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United States Department of the Interior

GEOLOGICAL SURVEY

P. O. Drawer U
Artesia, New Mexico 88210

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JAN 14 1980

O. C. D.
ARTESIA, OFFICE

January 11, 1980

Anadarko Production Company
P. O. Box 67
Loco Hills, New Mexico 88255

Gentlemen:

ANADARKO PRODUCTION COMPANY
Friend Federal No. 1
1980 FNL 660 FWL Sec. 21 T.13S R.31E
Chaves County Lease No. NM 17594

Above Data Required on Well Sign

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 2,700 feet to test the Queen 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. Special stipulations: No new disturbances in the southwest corner of the caliche pit (archaeological problem), and no drilling between April 1 and May 31.
7. 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
Acting District Engineer



UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒

or

GAS
WELL ☒OTHER ☐

2. NAME OF OPERATOR

Anadarko Production Company

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ARTESIA, NEW MEXICO

3. ADDRESS OF OPERATOR

P. O. Box 67, Loco Hills, New Mexico 88255

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

At surface

1980' FNL & 660' FNL Sec. 21, T13S, R31E

Chaves County, New Mexico

At proposed prod. zone

Same

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

25 miles North of Maljamar, New Mexico

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

660'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

6226'

16. NO. OF ACRES IN LEASE

480

19. PROPOSED DEPTH

2700'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

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

4118.9 GL

22. APPROX. DATE WORK WILL START*

December 15, 1979

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"	24#	350'	250 sk
7-7/8"	4-1/2"	10.5#	2700'	250 sk

1. Rig up rotary tools.
2. Drill to approximately 350', set and circulate or ready-mix cement to surface on 8-5/8" casing. Install and test Series 900 Double Ram Hydraulic Blowout Preventor.
3. Drill to 2575'; core 2575' to 2675'.
4. Drill to T. D. - approximately 2700', run Open Hole Log.
5. Set and cement 4 1/2" casing on T. D.
6. Perforate, acidize and fracture treat well.
7. Run 2-3/8" tubing and packer if production is gas or 2-3/8" tubing, bottom-hole pump and rods if production is oil.
8. Install Christmas Tree or pumping equipment.
9. Place well on production.

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. Original Signed by **Jerry F. Buckles** TITLE **Area Supervisor** DATE **October 12, 1979**

SIGNED

TITLE

DATE

(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

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 re-drill 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.

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OIL CONSERVATION DIV

**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 ANADARKO PRODUCTION COMPANY			Lease Friend Federal		Well No. 1
Unit Letter "F"	Section 21	Township 13 South	Range 31 East	County Chaves	
Actual Footage Location of Well: 1980 feet from the North line and 660 feet from the West line					
Ground Level Elev. 4118.9	Producing Formation Queen		Pool Caprock Queen		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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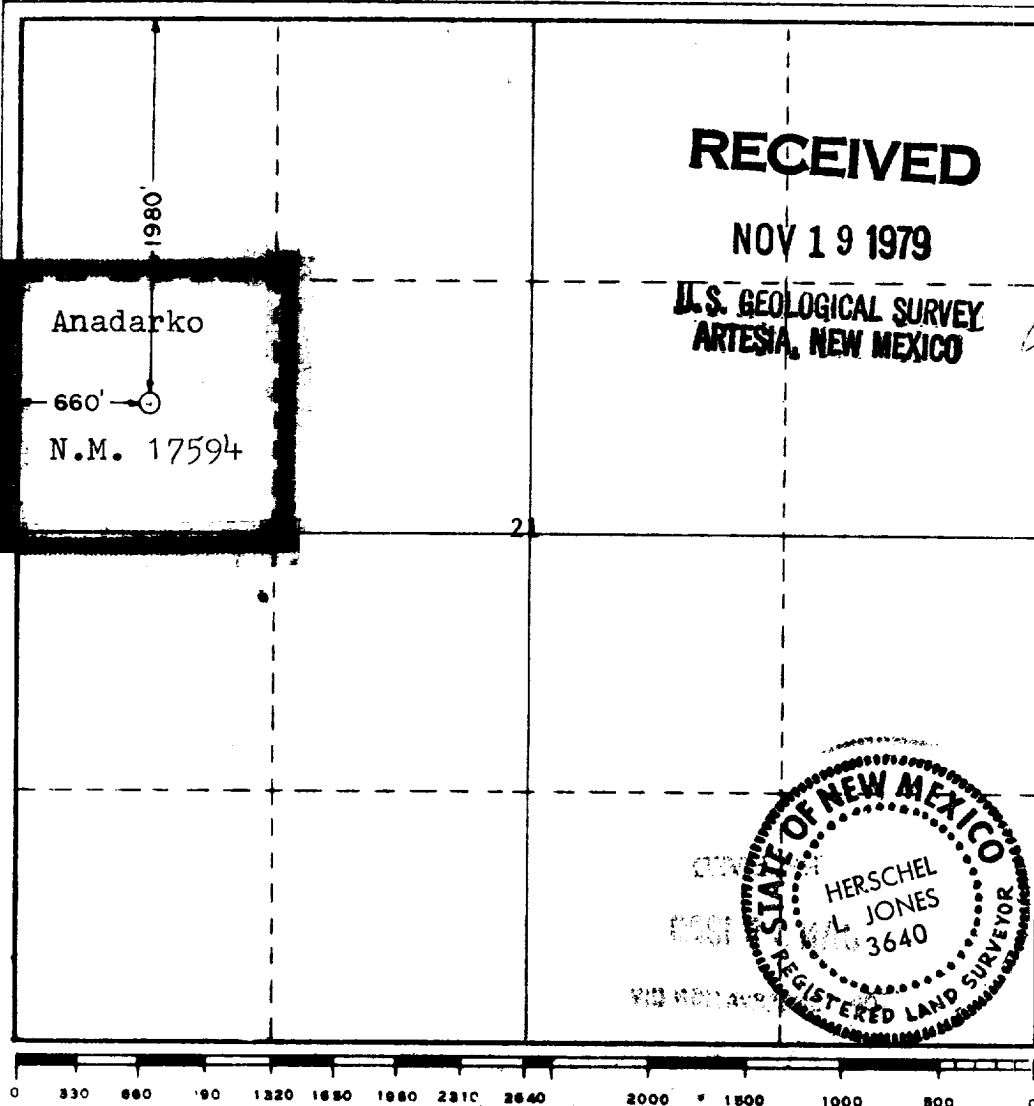
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☐ Yes ☐ No If answer is "yes," type of consolidation _____

