DHC 3-25-96

OIL CONSERVATION DIVISION
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Southern Rockies Business Unit

February 23, 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 146 #34 Well
830' FNL & 1780' FEL, Unit B Section 3-T25N-R5W
Blanco Mesaverde (Pool IDN 72319) and Otero Chacra (Pool IDN 82329) Pools
Rio Arriba County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Otero Chacra Pools in the Jicarilla 146 #34 Well referenced above. The Jicarilla 146 #34 well was originally a dual completion in the Mesaverde and Chacra formations. This well has a marginal Chacra formation which is being produced dually with a marginal Mesaverde. If this well is left as a dual completion, the marginal zones will not be economic much longer. We plan to complete the well with both the Mesaverde and Chacra formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 228 MCFD with 2.3 BCPD due to the increased efficiencies of lifting liquids. 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 55% from the Mesaverde formation and 45% from the Chacra formation. The Chacra has historically produced only a very small amount of liquids in this well. Based on that fact, we propose to allocate 99% of the liquid production to the Mesaverde formation and 1% of the liquid production to the Chacra. 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 recent production information for each formation. This spacing unit is on a federal lease (Jicarilla Contract 146) 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,

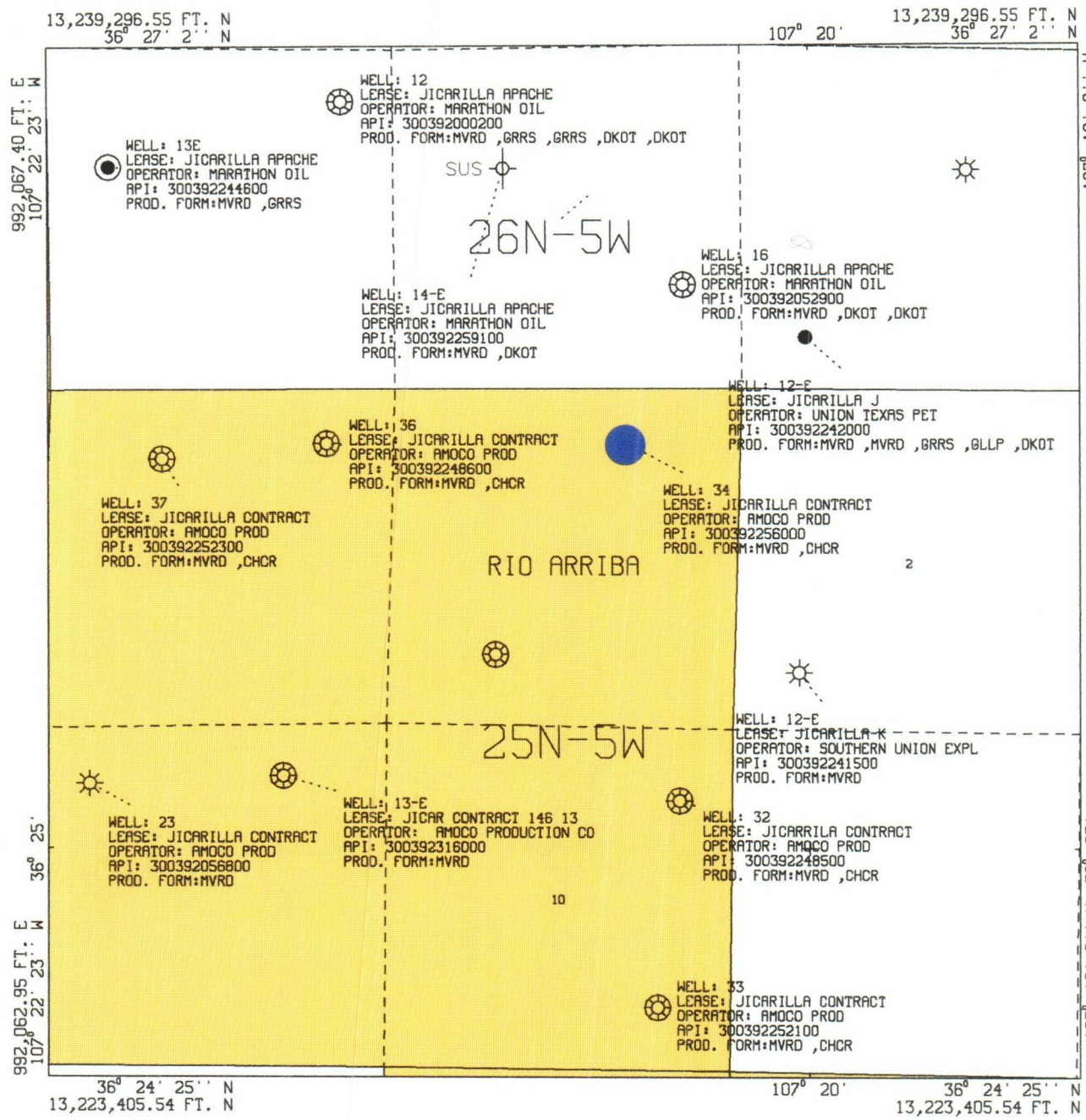
Pamela W. Staley

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



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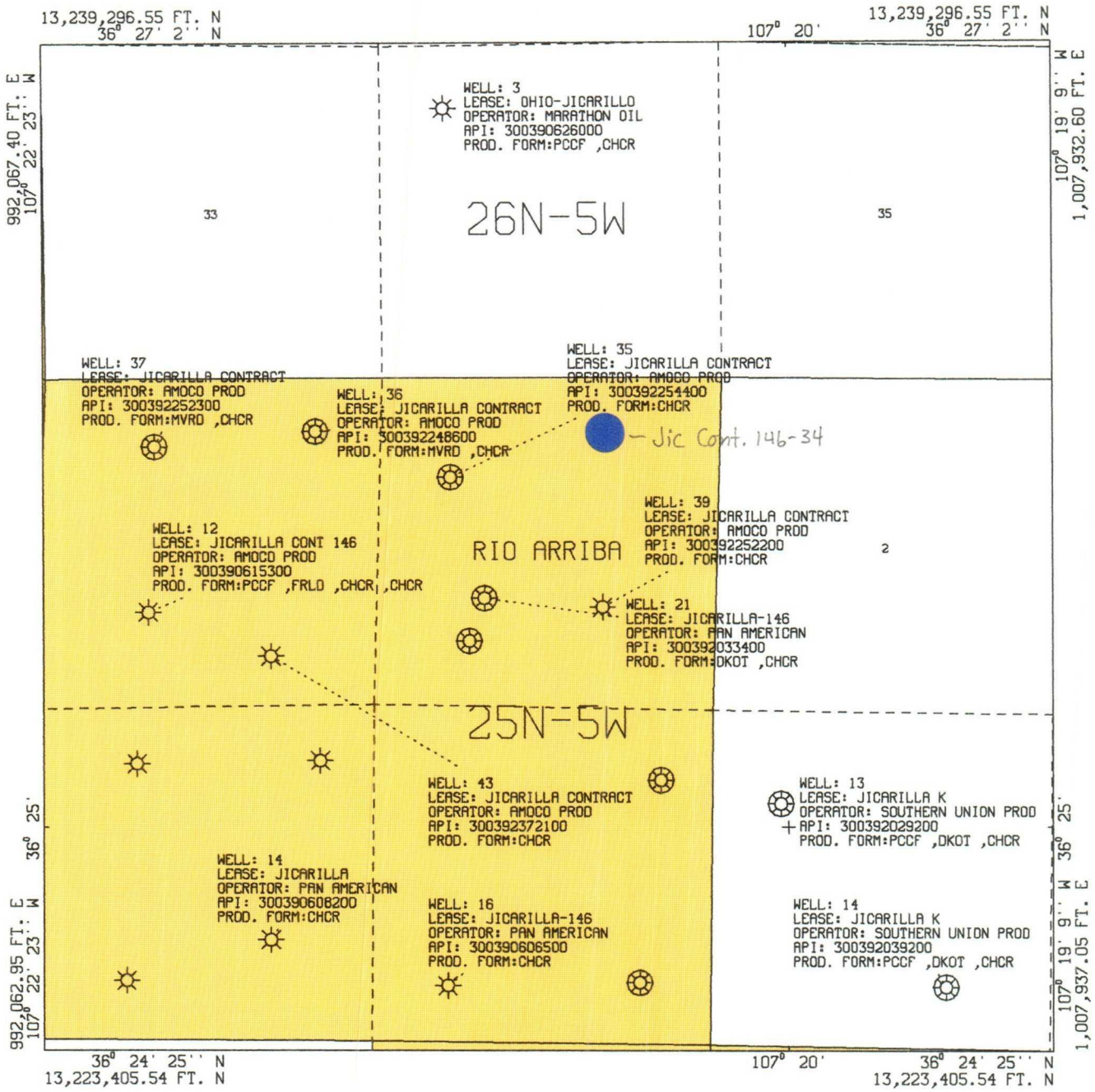
AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 146-34 Sec 03-T25N-R05W MV
Rio Arriba New Mexico

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

HORIZONTAL DATUM NAD27

PLOT 1 06.56.58 FRI 3 NOV, 1995 JOB-P1316102, ISSCO DISSPLA 10.0

HAB13161--RUN#95307060755



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AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 146-34 Sec 03-T25N-R05W CK
Rio Arriba New Mexico

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

HORIZONTAL DATUM NAD27

PLOT 1 06.45.13 FRI 3 NOV, 1995 JOB-P1315202, ISSCO DISSPLA 10.0

HAB13152--RUN#95307060340

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 146
Well Number:	34
Well Location:	830' FNL & 1780' FEL Unit B Section 3-T25N-R5W Rio Arriba County, New Mexico
Pools Commingled:	Otero Chacra 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 43 MCFD and 1.75 BCPD. The Chacra zone produced at an average rate of about 35 MCFD and 0.02 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.
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 Chacra formation is calculated to be 989 PSIG while estimated bottomhole pressure in the Mesaverde formation is 957PSIG. 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 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 55% from the Mesaverde formation and 45% from the Chacra formation. The Chacra has historically produced only a very small amount of liquids in this well. Based on that fact, we propose to allocate 99% of the liquid production to the Mesaverde formation and 1% of the liquid production to the Chacra. 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.

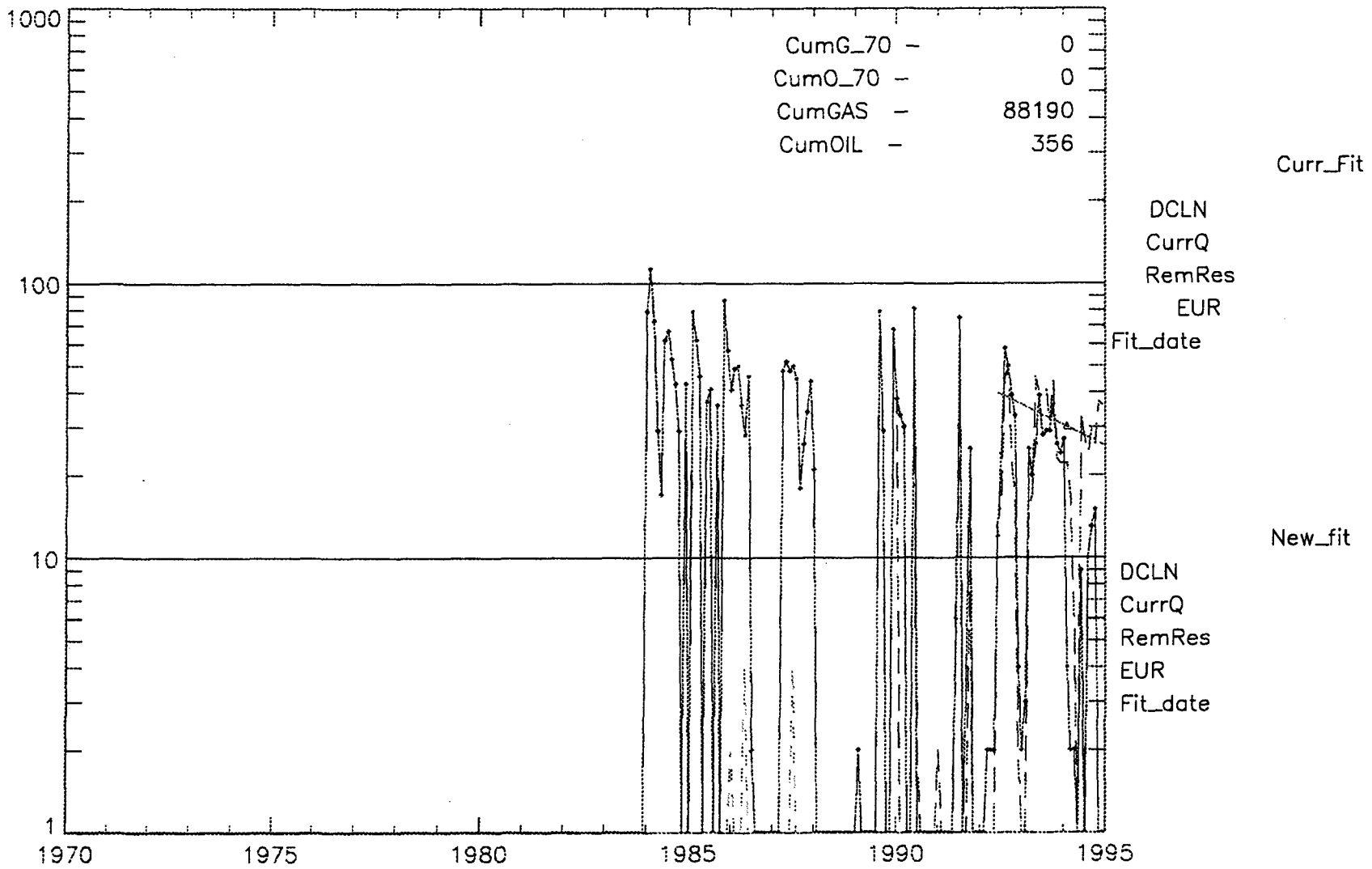
Engr: zhab0b

JICARILLA CONTRACT 146 34

Operator– AMOCO PRODUCTION CO

300392256000CK B032505–034 CK

APC_WI – 1.0000000



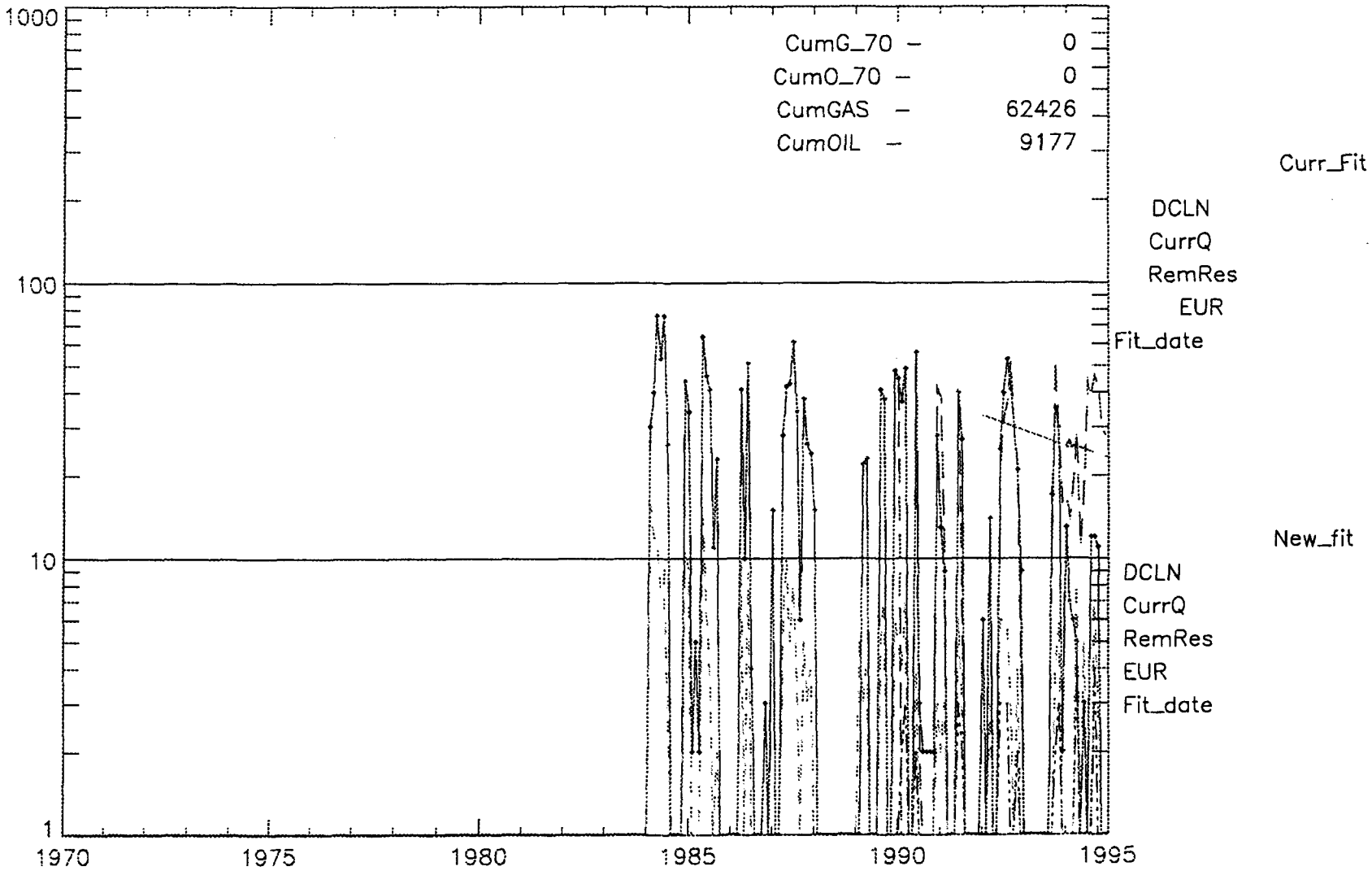
Engr: zhab0b

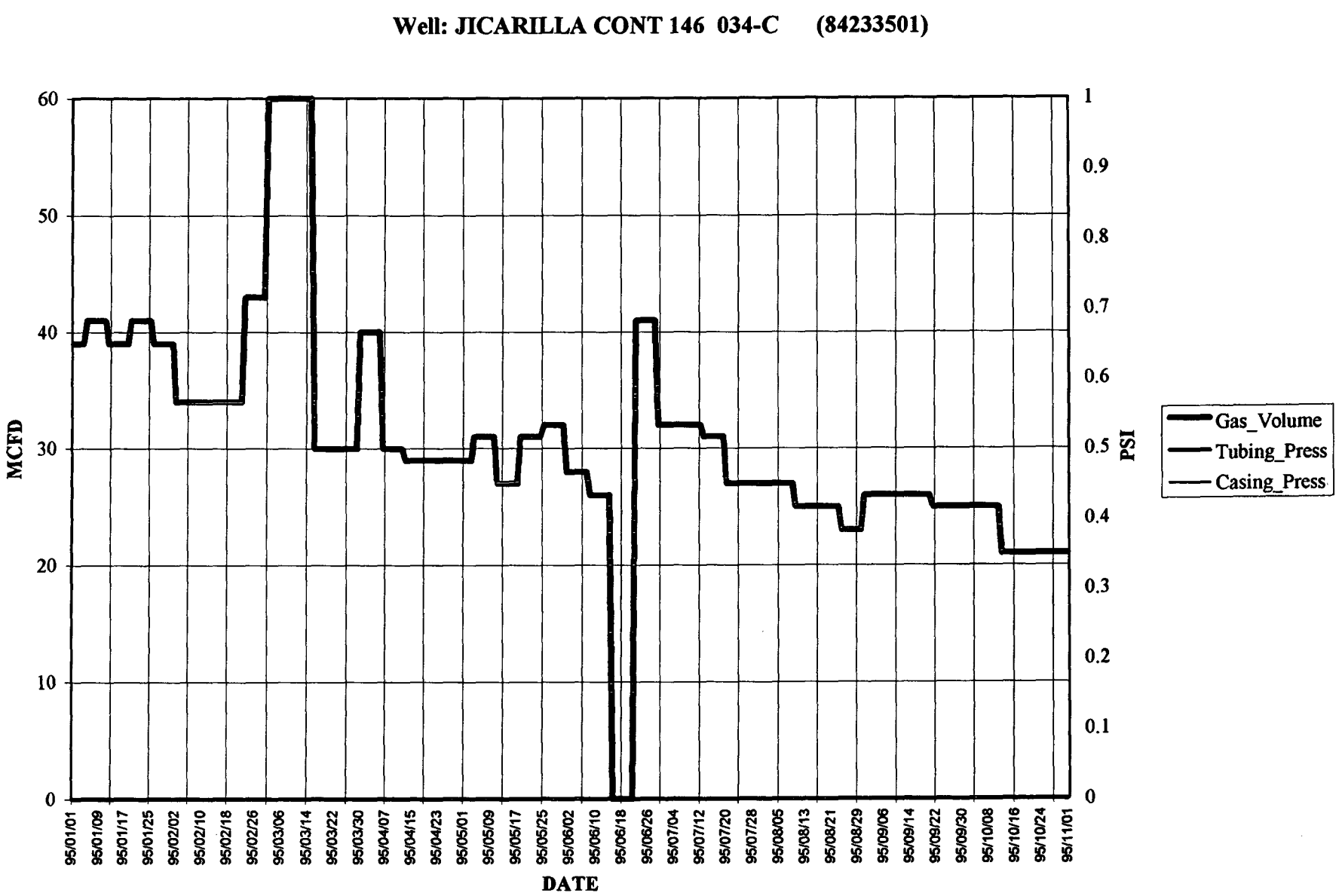
JICARILLA CONTRACT 146 34

Operator– AMOCO PRODUCTION CO

300392256000MV B032505–034 MV

APC_WI – 1.0000000




Well: JICARILLA CONT 146 034-C (84233501)
MCFD
PSI
DATE
Gas_Volume
Tubing_Press
Casing_Press
60
50
40
30
20
10
0
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
95/01/01
95/01/09
95/01/17
95/01/25
95/02/02
95/02/10
95/02/18
95/02/26
95/03/06
95/03/14
95/03/22
95/03/30
95/04/07
95/04/15
95/04/23
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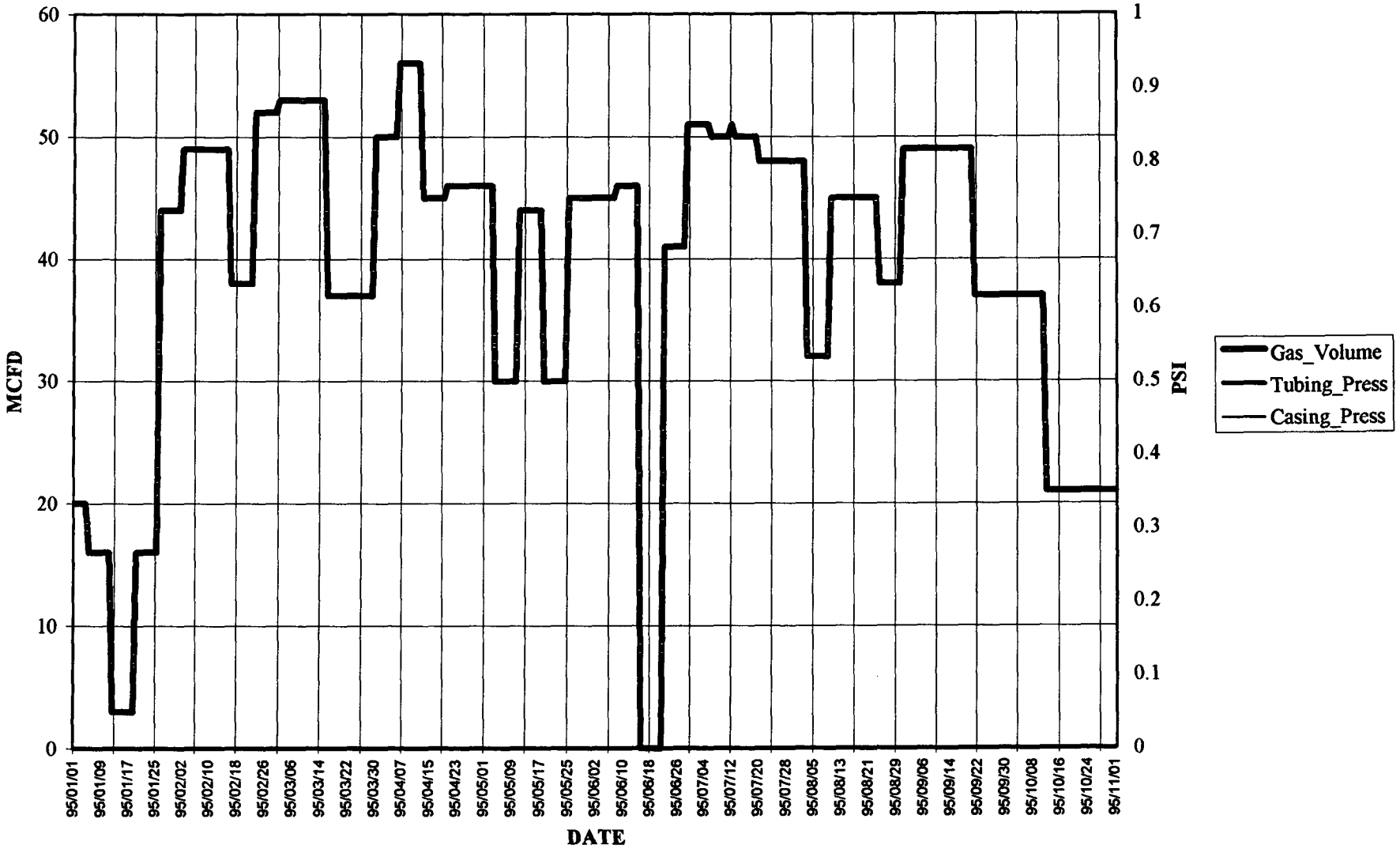
95/06/26
95/07/04
95/07/12
95/07/20
95/07/28
95/08/05
95/08/13
95/08/21
95/08/29
95/09/06
95/09/14
95/09/22
95/09/30
95/10/08
95/10/16
95/10/24
95/11/01

Well: JICARILLA CONT 146 034-M (84233502)



ESTIMATED BOTTOMHOLE PRESSURES

Jicarilla Contract #146-34

CK	PERFORATIONS		TOP	3786	BOTTOM	3816	MIDPERF	3801	
MV	PERFORATIONS		TOP	5112	BOTTOM	5277	MIDPERF	5195	
	Jun-95	SHUT-IN PRESSURES							
		CK	=	685	PSIG				
		MV	=	541	PSIG				
	GRADIENT	= 0.8 PSI/FT							
	CK	**BHP =**	685	PSIG +	3801	X 0.08 PSIG			
		=	989	PSI					
	MV	**BHP =**	541	PSIG +	5195	X 0.08 PSIG			
		=	957	PSI					

STATE OF NEW MEXICO
ENERGY and MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #:JIC CONTRACT 146 34

Location of Well: B 03 25 05 Meter #: 85770 RTU: 1-190-01 County: RIO ARRI

	NAME RESERVOIR OR POOL	TYPE PROD	METHOD PROD	MEDIUM PROD
UPR COMP	OTERO CHACRA 85769 189-1	GAS	FLOW	TBG
LWR COMP	BLANCO MESAVERDE 85770 190-1	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	685	yes
LWR COMP	11/19/90	72 Hours	541	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	684	423		Both Zones SI
11/20/90	Day 2	684	501		Both Zones SI
11/21/90	Day 3	684	536		Both Zones SI
11/22/90	Day 4	685	541		Opened Lower Zone
11/23/90	Day 5	684	317		"
11/24/90	Day 6	684	322		"

Production rate during test

Oil:_____ BOPD based on _____ BBLs in _____ Hrs _____ Grav___ GOR ___

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

MID-TEST SHUT-IN PRESSURE DATA

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

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OFFSET OPERATORS AND LIST OF ADDRESSES

Jicarilla 146 #34 Well

CHACRA OFFSET OPERATORS

SE SEC 34-T26N-R5W - NO CHACRA WELL
SW SEC 34-T26N-R5W - NO CHACRA WELL
SW SEC 35-T26N-R5W - NO CHACRA WELL
NW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
SE SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 2-T25N-R5W - NO CHACRA WELL
SW SEC 2-T25N-R5W - MERIT ENERGY CORP.

MESAVERDE OFFSET OPERATORS

SE SEC 34-T26N-R5W - MARATHON OIL CO.
SW SEC 34-T26N-R5W - NO MESAVERDE WELL
SW SEC 35-T26N-R5W - MERIDIAN OIL, INC.
NW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
SE SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 2-T25N-R5W - NO MESAVERDE WELL
SW SEC 2-T25N-R5W - MERIT ENERGY CORP.

ADDRESSES

1 Merit Energy Corp.
12221 Merit Dr. Suite 500
Dallas, TX 75251

2 Meridian Oil, Inc.
P.O. Box 4289
Farmington, NM 87499

3 Marathon Oil Company
P.O. Box 552
Midland, Texas 79702