OCD COPY

Form 9-331 C
(May 1963)

SUBMIT IN [illegible]LICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-005-60698

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED
APR 10 1980
O. C. D.
ARTESIA, OFFICE

RECEIVED
FEB 25 1980
U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

5. LEASE DESIGNATION AND SERIAL NO.: NM 36652

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Barn Federal

9. WELL NO.: 1

10. FIELD AND POOL, OR WILDCAT: Undes. Abo

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 12, T8S, R22E

12. COUNTY OR PARISH: Chaves

13. STATE: N.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: 2280' FSL & 660' FEL
At proposed prod. zone: Same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 19 miles NW of Roswell

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
660'	1600	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**
N/H	3500'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 4103.8' GR

22. APPROX. DATE WORK WILL START*: April 15, 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 sx LW + 100 sx C-Circ to surf.
7 7/8"	4 1/2"	10.5#	3500	310 sx LW + 360 sx 50/50 Poz

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.

NSL - 1143

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 February 18, 1980

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE 4-9-80

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

xc: TLS, MEC, JBH, FILE, JWH, USGS, PLE, ACCOUNTING, CENTRAL RECORDS

NEW 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	
Mesa Petroleum Co.	Par Federal	

Unit Letter	Section	Township	Range	County
I	12	8 South	22 East	Chaves

Actual Footage Location of Well:
2280 feet from the South line and 660 feet from the East

Ground Level Elev.	Producing Formation	Pool	
4106.8	ABO	Undesignated	SE/4 160

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.

RECEIVED
APR 10 1980
O. C. D.
ARTESIA, OFFICE

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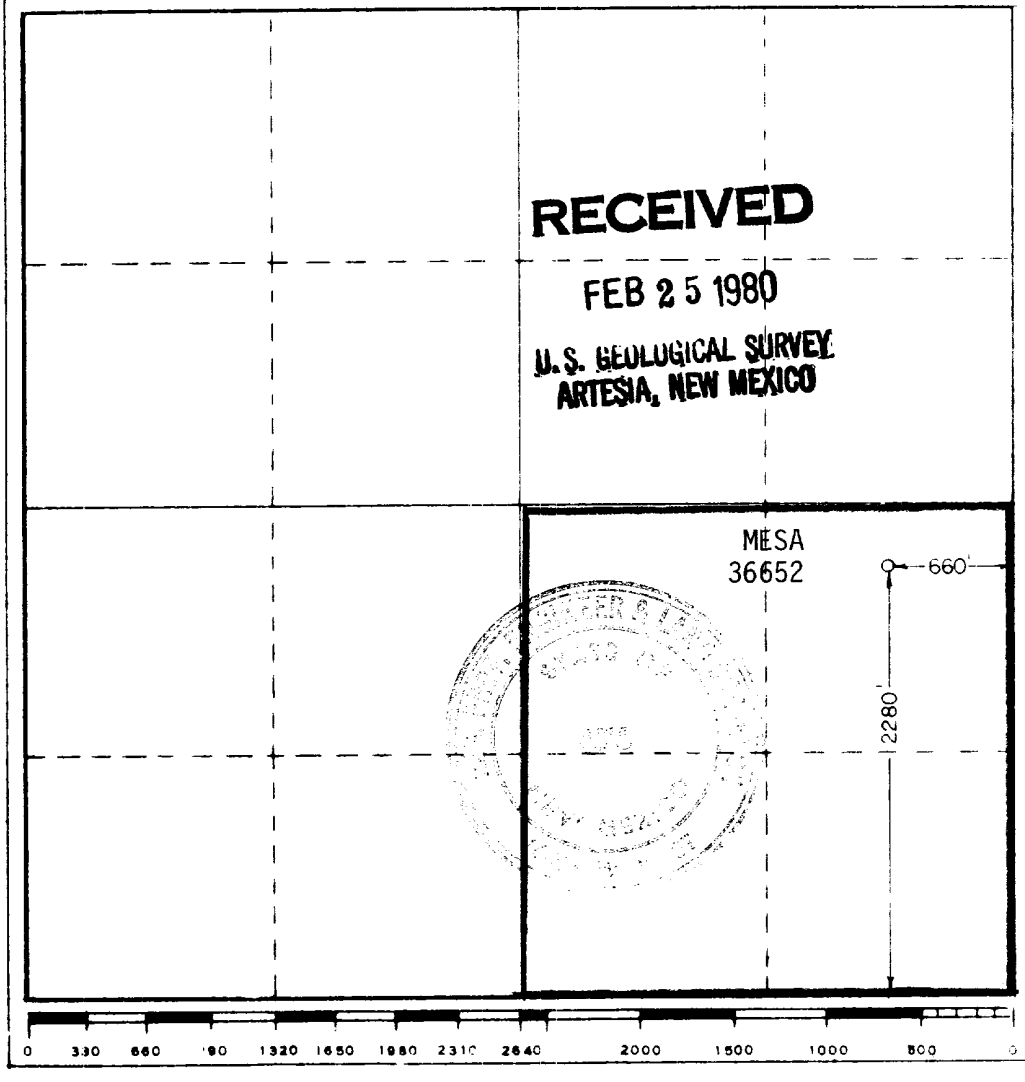
FEB 25 1980
U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO



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: February 18,1980

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: January 2, 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

O.C.D. COPY

United States Department of the Interior

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

RECEIVED
APR 10 1980
O. C. D.
ARTESIA, OFFICE

April 9, 1980

Mesa Petroleum Company
1000 Vaughn Building
Midland, Texas 79701

Gentlemen:

MESA PETROLEUM COMPANY Barn Fed No. 1 2280 FSL 660 FEL Sec. 12 T.8S R.22E Chaves County Lease No. NM-36652
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 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. This office should be notified in sufficient time for a representative to witness the tests.

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

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

11. 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

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

January 23, 1980

RECEIVED
JAN 25 1980
MESA—PBD

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Mesa Petroleum Co.
Vaughn Building
Suite 1000
Midland, Texas 79701

Attention: Mr. R. E. Mathis

Administrative Order NSL-1143

Gentlemen:

Reference is made to your application for a non-standard location for your Barn Federal Well No. 1 to be located 2280 feet from the South line and 660 feet from the East line of Section 12, Township 8 South, Range 22 East, NMPM, Abo formation, Chaves County, New Mexico.

By authority granted me under the provisions of Rule 104 F, the above-described unorthodox location is hereby approved.

Sincerely,

JOE D. RAMEY,
Director

JDR/RLS/dr

cc: Oil Conservation Division - Artesia
Oil & Gas Engineering Committee - Hobbs
U. S. Geological Survey - Artesia

APPLICATION FOR DRILLING

MESA PETROLEUM CO.
BARN FEDERAL WELL NO. 1
2280' FSL and 660' FEL of Sec 12, T8S, R22E
CHAVES COUNTY, NEW MEXICO

LEASE: NM 36652
FEBRUARY 18, 1980

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	518
Yeso	702
Abo	2788
Wolfcamp (Hueco)	3388

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 bradenhead 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 Exhibit 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. Operational 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.

