

APZ - 30-057-2025

SUBMIT IN TRIPLICATE*

(Other instructions on
reverse side)Form approved.
Budget Bureau No. 42-R1425.

File

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 ☐		5. LEASE DESIGNATION AND SERIAL NO. NM-19514	
b. TYPE OF WELL OIL WELL ☐ GAS WELL ☒ OTHER CO2 ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Amoco Production Company		7. UNIT AGREEMENT NAME Bravo Dome Carbon Dioxide Gas U	
3. ADDRESS OF OPERATOR P. O. Box 68, Hobbs, New Mexico 88240		8. FARM OR LEASE NAME Bravo Dome Carbon Dioxide Gas U	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 1650' FSL X 1650' FWL At proposed prod. zone (Unit K, NE/4 SW/4)		9. WELL NO. 1835 171K	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 46 miles South of Clayton		10. FIELD AND POOL, OR WILDCAT Und. Tubb	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 17-18-35 17-18N-35E	
16. NO. OF ACRES IN LEASE		12. COUNTY OR PARISH Union	
17. NO. OF ACRES ASSIGNED TO THIS WELL 160		13. STATE NM	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.		20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 4695' GL		22. APPROX. DATE WORK WILL START* 4th quarter-1983	

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	32.30#	700'	Circulate
8-3/4"	7"	20#	2830'	Tie back to 9-5/8"

Propose to drill and equip 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
Archeaological Survey attached
Gas is not dedicated.

Q+5 BLM, F 1-HOU R. E. Ogden RM 21.150 1-SUSP 1-PJS 1-Amerada 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 Peter J. Serna TITLE Assist. Admin. Analyst

(This space for Federal or State office use)

PERMIT NO. _____

APPROVAL DATE _____

APPROVED BY _____

TITLE _____

CONDITIONS OF APPROVAL, IF ANY: _____

DATE 10-13-83

APPROVED

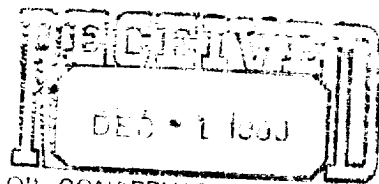
AS AMENDED

DATE NOV 16 1983

R. D. Serna
ASST AREA MANAGER
FARMINGTON RESOURCE AREA

*See Instructions On Reverse Side

NMOCC - SANTA FE



OIL CONSERVATION DIVISION
SANTA FE

WELL LOCATION AND ACREAGE DEDICATION PLAT

Supervisor's Office
Effective 1-1-83

All distances must be from the outer boundaries of the Section

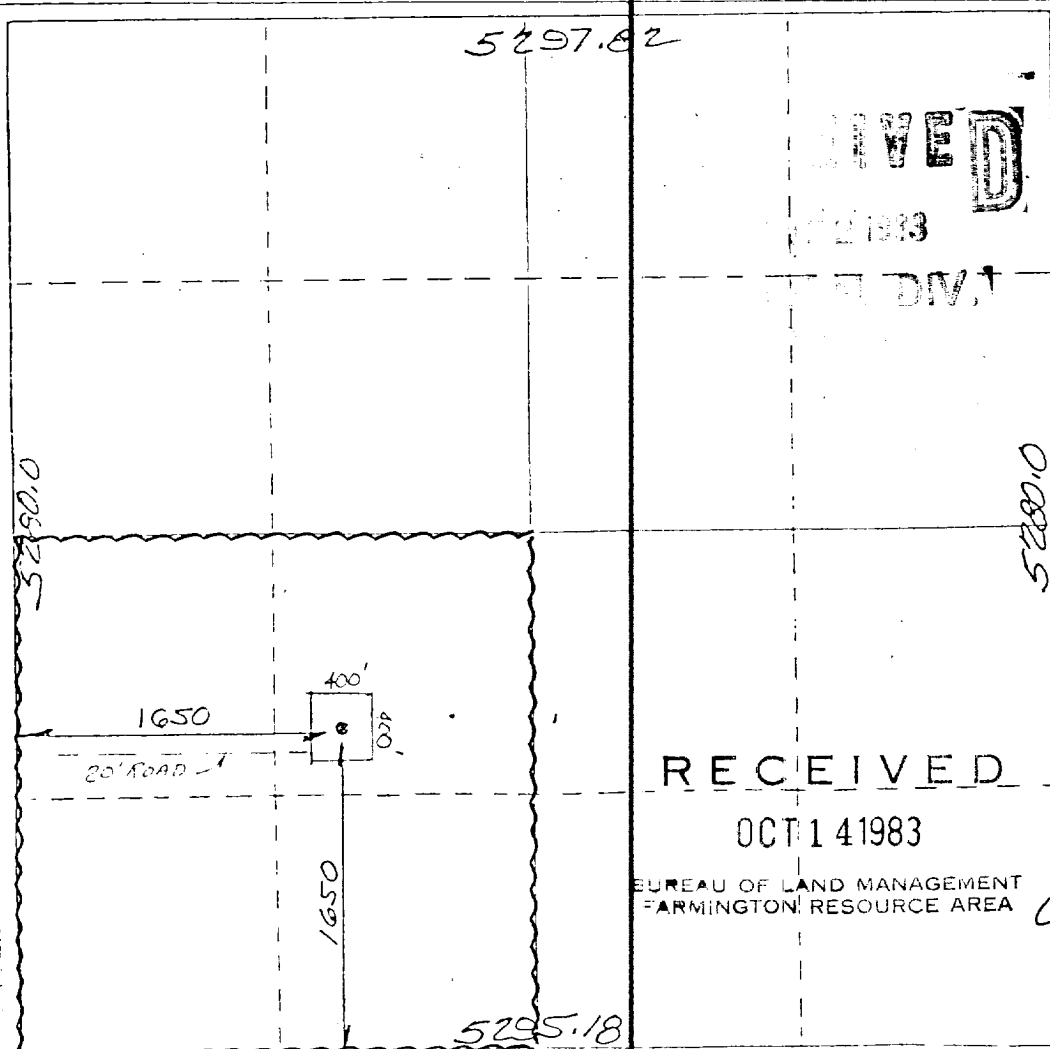
Operator AMOCO PRODUCTION COMPANY			Lease BRAVO DOME CARBON DIOXIDE GAS UT.		Well No. 1835171K
Unit Letter K	Section 17	Township T18N	Range R35E	County UNION	
Actual Footage Location of Well: 1650 feet from the SOUTH line and 1650 feet from the WEST line					
Ground Level Elev. 4695	Producing Formation TUBB	Pool UND. TUBB		Dedicated Acreage: 160 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?

☐ 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.



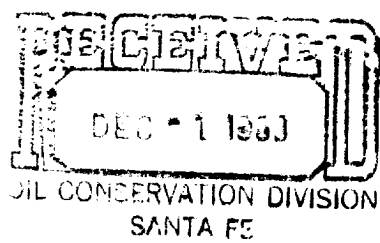
CERTIFICATION

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

Name: Peter J. Seina
Position: Assist. Admin. Analyst
Company: Amoco Production Company
Date: October 13, 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.

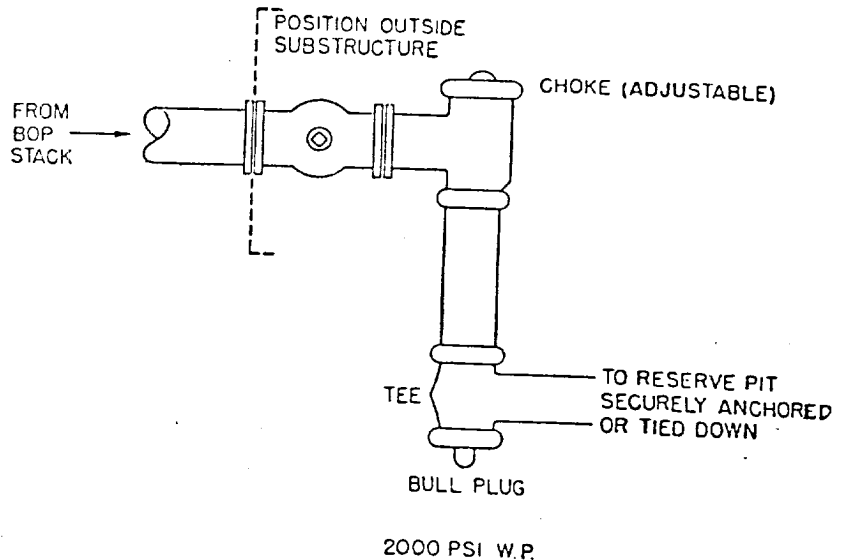
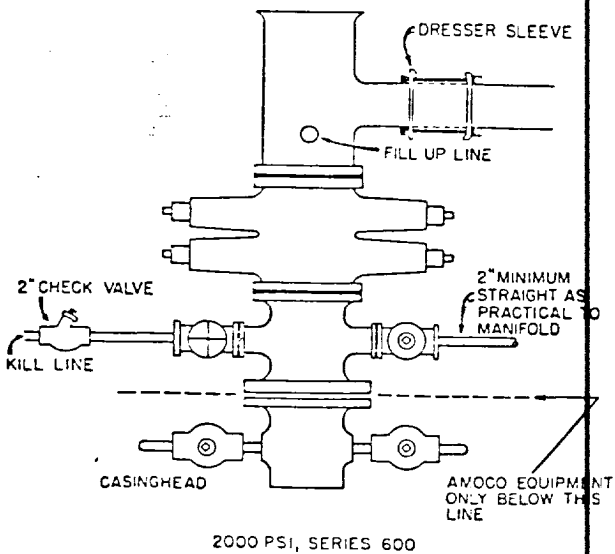
Date: 10/13/83
Bureau of Land Management
Farmington Resource Area
Surveyor's Office
No. 5103
Lee E. Shields
Certified: Lee E. Shields



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.

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 2195'
Basement 2780'

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

Tubb 2195'

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
2830'	7"	20#	K-55	New

9. Proposed cementing program.

9-5/8" Circulate to Surface
7" Tie back 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.

~~Request exemptions from the painting stipulations of Sec. 102 (a) (8) of the "Federal Land Policy and Management Act of 1976" to paint any tanks, separators, and treaters required for the production of this well. Amoco's standard gray color. If a pumping unit is required for the continued production of this well, it will be painted black with orange safety color coding which conforms with your current painting guidelines.~~

per 11/17/83 conversation

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.

Go South from Clayton 46 miles on Highway 18. Turn right on County road and go 2 miles. Turn south and go 1 mile. Turn west and go 3 miles. Location will be on right hand side of road.

2. Planned access roads.

Approximately 1.67 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.

- 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 - Shallow slopes
- b. Soil- Silty clay loam
- c. Vegetation- Blue Grama, Prickly pear, sideoats Grama, Coyote melon, Short grasses.
- d. Surface Use- Grazing
- e. Ponds and Streams - Canadian river valley, 3020' south of Entrania Creek.
- 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 Gas Unit Well No. 1835 171K

LOCATION 1650' FSL X 1650' FWL, Sec. 17, T-18-N, R-35-E, Union County, NM

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.

October 13, 1983

DATE

Henry C. Low
NAME AND TITLE

District Drilling Superintendent



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

RE: Bravo Dome Carbon Dioxide Gas Unit
Well No. 1835 171K
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 Planet Cattle Inc., in care of Joe Whittenburg, 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.

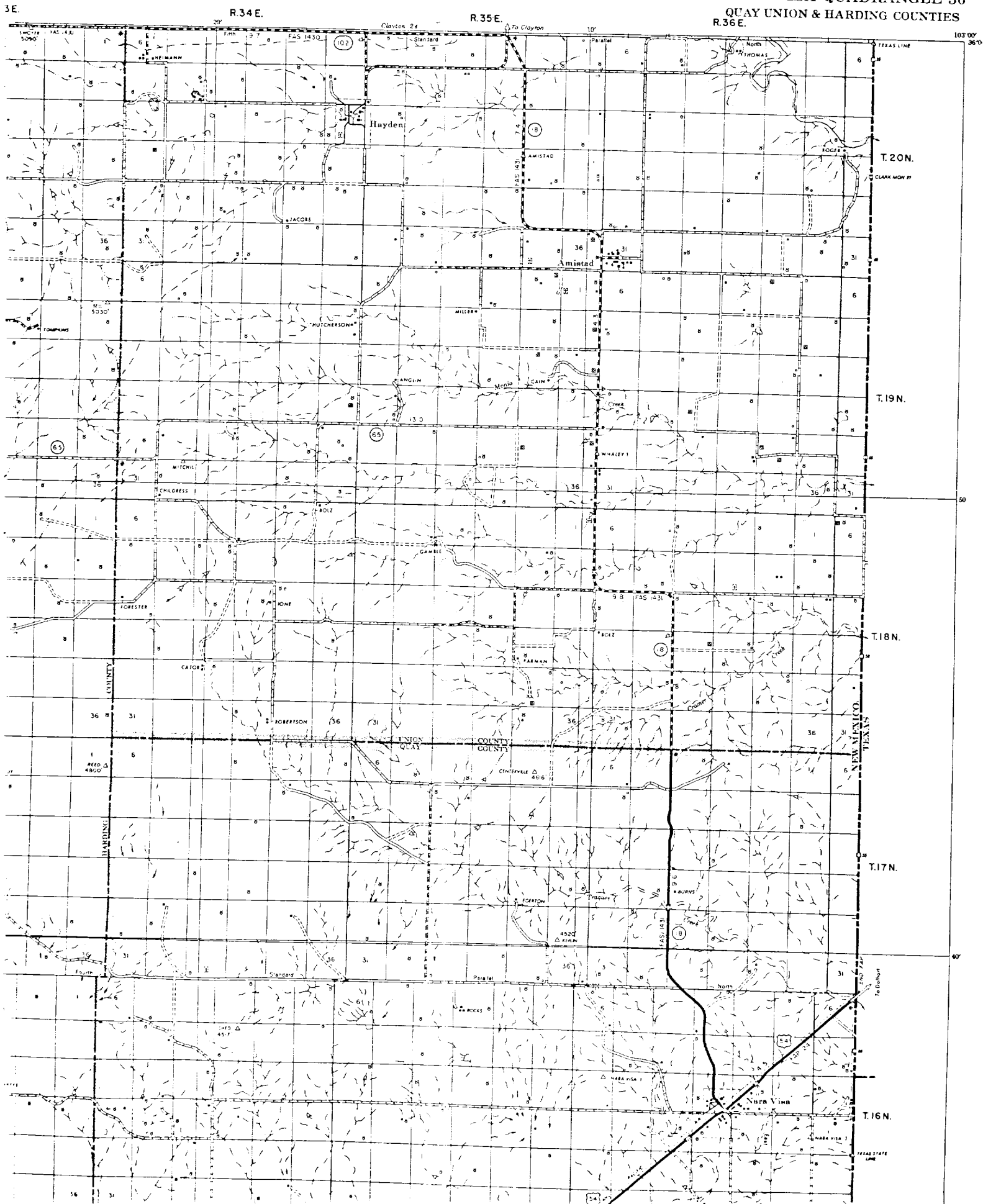
James E. Smith

State of New Mexico
County of Union

Subscribed and sworn to before me this 10 day of October, 1983.

Joe Jacoby
Notary Public
My Commission expires: 10-10-85

NARA VISA QUADRANGLE 36
QUAY UNION & HARDING COUNTIES
R.36E.





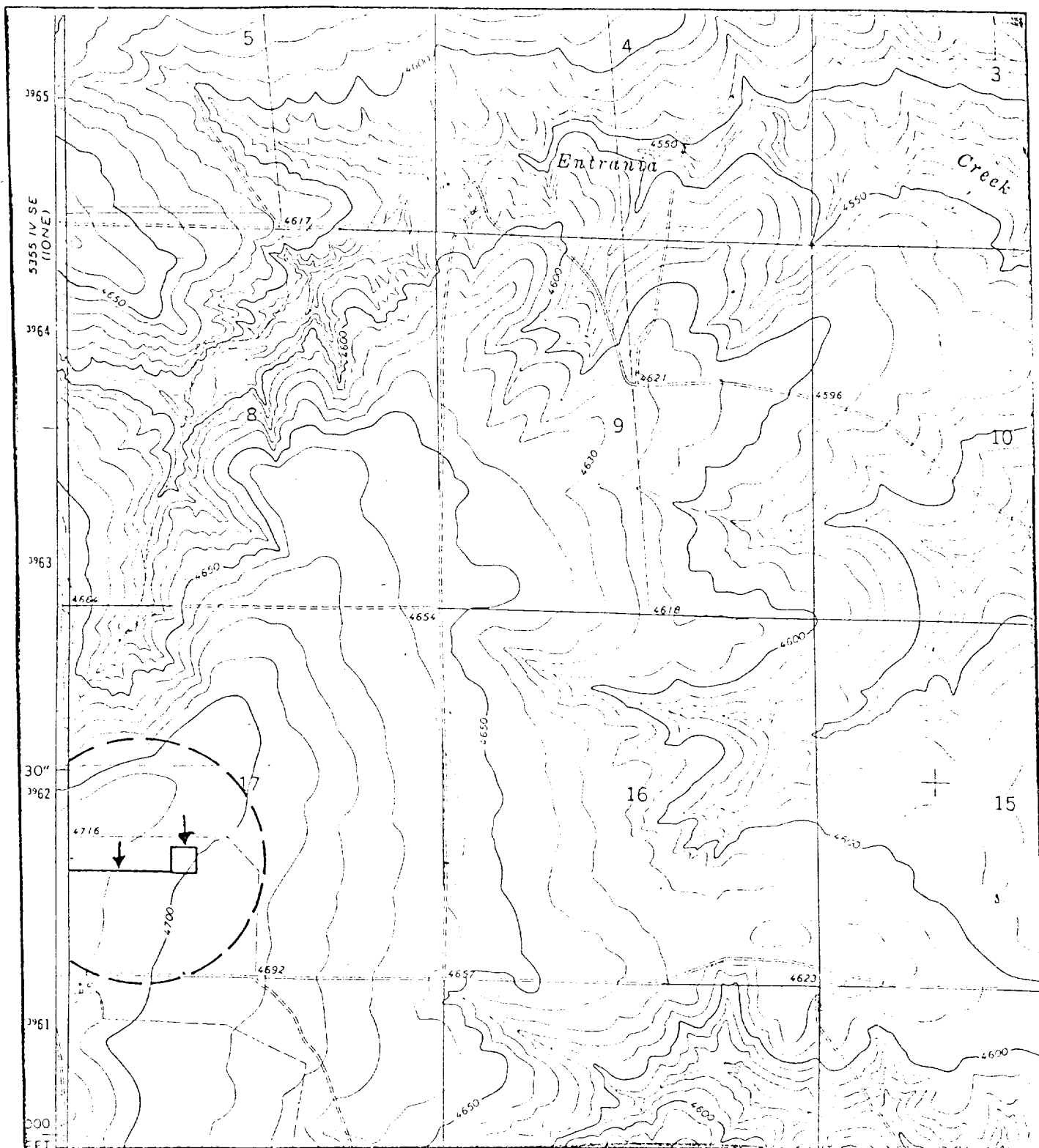
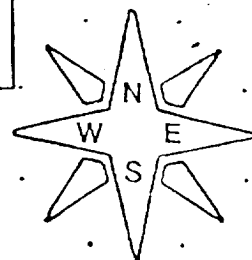
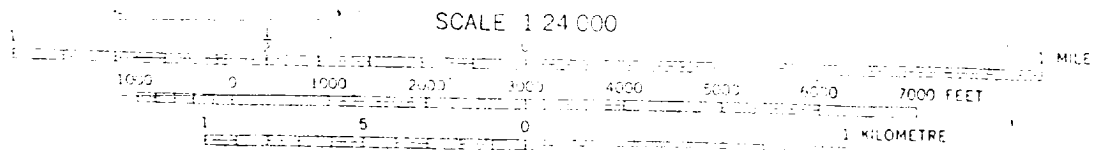


Figure 4: Location of 1835-171K and Access Road
 Section 17, T18N R35E, Union County, NM

Map: USGS Centerville Corner Quadrangle, 1971

7.5 MINUTE
 SERIES



CELLAR 6x6x6

200'

PIT

140'

90'

(DEEP SAND ONLY)

110'

130'

30'

95'

80'

190'

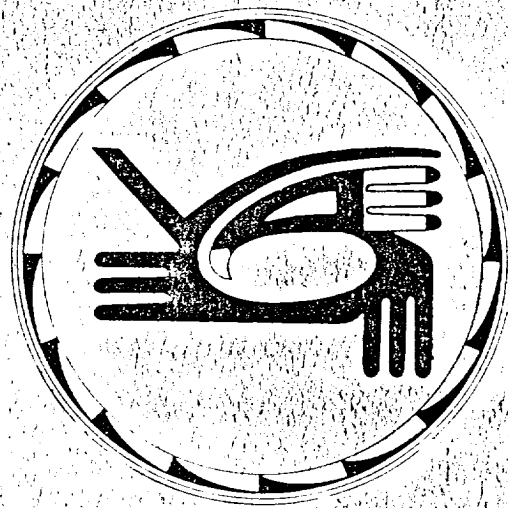
130'

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

1835-081C and Access Road

1835-171K and Access Road

F84-134

by

Terry Fifield

Edited and Submitted by

Mr. Scott C. Schermer

Acting Director

September 23, 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 Union County, New Mexico on land administered by the Bureau of Land Management. The reconnoitered area will be impacted by the construction of two well pads and two access roads. The project was administered by Jay Smith for Amoco Production Company and Mr. Scott C. Schemmer, Acting Director of ACA. This report was prepared by the Portales office of ACA.

The field work was conducted on September 15, 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 individual 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.

~~1835-081C~~ and Access Road

Location

The proposed well pad and access road are located 14.5 miles northwest of Nara Visa, New Mexico, near the Canadian River Valley. The pad cover 3.67 acres and measures 400 X 400 feet (121.9 X 121.9 meters) and the access road covers 4.12 acres and measures 50 X 3590 feet (15.2 X 1094.2 meters). They are situated as follows:

Well Pad:

NE 1/4 NW 1/4, Section 08, T18N R35E, NMPM, Union County, NM (BLM)

Access Road:

SE 1/4 NE 1/4, Section 08, T18N R35E, NMPM, Union County, NM (BLM)

SW 1/4 NE 1/4, Section 08, T18N R35E, NMPM, Union County, NM (BLM)

NW 1/4 NE 1/4, Section 08, T18N R35E, NMPM, Union County, NM (BLM)

NE 1/4 NW 1/4, Section 08, T18N R35E, NMPM, Union County, NM (BLM)

Plat: Figure 1

Map Reference: USGS Centerville Corner Quadrangle 7.5 minute series, 1971 (figure 2)

Terrain

The proposed well pad and access road are located near the Canadian River Valley, 930 feet north of Entrania Creek. They are situated on a shallow colluvial slope above the creek terraces and on an undulating alluvial plain. The elevation varies from 4568 to 4652 feet (1392.3 to 1417.9 meters). The soil encountered in the area is predominantly a silty clay loam. Taxonomically it can be classified as a member of the paleustolls-calciorthids-calciustoll association. Lithic inclusions consist of a few caliche fragments and alluvial cobbles. Alluvial gravels contain chert, quartzite, massive quartz, granite and other material. They are a potential source of lithic raw materials.

Floristics

ACA encountered a dense floral assemblage at this location. The density of the vegetation in the area is approximately 65 percent, consisting primarily of grasses. The dominant species is blue grama (Bouteloua gracilis). Among other species present are yucca (Yucca glauca), and broom snakeweed (Gutierrezia sarothrae).

Cultural Resources

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

A review of the National Register did not find any properties listed for this location.

Recommendations

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

1835-171K and Access Road

Location

The proposed well pad and access road are located 14 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

ACA F84-134

access road covers 1.67 acres and measures 50 X 1450 feet (15.2 X 442 meters). They are situated as follows:

Well Pad:

NE 1/4 SW 1/4, Section 17, T18N R35E, NMPM, Union County, NM (BLM)

Access Road:

NE 1/4 SW 1/4, Section 17, T18N R35E, NMPM, Union County, NM (BLM)

NW 1/4 SW 1/4, Section 17, T18N R35E, NMPM, Union County, NM (BLM)

Plat: Figure 3

Map Reference: USGS Centerville Corner Quadrangle 7.5 minute series, 1971 (figure 4)

Terrain

The proposed well pad and access road are located near the Canadian River Valley, 3020 feet south of Entrania Creek. They are situated on a shallow colluvial slope at least .5 miles from any drainage. Agricultural terraces follow the contour of the surface across this slope. They probably represent farming of this area prior to the dust bowl of the 1930's. The elevation varies from 4699 to 4715 feet (1432.2 to 1437.1 meters). The soil encountered in the area is predominantly a silty clay loam. Taxonomically it can be classified as a member of the paleustolls-calciorthids-calciustolls association. Lithic inclusions consist of abundant small caliche fragments.

Floristics

ACA encountered a dense floral assemblage at this location. The density of the vegetation in the area is approximately 60 percent, consisting primarily of grasses. The dominant species is blue grama (Bouteloua gracilis). Among other species present are purple pricklypear (Opuntia macrocentra), sideoats grama (Bouteloua curtipendula), coyote melon (Cucurbita palmata), sunflower (Helianthus petiolaris), New Mexico thistle (Cirsium neomexicanum), and mixed short grasses.

Cultural Resources.

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

A review of the National Register did not find any properties listed for this location.

ACA F84-134

Recommendations

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

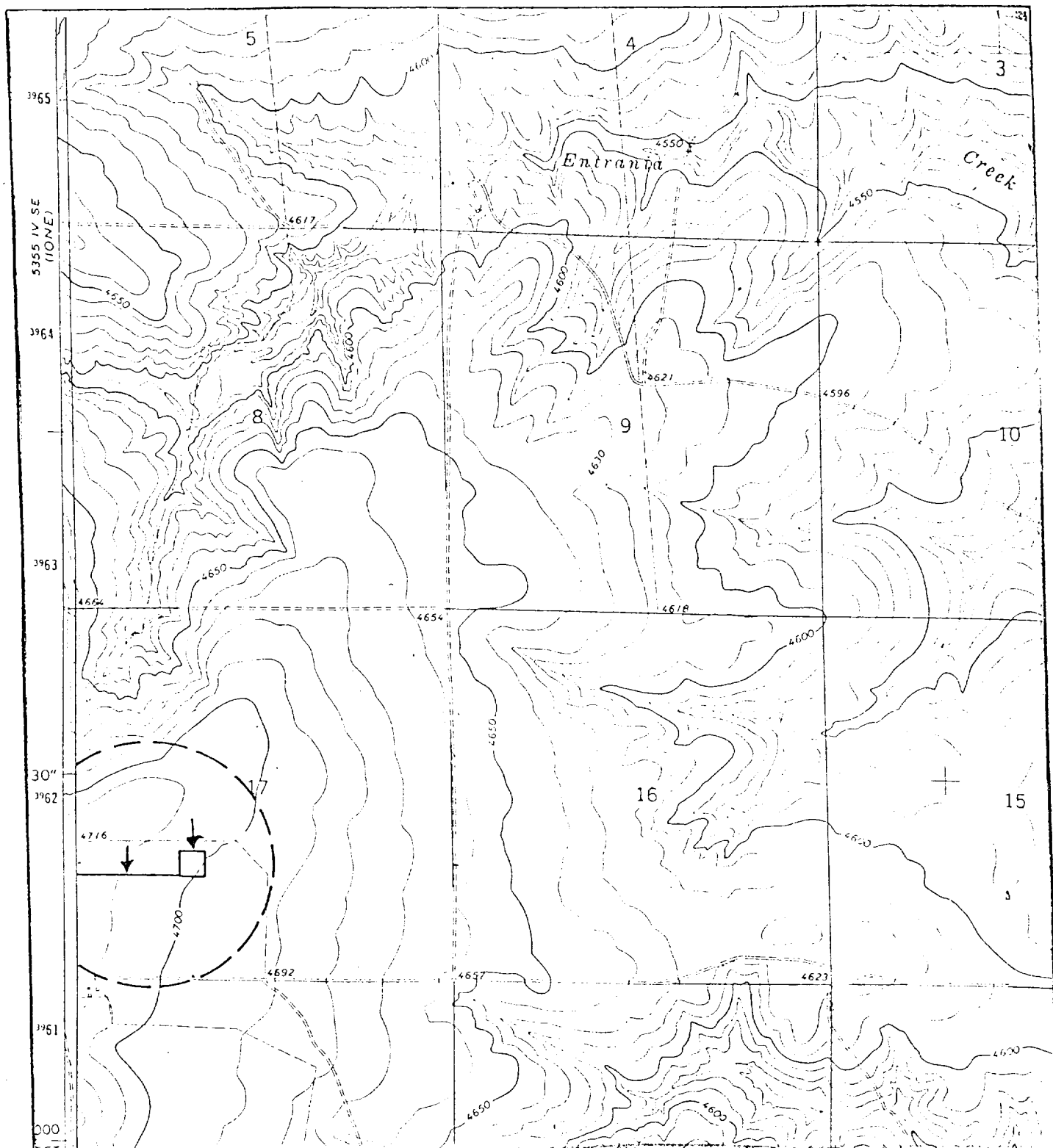
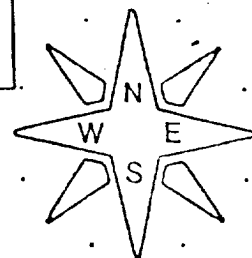
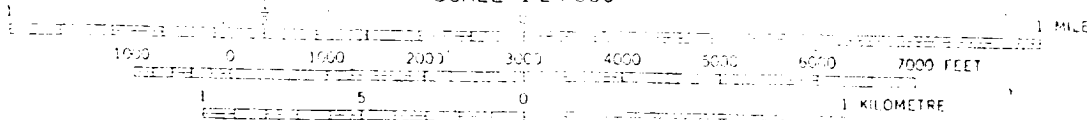


Figure 4: Location of 1835-171K and Access Road
 Section 17, T18N R35E, Union County, NM

Map: USGS Centerville Corner Quadrangle, 1971

7.5 MINUTE
 SERIES

SCALE 1:24,000



WELL LOCATION AND ACREAGE DEDICATION PLAT

Supersedes G.L.
Effective 1983

All distances must be from the outer boundaries of the Section

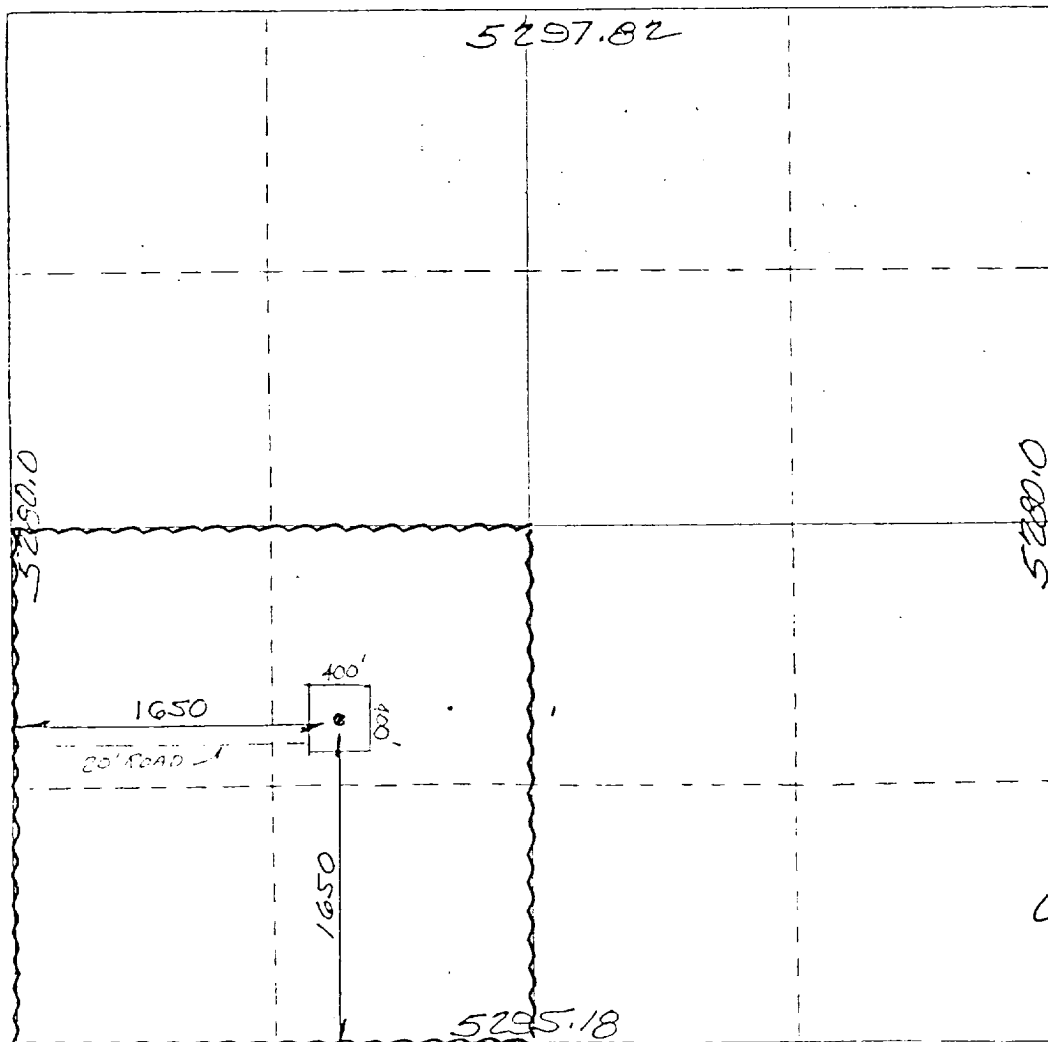
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Grid Letter K	Section 17	Township T18N	Range R35E	County UNION
Actual Footage Location of Well:				
1650	feet from the	SOUTH	line and	1650
				feet from the
				WEST
				line
Ground Level Elev. 4695	Producing Formation TUBB		Pool UND. TUBB	Dedicated Acreage: 160 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).
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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.



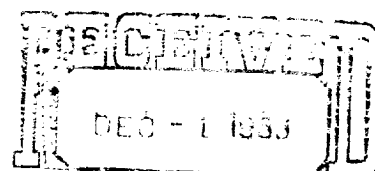
CERTIFICATION

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

Name Peter J. Serna
 Position Assist. Admin. Analyst
 Company Amoco Production Company
 Date October 13, 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.

1983
 Registered Land Surveyor
 No. 5103
 State of New Mexico
 E. SHIELDS
 Certified



OIL CONSERVATION DIVISION
SANTA FE