NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178 Fax (505)334-6170

GARY E. JOHNSON
GOVERNOR

JENNIFER A. SALISBURY
CABINET SECRETARY

ADMINISTRATIVE ORDER RECOMMENDATION

Date: 2/20/96

New Mexico Oil Conservation Division
PO 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 2/12/96
for the Amoco Jicarilla 155 #16E
OPERATOR LEASE & WELL NUMBER
G-30-26N-5W and my recommendations are as follows:
UL-S-T-R

Approve

Yours truly,

Southern
Rockies
Business
Unit

February 8, 1996

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

RECEIVED
FEB 12 1996
OIL CON. DIV.
DIST. 3

Application for Exception to Rule 303-C
Downhole Commingling
Jicarilla 155 #16 E Well
1840' FNL & 1520' FEL, Unit G Section 30-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 155 #16 E Well referenced above. The Jicarilla 155 #16 E well was originally a dual completion in the Dakota and Chacra formations. We plan to complete the well with both the Dakota and Chacra formations being downhole commingled in the wellbore. Downhole commingling is expected to extend the life of the well if permitted.

The two zones are currently producing at a total rate of about 137 MCFD with 1.3 BCPD. After commingling, the two zones are expected to produce 287 MCFD and 1.8 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. Amoco is the operator of all of the existing offsetting spacing units in both the Chacra and Dakota.

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 91% from the Dakota formation and 9% from the Chacra formation. The condensate production is recommended to be allocated 99% to the Dakota and 1% to the Chacra also based on historic rates. 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, historical production plots and a C-102 for each formation. This spacing unit is on Indian lease Jicarilla Contract #155 and a copy of the application will be sent to the BLM as their notice.

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 155
Well Number:	16E
Well Location:	1840' FNL & 1520' FEL Unit G Section 30-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 125 MCFD and 1.3 BCPD. The Chacra zone produced at an average rate of about 12 MCFD and 0.01 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 791 PSIG while estimated bottomhole pressure in the Dakota formation is 1060 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:

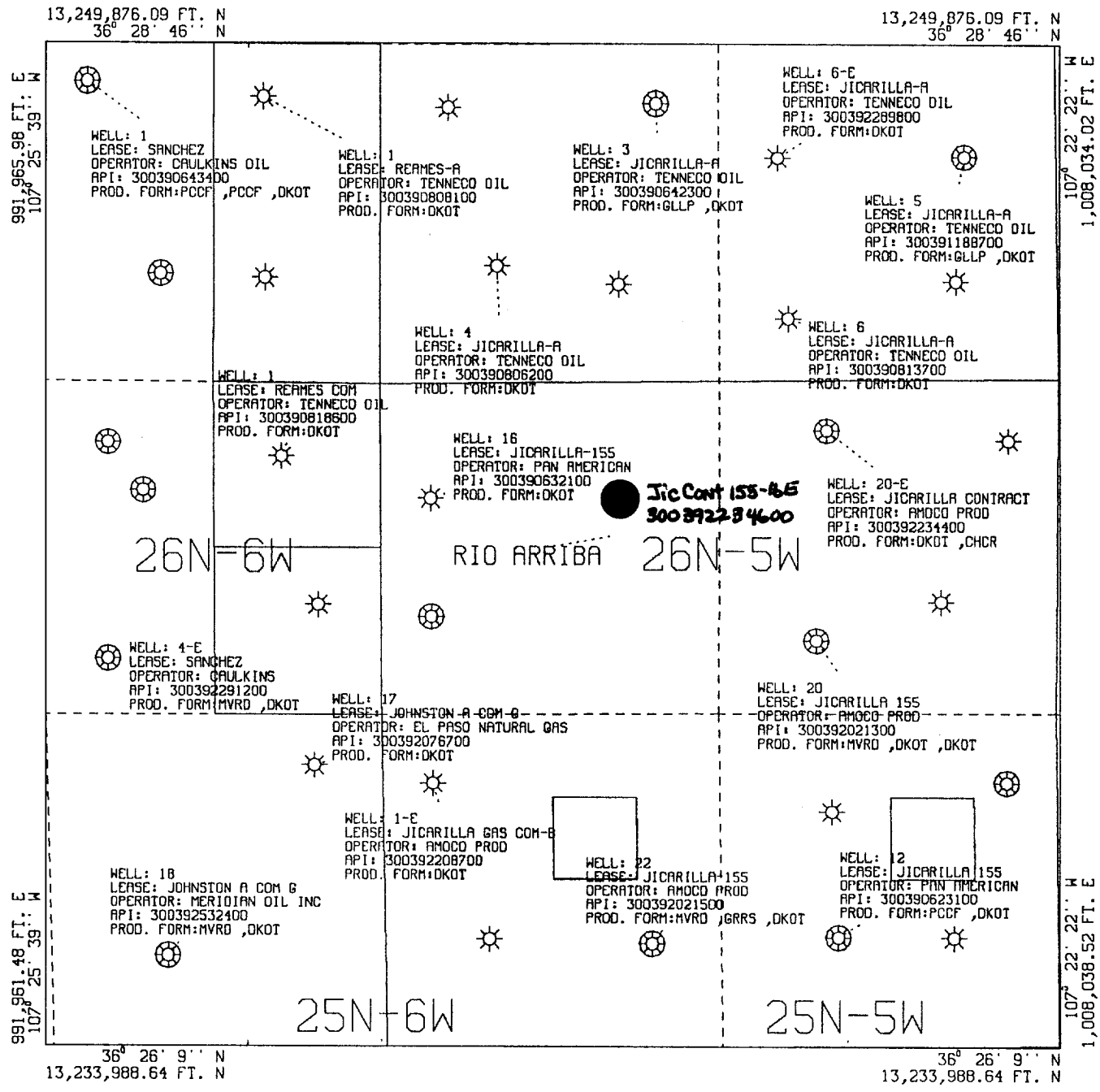
The BTU content of the produced streams are very similar and as such, we would expect the commingled production to have the same value as the sum of the individual streams.

(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:

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 91% from the Dakota formation and 9% from the Chacra formation. The condensate production is recommended to be allocated 99% to the Dakota and 1% to the Chacra also based on historic rates. 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. Amoco is the operator of all offsetting spacing units in both formations



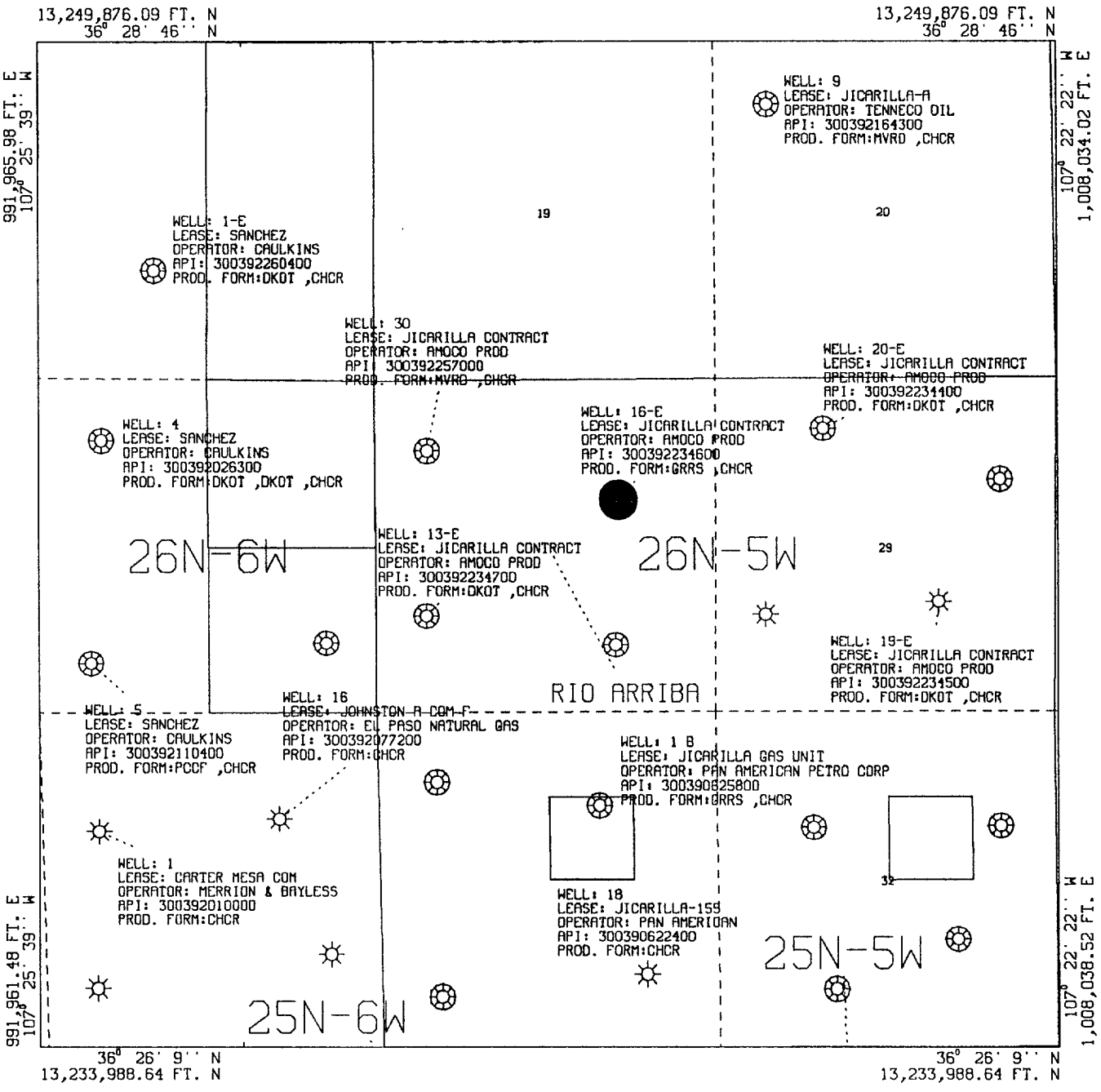
AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 155-16E Sec 30-T26N-R05W DK
Rio Arriba New Mexico

SCALE 1 IN. = 2,500 FT. NOV 4, 1995

HORIZONTAL DATUM NAD27

PLOT 1 07.09.59 SAT 4 NOV, 1995 JOB-P1011402, ISSCO DISSPLA 10.0

HAB10114--RUN#95308064824



AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 155-16E Sec 30-T26N-R05W CK
Rio Arriba New Mexico

SCALE 1 IN. = 2,500 FT. NOV 4, 1995

HORIZONTAL DATUM NAD27

REVISED PLAT

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-78

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
AMOCO PRODUCTION COMPANY	JICARILLA CONTRACT 155	16-E

Unit Letter	Section	Township	Range	County
G	30	26N	5W	Rio Arriba

Actual Footage Location of Well: 1840 feet from the North line and 1520 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
6680	Dakota/Chacra	Basin Dakota/Otero Chacra	320/160 Acres

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

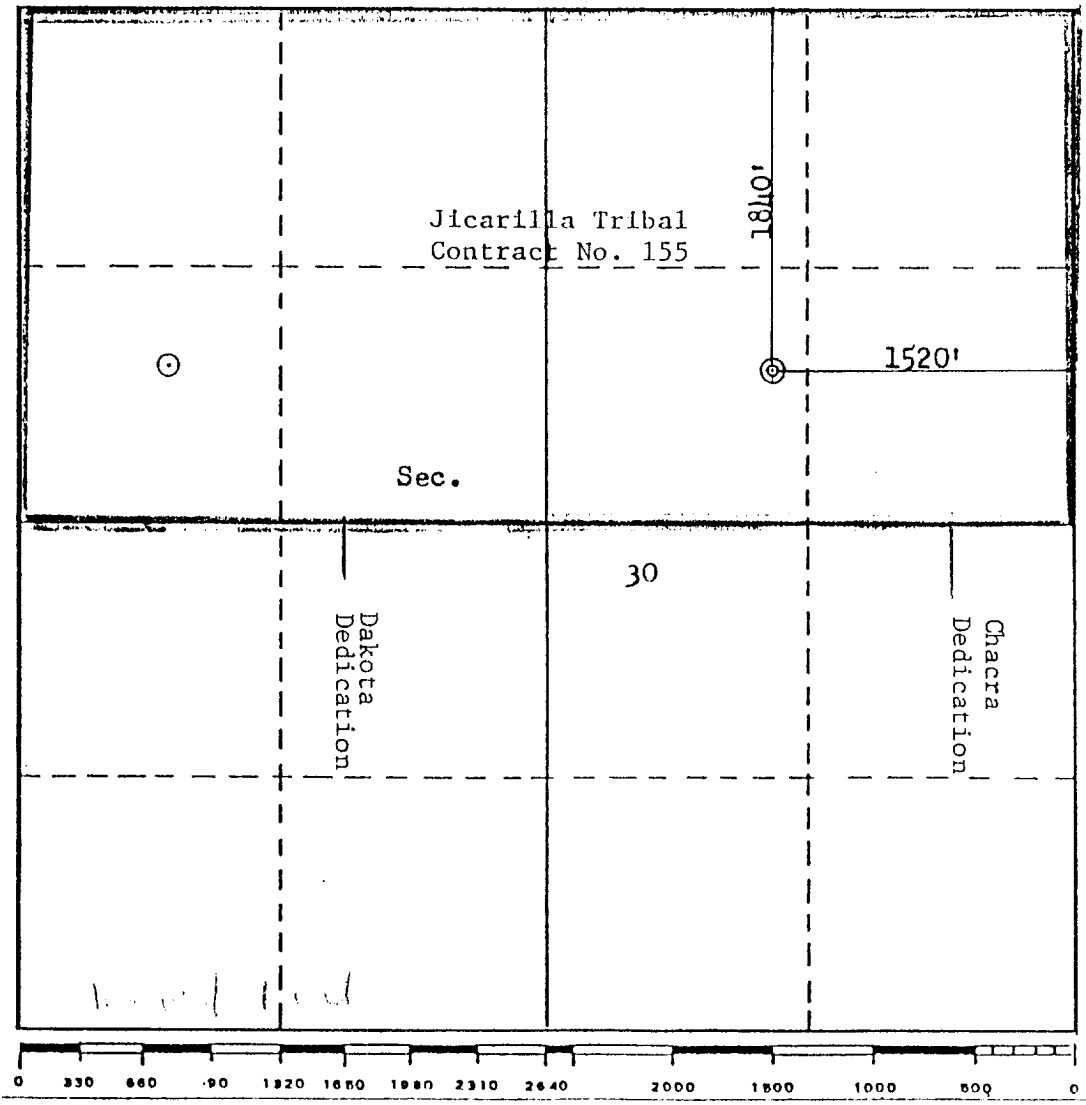
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

B. E. Fackrell

Name: B. E. FACKRELL

Position: DISTRICT ENGINEER

Company: AMOCO PRODUCTION COMPANY

Date: FEBRUARY 1, 1980

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: January 23, 1980

Registered Professional Engineer and/or Land Surveyor: Fred B. Kerr Jr.

