: The vegetation cover at the wellsite varies from sparse to moderate. There is mesquite in the area, along with snake weed, miscellaneous prairie weeds and flowers, and a very few cactus plants. Wildlife observed in the general area included rabbits and lizards, and there were evidences of deer and badgers. The area is used for cattle grazing.

D. There are no ponds, lakes, streams or rivers in the immediate vicinity of the wellsite.

E. The nearest dwelling and windmill are located approximately two miles north of the proposed wellsite.

F. The wellsite is on federally owned surface. The new access route to the location is on federally owned surface.

G. There is no evidence of any archeological, historical or cultural sites in the area of the wellsite. An archeological survey has been conducted by the NMAS.

12. OPERATOR'S REPRESENTATIVES

A. The Mesa Petroleum Co. representatives responsible for assuring compliance with the approved surface use and operations plan are:

J. W. Hart	M. P. Houston
P. O. Box 1756	1000 Vaughn Building
Hobbs, New Mexico 88240	Midland, Texas 79701
(505) 393-4425 (Office)	(915) 683-5391 (Office)
(505) 393-4317 (Home)	(915) 694-3442 (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 subcontractors in conformity with this plan and the terms and conditions under which it is approved.

10-26-79
DATE

Michael P. Houston
M. P. HOUSTON
OPERATIONS MANAGER

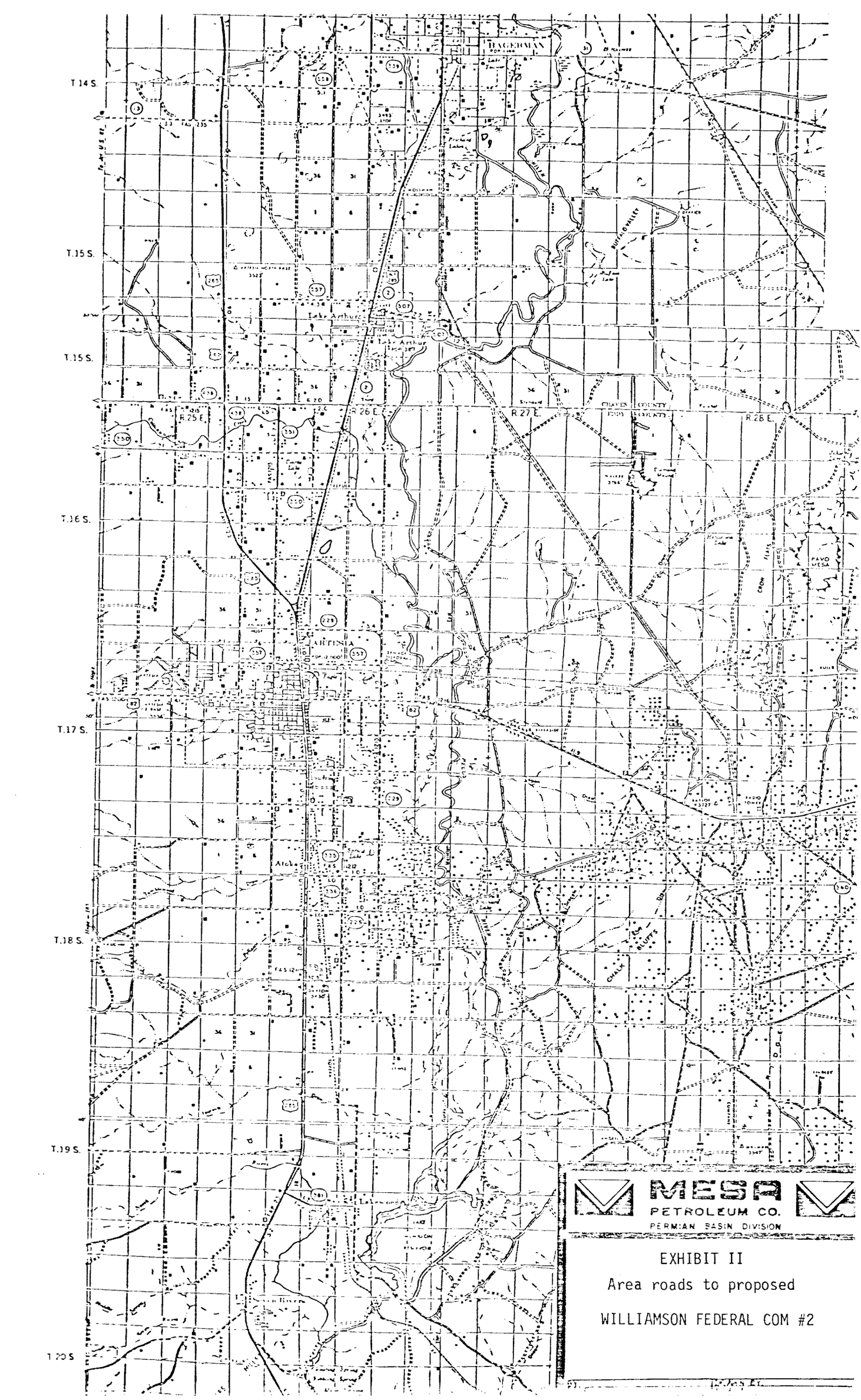


EXHIBIT II

Area roads to proposed

WILLIAMSON FEDERAL COM #2

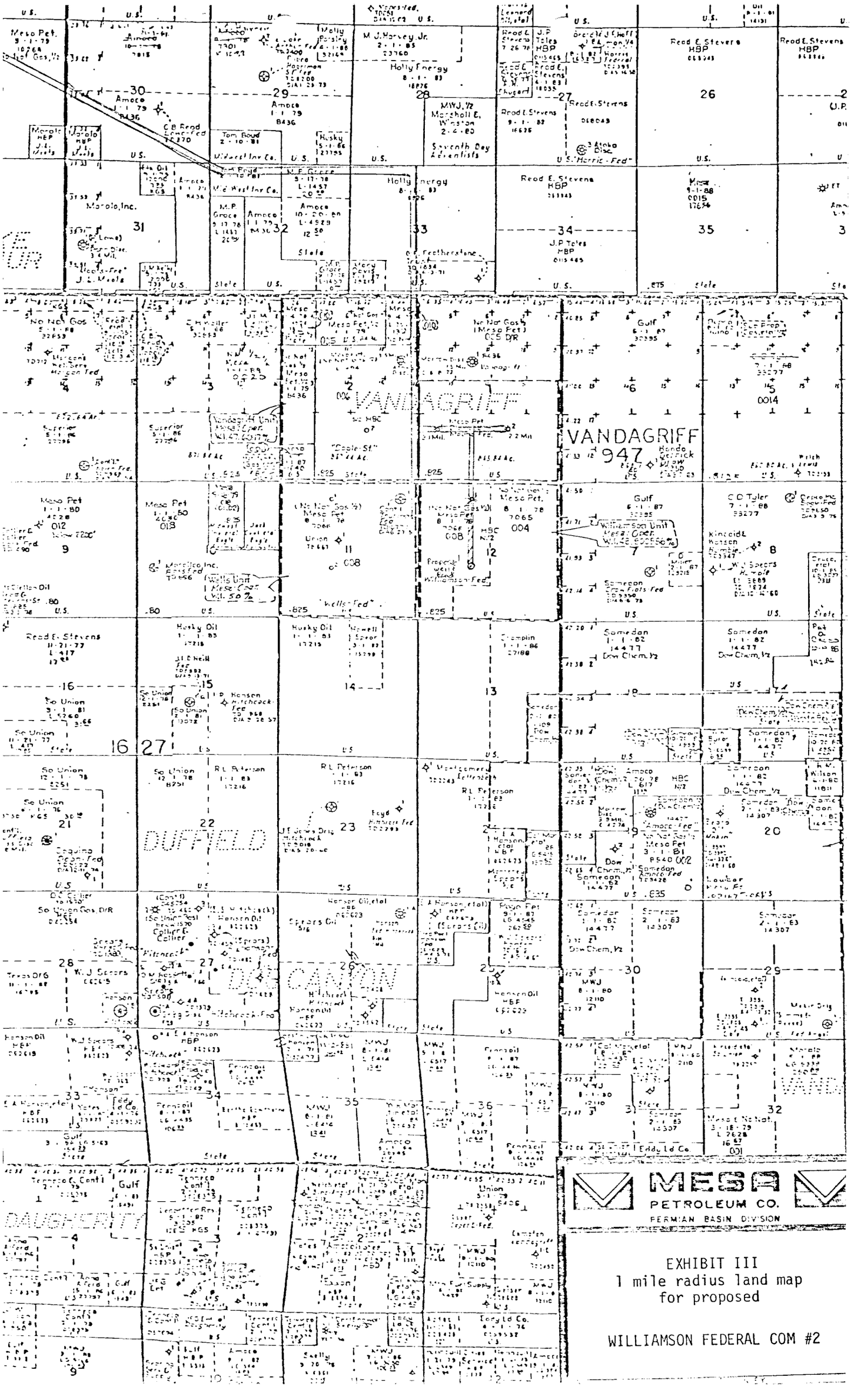


EXHIBIT III
1 mile radius land map
for proposed

WILLIAMSON FEDERAL COM #2

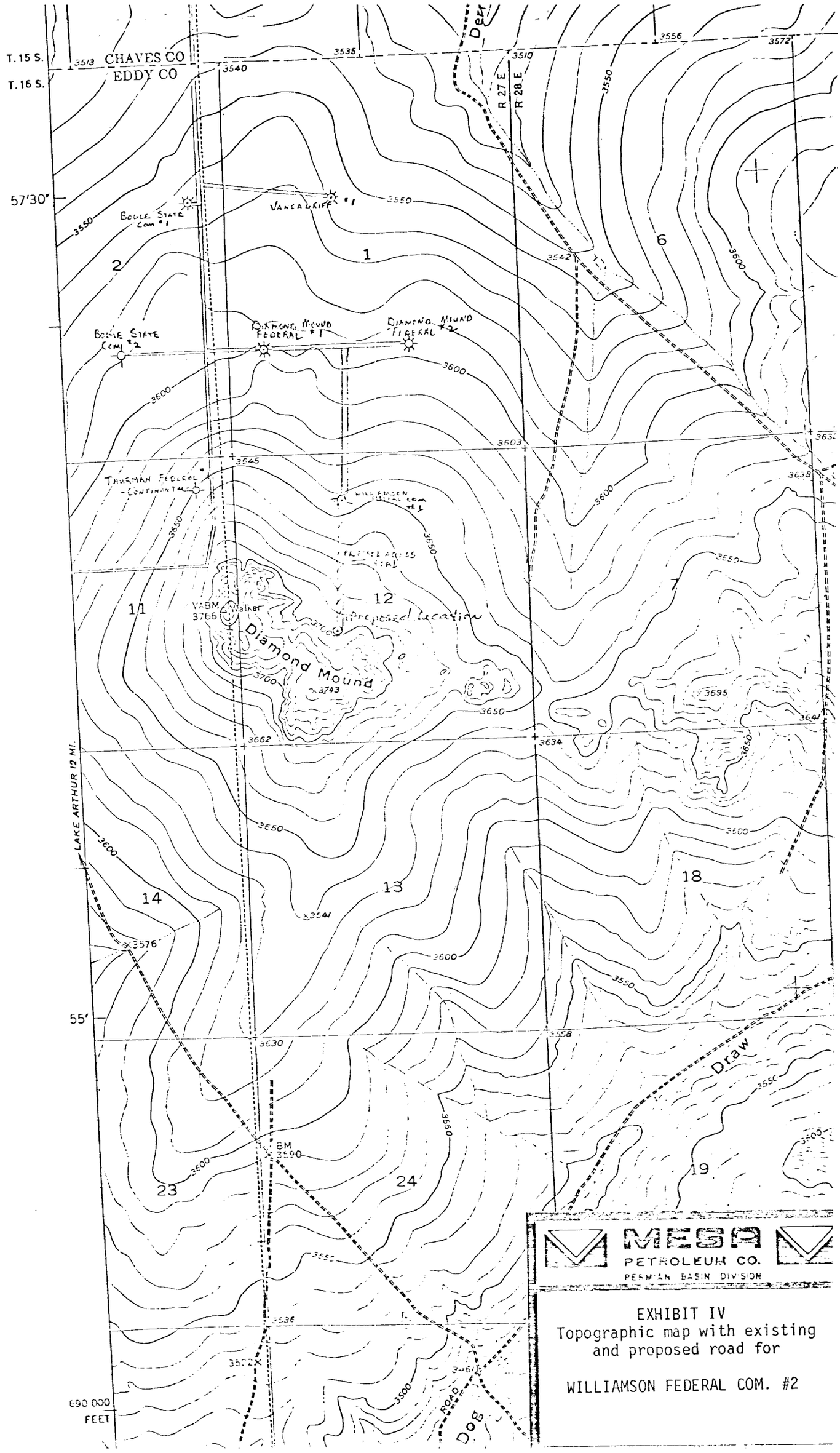
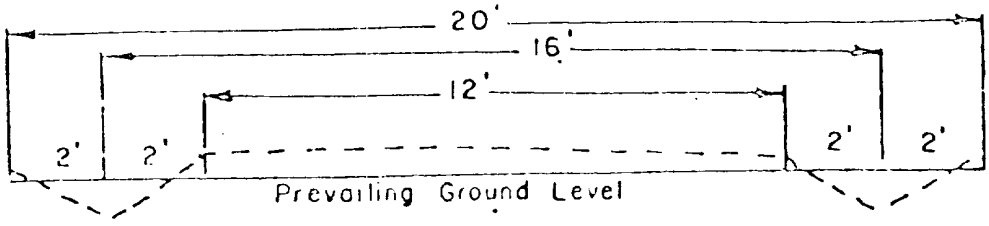


