

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

30-045-22188  
5. LEASE DESIGNATION AND SERIAL NO.

NM 020501

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
Ohio "C" Government

9. WELL NO.  
4

10. FIELD AND POOL, OR WILDECAT  
Kutz Fruitland & Fulcher  
Kutz Pictured Cliffs

11. SEC., T., R., M., OR BLE.  
AND SURVEY OR AREA  
Sec. 26, T28N, R11W

12. COUNTY OR PARISH | 13. STATE  
San Juan | New Mexico

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  
Marathon Oil Company

3. ADDRESS OF OPERATOR  
P. O. Box 2659, Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)  
At surface  
1,550' FSL, 1,450' FEL, Sec. 26, T28N, R11W Unit Letter J  
At proposed prod. zone SE NW SE  
Same

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

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
1,450'

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
650'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5,603 Ungraded Ground Surface Formation - Tertiary San Juan

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" (New)	24# J-55	235'	230 Sacks - Cement to surface
6-3/4"	4-1/2" (New)	10.5# J-55	1,670'	280 Sacks - Cement to surface

This well will be drilled to an approximate total depth of 1,670' and dually completed in the Pictured Cliffs and Fruitland Sands for gas production. A production packer will be set at approximately 1,500' to prevent communication between the Pictured Cliffs and Fruitland Sands. Gas from the Pictured Cliffs will flow through 2-3/8" tubing while gas from the Fruitland will flow up the annulus. Both zones will be perforated as indicated by logs and stimulated individually by a sand water fracture treatment.

Estimated formation tops: Ojo Alamo - 535', Kirtland Shale - 555', Farmington Sand - 710', Fruitland Sand - 1,330', Pictured Cliffs Sand - 1,545', Lewis Shale - 1,630'.

*Gas is dedicated*  
Water base gel chem mud will be used. Weight will be 9 to 9-1/2 ppg, or heavier if necessary to control water or gas flows while drilling. Water loss will be maintained at less than 10 cc's while the Fruitland and Pictured Cliffs Sands are being drilled.

(Continued on following page)  
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 Paul I. Johnson TITLE District Operations Manager DATE 9/8/76

(This space for Federal or State office use)  
PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

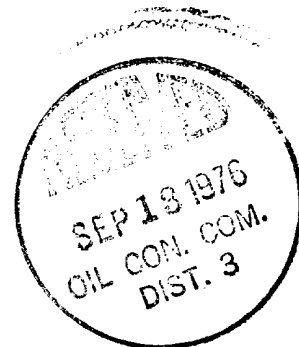
*Obief*  
\*See Instructions On Reverse Side



All casing, wellhead and BOP equipment will have a minimum pressure rating of 2,000 psi.

Open hole logs to be run are a Dual Induction Laterlog from TD to the base of the surface casing, and a FDC-CNL-GR-Caliper Log from TD to 600', or at least 100' above the Farmington Sand. A GR Correlation Log will be run in the 4-1/2" casing prior to perforating.

Deviation surveys will be conducted at 500', or shorter, intervals. Maximum deviation will not exceed 3°.



All distances must be from the outer boundaries of the Section

Marathon Oil Company			Ohio Government		4
Unit Letter J	Section 26	Township 28 North	Range 11 West	County San Juan	