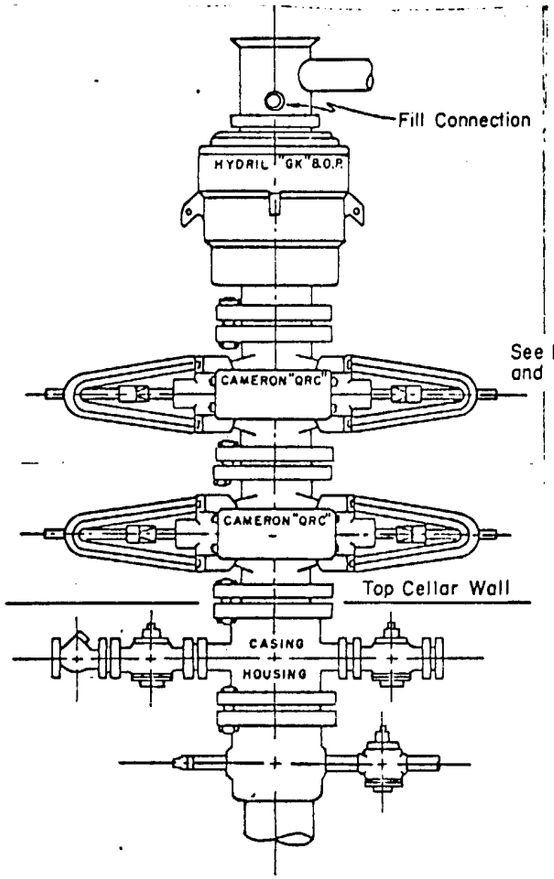
0 - 700'	Use fresh water spud mud with fresh water gel and soda ash or lime treated with lost circulation material (cottonseed hulls, fiber and paper) as hole conditions dictate. If total loss of returns occurs, mix 2 or 3 viscous slugs with LCM and attempt to regain circulation. If unsuccessful, consider 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 will consist of a gamma ray log from total depth to surface. Compensated neutron-density-caliper log and dual laterolog-micro spherically focused log will be run from 700' to total depth.

7. Maximum anticipated bottom hole pressure is 1200 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.

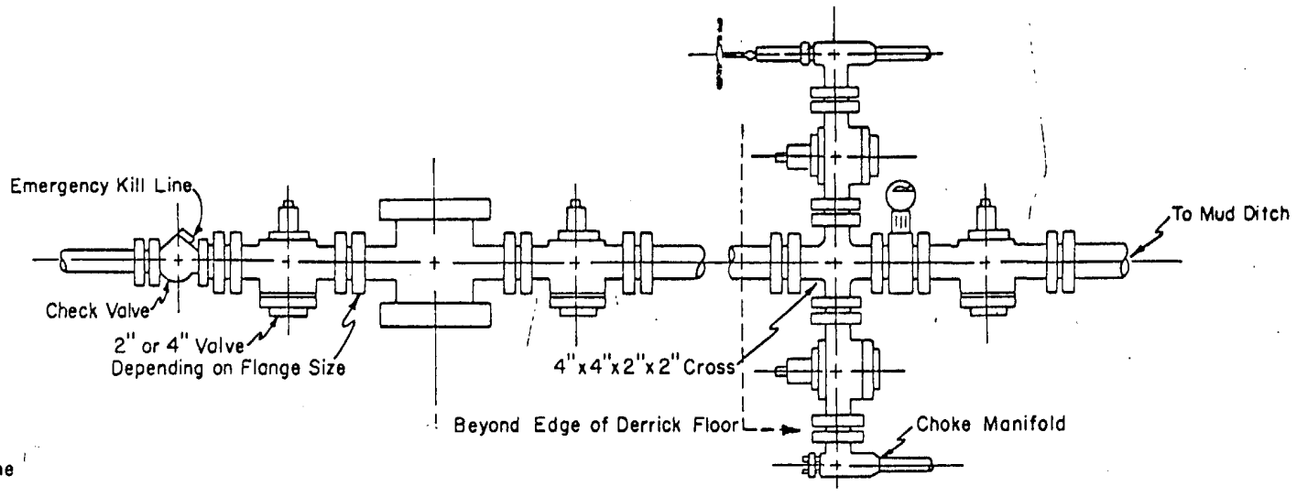
8. Anticipated spud date is April 15, 1980, with completion of drilling operations expected by May 1, 1980. Completion operations (perforations and stimulation) will immediately follow successful drilling operations.