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 *Jerry L. Buckles*
 Position Area Supervisor
 Company Anadarko Production Co.
 Date October 19, 1979

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 18, 1979
 Registered Professional Engineer and/or Land Surveyor
Herschel L. Jones
 Certificate No. 3640

Anadarko Production Company 100% Working Interest

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OIL CONSERVATION DIV.

DATA SHEET

This Data Sheet is provided as a Supplement to our "Application for Permit to Drill" - Friend Federal Well #1.

1. Location: 1980' FNL & 660' FWL Sec. 21, T13S, R31E, Chaves County, New Mexico
2. Elevation: 4118.9 GL
3. Geological Name of Surface Formation: Recent - (Quaternary)
4. Type of Drilling Tools to be Utilized: Rotary
5. Proposed Drilling Depth: 2700'
6. Tops of Important Geological Markers:

Anhydrite	870'
Salt - Top	965'
Salt - Bottom	1540'
Yates	1900'
Queen	2575'
7. Estimated Depths of Anticipated Water, Oil or Gas: 2575' to 2675'
8. Casing Program:

8-5/8", 24#, K-55, ST&C @ 350' (New)
 4-1/2", 10.5#, K-55, ST&C @ 2700' (New)
9. Setting Depth of Casing & Amount & Type of Cement:

8-5/8" @ 350' cemented with 250 sx Class C w/2% CaCl₂
 4-1/2" @ 2700' cemented w/250 sx Class C w/6 # salt/sx & 2% gel
10. Specifications for Pressure Control Equipment: BOP will consist of Shaffer Type E 10" Series 900 BOP with 4" Blind Rams, kill line and choke manifold, Koomey Hydraulic Controls and accumulator with remote controls. When nipping up, test BOP and Choke Manifold to 1500 psi. Operate BOP equipment once a day, or as directed by Company Representative.
11. Mud System: Drill with Native Mud to 2200'. Add Zeogel to increase viscosity to 34 sec; add Drispac to lower water loss to 8 - 12 cc; do not control weight (anticipated weight = 9.4#/gal.)
12. Testing, Logging & Coring Program:
 - A. Testing: Possible DST in Queen Sands - 2575' - 2675'
 - B. Coring: Will core Queen Sands - 2575' - 2675'
 - C. Logging: Run Dual Laterolog & Compensated Neutron-Density Log in Open Hole @ T. D.
13. Potential Hazards: None are expected. Gas might be encountered in Queen Sands while coring; above described BOP should take care of any blowout problems. Numerous wells have been drilled in this area without problems.
14. Anticipated Starting Date & Duration: Construction of drillsite pad is planned during December, 1979. The spud date will be approximately Dec. 15, 1979. Approximately six days will be required to complete the drilling operations. Another 30 days will be required for completion work.
15. Other Facets: None

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OIL CONSERVATION DIV

Anadarko
PRODUCTION COMPANY

P. O. Box 67 • Loco Hills, New Mexico 88255 • (505) 677-2411

A
Panhandle
Eastern
Company

October 15, 1979

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NOV 19 1979

**U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO**

United States Geological Survey
P. O. Drawer U
Artesia, New Mexico 88210

Gentlemen:

Following is the "Surface Use and Operation Plan" for the drilling of the Friend Federal #1 well for Anadarko.