Actual Footage Location of Well

1550 feet from the South line and 1450 feet from the East line

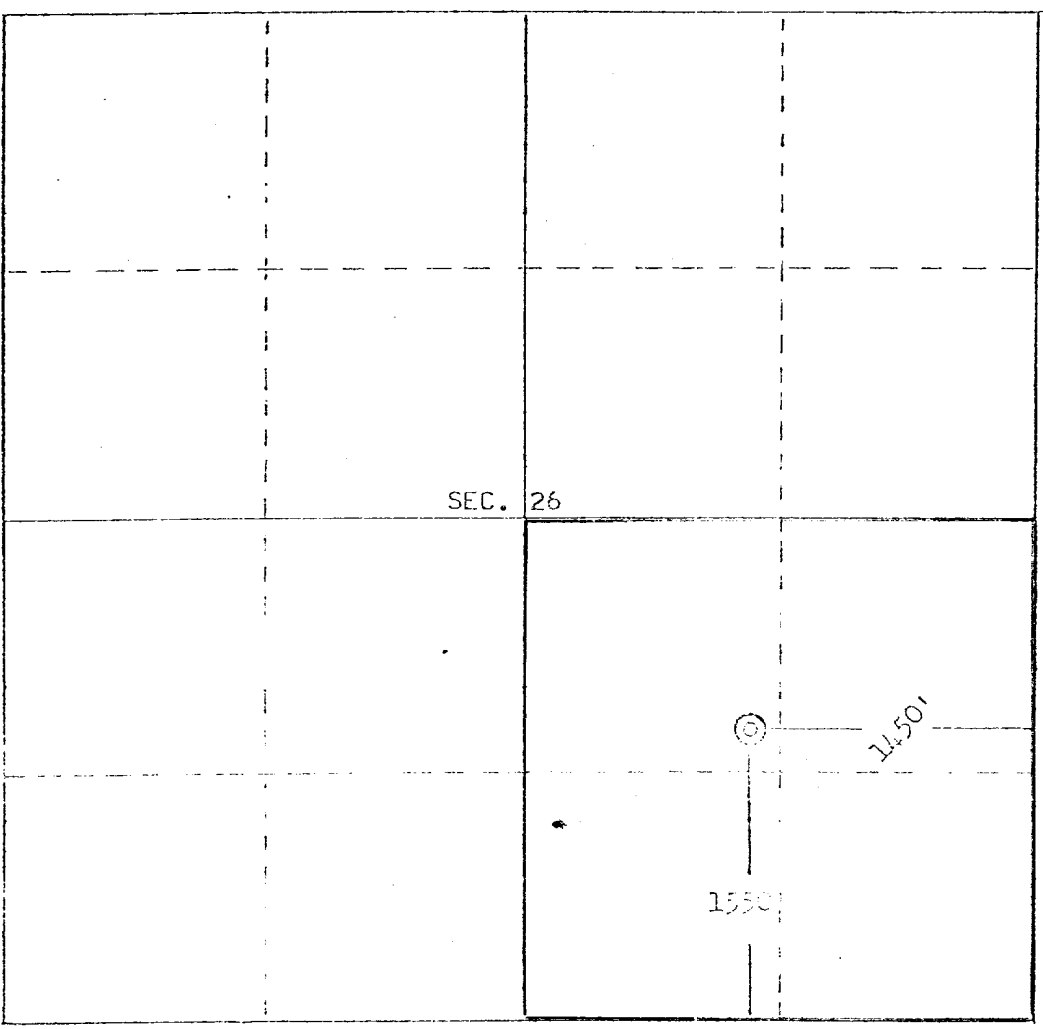
Ground Level Elev. 5603	Producing Formation Pictured Cliffs Sand	Pool <i>Fulcher</i> Kutz Pictured Cliffs <i>ext</i>	Dedicated Acreage 160 Acres
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1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
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 NA

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) NA

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.



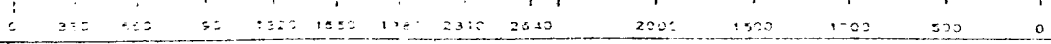
**CERTIFICATION**

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

*Paul F. Johnson*  
Name  
Paul F. Johnson  
Position  
District Operations Manager  
Company  
Marathon Oil Company  
Date  
August 24, 1976

Date Surveyed  
August 11, 1976  
Registered Professional Engineer and/or Land Surveyor  
*E. V. Echohawk*

Certificate No. 3602  
E. V. Echohawk LS



Marathon Oil Company

Description of Drilling and Well Control Equipment

Ohio "C" Government #4-26

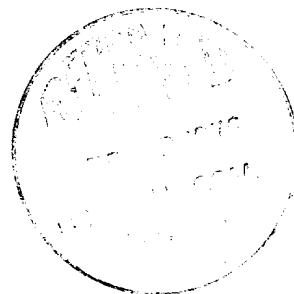
1. Surface casing: 235' of 8-5/8" OD, 24#, J-55, new casing to be cemented to surface.
2. Casinghead: 8-5/8" x 8", 2,000 psi.
3. No intermediate casing.
4. Blowout preventor. See attached diagram.

All BOP's and surface casing will be pressure tested to 1,000 psi before drilling out cement in surface casing.

Operation of BOP's to be checked daily.

