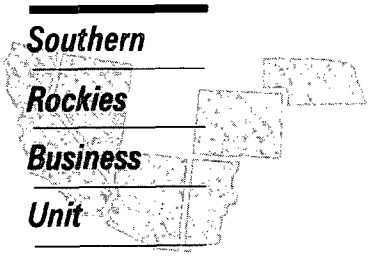
DHC 4-8-96



March 11, 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 148 #20 Well
920' FNL & 1620' FEL, Unit B Section 23-T25N-R5W
South Blanco Pictured Cliffs (Pool IDN 72439) and Otero Chacra Ext. (Pool IDN 82329) Pools
Rio Arriba County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the South Blanco Pictured Cliffs and Otero Chacra Ext. Pools in the Jicarilla 148 #20 Well referenced above. The Jicarilla 148 #20 well was originally a dual completion in the Pictured Cliffs and Chacra formations. This well has a marginal Chacra formation which is being produced dually with a marginal Pictured Cliffs. 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 Pictured Cliffs and Chacra formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 225 MCFD with 0.51 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 73% from the Pictured Cliffs formation and 27% from the Chacra formation. The Pictured Cliffs has historically produced no liquids in this well. Based on that fact, we propose to allocate 100% of the liquid production to the Chacra 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, recent production information and a C-102 for each formation. This spacing unit is on a federal lease (Jicarilla Contract 148) 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 148
Well Number:	20
Well Location:	920' FNL & 1620' FEL, Unit B Section 23-T25N-R5W Rio Arriba County, New Mexico
Pools Commingled:	Otero Chacra Ext. South Blanco Pictured Cliffs

(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 Pictured Cliffs produced an average stabilized rate of 55 MCFD with no condensate. The Chacra zone produced at an average rate of about 20 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 Ext.:	Historical production curve attached.
South Blanco Pictured Cliffs 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 645 PSIG while estimated bottomhole pressure in the Pictured Cliffs formation is 459 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 Pictured Cliffs 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:

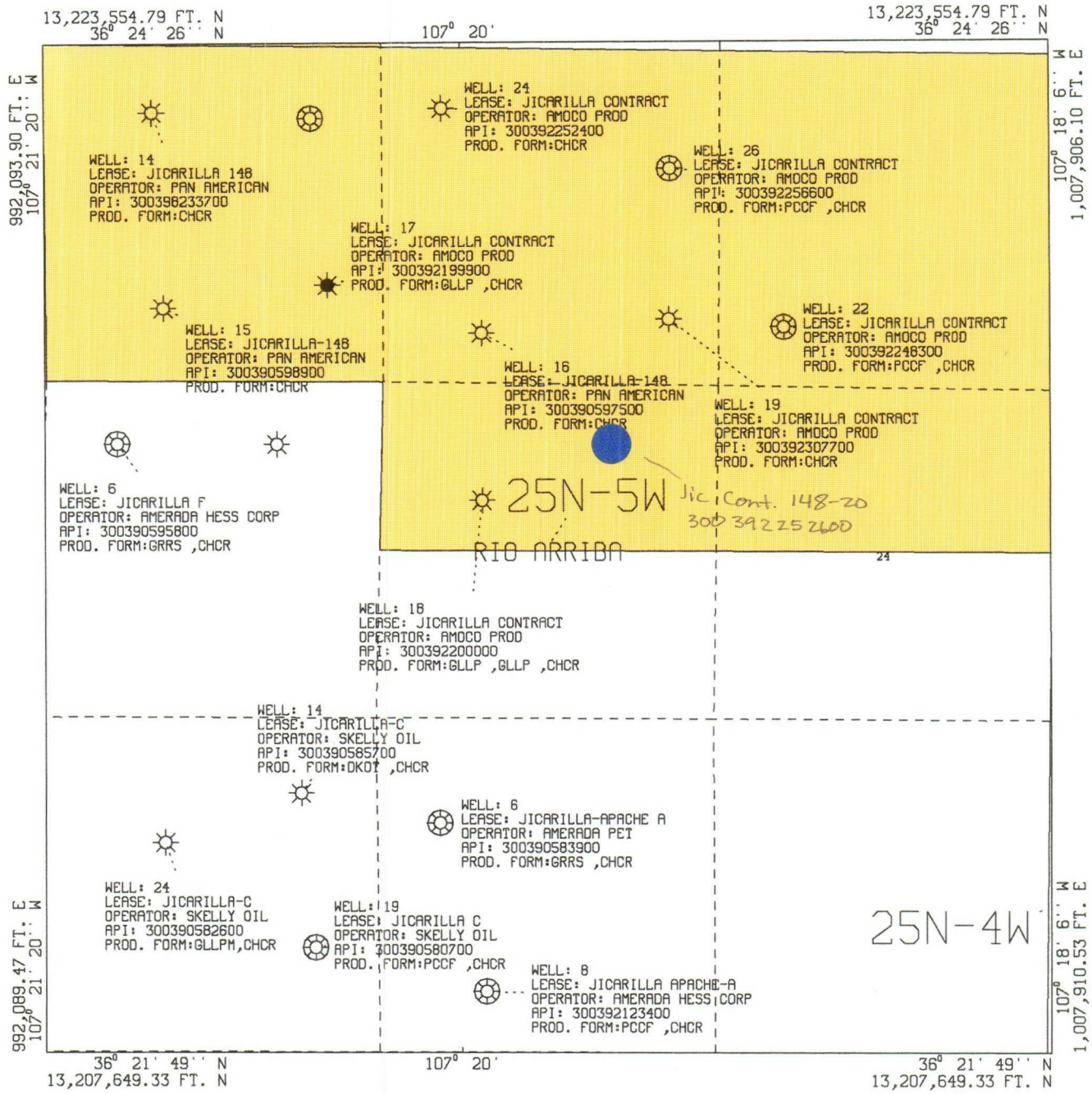
The BTU content of the produced streams are very similar and as such, we would expect the commingled production to have the same value as the sum of the individual streams.

(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 73% from the Pictured Cliffs formation and 27% from the Chacra formation. The Pictured Cliffs has historically produced no liquids in this well. Based on that fact, we propose to allocate 100% of the liquid production to the Chacra 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.



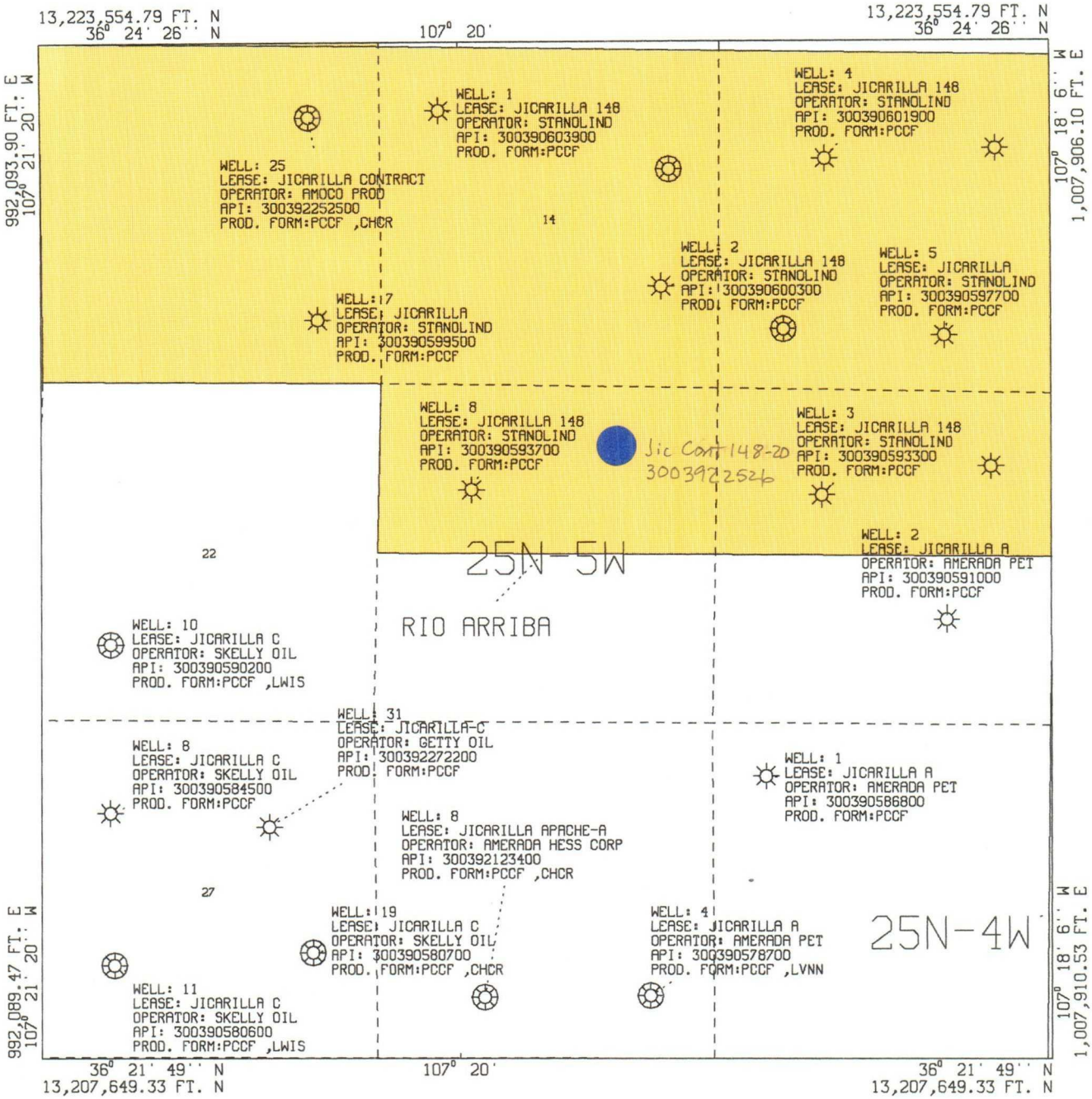
AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 148-20 Sec 23-T25N-R05W CK
Rio Arriba New Mexico

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

HORIZONTAL DATUM NAD27

PLOT 1 06.38.06 SAT 4 NOV, 1995 JOB-P10064D2, ISSCO DISSPLA 10.0

HAB10064--RUN#9530806153B



AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 148-20 Sec 23-T25N-R05W PC
Rio Arriba New Mexico

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

HORIZONTAL DATUM NAD27

PLOT 1 06.48.59 SAT 4 NOV, 1995 JOB-P10072D2, ISSCO DISSPLA 10.0

HAB10072--RUN#9530806195

L CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Form C-107
Revised 10-1-7

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

Operator	Lease	Well No.
AMOCO PRODUCTION COMPANY	JICARILLA CONTRACT 148	20

Unit Letter	Section	Township	Range	County
B	23	25N	5W	Rio Arriba

Actual Footage Location of Well:
920 feet from the North line and 1620 feet from the East line

Ground Level Elev:	Producing Formation	Pool	Dedicated Acreage:
6830	Pictured cliffs/ Chacra	So. Blanco Pictured Cliffs/ Otero Chacra	160 Acres

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

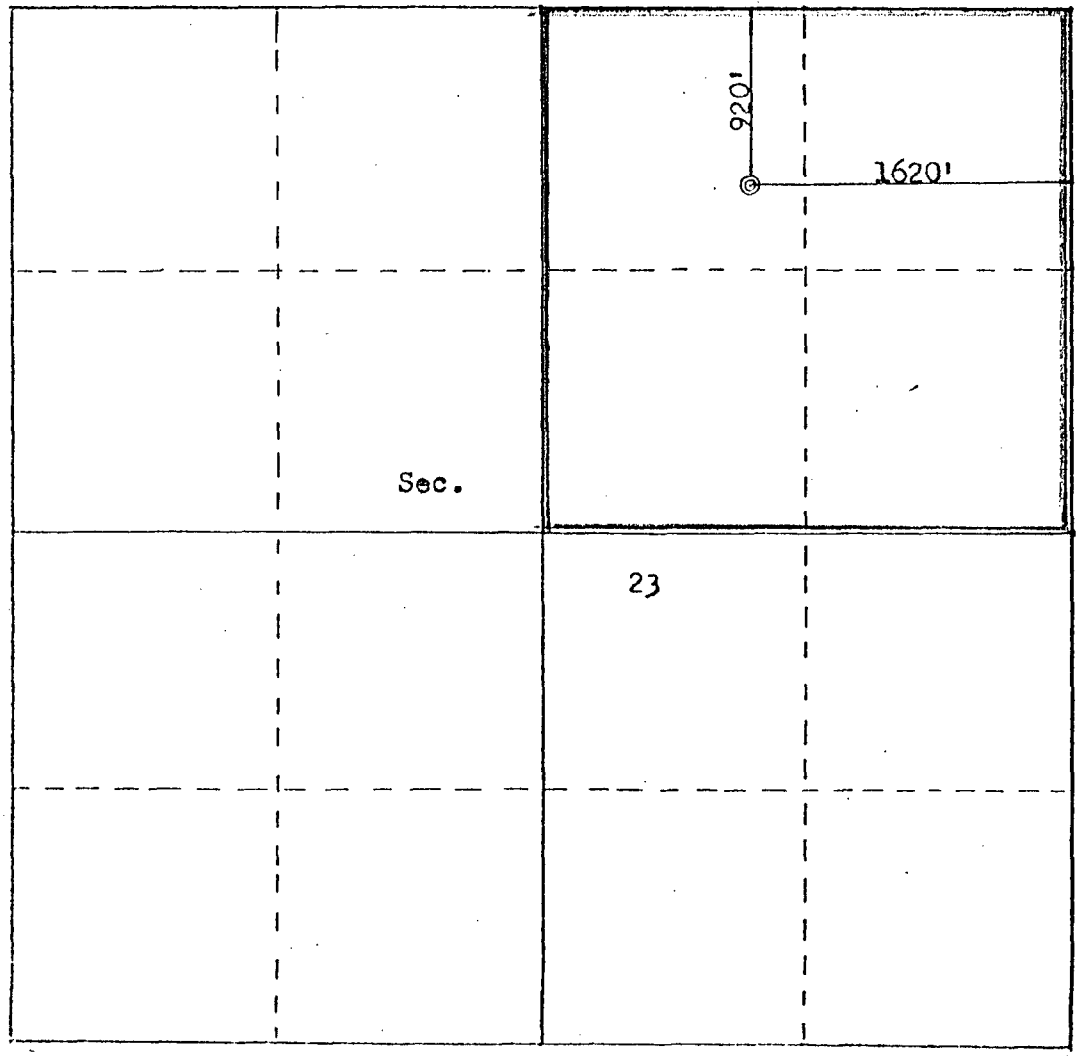
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



Scale: 1"=1000'

CERTIFICATION

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

R.A. Downey

Name
R.A. DOWNEY

Position
DISTRICT ENGINEER

Company
AMOCO PRODUCTION COMPANY

Date
SEPTEMBER 5, 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
July 30, 1980

Registered Professional Engineer and Land Surveyor

Fred B. Kerr, Jr.

Certificate No.
3950

REGISTERED LAND SURVEYOR FRED B. KERR, JR.

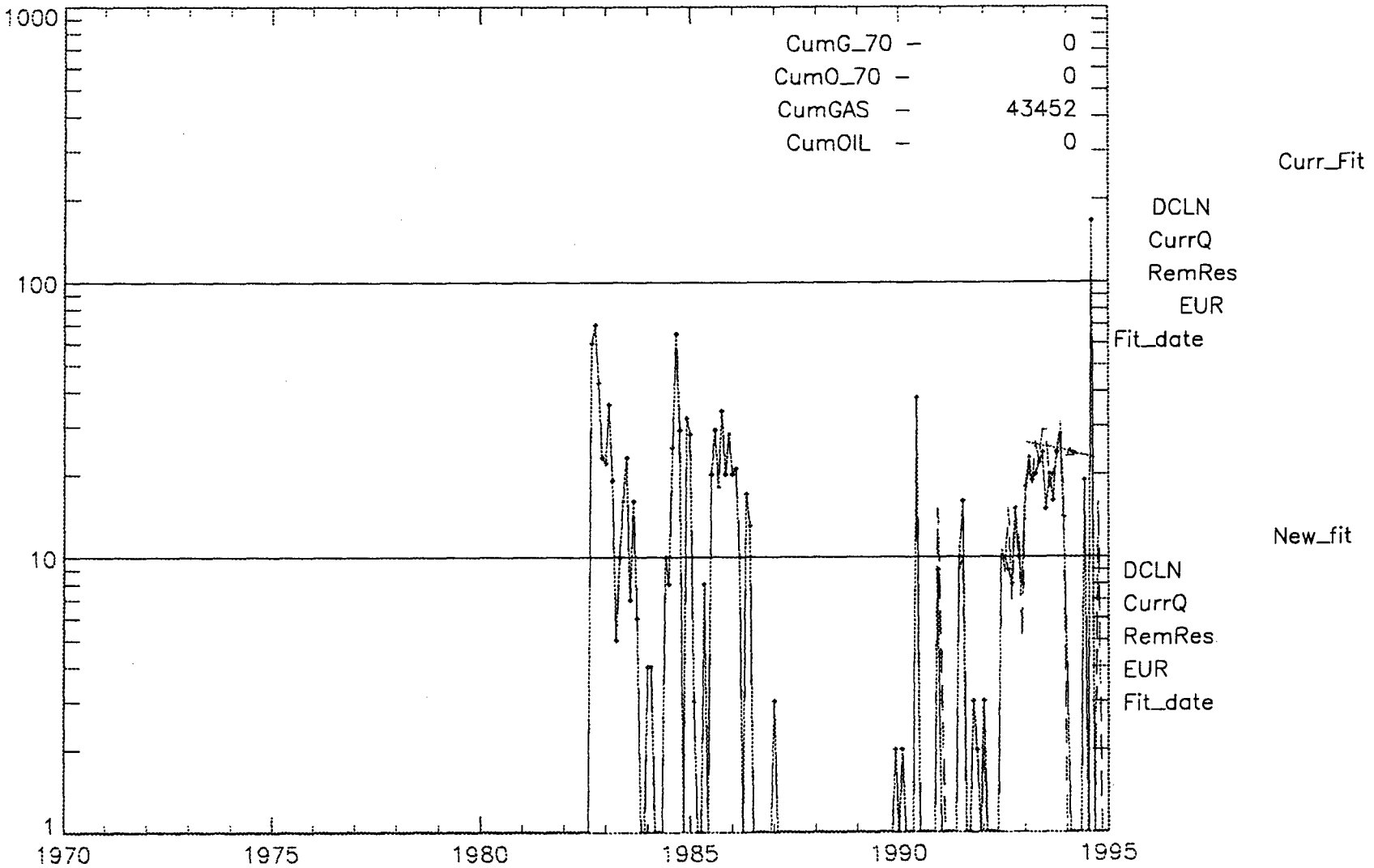
Engr: zhab0b

JICARILLA CONTRACT 148 20

Operator– AMOCO PRODUCTION CO

300392252600CK B232505–020 CK

APC_WI – 1.0000000



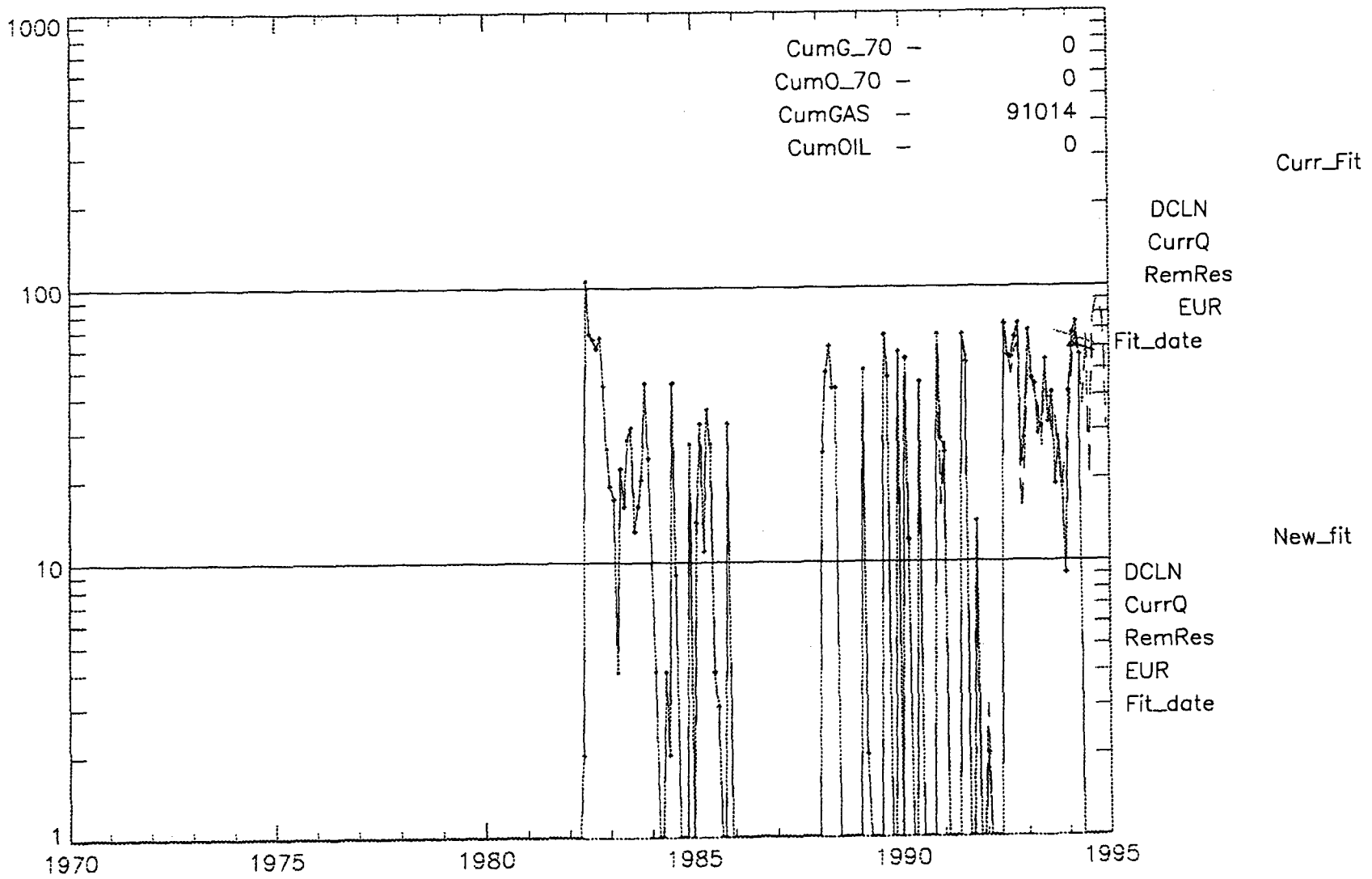
Engr: zhab0b

JICARILLA CONTRACT 148 20

Operator– AMOCO PRODUCTION CO

300392252600PC B232505–020 PC

APC_WI – 1.0000000



ESTIMATED BOTTOMHOLE PRESSURES

Jicarilla Contract #148-20

CK	PERFORATIONS		TOP	3918	BOTTOM	3950	MIDPERF	3934	
PC	PERFORATIONS		TOP	3072	BOTTOM	3092	MIDPERF	3082	
	Nov-90	SHUT-IN PRESSURES							
		CK	=	330	PSIG				
		PC	=	212	PSIG				
	GRADIENT	= 0.8 PSI/FT							
	CK	**BHP =**	330	PSIG +	3934	X 0.08 PSIG			
		=	645	PSI					
	PC	**BHP =**	212	PSIG +	3082	X 0.08 PSIG			
		=	459	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 148 20

Location of Well: B 32 5 05 Meter #: 85631 RTU: 1-051-01 County: RIO ARRIB

	NAME RESERVOIR OR POOL	TYPE PROD	METHOD PROD	MEDIUM PROD
UPR COMP	SO BLANCO PICTURED CLIFF 85581	GAS	FLOW	TBG
LWR COMP	OTERO CHACRA 85631	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	212	No
LWR COMP	11/19/90	72 Hours	330	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	75	305		Both Zones SI
11/20/90	Day 2	185	320		Both Zones SI
11/21/90	Day 3	211	329		Both Zones SI
11/22/90	Day 4	212	330		Lower Zone
11/23/90	Day 5	218	322		"
11/24/90	Day 6	215	320		"

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				

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

OFFSET OPERATORS AND LIST OF ADDRESSES

Jicarilla 148 #20 Well

CHACRA OFFSET OPERATORS

SW SEC 13-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 14-T25N-R5W - AMOCO PRODUCTION COMPANY
SE SEC 14-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 23-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 23-T25N-R5W - AMERADA HESS CORPORATION
SE SEC 23-T25N-R5W - NO CHACRA WELL
NW SEC 24-T25N-R5W - NO CHACRA WELL
SW SEC 24-T25N-R5W - NO CHACRA WELL

PICTURED CLIFFS OFFSET OPERATORS

SW SEC 13-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 14-T25N-R5W - NO PICTURED CLIFFS WELL
SE SEC 14-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 23-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 23-T25N-R5W - NO PICTURED CLIFFS WELL
SE SEC 23-T25N-R5W - NO PICTURED CLIFFS WELL
NW SEC 24-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 24-T25N-R5W - NO PICTURED CLIFFS WELL

ADDRESSES

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