

UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY Amended Jan. 3, 1979

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

JAN 8 1979

SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Wm. B. Barnhill

O.C.C.

3. ADDRESS OF OPERATOR

ARTESIA, OFFICE

P. O. Box 1354 Roswell, New Mexico 88201

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

At surface

1980' FSL and 2310' FWL Sec 35 T21S R24E Eddy Co. New Mexico

At proposed prod. zone

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

14 miles west of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

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

18. DISTANCE FROM PROPOSED LOCATION*

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

16. NO. OF ACRES IN LEASE

1,134.47

19. PROPOSED DEPTH

9900'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

20. ROTARY OR CABLE TOOLS

cable for surface Rotary to TD

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

GR3944.7

22. APPROX. DATE WORK WILL START*

Jan. 16, 1979

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
15"	13 3/8"	37#	180'	250sx - circ to surface
12 1/4"-1500'; 11 1/2"-2300	8 5/8"	24#	2300'	700sx - corc to surface
7 7/8"	5 1/2"	15# - 17#	9800'	500sx

*5 1/2" csg cementing program will be adjusted to cover any interval having oil or gas show

The acreage dedicated to well is not committed to a gas contract

Estimated Tops-Glorieta 2795'; Bone Springs 3300'; Wolfcamp 6700'; Cisco Reef 7300'; Cnayon 7500'; Strown 8350'; Atoka 8600'; Morrow 9000'; Barnett 9550'

Expected production from Top Cisco Reef to Morrow. Fresh water for drilling fluid to 7000', 10# mud with 2% KCL from 7000' to T.D.

It is proposed to take 1 D.S.T. in Cisco, Atoka and Morrow.

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

Operator

DATE

Dec. 13, 1978

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

1-4-79

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side



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United States Department of the Interior

JAN 8 1979

GEOLOGICAL SURVEY

P. O. Drawer U
Artesia, New Mexico 88210D. C. C.
ARTESIA, OFFICE

JAN 04 1979

William B. Barnhill
P. O. Box 1354
Roswell, New Mexico 88201

WILLIAM B. BARNHILL Anadarko Federal No. 1 1980 FSL 2310 FWL Sec. ³⁵ 31, T21S, R24E Eddy County Lease No. NM-8664

Dear Mr. Barnhill:

Above Data Required on Well Sign

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 9,900 feet to test the Morrow 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 attached 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 these Conditions of Approval including the attached General Requirements.
3. Submit a Daily Report of Operations from spud date until the well is completed and the Well Completion Report (form 9-330) is filed. The 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 Guidelines. The color used should simulate sandstone brown (Federal Standard Color No. 595A, color 20318 or 30318).
5. Before drilling below the 8-5/8" casing, the blowout preventer assembly will consist of a minimum of one annular type and two ram type preventers.
6. A kelly cock will be installed and maintained in operable condition.
7. After setting the 8-5/8" casing string and before drilling into the Wolfcamp formation, the blowout preventers and related control equipment shall be pressure tested to rated working pressures by an independent service company. Any equipment failing to test satisfactorily shall be repaired or replaced. This office should be notified in sufficient time for a representative to witness the tests and shall be furnished a copy of the pressure test report.

8. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be installed and operating before drilling into the Wolfcamp formation and used until production casing is run and cemented. Monitoring equipment shall consist of the following:
 - (1) A recording pit level indicator to determine pit volume gains and losses.
 - (2) A mud volume measuring device for accurately determining mud volume necessary to fill the hole on trips.
 - (3) A flow sensor on the flow-line to warn of any abnormal mud returns from the well.
9. Notify the Survey in sufficient time to witness the cementing of the 8-5/8" casing.
10. Cement behind the 13-3/8" and 8-5/8" casing must be circulated.

Sincerely yours,

(Orig. Sgd.) ALBERT R. STALL

Albert R. Stall
Acting District Engineer

**N 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 Wm. B. Barnhill			Lease Wm. B. Barnhill No. 1 Anadarko Federal		Well No. 1
Unit Letter K	Section 35	Township 21 South	Range 24 East	County Eddy	
Actual Footage Location of Well: 1980 feet from the South line and 2310 feet from the West line					
Ground Level Elev. 3944.7	Producing Formation Pennsylvanian		Pool Wildcat	Dedicated Acreage: 320 Acres	

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DEC 15 1978

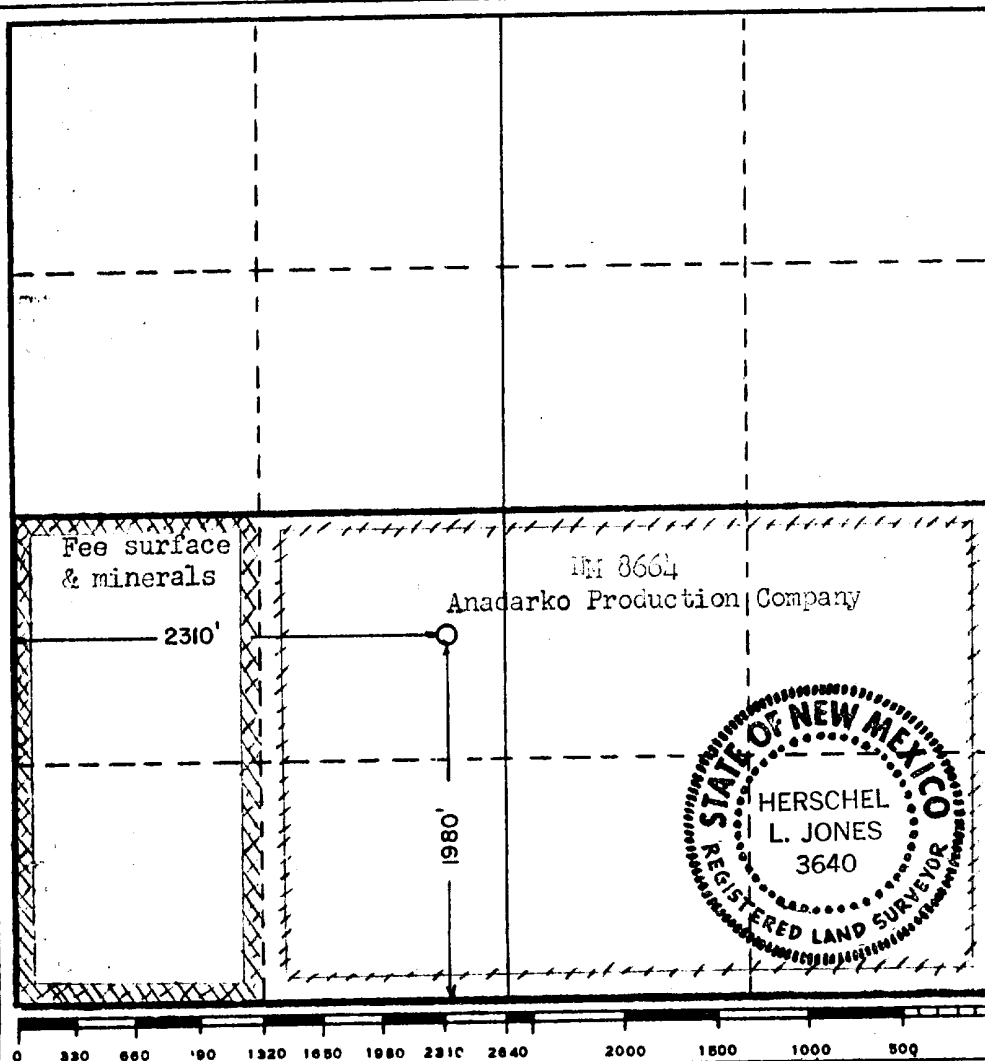
**U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO**

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

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 **Wm. B. Barnhill**

Position **Operator**

Company **Wm. B. Barnhill**

Date **Dec. 13, 1978**

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

December 8, 1978

Registered Professional Engineer and/or Land Surveyor

Certificate No.

3640

APPLICATION FOR DRILLING

Wm. B. Barnhill
Anadarko Federal Well No. 1
Section 35-T21S-R24E
Eddy County, New Mexico

In conjunction with Form 9-331C, Application for Permit to Drill subject well, Wm. B. Barnhill submits the following ten items of pertinent information:

1. The geologic surface formation is the Seven Rivers formation.
2. Estimated tops of geologic markers: See Form 9-331C.
3. The depths at which anticipated water, oil or gas formations are expected to be encountered:
 - Water: No specific data available.
Probably from Seven Rivers formation at depth of less than 300 feet.
 - Oil or Gas: See Form 9-331C.
4. Proposed casing program: See Form 9-331C.
5. Pressure control equipment: See Exhibit D.
6. Mud program: See Form 9-331C.
7. Auxiliary equipment: Blowout preventer, Inside blowout preventer, Kelly cock.
8. Testing, logging and coring programs: It is proposed to take one drill stem test in Cisco, Atoka and Morrow.
9. No abnormal pressures or temperatures are anticipated.
10. Anticipated starting date: January 16, 1979.
Anticipated completion of drilling operations: approximately 45 days after starting date.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Wm. B. Barnhill
Anadarko Federal No. 1
1980' FSL and 2310' FWL
Section 35-T21S-R24E
Eddy County, New Mexico
(Exploratory Well)

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DEC 15 1978

U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

This plan is submitted with Form 9-331C, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS.

- A. Exhibit A is a topographic map of the area surrounding the wellsite, on a scale of one inch to a mile, showing in red the existing access roads leading to the location. The wellsite is located approximately 31.5 miles south and west from the intersection of Highways 285 and 82 in Artesia, New Mexico, and can be reached as follows:
- (1) Proceed south on Highway 285 from the intersection of Highways 285 and 82, for a distance of approximately 23 miles. At this point, turn right (west) on Sitting Bull Falls Road (highway 137).
 - (2) Continue on highway 137 in a generally southwest direction for a distance of approximately 6.3 miles, at which point, turn left (south) onto a dirt ranch road. As identification points in locating this road, you will pass (on your left) the Rocky Arroyo Cemetery, about a half-mile before reaching this road, and the Marvin Kenagy ranch house on your left, immediately before reaching this road.
 - (3) Upon entering the ranch road, you will immediately cross over a cattleguard and, after an additional 0.25 miles, you will cross another cattleguard. There are wire strands across the road at both cattleguards, which must be lowered to permit passing.
 - (4) Approximately 0.35 miles beyond the second cattleguard, there is an open caliche pit on the left. Turn right at this point onto another ranch road and continue in a generally southwest direction for approximately 1.3 miles. The new access road to the location will begin at that point on the right (west) side of the road and is clearly marked with surveyor's ribbons.
- B. The existing ranch road is on fee surface for approximately the first 0.25 miles and an agreement has been reached between the operator and the surface owner, concerning surface damages and restoration of the surface after operations have been completed.

- C. The existing road will be improved by blade scraping, and the surface will be covered, where necessary, with an appropriate thickness of compacted caliche. The driving surface of the road will be 12 feet in width and the road will be crowned in the center, with drainage on both sides. Turnouts will be constructed at approximately 1/4 mile intervals. The only cattleguards and fences involved are those mentioned in paragraph 1A(3), above.

2. PLANNED ACCESS ROAD.

- A. The planned access road will be built in a generally east to southwest direction, and will be approximately 500 feet in length. It will join the drilling pad as shown in Exhibit C. The road will pass through an existing fence, very close to the road's point of origin, and a cattleguard will be installed through the fence. The ground surface over the route of the proposed road is relatively level, and only minor leveling will be required. The driving surface of the road will be 12 feet in width and the surface will be covered with six inches of compacted caliche. The center of the road will be crowned, with drainage on both sides. No turnouts will be necessary and no culverts are involved.

