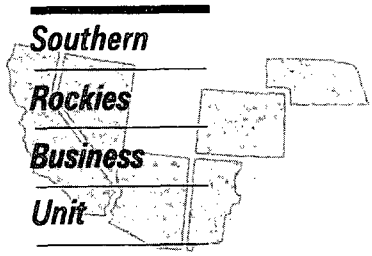
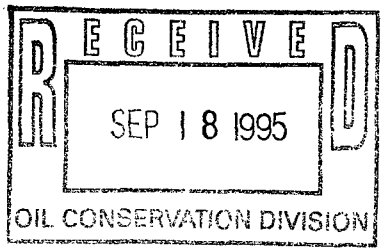
DHC 10-7-95



September 5, 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 Contract 146 13E
790' FNL & 1580' FEL, Unit B Section 9-T25N-R5W
Blanco Mesaverde and Basin Dakota Pools
Rio Arriba County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Basin Dakota Pools in the Jicarilla Contract 146 13E referenced above. The Jicarilla Contract 146 13E was originally a dual completion in the Mesaverde and Dakota formations. This well has a marginal Mesaverde 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 Mesaverde and Dakota formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 244 MCFD with 4 BCPD. 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 37% from the Mesaverde formation and 63% from the Dakota formation. The Dakota and Mesaverde formations have historically produced small amounts of liquids in this well. Based on that fact, we propose to allocate 50% of the liquid production to the Mesaverde formation and 50% 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 Contract 146
Well Number:	13E
Well Location:	790' FNL & 1580' FEL Unit B Section 9-T25N-R5W Rio Arriba County, New Mexico
Pools Commingled:	Basin Dakota Blanco Mesaverde

(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 Mesaverde produced an average stabilized rate of 60 MCFD and 0.1 BCPD. The Dakota zone produced at an average rate of about 104 MCFD and 0.2 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.

Basin Dakota Completion:	Historical production curve attached.
Blanco Mesaverde 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 Mesaverde formation is calculated to be 880 PSIG while estimated bottomhole pressure in the Dakota formation is 1193 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 Mesaverde have no abnormal components that would prohibit commingling, or promote the creation of emulsions or scale when commingled with the Dakota 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 37% from the Mesaverde formation and 63% from the Dakota formation. The Dakota and Mesaverde formations have historically produced small amounts of liquids in this well. Based on that fact, we propose to allocate 50% of the liquid production to the Mesaverde formation and 50% 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.

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-

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

Operator	Lease	Well No.
AMOCO PRODUCTION COMPANY	JICARILLA CONTRACT 146	13E

Unit Letter	Section	Township	Range	County
B	9	25N	5W	Rio Arriba

Actual Footage Location of Well:
790 feet from the North line and 1580 feet from the East line

Ground Level Elev:	Producing Formation	Pool	Dedicated Acreage:
6704	Mesaverde / Dakota	Gonzales MV / Basin Dakota	160 / 320 Acres

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

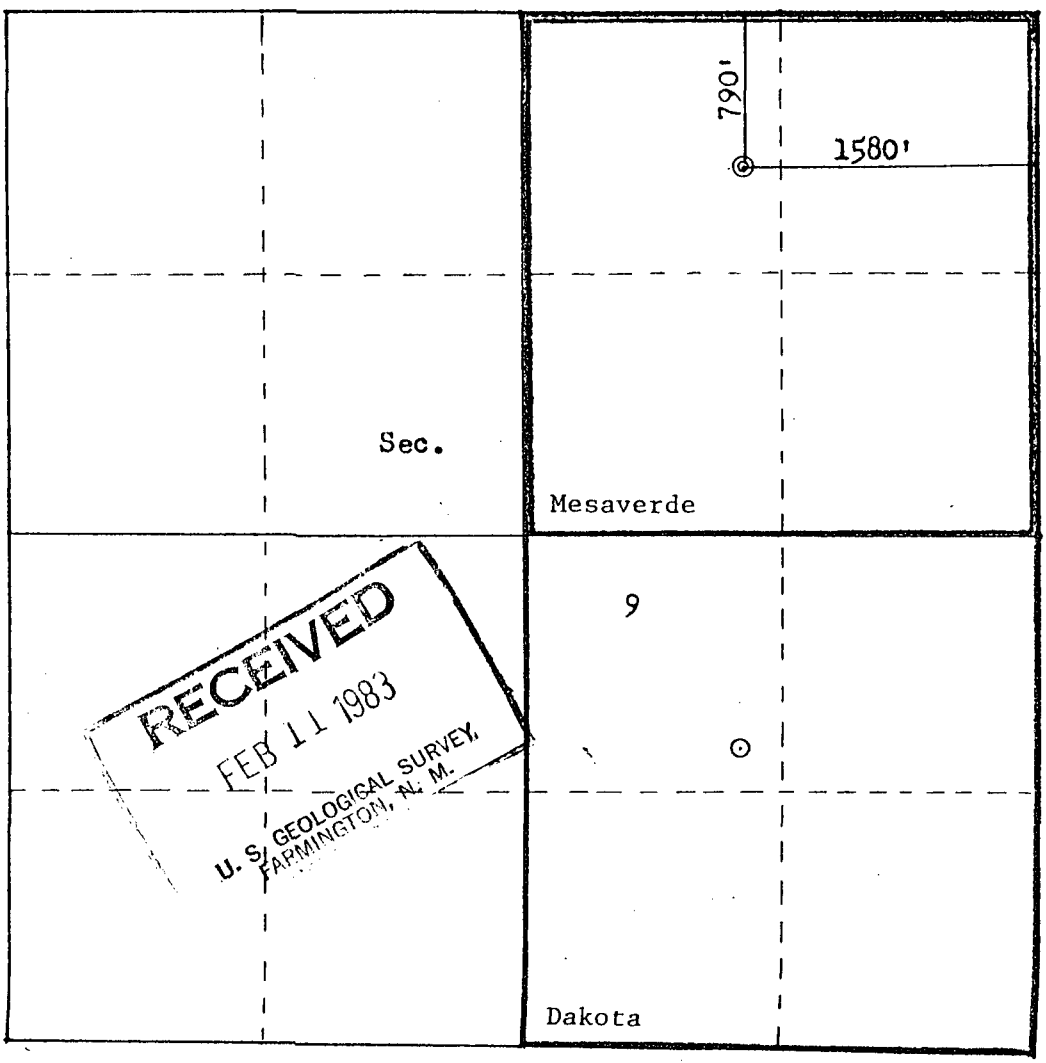
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



Scale: 1"=1000'

CERTIFICATION

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

Name: D.H. SHOEMAKER

Position: DISTRICT ENGINEER

Company: AMOCO PRODUCTION COMPANY

Date: JANUARY 17, 1983

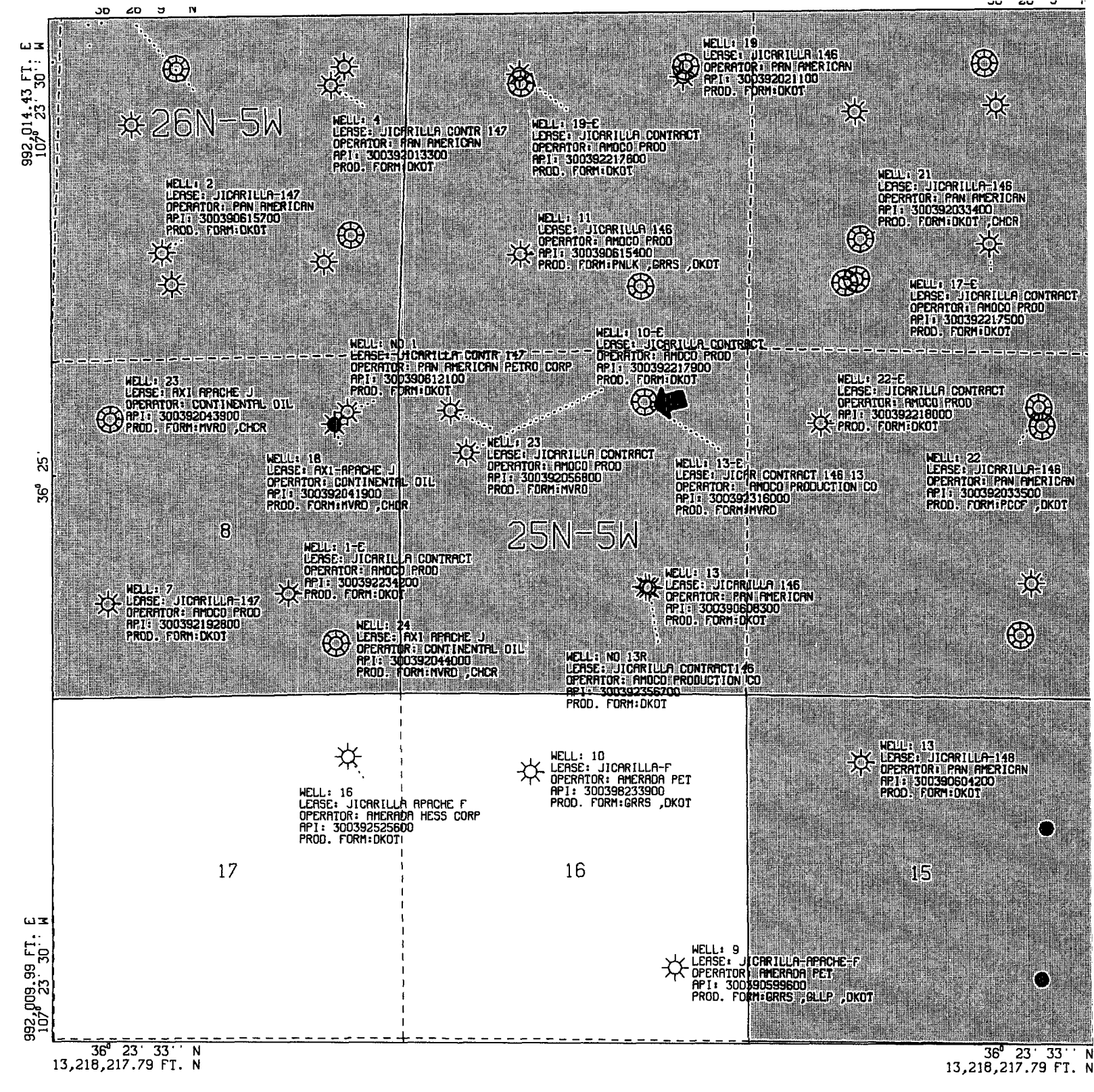
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: October 27, 1982

Registered Professional Engineer and Land Surveyor

Fred B. Kerr Jr.

Certificate No. 3950



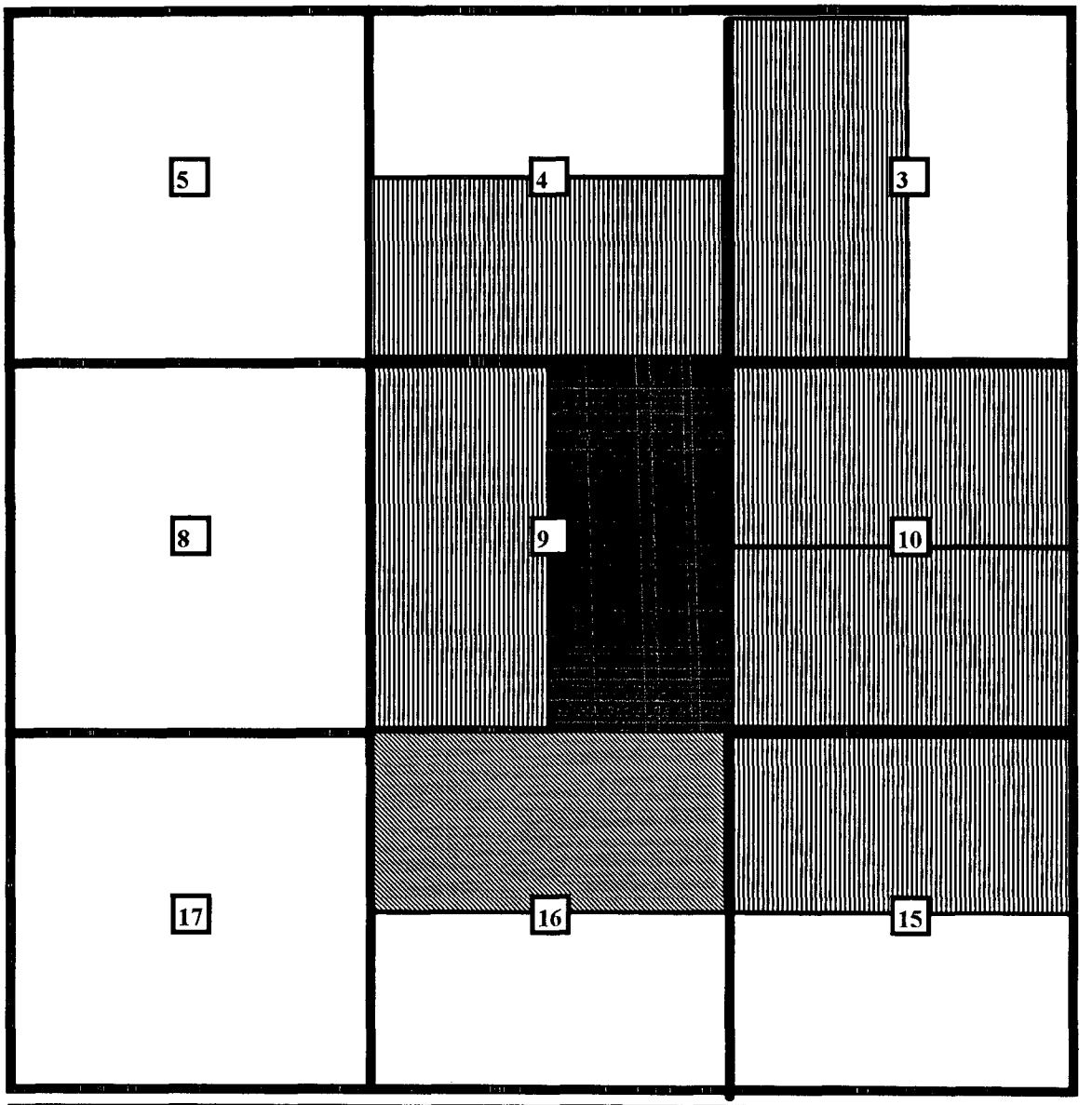
AMOCO

AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 146-13E Sec. 9-T25N-R05W
Rio Arriba New Mexico

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

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

Jicarilla Contract 146 13E
790' FNL & 1580' FEL
Unit B Section 9-T25N-R5W
Basin Dakota Pool



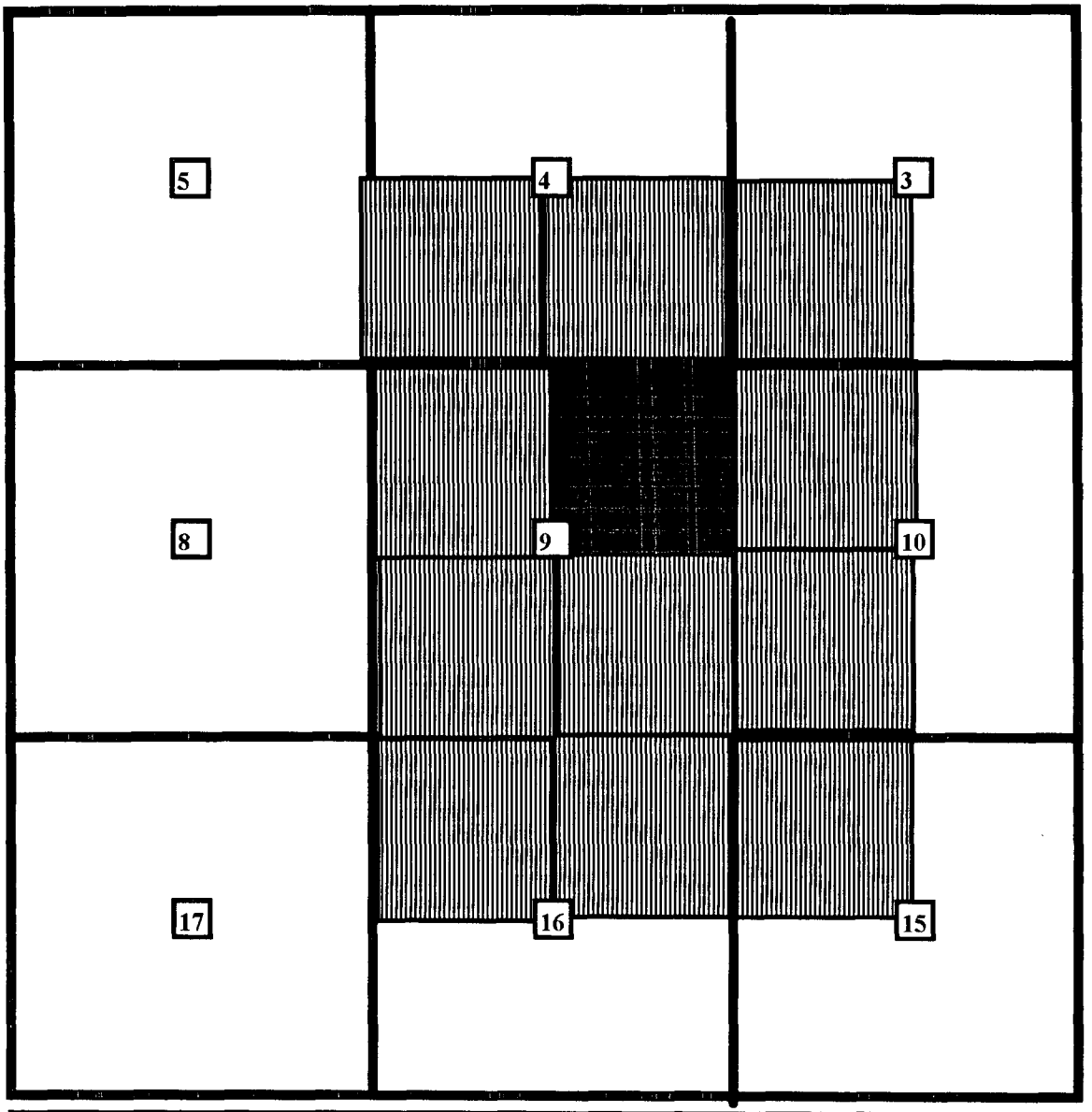
SPACING UNIT TO BE DOWNHOLE COMMINGLED

AMOCO PRODUCTION COMPANY

AMERADA HESS CORP

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

Jicarilla Contract 146 13E
790' FNL & 1580' FEL
Unit B Section 9-T25N-R5W
Blanco Mesaverde Pool



SPACING UNIT TO BE DOWNHOLE COMMINGLED

AMOCO PRODUCTION COMPANY

LIST OF ADDRESSES FOR OFFSET OPERATORS
Jicarilla Contract 146 13 E

1 Amerada Hess, Corp.
P.O. Box 2040
Tulsa, Ok 74102

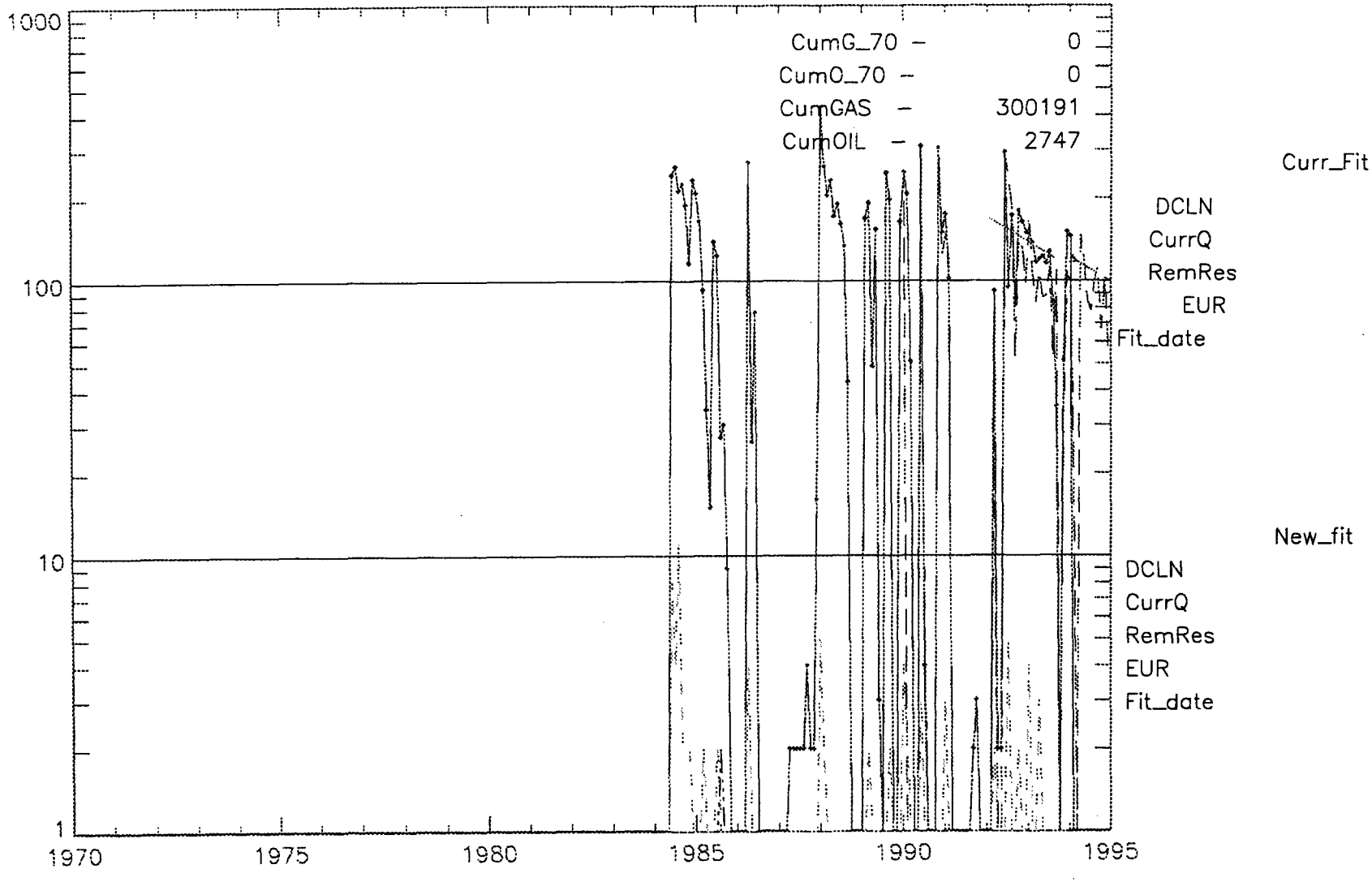
Engr: zhab0b

JICARILLA CONTRACT 146 13E

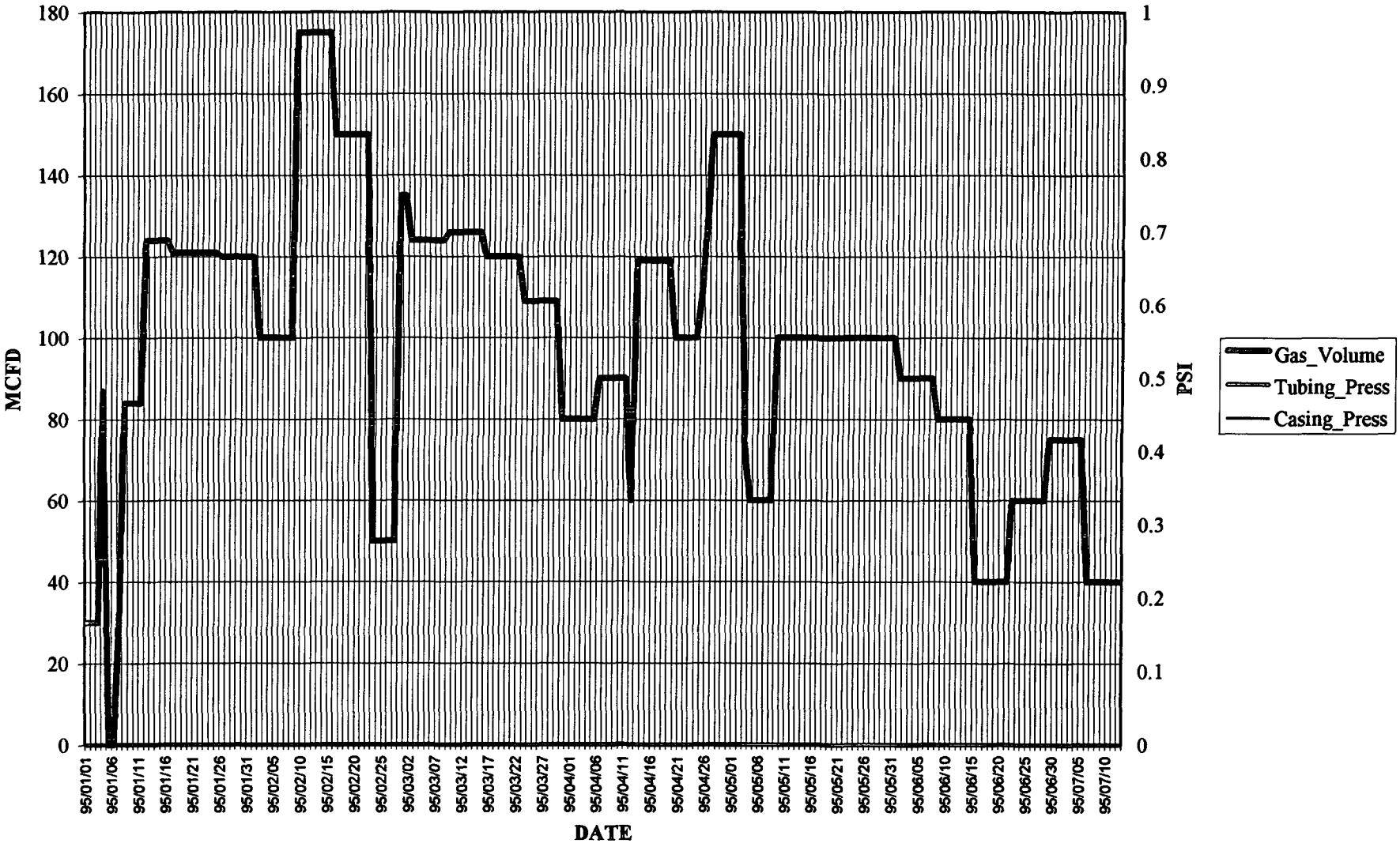
Operator– AMOCO PRODUCTION CO

300392316000DK B092505–013EDK

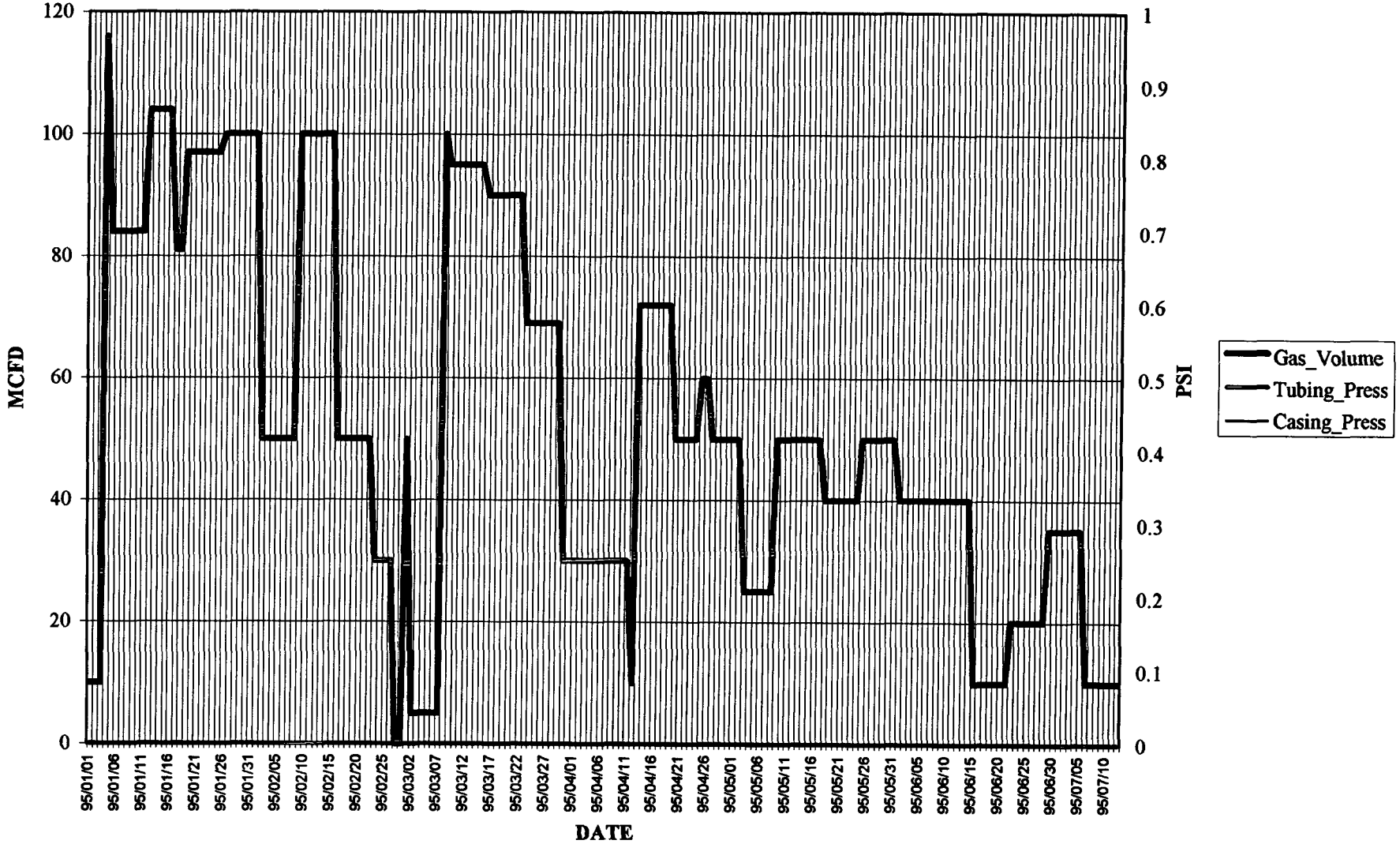
APC_WI – 1.0000000



Well: JICARILLA CONT 146 013E-DK (84608201)



Well: JICARILLA CONT 146 013E-MV (84608202)



