

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

30-039-21508

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 Company

3. ADDRESS OF OPERATOR

Box 2009, Amarillo, Texas 79105

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

At surface

1090' FNL and 790' FWL

At proposed prod. zone

same

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

6 miles north of Counselors, New Mexico

15. DISTANCE FROM PROPOSED*

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

790'

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES ASSIGNED
TO THIS WELL

N/320

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

2700'

19. PROPOSED DEPTH

6805'

20. ROTARY OR CABLE TOOLS

Rotary

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

6554 GR

22. APPROX. DATE WORK WILL START*

10-16-77

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
15"	10 3/4"	32.75	300'	150 sacks class "A" + 2% CaCl ₂
8 3/4"	7"	23 + 26	6805'	250 sacks class "A"

Move in rotary tools. Drill 15" hole to 160'. Set new 10 3/4" casing at 160' and circulate cement. Install blow out preventers - 10" 900 series and pressure test, prior to drilling out and daily to insure mechanical soundness. Drill 8 3/4" hole with gel-water system with mud properties of wts 9.1-9.4# per gallon, w.l. - uncontrolled to 8.0 cc, vis.: 32-50 seconds, LCM as required to total depth 6805'. No abnormal pressure or severe loss circulation is expected. No DST or cores to be taken. Run open hole logs consisting of IES and Density. If commercial production is indicated set 7" casing at 6805' and cement with 250 sacks. Perforate and stimulate as warranted.

All pits will be fenced. Location will be restored to comply with U.S.G.S. specifications. Should well be dry it will be plugged in accordance with U.S.G.S. abandonment instructions. Kelly cocks, floats at the bit, monitoring equipment on the mud system, a sub on the floor with a full opening valve to be stabbed into drill pipe when the kelly is not in the string will be available for use in blow-out control.

Gas under this lease is dedicated to a contract. Expected formation tops on back side.

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

Jack D. Cook

TITLE

Agent

DATE

10-12-77

(This space for Federal or State office use)

PERMIT NO.

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

*See Instructions On Reverse Side

U. S. GEOLOGICAL SURVEY
DENVER, COLO.

Instructions

General: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

Items 15 and 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

Item 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

Formation Tops

Ojo Alamo	1525
Kirtland	1695
Lewis	2165
Cliffhouse	3625
Greenhorn	6295
Morrison	6740

**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.

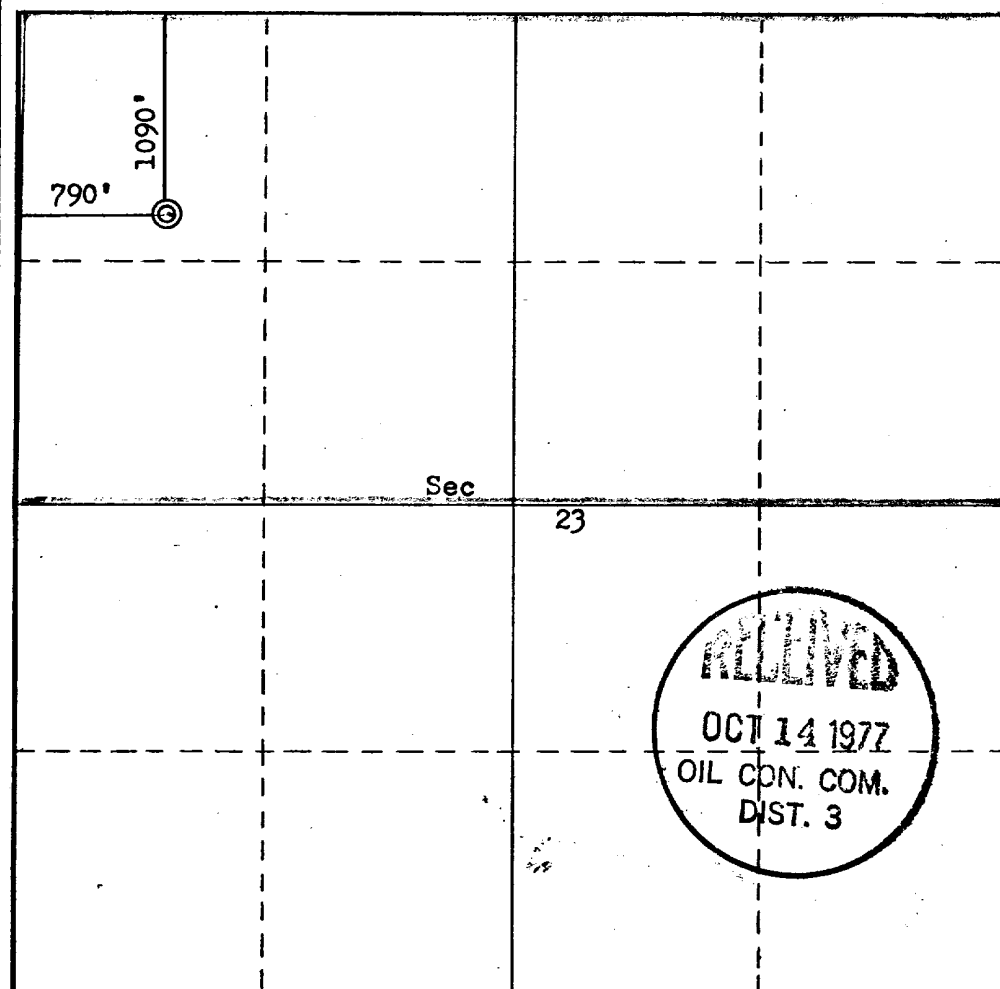
Operator Mesa Petroleum Company			Lease Otero		Well No. 5
Unit Letter D	Section 23	Township 24N	Range 6W	County Rio Arriba	
Actual Footage Location of Well:					
1090		feet from the North	line and 790	feet from the West	line
Ground Level Elev. 6518	Producing Formation Dakota		Pool Basin Dakota	Dedicated 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 _____

