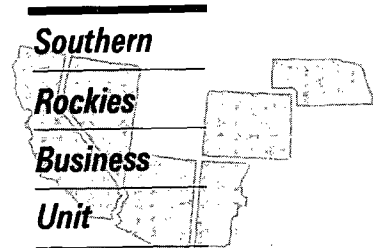




OIL CONSERVATION DIVISION
RECEIVED

108 FEB 16 AM 8 52



DHC 3.6.96
1197

February 13, 1996

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 155 #20 E Well
810' FNL & 1700' FWL, Unit C Section 29-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 #20 E Well referenced above. The Jicarilla 155 #20 E well is currently 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.

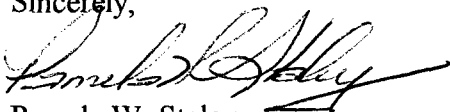
The two zones are currently producing at a total rate of about 94 MCFD with 0.78 BCPD. After commingling, the two zones are expected to produce 244 MCFD and 1.28 BCPD. The ownership (WI, RI, ORI) of these pools is identical in this wellbore. Downhole commingling will offer an economical method of production 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 85% from the Dakota formation and 15% 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 Haeefe

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

13,249,887.01 FT. N
36° 28' 47" N

13,249,887.01 FT. N
36° 28' 47" N

991,970.39 FT. E
107° 24' 34" W

1,008,029.61 FT. E
107° 21' 17" W

26N-6W

19

20

21

WELL: 30
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392257000
PROD. FORM: MVRD ,CHCR

WELL: 31
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392256900
PROD. FORM: PCCF ,CHCR

WELL: 16-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392234600
PROD. FORM: GRRS I, CHCR

WELL: 20-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392234400
PROD. FORM: DKOT ,CHCR

WELL: 19
LEASE: JICARILLA-251
OPERATOR: MARATHON OIL
API: 300392150200
PROD. FORM: PCCF ,CHCR

WELL: 13-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392234700
PROD. FORM: DKOT ,CHCR

26N-5W

RIO ARRIBA

WELL: 19-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392234500
PROD. FORM: DKOT ,CHCR

WELL: 28
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392252700
PROD. FORM: MVRD ,CHCR

WELL: 18
LEASE: JICARILLA GAS UNIT
OPERATOR: PAN AMERICAN PETRO CORP
API: 300390625800
PROD. FORM: GRRS ,CHCR

WELL: 29
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392253100
PROD. FORM: MVRD ,CHCR

WELL: 1
LEASE: JICARILLA GAS COM
OPERATOR: AMOCO PROD
API: 300392306800
PROD. FORM: MVRD ,CHCR

WELL: 24
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392057000
PROD. FORM: MVRD ,CHCR

WELL: 118
LEASE: JICARILLA-155
OPERATOR: PAN AMERICAN
API: 300390622400
PROD. FORM: CHCR

WELL: 23
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392056900
PROD. FORM: MVRD ,CHCR

25N-5W

36° 26' 9" N

13,233,999.56 FT. N

36° 26' 9" N

13,233,999.56 FT. N

991,965.89 FT. E
107° 24' 34" W

1,008,034.11 FT. E
107° 21' 17" W

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 Contract 155-20E Sec 29-T26N-R05W CK
Rio Arriba New Mexico

SCALE 1 IN. = 2,500 FT. NOV 3, 1995

HORIZONTAL DATUM NAD27

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: 20E
Well Location: 810' FNL & 1700' FWL
Unit C Section 29-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 80 MCFD and 0.77 BCPD. The Chacra zone produced at an average rate of about 14 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 780 PSIG while estimated bottomhole pressure in the Dakota formation is 1090 PSIG. Therefore these pressures meet the pressure differential rule under article 303-C (b)(vi). See attached calculation and packer leakage test results.

13,249,887.01 FT. N
36° 28' 47" N

13,249,887.01 FT. N
36° 28' 47" N

991,970.39 FT. E
107° 24' 34" W

107° 21' 17" W
1,008,029.61 FT. E

26N-6W

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

WELL: 3
LEASE: JICARILLA-A
OPERATOR: TENNECO OIL
API: 300390642300
PROD. FORM:GLLP ,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: 5
LEASE: JICARILLA-B
OPERATOR: TENNECO OIL
API: 300390808200
PROD. FORM:DKOT

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

WELL: 155 19
LEASE: JICARILLA CONTRACT
OPERATOR: PAN AMERICAN PETRO CORP
API: 300390810900
PROD. FORM:DKOT

WELL: 16
LEASE: JICARILLA-155
OPERATOR: PAN AMERICAN
API: 300390632100
PROD. FORM:DKOT

RIO ARRIBA
26N-5W

WELL: 20-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392234400
PROD. FORM:DKOT ,CHCR

WELL: 13-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392234700
PROD. FORM:DKOT ,CHCR

WELL: 20
LEASE: JICARILLA 155
OPERATOR: AMOCO PROD
API: 300392021300
PROD. FORM:MYRO ,DKOT ,DKOT

WELL: 11
LEASE: JICARILLA-APACHE
OPERATOR: MARATHON OIL
API: 300390814900
PROD. FORM:PCCF ,GRRS ,DKOT

WELL: 1-E
LEASE: JICARILLA GAS COM-B
OPERATOR: AMOCO PROD
API: 300392208700
PROD. FORM:DKOT

WELL: 1
LEASE: JICARILLA GAS COM C
OPERATOR: PAN AMERICAN
API: 300392008800
PROD. FORM:PCCF ,DKOT

WELL: 22
LEASE: JICARILLA-155
OPERATOR: AMOCO PROD
API: 300392021500
PROD. FORM:MYRO ,GRRS ,DKOT

WELL: 12
LEASE: JICARILLA 155
OPERATOR: PAN AMERICAN
API: 300390623100
PROD. FORM:PCCF ,DKOT

WELL: 13
LEASE: JICARILLA APACHE
OPERATOR: MARATHON OIL
API: 300390816400
PROD. FORM:PCCF ,GRRS ,DKOT

25N-5W

36° 26' 9" N
13,233,999.56 FT. N

36° 26' 9" N
13,233,999.56 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 Contract 155-20E Sec 29-T26N-R05W DK
Rio Arriba New Mexico

SCALE 1 IN. = 2,500 FT. NOV 3, 1995

HORIZONTAL DATUM NAD27

- (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:

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 85% from the Dakota formation and 15% 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

