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United States Department of the Interior

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

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NOV 15 1979

O. C. C.
ARTESIA, OFFICE

November 13, 1979

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

Gentlemen:

FLAG-REDFERN OIL CO.
Amoco Federal No. 7
2173 FSL 1980 FEL Sec. 26 T.7S R.31E
Chaves County Lease No. NM 13418

Above Data Required on Well Sign

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 4,100 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 this 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 permanent above-ground structures and equipment shall be painted in accordance with the attached Painting Requirements. The color used should simulate Sandstone Brown (Federal Standard No. 595A, color 20318 or 30318).
5. Cement behind the 8-5/8" casing must be circulated.
6. 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,

GEORGE H. STEWART

George H. Stewart
Acting District Engineer



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

30-105-20712

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 ☐

NOV 15 1979

SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Flag-Redfern Oil Company

O. C. C.

3. ADDRESS OF OPERATOR

ARTESIA, OFFICE

P. O. Box 23 Midland, Texas 79702

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

At surface

1980' FEL & 2173' 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 drig. unit line, if any)

4671'

16. NO. OF ACRES IN LEASE

480

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

1320'

19. PROPOSED DEPTH

4100'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

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

4370' GL

22. APPROX. DATE WORK WILL START*

Nov. 15, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM

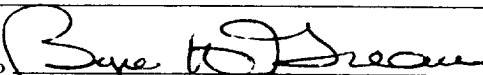
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11"	8-5/8"	24# J-55	1650'	700sx.
7-7/8"	4-1/2"	9.50# K-55	4100'	250 sx.

Drill 11" hole to 1650' or into the Rustler Anhydrite formation. Run 8-5/8" casing and circulate cement using 600 sx of Halliburton light weight with 1/4 lb/sx of flocele and 8 lb/sx of salt followed by 200 sxs of Class "C" w/2% CaCl. Wait on cement 8 hrs and test casing to 600 PSIG. Drill 7-7/8" hole to approximately 4100'. Run Sidewall Neutron Porosity log. Run 4 1/2" casing to T.D. and cement with 250 sx of 50-50 Pozmix "A" - Class "H" w/2% gel, 0.75% CFR-2 and 8 lb/sx of salt. Wait on cement a minimum of 8 hrs. Test 4 1/2" casing to 1500 PSIG. Run correlation logs and perforate the San Andres formation. Treat with acid. Swab to test. Potential test well.

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



TITLE

Engineer

DATE

10-12-79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

11-13-79

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

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**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. 7
Unit Letter J	Section 26	Township 7-S	Range 31-E	County CHAVES	
Actual Footage Location of Well: 1980 feet from the EAST line and 2173 feet from the SOUTH line					
Ground Level Elev. 4370	Producing Formation San Andres		Pool San Andres (San Andres)	Dedicated Acreage 40 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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?

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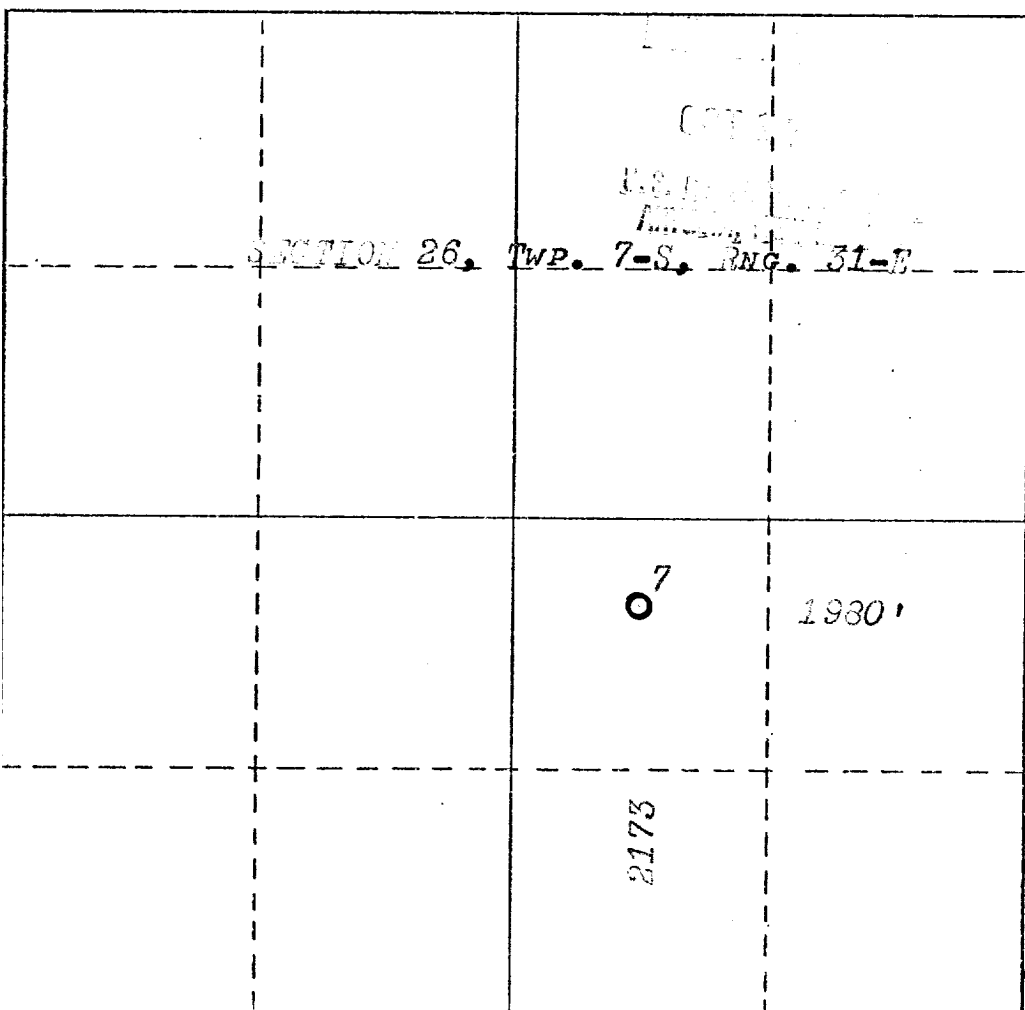
NOV 15 1979

**O. C. C.
ARTESIA, OFFICE**

☐ 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

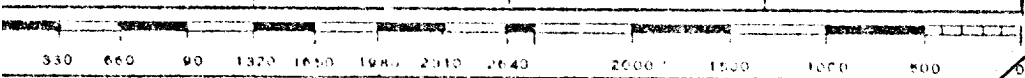
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name John H. Swand
Position Manager
Company Flag-Redfern Oil Company
Date 10-12-79

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 Oct. 11, 1978
Registered Professional Engineer and/or Land Surveyor

Signature [Signature]
Certificate No. 754



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APPLICATION TO DRILL
AMOCO-FEDERAL WELL #7

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

1. Location: 2173' FSL & 1980' FEL of Section 26, T-7-S, R-31-E, Chaves County, New Mexico.
2. Elevation above Sea Level: 4371' G.L.
3. Geologic Name of Surface Formation: San Andres
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 - 1615', Top of Salt - 1695', Base of Salt - 2050', Yates - 2060', San Andres - 3180', PI Aone - 3730', San Andres Porosity - 3960'.
7. Mineral Bearing Formations: Water Bearing - none, Gas Bearing - none, Oil Bearing - San Andres Porosity @ 3960'.
8. Casing Program: a. Surface casing - 8-5/8" - 24#/ft. J-55 new casing, b. Production casing - 4-1/2" - 9.50#/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 500 sx. of Halliburton Light Weight w/1/2#/sx Flocele and 8# salt per sx. followed by 200 sx. Class C w/2% CaCl. (b) 4-1/2" casing set at 4100' 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 4-1/2" and 5-1/2" 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 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 rearranged on the wellhead.

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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' - 4100' (T.D.) Fresh water based native mud with oil, mud weight 10.0 lb/gal. Viscosity 32 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 be run:
0 - 4100' 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: November 1, 1979 Road and location to be constructed, Nov. 1, 1979 Drilling rig to spud well, Dec. 1, 1979 Pulling Unit to complete well. December 15, 1979 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.

Surface Use and Operation Plan

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

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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 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 the well site 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 3000' north of the proposed location.
- C. All water used in drilling operations will be trucked to the drillsite from commercial sources.

6. Source of Construction Materials

- A. Construction material will be caliche, which will be purchased by the dirt contractor.
- B. Caliche will be obtained from a private pit location in Section 33.
- 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 either be 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 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 tripebata, 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.

- 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

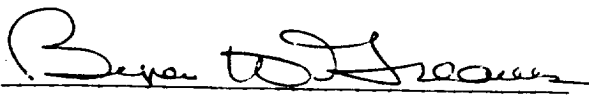
John H. Swendig
P. O. Box 23
Midland, Texas 79702

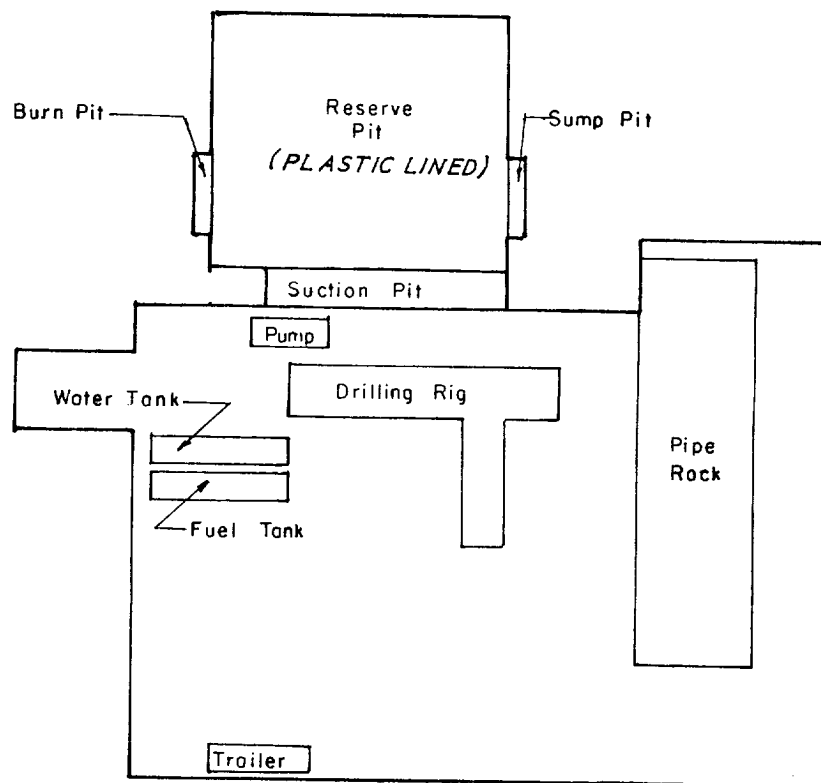
Office Phone: 915/683-5184
Home Phone: 915/697-1628

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 October 12, 1979


Byron H. Greaves



Flag-Redfern Oil Company

1200 WALL TOWERS WEST • MIDLAND, TEXAS 79702

P. O. BOX 23 • PHONE (915) 683-5184

WELL SITE LAYOUT

Well No.7- Amoco Fed. Lse.
2173' FSL & 1980' FEL, Sec. 26, T-7-S, R-31-E
Chaves County, New Mexico

Scale: 1" = 50'

8-15-77

DIRECTIONS TO:

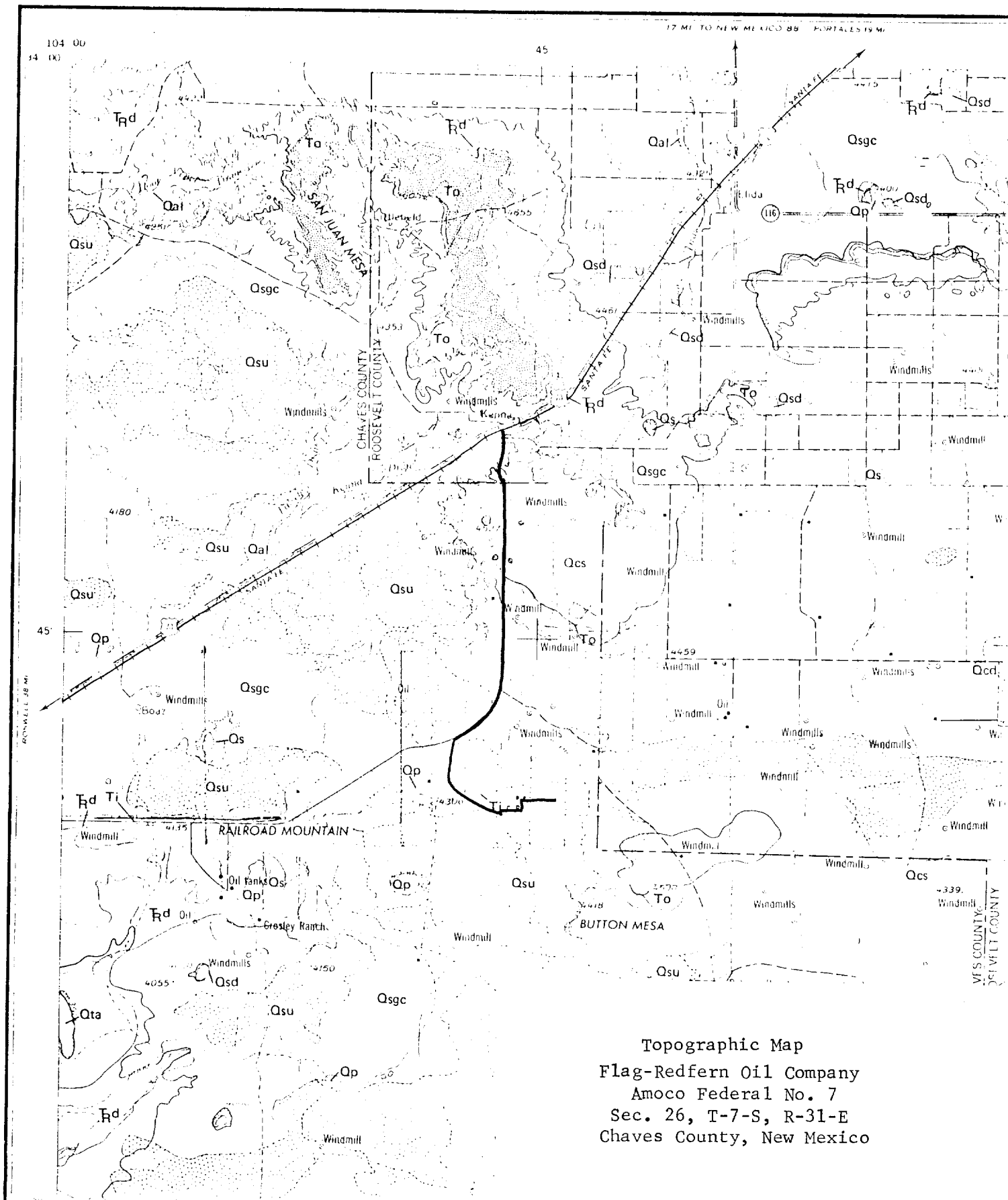
Amoco-Federal Well # 7
Tom Tom San Andres Field
Chaves County, New Mexico

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 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 1½ miles on main travelled road to caliche intersection.
5. Continue east for 1980' to the Amoco-Federal Well #6.

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



The map displays the Flag-Redfern, Amoco, and Hahn oil fields. Key features include:

- Grid System:** Vertical labels 15, 14, 13; horizontal labels 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36.
- Vertical Line:** Labeled 'T 7 S' on the left side.
- Field Labels:**
 - Flag-Redfern* (multiple locations)
 - Amoco Fed.* (multiple locations)
 - Hahn Fed.* (multiple locations)
 - Hahn Fed. "A"* (dashed line area)
 - Southard* (dashed line area)
 - Southard "A"* (dashed line area)
- Well Paths:** Indicated by lines with numbered points (1-7) representing specific wells or locations within the fields.
- Dashed Line:** Separates the Hahn and Amoco fields.
- North Arrow:** Located at the bottom center of the map.



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SOUTHARD AREA

Well No 7, Amoco Fed. Lse.

1980' FEL & 467' FNL-S/2

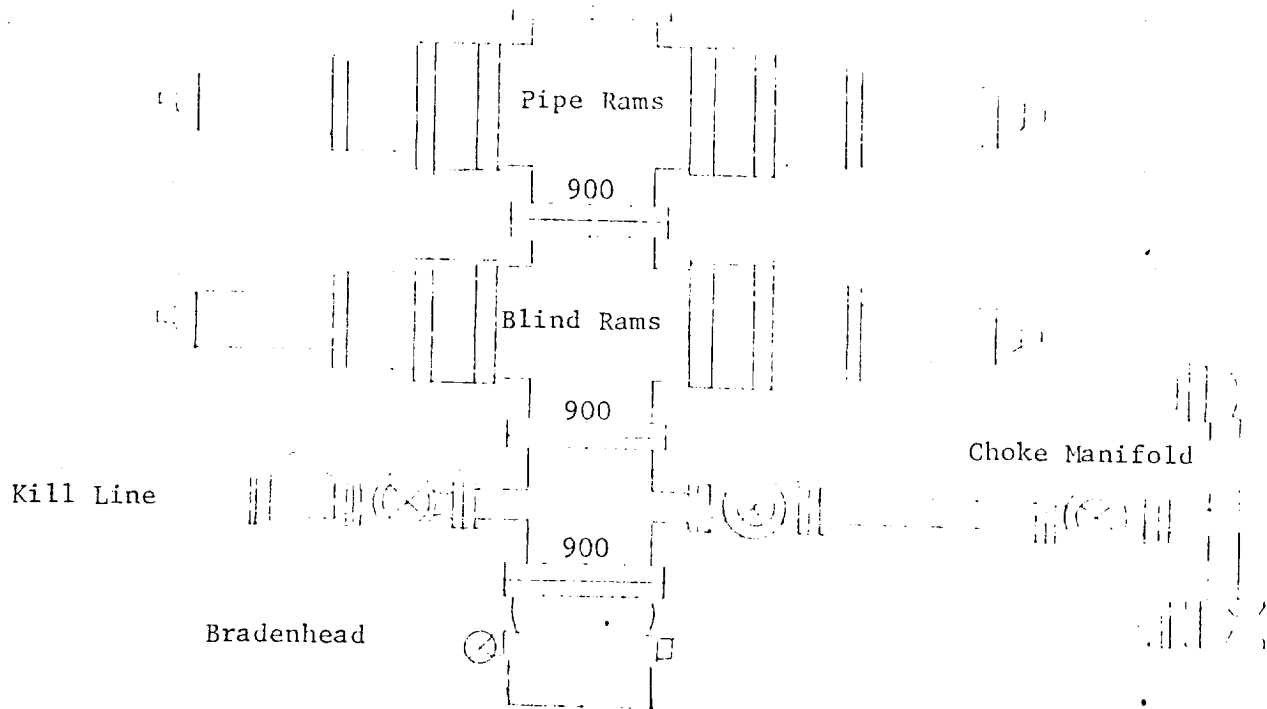
Sec. 26, T-7-S, R-31-E

Chaves County, New Mexico

BLOWOUT PREVENTER ASSEMBLY

Shaffer 10" Series 900

Hydraulically Operated BOP

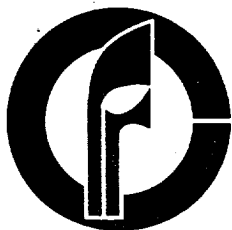


1. All preventers to be hydraulically operated with secondary manual controls installed prior to drilling out from under casing.
2. The preventers will be Type "E" 10" 900 Series Double Shaffer.
3. The preventers will be capable of closing off all open areas.
4. The preventers will be tested to 2000 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.

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Flag-Redfern Oil Company

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October 12, 1979

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

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File:

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

OCT 17 1979

U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

Dear Sir:

Flag-Redfern Oil Company is making application to drill the Amoco-Federal Well #7 in Section 26, 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,

Byron H. Greaves

CORPORATION ACKNOWLEDGMENT

STATE OF TEXAS

COUNTY OF Midland

The foregoing instrument was acknowledged before me this 12th day of October, 19 79, by Byron H. Greaves,
Engineer for Flag-Redfern Oil Company,
a Delaware corporation on behalf of said corporation.

Notary Public

My Commission expires 4-26-81.



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