Certificate No. 3950

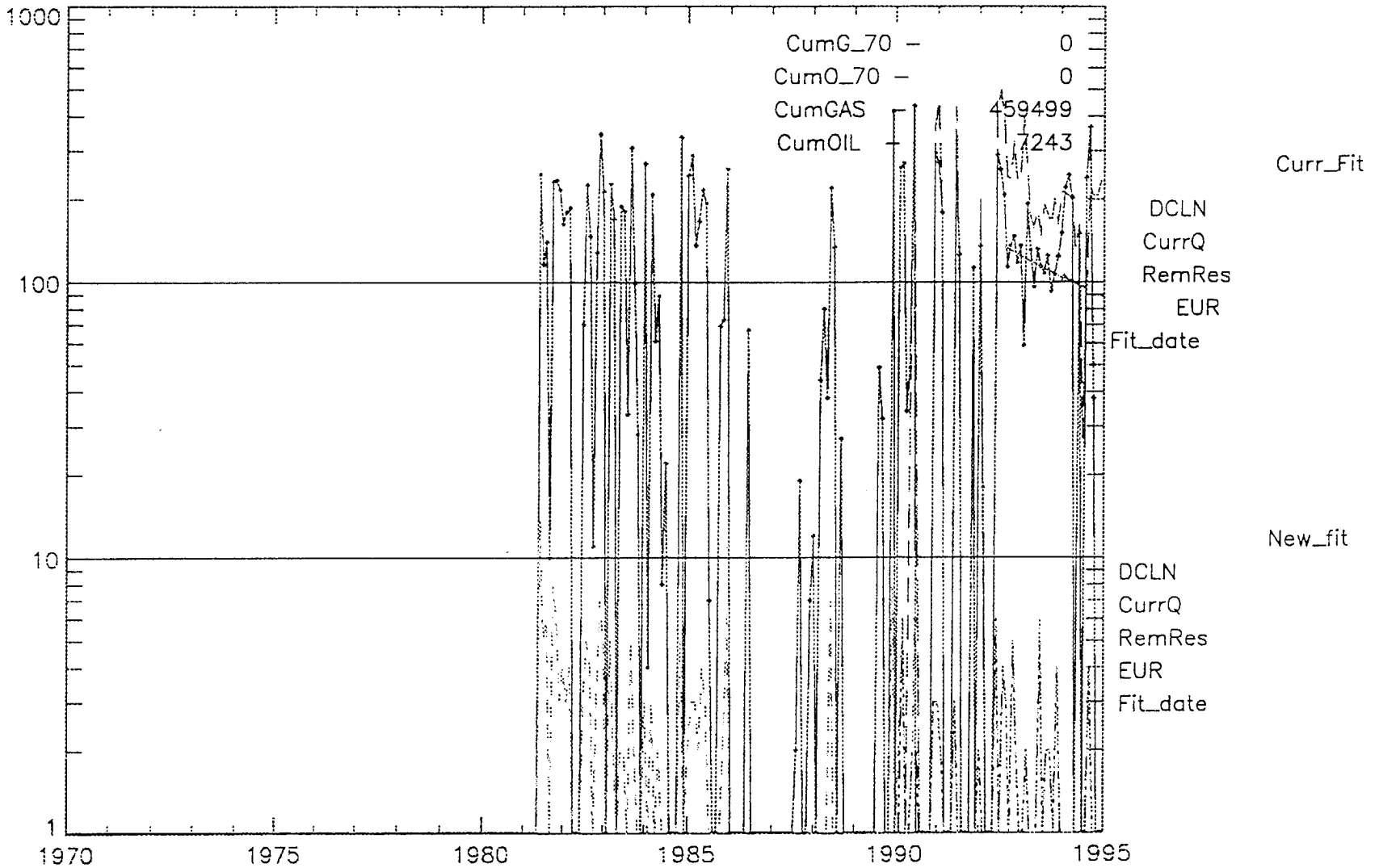
NEW MEXICO — FRED B. KERR, JR. — 3950 — REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR

Engr: zhab0b

JICARILLA CONTRACT 155 16E

Operator– AMOCO PRODUCTION CO

300392234600DK G302605–016EDK APC_WI – 1.0000000



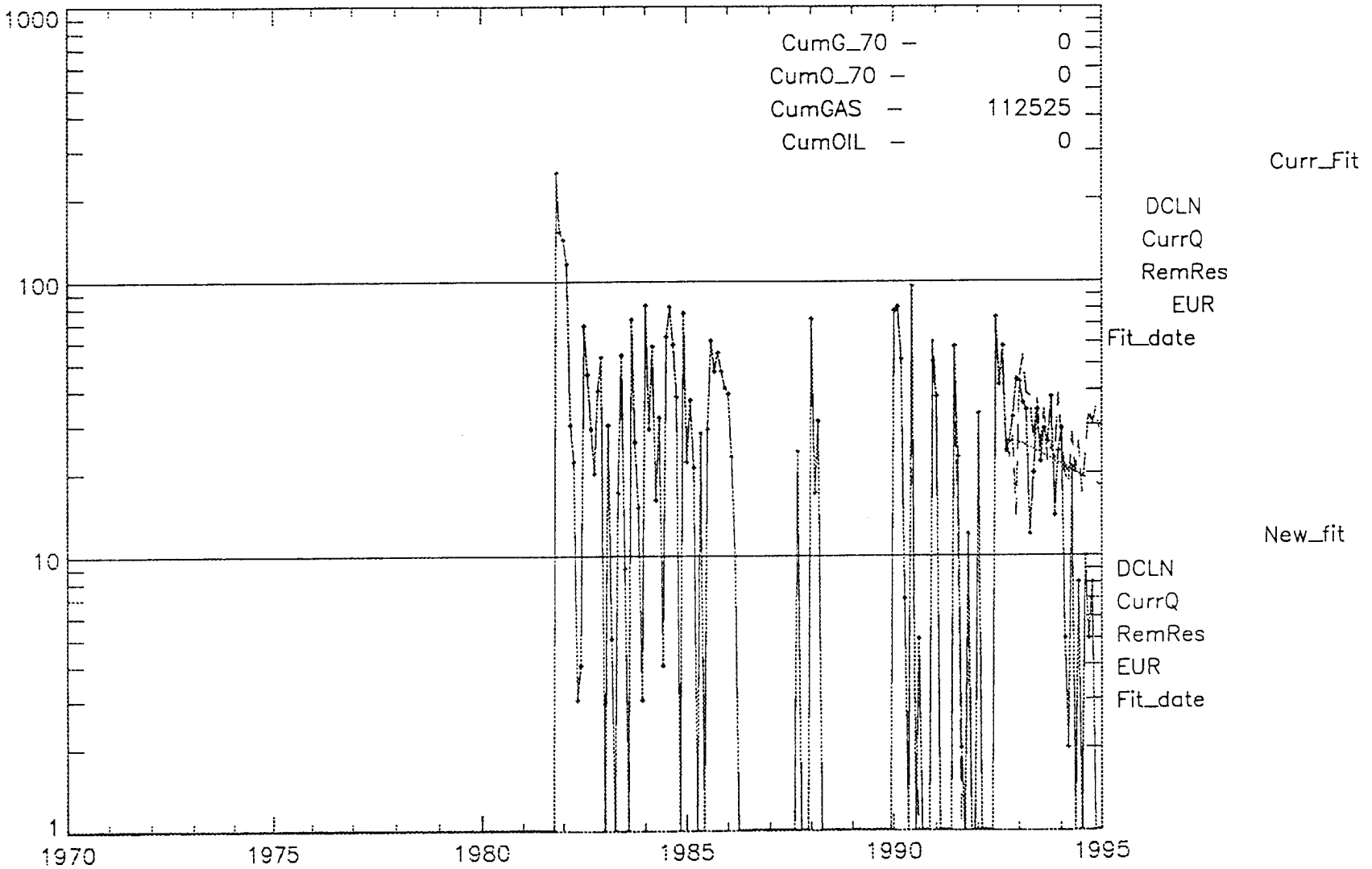
Engr: zhab0b

JICARILLA CONTRACT 155 16E

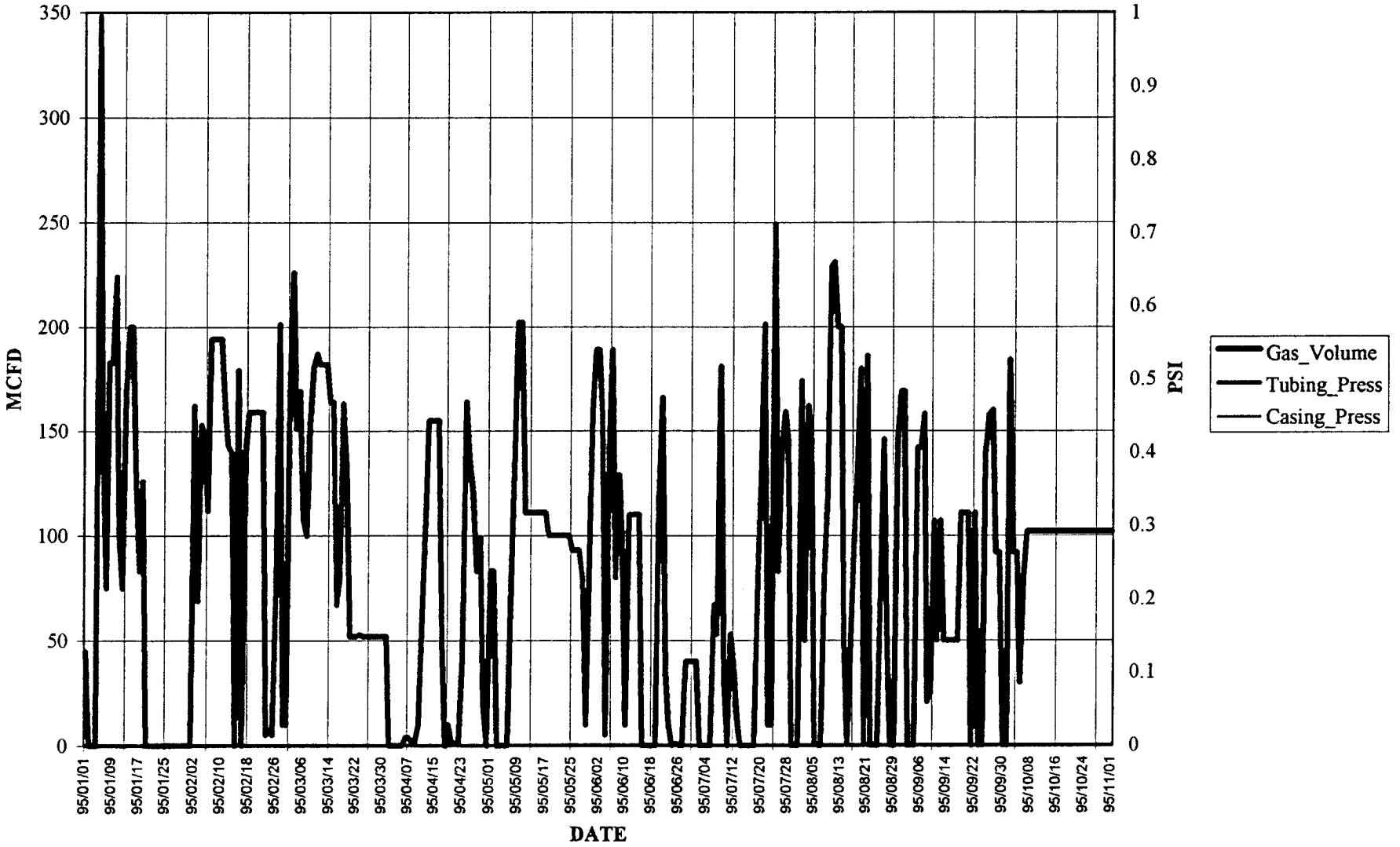
Operator– AMOCO PRODUCTION CO

300392234600CK G302605–016ECK

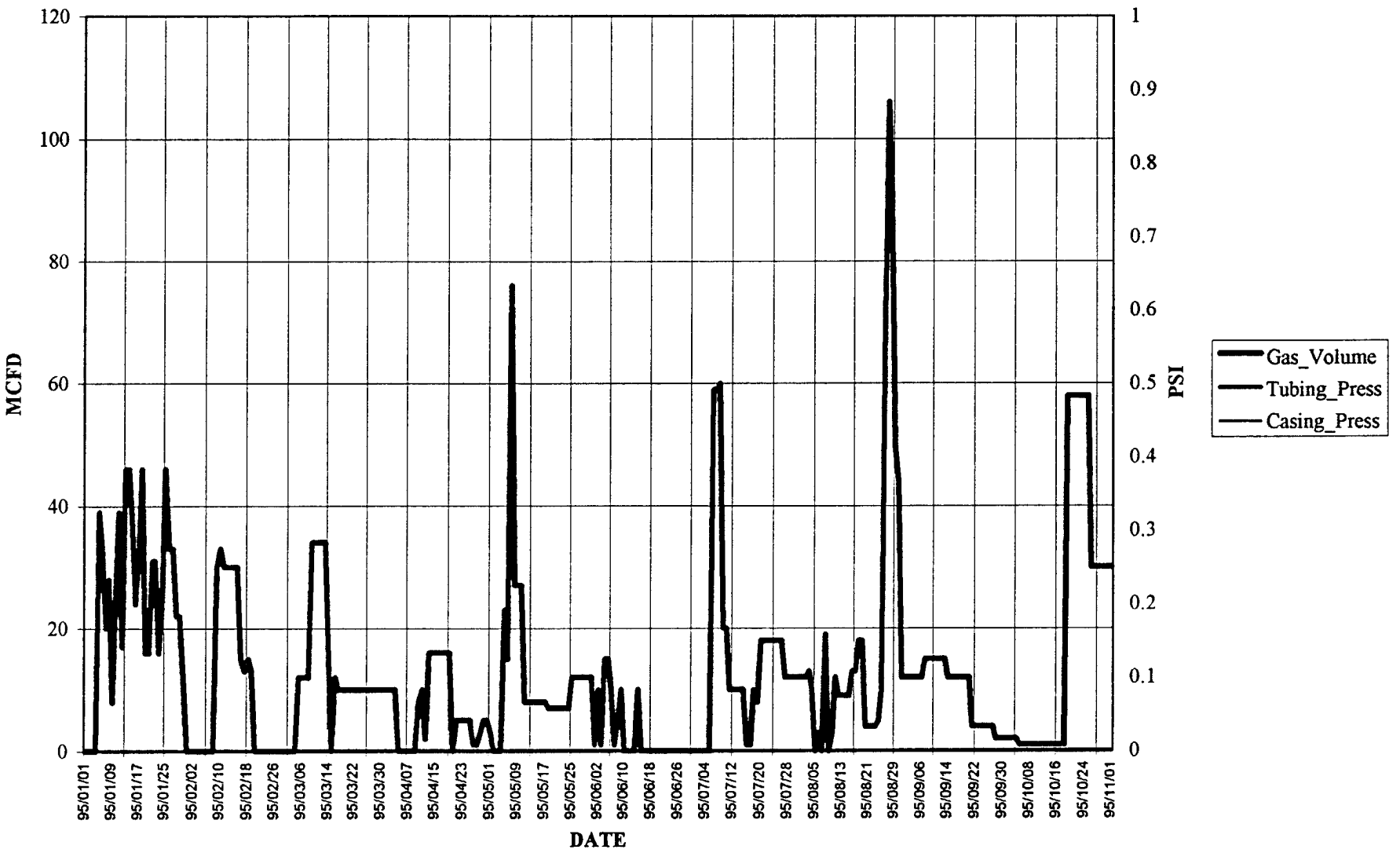
APC_WI – 1.0000000



Well: JICARILLA CONT 155 016-DK (92420201)



Well: JICARILLA CONT 155 016E-CK (84215701)



ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION
JICARILLA 155 # 16E

CK Perforations at 3924'-4032' midperf at 3978'
DK Perforations at 7238'-7435' midperf at 7336'

2/92 shut in pressures --- CK = 473 PSIG
DK = 758 PSIG

GRADIENT = 0.08 PSI/FT