All distances must be from the outer boundaries of the Section

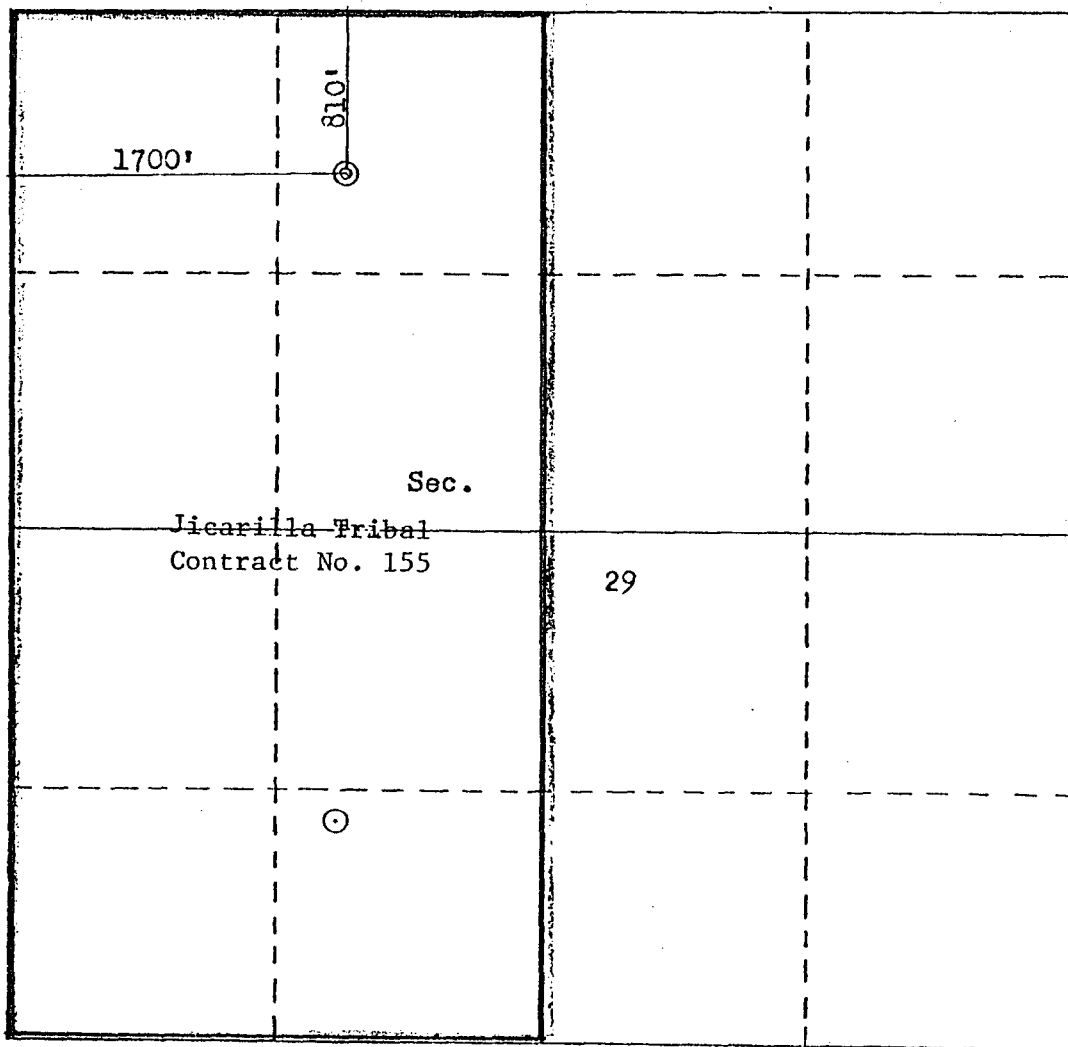
Operator AMOCO PRODUCTION COMPANY			Lease JICARILLA CONTRACT 155		Well No. 20-E
Unit Letter C	Section 29	Township 26N	Range 5W	County Rio Arriba	
Actual Footage Location of Well: 810 feet from the North line and 1700 feet from the West line					
Ground Level Elev. 6687	Producing Formation Dakota		Pool Basin Dakota		Dedicated Acreage: 320 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.



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.
Fred B. Kerr Jr.

Certificate No.

