

API # 30-059-20231

Form 9-331 C  
(May 1963)

SUBMIT IN TRIPLICATE\*

Form approved.  
Bureau No. 42-R1425.

file

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

RECEIVED

NOV 22 1983 NM-19514

## 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 State requirements)

At surface

660' FNL X 1980' FWL

(Unit C NE/4 NW/4)

At proposed prod. zone

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

46 miles South of Clayton

## 10. 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.

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

4635' GL

## 23.

## 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#	2745'	Tie back 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.

0+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

Pieter J. Seana

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 10-15-83

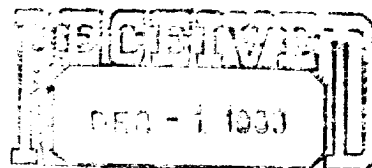
APPROVED  
AS AMENDED

DATE NOV 16 1983

AREA MANAGER  
FARMINGTON RESOURCE AREA

\*See Instructions On Reverse Side

- Santa Fe



CONSERVATION DIVISION  
SANTA FE

NEW MEXICO DEPARTMENT OF CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form 1-10  
Superseded 6-11-77  
Effective 1-1-78

All distances must be from the outer boundaries of the Section.

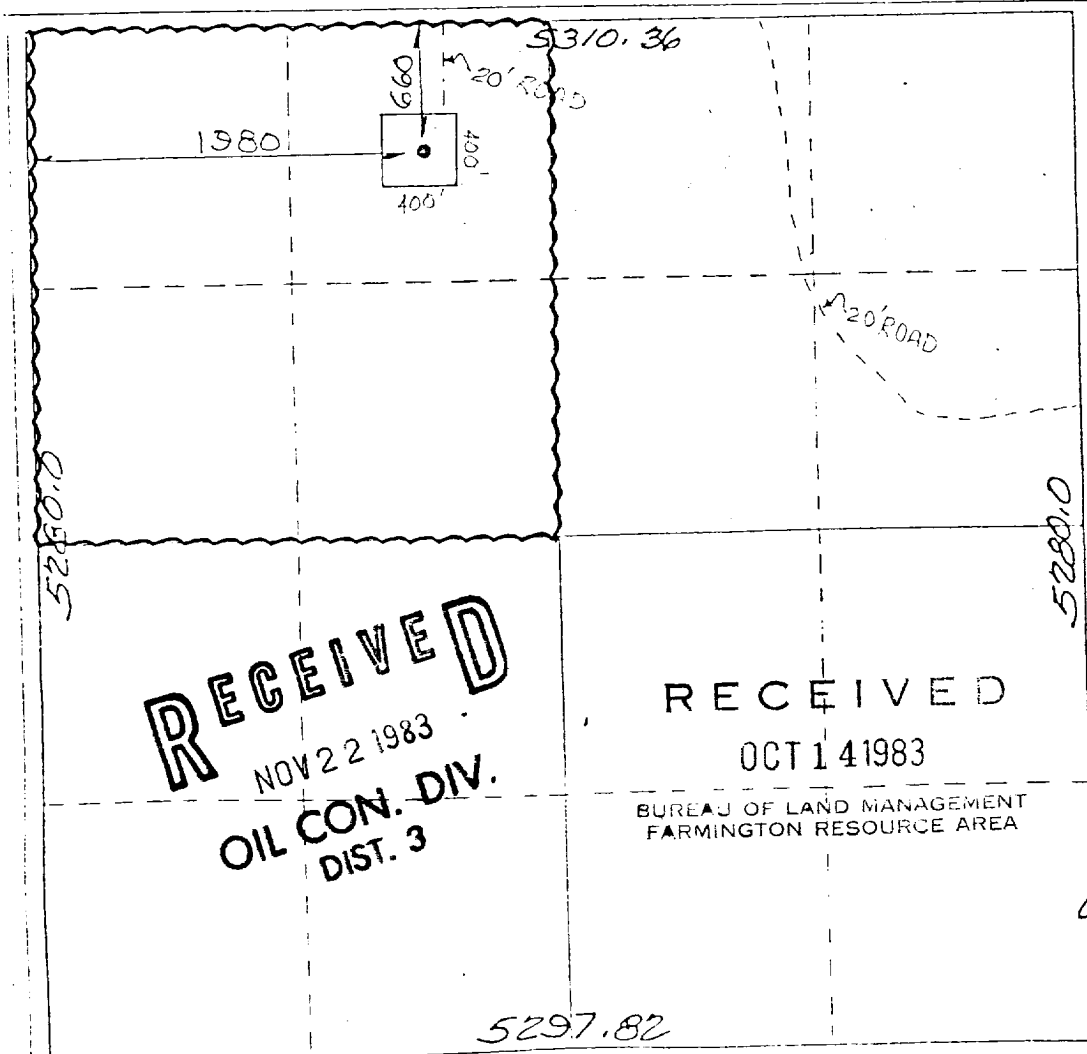
AMOCO PRODUCTION COMPANY			Bravo Dome Carbon Dioxide Gas Ut.		Well No. 1835081C
Unit Letter C	Section 8	Township T18N	Range R35E	County UNION	
Actual Footage Location of Well:					
660	feet from the	NORTH	line and	1980	feet from the WEST line
Ground Level Elev. 4635	Producing Formation Tubb		Pool Und. 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.

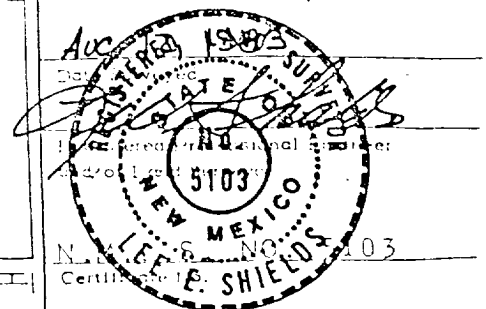


CERTIFICATION

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

Name: Pietu 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.



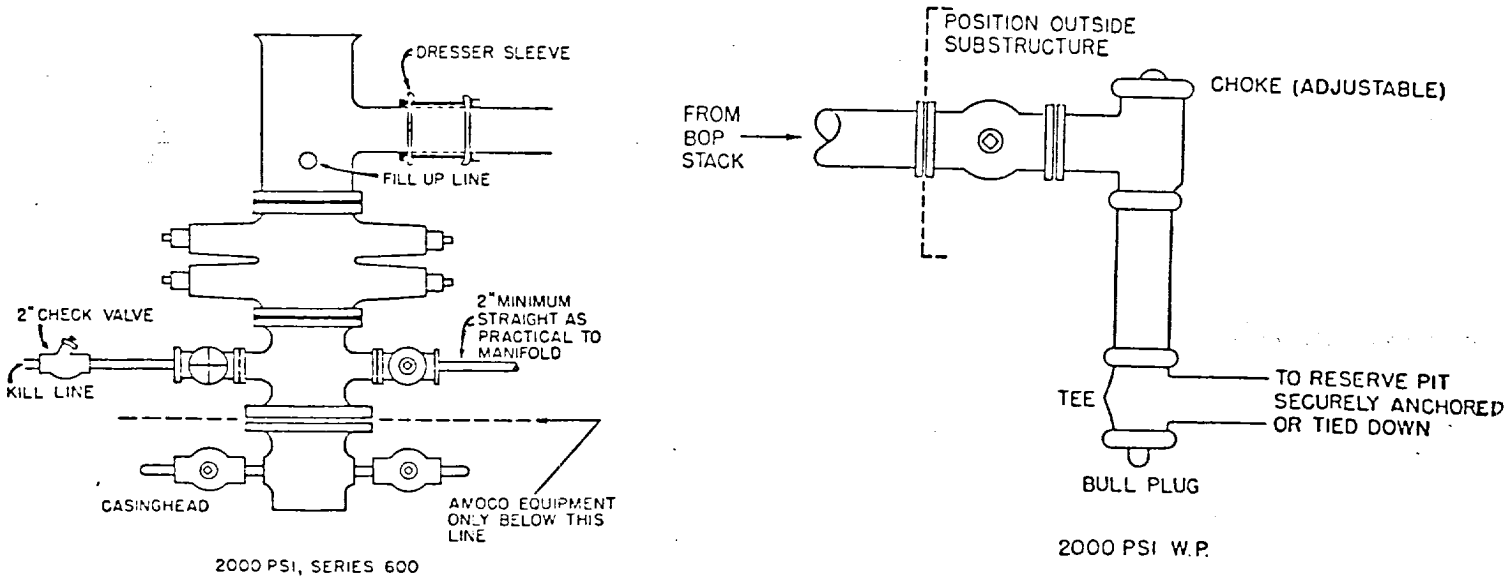
RECEIVED  
DEC - 1 1960  
OIL CORPORATION DIVISION  
SANTA FE

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.

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 2105'

Basement 2605'

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

Tubb 2310'

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
2745'	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 on Highway 18 for 46 miles. Turn right on county roads and go 2 miles. Continue west through cattle guard 1/4 mile. Proceed northwest 3/4 miles. Turn west and go 1 mile. Turn north and go 1/2 mile. Turn west and go 1/4 mile. Then
2. Planned access roads. turn South to location which is 2/10 mile.

Approximately 4.12 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 N/2 of Sec. 7, T-18-N, R-35-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 slope, creek terraces, plains
- b. Soil- Silty clay loam
- c. Vegetation- Blue Grama, Yucca, Broom snake weed
- d. Surface Use- Grazing
- e. Ponds and Streams - Canadian River Valley, 930' North 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 081C

LOCATION 660' FNL X 1980' FWL, Sec. 8, 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. 1835-081C  
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 Mike Leak, 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

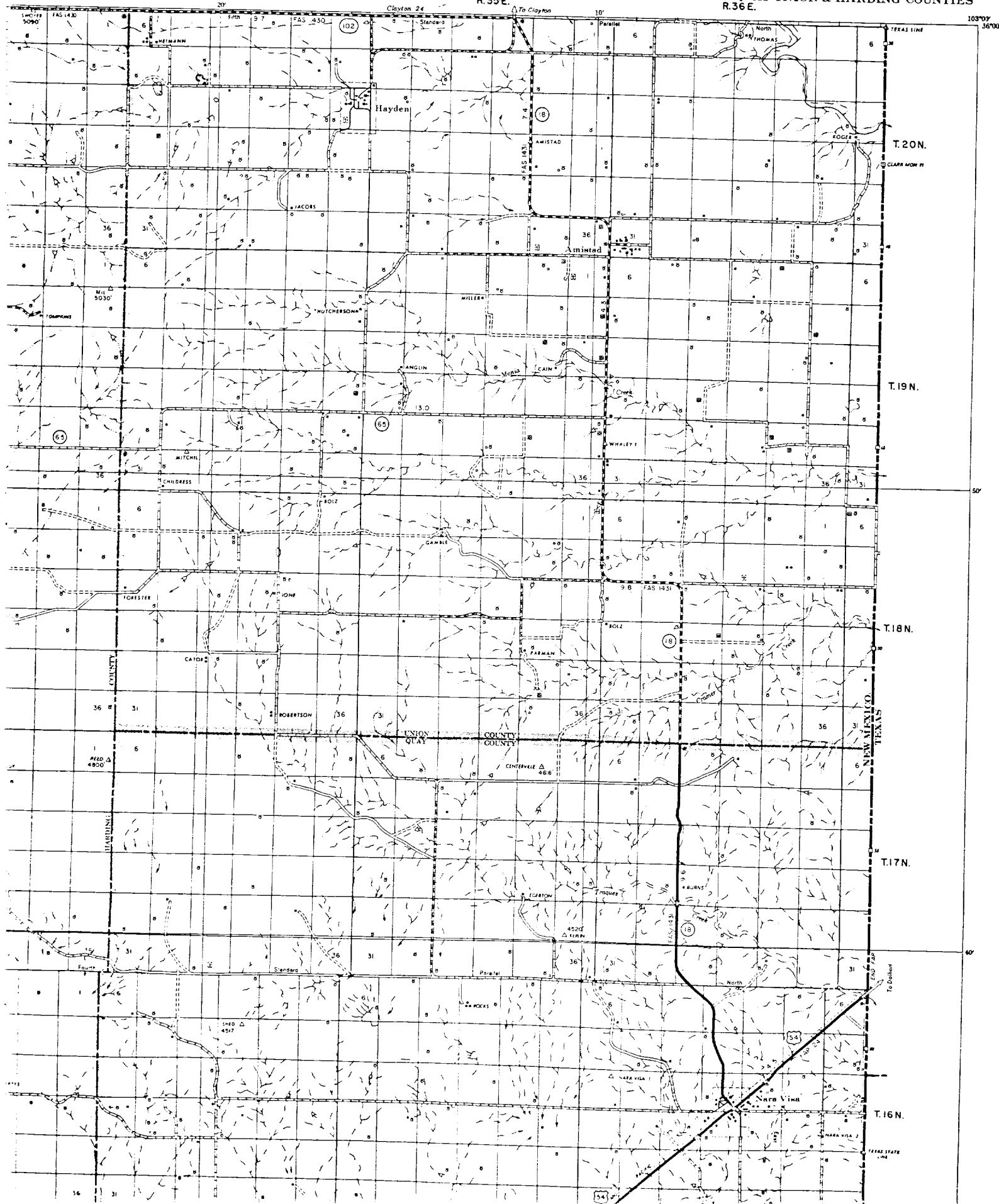
Jim Gooley  
Notary Public

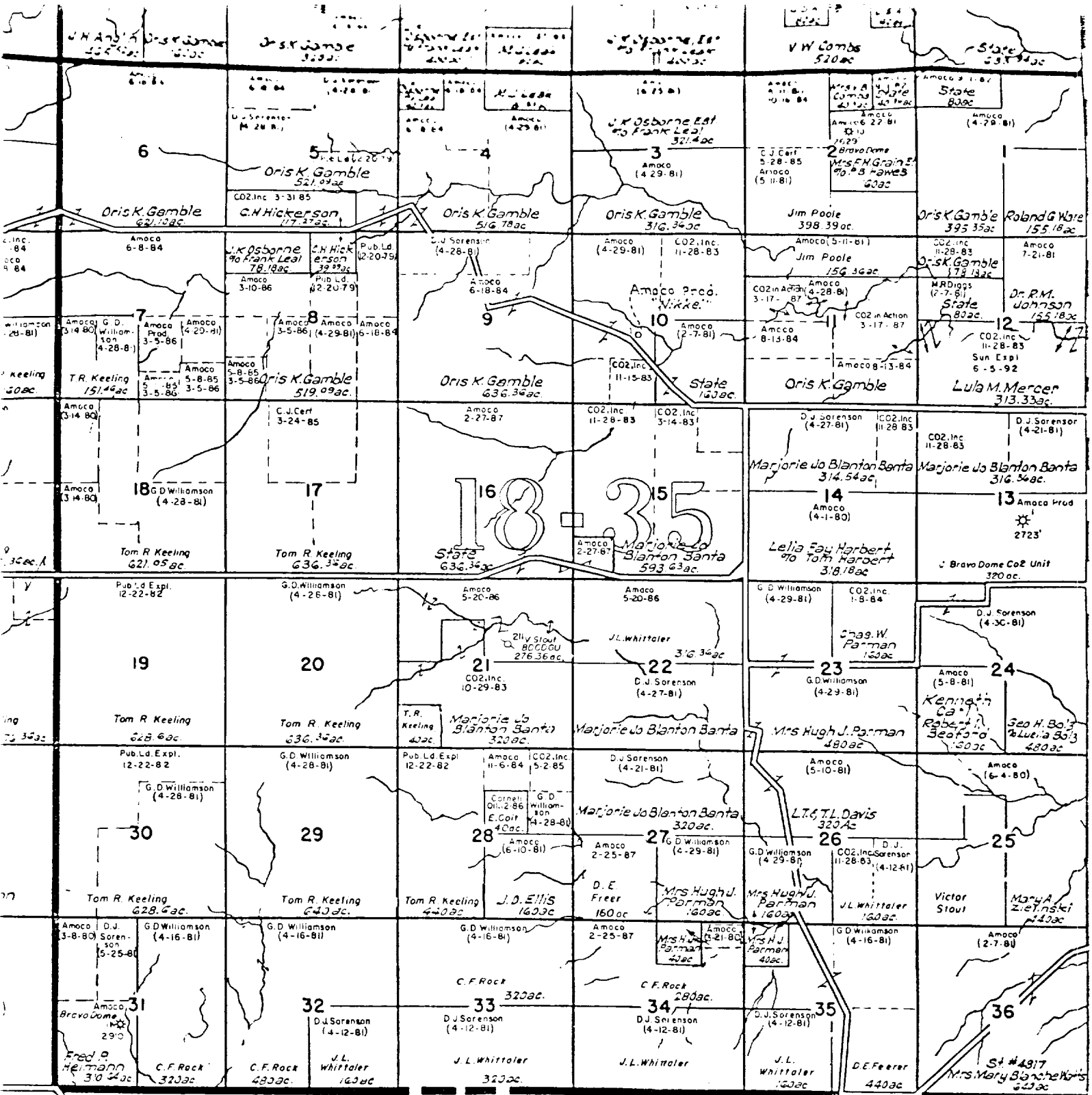
My commission expires: 10-10-85

R.34E.

R.35E.

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





QUAY

R-35-E

COUNTY

NE

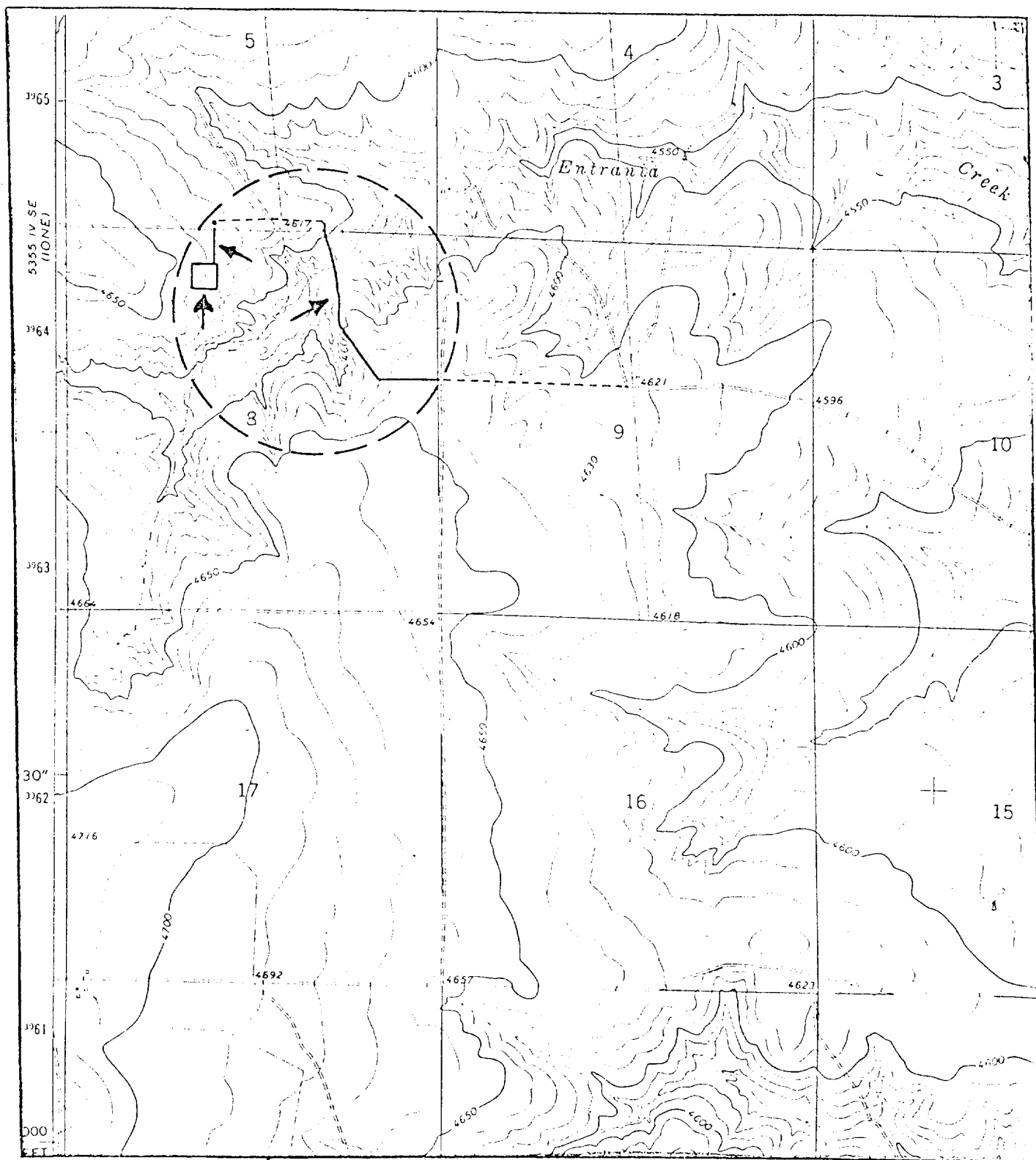
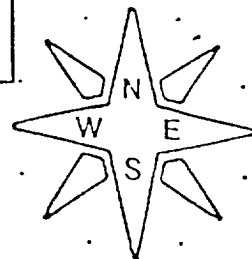


Figure 2: Location of 1835-081C and Access Road  
 Section 8, T18N R35E, Union County, NM

Map: USGS Centerville Corner Quadrangle, 1971

7.5 MINUTE  
 SERIES



SCALE 1:24,000

1 MILE  
 0 1000 2000 3000 4000 5000 6000 7000 FEET  
 0 1 2 3 4 5 6 7 8 9 10 KILOMETRE

CELLAR 6x6x6

PIT

(DEEP SAND ONLY)

90'

110'

130'

95'

30'

40'

200'

140'

80'

190'

130'

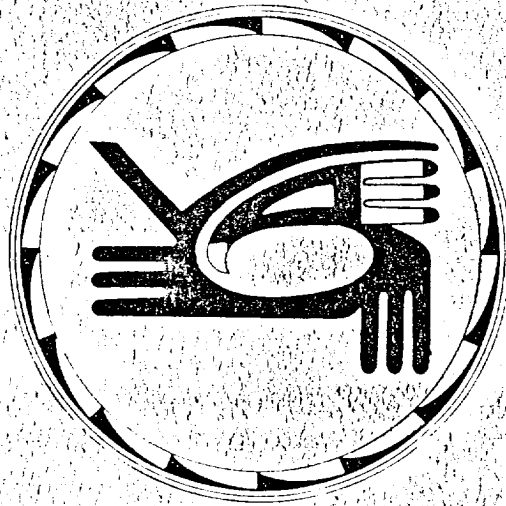
FOR WELL 8000' FEET OR LESS

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. Schenmer

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. Schermer, 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

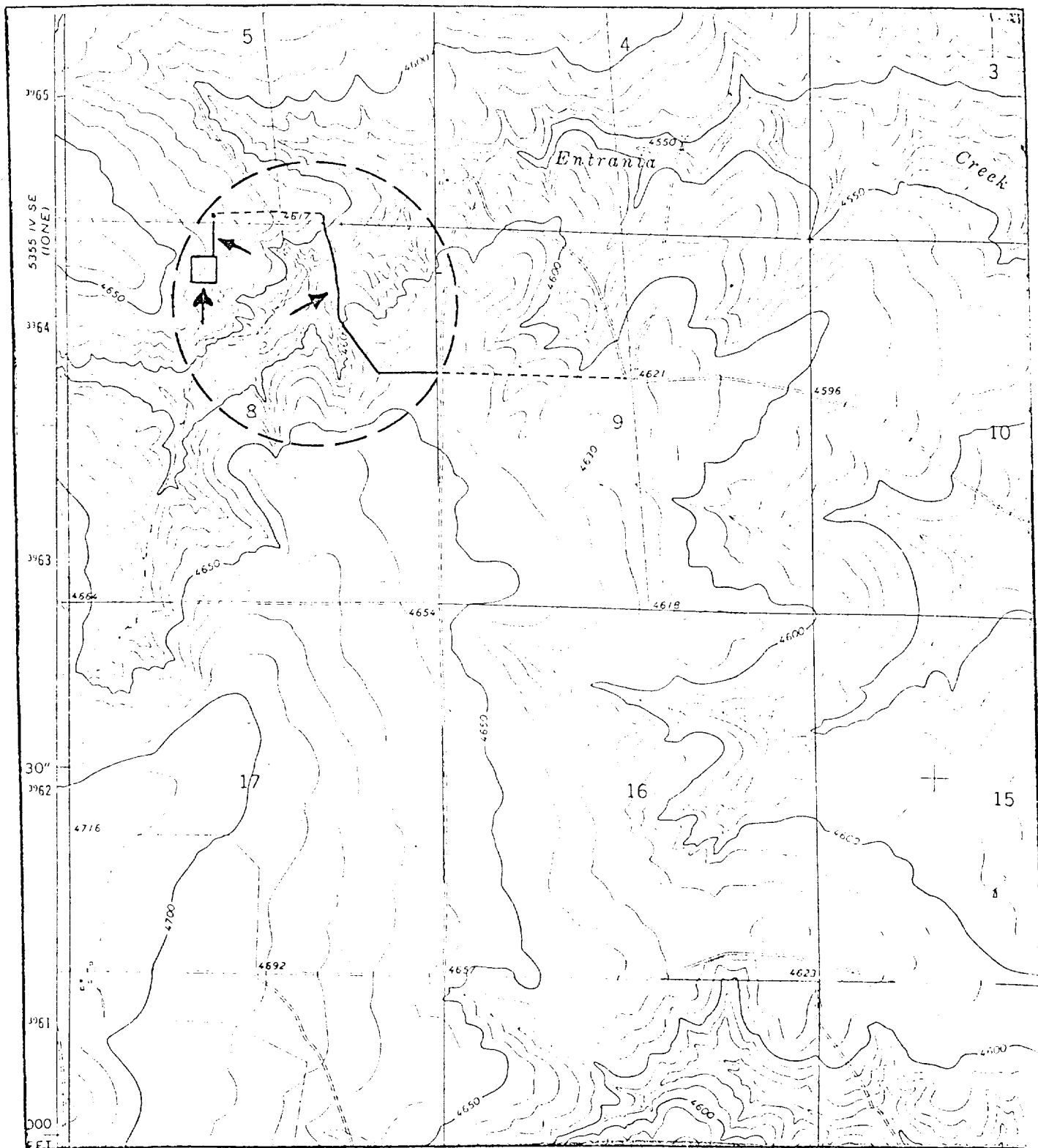
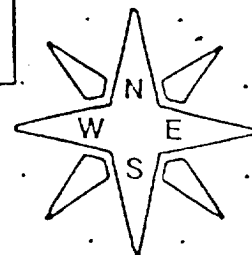
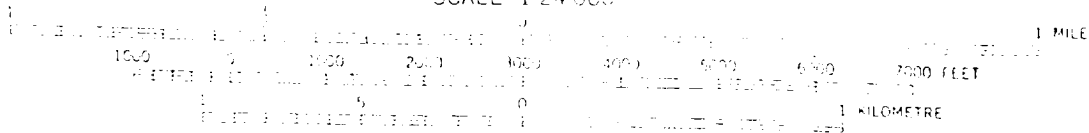


Figure 2: Location of 1835-081C and Access Road  
Section 8, T18N R35E, Union County, NM

Map: USGS Centerville Corner Quadrangle, 1971

7.5 MINUTE  
SERIES

SCALE 1:24,000



NEW MEXICO DEPARTMENT OF CONSERVATION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Superseded 6-22-  
Effective 1-1-83

All distances must be from the outer boundaries of the Section

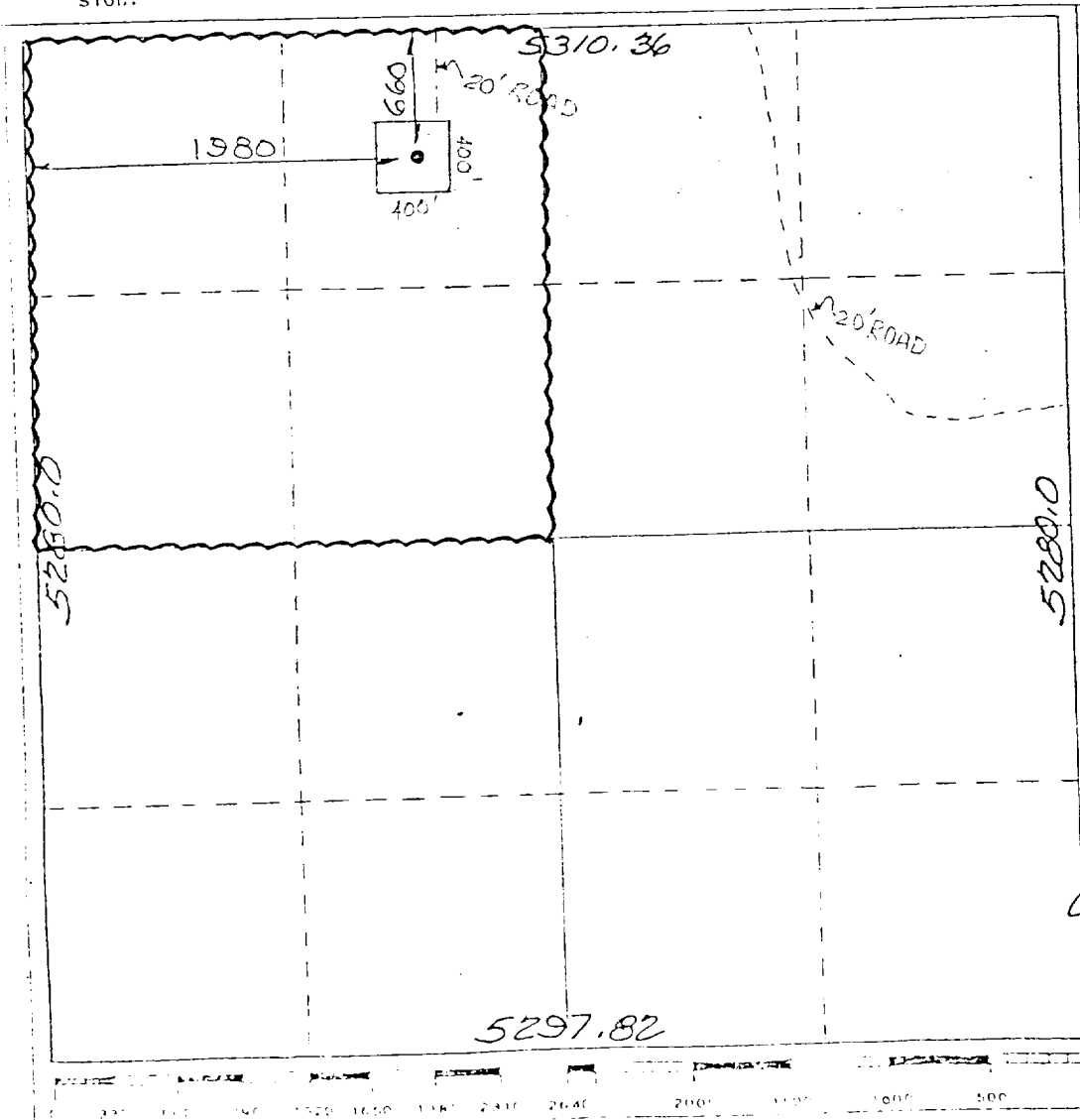
Owner <b>AMOCO PRODUCTION COMPANY</b>			Lease <b>Bravo Dome Carbon Dioxide Gas Ut.</b>		Well No. <b>1835081C</b>
Sub Letter <b>C</b>	Section <b>8</b>	Township <b>T18N</b>	Range <b>R35E</b>	County <b>UNION</b>	
Actual Footage Location of Well:					
660 feet from the		NORTH line and		1980 feet from the WEST line	
Ground Level Elev. <b>4635</b>	Producing Formation <b>Tubb</b>		Pool <b>Und. Tubb</b>		Dedicated Acreage: <b>160</b> 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.

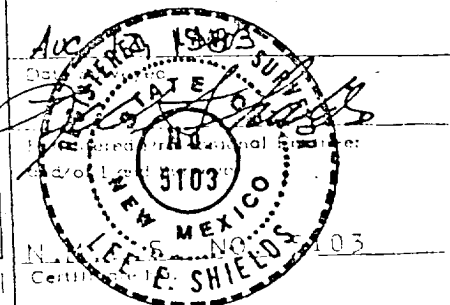
Name: Peter J. Sewa

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.



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DEC - 1 1985  
NEW MEXICO  
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CONSERVATION DIVISION  
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