EXHIBIT IV
Topographic map with existing and proposed road for

WILLIAMSON FEDERAL COM. #2

R - O - W 20'



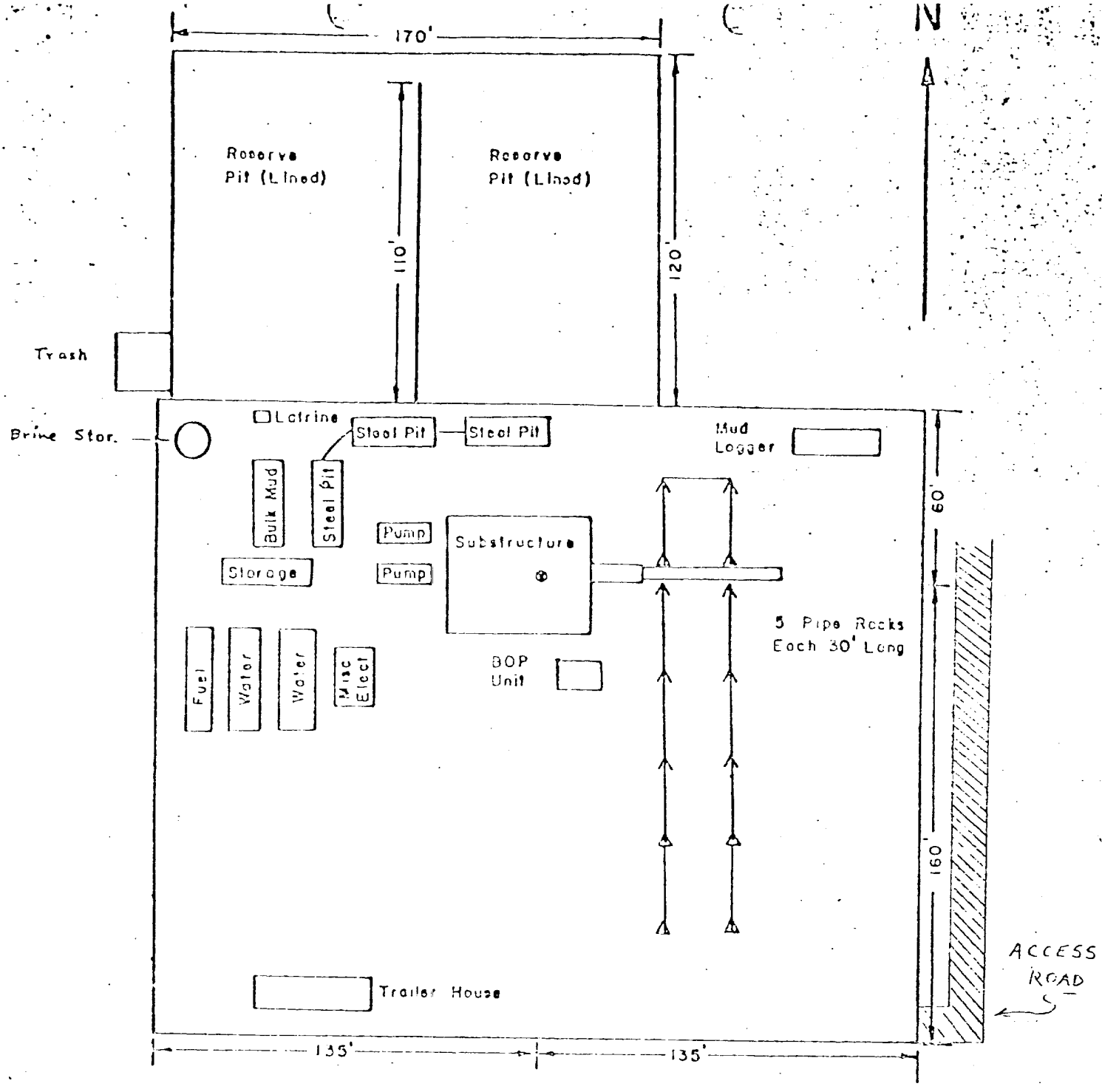
ROADWAY CROSS SECTION

Horizontal Scale 1" = 4'

MESA
PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT V
WILLIAMSON FED. COM. WELL NO. 2
2130 FSL and 1800' FWL
Section 12-T16S-R27E
Eddy County, New Mexico

BY:
DATE:
DRAWN BY:
SCALE:



MESA PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT VI
Williamson Fed. Com. Well No. 2
2130' FSL and 1800' FWL
Section 12-T16S-R27E
Eddy County, New Mexico

BY: DRAWN BY: