



~~NMCCC COPY~~
United States Department of the Interior

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

Flag-Redfern Oil Co.
P. O. Box 23
Midland, Texas 79702

AUG 4 - 1978

Flag-Redfern Oil Co.
Well No. 4-Amoco Federal
1980/S 660/W Sec. 26-7S-31E

Above Data Required on Well Sign

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 4100 feet to test the San Andres formation 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 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 his approval including the GENERAL REQUIREMENTS.
3. Submit a Daily Report of Operations from spud date until the Well Completion Report (form 9-330) is filed. The progress report should be not less than 8" x 5" in size and each page should identify the well.
4. All above-ground structures and equipment shall be painted in accordance with the attached Painting Requirements. The color used should simulate Not Applicable (Federal Standard Color #).
5. Cement behind the 8 5/8" casing must be circulated.
6. Notify Survey in sufficient time to witness the cementing of 8 5/8" casing.

Sincerely yours

Joe G. Lara

Joe G. Lara
Acting District Engineer

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U.S. CONSERVATION COMM
HOOVER, CA

COPY

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)Form approved.
Budget Bureau No. 42-R1425.UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.

USA NM 13418

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Amoco-Federal

9. WELL NO.

4

10. FIELD AND POOL, OR WILDCAT

Tom-Tom San Andres

11. SEC., T., R., M., OR BLK.
AND SURVEY OR AREA

Sec. 26, T-7-S, R-31-E

12. COUNTY OR PARISH 13. STATE

Chaves

NM

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

Flag-Redfern Oil Company

3. ADDRESS OF OPERATOR

P.O. Box 23

Midland, TX 79702

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

At surface

660' FWL and 1980' FSL

At proposed prod. zone

Same

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)

660'

16. NO. OF ACRES IN LEASE

480

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.

1320'

19. PROPOSED DEPTH

4100'

20. ROTARY OR CABLE TOOLS

Rotary

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

4367 Gr.

22. APPROX. DATE WORK WILL START*

August 1, 1978

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"	24J	1650'	700 sx.
7-7/8"	4-1/2"	10.50 K	4100'	250 sx.

Drill 12-1/4" hole to 1650'. Run 8-5/8" casing and circulate casing 550 sx. of Halliburton lite with 8# salt per sx. and 200 sx. Class C w/2% saci. to approximately 4100'. Run open hole logs. Run 4-1/2" casing and cement w/250 sx. of Class H with 2% gel, 0.75% CFR-2, and 8# salt per sx. Run correlation logs and perforate San Andres formation. Treat w/acid. Swab to test, potential well.

Blowout preventers Cameron 10" series 900. Installed on surface pipe.

Mud program:

0-1650 Native mud
1650-3800 Native mud and oil
3800-TD Starch, oil emulsion

Estimated Formation Tops:

Rustler Anhydrite - 1643'
Salt - 1689'
Yates - 2044'
San Andres - 3167'
PI Zone - 3715'
S. A. Porosity - 3949'

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 deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE Petroleum EngineerDATE 6-22-78

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

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CH. CONSERVATION COMM.
F0555. 01 01

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 Flag-Redfern Oil Company			Lease Amoco Federal		Well No. 4
Unit Letter L	Section 25 26	Township 7-S	Range 31-E	County Chaves	
Actual Footage Location of Well: 660 feet from the West line and 1980 feet from the South line					
Ground Level Elev. 4367 Gr.	Producing Formation San Andres		Pool Tom-Tom	Dedicated Acreage: 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 _____

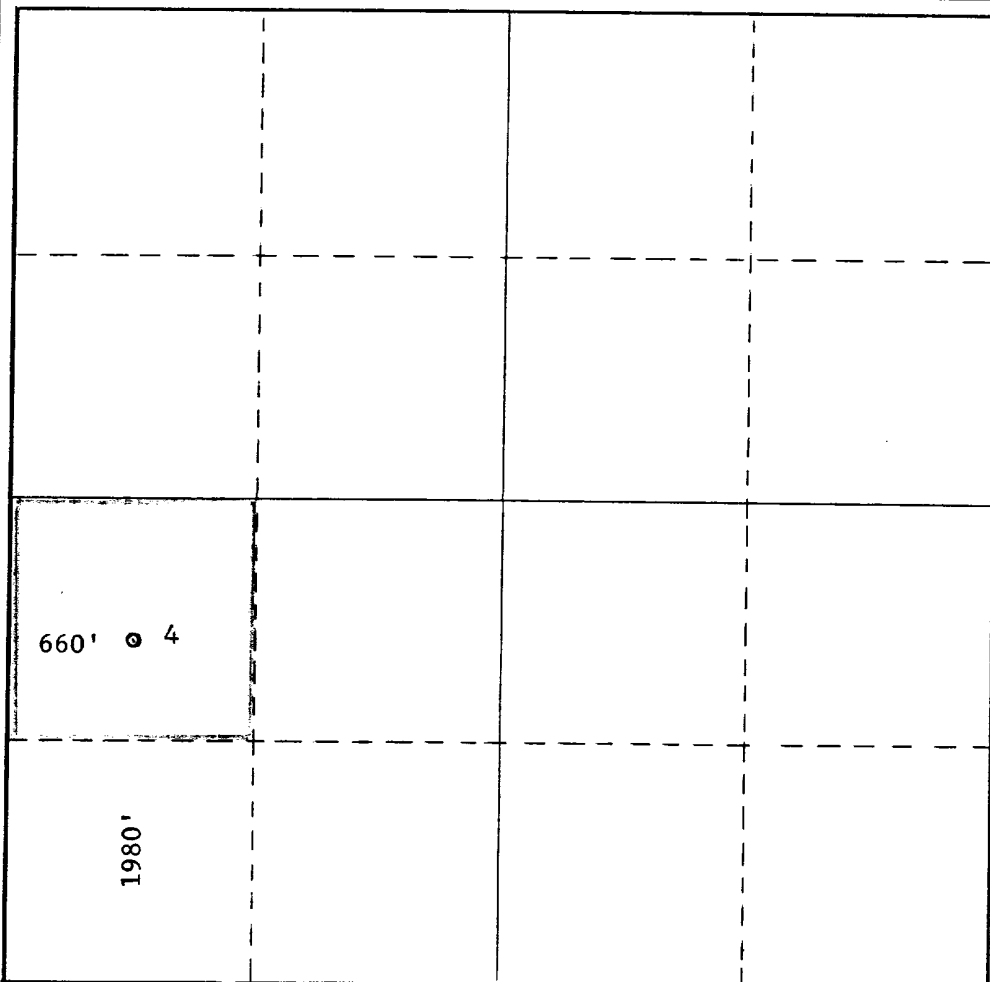
If answer is "no," list the owners and tract descriptions which have actually been consolidated (use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

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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
Petroleum Engineer
Position
Flag-Redfern Oil Company
Company
June 22, 1978
Date

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
June 20, 1978

Registered Professional Engineer
and/or Land Surveyor

Certificate No.

754

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CH CONSERVATION COMM.
EUREKA, CA

APPLICATION TO DRILL
AMOCO-FEDERAL WELL #4

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

1. Location: 660' FWL & 1980' FSL of Section 26, T-7-S, R-31-E, Chaves County, New Mexico.
2. Elevation Above Sea Level: 4367 G. L.
3. Geologic Name of Surface Formation: Mississippian
4. Drilling Tools and Associated Equipment: Conventional Rotary drilling rig using mud for the circulation medium.
5. Proposed Drilling Depth: 4100'
6. Estimated Geological Marker Tops: Rustler Anhydrite - 1643', Salt - 1689', Yates - 2044', San Andres - 3167', PI Zone - 3715', San Andres Porosity - 3949'.
7. Mineral Bearing Formations: Water Bearing - none, Gas Bearing - none, Oil Bearing - San Andres Porosity @ 3935'.
8. Casing Program: (a) Surface casing - 8-5/8" - 24#/ft. J-55 new casing,
(b) Production casing - 4-1/2" - 10.50#/ft. K-55 new casing.
9. Setting Depth of Casing and Cement for Same: (a) 8-5/8" casing set at 1650'.
Cement will be circulated to the surface using 550 sx. of Halliburton Lite with 8# salt per sx. and 200 sx. Class C w/2% CaCl.
(b) 4-1/2" casing set at 4100' and will be cemented with 250 sxs. of 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 4-1/2" and 5-1/2" drill pipe. They will be capable of closing off of all open areas. The blowout preventers will be hydraulically actuated by an 80 gal Payne accumulator. 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 re-arranged on the wellhead.

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HOBBS, N. M.

11. Proposed Circulating Medium: Mud will be used for the circulating medium for all depths in this well. The following mud properties will be maintained:
0-1650' Fresh water based native mud, mud weight 8.6 to 10.0 lb/gal, viscosity 32 to 34 seconds.
1650' - 3800' Fresh water based native mud with oil, mud weight 10.0 lb/gal. Viscosity 32 to 33 seconds.
3800' - 4100' (TD) Fresh water based mud with starch and oil. mud weight 10.0 lb/gal, viscosity 38 to 42 seconds, fluid loss 10-15 milliliters.
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 logs will be run:
0-4100' Sidewall neutron porosity with gamma ray, caliper and "F" curve.
3500' - 4100' Dual laterolog with Ro curve
(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: July 24, 1978 Road and location to be constructed, August 1, 1978 Drilling rig to spud well, August 15, 1978 Pulling Unit to complete well. September 1, 1978 Well to be potentialled.
15. Other Facets of Operation: After running 4-1/2" casing, cased hole gamma ray collar correlation logs will be run from 4050' 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.

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ROBES. N. M.

Surface Use and Operation Plan

Flag-Redfern Oil Company
Amoco-Federal No. 4
Section 26, T-7-S, R-31-E
Chaves County, New Mexico

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ARTESIA, 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 10' wide.
3. Location of Existing Wells
 - A. Existing wells are shown on the attached plat.
4. Location of Tank Batteries, etc.
 - A. A tank battery and production facility consisting of two 210 bbl. stock tanks and a heater treater is located on this same lease directly south of Well No. 3.
 - 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 4000' north of the proposed location.
 - C. All water used in drilling operations will be trucked to the drillsite from commercial sources.

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6. Source of Construction Materials

- A. Construction material will be caliche, which will be purchased by the dirt contractor.

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 fluids 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 which consists 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 glauca, rhus trilobata, gutierrezia sarothrae, eurotia, lanata, and lycurus phleoides.
- D. Fauna consists of crotalus and sistrurus, canis latrans, lepus alleni, mephitis mephitis and antelope.
- E. The surface of this land is being utilized to a limited extent as grazing land for cattle.

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- F. The surface is private owned.
- G. No cultural resources or archeological sites are present.
- H. There are no steep hillsides, no deep gullies, no streams and no occupied dwellings on this lease.

12. Operator's Representative

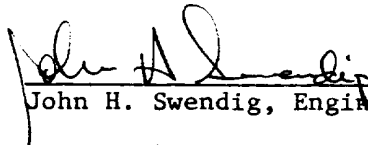
John H. Swendig
P. O. Box 23
Midland, Texas 79702

Office Phone: 915-683-5184
Home Phone: 915-697-1628

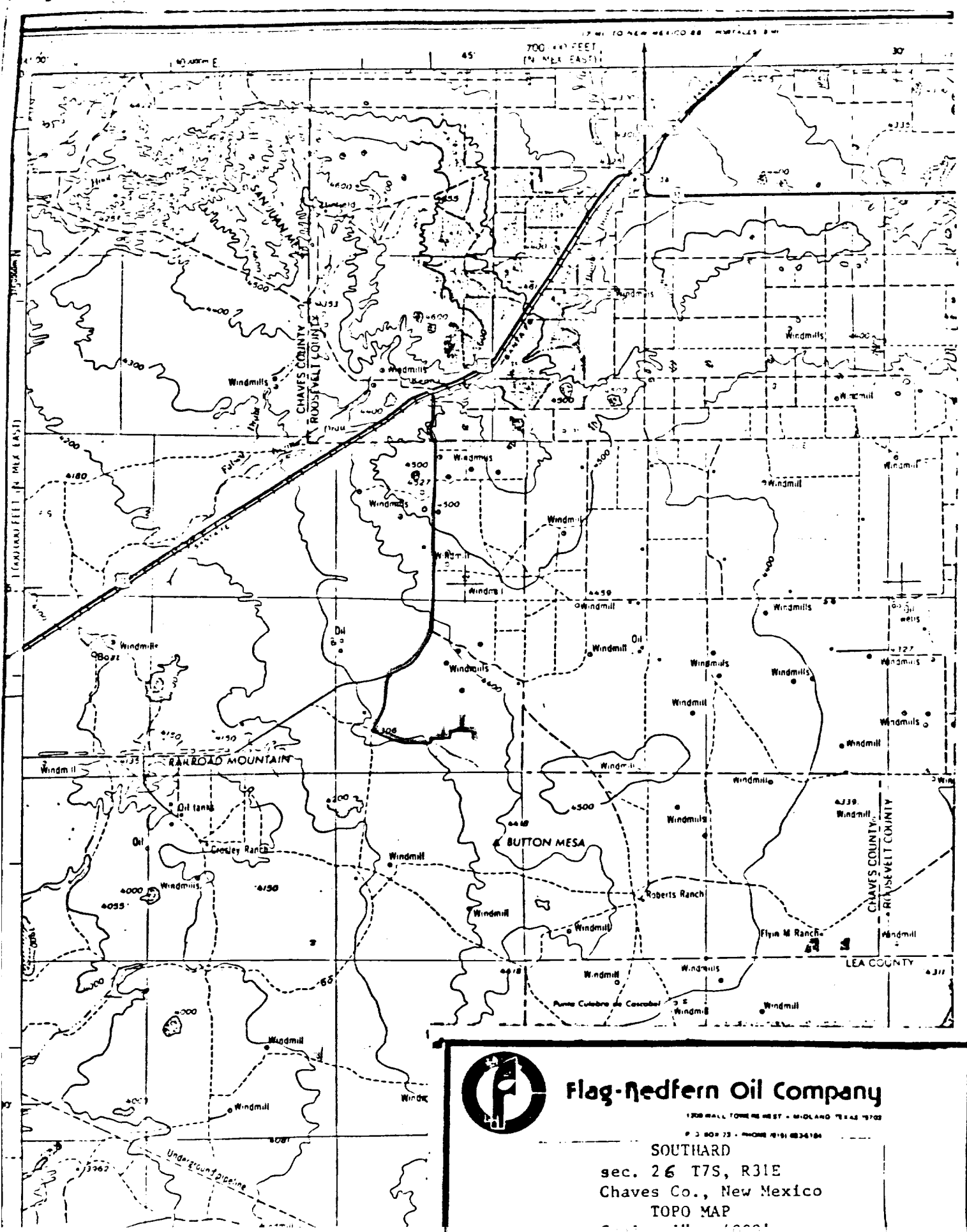
13. Certification

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 Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

Date June 22, 1978



John H. Swendig, Engineer



Flag-Nedfern Oil Company

1200 WALL TOWER WEST - MIDLAND TEXAS 79702

P. O. BOX 73 - PHONE 4191 0824184

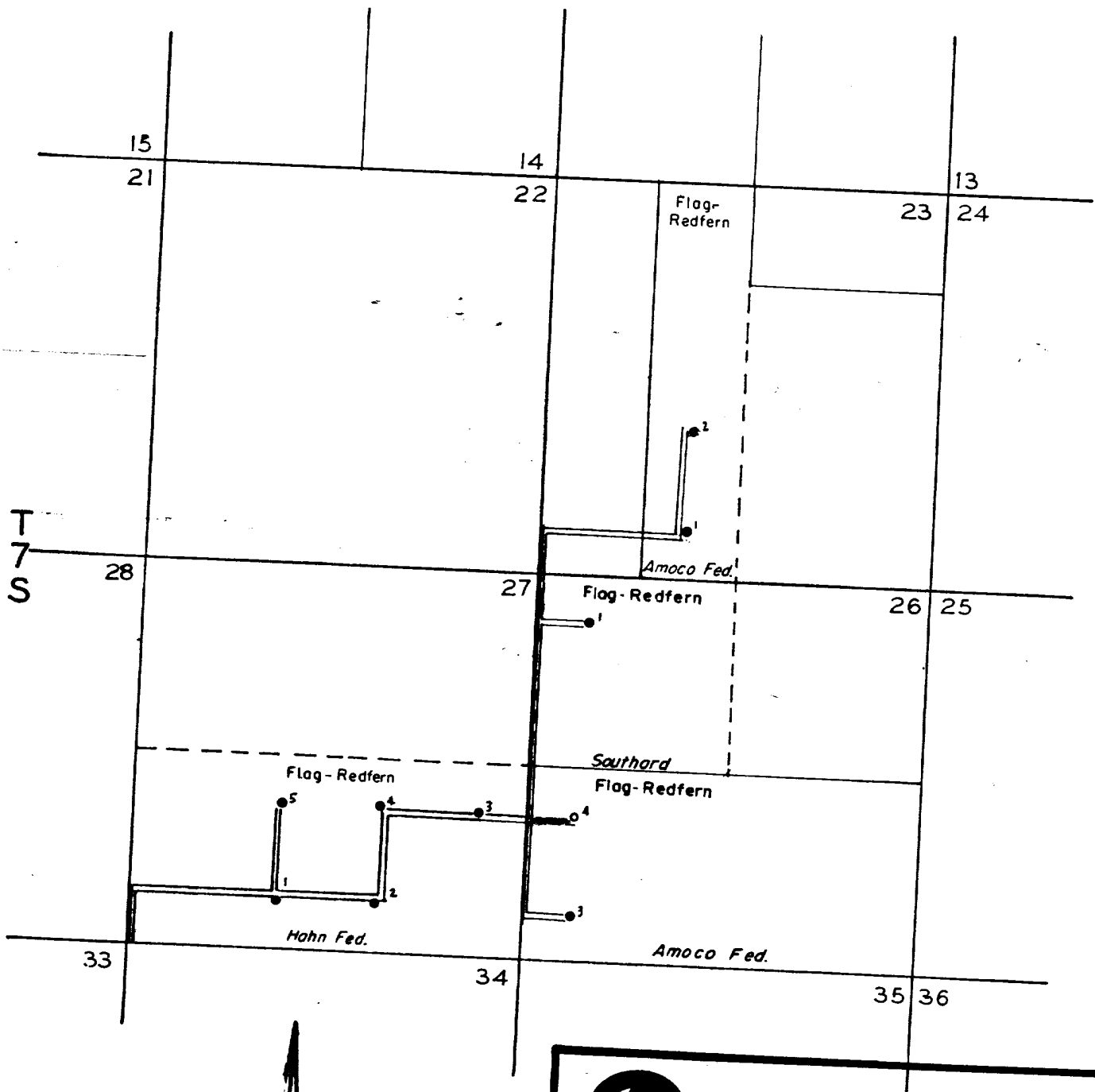
SOUTHARD
sec. 26 T7S, R31E
Chaves Co., New Mexico
TOPO MAP

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HOBBS, N. M.

R-31-E



Flag-Redfern Oil Company

1200 WALL TOWERS WEST • MIDLAND, TEXAS 79702

P. O. BOX 23 • PHONE (815) 683-5184

AREA PLAT

SOUTHARD AREA

Well No. 4, Amoco Fed. Lse.

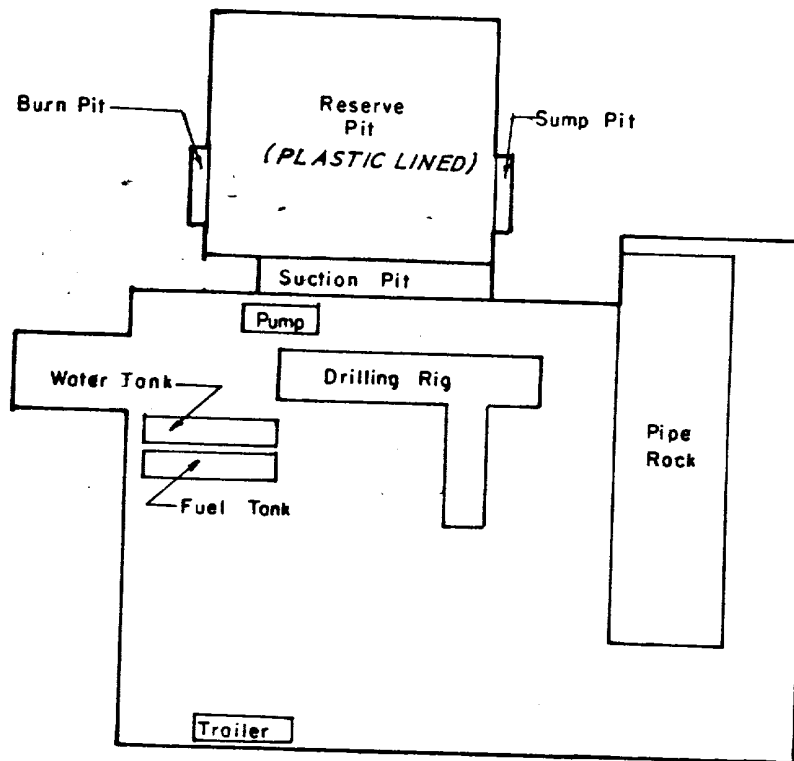
1980' FSL & 660' FWL

Sec. 26, T-7-S, R-31-E

Chaves County, New Mexico

DATE 11-20-80

1577



Flag-Redfern Oil Company

1200 WALL TOWERS WEST • MIDLAND, TEXAS 79702

P. O. BOX 23 • PHONE (915) 6835184

WELL SITE LAYOUT

Well No.4- Amoco Fed. Lse.
660' FWL & 1980' FSL, Sec. 26, T-7-S, R-31-E
Chaves County, New Mexico

Scale: 1" = 50'

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OIL & GAS
HOBBS, N. M.

DIRECTIONS TO:

Amoco-Federal Well # 4
Tom-Tom San Andres Field
Chaves County, New Mexico

From Downtown 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 2-1/2" 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 1-3/4 miles on main travelled road to Amoco-Federal Well # 4 location.

REF

AUG 16 1978

OIL CO. HOBBS, N. M.