This well is located 1980' FNL & 660' FWL Sec. 21, T13S, R31E, Chaves County, New Mexico.

1. Existing Roads - A small scale map is attached (Exhibit #1). It shows the location of this well in relation to Maljamar, New Mexico Townsite. A larger scale map (Exhibit #2) shows State Highway #172 in blue. The existing caliche lease roads are shown in orange.
2. Planned Access Road - Only a short access road will be needed since an existing caliche road is located nearby. This proposed road is shown in green on Exhibit #2.
3. Location of Existing Wells - Existing wells are shown on enclosed map (Exhibit #2). No exploratory wells are being drilled within a two mile radius.
4. Location of Tank Batteries, Production Facilities and Lines - Exhibit #3 is a plat showing the proposed location of production facilities. The production facilities will be located on the drillsite pad.
5. Location and Type of Water Supply - The fresh water source is approximately 8 miles Southeast of location and consists of Ogallala formation fresh water. This water will be trucked to location as needed from an existing pipeline.
6. Source of Construction Material - Source of Caliche will probably be an existing Federal caliche pit located in Sec. 5 - approximately 3 miles South of this drilling site. This pit is shown on Exhibit #2 in green. Otherwise, we will seek permission to open a temporary pit at this new wellsite location which will then be immediately reclosed.
7. Methods for Handling Waste Disposal - The enclosed drillsite plat (Exhibit #4) indicates location of reserve and rubbish pits. After sufficient time has elapsed to allow drilling fluids to dry, this pit will be closed and leveled.

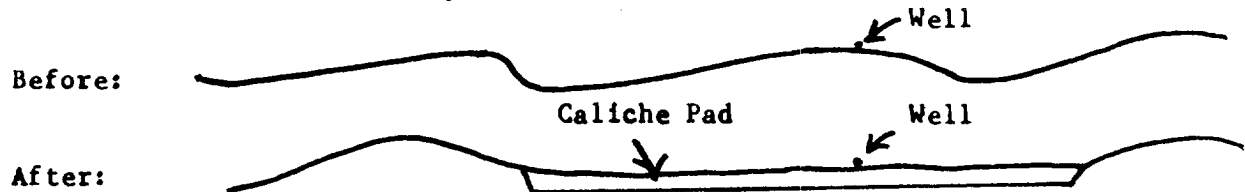
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8. Ancillary Facilities - There are no camps or airstrip. planned.

9. Well Site Layout - Well site (Exhibit #4) has been staked and is indicated by red area on enclosed map (Exhibit #1). Drilling site is a sandy area covered by sparse native vegetation. Drilling pad will be leveled and only a minimum amount of caliche will be used initially when the well is drilled. Later, if a productive well is obtained, additional caliche will be added to support travel during all weather conditions.

Drilling site will essentially blend with the relatively flat terrain.

Cross-section of drillsite pad is shown below:



10. Plans for Restoration of Surface - Commercial Well:

Re-shaped Topography - Rubbish will be buried upon completion of well. All future trash will be removed by the individual generating same.

Caliche Pad - Caliche drilling pad will be essentially only a scrapeout until commercial production is established. Then it will be improved and consist of a total of 6" of caliche. This pad will remain intact until the well is abandoned.

Road - This road will initially be scraped out and then improved with additional caliche only if commercial production is established.

Timetable - The well should produce for several years.

Plans for Restoration of Surface - Plugged & Abandoned Well:

Surface damage will be kept to a minimum. The existing caliche road will require little or no repairs. The new road and location can be scraped off and a small amount of caliche used only where necessary. This road and location can easily be ripped up after the well is plugged.

11. Other Information - Topography is generally flat, surrounded by small sand dunes.

Soil Characteristics - Unconsolidated sand.

Flora - Sparse grass and weeds.

Fauna - Rabbits, rats, mice, birds and snakes.

Other Surface Use Activities - Leased grazing land.

Surface Ownership - Federal land.

Water Wells - None.

Lakes, Streams and Ponds - None.

Dwellings - A ranchhouse is located approximately 3 miles Southeast of this location.

Other Facilities - None.

Archaeological Sites - None - Cleared by New Mexico Archaeological Services, Inc.

Historical Sites - None.

Cultural Sites - None.

12. Operator's Representative - Ozie W. Farris, Field Foreman for Anadarko

- Office Phone - 677-2411

- Home Phone - 677-3230

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