3950

Engr: zhab0b

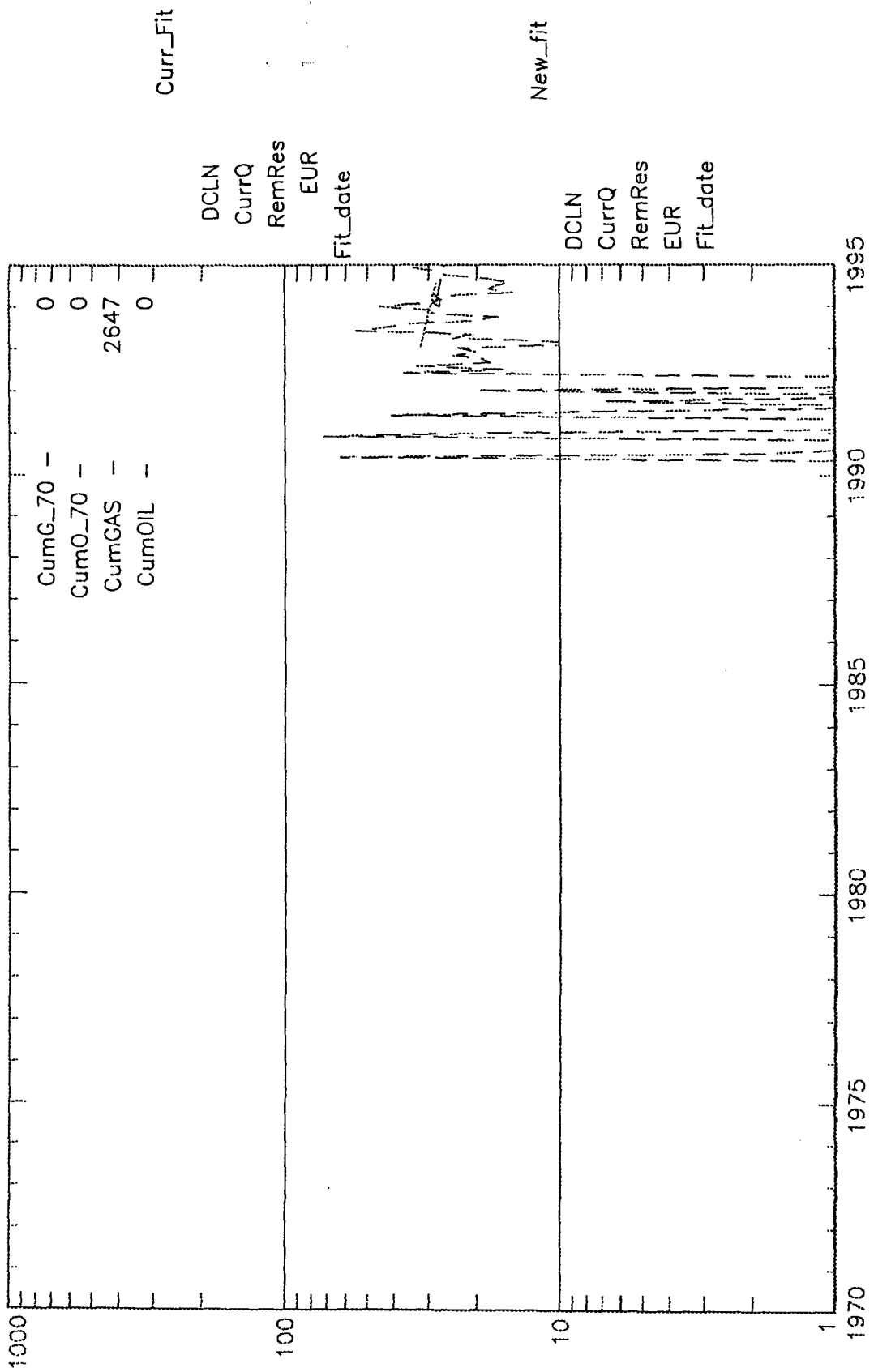
JICARILLA CONTRACT 155 20E

Operator- AMOCO PRODUCTION CO

300392234400CK

C292605-020ECK

APC_WI - 1.0000000



Engr: zhab0b

