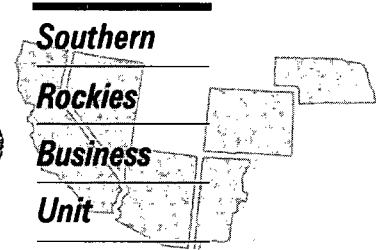




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SEP 5 1995

OIL CONSERVATION DIV.  
SANTA FE



August 30, 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 "A" #1E Well**  
**1720' FNL & 1850' FWL, Unit F Section 18-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 "A" #1E Well referenced above. The Jicarilla "A" #1E well was originally a dual completion in the Dakota and Chacra formations. This well has a marginal Chacra 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 Chacra formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 237 MCFD with 5 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. 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 87% from the Dakota formation and 13% 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. 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 "A"  
Well Number: 1E  
Well Location: 1720' FNL & 1850' FWL  
Unit F Section 18-T26N-R5W  
Rio Arriba County, New Mexico

Pools Commingled: Otero Chacra  
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 145 MCFD and 1.7 BCPD. The Chacra zone produced at an average rate of about 0 MCFD and 0 BCPD but has recently come back on at 30 MCFD.

- (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 820 PSIG while estimated bottomhole pressure in the Dakota

formation is 1458 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 87% from the Dakota formation and 13% 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.

991,998.40 FT. E  
107° 25' 38" W

12

7

8

+



WELL: 248-E  
LEASE: BRECH-C  
OPERATOR: CAULKINS  
API: 300392232600  
PROD. FORM:DKOT ,CHCR



WELL: 1-E  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300392258000  
PROD. FORM:DKOT ,CHCR

26N-6W

RIO ARRIBA 26N-5W

17



WELL: 9  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300392164300  
PROD. FORM:MYRD ,CHCR



WELL: 1-E  
LEASE: SANCHEZ  
OPERATOR: CAULKINS  
API: 300392260400  
PROD. FORM:DKOT ,CHCR

24

19

20

991,993.88 FT. E  
107° 25' 38" W

36° 27' 54" N  
13,244,568.11 FT. N

36° 27' 54" N  
13,244,568.11 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.

POLYCONIC CENTRAL MERIDIAN - 107° 24' 0" W LON  
SPHEROID - 6

AMOCO PRODUCTION COMPANY  
PLAT MAP

Jicarilla /A/ #1E Sec. 18-T26N-R05W  
Rio Arriba New Mexico FM: CHCR

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

991,998.40 FT. E  
107° 25' 38" W

36° 30'

WELL: 144E  
LEASE: BREECH-C  
OPERATOR: CAULKINS OIL  
API: 300392438600  
PROD. FORM:TOCT ,DKOT

WELL: D-144  
LEASE: BREECH-C  
OPERATOR: CAULKINS  
API: 300390815600  
PROD. FORM:TOCT ,DKOT

WELL: 2-7  
LEASE: JICARILLA-W  
OPERATOR: NORTHWEST PROD  
API: 300398225500  
PROD. FORM:GRRS ,DKOT

WELL: 3-B  
LEASE: JICARILLA  
OPERATOR: CONSOLIDATED O&G  
API: 300390863300  
PROD. FORM:PCCF ,DKOT

WELL: 689  
LEASE: BREECH-C  
OPERATOR: CAULKINS OIL  
API: 300390815100  
PROD. FORM:TOCT ,MVRD ,MVRD ,DKOT ,DKOT

WELL: 689-M  
LEASE: BREECH-C  
OPERATOR: CAULKINS  
API: 300392266900  
PROD. FORM:MVRD ,MVRD ,DKOT ,DKOT

WELL: 3-E  
LEASE: JICARILLA CONTRACT  
OPERATOR: CONSOLIDATED O&G  
API: 300392350500  
PROD. FORM:GLLP ,DKOT

WELL: 1-8  
LEASE: WEST 961  
OPERATOR: OCCIDENTAL PETROLEUM  
API: 300390656400  
PROD. FORM:MVRD ,DKOT

WELL: 1  
LEASE: JICARILLA 152W  
OPERATOR: NORTHWEST PROD  
API: 300390656200  
PROD. FORM:PCCF ,MVRD ,DKOT

WELL: 248-E  
LEASE: BREECH-C  
OPERATOR: CAULKINS  
API: 300392232600  
PROD. FORM:DKOT ,CHCR

WELL: 248-M  
LEASE: BREECH-C  
OPERATOR: CAULKINS  
API: 300390652900  
PROD. FORM:TOCT ,DKOT ,DKOT

WELL: 2  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300390613600  
PROD. FORM:GLLP ,DKOT

WELL: 7-E  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300392289600  
PROD. FORM:DKOT

26N-6W

RIO ARRIBA 26N-5W

17

WELL: D-389  
LEASE: BREECH-C  
OPERATOR: CAULKINS  
API: 300390647700  
PROD. FORM:DKOT

WELL: 389-E  
LEASE: BREECH-C  
OPERATOR: CAULKINS  
API: 300392294100  
PROD. FORM:MVRD ,DKOT

WELL: 2  
LEASE: JICARILLA  
OPERATOR: DELHI TAYLOR OIL  
API: 300390648100  
PROD. FORM:PNLK ,DKOT

WELL: 7  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300390809700  
PROD. FORM:DKOT

WELL: 1  
LEASE: SANCHEZ  
OPERATOR: CAULKINS OIL  
API: 300390643400  
PROD. FORM:PCCF ,PCCF ,DKOT

WELL: 8-E  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300392289700  
PROD. FORM:DKOT

WELL: 1  
LEASE: REAMES-A  
OPERATOR: TENNECO OIL  
API: 300390808100  
PROD. FORM:DKOT

WELL: 4-E  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300392229200  
PROD. FORM:DKOT

WELL: 3  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300390642300  
PROD. FORM:GLLP ,DKOT

WELL: 1-E  
LEASE: SANCHEZ  
OPERATOR: CAULKINS  
API: 300392260400  
PROD. FORM:DKOT ,CHCR

WELL: 1-E  
LEASE: REAMES-A  
OPERATOR: TENNECO OIL  
API: 300392232700  
PROD. FORM:DKOT

WELL: 4  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300390806200  
PROD. FORM:DKOT

WELL: 6-E  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300392289800  
PROD. FORM:DKOT

WELL: 5  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300391188700  
PROD. FORM:GLLP ,DKOT

WELL: 3-E  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300392258200  
PROD. FORM:DKOT

WELL: 6  
LEASE: JICARILLA-A  
OPERATOR: TENNECO OIL  
API: 300390813700  
PROD. FORM:DKOT

36° 27' 54" N  
13,244,568.11 FT. N

36° 27' 54" N  
13,244,568.11 FT. N

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POLYCONIC CENTRAL MERIDIAN - 107° 24' 0" W LON  
SPHEROID - 6

# AMOCO PRODUCTION COMPANY PLAT MAP

Jicarilla /A/ #1E Sec. 18-T26N-R05W  
Rio Arriba New Mexico FM: DKOT

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

CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107  
Revised 10-1-78

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

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

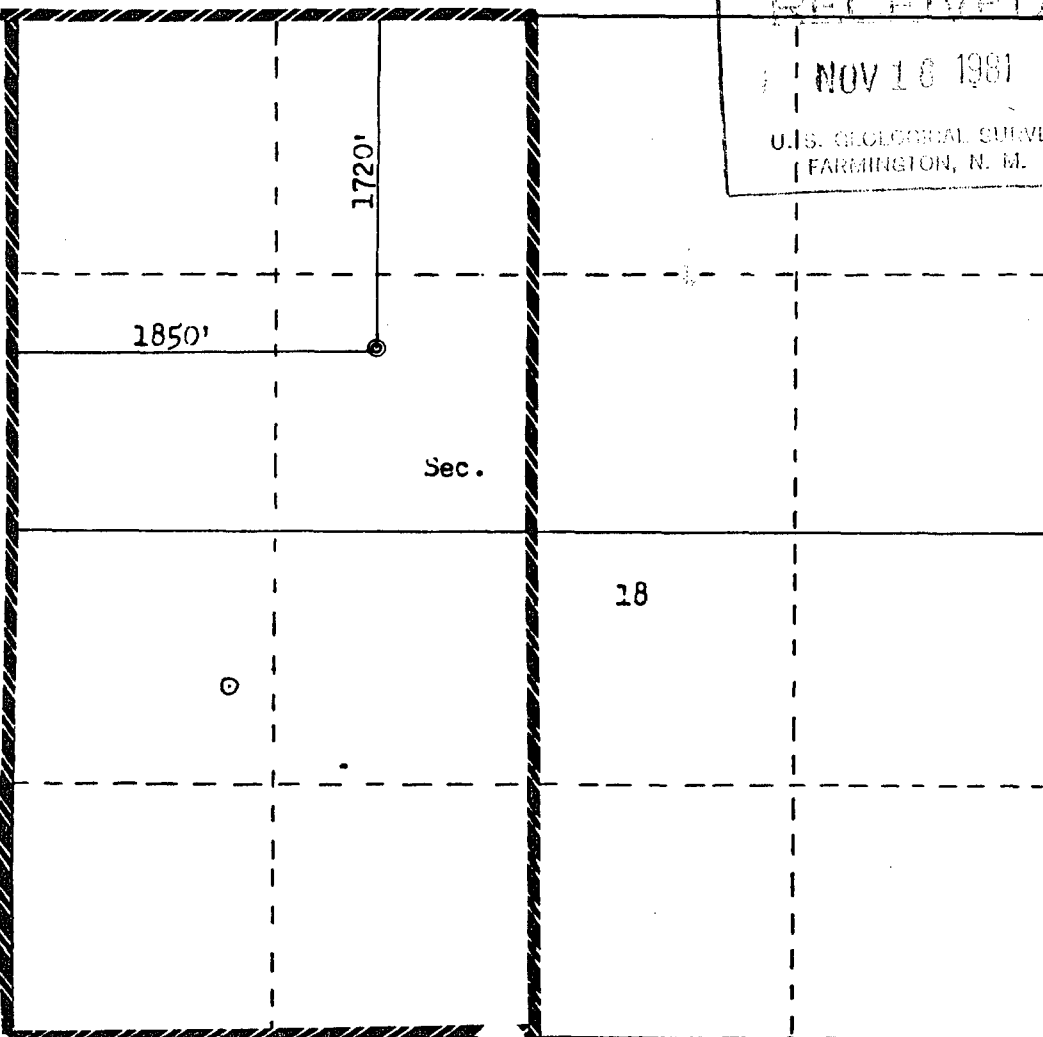
Operator <b>TENNECO OIL COMPANY</b>			Lease <b>JICARILLA "A"</b>		Well No. <b>1M</b>
Unit Letter <b>F</b>	Section <b>18</b>	Township <b>26N</b>	Range <b>5W</b>	County <b>Rio Arriba</b>	
Actual Footage Location of Well: <b>1720</b> feet from the <b>North</b> line and <b>1850</b> feet from the <b>West</b> line					
Ground Level Elev: <b>6614</b>	Producing Formation <b>Chacra</b>		Pool <b>Basin Dakota/Chacra</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.



Scale: 1"=1000'

<b>CERTIFICATION</b>	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Name	<i>Sandra F. Peron</i>
Position	Production Analyst
Company	Tenneco Oil Company
Date	11/12/81
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	April 23, 1981
Registered Professional Engineer and Land Surveyor	
<i>Fred B. Kern Jr.</i>	
Certificate No.	3950

LIST OF ADDRESSES FOR OFFSET OPERATORS  
Jicarilla "A" Well #1E

- 1 Caulkins Oil Co.  
1600 Broadway, Suite 2100  
Denver, CO 80202
- 2 Meridian Oil, Inc.  
P.O. Box 4289  
Farmington, NM 87499



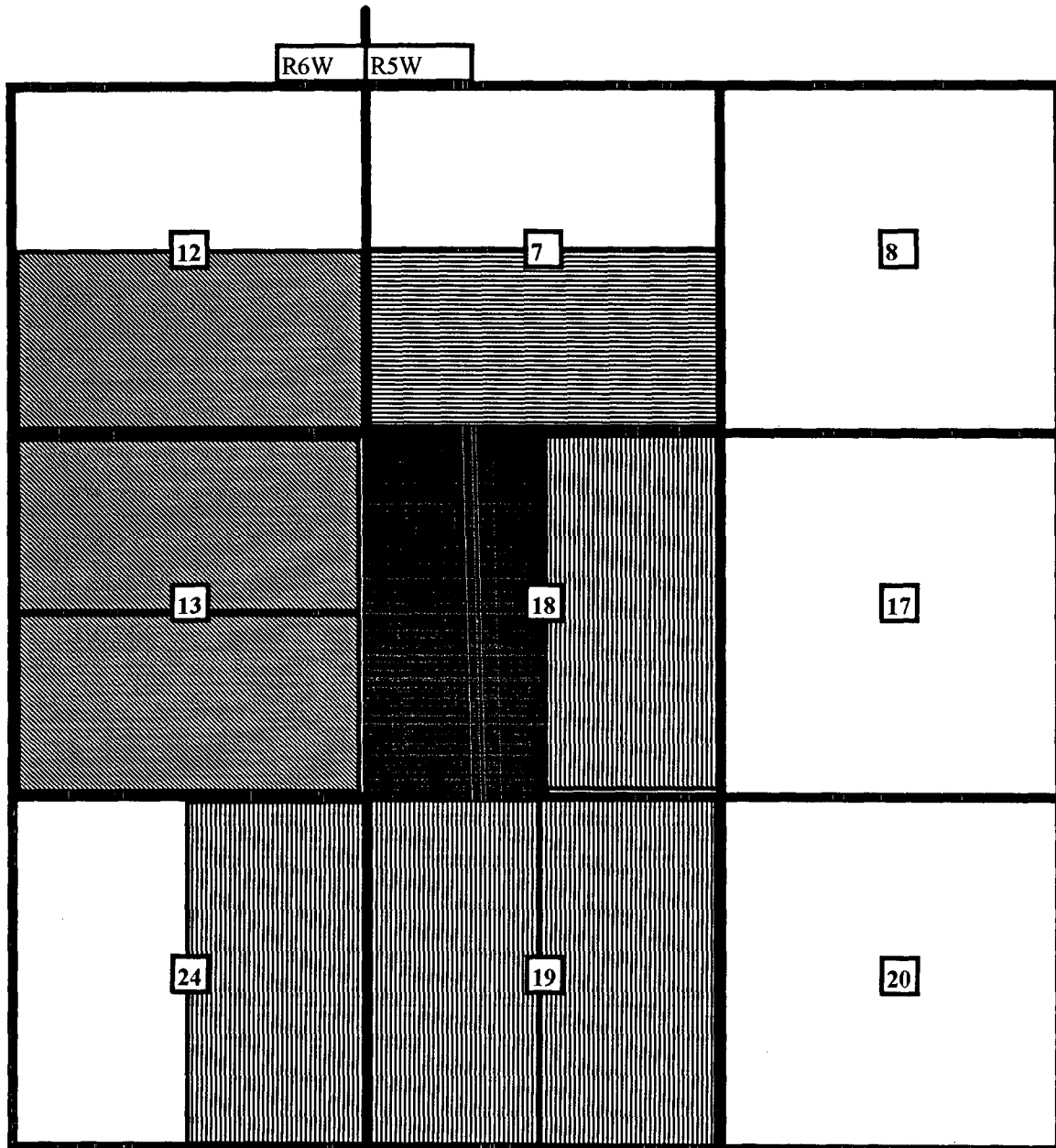
**AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT**





**JICARILLA A #1E**

**1720' FNL, 1850' FWL**

**Unit F Section 18-T26N-R5W**

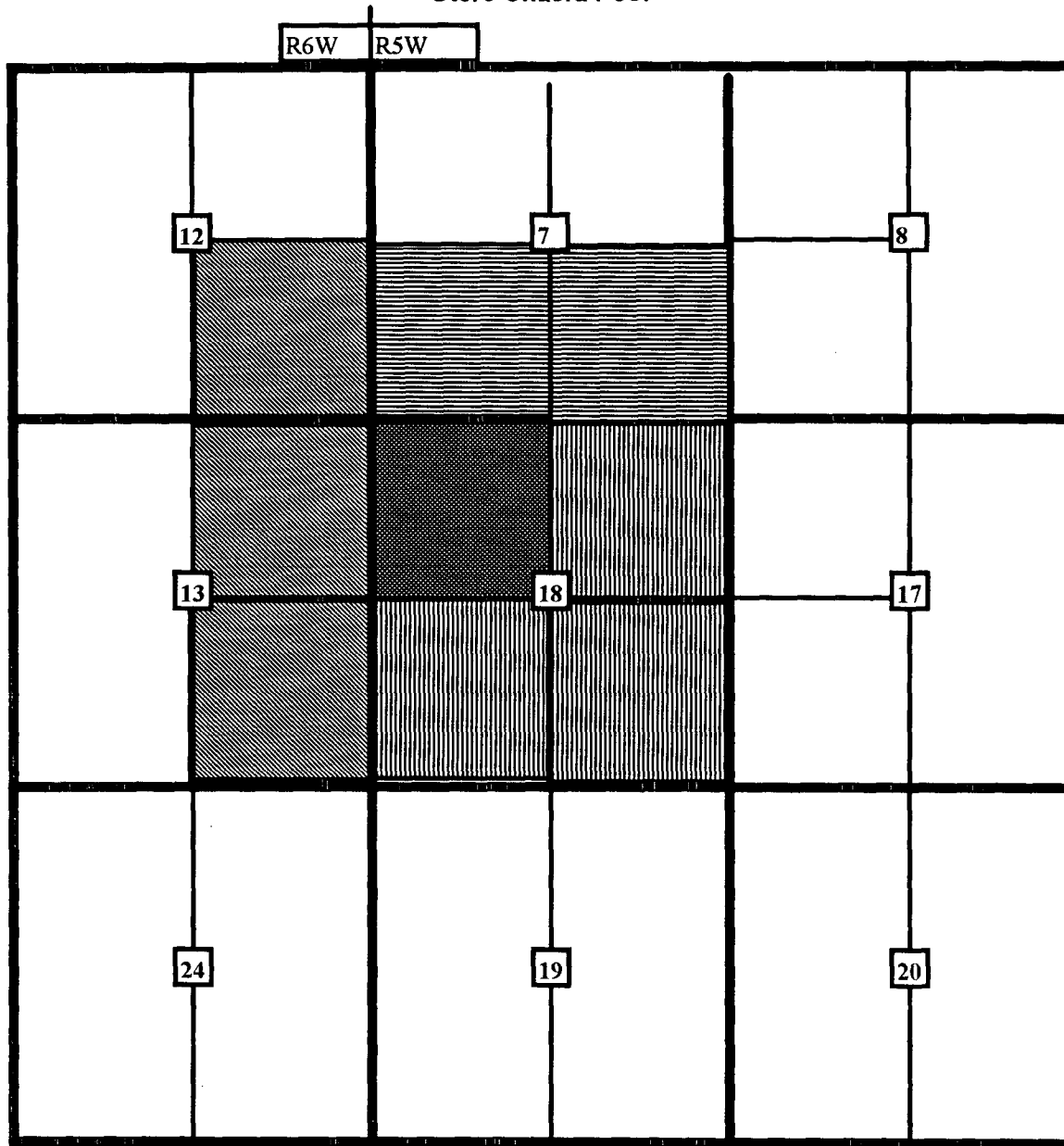
**Basin Dakota Pool**







-  **SPACING UNIT TO BE DOWNHOLE COMMINGLED**
-  **AMOCO PRODUCTION COMPANY**
-  **MERIDIAN OIL INC.**
-  **CAULKINS OIL COMPANY**

**AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT**

JICARILLA A #1E  
1720' FNL, 1850' FWL  
Unit F Section 18-T26N-R5W  
Otero Chacra Pool



-  SPACING UNIT TO BE DOWNHOLE COMMINGLED
-  AMOCO PRODUCTION COMPANY
-  MERIDIAN OIL INC.
-  CAUKINS OIL COMPANY

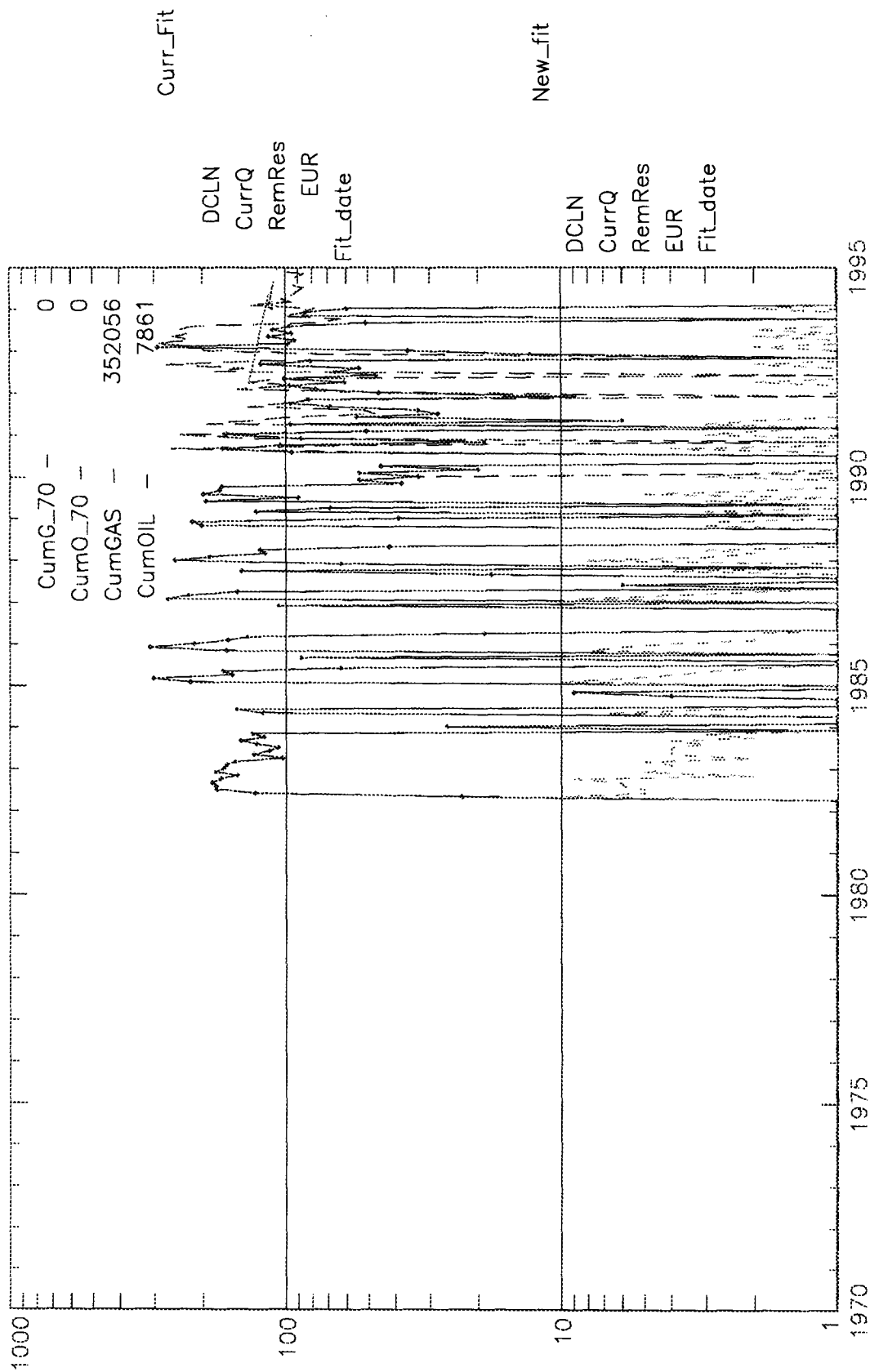
Engr: zhab0b

JICARILLA A 1E

Operator- AMOCO PRODUCTION CO

300392258000DK F182605-001EDK

APC\_WI - 0.25000000



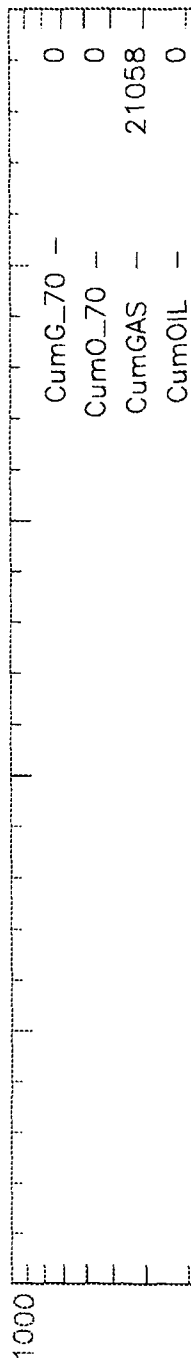
Engr: zhab0b

JICARILLA A 1E

Operator-- AMOCO PRODUCTION CO

300392258000CK F182605-001ECK

APC\_WI - 0.25000000



Curr\_Fit

DCLN  
CurrQ  
RemRes  
EUR  
Fit\_date

New\_fit

DCLN  
CurrQ  
RemRes  
EUR  
Fit\_date

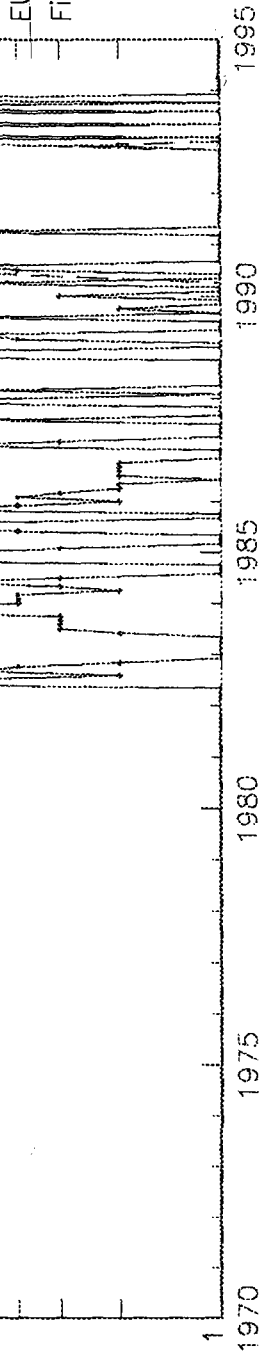
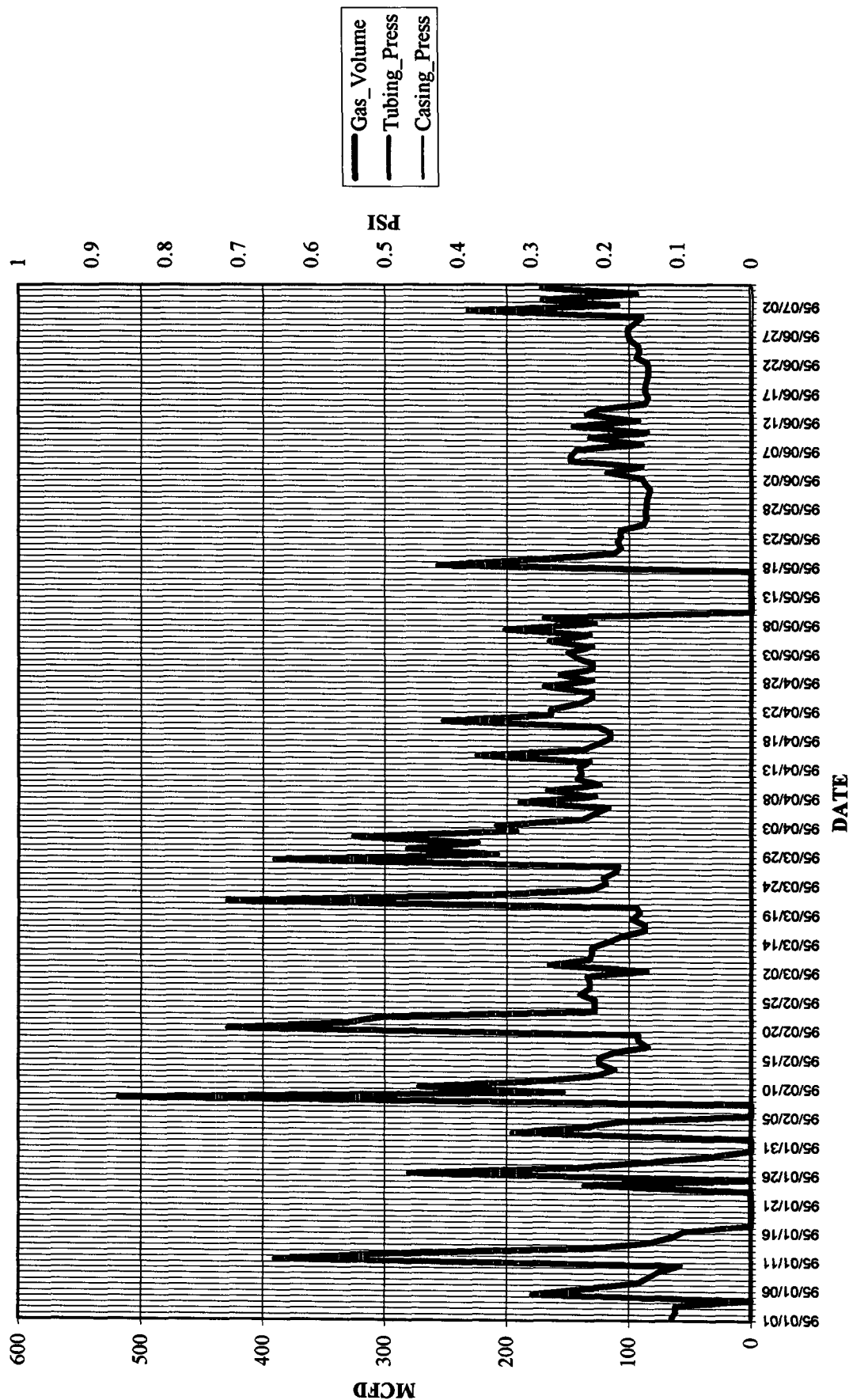


Chart1

Well: JICARILLA A 001E-DK (97836101)



***ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION***  
**JICARILLA A # 1E**

CK Perforations at 4024-4109' midperf at 4376'  
DK Perforations at 7338-7560' midperf at 7449'

11/80 shut in pressures --- CK = 470 PSIG  
DK = 890 PSIG

GRADIENT = 0.08 PSI/FT

CK BHP = 470 PSIG + 4376' X 0.08 PSIG  
= 820 PSIG

DK BHP = 890 PSIG + 7449' X 0.08 PSIG  
=1486 PSIG

820 PSIG / 1486 = 55%    WHICH MEETS THE >50% RULE

STATE OF NEW MEXICO  
ENERGY and MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

Page 1  
Revised 10/01/78

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

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator TENNECO OIL CO. Lease JICARILLA A Well No. 1E  
Location of Well: Unit F Sec. 18 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 (Tag. or Csg.)
Upper Completion	<u>OTERO</u> UNDESIGNATED CHACRA	GAS	FLOW	TUBING
Lower Completion	BASIN DAKOTA	GAS	FLOW	TUBING

PRE-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, date shut-in 12:00 noon 11-7-88	Length of time shut-in 72 hours	SI press. psig 470	Stabilized? (Yes or No) yes
Lower Completion	Hour, date shut-in 12:00 noon 11-7-88	Length of time shut-in 72 hours	SI press. psig 890	Stabilized? (Yes or No) no

FLOW TEST NO. 1

Commenced at (hour, date)* 1:00 pm 11-10-88				Zone producing (Upper or Lower): lower	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower Completion		
10:00 am 11-11-88	21 hours	470	310		
11:30 am 11-12-88	46½ hours	470	310		

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DIST. 3

Production rate during test

Oil: \_\_\_\_\_ BOPD based on \_\_\_\_\_ Bbls. in \_\_\_\_\_ Hours. \_\_\_\_\_ Grr. \_\_\_\_\_ GOR \_\_\_\_\_  
Gas: \_\_\_\_\_ 372 \_\_\_\_\_ MCFPD; Tested thru (Orifice or Meter): \_\_\_\_\_ meter

MID-TEST SHUT-IN PRESSURE DATA

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

ADMN 016746

(Continue on reverse side)



STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DIVISION

OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

DHC-1153

The Three  
DRUG FREE  
It's a Good Thing

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 NSL \_\_\_\_\_  
Proposed WFX \_\_\_\_\_  
Proposed NSP \_\_\_\_\_

Proposed DHC AC \_\_\_\_\_  
Proposed SWD \_\_\_\_\_  
Proposed PMX \_\_\_\_\_  
Proposed DD \_\_\_\_\_

Gentlemen:

I have examined the application received on 9/5/95  
for the Omow Jicavilla A #1E  
OPERATOR LEASE & WELL NO.

F-18-26N-5W and my recommendations are as follows:  
UL-S-T-R

Approve  
Pressures are calculated incorrectly

Yours truly,

S. J.