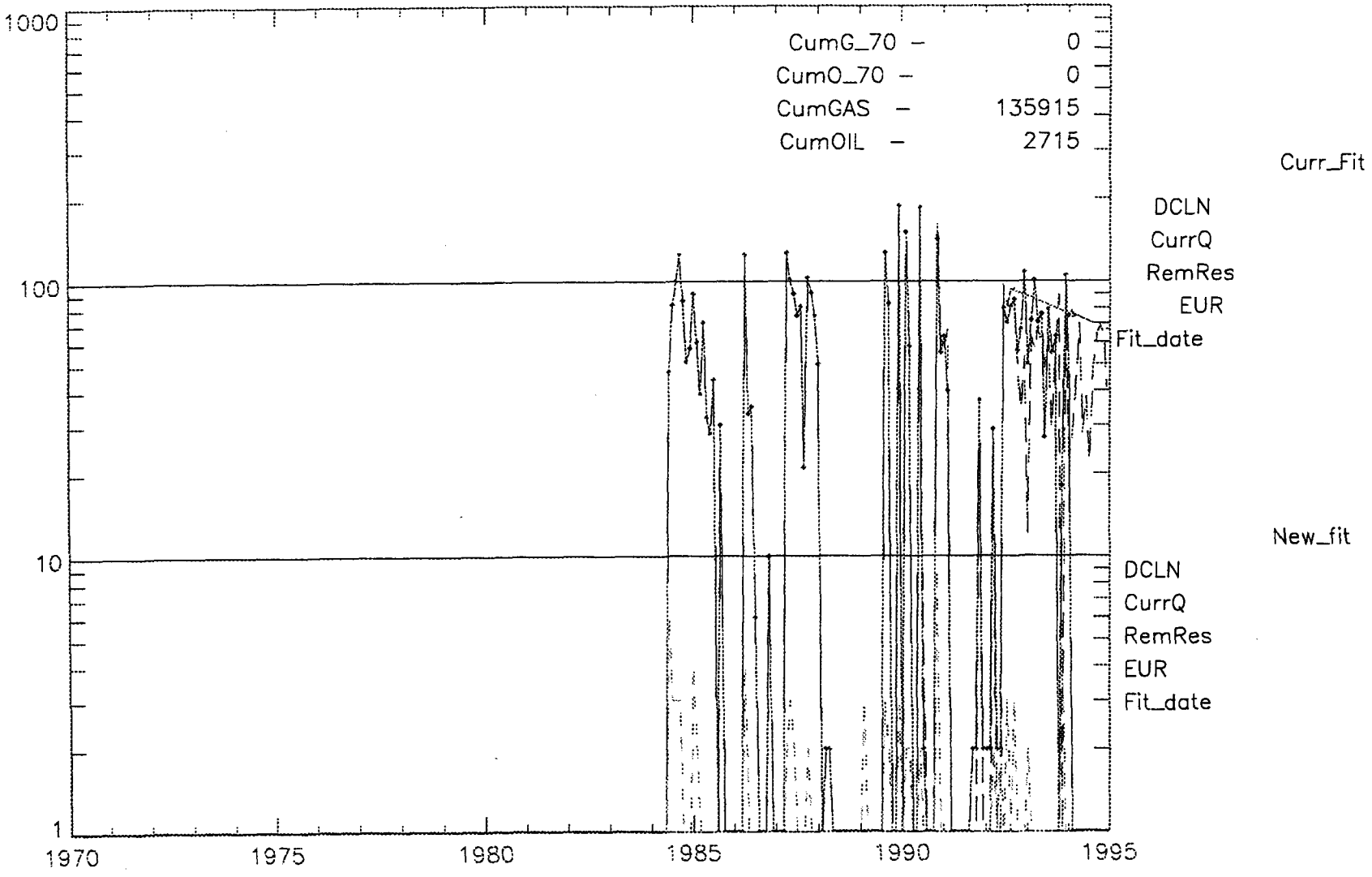
Engr: zhab0b

JICARILLA CONTRACT 146 13E

Operator– AMOCO PRODUCTION CO

300392316000MV B092505–013EMV

APC_WI – 1.0000000



ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION
JICARILLA CONTRACT #146-13E

MV Perforations at 5146-5354' midperf at 5250'
DK Perforations at 7125-7330' midperf at 7228'

11/90 shut in pressures --- MV = 440 PSIG
DK = 615 PSIG

GRADIENT = 0.08 PSI/FT

MV BHP = 440 PSIG + 5250' X 0.08 PSIG
= 880 PSIG

DK BHP = 750 PSIG + 7228' X 0.08 PSIG
=1193 PSIG

880 PSIG / 1193 PSIG = 74% WHICH MEETS THE >50% RULE

OIL CONSERVATION DIVISION

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #: JIC CONTRACT 146 13E

Location of Well: ~~B~~092505 Meter #: 85796 RTU: 1-194-01 County: RIO ARRI

	NAME RESERVOIR OR POOL		TYPE PROD	METHOD PROD	MEDIUM PROD
UPR COMP	BLANCO MESAVERDE	85797	GAS	FLOW	TBG
LWR COMP	BASIN DAKOTA	85796	GAS	FLOW	TBG

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilzed
UPR COMP	11/19/90	72 Hours	440	No
LWR COMP	11/19/90	72 Hours	615	Yes

FLOW TEST DATE NO.1

Commenced at (hour,date)* Zone Producing (Upr/Lwr)

TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE Upper	PRESSURE Lower	Prod Temp.	REMARKS
11/19/90	Day 1	334	280		Both Zones SI
11/20/90	Day 2	435	520		Both Zones SI
11/21/90	Day 3	462	614		Both Zones SI
11/22/90	Day 4	440	615		Flowed Lwr Zone 4
11/23/90	Day 5	441	322		4
11/24/90	Day 6	444	238		4

Production rate during test

Oil: _____ BOPD based on _____ BBLs in _____ Hrs _____ Grav _____ GOR _____

Gas: _____ MFCPD:Tested theu (Orifice or Meter): METER

RECEIVED
DEC 13 1990
OIL CON. DIV.
DIST. 3

MID-TEST SHUT-IN PRESSURE DATA

	Hour,Date SI	Length of Time SI	SI Press. PSIG	Stabilized (yes/no)
UPR COMP				

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

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 DEC 13 1990 19___
New Mexico Oil Conservation Division

By Original Signed by CHARLES GHOLSON

Title DEPUTY OIL & GAS INSPECTOR, DIST. #3

Operator Amoco Prod.

By D Wallace

Title Field Tech

Date 12/12/90

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.

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 three 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).

STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DIVISION

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

RECEIVED
95 SEP 22 AM 8 52

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 9/13/95

for the Amoco Jicarilla Cont. 146 #1E
OPERATOR LEASE & WELL NO.

B-9-25N-5W and my recommendations are as follows:
UL-S-T-R

Approve.

The pressures are calculated incorrectly but the well still qualifies