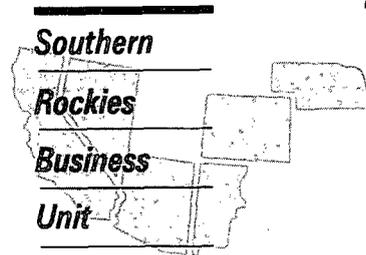


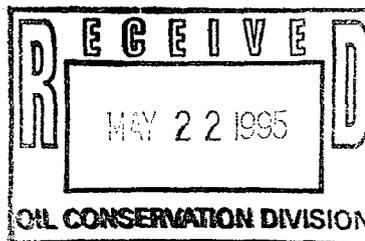
6.12.95

1137



May 18, 1995

Mr. William J. LeMay, Director  
New Mexico Oil Conservation Division  
2040 S. Pacheco Street  
P. O. Box 6429  
Santa Fe, NM 87505



**Application for Exception to Rule 303-A  
Downhole Commingling  
Jicarilla "B" Well #4  
1650' FNL & 990' FEL, Unit H Section 21-T26N-R5W  
Basin Dakota and Tapacito Gallup Pools  
Rio Arriba County, New Mexico**

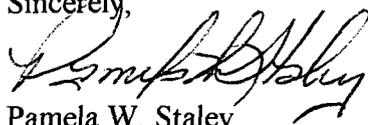
Amoco Production Company hereby requests administrative approval to downhole commingle production from the Basin Dakota and Tapacito Gallup Pools in the Jicarilla "B" Well #4 referenced above. The Jicarilla "B" Well #4 was originally a dual completion in the Dakota and Gallup formations. This well has a marginal Gallup formation which is being produced dually with the Dakota which if left as a dual completion, the marginal zone would be shut-in in the near future. We plan to complete the well with both the Dakota and Gallup formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 233 MCFD with 6 BOPD. The ownership (WI, RI) of these pools is identical in this wellbore. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserves and violation of correlative rights. Offset operators to this well will receive a copy of this application by certified mail.

The allocation method that we plan to use for this commingled well is as follows. Since these formations have been producing for some time, we have a good historical representation of the production by formation. Based on historical production we recommend that the allocation for gas production be 86% from the Dakota formation and 14% from the Gallup formation. Liquid production in this well has been restricted due to liquid loading problems occurring in these pressure depleted gas reservoirs. The downhole commingling and subsequent addition of a plunger lift system should increase the capability of the marginal formations to again produce condensate. Based on that premise, we propose to allocate 83% of the liquid production to the Dakota formation and 17% of the liquid production to the Gallup formation. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

Attached to aid in your review are plats showing the location of the well and offset wells in the same formations, a historical production plot and a C-102 for each formation. This spacing unit is on a federal lease and a copy of the application will be sent to the BLM requesting their consent.

Should you have questions concerning this matter, please contact me at (303) 830-5344.

Sincerely,



Pamela W. Staley

Enclosures

cc: Steve Smethie  
Patty Haefele

Frank Chavez, Supervisor  
NMOCD District III  
1000 Rio Brazos Road  
Aztec, NM 87410

Duane Spencer  
Bureau of Land Management  
1235 La Plata Hwy  
Farmington, NM 87401

**Application for Exception to Rule 303: SEGREGATION OF PRODUCTION FROM POOLS**

**Requirements**

- (1) Name and address of the operator:

Amoco Production Company  
P.O. Box 800  
Denver, CO 80201

- (2) Lease name, well number, well location, name of the pools to be commingled:

Lease Name: Jicarilla "B" Well #4

Well Location: 1650' FNL & 990' FEL  
Unit H Section 21-T26N-R5W  
Rio Arriba County, New Mexico

Pools Commingled: Tapacito Gallup Pool  
Basin Dakota Pool

- (3) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

Attached

- (4) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas and water produced from each zone.

The Basin Dakota produced an average stabilized rate of 132 MCFD and 2.3 BCPD. The Tapacito Gallup zone produced at an average rate of about 21 MCFD and 0 BCPD.

- (5) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes.

Tapacito Gallup Completion: Historical production curve attached.  
Basin Dakota Completion: Historical production curve attached.

- (6) Estimated bottom hole pressure for each zone. A current (within 30 days) measured bottom hole pressure for each zone capable of flowing.

Bottom hole pressures were estimated from 24 hour bottom hole shut-in pressures in the Gallup and Dakota formations in the Jicarilla field. Estimated bottom hole pressure in the Gallup and the Dakota formations is 900 PSI.

- (7) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore.

The fluids have no abnormal components that would prohibit commingling, or promote the creation of emulsions or scale. Amoco has applied for and received several downhole commingling orders in this area including wells in which these two formations have been successfully downhole commingled with no apparent incompatibility in the commingled fluids.

- (8) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams:

Since the BTU content of the produced fluids are very similar, we would expect the commingled production to have the same value as the sum of the individual streams.

- (9) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula:

The allocation method that we plan to use for this commingled well is as follows. Since these formations have been producing for some time, we have a good historical representation of the production by formation. Based on historical production we recommend that the allocation for gas production be 86% from the Dakota formation and 14% from the Gallup formation. Liquid production in this well has been restricted due to liquid loading problems occurring in these pressure depleted gas reservoirs. The downhole commingling and subsequent addition of a plunger lift system should increase the capability of the marginal formations to again produce condensate. Based on that premise, we propose to allocate 83% of the liquid production to the Dakota formation and 17% of the liquid production to the Gallup formation. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

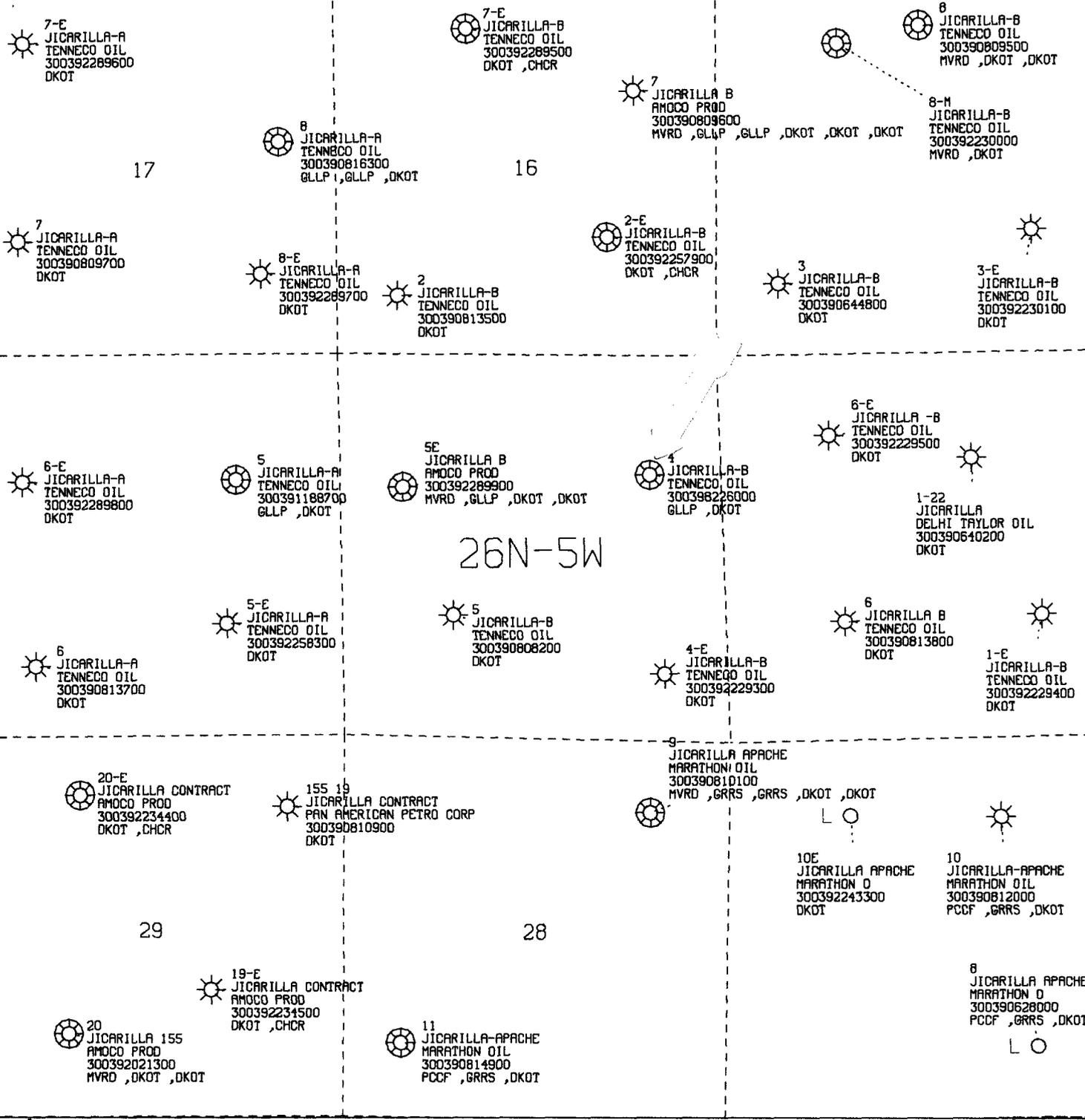
- (10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

BLM will receive a copy of this application by certified mail. The offsetting operators listed on the attached sheet will receive a copy of this application by certified mail.

36° 29' 39" N

36 29 39

992,010.10 FT. E  
107° 23' 28" W



992,005.62 FT. E  
107° 23' 28" W

36° 27' 2" N  
13,239,282.00 FT. N

36° 27' 2" N  
13,239,282.00 FT. N

All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

AMOCO PRODUCTION COMPANY  
 PLAT MAP  
 Jicarilla B 4  
 Dakota

SCALE 1 IN. = 2,000 FT. MAY 11, 1995

POLYCONIC CENTRAL MERIDIAN - 107° 21' 50" W LON  
SPHEROID - 6

992,010.10 FT. E  
107° 23' 28" W

17



8  
JICARILLA-A  
TENNECO OIL  
300390816300  
GLLP ,GLLP ,DKOT

16



7  
JICARILLA B  
AMOCO PROD  
300390809600  
MVRD ,GLLP ,GLLP ,DKOT ,DKOT ,DKOT

15

20



5  
JICARILLA-A  
TENNECO OIL  
300391188700  
GLLP ,DKOT



SE  
JICARILLA B  
AMOCO PROD  
300392289900  
MVRD ,GLLP ,DKOT ,DKOT



4  
JICARILLA-B  
TENNECO OIL  
300398226000  
GLLP ,DKOT

22

26N-5W

RIO ARRIBA

29

28

27

992,005.62 FT. E  
107° 23' 28" W

36° 27' 2" N  
13,239,282.00 FT. N

36° 27' 2" N  
13,239,282.00 FT. N

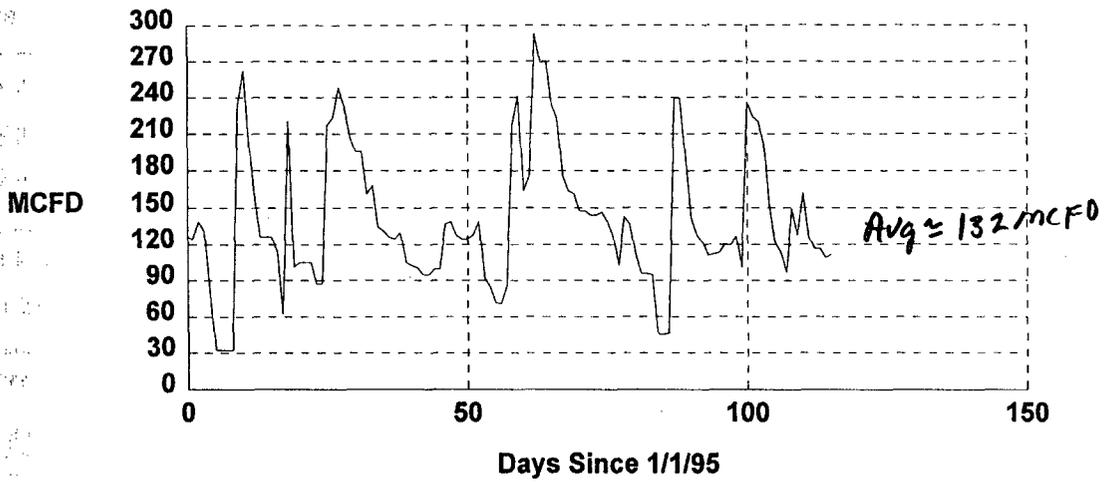
All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

AMOCO PRODUCTION COMPANY  
PLAT MAP  
Jicarilla B 4  
Gallup

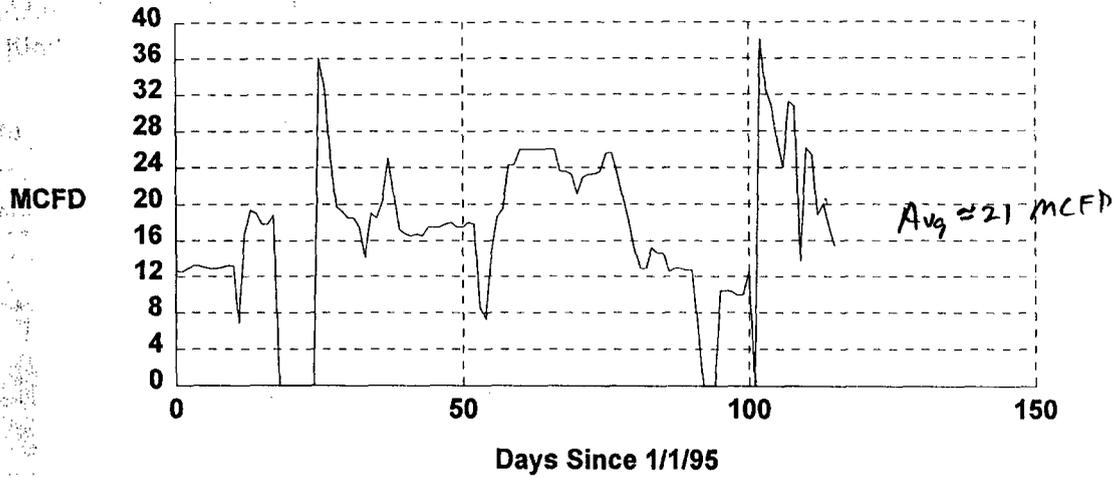
POLYCONIC CENTRAL MERIDIAN - 107° 21' 50" W LON  
SPHEROID - 6

