



STATE OF NEW MEXICO
ENERGY, MINERALS and NATURAL RESOURCES DIVISION
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

DRAG FILL
J. J. King
11/1

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

Date: 9/21/95

Oil Conservation Division
P.O. 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 Sept 8, 1995

for the Omoco Jicarilla Apache 62 #4
OPERATOR LEASE & WELL NO.

1C-4-26N-8W and my recommendations are as follows:
UL-S-T-R 4

Approve.

Pressures are calculated in error.

Yours truly,

S. J.



Southern

Rockies

Business

Unit

September 1, 1995

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

RECEIVED
SEP - 8 1995

OIL CON. DIV.
DIST. 3

Application for Exception to Rule 303-C
Downhole Commingling
Jicarilla Apache 102 Well #4
1450' FSL & 1450' FWL, Unit K Section 4-T26N-R5W
Blanco Mesaverde and Tapacito Pictured Cliffs Pools
Rio Arriba County, New Mexico

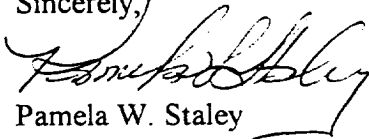
Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Tapacito Pictured Cliffs Pools in the Jicarilla Apache 102 Well #4 referenced above. The Jicarilla Apache 102 Well #4 was originally a dual completion in the Mesaverde and Pictured Cliffs formations. This well has a marginal Pictured Cliffs formation which is being produced dually with a marginal Mesaverde formation which if left as a dual completion, the zones would likely be shut-in in the near future. We plan to complete the well with both the Mesaverde and Pictured Cliffs formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 154 MCFD with 4 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. 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 74% from the Mesaverde formation and 26% from the Pictured Cliffs formation. The Pictured Cliffs has not historically produced 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 and a C-102 for each formation. This spacing unit is on a federal lease 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,

A handwritten signature in cursive script, appearing to read "Pamela W. Staley", written over the printed name.

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 Apache 102

Well Number: 4

Well Location: 1450' FSL & 1450' FWL
Unit K Section 4-T26N-R5W
Rio Arriba County, New Mexico

Pools Commingled: Tapacito Pictured Cliffs
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 55 MCFD and 0 BCPD. The Pictured Cliffs zone produced at an average rate of about 19 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.

Tapacito Pictured Cliffs 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 Pictured Cliffs formation is calculated to be 675 PSIG while estimated bottomhole pressure in the Mesaverde formation is 1017 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 Pictured Cliffs 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:

Based on historical production we recommend that the allocation for gas production be 74% from the Mesaverde formation and 26% from the Pictured Cliffs formation. The Pictured Cliffs has not historically produced 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.

NEW MEXICO OIL CONSERVATION COMMISSION

Revised 5/1/57

Well Location and Acreage Dedication Plat

Section A.

Date August 26, 1958

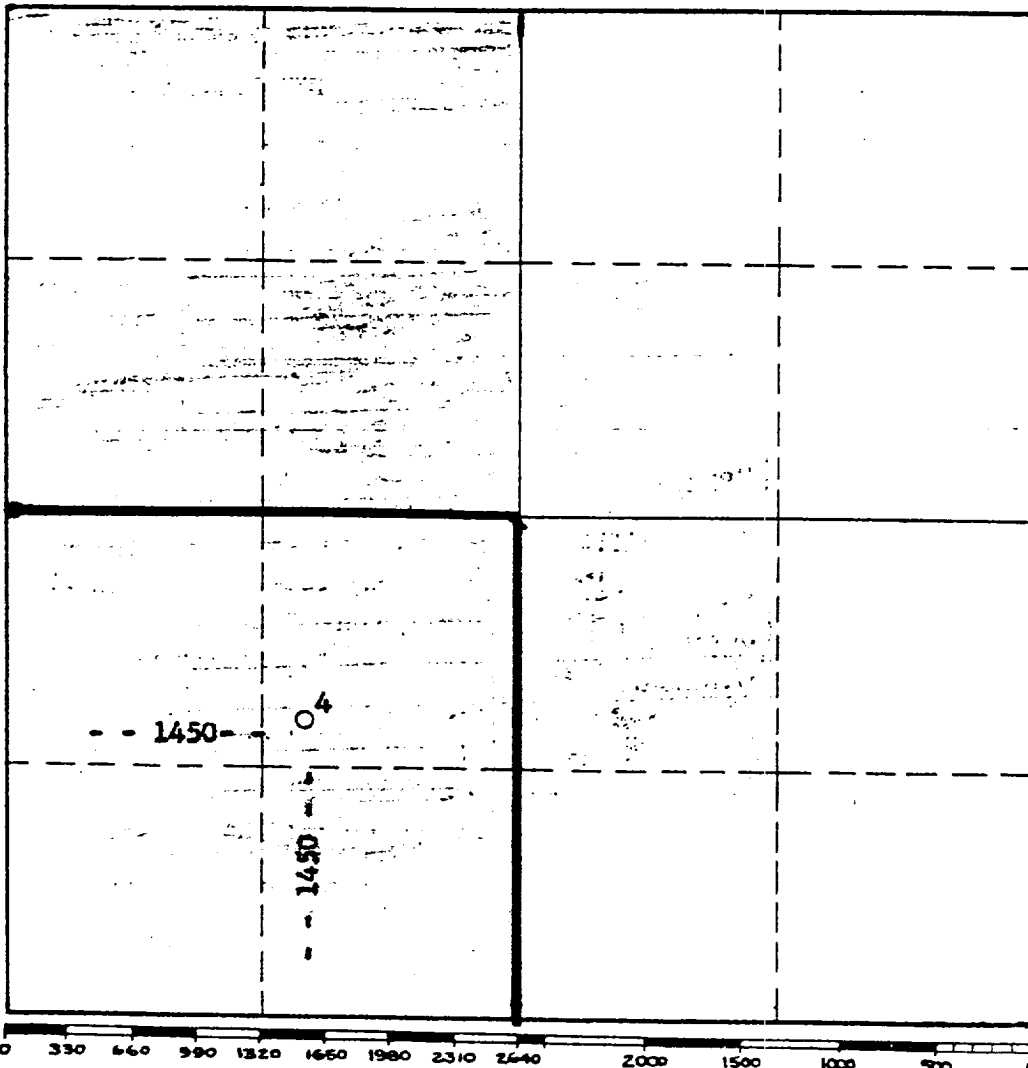
Operator HONOLULU OIL CORPORATION Lease JICARTILLA APACHE
 Well No. 4 Unit Letter K Section 4 Township 26N Range 4W NMPM
 Located 1450 Feet From South Line, 1450 Feet From West Line
 County Rio Arriba G. L. Elevation 7171 Dedicated Acreage 320 1/2 2/3 Acres
 Name of Producing Formation Mesa Verde Pool Blanco

1. Is the Operator the only owner* in the dedicated acreage outlined on the plat below?
Yes X No .
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes No . If answer is "yes," Type of Consolidation
3. If the answer to question two is "no," list all the owners and their respective interests below:

OwnerLand Description

RECEIVED
 AUG 29 1958
 OIL CON. COM.
 DIST. 3

Section B



This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

HONOLULU OIL CORPORATION

(Operator)

(Representative)

P.O. Drawer 1391Midland, Texas

Address

This is to certify that the well location shown on the plat in Section B 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

Registered Professional
 Engineer and/or Land Surveyor.

Certificate No.

(See instructions for completing this form on the reverse side)