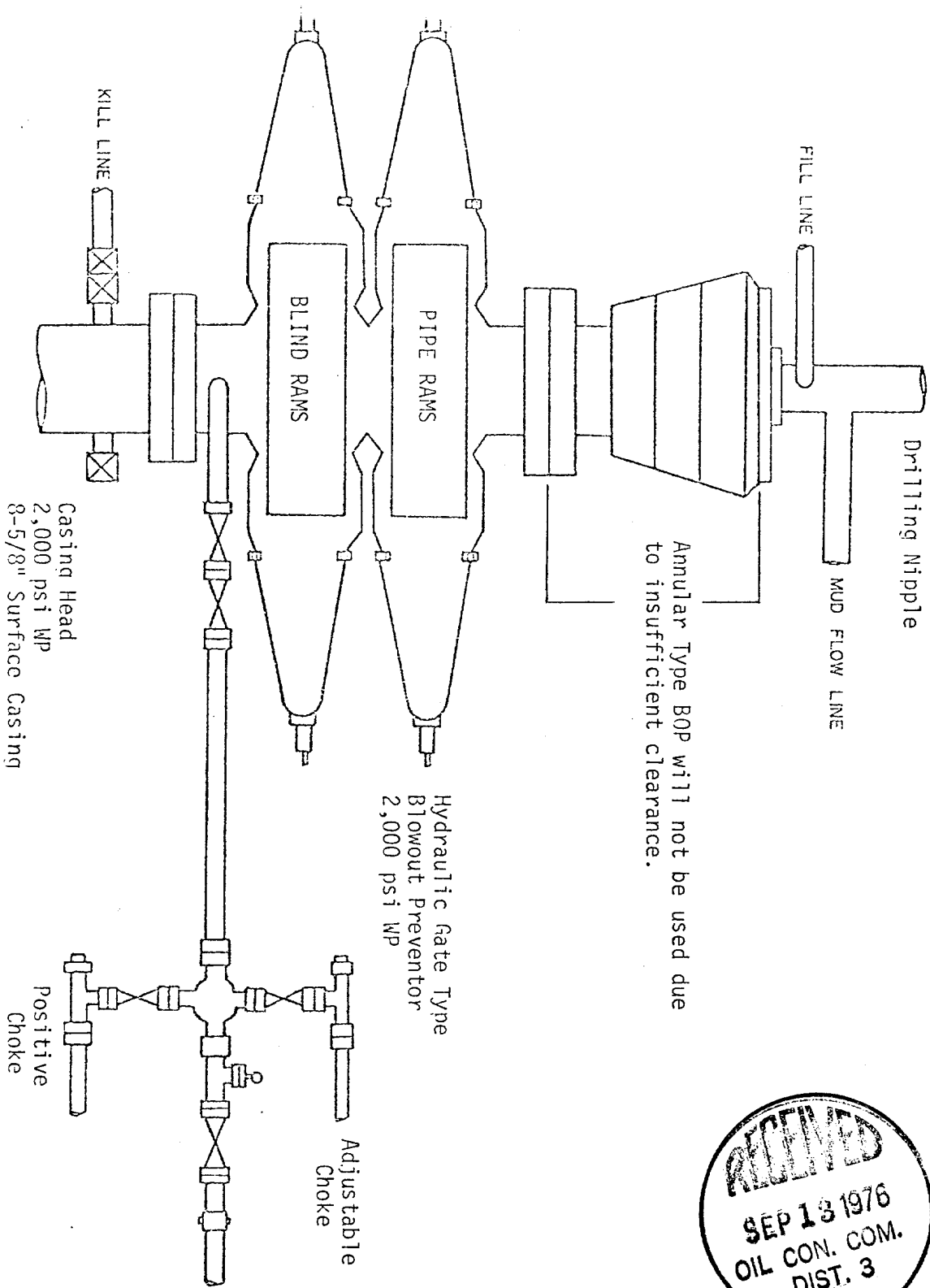
5. Auxiliary equipment. A kelly cock will be used on top of the kelly and a float will be used at the bit. A full opening safety valve and sub for the drill pipe will be available at all times.
6. Maximum formation pressure will be encountered in the Pictured Cliffs Sand (gas), estimated to be 600 psi, at 1,545'.
7. The drilling fluid will be a water base-gel-chemical mud, with a weight of 9 to 9-1/2 ppg. The mud level in the steel pit will be monitored visually. Heavier mud will be used if necessary to control water or gas flows.

No abnormal pressures or hazardous H<sub>2</sub>S gas zones will be encountered.



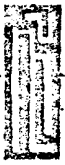
OHIO "C" GOVERNMENT WELL NO. 4-26  
 SEC. 26, T28N, R11W  
 SAN JUAN COUNTY, NEW MEXICO  
 PROPOSED BLOWOUT PREVENTER INSTALLATION

NOTES



1. Blowout preventers, master valve, plug valve and all fittings must be in good condition. Use new API Seal Rings.
2. All fittings (gates, valves, etc.) to be of equivalent pressure rating as preventers. Valves to be flanged and at least 2" unless otherwise specified. Valves next to BOP to be plug type and nominal 3".
3. Equipment through which bit must pass shall be as large as the inside diameter of the casing that is being drilled through.
4. Safety valve (Omsco or equivalent) must be available on rig floor at all times and with proper connections. The I.D. of safety valves should be as great as I.D. of tool joints on drill pipe.
5. Kelly safety valve installed, same working pressure as BOP's.
6. All lines and controls to preventers must be connected and tested before drilling out of surface pipe.
7. BOP's must be fluid operated, complete with accumulator. Controls may be either on floor or ground near steps from rig floor.
8. Fillup line tied to drilling nipple, the connection must be below and approximately 90° to the flow line.
9. Gauge will be installed for testing but removed while drilling.
10. Spool not required, but when side outlet on BOP's used, it must be below bottom ram.
11. Casinghead and casinghead fittings to be furnished by Marathon Oil Company.