SCALE 1 IN. = 2,000 FT. MAY 11, 1995

San Juan O.C.  
WELL: JICARILLA B 004-DK (97839701)  
(Downtime excluded) DAKOTA

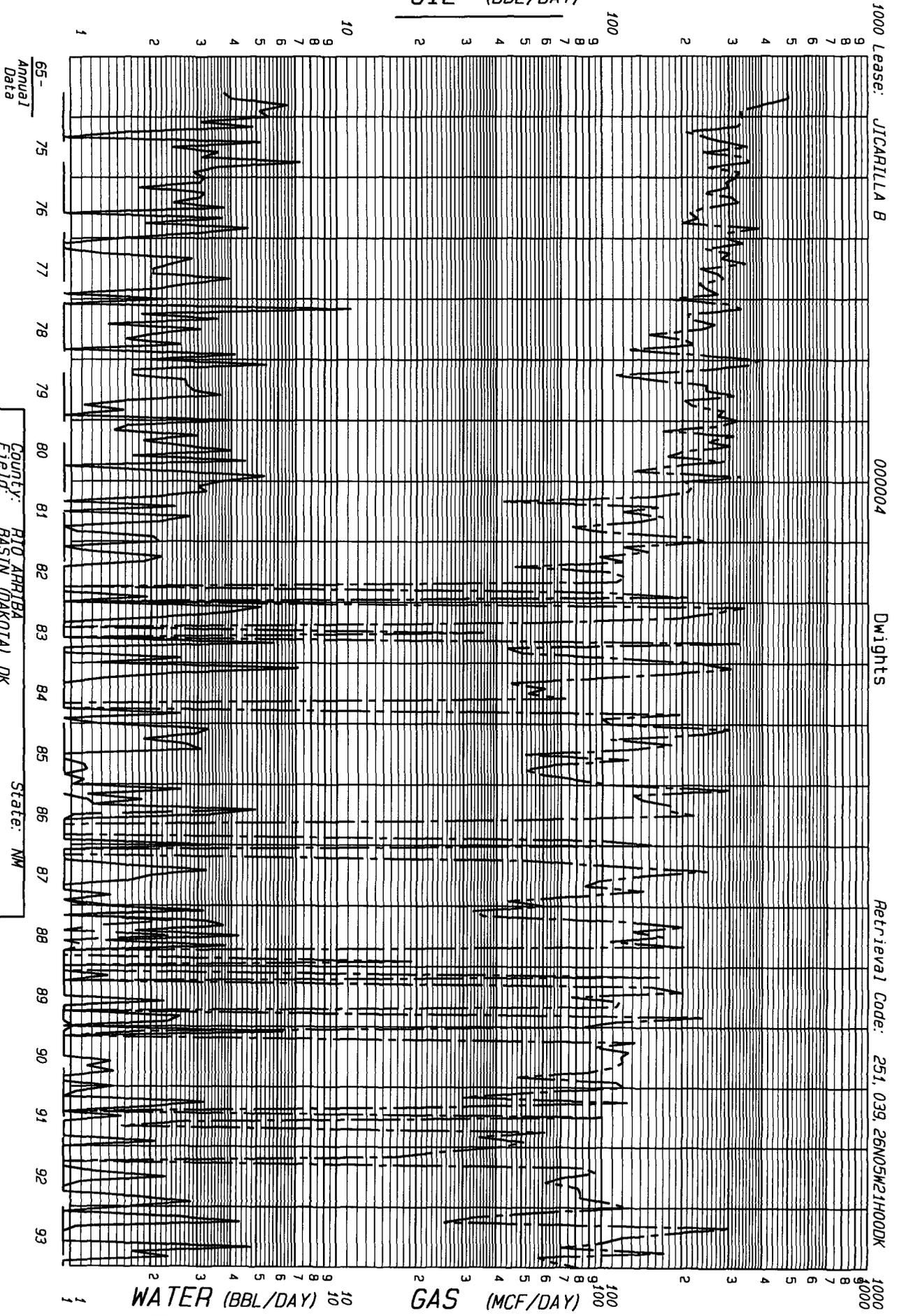


San Juan O.C. <sup>GP</sup>  
 WELL: JICARILLA B 004-DG (97839702)  
 (Downtime excluded) GALLUP



Jan 15, 95  
 Flowing  
 Jan 16, 95  
 Flowing  
 Jan 17, 95  
 Flowing  
 Jan 18, 95  
 Flowing  
 Jan 19, 95  
 Flowing  
 Jan 20, 95  
 Flowing  
 Jan 21, 95  
 Flowing  
 Jan 22, 95  
 Flowing  
 Jan 23, 95  
 Flowing  
 Jan 24, 95  
 Flowing  
 Jan 25, 95  
 Flowing  
 Jan 26, 95  
 Flowing  
 Jan 27, 95  
 Flowing  
 Jan 28, 95  
 Flowing  
 Jan 29, 95  
 Flowing  
 Jan 30, 95  
 Flowing  
 Jan 31, 95  
 Flowing  
 Feb 01, 95  
 Flowing  
 Feb 02, 95  
 Flowing

OIL (BBL/DAY)

