Form 9-331 C
(May 1963)

N.M.O.C.D. COPY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-005-20801

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL
OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR
Flag-Redfern Oil Company

3. ADDRESS OF OPERATOR
P.O. Box 2280, Midland, TX 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
1650' FSL and 990' FWL
At proposed prod. zone
SAME

RECEIVED
MAY 27 1981
O. C. D.
ARTESIA, OFFICE

5. LEASE DESIGNATION AND SERIAL NO.
USA NM 15677

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
---

7. UNIT AGREEMENT NAME
---

8. FARM OR LEASE NAME
Hahn Federal

9. WELL NO.
8

10. FIELD AND POOL, OR WILDCAT
Tom-Tom San Andres

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 27, T-7-S, R-31-E

12. COUNTY OR PARISH
Chaves

13. STATE
New Mexico

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
17 miles East of Elkins, New Mexico

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
1440

17. NO. OF ACRES ASSIGNED TO THIS WELL
40

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

19. PROPOSED DEPTH
4120

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
4364 GL

22. APPROX. DATE WORK WILL START*
July 10, 1981

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11"	8 5/8"	24# K-55	1540	750 sx CIRCULATE
7 7/8"	4½"	10.5# K-55	4120	250 sx

Drill 11" hole to 1540' or into the top of the Rustler Anhydrite formation. Run 8 5/8" casing to circ cmt with 750 sx. Wait on cmt 18 hrs and test csg to 600 psig. Drill 7 7/8" hole to approximately 4120'. Run open hole log. Run 4½" csg to 4120'. Cmt w/ 250 sx 50/50 Cl "H"/Poz, 8# salt, .75% CFR-2, 2% gel. Test csg to 1500 psig. Run correlation log and perforate the San Andres Formation. Treat with acid. Swab to test Potential well.

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U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

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 [signature] TITLE Engineer DATE 5-11-81

(This space for Federal or State office use)

PERMIT NO. ---- APPROVAL DATE ----

APPROVED
(Orig. Sgd.) GEORGE H. STEWART
MAY 21 1981
FOR
JAMES A. GILLHAM
DISTRICT SUPERVISOR

APPROVED BY ---- TITLE ---- DATE ----

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-107
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Mar-Redfern Oil Company	Mar-Redfern	3

Unit Letter	Section	Township	Range	County
L	27	7-S	31-E	CHAVES

Actual Footage Location of Well:
1650 feet from the SOUTH line and 990 feet from the WEST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
4364	San Andres	Tom-Tom (San Andres)	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

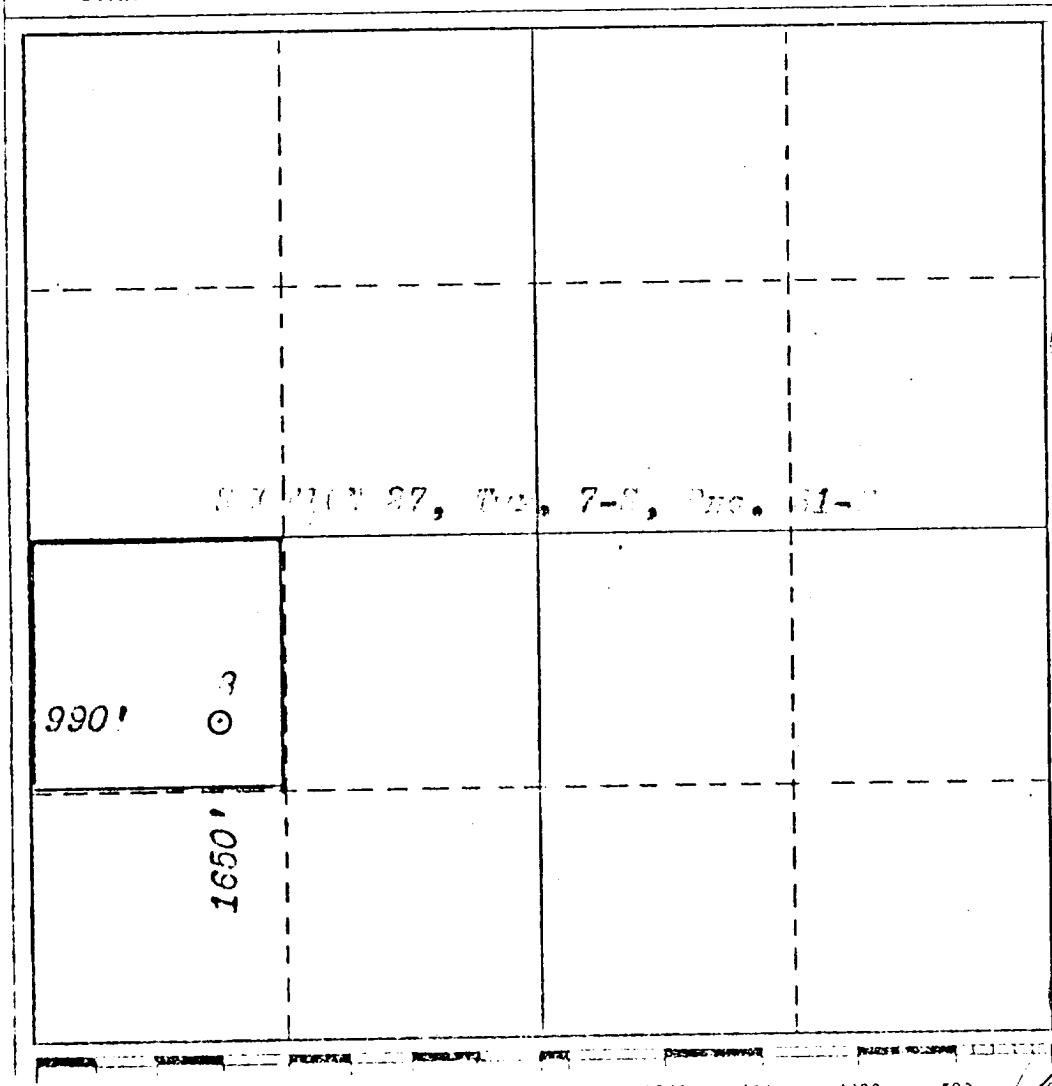
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

Name: [signature]

Position: Production Engineer

Company: Mar-Redfern Oil Company

Date: May 11, 1981

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: [illegible]

Registered Professional Engineer and/or Land Surveyor

Certificate No. 154

APPLICATION TO DRILL
Hahn-Federal Well #8

In response to questions asked under Section II B of Bulletin NTL-6, the following answers are provided for your consideration:

1. Location: 1650' FSL & 990' FWL of Section 27, T-7-S, R-31-E, Chaves County, New Mexico.

2. Elevation Above Sea Level: 4364 G.L.

3. Geologic Name of Surface Formation: Quaternary

4. Drilling Tools and Associated Equipment: Conventional Rotary drilling rig using mud for the circulation medium.

5. Proposed Drilling Depth: 4120'

6. Estimated Geological Marker Tops: Rustler Anhydrite - 1500, Top of Salt - 1660', Base of Salt - 1985', San Andres - 3130', PI Marker - 3675', San Andres Porosity - 3915'.

7. Mineral Bearing Formations: Water Bearing - none, Gas Bearing - none, Oil Bearing - San Andres Porosity @ 3915'.

8. Casing Program: (A) Surface casing - 8 5/8" - 24#/ft K-55 new casing, (B) Production Casing - 4½" 10.5#/ft K-55 new casing.

9. Setting Depth of Casing and Cement for Same: (A) 8 5/8" casing set at 1540'. Cement will be circulated to the surface using 550 sx of Halliburton Light Weight w/ ¼#/sx of Flocele and 8# salt per sx followed by 200 sx Class "C" w/ 2% CaCl. (B) 4½" casing set at 4120' and will be cemented with 250 sx of 50-50 Pozmix "A" - Class "H" with 2% gel, 0.75% CFR-2, and 8# salt per sx.

10. Pressure Control Equipment: Blowout preventers will be installed on the surface casing. They will be 10" API Series 900 dual preventers adapted for the drilling contractor's 4½" and 5½" drill pipe. They will be capable of closing off on all open areas. The blowout preventers will be hydraulically actuated by an 80 gal Payne accummlator. The Blowout preventers will be hydraulically actuated by an 80 gal Payne accummlator. The blowout preventers will be tested to 2000 psig after they are installed on the surface casing, prior to drilling out, and each time they are removed or rearranged on the wellhead.

11. Proposed Circulating Medium: Mud will be sued for the circulating medium for all depths in this well. The following mud properties will be maintained:
0-1600'- Fresh water based native mud, mud weight 8.6 to 10.0 lb/gal, viscosity 32 to 34 seconds.
1600'-3800'- Fresh water based native mud, mud weight 10.0 lb/gal. Viscosity 32 to 33 seconds.
3800'-4120'(TD) Fresh water based mud. Mud weight 10.0 lb/gal, Viscosity 38 to 42 seconds.

12. Testing Logging, and Coring Programs: (A) Testing - All testing will be commenced after the well is drilled and casing has been set and cemented. (B) Logging - At total depth the following log will run:
0-4120' Sidewall Neutron porosity with gamma ray and caliper.
(C) Coring - none anticipated.

13. Potential Hazards: No abnormal pressure or temperature zones are anticipated. Hydrogen sulfide gas is not expected to be a problem; however, the drilling rig will be so situated as to allow all gas vapors to be expelled away from all personnel gathering sites and engine exhausts.

14. Anticipated Starting Date and Duration of Operations: June 15. 1981, Road and location to be constructed. July 10 Drilling rig to spud well. July 20, Pulling unit to complete well. July 27, 1981, well to be potentialed.

15. Other Facets of Operation: After running 4½" casing, cased hole gamma ray collar correlation logs will be run from 4120' to 2550'. The San Andres Porosity zone will be perforated and acidized. The well will then be swabbed tested and a pumping unit will be installed to potential and produce the well.

Surface Use and Operation Plan

Flag-Redfern Oil Company
Hahn-Federal Well #8
Section 27, T-7-S, R-31-E
Chaves County, New Mexico

1. Existing Roads

   A. Attached is a portion of a U.S.G.S. Topographic map showing existing roads in the vicinity of the proposed location.

   B. Attached is a plat showing existing roads in the area of the proposed location.

   C. There are no plans for improving the existing roads.

2. Access Roads

   A. Planned access roads are shown on the attached plat.

   B. The road will be constructed of caliche and will be 12' wide.

3. Location of Existing Well

   A. Existing wells are shown on the attached plat.

4. Location of Tank Batteries, etc.

   A. A tank battery and production facility consisting of three 210 bbl. stock tanks and a heater treater is located on this same lease 1400'southeast of the proposed well.

   B. In the event the proposed well is productive, a 2" flowline will be laid, alongside the access road, to the above mentioned production facility.

   C. The reserve pits will be back filled and leveled and the surface returned to its original contours.

5. Location and Type of Water Supply

   A. There is no known surface water in the area.

   B. A windmill is located approximately 5000' northeast of the proposed location.

   C. All water used in the drilling operations will be trucked to the drillsite from commercial sources.

6. Source of Construction Materials

A. Construction material will be caliche.

B. Caliche will be obtained from a private pit located in Sec 35.

C. The road and location will require 876 cubic yards of caliche.

7. Methods for Handling Waste Disposal

A. Well cuttings will be disposed in the reserve pit. All waste and trash will be either burned or buried in a separate pit.

B. After completion any produced water will be collected in tanks and trucked to an approved disposal system.

C. During testing operations, all produced fluid will be collected in tanks and trucked from the well site.

8. Auxiliary Facilities

A. None anticipated.

9. Well Site Layout

A. Attached is a plat of the well site and rig layout.

10. Plans for Restoration of the Surface

A. As soon as practical upon completion of the well, the pits will be back filled and leveled and the surface returned to its original contours.

11. Other Information

A. See attached topographic map for terrain of the general area whidiconsists of an undulating plain covered by sandy soils of alluvian and aeolian origin.

B. Characteristic soils belong to the typic haplargids paleargids associations.

C. Vegetation consists of yucca glavca, rhus trilobata, gutierra sarothrae, eurotia, lanata, and lycurus phleoides.

D. Fauna consists of crotalus and sistrurus, canis latrans, lepus alleni, mephitis mephitis and antalopus.

E. The surface of this land is being utilized to limited extent as grazing land for cattle.

F. The surface is private owned.

G. No cultural resources or archeological sites are present.

H. There is no steep hillsides, no deep gullies, no streams and no occupied dwellings on this lease.

12. Operators Representative

John E. Scherer
P.O. Box 2280
Midland, TX 79702

Office Phone: 915-683-5184
915-682-1769

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 Flag-Redfern Oil Co. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

Date 5-14-81

J E Scherer
John E. Scherer, Engineer

Flag-Redfern Oil Company
1200 WALL TOWERS WEST • MIDLAND, TEXAS 79701 • PHONE (915) 683-5184

Mailing address:
P. O. Box 2280
Midland, Texas 79702

May 11, 1981

File:

U.S. Department of Interior
Geological Survey
P.O. Drawer U
Artesia, New Mexico 88210

Dear Sir:

Flag-Redfern Oil Company is making application to drill the Hahn-Federal Well #8 in Section 27, T-7-S, R-31-E, Chaves County, New Mexico. This is a federal lease with private surface ownership. An agreement with the surface owner has been reached for drilling the well. Restoration will include closing and levelling of the pits after they are no longer necessary. Upon abandonment the road and location will be left intact.

Yours very truly,

John E. Scherer
Production Engineer

JES/ke

CORPORATION ACKNOWLEDGMENT

STATE OF TEXAS

COUNTY OF WARD

The foregoing instrument was acknowledged before me this 14th day of May, 1981, by John E. Scherer, for Flag-Redfern Oil Company, a Delaware corporation on behalf of said corporation.

Judy Ann Benton
Notary Public

My commission Expires: February 4, 1981

Directions to:

Hahn-Federal #8
Tom-Tom San Andres Field
Chaves County, New Mexico

From KENNA, New Mexico

1. Go south on caliche road (only south road out of Kenna) for 10 miles to Amoco and Flag-Redfern Oil Company lease signs.

2. Turn left at sign and go 1 mile east to "Y" in road, take the left side of the fork and continue for 2½ miles.

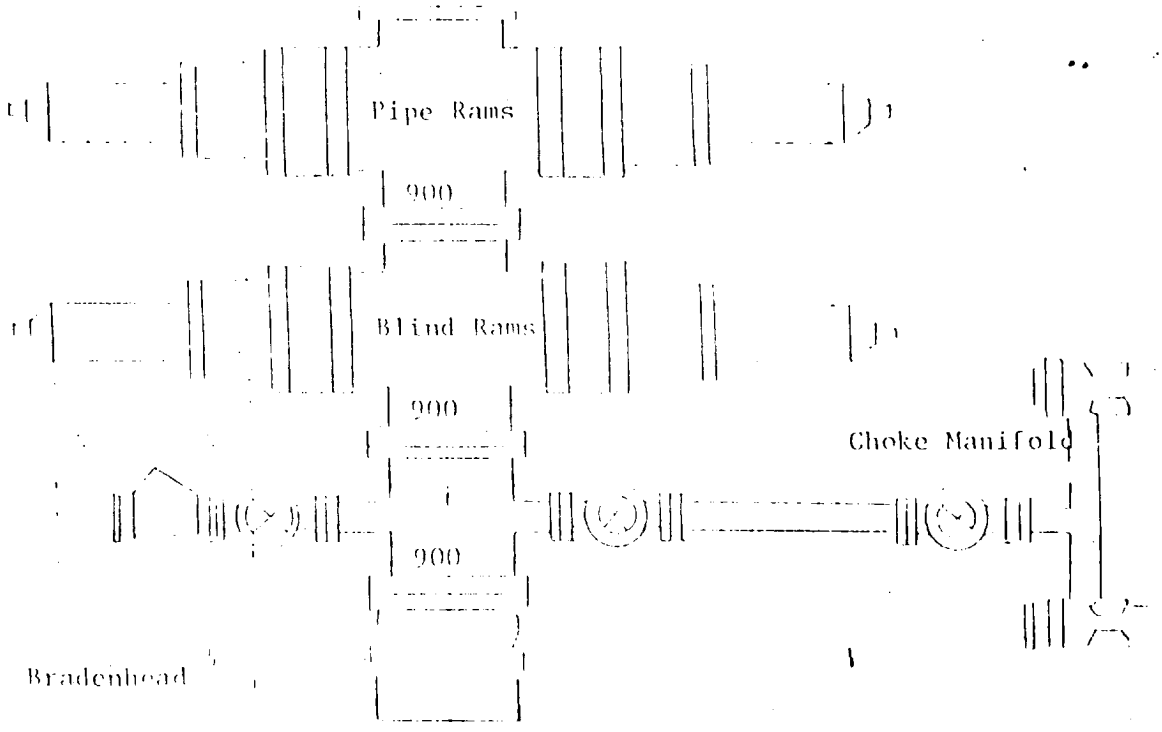
3. Cross 3 cattleguards, cross the 3rd cattleguard and turn left. (You are now on Flag-Redfern Oil Company's Hahn Federal lease Section 27).

4. Go ¼ miles on main travelled road and turn left. Go ¼ mile north to the Hahn Federal #8 well.

BLOWOUT PREVENTER ASSEMBLY

Shaffer 10" Series 900

Hydraulically Operated BOP



1. All preventers to be hydraulically operated with secondary manual controls installed prior to drilling out from under casing.

2. The preventers will be Type "E" 10" 900 Series Double Shaffer.

3. The preventers will be capable of closing off all open areas.

4. The preventers will be tested to 2000 psig after they are installed on the surface casing prior to drilling out, and each time they are removed or rearranged on the well head.

5. Operating controls will be located a safe distance from the rig floor.

R-31-E

T 7 S

21 22 23 24

FROC

Flag-Redfern

FROC

Flag-Redfern "B"

Nuckols

Southard

Amoco Fed

Hahn Fed.

28 27 26 25

FROC "C"

Flag-Redfern "A"

Flag-Redfern

Flag-Redfern "A"

Southard

Flag-Redfern

Flag-Redfern

Hahn Fed

Hahn Fed

Amoco Fed

33 34 35 36

Flag-Redfern Oil Company

1200 WALL TOWER WEST • MIDLAND, TEXAS 79701

P.O. BOX 2200 • PHONE (915) 683-5104

AREA PLAT

HAHN FED & SOUTHARD LEASES

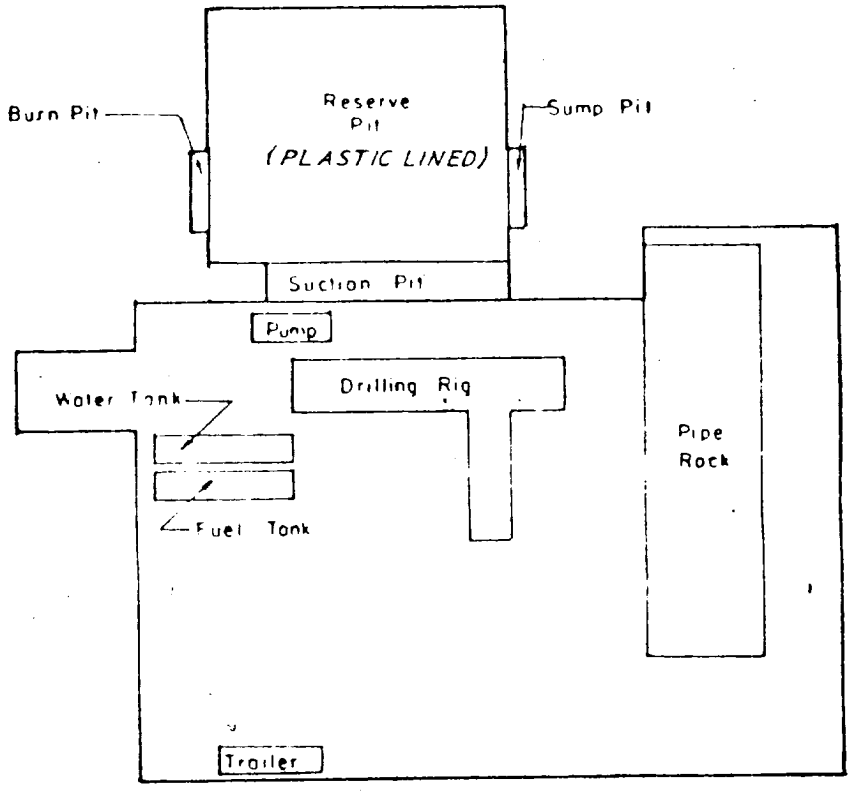
CHAVES COUNTY, NEW MEXICO

Well No. 8, Hahn Fed.