3. LOCATION OF EXISTING WELLS.

- A. Other drilling activity in the vicinity of the proposed well is indicated in Exhibit B. The nearest production is more than two miles from the proposed location.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES.

- A. There are no production facilities on this lease at the present time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive of oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.

5. LOCATION AND TYPE OF WATER SUPPLY.

- A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from privately owned or commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

6. SOURCE OF CONSTRUCTION MATERIALS.

- A. Any caliche required for construction of the drilling pad and the new access road, as well as for any resurfacing or repair of the existing ranch roads, will be obtained from an existing federally-owned pit, and will be hauled to the location over the existing and proposed roads shown in Exhibit A.

7. METHODS OF HANDLING WASTE DISPOSAL.

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted to the USGS for approval.
- D. Oil produced during operations will be collected in tanks until sold.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- F. Trash, waste paper, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste materials will be contained to prevent scattering by the wind.

8. ANCILLARY FACILITIES.

- A. None required.

9. WELLSITE LAYOUT.

- A. Exhibit C shows the relative location and dimensions of the well pad, reserve pits, and major rig components.
- B. Minor cut and fill will be required to level the location. A cut of approximately 3 feet will be required at the northeastern edge of the pad and fill of about 3 feet will be required at the southwestern corner of the pad. A cut of approximately 2 feet will be required at the northeastern edge of the pit area.
- C. The reserve pits will be plastic-lined.
- D. The location has been surveyed, staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE.

- A. After drilling and/or completion operations have been finished, all equipment and other materials not needed for further operations will be removed. Pits will be filled and the location cleaned of all trash and junk in order to leave the wellsite in as aesthetically pleasing a condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they have been filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the U. S. Geological Survey will be complied with and will be accom-

plished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment.

11. OTHER INFORMATION.

- A. Topography: The proposed wellsite is located in a mountainous area with major changes in surface elevation.
- B. The topsoil at the wellsite is moderately hard sandy loam, with rocks covering most of the area.
- C. Flora and Fauna: The vegetation cover at the location is sparse, consisting of cactus, yucca, lechuguilla, grass, weeds, and a few mesquite. No wildlife was observed, but there was evidence of the presence of deer, and it is likely that other typical wildlife inhabit the area. The area is used for cattle grazing.
- D. The nearest occupied dwelling is the Kenagy ranch house, located slightly less than two miles north and east of the wellsite. There are no windmills in the immediate vicinity of the location.
- E. The nearest surface water is the creek adjacent to the Kenagy ranch house.
- F. Surface ownership: The wellsite is on federally owned land, with federal ownership of the minerals. As indicated in paragraph 1B, a portion of the existing access road is on fee surface.
- G. There is no evidence of any significant archeological, historical or cultural sites in the area of the proposed location. An archeological survey has been conducted by New Mexico Archeological Services, Inc., of Carlsbad, New Mexico, and their report has been submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE.

The representative of the operator responsible for assuring compliance with the approved surface use plan is:

Wm. B. Barnhill
P. O. Box 1354
233 Petroleum Building
Roswell, New Mexico 88201
Telephone: 505-622-0540 (office)
505-622-0438 (home)

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 Wm. B. Barnhill and his contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

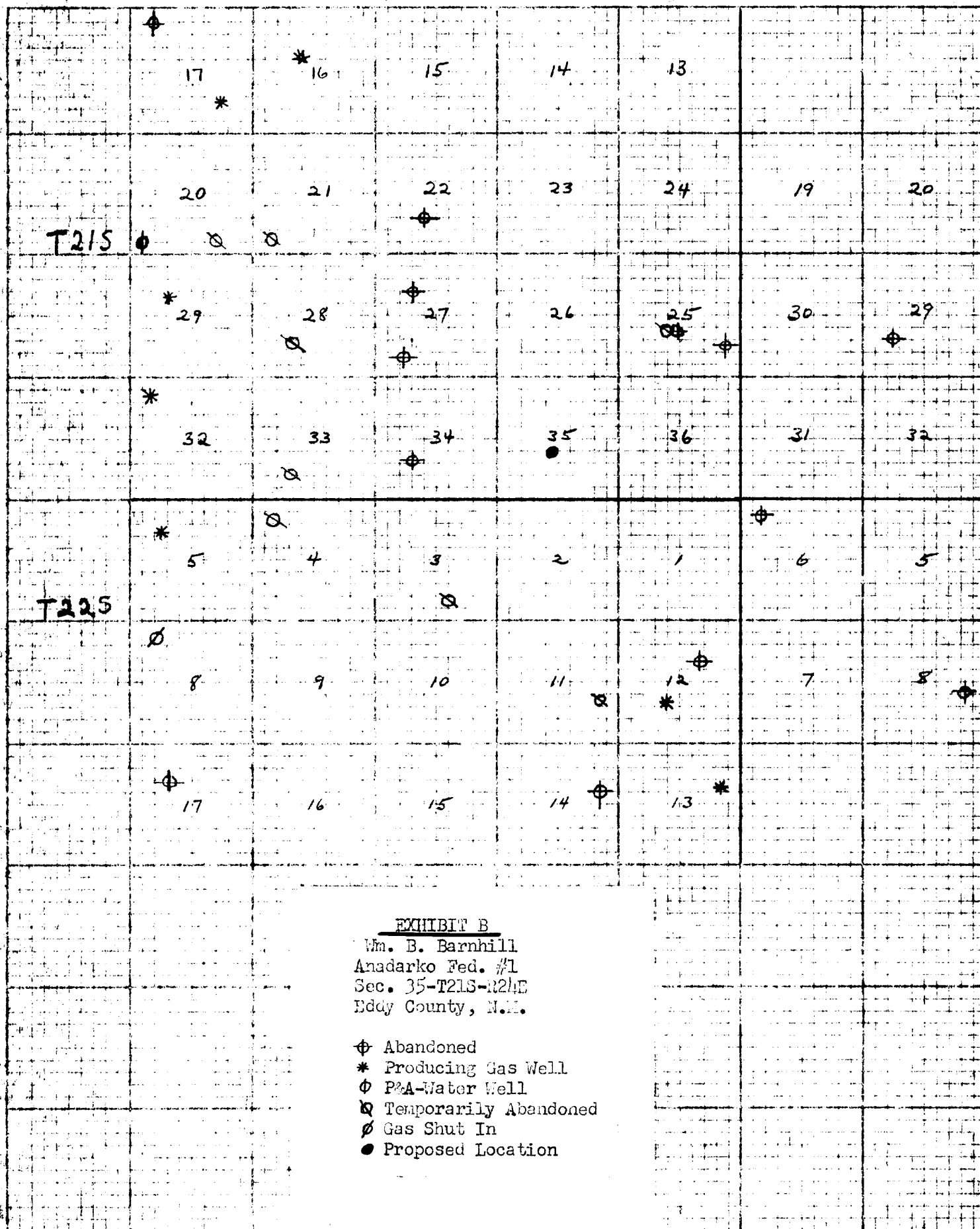
12/15/78
Date

Edward N. Lucking
Edward N. Lucking, Agent for Wm. B. Barnhill

Topographic map of Eddy County, N.M., showing proposed access roads and existing roads. The map includes a grid with coordinates (e.g., 104° 30' W, 32° 30' N) and various geographical features like canyons, hills, and ranches. A legend indicates 'Existing roads' (solid line) and 'Proposed access road' (dashed line). A text box in the lower right corner reads: 'EXHIBIT A Wm. B. Barnhill Anadarko Fed. #1 Sec. 35-T21S-R24E Eddy County, N.M.'

R24E

R25E

EXHIBIT B

Wm. B. Barnhill
 Anadarko Fed. #1
 Sec. 35-T21S-R24E
 Eddy County, N.M.

EXHIBIT C
Wm. B. Barnhill
Anadarko Fed. #1
Sec. 35-T21S-R24E
Foggy County, N.M.

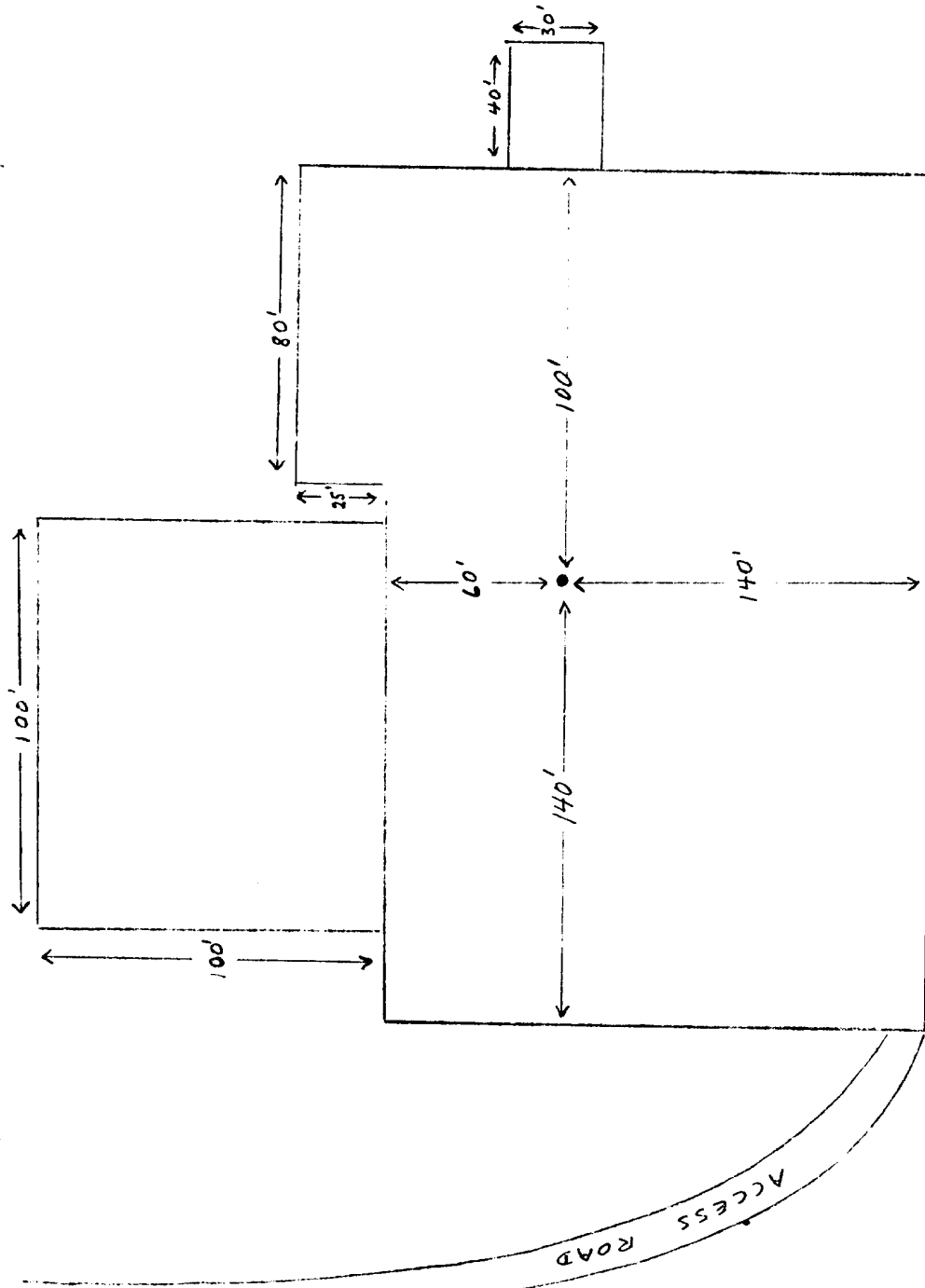


Exhibit D
Wm. B. Barnhill
Anadrako Fed. #1
Sec. 35-T21S-R24E
Eddy County, N.M.