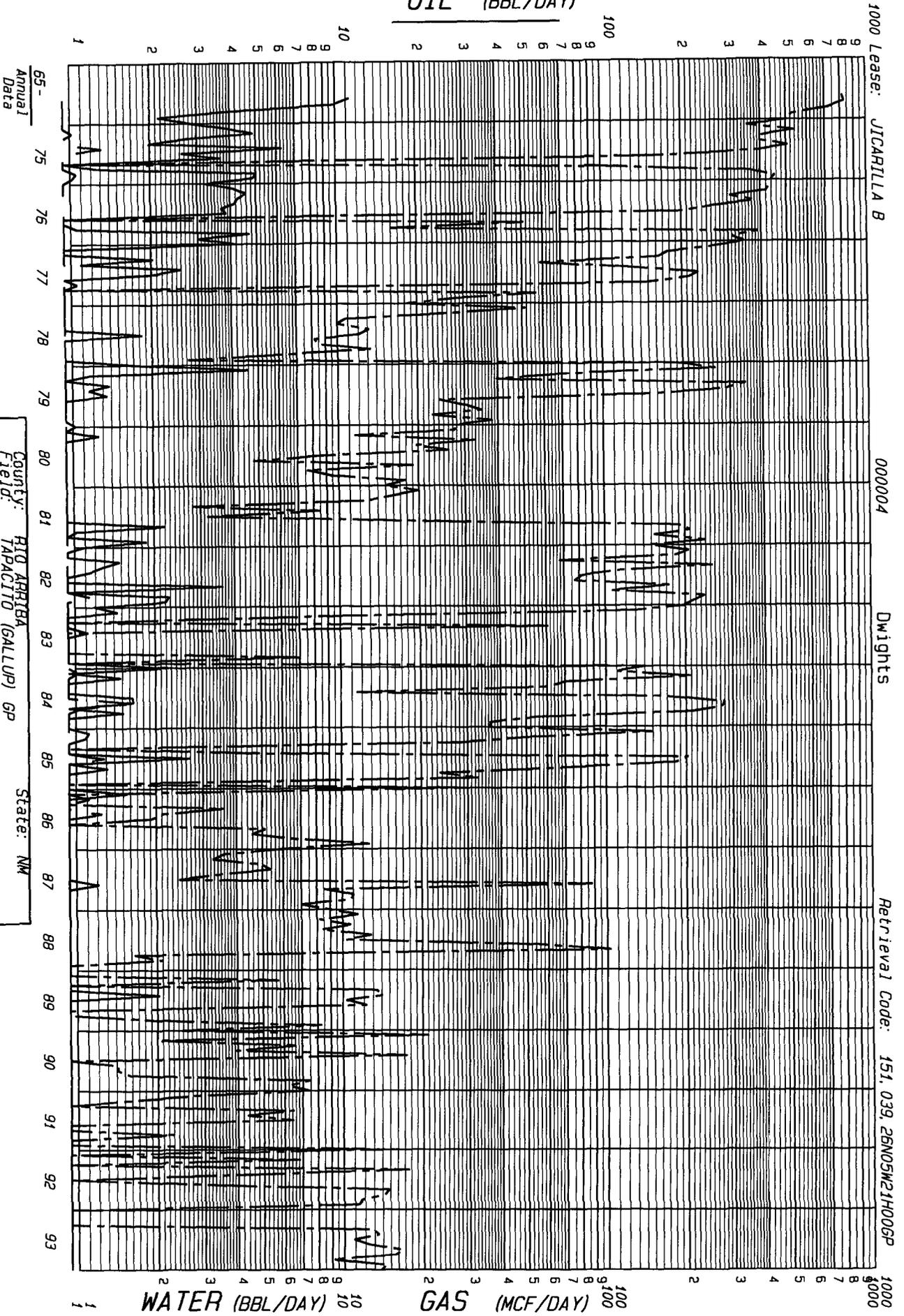


F. P. Date 01-67

County: RIO ARriba  
Field: BASTIN (DAKOTA) DK  
Reservoir: DAKOTA  
Operator: AMOCO PRODUCTION CO  
Oil Cum: 33720  
Location: 21H 26N 5W  
State: NM  
Gas Cum: 2615787

Date: 05-12-95

OIL (BBL/DAY)



Annual Data

F. P. Date

County: RIO ARriba  
Field: TAPACITO (GALLUP) GP  
Reservoir: GALLUP  
Operator: AMOCO PRODUCTION CO  
Oil Cum: 27579  
Gas Cum: 2545943  
Location: 21H 26N 5W

State: NM

Date: 05-12-95

WATER (BBL/DAY)

GAS (MCF/DAY)

1000  
5000  
100  
9100  
2  
3  
4  
5  
6  
7  
8  
9  
10  
1

Seeville 13-24  
10507/101 11807/101  
Sec. 21, 26-5

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACERAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section

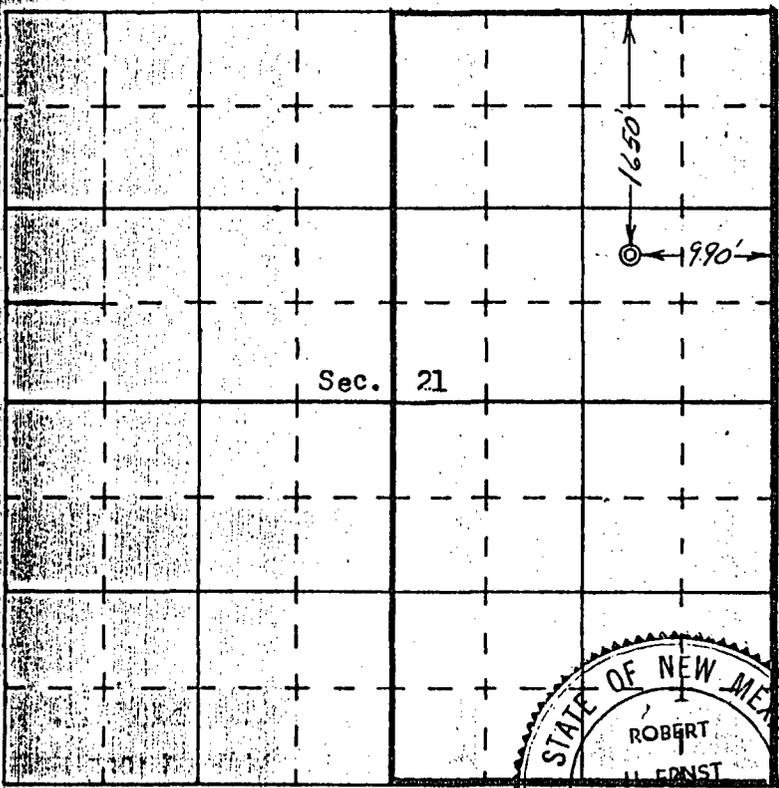
Operator <b>TENNECO OIL COMPANY</b>		Lease <b>JICARILLA "B"</b>		Well No. <b>4</b>
Unit Letter <b>H</b>	Section <b>21</b>	Township <b>26 North</b>	Range <b>5 West</b>	County <b>Rio Arriba</b>
Actual Footage Location of Well: <b>1650</b> feet from the <b>North</b> line and <b>990</b> feet from the <b>East</b> line				
Ground Level Elev. <b>6555 ungraded</b>	Producing Formation <b>Undesignated Gallup and Basin Dakota</b>		Pool <b>Undesignated Gallup and Basin Dakota</b>	Dedicated Acreage <b>320</b> <b>E/2</b> Acres

- Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
  - If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
  - 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 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.

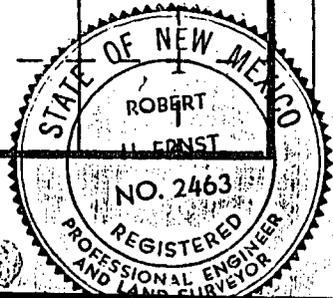
*Harold C. Nichols*  
 Name Harold C. Nichols  
 Position Senior Production Clerk  
 Company Tenneco Oil Company  
 Date May 9, 1966



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.

4 April 1966  
 Date Surveyed  
*Robert H. Ernst*  
 Registered Professional Engineer  
 and/or Land Surveyor  
**Robert H. Ernst**  
**N. Mex. PE & LS 2463**  
 Certificate No. \_\_\_\_\_

ERNST ENGINEERING CO.  
DURANGO, COLORADO



**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.

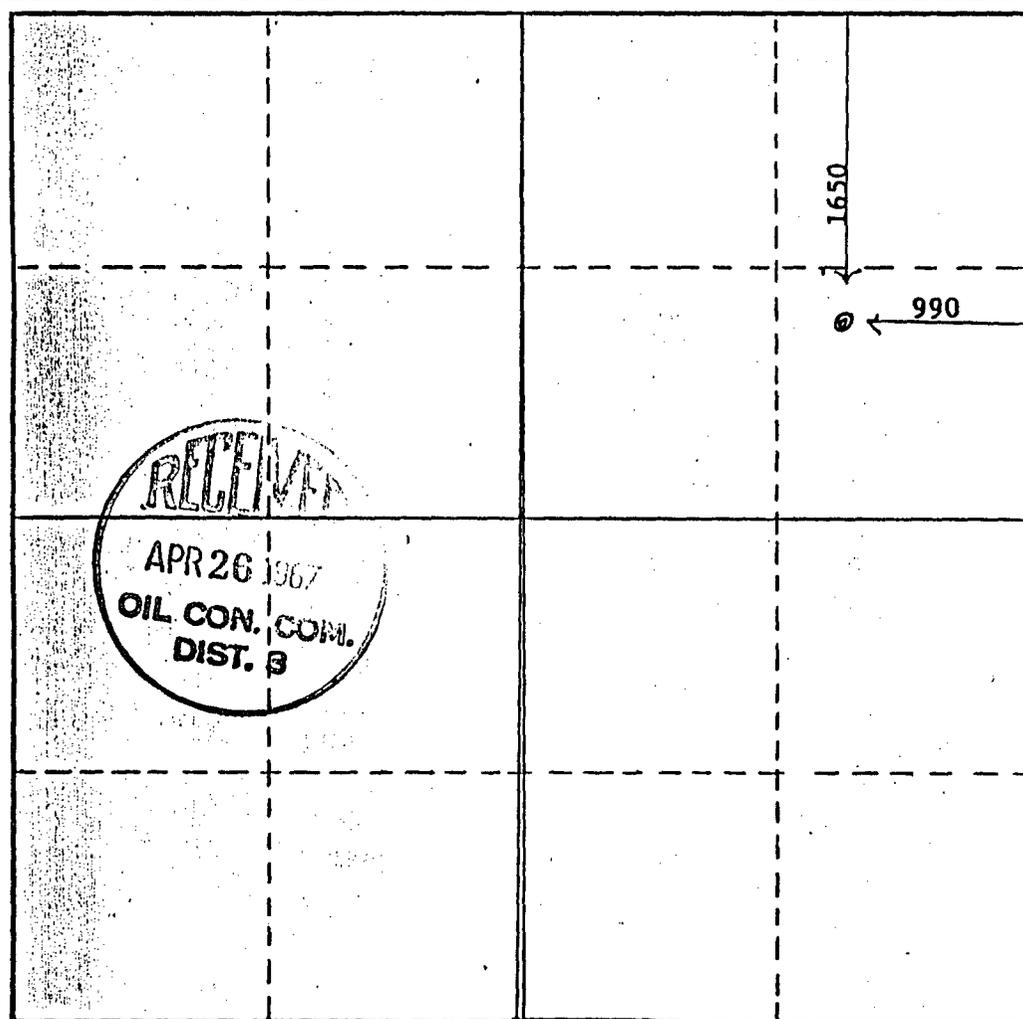
Operator <b>Tenneco Oil Company</b>			Lease <b>Jicarilla "B"</b>		Well No. <b>4</b>
Unit Letter <b>H</b>	Section <b>21</b>	Township <b>26N</b>	Range <b>5W</b>	County <b>Rio Arriba</b>	
Actual Footage Location of Well: <b>1650</b> feet from the <b>North</b> line and <b>990</b> feet from the <b>East</b> line					
Ground Level Elev: <b>6555 UnGr.</b>	Producing Formation <b>Tapacito Gallup</b>		Pool <b>Gallup</b>	Dedicated Acreage <b>E/2</b> <b>320</b> 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, 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.

*G. A. Ford*  
Name **G. A. Ford**

Position **Senior Production Clerk**

Company **Tenneco Oil Company**

Date **April 25, 1967**

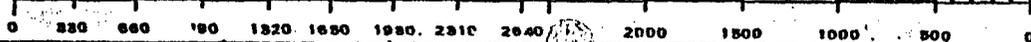
Date \_\_\_\_\_

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 \_\_\_\_\_

Registered Professional Engineer and/or Land Surveyor \_\_\_\_\_

Certificate No. \_\_\_\_\_



LIST OF ADDRESSES FOR OFFSET OPERATORS  
Jicarilla "B" Well #4

*1* Marathon Oil Co.  
P.O. Box 552  
Midland, TX 79702