JICARILLA CONTRACT 155 20E

Operator- AMOCO PRODUCTION CO

300392234400DK

C292605-020EDK

APC_WI - 1.0000000

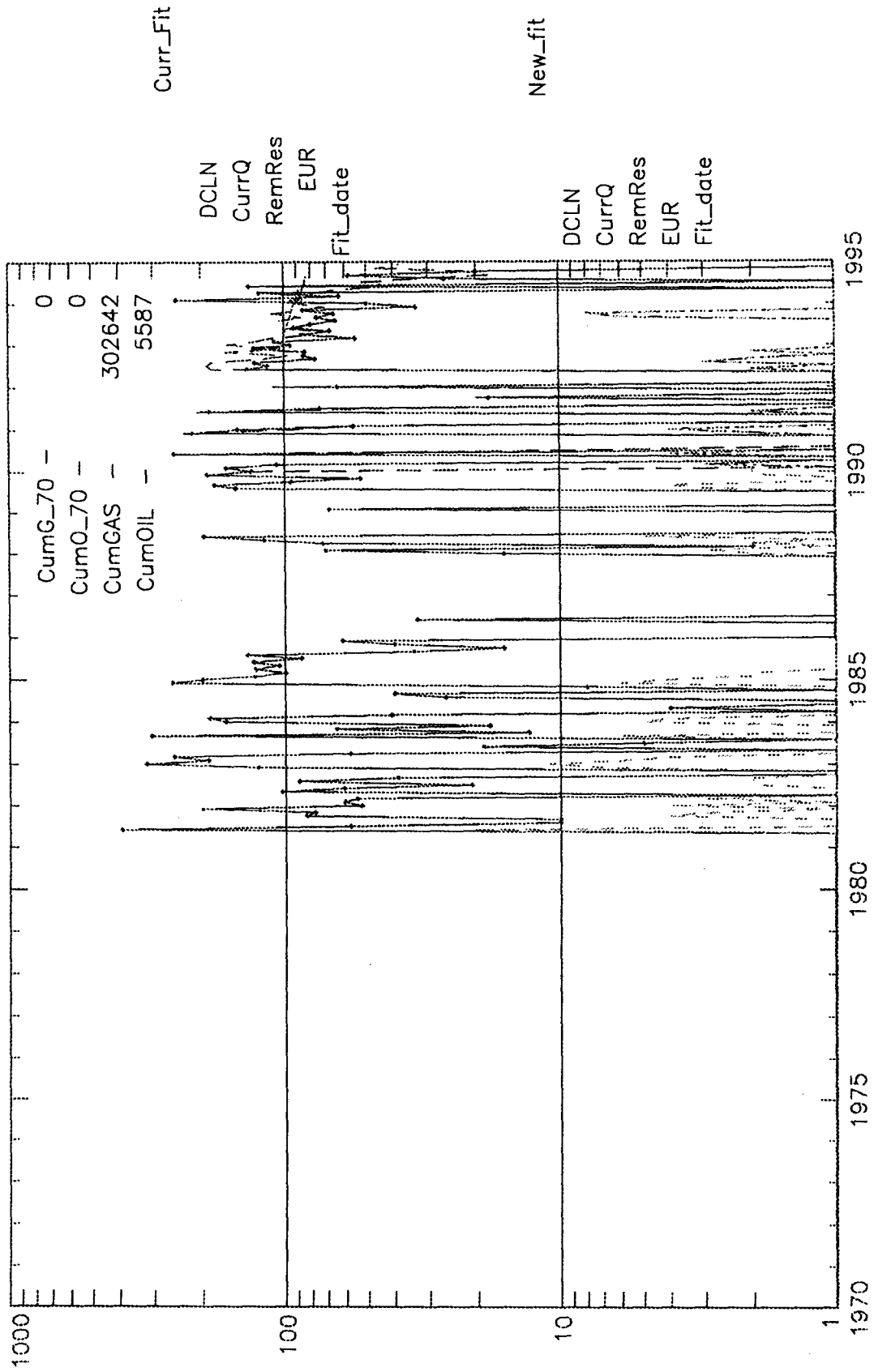


Chart1

Well: JICARILLA CONT 155 020E-CK (84215901)