222  
 3/17/66



# AGENCY OF CONSERVATION ARCHAEOLOGY



San Juan County  
Museum Association

Eastern New Mexico  
University

August 25, 1976

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. Eric Nelson  
Marathon Oil  
1804 Brenwood Dr.  
Farmington, N. M. 87401

Dear Mr. Nelson:

You will find enclosed our archaeological report for your proposed Ohio C Government 4-26 well. Archaeological clearance has been recommended, but final clearance will come from the Bureau of Land Management.

Our bill for this service is also enclosed. If you have any questions regarding these items, please feel free to contact our office.

Very truly yours,

AGENCY OF CONSERVATION ARCHAEOLOGY

Pat Zarnowski  
Archaeologist

Enc.

cc: Phil Kirk, Bureau of Land Management, Farmington.  
Phil McGrath, U.S.G.S., Farmington.  
Stewart Peckham, State Archaeologist, Santa Fe.  
Tom Merlan, State Planning Office, Santa Fe.  
Rex Wilson, Dept. of the Interior, Washington, D.C.  
J. Loring Haskell, A.C.A., Portales.

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SEP - 7 1976  
DIST. ENGINEER  
CASPER, WYOMING

RECEIVED  
SEP 13 1976  
OIL CON. COM.  
DIST. 3

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

Marathon Oil

Location

Ohio C Government 4-26

Submitted by

Dr. J. Loring Haskell  
Operations Director and  
Principal Investigator  
Agency of Conservation Archaeology

Prepared by

Pat Zarnowski

August 25, 1976



## Introduction

The Agency of Conservation Archaeology of the San Juan County Museum Association and Eastern New Mexico University recently completed an archaeological clearance survey in the Kutz Canyon to be impacted by the proposed construction of a well and access road by Marathon Oil.

The survey project was initiated at the request of Mr. Eric Nelson of Marathon Oil on August 16, 1976. It was administered by Mr. Nelson and by Dr. J. Loring Haskell, who serves as the principal investigator for the Agency of Conservation Archaeology in Portales, New Mexico.

The field work was conducted by Pat Zarnowski of the Agency of Conservation Archaeology in Farmington, New Mexico on August 25, 1976 under provisions of permit number 76-NM-023 issued by the Department of the Interior, which expires March 7, 1977. Other representatives in the field were Eric Nelson of Marathon Oil, Bob Moore of the Bureau of Land Management, and Ray Swanson of the United States Geological Survey.

## Survey

The requested archaeological survey involved the one well location described below. It is located in Kutz Canyon. For specific details as to location, please refer to the attached copy of the Bloomfield topographic map and the recommendation section of this report.

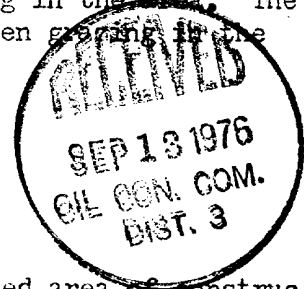
The general survey procedure employed in this survey was to walk the area of proposed construction and to visually inspect the surface for archaeological material. Any artifact found initiated a further search to determine whether it was an isolated find or was associated with an architectural feature or group of artifacts. Erosional gullies and arroyos were also inspected for evidence of subsurface cultural remains. Floral, faunal and geological observations were made to briefly describe the environmental situation.

Ohio C Government 4-26: This proposed well is to be located on a small finger of land on the south side of Kutz Canyon. The area is generally flat with a slight slope to the east. The vegetation is open with a variety of grasses present. Snakeweed, Gutierrezia sarothrae, greasewood, Sarcobatus vermiculatus, a variety of cacti, Opuntia sp., and a few juniper trees, Juniperus, sp., were also growing in the area. The soil was very sandy and evidence that cattle had been grazing in the area was noted.

Cultural resources: None

## Recommendations

Due to the lack of cultural material in this proposed area of construction, it is recommended that archaeological clearance be granted.