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

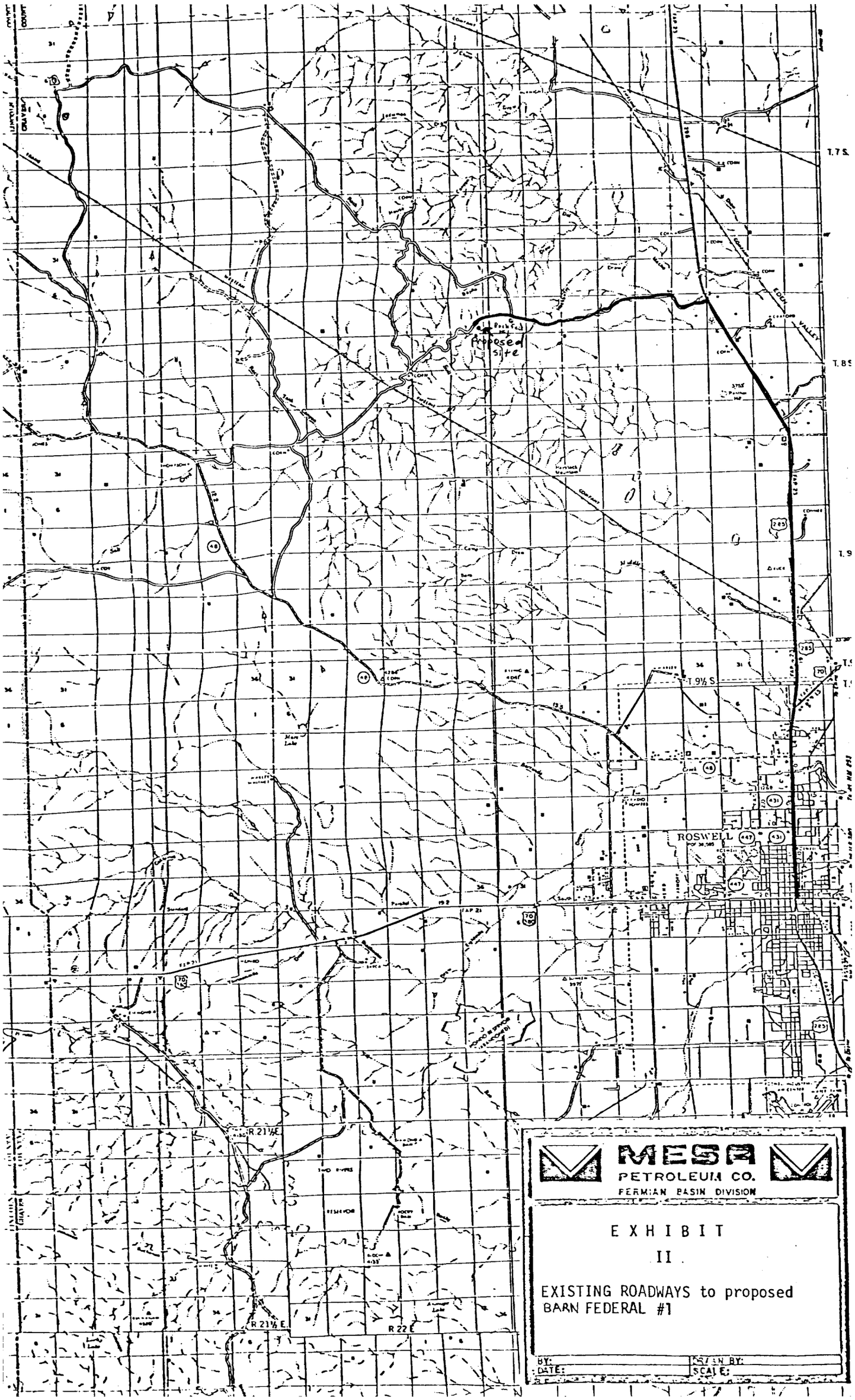
Minimum assembly for 3,000 PSI working pressure will consist of three preventers. The bottom and middle preventers may be Cameron.

