

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 CO2

SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Amoco Production Company

3. ADDRESS OF OPERATOR

P. O. Box 68, Hobbs, New Mexico 88240

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

At surface

1680' FNL X 1980' FWL

(Unit F SE/4 NW/4)

At proposed prod. zone

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

49 miles south of Clayton

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

19. PROPOSED DEPTH

2825'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

160

20. ROTARY OR CABLE TOOLS

Rotary

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

4615' GL

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED

22. APPROX. DATE WORK WILL START*

4th quarter-1983

23.

"GENERAL REQUIREMENTS"
PROPOSED CASING AND CEMENTING PROGRAMThis action is subject to administrative
appeal pursuant to 30 CFR 290.

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH
12-1/4"	9-5/8"	32.30#	700'
8-3/4"	7"	20#	2825'

QUANTITY OF CEMENT

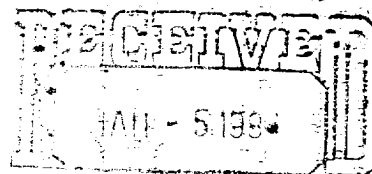
Circulate

Tieback to 9-5/8"

Propose to drill and equip well in the Tubb formation. After reaching TD logs will be run and evaluated. Perforate and stimulate as necessary in attempting commercial production.

Mud Program: 0 - 700' Native spud mud
700' - TD KCL-Salt water gel-Starch

Bop Diagram attached
Archaeological survey attached
Gas is not dedicated.



CONSERVATION DIVISION

0+5, BLM, F 1-HOU R. E. Ogden RM 21.150 1-SUSP 1-PJS 1-Amerasia 1-Amerigas
1-Cities Service 1-Conoco 1-CO2 in Action 1-Excelsior 1-Sun. Tex. 1-Exxon
1-Jim Russell, Clayton 1-F. J. Nash, HOU RM 4.206

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 Robert J. Lewis TITLE Assist. Admin. Analyst DATE 11-23-83

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

NMOCC - Santa Fe

APPROVED
AS AMENDED

DEC 22 1983

AREA MANAGER
FARMINGTON RESOURCE AREA

RECEIVED
OIL CONSERVATION DIVISION
SANTA FE

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form O-101
Supersedes O-101
Effective 1-1-61

All distances must be from the outer boundaries of the Section

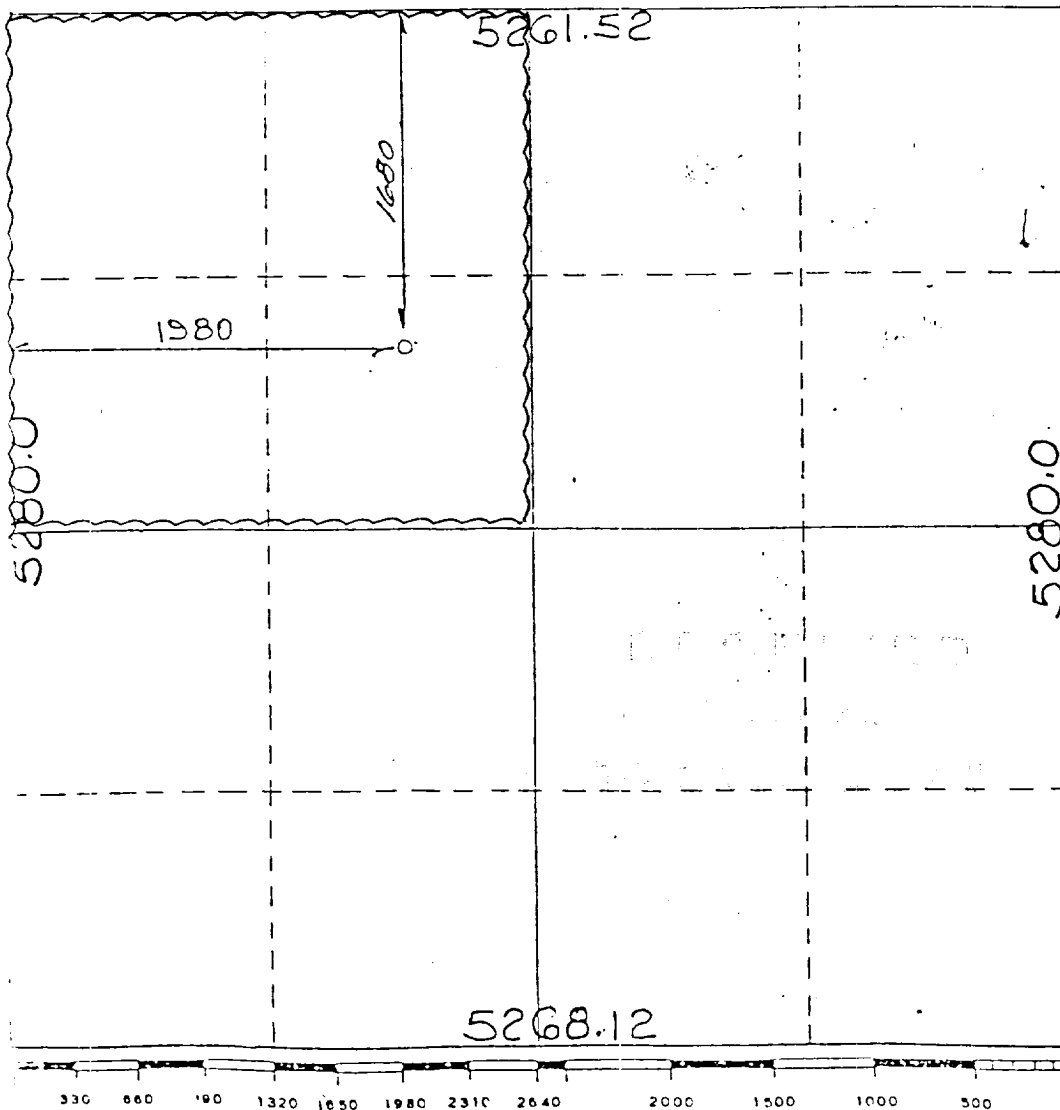
Operator AMOCO		Lease		Well No. 1835211F	
Letter F	Section 21	Township T18N	Range R35E	County UNION	
Actual Footage Location of Well: 980 feet from the WEST line and 1680 feet from the NORTH line					
Land Level Elev. 4615	Producing Formation Tubb		Pool Und. Tubb	Dedicated Acreage: 160 Acres	

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, force-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: *Peter J. Juma*
Position: Assist. Admin. Analyst
Company: Amoco Production Company
Date: November 23, 1983

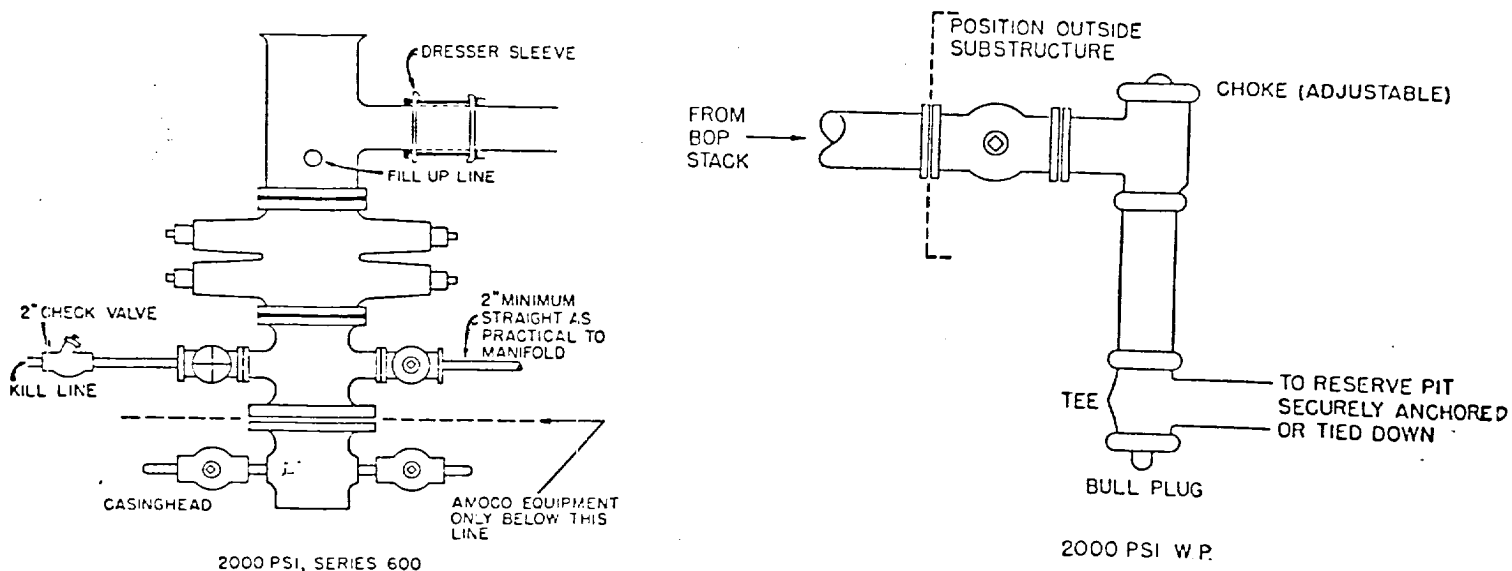
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

SEP 28 1983
Date Signed
Requested Professional Engineer and/or Land Surveyor
N.M. 5103
Certified by E. SHIELDS

RECEIVED
OIL CONSERVATION DIVISION
SANTA FE

STANDARD 2000 PSI W.P. BOP STACK

1. Blow-out preventers may be manually operated.
2. All equipment must be in good condition, 2,000 psi W.P. (4,000 psi test) minimum.
3. Bell nipple above blow-out preventer shall be same size as casing being drilled through.
4. Kelly cock to be installed on kelly.
5. Full opening safety valve 2,000 psi w.p. (4,000 psi test) minimum must be available on rig floor at all times with proper connection or subs to fit any tool joint in string.
6. Spool or cross may be eliminated if connections are available in the lower part of the blow-out preventer body.
7. Double or space saver type preventers may be used in lieu of two single preventers.
8. BOP rams to be installed as follows: *
Top preventer - Drill pipe or casing rams
Bottom preventer - Blind rams
*Amoco District Superintendent may reverse location of rams.
9. Extensions and hand wheels to be installed and braced at all times.
10. Manifold valves may be gate or plug metal to metal seal 2" minimum.



Attachment to "Application for Permit to Drill", Form 9-331 C

1. Location

See attached Form C-102

2. Elevation

See attached Form C-102

3. Geologic name of surface formation.

Ogallala

4. Type of drilling tools and associated equipment to be utilized.

See Form 9-331 C

5. Proposed drilling depth.

See Form 9-331 C

6. Estimated tops of important geologic markers.

Tubb 2145'

Basement 2775'

7. Estimated depths at which anticipated water, oil, gas or other mineral-bearing formations are expected to be encountered.

Tubb 2145'

8. Proposed casing program, including size, grade, and weight of each string and whether it is new or used.

<u>Depth</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>New or Used</u>
700'	9-5/8"	32.30#	H-40	New
2825'	7"	20#	K-55	New

9. Proposed cementing program.

9-5/8" Circulate to surface

7" Tieback to 9-5/8"

10. Blowout Preventer Program is attached.
11. Type and characteristics of the proposed circulating medium or mediums to be employed for rotary drilling, and the quantities and types of mud and weighting material to be maintained.
0 - 700' Native spud mud
700'- TD KCL-Salt water gel-Starch
12. Testing, logging and coring programs to be followed with provisions made for required flexibility.
700'-TD DLL-MSFL-GR-Caliper
700'-TD FDC-CNL-GR-Caliper
13. Any anticipated abnormal pressure or temperatures expected to be encountered or potential hazards, such as hydrogen sulfide gas, along with plans for mitigating such hazards.
None anticipated
14. Anticipated starting date and duration of operation.
4th quarter - 1983 10 days- duration
15. Other facets of the proposed operation operator wishes to point out for the Geological Survey's consideration of the application.

Proposed Development Plan for Surface Use

1. Existing roads including location of exit from main highway.

Detailed map showing drillsite location in relation to the nearest town and all existing roads within one mile of the wellsite are shown on Exhibit A.

For location see bottom of this page number 1.

2. Planned access roads.

Approximately 3.01 acres of access road is to be built.

3. Location of existing wells.

All existing well within one mile radius are shown on Exhibit C.

4. Location of tank batteries and flow lines

If the well is commercially productive, the production facilities (i.e. tanks, separators, & treaters) will be

5. Location and type of water supply.

Fresh & brine water to be hauled by commercial hauler.

6. Source of construction materials.

Caliche pit located in the W/2, Sec. 26, T-18-N, R-34-E

7. WASTE DISPOSAL

- a. Drill cuttings will be disposed of in the reserve pit.
- b. Drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry.

1. Go south from Clayton 49 miles on Hwy. 18. Turn west on County rd. and go 2 miles. Turn and go south 1 mile. Then turn west and go 3 miles. Turn south and go .3 mile. Turn east and go .7 mile. Turn south and go .3 mile. Turn east again and go .7 mile. Turn north and go .3 mile to location.

- c. Trash, waste paper, garbage and junk will be burned or buried with a minimum of 24" cover. Waste material will be contained to prevent scattering by wind prior to ultimate disposal.
- d. Any produced water will be contained in tanks and be disposed of in an approved manner. Oil produced will be stored in tanks until sold, at which time it will be hauled from location.
- e. Current laws and regulations pertaining to disposal of human waste will be complied with.
- f. If productive, maintenance waste will be placed in special containers and buried or hauled away periodically.

8. ANCILLARY FACILITIES-

No camps, airstrips, etc. will be constructed.

9. WELLSITE LAYOUT-

- a. Size of Drilling Pad - 190' x 265' x 6"
- b. Compacted - Caliche
- c. Surfaced - No
- d. 400' square area around wellsite has been cleared by archaeologist.
- e. See Exhibit "D".

10. RESTORATION OF SURFACE-

Producing Well - all pits will be cut, filled, and leveled as soon as practical to original condition with rehabilitation to commence following removal of drilling and completion equipment. Rehabilitation to be completed in 180 days if possible.

Dry Hole - same as above with dry hole marker to be installed and surface reseeded if required.

11. OTHER INFORMATION-

- a. Terrain - Slopes
- b. Soil- fine sandy sand
- c. Vegetation- Gramma grasses, sand sage, yucca, poverty threeawn, broom snakewood
- d. Surface Use- Grazing
- e. Ponds and Streams - Canadian River Valley
- f. Water Wells - None
- g. Residences and Building - None
- h. Arroyos, Canyons, etc. - None
- i. Well Sign - Posted at drill site
- j. Open Pits - All pits containing liquid or mud will be fenced
- k. Archaeological Resources - None

12. OPERATOR'S REPRESENTATIVE -

Field personnel responsible for compliance with development plan for surface use is:

H. C. Low, District Drilling Superintendent
P. O. Box 68
Hobbs, NM 88240
Office Phone: (505) 393-1781

LEASE & WELL NUMBER Bravo Dome Carbon Dioxide Unit Well No. 1835 211F

LOCATION 1680' FNL X 1980' FWL, Sec. 21, T-18-N, R-35-E

Certification: The following statement is to be incorporated in the plan and must be signed by the lessee's or operator's field representative who is identified in Item No. 12 of the plan.

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 AMOCO PRODUCTION COMPANY and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

November 23, 1983

DATE

Henry C. Low

NAME (AND TITLE)

District Drilling Superintendent



Amoco Production Company (USA)
P. O. Box 606
Clayton, NM 88415

RE: Bravo Dome Carbon Dioxide Gas Unit
Well No. 1835 211F
Union County, New Mexico

Gentlemen:

This refers to Form 9-331-C, Application to Drill, Deepen or Plugback, and/or Surface Use Plan accompanying this letter. The undersigned hereby states that he has personally notified Marjorie Jo Banta, the owner of the surface land on which the work is to be conducted, of the nature and extent of the work to be done including construction on the wellsites and pertinent roads and powerlines (if any) thereto.

It has been agreed, that upon abandonment of operations the roads, locations and pits will be rehabilitated according to surface owner requirements.

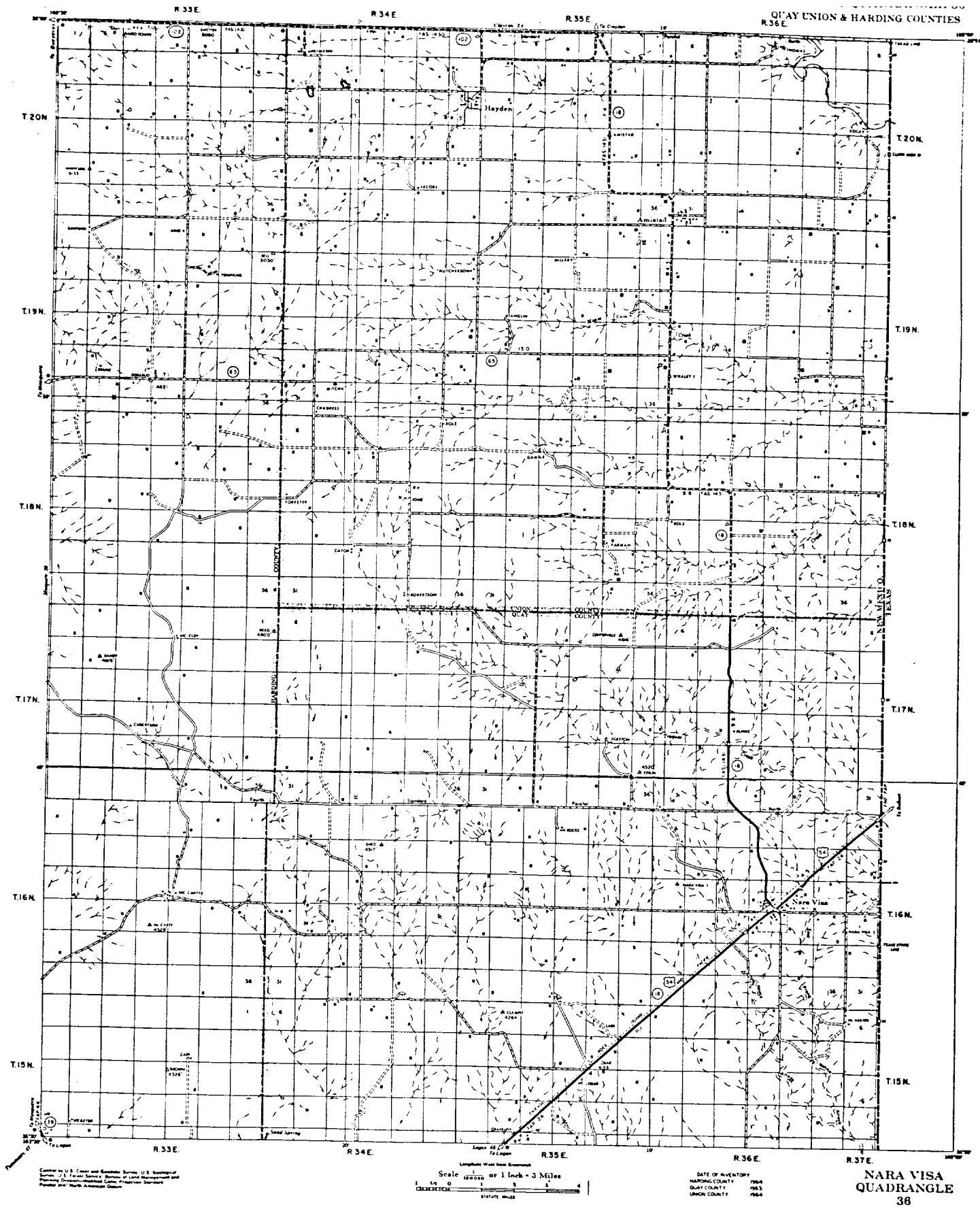
James E. Smith

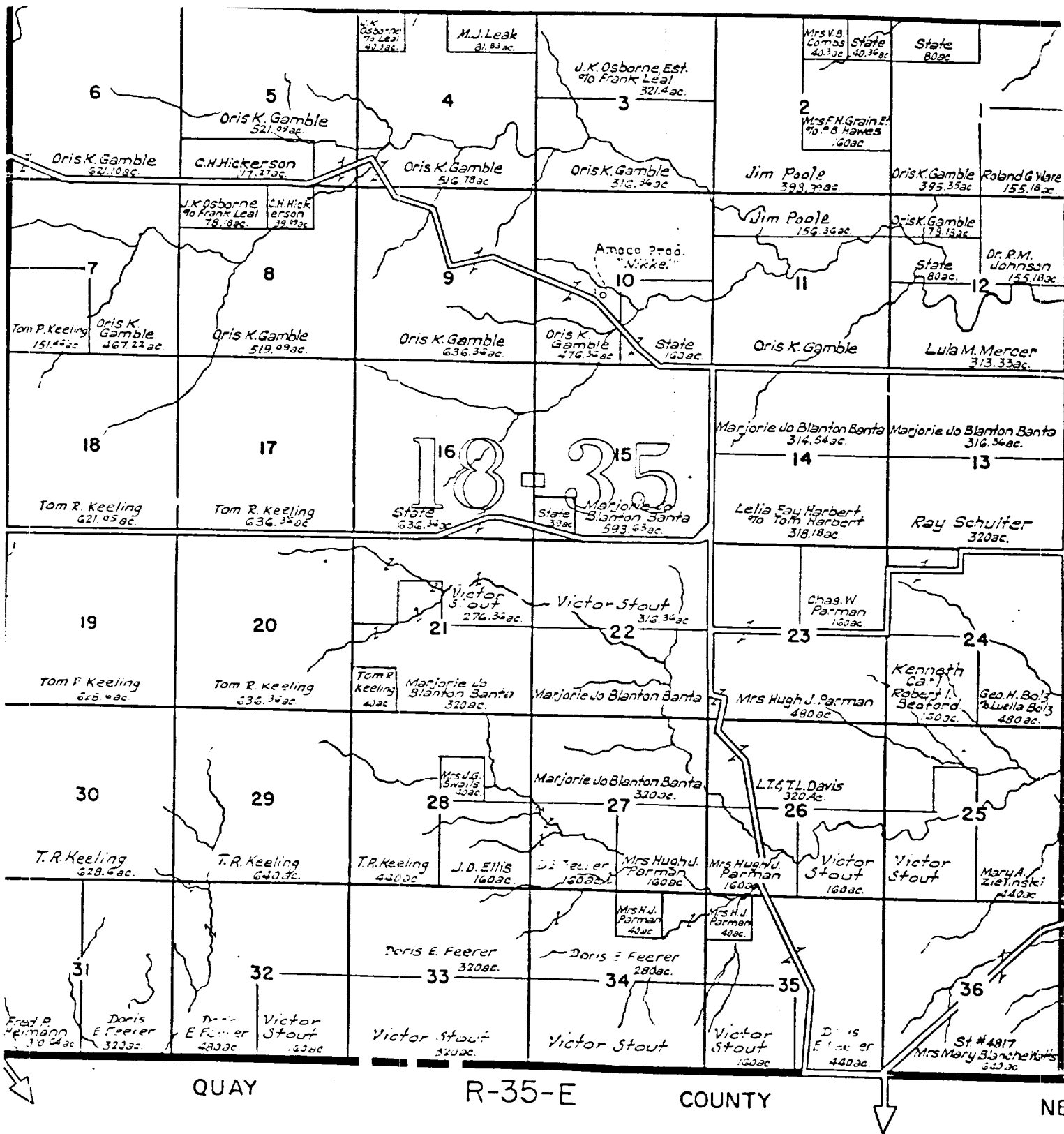
State of New Mexico
County of Union

Subscribed and sworn to before me this 17th day of November, 1983.

Jan Zolinsky
Notary Public

My commission expires: 10-10-85





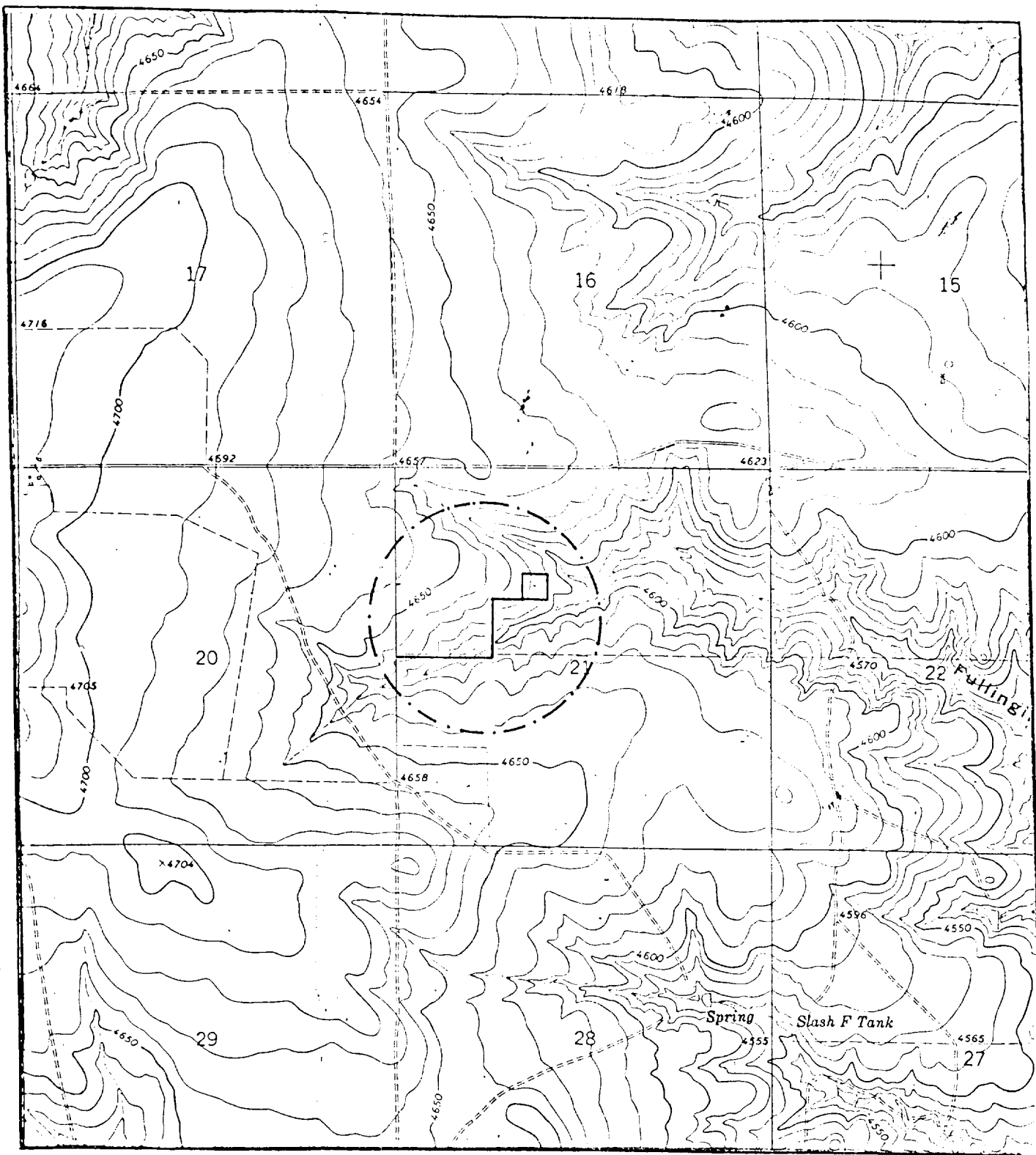
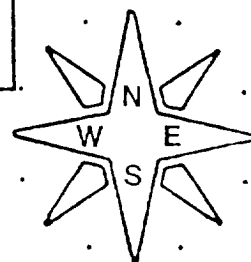
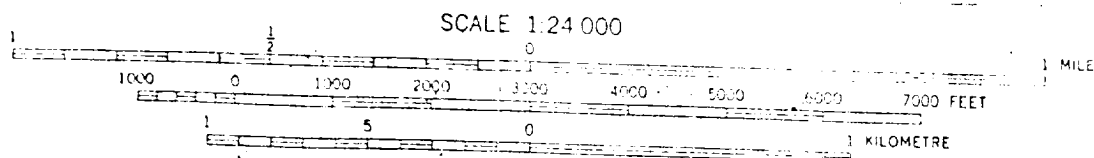


Figure 6: Location of BDCDGU Well #1835-211F and Access Road
 Section 21, T18N R35E, Harding County, NM

Map: USGS Centerville Corner Quadrangle, 1971

7.5 MINUTE
 SERIES



CELLAR 6x6x6

200'

PIT

140

90'

(DEEP SAND ONLY)

110.

- 40 -

301

55

80'

190'

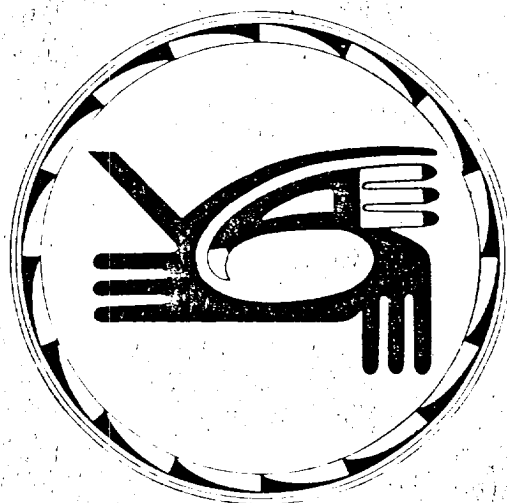
130'

FOR WELL 8000' FEET OR LESS

400'

A C A

Llano Estacado Center for Advanced
Professional Studies and Research
Eastern New Mexico University
Portales, New Mexico 88130



Archaeological Clearance Report
for

Amoco Production Company

BDCDGU Well #1833-231G and Access Road
BDCDGU Well #1835-181G and Access Road
BDCDGU Well #1835-211F and Access Road

F84-175

by
Terry Fifield

Edited and Submitted by
Mr. Scott Schermer
Acting Director

November 11, 1983

Introduction

An archaeological reconnaissance was recently completed by the Agency for Conservation Archaeology (A.C.A.) at Eastern New Mexico University for Amoco Production Company in Harding County, New Mexico, on land administered by the Bureau of Land Management. The reconnoitered area will be impacted by the construction of 3 well pads and 3 access roads. The project was administered by Jay Smith for Amoco Production Company and Mr. Scott Schermer, Acting Director of ACA. This report was prepared by the Portales office of ACA.

The field work was conducted on November 7, 1983 by Terry Fifield. Excellent field and weather conditions prevailed throughout the course of this reconnaissance. This survey was conducted under Federal Antiquities Permit number 82-NM-375. A search of the National Register has been made and properties within this area are not listed on the Register.

Survey Technique

Visual inspection of the pad was completed by walking a series of parallel transects. Each transect was covered in a tightly spaced zigzag pattern. The access roads were examined as two transects, with tightly spaced zigzag patterns covering the length and breadth. The distance between transects was 25 feet (7.6 meters). This method maximized the opportunity of observing any cultural resources within or near the proposed area of impact.

~~BDCDGU Well #1833-231G and Access Road~~

Location

The proposed well pad and access road are located 21.5 miles northwest of Nara Visa, New Mexico, near the Canadian River Valley. The pad covers 3.67 acres and measures 400 X 400 feet (121.9 X 121.9 meters) and the access road covers 1.67 acres and measures 50 X 1460 feet (15.2 X 445 meters). They are situated as follows:

Well Pad:

SW 1/4 NE 1/4, Section 23, T18N R33E, NMPM, Harding County, NM (BLM)

Access Road:

SW 1/4 NE 1/4, Section 23, T18N R33E, NMPM, Harding County, NM (BLM)

NW 1/4 NE 1/4, Section 23, T18N R33E, NMPM, Harding County, NM (BLM)

Plat: Figure 1

Recommendations

ACA recommends clearance for the proposed well pad and access road and suggests that construction be allowed to proceed as currently planned.

BDCDGU Well #1835-211F and Access Road

Location

The proposed well pad and access road are located 16.7 miles northwest of Nara Visa, New Mexico, near the Canadian River Valley. The pad covers 3.67 acres and measures 400 X 400 feet (121.9 X 121.9 meters) and the access road covers 3.01 acres and measures 50 X 2620 feet (15.2 X 798.6 meters). They are situated as follows:

Well Pad:

SE 1/4 NW 1/4, Section 21, T18N R35E, NMPM, Harding County, NM (BLM)

Access Road:

SE 1/4 NW 1/4, Section 21, T18N R35E, NMPM, Harding County, NM (BLM)

NE 1/4 SW 1/4, Section 21, T18N R35E, NMPM, Harding County, NM (BLM)

NW 1/4 SW 1/4, Section 21, T18N R35E, NMPM, Harding County, NM (BLM)

Plat: Figure 5

Map Reference: USGS Centerville Corner Quadrangle 7.5 minute series, 1971 (figure 6)

Terrain

The proposed well pad and access road are located near the Canadian River Valley, the pad is 200 feet north of Fullingim Draw and the road crosses the draw. The pad is situated on an alluvial terrace. Local slope is gentle and to the south and east. Gopher mounds are present throughout the pad. The road is situated on both flanks of a small draw. The elevation varies from 4605 to 4634 feet (1403.6 to 1412.4 meters). The soil encountered in the area is predominantly a fine sandy sand. Taxonomically it can be classified as a member of the paleustoll-calciorthid-calciustoll association. Lithic inclusions consist of alluvial gravels and caliche fragments.

Note: The gravels which make up the terrace are predominantly quartzites and schistose metamorphics. Exfoliation along the edges of some schistose cobbles mimics bifacial retouch. However, the nature of the raw materials and their depositional context explain this configuration. No lithic reduction debris was noted.

Floristics

ACA encountered a dense floral assemblage at this location. The density of the vegetation in the area is approximately 75 percent, consisting primarily of grasses. The dominant species is grama grasses (Bouteloua spp.). Among other species present are sand sage (Artemisia filifolia), yucca (Yucca glauca), poverty threeawn (Aristida divaricata) and broom snakeweed (Gutierrezia sarothrae).

Cultural Resources

ACA did not encounter any archaeological sites or isolated manifestations, either within or near the proposed facilities.

Recommendations

ACA recommends clearance for the proposed well pad and access road and suggests that construction be allowed to proceed as currently planned.

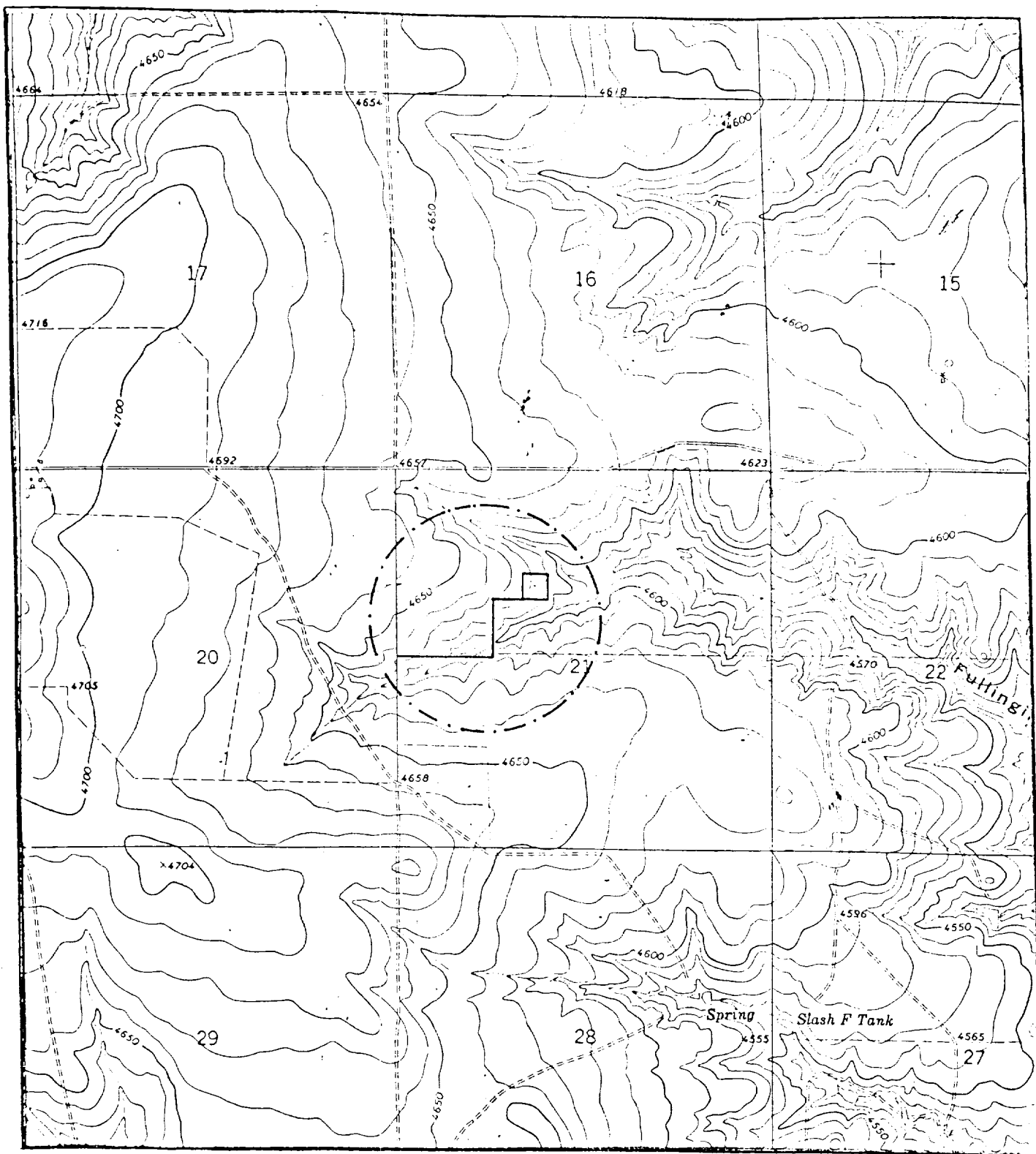


Figure 6: Location of BDCDGU Well #1835-211F and Access Road
 Section 21, T18N R35E, Harding County, NM

Map: USGS Centerville Corner Quadrangle, 1971

7.5 MINUTE
 SERIES

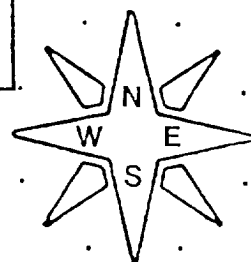
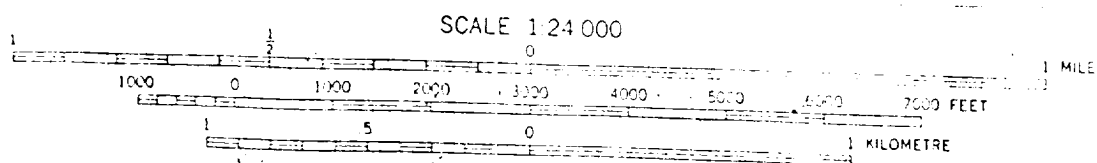


Figure 5
NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form O-101
 Supersedes O-101
 Effective 1-1-81

All distances must be from the outer boundaries of the Section

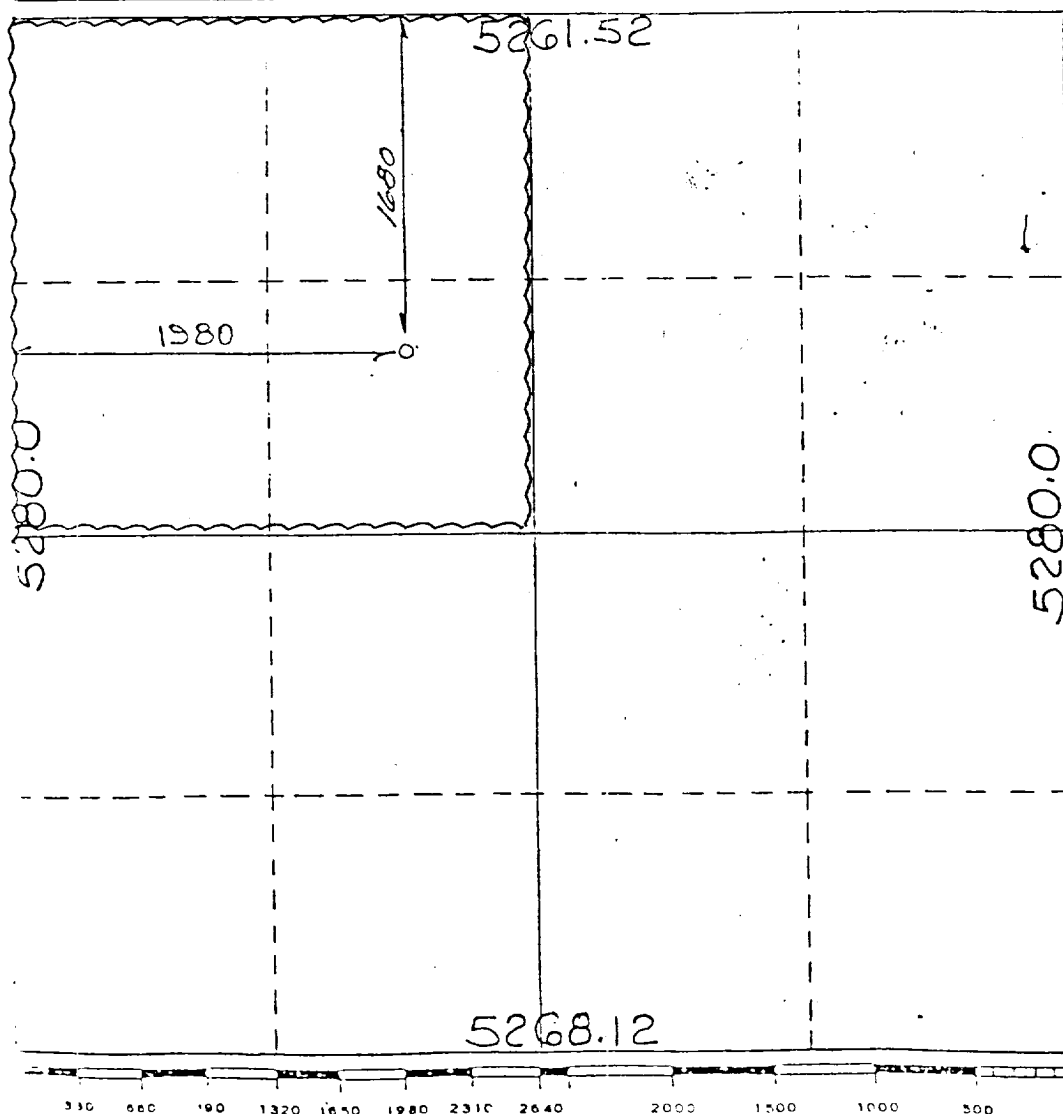
Lease AMOCO			Well No. 1835211F	
Section 21	Township T18N	Range R35E	County UNION	
Footage Location of Well: 980 feet from the WEST line and 1680 feet from the NORTH line				
Land Level Elev. 4615	Producing Formation Tubb	Pool Und. Tubb	Dedicated Acreage: 160 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
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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: Peter J. Lema
 Position: Assist. Admin. Analyst
 Company: Amoco Production Company
 Date: November 23, 1983

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.

SEP 23 1983
 Date Signed
 Registered Professional Engineer
 and/or Land Surveyor
 N.M. 5103
 E. SHIELDS