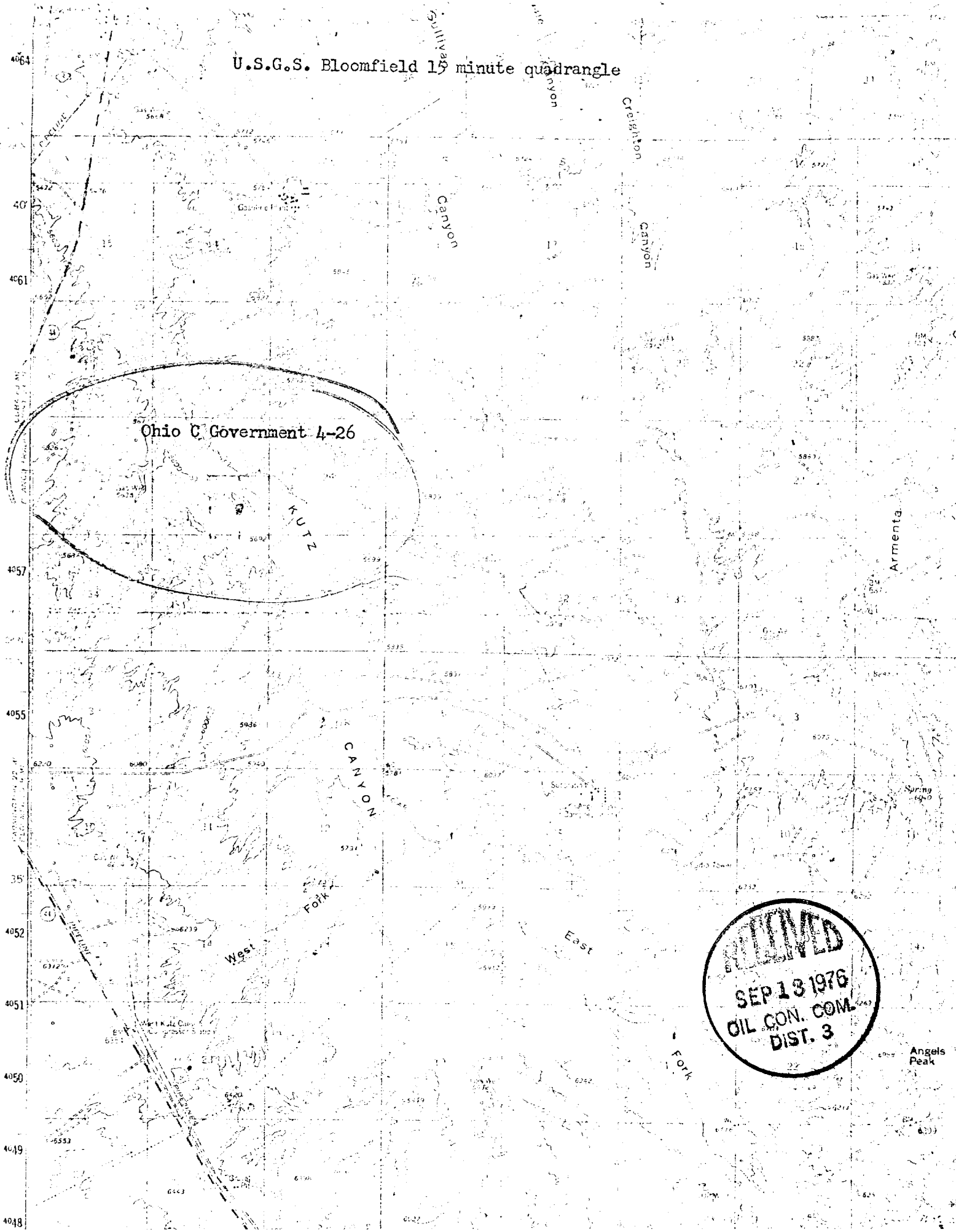


August 25, 1976

<u>Well</u>	<u>Area</u>	<u>Location</u>	<u>Clearance Status</u>
Ohio C Government 4-26	Pad: 150' X 125'  Road: 50' by approximately 100'	1,550 feet from the South line, 1,450 feet from the East line in the Southeast $\frac{1}{4}$ of Section 26, Township 28 North, Range 11 West, San Juan County, New Mexico. Map source: U. S. G. S. Bloomfield 15 minute quadrangle.	Recommended