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.

William T. Jones

Name
William T. Jones

Position
Agent

Company
Mesa Petroleum Company

Date
OCT 13 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
October 9, 1977

Registered Professional Engineer and/or Land Surveyor

Fred B. Kerr Jr.
Fred B. Kerr Jr.

Certificate No.
3950

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

3E COMPANY, INC.

Engineering • Energy • Exploration

P. O. Box 190 —:— 505/327-4020

FARMINGTON, NEW MEXICO 87401

October 10, 1977

U.S. Department of Interior
Geological Survey
P.O. Box 1809
Durango, CO 81301

Attention: Mr. Jerry Long

RE: Development Plan for Surface Use
Mesa Petroleum Company
Otero #5
1090' FNL & 790' FWL
Sec 23, T24N, R6W
Rio Arriba County, New Mexico

Gentlemen:

Attached is the "Application for Permit to Drill" (form #9-331C) for the subject well. Also enclosed are the following items: surveyor's plat, drill site plat, vicinity map and archaeologist's report.

The development plan for surface use is as follows:

Points 1, 3, 4, 6, & 9 Vicinity map and drill site plat attached.

Point 2. Water bars will be used on all roads where necessary.

Point 5. Water for drilling will be trucked from Largo Canyon approximately 10 miles to the west.

Point 7. A waste disposal pit will be provided for the garbage and trash. Location shown on drill site plat. Drilling fluids will be contained in reserve pit until such time as evaporation occurs and then pits will be covered.

Point 8. No camps or airstrip.

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U. S. GEOLOGICAL SURVEY
DURANGO, COLO.

October 10, 1977

Point 10. Should the well be a commercial producer, it will be equipped to facilitate producing operations with all drilling pits filled, location leveled and well site reseeded in compliance with current Bureau of Land Management seeding requirements. During dry out time required for the reserve pit it will be fenced to eliminate livestock entry. All facilities will be painted Grey: Federal Standard 595-36357.

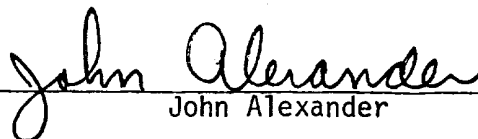
Point 11. The location is on level ground with a shallow wash on the south side. Principle vegetation is blue gramma and sage brush. A 400' new road will be required from an existing road to the northeast.

Point 12.

John Alexander
3E Company, Inc.
P.O. Box 190
Farmington, NM 87401
Phone: 505-327-4020

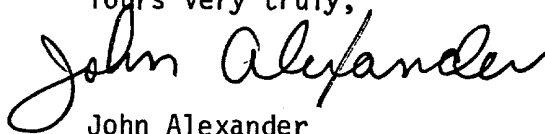
Point 13. I hereby certify that I or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the plan are to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Mesa Petroleum Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

October 10, 1977


John Alexander

Should further information be desired, please advise.

Yours very truly,


John Alexander

JA:st

Attachments

3E COMPANY, INC.