1650' FSL & 990' FWL, Sec. 27, T-7-S, R-31-E

Scale: 1" = 2000'

4-81



Flag-Redfern Oil Company

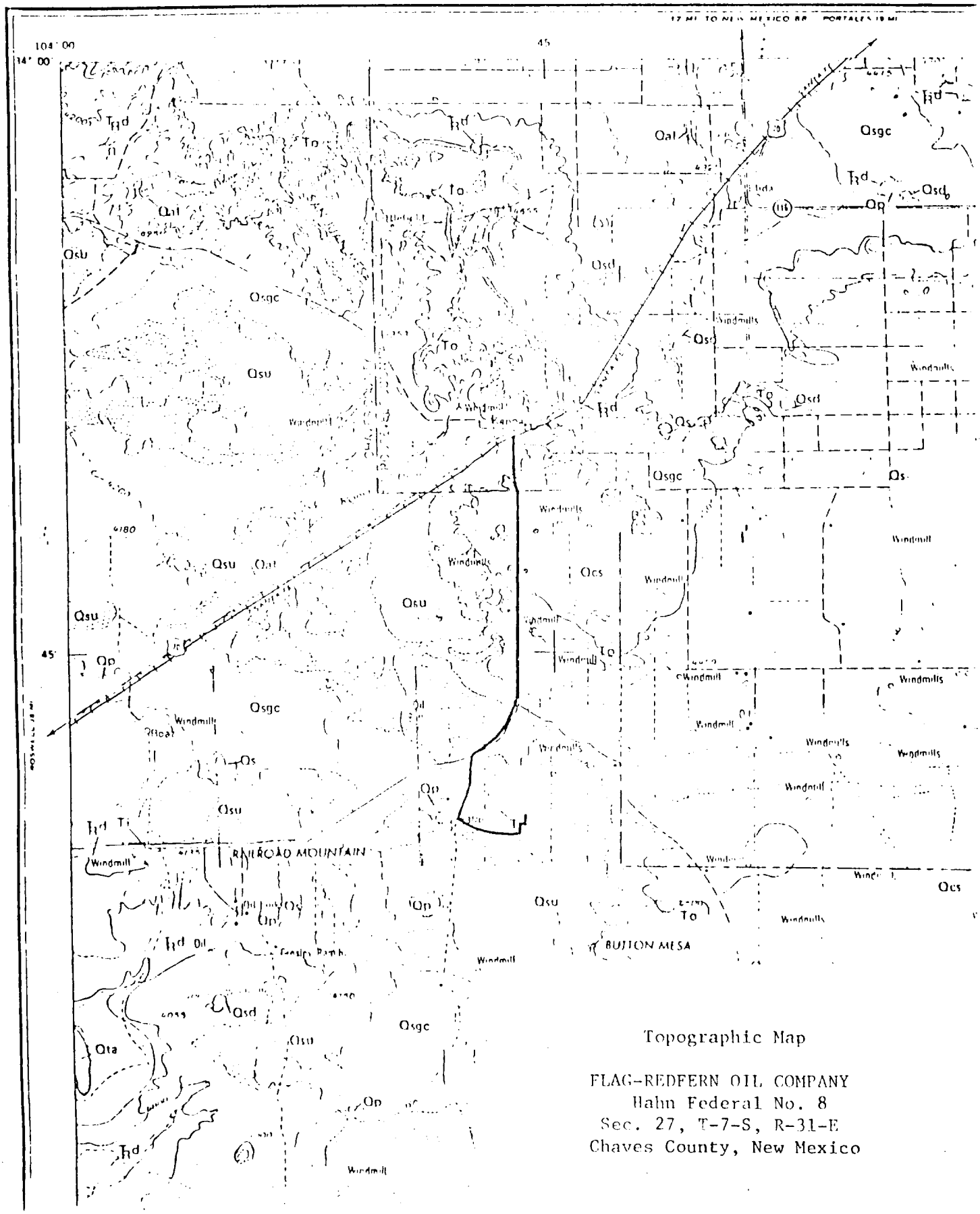
WELL SITE LAYOUT

Well No. 8- HAHN FED. LSE.
FSL & 990' FWL, Sec. 27, T-7-S, R-31 E
1650' ROOSEVELT County, New Mexico

Scale 1" = 50'

4-27-81

THE UNIVERSITY OF TEXAS AT AUSTIN
BUREAU OF ECONOMIC GEOLOGY
W. L. FISHER, DIRECTOR



Topographic Map

FLAG-REDFERN OIL COMPANY
Hahn Federal No. 8
Sec. 27, T-7-S, R-31-E
Chaves County, New Mexico