U.S.G.S. Bloomfield 15 minute quadrangle



Ohio C Government 4-26

KUTZ

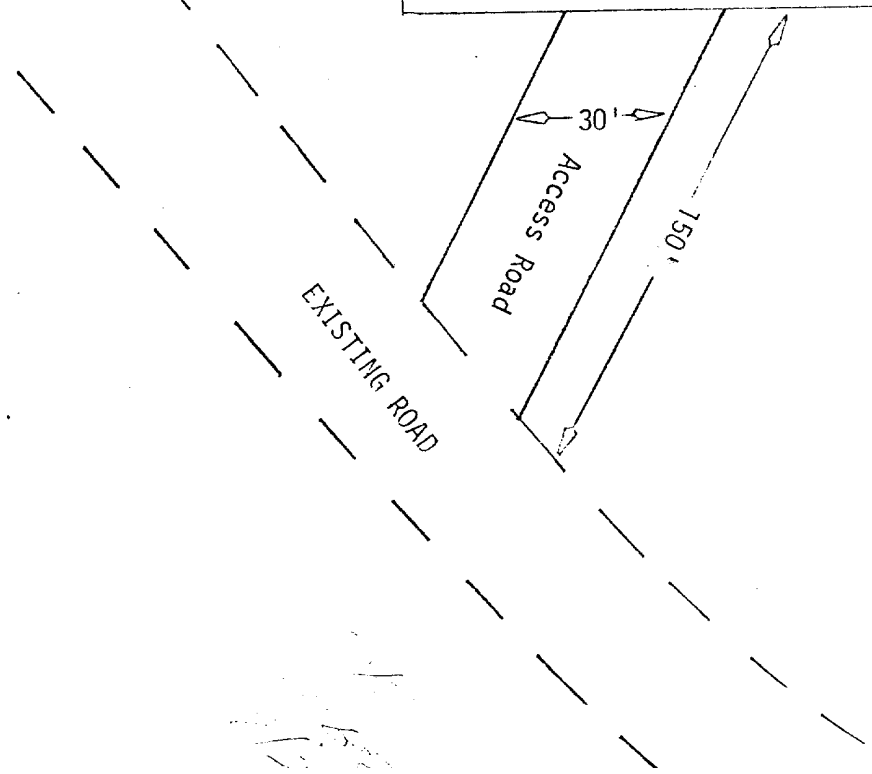
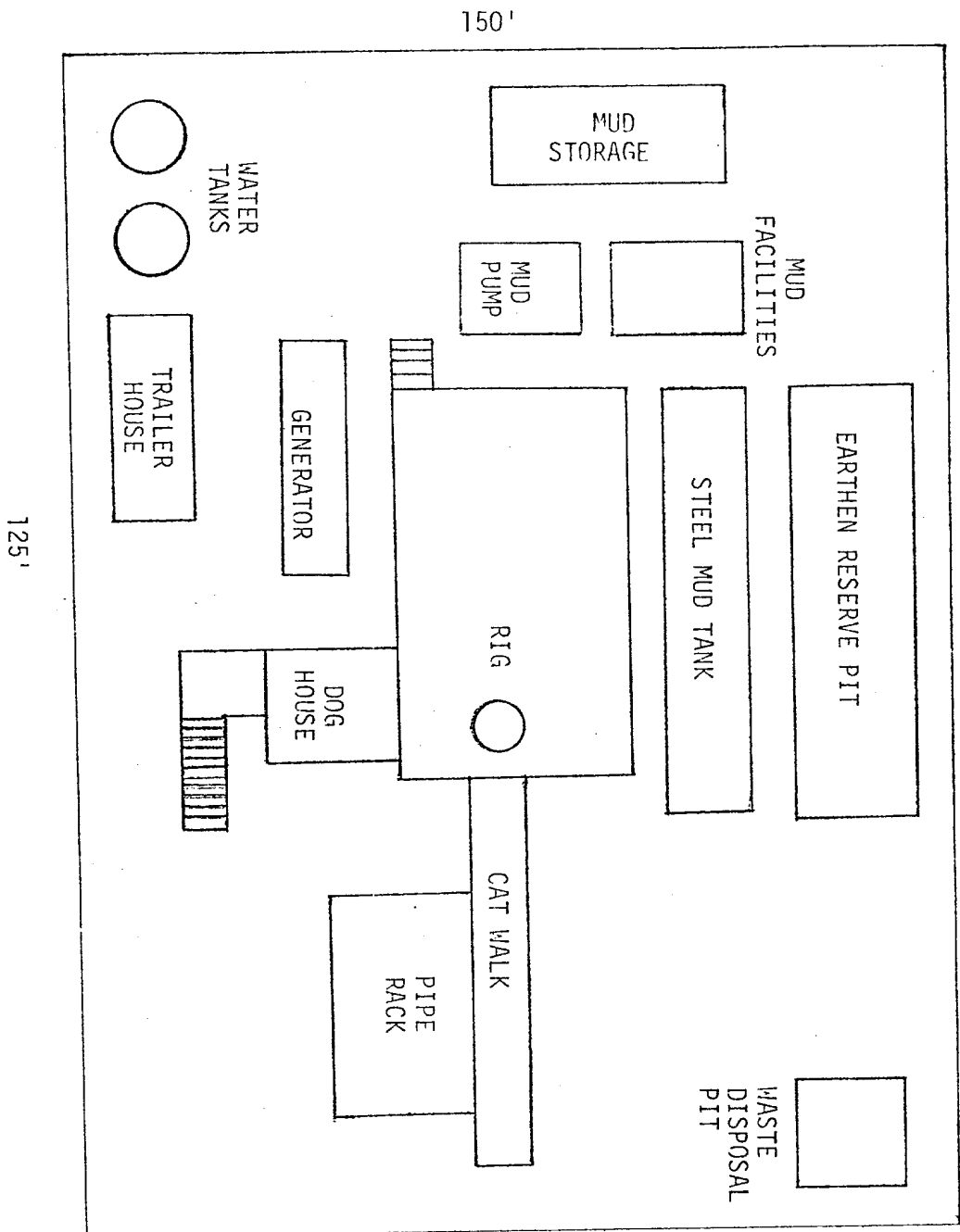
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DIST. 3

Armenta

Angels Peak

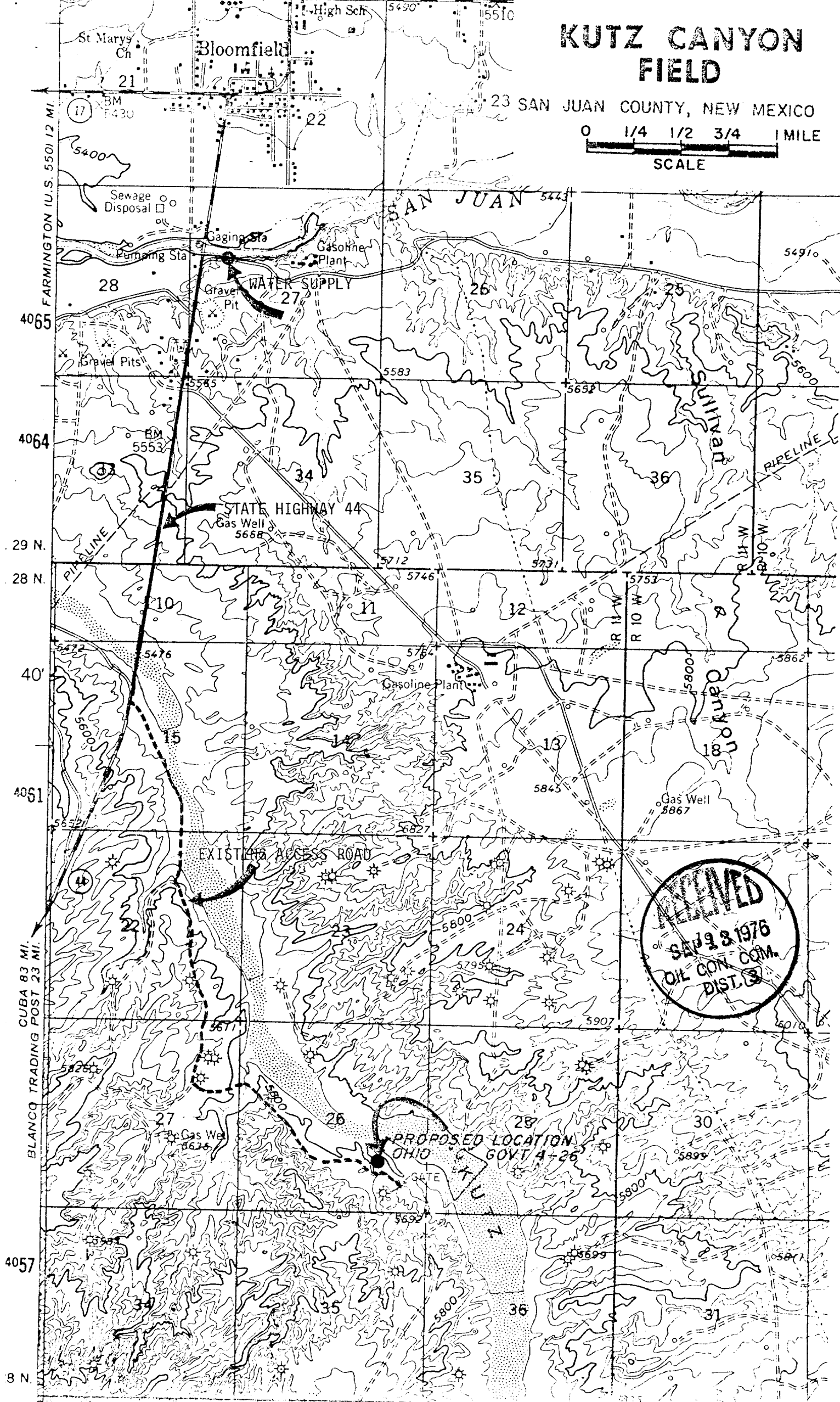
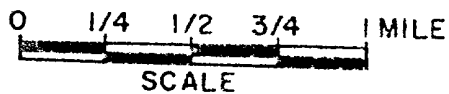
OHIO "C" GOVERNMENT WELL NO. 4-26  
SEC 26, T28N, R11W  
SAN JUAN COUNTY, NEW MEXICO

Schematic Layout of Drilling Rig



# KUTZ CANYON FIELD

SAN JUAN COUNTY, NEW MEXICO



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DIST. 3

FARMINGTON U.S. 550 1/2 MI  
CUBA 83 MI.  
BLANCO TRADING POST 23 MI.

MARATHON OIL COMPANY

Development Plan for Surface Use  
Ohio "C" Government #4-26  
Proposed Pictured Cliffs & Fruitland Gas Development Well  
(Dual Completion)  
1,550' FSL, 1,450' FEL, Section 26, T28N, R11W  
San Juan County, New Mexico  
Elevation: 5,603' GL

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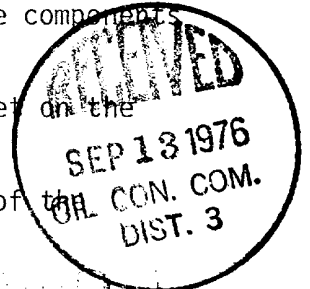
1. The attached map shows the proposed well location and existing access roads which are located on Federal land. The existing roads will be used in their present state. No improvement or maintenance of existing roads is planned.
2. An access road approximately 150' in length and 30' wide will be constructed east from the edge of the location to the existing access road. This road will cross no drainage channels and no fences will be crossed.
3. The attached map shows all existing wells within a one mile radius of the proposed development well.
4. Marathon Oil Company does not own or operate any pipelines on their leases in Northwest New Mexico.

No tanks will be required at the proposed gas Well #4-26. The gathering lines will be laid by the gas purchaser from the well to the nearest existing line.

5. The location (NW/4 of Sec. 27, T29N, R11W) of the source of water supply, San Juan River, to be used for drilling is shown on the attached map. Water will be hauled by tank truck over the access road from the source to the drill site.
6. No construction materials (sand, gravel, stone, soil, etc.) from other sites will be required at the proposed location.
7. All garbage and trash will be dumped in a trash pit and buried to a depth of five feet after completion of the well. Drill cuttings will be buried in the reserve pit after the well is completed.
8. There will be no camps, airstrips or permanent structures. A small trailer house will be on location during drilling and completion operations.
9. The attached well site layout plat shows the approximate dimensions of the level location and reserve pit and the generalized location of the components of the drilling equipment to be used.

The location is on a gentle slope, so a cut of only one or two feet on the south side is all that will be required.

The reserve pit will be located on the gently sloping north side of the location. It will not be necessary to line the reserve pit.



SEP 10 1976

U. S. GEOLOGICAL SURVEY

10. After drilling and completion operations are finished, the pit will be covered and restored to as near natural conditions as possible to the satisfaction of the BLM. The level location and road will be utilized for operation and maintenance of the well.

It is tentatively planned that well drilling and completion operations will be conducted during a two week period in November, 1976, with rehabilitation measures to be started as soon as the reserve pit dries sufficiently and finished before the end of 1976.

11. The attached archaeological report covers all aspects of the surface characteristics and grants clearance to construct the location and short road, which will disturb no cultural resource.

Since location and road construction will be on a gentle slope, a minimal cut will be required. No steep gullies or hillsides are near.

12. Operator's representative: Mr. E. A. Nelson  
1804 Brenwood Drive  
Farmington, New Mexico 87401  
Phone: (505) 325-1624 (Home)  
(505) 325-5033 (Mobile) (Ute Communications)

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 this plan are, to the best of my knowledge, true and correct; and, that the work association with the operations proposed herein will be performed by Marathon Oil Company and its contractor and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

9-10-76  
DATE

Eric A. Nelson  
NAME & TITLE