Engineering • Energy • Exploration

P. O. Box 190 —:— 505/327-4020

FARMINGTON, NEW MEXICO 87401

MESA PETROLEUM
OTERO FEDERAL #5
Sec 23 - 24N - 6W
Rio Arriba County, New Mexico

Anticipated Formations Tops are as follows:

Ojo Alamo	-	1525'
Kirtland	-	1695'
Lewis	-	2165'
Cliffhouse	-	3625'
Greenhorn	-	6295'
Morrison	-	6740'



San Juan County
Museum Association

AGENCY OF CONSERVATION ARCHAEOLOGY



Eastern New Mexico
University

October 10, 1977

Director

Dr. C. Irwin-Williams

Executive Director

Dr. G. A. Agogino

Operations Director

Dr. J. Loring Haskell

Services

Planning

Archaeological Survey

Excavation

Analysis

Reporting

Research

Laboratories

Laszlo Vertes Laboratory

Ceramic Analysis

Paleo-Botanical Analysis

Kay Irwin Laboratory

Lithic Analysis

Obsidian Hydration Dating

San Juan County Archaeological

Research Center

Ceramic Analysis

Lithic Analysis

Paleo-Botanical Analysis

Anthropological Computer Services

Center

Reporting and Publication Division

Eastern New Mexico University

Contributions in Anthropology-Series

Mr. Jack Cook
Three E Company
Box 190
Farmington, New Mexico 87401

Dear Mr. Cook:

Enclosed is a copy of our archaeological clearance re survey report for Otero #5 which Mesa Petroleum plans to drill. Since no cultural resources were located in the areas of the original well pad or the alternate, archaeological clearance is recommended for either well pad and the access road. Final archaeological clearance will be granted by the Bureau of Land Management upon review of our recommendations.

Enclosed is the invoice for this survey.

Please contact me should there be any questions regarding the report, and thank you for calling on us to perform this survey.

Sincerely,

AGENCY OF CONSERVATION ARCHAEOLOGY

Nancy S. Hewett

Mrs. Nancy S. Hewett
Staff Archaeologist

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Enclosures

cc: Mr. Al Pack, BLM, Farmington
Mr. Charles Morrison, BLM, Albuquerque
Mr. Jerry Long, USGS, Durango
Mr. Tom Merlan, SHPO, State Planning Office
Mr. Stewart Peckham, Acting State Archaeologist
Mr. Charles McKinney, Dept. of the Interior
Dr. J. Loring Haskell, ACA, Portales

Offices

San Juan County
Arch. Res. Center
Rte. 3, Box 169
Farmington, New Mexico 87401
(505) 632-2733

Eastern New Mexico University
Portales, New Mexico 88130
(505) 562-2915

233 Chama N. E.
Albuquerque, New Mexico 87108
(505) 265-7164

Archaeological Clearance Survey Report

for

Mesa Petroleum

Location

Otero #5

Prepared by
Nancy S. Hewett

Submitted by
Dr. J. Loring Haskell
Operations Director and
Principal Investigator

AGENCY OF CONSERVATION ARCHAEOLOGY

October 10, 1977

Introduction

The Agency of Conservation Archaeology of the San Juan County Museum Association and Eastern New Mexico University recently completed an archaeological clearance survey on lands near Counselor Trading Post to be impacted by the construction of one well pad and access road by Mesa Petroleum Company, Aztec, New Mexico.

The survey project was initiated at the request of Mr. Jack Cook of the Three E Company on October 7, 1977. It was administered by Mr. Cook and by Dr. J. Loring Haskell of the Agency of Conservation Archaeology in Portales.

The field work was conducted by Mrs. Nancy S. Hewett of the Agency of Conservation Archaeology in Farmington on October 10, 1977 under provisions of a Federal Antiquities permit 77-NM-030 which expires on December 31, 1977. Field representatives included Mr. John Alexander of Three E Company, and Mr. James Archer of Mesa Petroleum Company.

Survey

The requested archaeological clearance survey involved one gas well pad and one access road located on lands under the jurisdiction of the Bureau of Land Management. For specific details of location, please see the attached topographic map and the paragraph description to follow.

The general survey procedure used was to walk the areas of the proposed construction in a zig zag manner. Visual inspection was made of the ground surface for evidence of any artifactual remains of historic or prehistoric origin. Erosional gullies were checked for evidence of accumulations of cultural materials resulting from slope wash activity. Floral, faunal and geological observations were made to briefly describe the environmental situation.

Otero #5

Legal Description: 790' F/NL 790' F/WL NW $\frac{1}{4}$ of NW $\frac{1}{4}$ Sec. 23 T24N R6W N.M.P.M. Rio Arriba County, New Mexico.

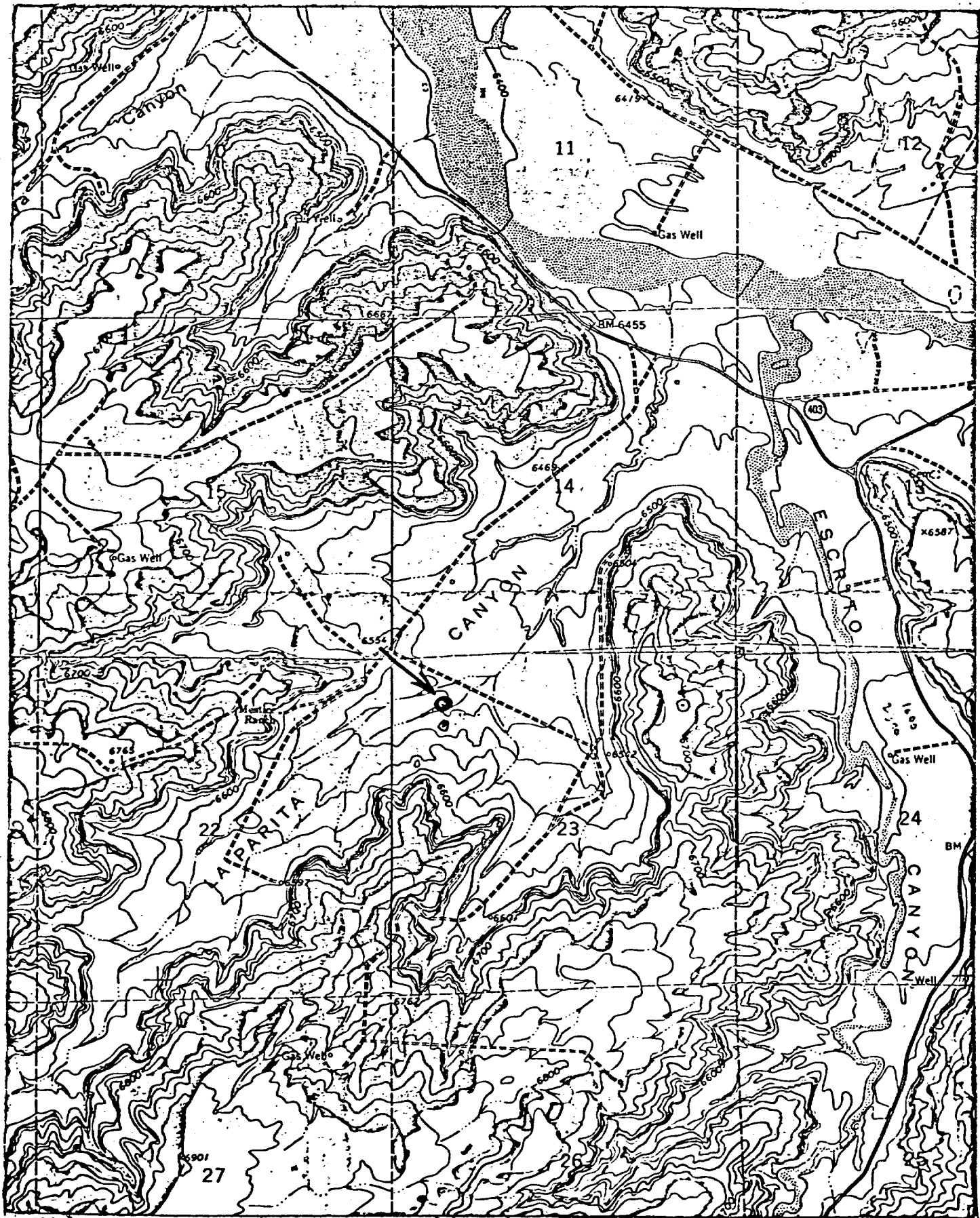
Map Source: U.S.G.S. 7.5' Tayfaya Canyon Quadrangle

Area Surveyed: approx. 1000' x 300'

Description: The access road will enter the location from a graded road to the north of the well stake across a relatively flat floodplain. The location is situated on a floodplain in between two arroyos draining northeast. Sheet wash has recently occurred on the floodplain itself. The principal vegetation consists of low growing sagebrush (Artemisia tridentata), blue grama grass (Bouteloua gracilis), a few prickly pear cactus (Opuntia sp.), Russian thistle (Salsola kali) and several herbs. The soil is a clay loam. There is grazing in the area. An alternate location was also inspected and is located 300' to the north and out of the floodplain area. The terrain here is slightly rolling, and the vegetation is the same except for the lack of Russian thistle. The tops of the low hills were inspected for archaeological materials.

Cultural Resources: No artifacts of either historic or prehistoric origin were noted. According to currently available data regarding sites in the immediate area, none have been recorded by the Laboratory of Anthropology of the Museum of New Mexico.

