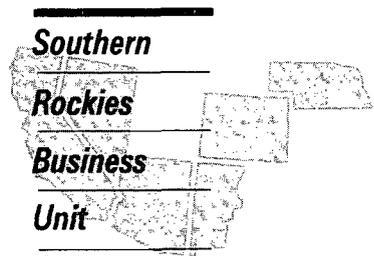


DHC 3-25-96

REIVED

MAR 4 1996

CONSERVATION DIV
SANTA FE



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 #39 Well
1600' FSL & 1780' FEL, Unit J 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 #39 Well referenced above. The Jicarilla 146 #39 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 270 MCFD with 3.15 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.

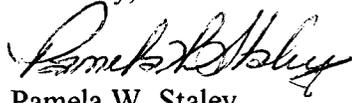
The allocation method that we plan to use for this commingled well is as follows. Since these formations have been producing for some time, we have a good historical representation of the production by formation. Based on historical production we recommend that the allocation for gas production be 17% from the Mesaverde formation and 83% from the Chacra formation. The Chacra has historically produced no liquids in this well. Based on that fact, we propose to allocate 100% of the liquid production to the Mesaverde 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 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

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: 39
Well Location: 1600' FSL & 1780' FEL
Unit J 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 20 MCFD and 2.65 BCPD. The Chacra zone produced at an average rate of about 100 MCFD and 0 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 521 PSIG while estimated bottomhole pressure in the Mesaverde formation is 738 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 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 17% from the Mesaverde formation and 83% from the Chacra formation. The Chacra has historically produced no liquids in this well. Based on that fact, we propose to allocate 100% of the liquid production to the Mesaverde 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.

13,239,296.55 FT. N
36° 27' 2" N

13,239,296.55 FT. N
36° 27' 2" N

107° 20'

992,067.40 FT. E
107° 22' 23" W

1,007,932.60 FT. E
107° 19' 9" W

WELL: 13E
LEASE: JICARILLA APACHE
OPERATOR: MARATHON OIL
API: 300392244600
PROD. FORM: MVRD ,GRRS

WELL: 12
LEASE: JICARILLA APACHE
OPERATOR: MARATHON OIL
API: 300392000200
PROD. FORM: MVRD ,GRRS ,GRRS ,DKOT ,DKOT

SUS

26N-5W

WELL: 14-E
LEASE: JICARILLA APACHE
OPERATOR: MARATHON OIL
API: 300392259100
PROD. FORM: MVRD ,DKOT

WELL: 16
LEASE: JICARILLA APACHE
OPERATOR: MARATHON OIL
API: 300392052900
PROD. FORM: MVRD ,DKOT ,DKOT

WELL: 12-E
LEASE: JICARILLA J
OPERATOR: UNION TEXAS PET
API: 300392242000
PROD. FORM: MVRD ,MVRD ,GRRS ,BLLP ,DKOT

WELL: 37
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392252300
PROD. FORM: MVRD ,CHCR

WELL: 36
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392248600
PROD. FORM: MVRD ,CHCR

WELL: 34
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392256000
PROD. FORM: MVRD ,CHCR

RIO ARRIBA

Jic Cont 146-39



25N-5W

WELL: 12-E
LEASE: JICARILLA-K
OPERATOR: SOUTHERN UNION EXPL
API: 300392241500
PROD. FORM: MVRD



WELL: 23
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392056800
PROD. FORM: MVRD

WELL: 13-E
LEASE: JICAR CONTRACT 146 13
OPERATOR: AMOCO PRODUCTION CO
API: 300392316000
PROD. FORM: MVRD

WELL: 32
LEASE: JICARRILA CONTRACT
OPERATOR: AMOCO PROD
API: 300392248500
PROD. FORM: MVRD ,CHCR

10



WELL: 33
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392252100
PROD. FORM: MVRD ,CHCR

36° 24' 25" N
13,223,405.54 FT. N

107° 20'

36° 24' 25" N
13,223,405.54 FT. N

992,062.95 FT. E
107° 22' 23" W

1,007,937.05 FT. E
107° 19' 9" W

PLOT 1 06.29.38 FRI 3 NOV, 1995 JOB-F1322102, ISS500 DISSPLA 10.0

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 146-39 Sec 03-T25N-R05W MV
Rio Arriba New Mexico
SCALE 1 IN. = 2,500 FT. NOV 3, 1995

HORIZONTAL DATUM NAD27

HAB13221--RUN#95307055207

13,239,296.55 FT. N
36° 27' 2" N

13,239,296.55 FT. N
36° 27' 2" N

107° 20'

992,067.40 FT. E
107° 22' 23" W

1,007,932.60 FT. E
107° 19' 9" W

33

26N-5W

35

WELL: 37
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392252300
PROD. FORM: MVRD ,CHCR

WELL: 36
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392248600
PROD. FORM: MVRD ,CHCR

WELL: 35
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392254400
PROD. FORM: CHCR

WELL: 12
LEASE: JICARILLA CONT 146
OPERATOR: AMOCO PROD
API: 300390615300
PROD. FORM: PCCF ,FRLD ,CHCR ,CHCR

RIO ARRIBA

WELL: 39
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392252200
PROD. FORM: CHCR

WELL: 21
LEASE: JICARILLA-146
OPERATOR: PAN AMERICAN
API: 300392033400
PROD. FORM: DKOT ,CHCR

WELL: 43
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392372100
PROD. FORM: CHCR

WELL: 13
LEASE: JICARILLA K
OPERATOR: SOUTHERN UNION PROD
API: 300392029200
PROD. FORM: PCCF ,DKOT ,CHCR

WELL: 14
LEASE: JICARILLA
OPERATOR: PAN AMERICAN
API: 300390608200
PROD. FORM: CHCR

WELL: 16
LEASE: JICARILLA-146
OPERATOR: PAN AMERICAN
API: 300390606500
PROD. FORM: CHCR

WELL: 14
LEASE: JICARILLA K
OPERATOR: SOUTHERN UNION PROD
API: 300392039200
PROD. FORM: PCCF ,DKOT ,CHCR

992,062.95 FT. E
107° 22' 23" W

1,007,937.05 FT. E
107° 19' 9" W

36° 25'

36° 25'

36° 24' 25" N
13,223,405.54 FT. N

107° 20'

36° 24' 25" N
13,223,405.54 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 146-39 Sec 03-T25N-R05W CK
Rio Arriba New Mexico
SCALE 1 IN. = 2,500 FT. NOV 3, 1995

HORIZONTAL DATUM NAD27

PLOT 1 05.36.33 FRI 3 NOV, 1995 ISSCO DISSPLA 10.0

HAB13203--RUN#95307052120

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-71

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Operator AMOCO PRODUCTION COMPANY		Lease JICARILLA CONTRACT 146		Well No. 39
Unit Letter J	Section 3	Township 25N	Range 5W	County Rio Arriba

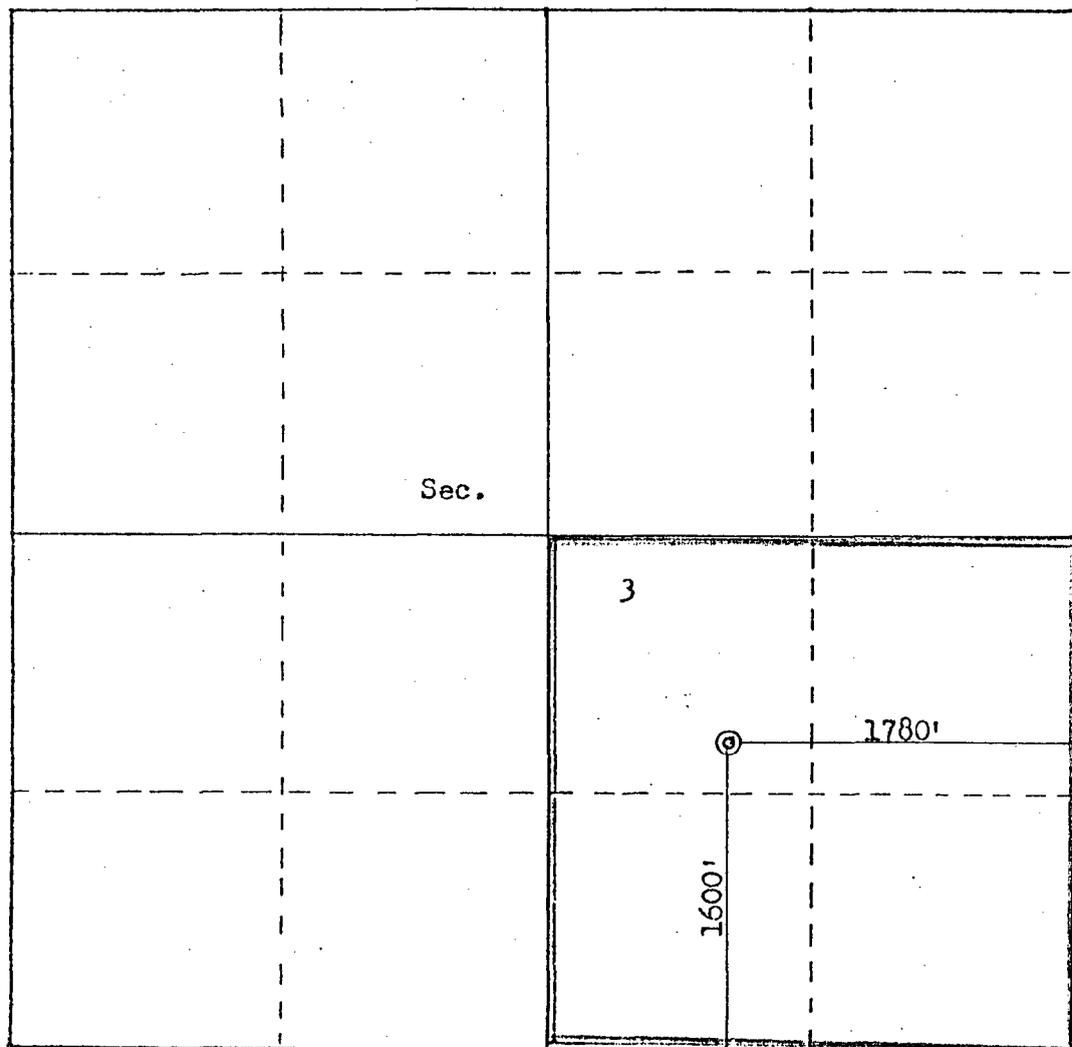
Actual Footage Location of Well:
1600 feet from the **South** line and **1780** feet from the **East** line
 Ground Level Elev: **6605** Producing Formation: **Chacra/Mesaverde** Pool: **Otero Chacra/Gonzales Mesaverde** Dedicated Acreage: **160** Acres

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 29, 1980

Registered Professional Engineer and Land Surveyor
Fred B. Kern Jr.
Fred B. Kern Jr.

Certificate No.
3950

Engr: zhab0b

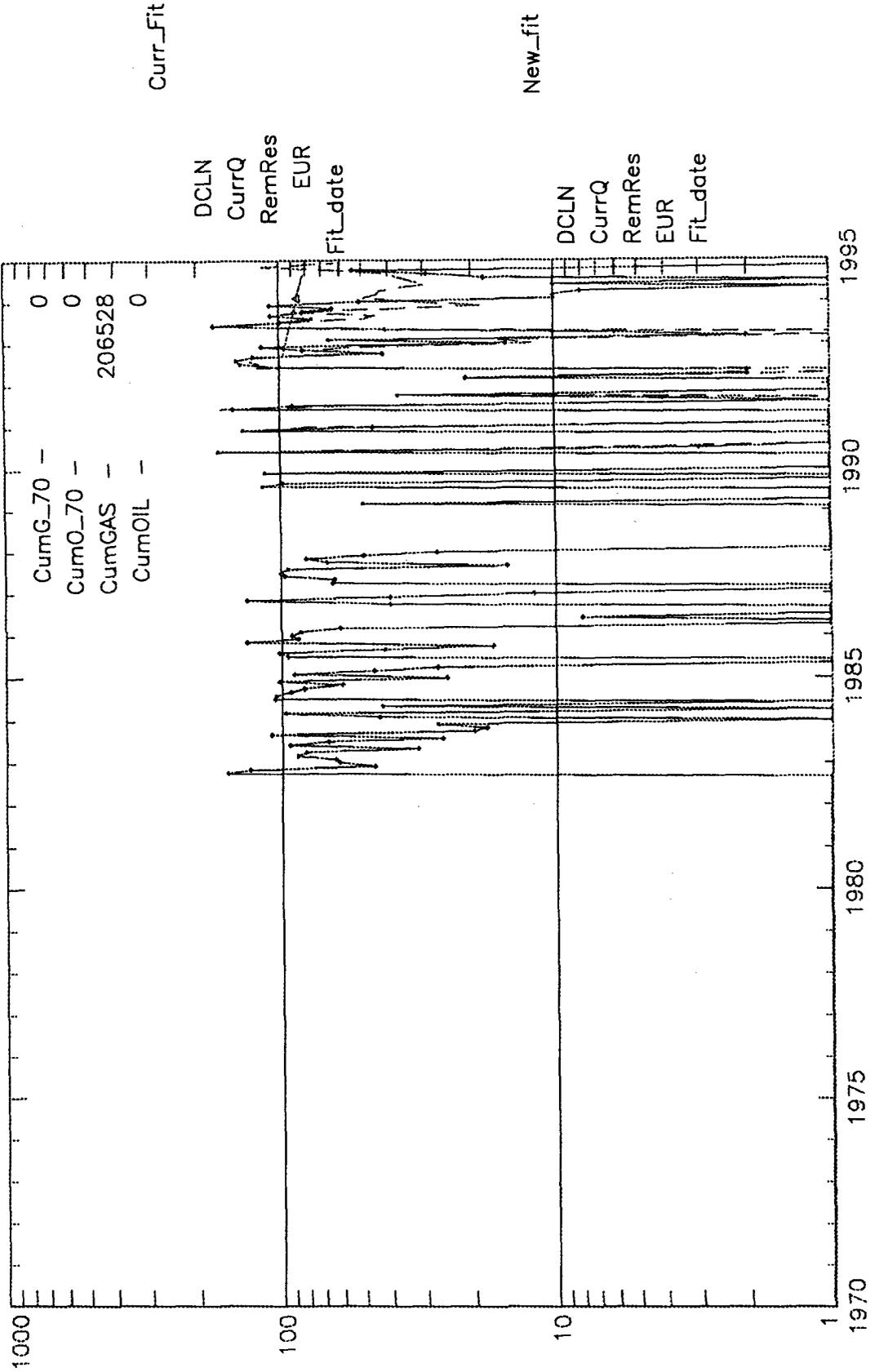
JICARILLA CONTRACT 146 39

Operator- AMOCO PRODUCTION CO

300392252200CK

J032505-039 CK

APC_WI - 1.0000000



Engr: zhab0b

JICARILLA CONTRACT 146 39

Operator-- AMOCO PRODUCTION CO

300392252200MV J032505-039 MV

APC_WI - 1.0000000

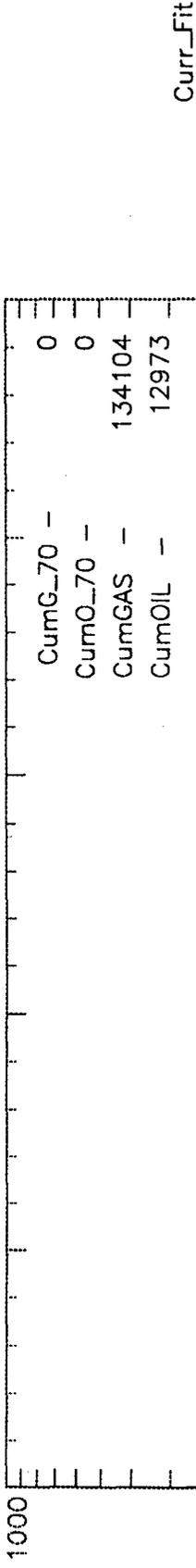
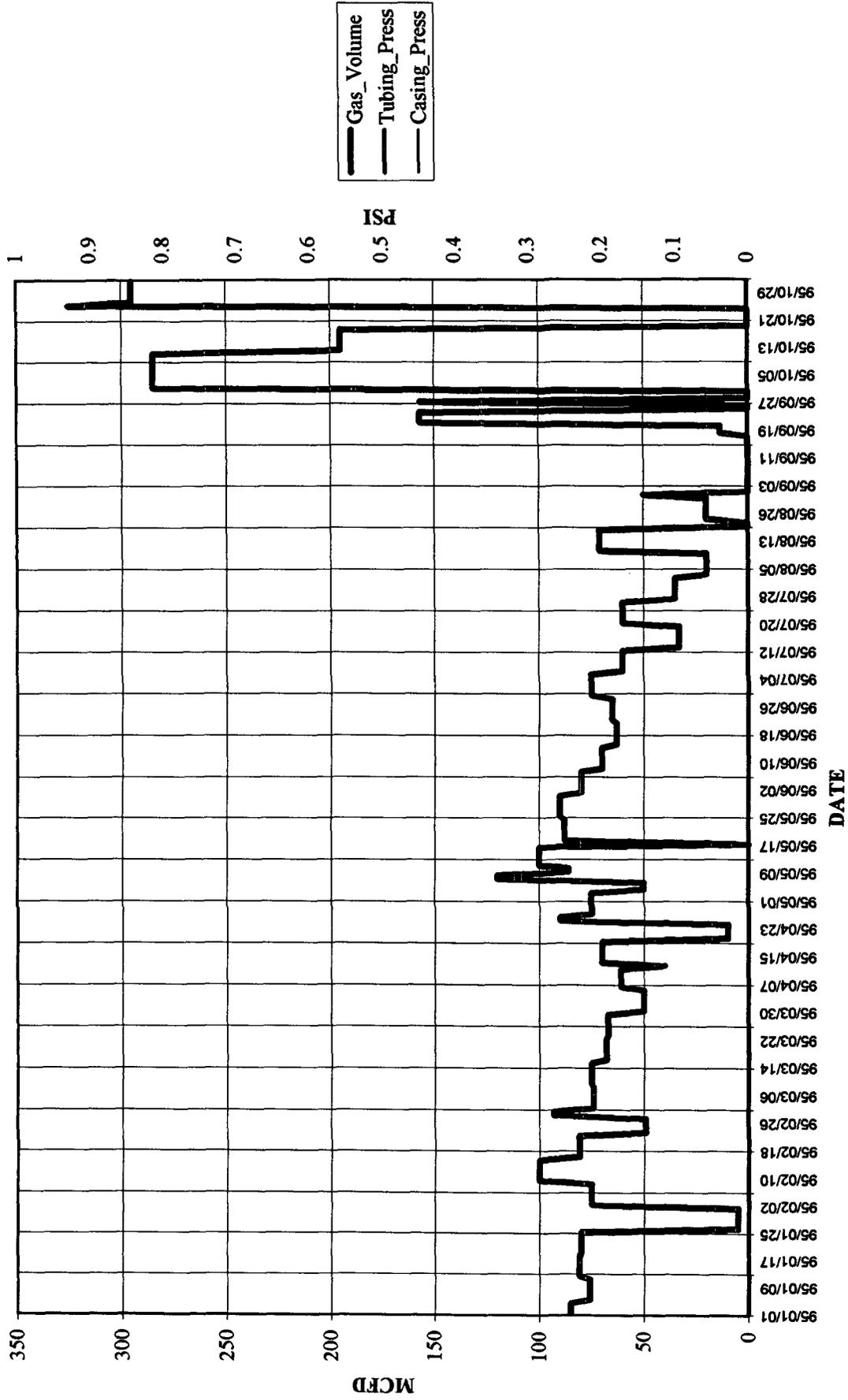


Chart1

Well: JICARILLA CONT 146 039-CK (84237501)



OIL CONSERVATION DIVISION
NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #: JIC CONTRACT 146 39
Meter #: 85700 RTU: 1-134-01 County: RIO ARRIBA

	NAME RESERVOIR OR POOL	TYPE PROD	METHOD PROD	MEDIUM PROD
UPR COMP	JIC CONTRACT 146 39 OCH 85643 1-133-1	GAS	FLOW ✓	TBG ✓
LWR COMP	JIC CONTRACT 146 39 BMV 85700 1-134-1	GAS	FLOW ✓	TBG ✓

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilized
UPR COMP	09/28/93	73 hr	217 TBG 200 G512	YES
LWR COMP	09/28/93	73 hr	336#	YES

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		
9/29/93	Day 1	380 TBG 357 G512	292 TBG		Both Zones SI
9/30/93	Day 2	339 - 400 -	286 TBG		Both Zones SI
10/1/93	Day 3	400 - 410 -	222 TBG		Both Zones SI
10/2/93	Day 4	410 410	160		
10/3/93	Day 5	408 408	240		
10/4/93	Day 6	405 408	222		

Production rate during test
Oil: 0 BOPD based on BBLs in Hrs Grav GOR
Gas: 78 MFCPD: Tested thru (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	09/28/93	73 hr	412 416	YES
LWR COMP	09/28/93	73 hr	232#	YES

(Continue on reverse side)

RECEIVED

OCT 21/1993
OIL CON. DIV.
DIST. 3

OFFSET OPERATORS AND LIST OF ADDRESSES

Jicarilla 146 #39 Well

CHACRA OFFSET OPERATORS

NW SEC 11-T25N-R5W - MERIT ENERGY CORP.
NE SEC 10-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 10-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
NE 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

NW SEC 11-T25N-R5W - NO MESAVERDE WELL
NE SEC 10-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 10-T25N-R5W - AMOCO PRODUCTION COMPANY
NW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
SW SEC 3-T25N-R5W - AMOCO PRODUCTION COMPANY
NE 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