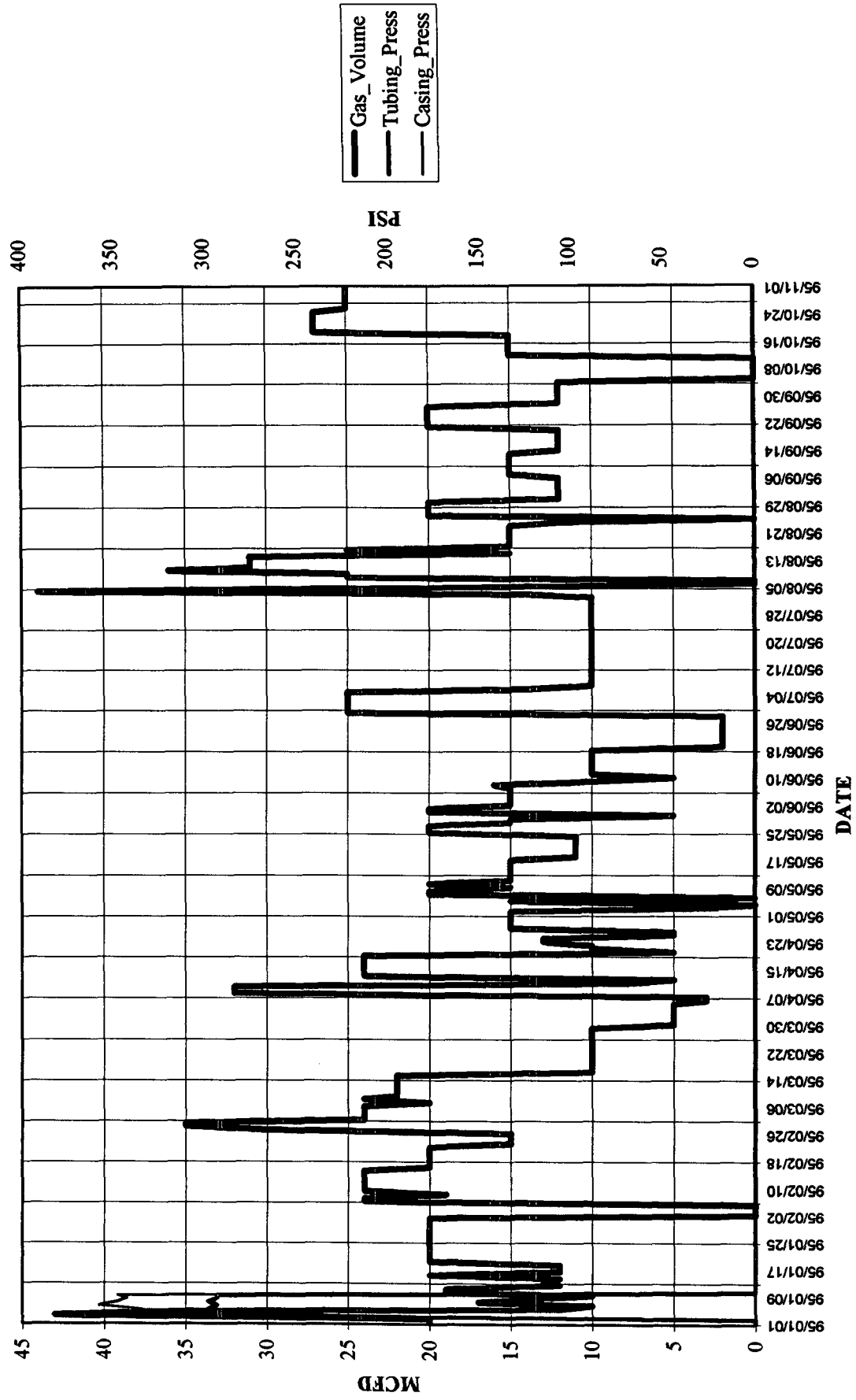
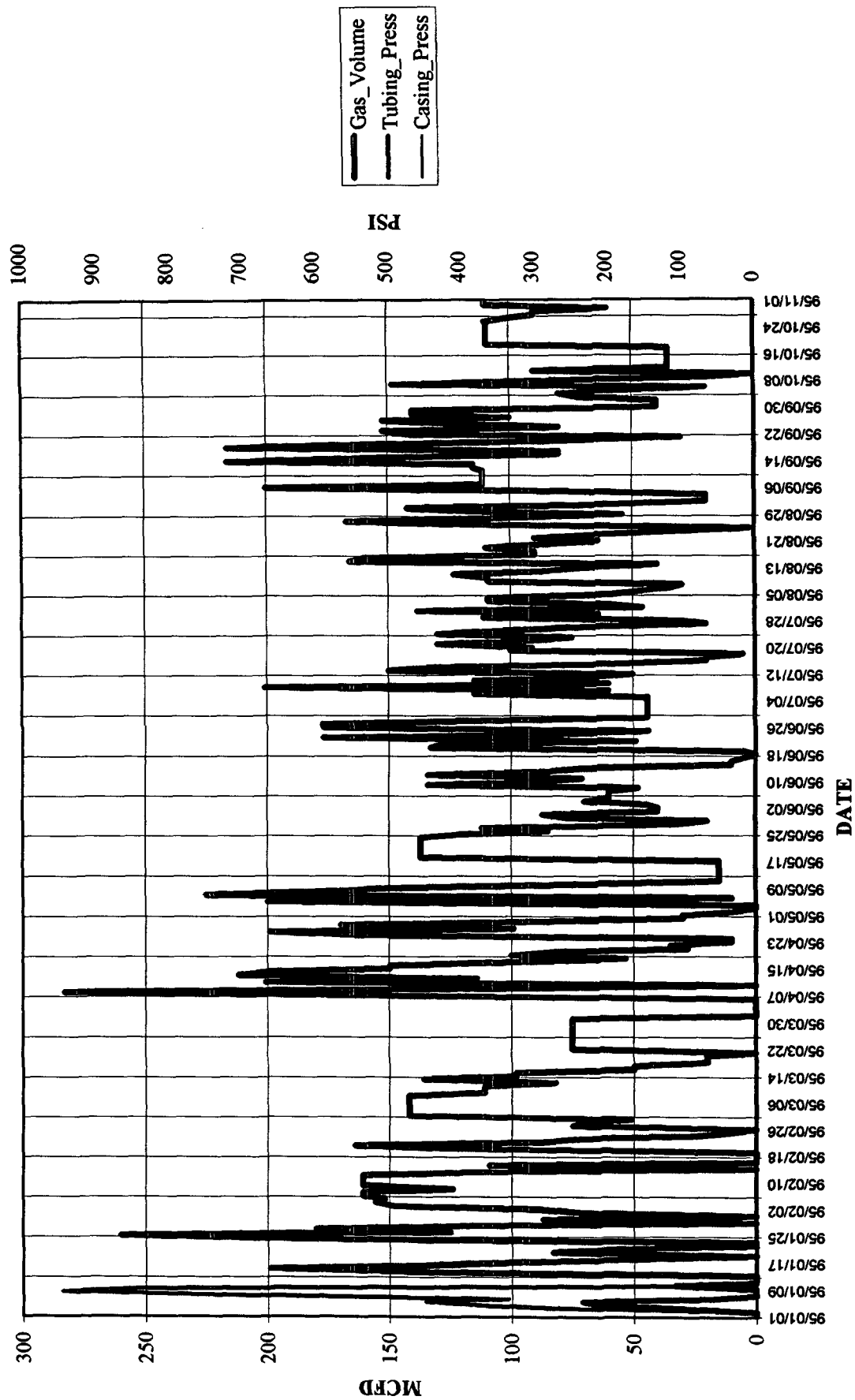


Chart1

Well: JICARILLA CONT 155 020E-DK (84215902)



ESTIMATED BOTTOMHOLE PRESSURES

Jicarilla Contract #155 20 E

OK
OK

PERFORATIONS
PERFORATIONS

TOP 3952
TOP 7270

BOTTOM 4050
BOTTOM 7454

MDPERF
MDPERF

4001
7362

Jun-95 SHUT-IN PRESSURES

OK = 460 PSIG

OK = 501 PSIG

GRADIENT = 0.8 PSI/FT

OK BHP = 460 PSIG + 4001 X 0.08 PSIG

= 780 PSI

OK BHP = 501 PSIG + 7362 X 0.08 PSIG

= 1090

780 PSI / 1090 = 72% WHICH IS > 50% DIFFERENTIAL RULE

OIL CONSERVATION DIVISION

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #:JIC CONTRACT 155 20E
Location of Well: C292605 Meter #: 85360 RTU: 1-160-01 County: RIO ARRI

	NAME RESERVOIR OR POOL		TYPE PROD	METHOD PROD	MEDIUM PROD
UPR COMP	OTERO CHACRA 85679 <i>161-1</i>		GAS	FLOW	TBG
LWR COMP	BASIN DAKOTA 85360 <i>160-1</i>		GAS	FLOW	TBG

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilized
UPR COMP	11/19/90	72 Hours	<i>460</i>	<i>yes</i>
LWR COMP	11/19/90	72 Hours	<i>501</i>	<i>yes</i>

FLOW TEST DATE NO.1

Commenced at (hour,date)*				Zone Producing (Upr/Lwr)	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		Prod Temp.	REMARKS
		Upper	Lower		
11/19/90	Day 1	<i>386</i>	<i>386</i>		Both Zones SI
11/20/90	Day 2	<i>439</i>	<i>384</i>		Both Zones SI
11/21/90	Day 3	<i>451</i>	<i>446</i>		Both Zones SI
11/22/90	Day 4	<i>460</i>	<i>501</i>		<i>flowed lower zone</i>
11/23/90	Day 5	<i>482</i>	<i>477</i>		
11/24/90	Day 6	<i>496</i>	<i>338</i>		

Production rate during test

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

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

MID-TEST SHUT-IN PRESSURE DATA

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

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

[illegible]



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 NSL _____
Proposed WFX _____
Proposed NSP _____

Proposed DHC X _____
Proposed SWD _____
Proposed PMX _____
Proposed DD _____

Gentlemen:

I have examined the application received on 2/16/96
for the Amoco

OPERATOR
C-29-26N-SW

Jicamilla 155 #20E
LEASE & WELL NUMBER

and my recommendations are as follows:

UL-S-T-R

Yours truly,

328