Clearance Status: Recommended for archaeological clearance.



Tayfoya Canyon Quad

Well Site Plat

access road

300'

earthen
reserve
Pit

SHUT-IN
PIT

PIPE
LOCK

R
I
G

WATER DIVERSION DITCH

NORTH

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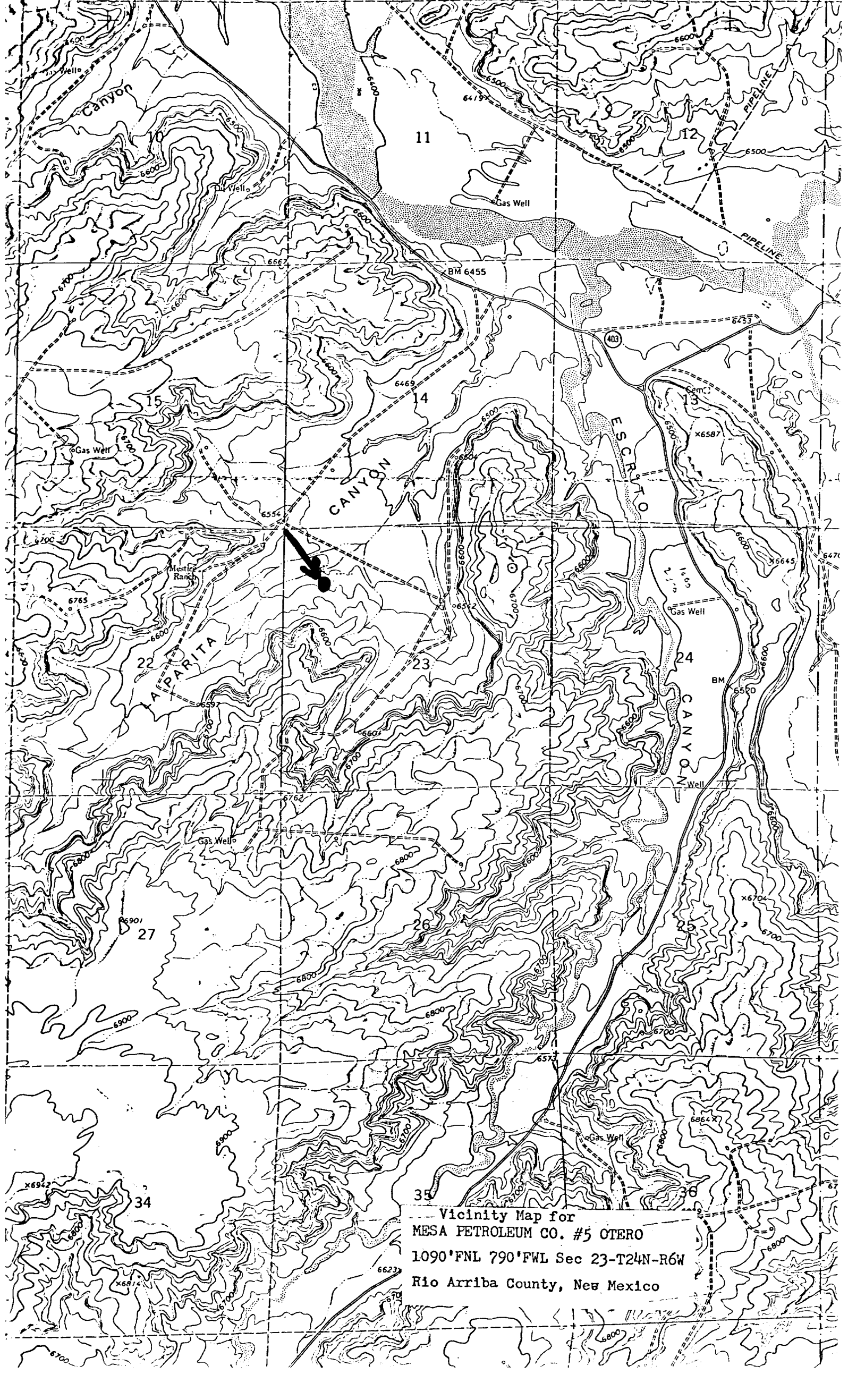
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U. S. GEOLOGICAL SURVEY
DURANGO, COLO.

scale 1"=40'

200'

MESA PETROLEUM COMPANY
Otero #5
1090' FNL & 790' FWL
Sec 23 - 24N - 6W
Rio Arriba County, New Mexico



Vicinity Map for
MESA PETROLEUM CO. #5 OTERO
1090'FNL 790'FWL Sec 23-T24N-R6W
Rio Arriba County, New Mexico