CK BHP = 473 PSIG + 3978' X 0.08 PSIG
= 791 PSIG

DK BHP = 758 PSIG + 7336' X 0.08 PSIG
= 1060 PSIG

791 PSIG / 1060 PSIG = 75% WHICH MEETS THE >50% RULE

91 Test

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 Amoco Prod. Co. Lease Jicarilla Cont. 155 Well No. 16E

Location of Well: Unit G Sec. 30 Twp. 26 Rge. 05 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	Chacra			
Lower Completion	Dakota			

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
Upper Completion			473	Yes
Lower Completion			382	No

FLOW TEST NO. 1

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

TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE Upper Completion	PRESSURE Lower Completion	PROD. ZONE TEMP.	REMARKS
1/20/92		473	382		SI Both Zone
1/21/92		473	382		
1/22/92		473	382		Flow lower zone
1/23/92		473	382		Blow lower zone
1/24/92		473	812		
1/25/92		473	758		

Production rate during test

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

Gas: _____ MCFPD; Tested thru (Orifice or 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				

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FEB 25 1992
OIL CON. DIV.
DIST. 3

(Continue on reverse side)

ALLOCATION RECOMMENDATION

		Current			Expected Rate			Recommended Production Allocation Factors		
		MCFD	BOPD	BWPD	MCFD	BOPD	BWPD	MCFD	BOPD	BWPD
CHACRA		12	0.01	0.01	25.14	0.01	0.02	0.09	0.01	0.01
DAKOTA		125	1.30	1.12	261.86	1.80	2.11	0.91	0.99	0.99
	Wellbore Tota	137	1.31	1.13	287.00	1.81	2.13	1.00	1.00	1.00