MESA PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT
I

BLOWOUT PREVENTER SCHEMATIC
for proposed GARN FEDERAL #1

BY:
DRAWN BY:
DATE:
SCALE:

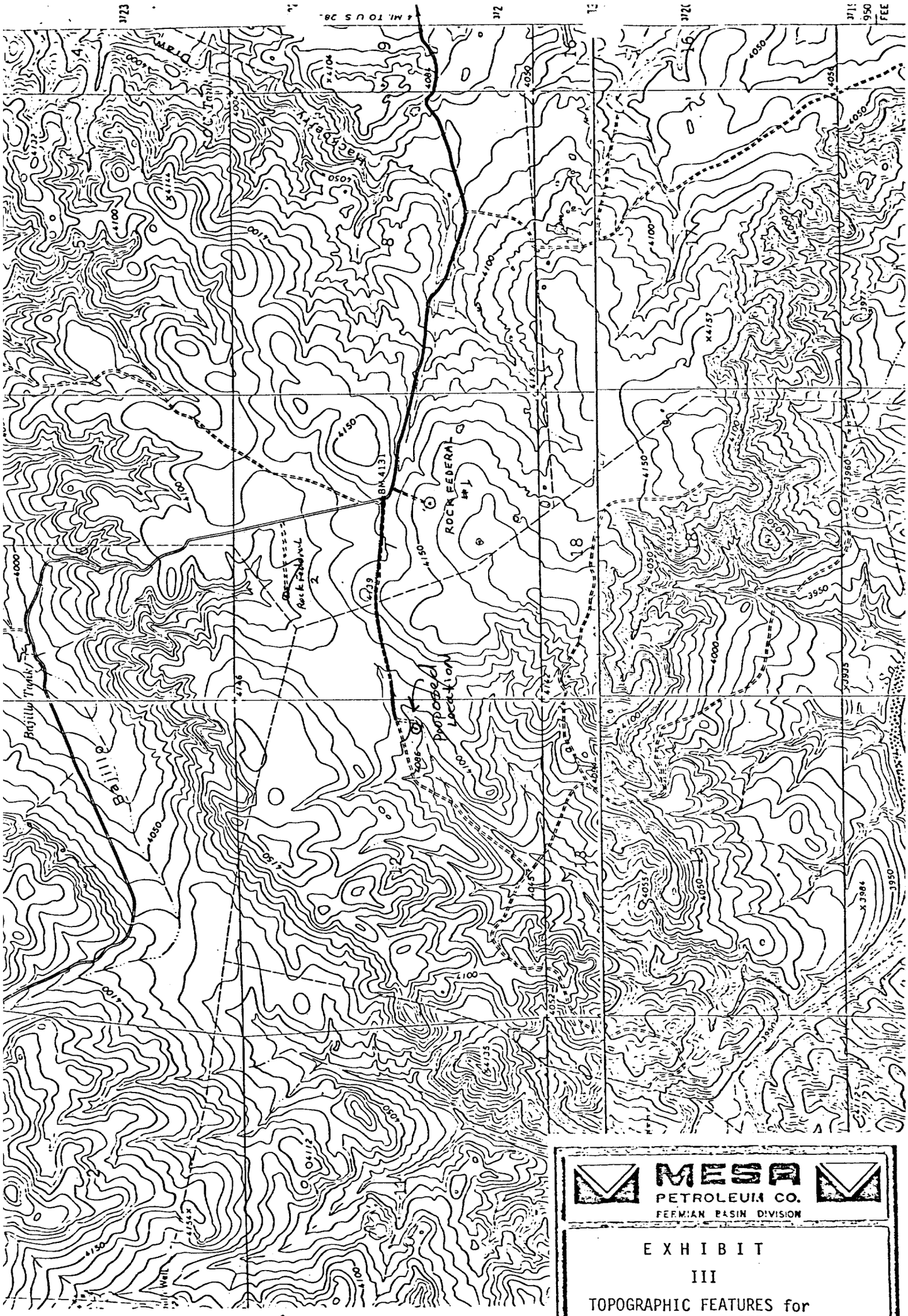


MESA
PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT
II

EXISTING ROADWAYS to proposed
BARN FEDERAL #1

BY:
DATE:
REVISED BY:
SCALE:



MESA
PETROLEUM CO.
PERMIAN BASIN DIVISION

EXHIBIT

III

TOPOGRAPHIC FEATURES for proposed BEAN FEDERAL #1

BY:
DATE:
DRAWN BY:
SCALE: