STATE OF NEW MEXICO
ENERGY, MINERALS and NATURAL RESOURCES DIVISION
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

Date: 9/21/95

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Proposed MC_____ Proposed DHC X
Proposed NSL_____ Proposed SWD_____
Proposed WFX_____ Proposed PMX_____
Proposed NSP_____ Proposed DD_____

Gentlemen:

I have examined the application received on 9/7/95

for the Amoco Jicarilla B #2E
OPERATOR LEASE & WELL NO.

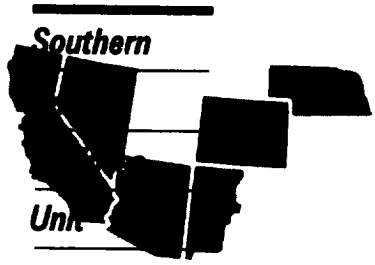
J-16-26N-5W and my recommendations are as follows:
UL-S-T-R

Approve

The pressures are calculated in error.

Yours truly,

D. J.




August 31, 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-C**
**Downhole Commingling**
**Jicarilla "B" #2E Well**
**1640' FSL & 1520' FEL, Unit J Section 16-T26N-R5W**
**Basin Dakota and Otero Chacra Pools**
**Rio Arriba County, New Mexico**

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Basin Dakota and Otero Chacra Pools in the Jicarilla "B" #2E Well referenced above. The Jicarilla "B" #2E well was originally a dual completion in the Dakota and Chacra formations. The two zones are expected to produce at a total commingled rate of about 165 MCFD with 6 BOPD. The ownership (WI, RI,ORI) 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.

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 55% from the Dakota formation and 45% from the Chacra formation. The Chacra has not historically produced liquids in this well. Based on that fact, we propose to allocate 100% of the liquid production to the Dakota 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. Amoco is the operator in all offsetting spacing units on this lease so no notification to offset owners is necessary. This spacing unit is on a federal lease and a copy of the application will be sent to the BLM as required.

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

Robert Kent
Bureau of Land Management
435 Montano NE
Albuquerque, NM 87107

**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 Number: | 2E |
| Well Location: | 1640' FSL & 1520' FEL<br>Unit J Section 16-T26N-R5W<br>Rio Arriba County, New Mexico |
| Pools Commingled: | Otero Chacra<br>Basin Dakota |

(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 Dakota produced an average stabilized rate of 18 MCFD and 1.9 BCPD. The Chacra zone produced at an average rate of about 67 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.

| | |
|---|---|
| Otero Chacra Completion: | Historical production curve attached. |
| Basin Dakota Completion: | Historical production curve attached. |

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

Bottomhole pressures were estimated from OCD Packer Leakage Tests. Shut-in bottomhole pressure in the Chacra formation is calculated to be 1127 PSIG while estimated bottomhole pressure in the Mesaverde formation is 1755 PSIG. Therefore these pressures meet the pressure differential rule under article 303-C (b)(vi). See attached calculation and packer leakage test results.

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

The fluids in the Dakota have no abnormal components that would prohibit commingling, or promote the creation of emulsions or scale when commingled with the Chacra formation.

(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:

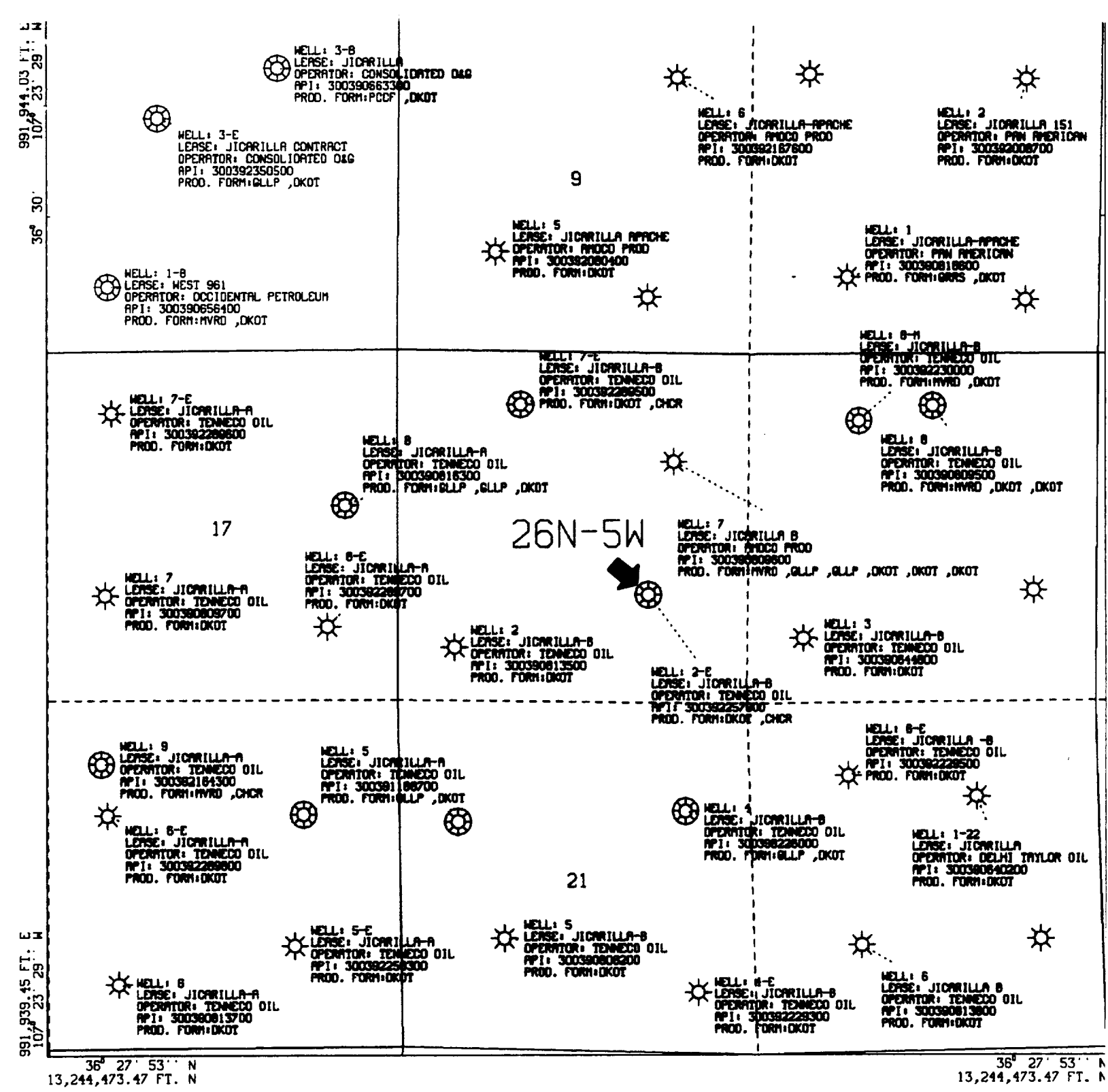
The BTU content of the produced streams are very similar and as such, we would expect the commingled production to have the same value as the sum of the individual streams.

(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:

Based on historical production we recommend that the allocation for gas production be 55% from the Dakota formation and 45% from the Chacra formation. The Chacra has not historically produced liquids in this well. Based on that fact, we propose to allocate 100% of the liquid production to the Dakota 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.






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

# AMOCO PRODUCTION COMPANY
## PLAT MAP
Jicarilla /B/ #2E Sec. 16-T26N-R05W
Rio Arriba New Mexico

SCALE 1 IN. = 2,000 FT. JUL 14, 1995

# WELL LOCATION AND ACREAGE DEDICATION PLAT

Effective 1-1-65

All distances must be from the outer boundaries of the Section

| Operator | Lease | Well No. |
|---|---|---|
| Tenneco Oil Company | Jicarilla "B" | 2E |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| J | 16 | 26N | 5W | Rio Arriba |

Actual Footage Location of Well:
1640 feet from the South line and 1520 feet from the East line

| Ground Level Elev. | Producing Formation | Pool | Dedicated Acreage: |
|---|---|---|---|
| 6609 | Dakota/Chacra | Basin Dakota | 320 Acres |

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

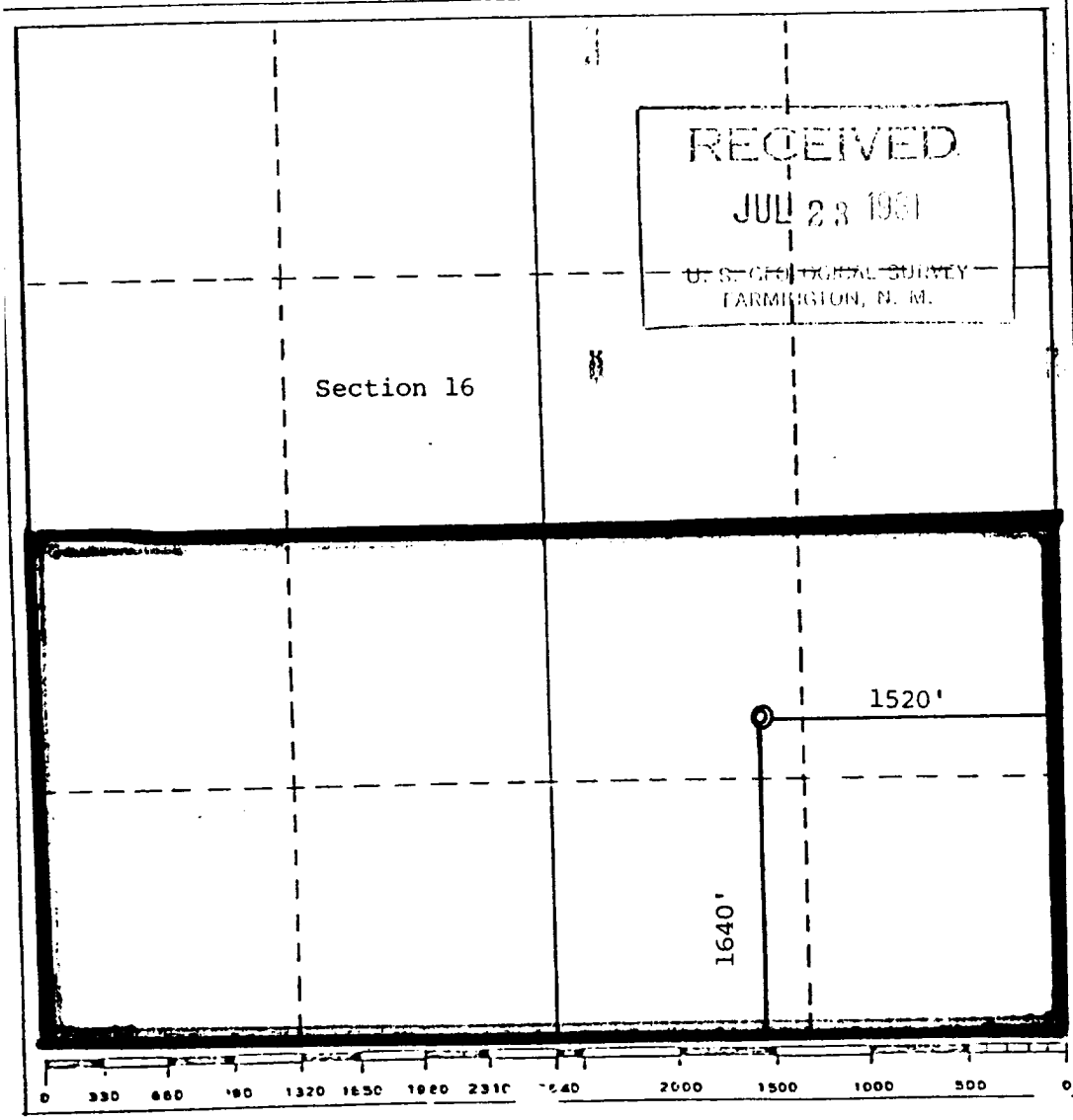
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.*

David Lane

Name: David Lane

Position: Production Analyst

Company: Tenneco Oil Company

Date: July 17, 1981

*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.

ADMN 022560

LIST OF ADDRESSES FOR OFFSET OPERATORS
Jicarilla "B" Well #2E

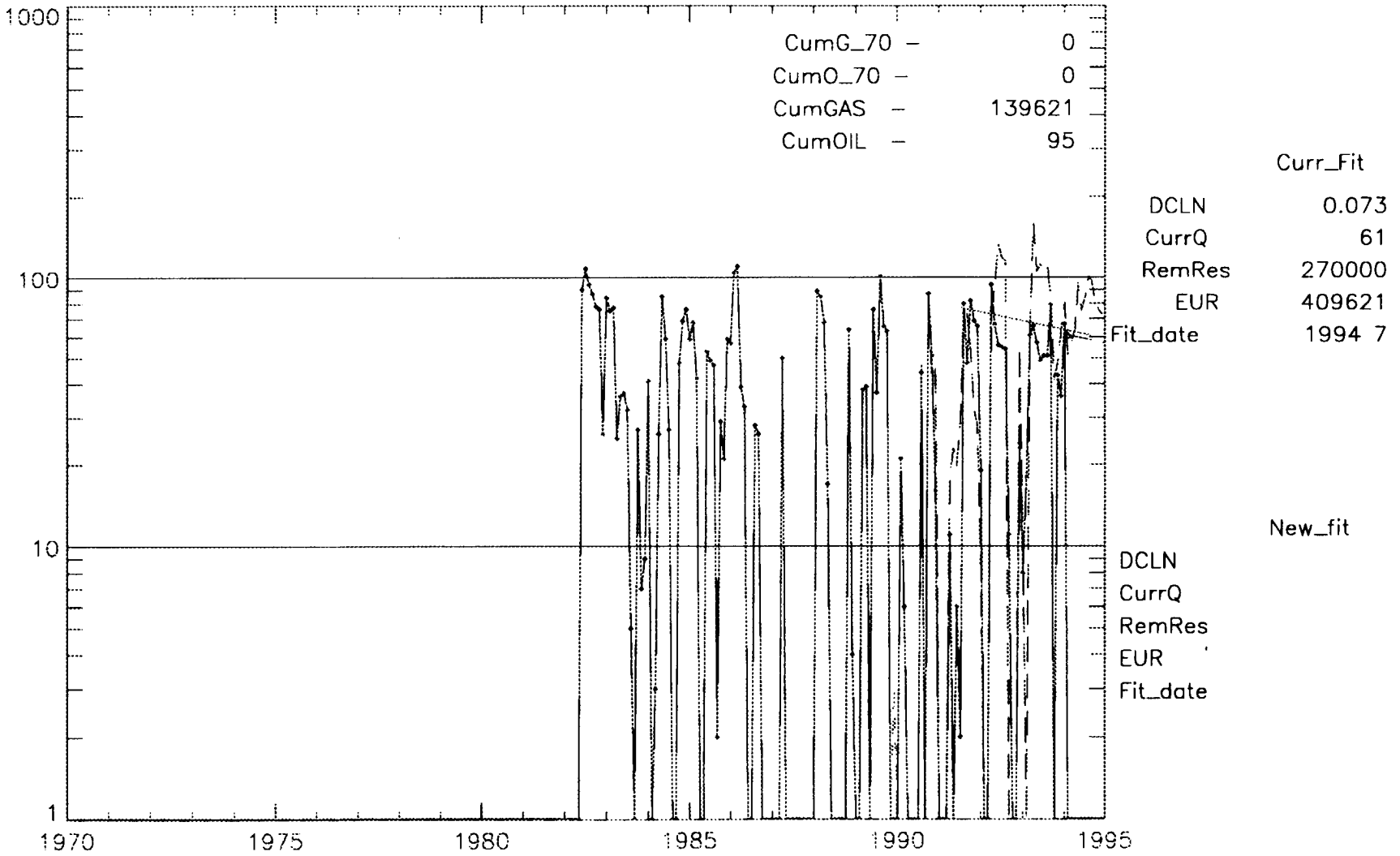
**Note: Amoco Production Company is the only offset operator in either formation.**

Engr: zhab0b

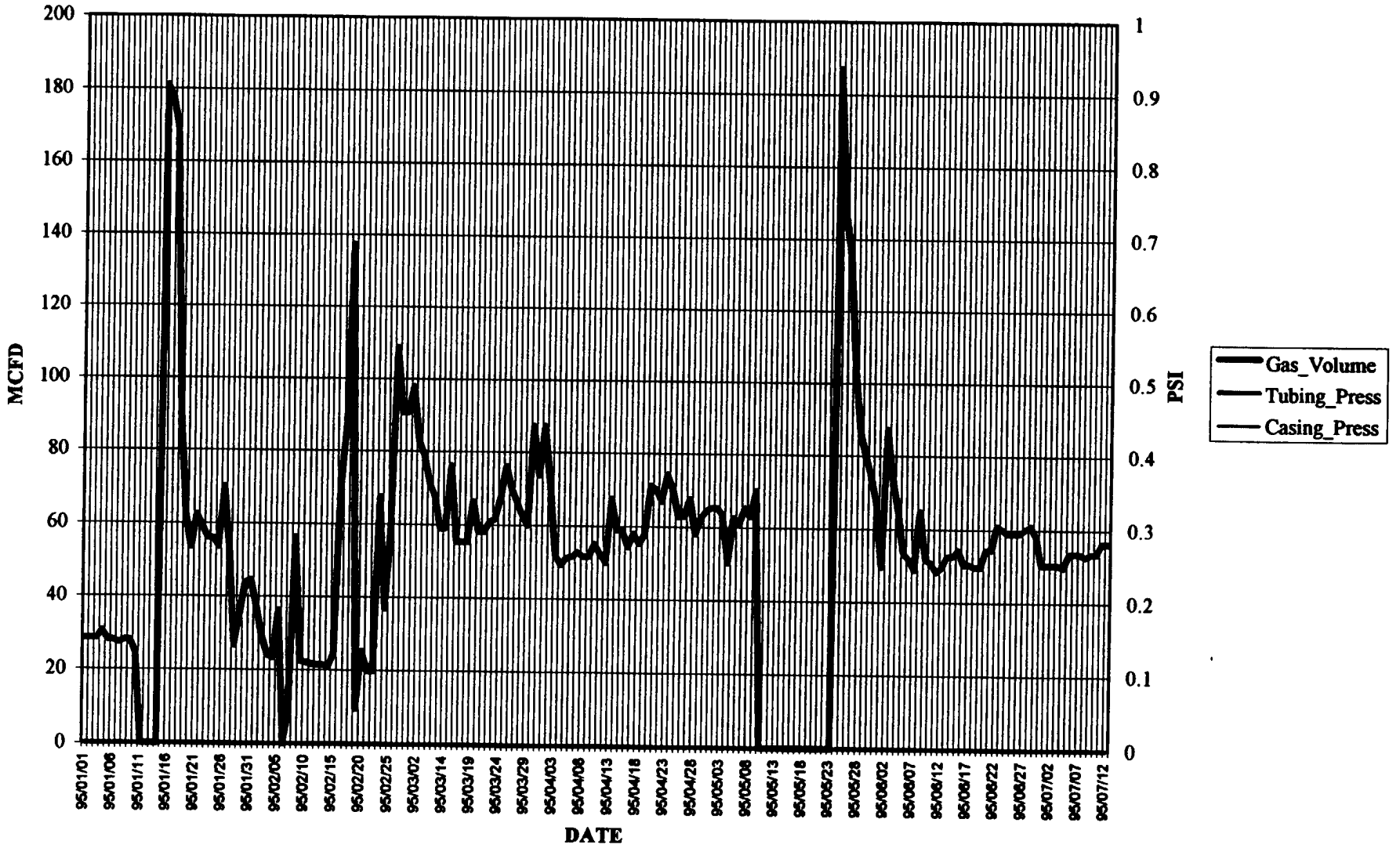
JICARILLA B 2E

Operator– AMOCO PRODUCTION CO

300392257900CK J162605–002ECK APC_WI – 0.25000000



## Well: JICARILLA B 002E-CH (97836002)

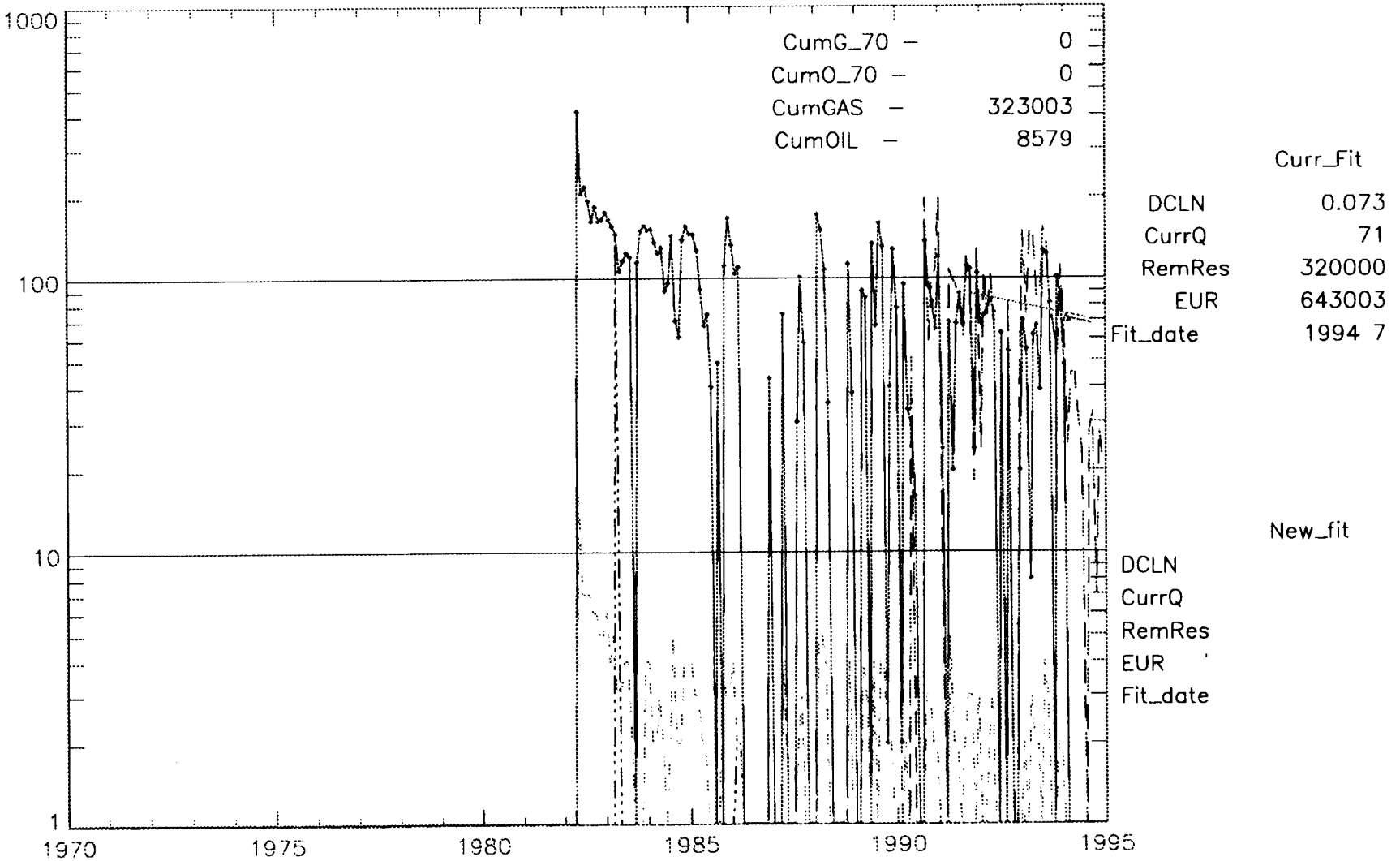


Engr: zhab0b

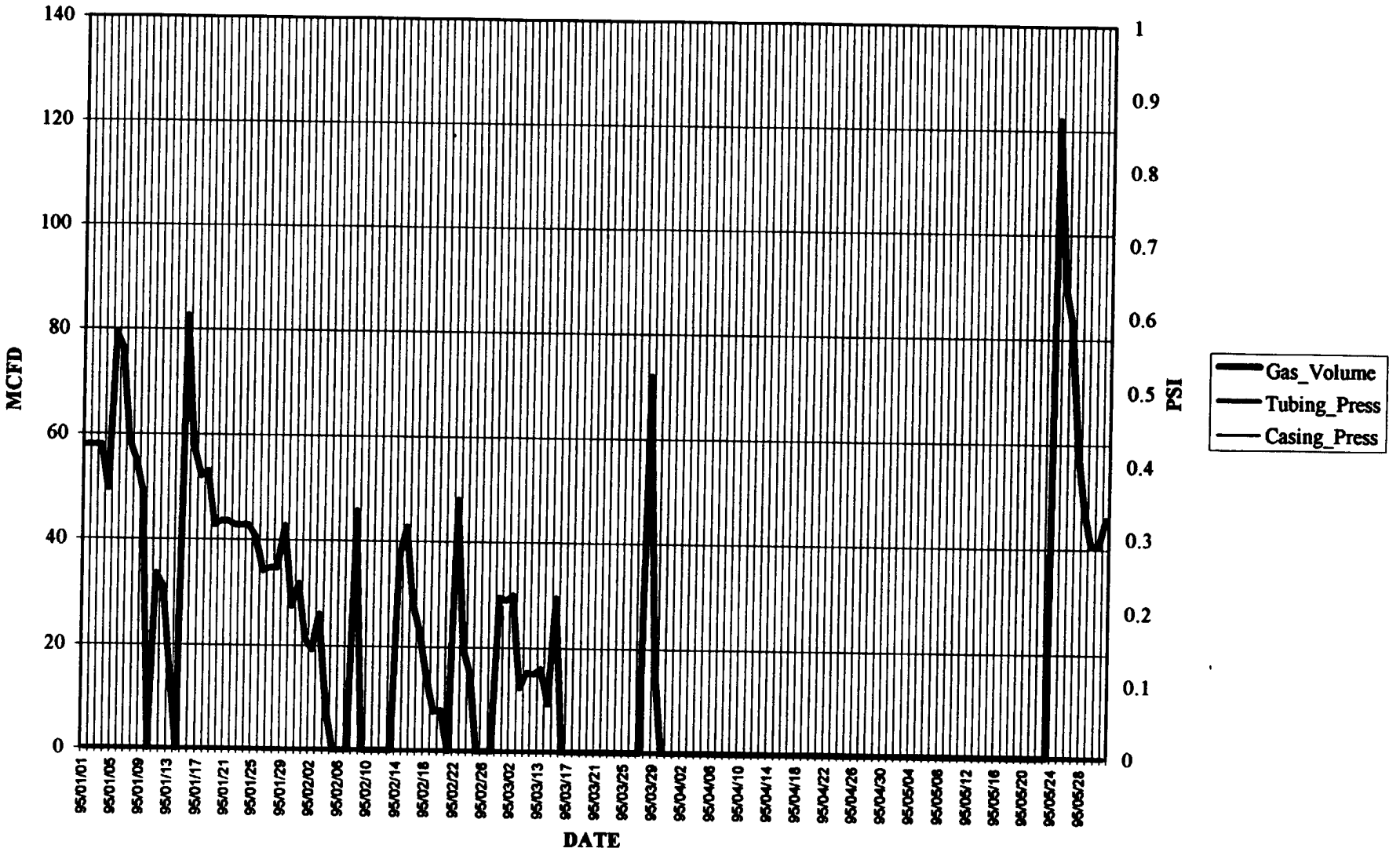
JICARILLA B 2E

Operator- AMOCO PRODUCTION CO

300392257900DK J162605-002EDK APC_WI - 0.25000000



**Well: JICARILLA B 002E-DK (97836001)**



***ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION***
JICARILLA B# 2E

CK Perforations at 4044-4126' midperf at 4085'
DK Perforations at7326-7542' midperf at 7434'

11/88 shut in pressures --- CK = 800 PSIG
DK = 1160 PSIG

GRADIENT = 0.08 PSI/FT

CK BHP =800 PSIG + 4085' X 0.08 PSIG
= 1127 PSIG

DK BHP = 1160 PSIG + 7434' X 0.08 PSIG
=1755 PSIG

1127 PSIG / 1755 = 64% WHICH MEETS THE >50% RULE

STATE OF NEW MEXICO
ENERGY and MINERALS DEPARTMENT

This form is not to be used for reporting packer leakage tests in Southeast New Mexico

# OIL CONSERVATION DIVISION



## NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator TENNECO OIL CO. Lease JICARILLA B Well No. 2E

Location of Well: Unit J Sec. 16 Twp. 26N Rge. 5W County RIO ARRIBA

| | NAME OF RESERVOIR OR POOL | TYPE OF PROD. (Oil or Gas) | METHOD OF PROD. (Flow or Art. Lift) | PROD. MEDIUM (Tbg. or Csg.) |
|---|---|---|---|---|
| Upper Completion | OTERO ~~UNDESIGNATED~~ CHACRA | GAS | FLOW | TUBING |
| Lower Completion | BASIN DAKOTA | GAS | FLOW | TUBING |

### PRE-FLOW SHUT-IN PRESSURE DATA

| | Hour, date shut-in | Length of time shut-in | SI press. psig | Stabilized? (Yes or No) |
|---|---|---|---|---|
| Upper Completion | 2:30 pm 11-07-88 | 72 hours | 800 | yes |
| Lower Completion | 2:30 pm 11-07-88 | 72 hours | 1160 | yes |

### FLOW TEST NO. 1

Commenced at (hour, date)* 10:00 am 11-10-88 Zone producing (Upper or Lower): lower

| TIME (hour, date) | LAPSED TIME SINCE* | PRESSURE Upper Completion | PRESSURE Lower Completion | PROD. ZONE TEMP. | REMARKS |
|---|---|---|---|---|---|
| 12:00 noon 11-11-88 | 26 hours | 800 | 455 | | |
| 10:30 am 11-12-88 | 48½ hours | 800 | 370 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**Production rate during test**

Oil: _____ BOPD based on _____ Bbls. in _____ Hours. _____ Grav. _____ GOR _____

Gas: 476 MCFPD; Tested thru (Orifice or Meter): meter

### MID-TEST SHUT-IN PRESSURE DATA

| | Hour, date shut-in | Length of time shut-in | SI press. psig | Stabilized? (Yes or No) |
|---|---|---|---|---|
| Upper Completion | | | | |
| Lower Completion | | | | |

(Continue on reverse side)

ADMN 022088

## FLOW TEST NO. 2

Commenced at (hour, date)** | Zone producing (Upper or Lower)

| TIME (hour, date) | LAPSED TIME SINCE ** | PRESSURE | | PROD. ZONE TEMP. | REMARKS |
|---|---|---|---|---|---|
| | | Upper Completion | Lower Completion | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Production rate during test

Oil: _____ BOPD based on _____ Bbls. in _____ Hours. _____ Grav. _____ GOR _____

Gas: _____ MCFPD: Tested thru (Orifice or Meter): _____

Remarks: _____

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

Approved _____ 19____
New Mexico Oil Conservation Division

By _____

Title DEPUTY OIL & GAS INSPECTOR, DIST. #3

Operator TENNECO OIL CO.

By DEBBIE WRIGHT Debbie Wright

Title AGENT

Date 11-18-88

### NORTHWEST NEW MEXICO PACKER LEAKAGE TEST INSTRUCTIONS

1. A packer leakage test shall be commenced on each multiply completed well within seven days after actual completion of the well, and annually thereafter as prescribed by the order authorizing the multiple completion. Such tests shall also be commenced on all multiple completions within seven days following recompletion and/or chemical or fracture treatment, and whenever remedial work has been done on a well during which the packer or the tubing have been disturbed. Tests shall also be taken at any time that communication is suspected or when requested by the Division.

2. At least 72 hours prior to the commencement of any packer leakage test, the operator shall notify the Division in writing of the exact time the test is to be commenced. Offset operators shall also be so notified.

3. The packer leakage test shall commence when both zones of the dual completion are shut-in for pressure stabilization. Both zones shall remain shut-in until the well-head pressure in each has stabilized, provided however, that they need not remain shut-in more than seven days.

4. For Flow Test No. 1, one zone of the dual completion shall be produced at the normal rate of production while the other zone remains shut-in. Such test shall be continued for seven days in the case of a gas well and for 24 hours in the case of an oil well. Note: if, on an initial packer leakage test, a gas well is being flowed to the atmosphere due to the lack of a pipeline connection the flow period shall be three hours.

5. Following completion of Flow Test No. 1, the well shall again be shut-in, in accordance with Paragraph 3 above.

6. Flow Test No. 2 shall be conducted even though no leak was indicated during Flow Test No. 1. Procedure for Flow Test No. 2 is to be the same as for Flow Test No. 1 except that the previously produced zone shall remain shut-in while the zone which was previously shut-in is produced.

7. Pressures for gas-zone tests must be measured on each zone with a deadweight pressure gauge at time intervals as follows: 3 hours tests: immediately prior to the beginning of each flow-period, at fifteen-minute intervals during the first hour thereof, and at hourly intervals thereafter, including one pressure measurement immediately prior to the conclusion of each flow period. 7-day tests: immediately prior to the beginning of each flow period, at least one time during each flow period (at approximately the midway point) and immediately prior to the conclusion of each flow period. Other pressures may be taken as desired, or may be requested on wells which have previously shown questionable test data.

24-hour oil zone tests: all pressures, throughout the entire test, shall be continuously measured and recorded with recording pressure gauges the accuracy of which must be checked at least twice, once at the beginning and once at the end of each test, with a deadweight pressure gauge. If a well is a gas-oil or an oil-gas dual completion, the recording gauge shall be required on the oil zone only, with deadweight pressures as required above being taken on the gas zone.

8. The results of the above-described tests shall be filed in triplicate within 15 days after completion of the test. Tests shall be filed with the Aztec District Office of the New Mexico Oil Conservation Division on Northwest New Mexico Packer Leakage Test Form Revised 10-01-78 with all deadweight pressures indicated thereon as well as the flowing temperatures (gas zones only) and gravity and GOR (oil zones only).

ADMN 022089