NEW MEXICO
OIL CONSERVATION COMMISSION

Well Location and/or Gas Proration Plat

Form C-123

Date **June 11, 1956**

Operator **HONOLULU OIL COMPANY**

Lease **Jicarilla-Apache**

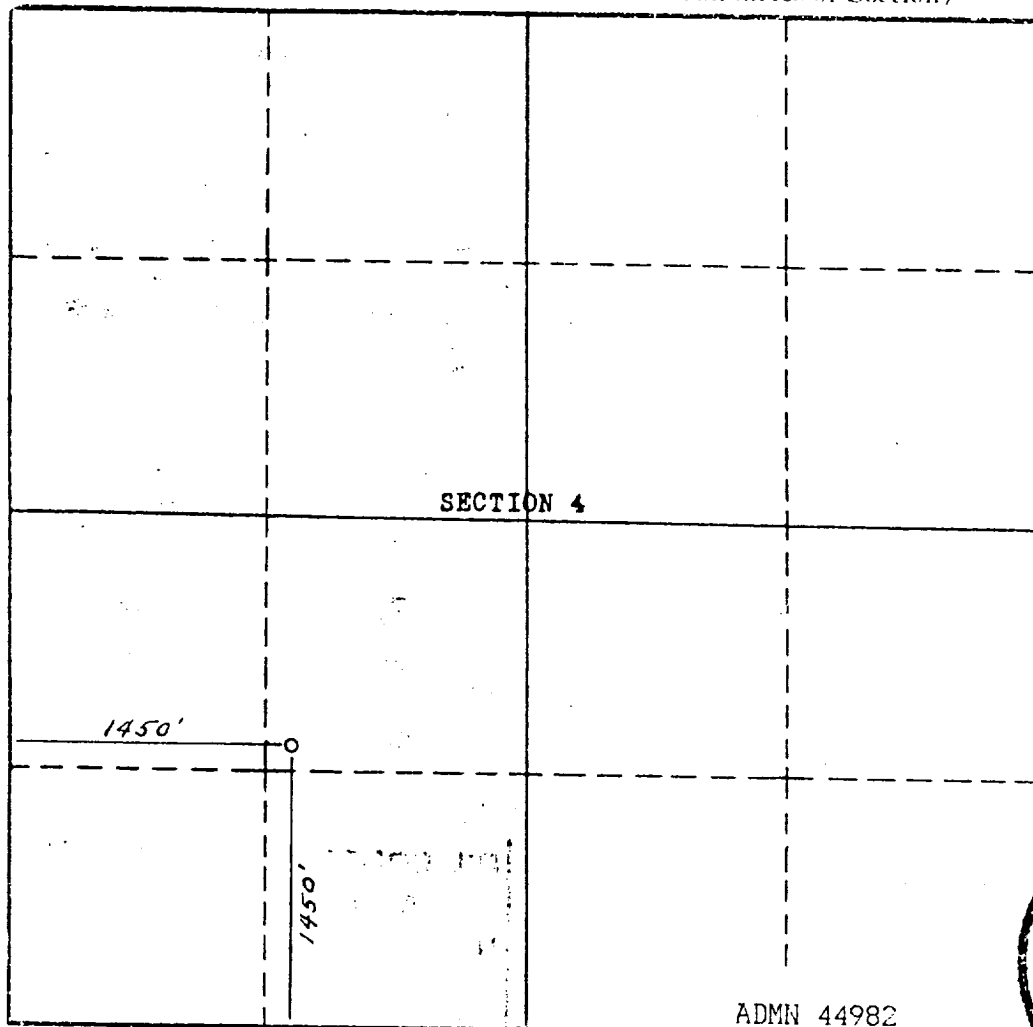
Well No. **4** Section **4** Township **26N** Range **4W** NMPM

Located **1450** Feet From **South** Line, **1450** Feet From **West** Line,

Rio Arriba County, New Mexico. G. L. Elevation **7171**

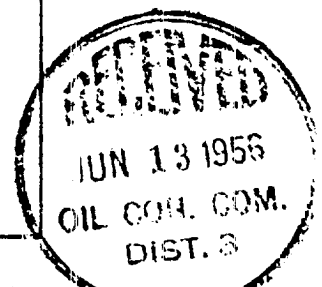
Name of Producing Formation **Fictured Cliff** Pool **Tapacito** Dedicated Acreage **320**

(Note: All distances must be from outer boundaries of Section)



Scale—1 Inch Equals 1000 Feet

ADMN 44982



1. Is this Well a Dual Comp.? Yes ☐ No ☒
2. If the answer to Question 1 is yes, are there any other dual-completed wells within the dedicated acreage? Yes ☐ No ☒

George R. Hoy

Name **HONOLULU OIL CORPORATION**
Position **Division Development Engineer**
Representing **P.O. Drawer 1391, Midland, Texas**
Address

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

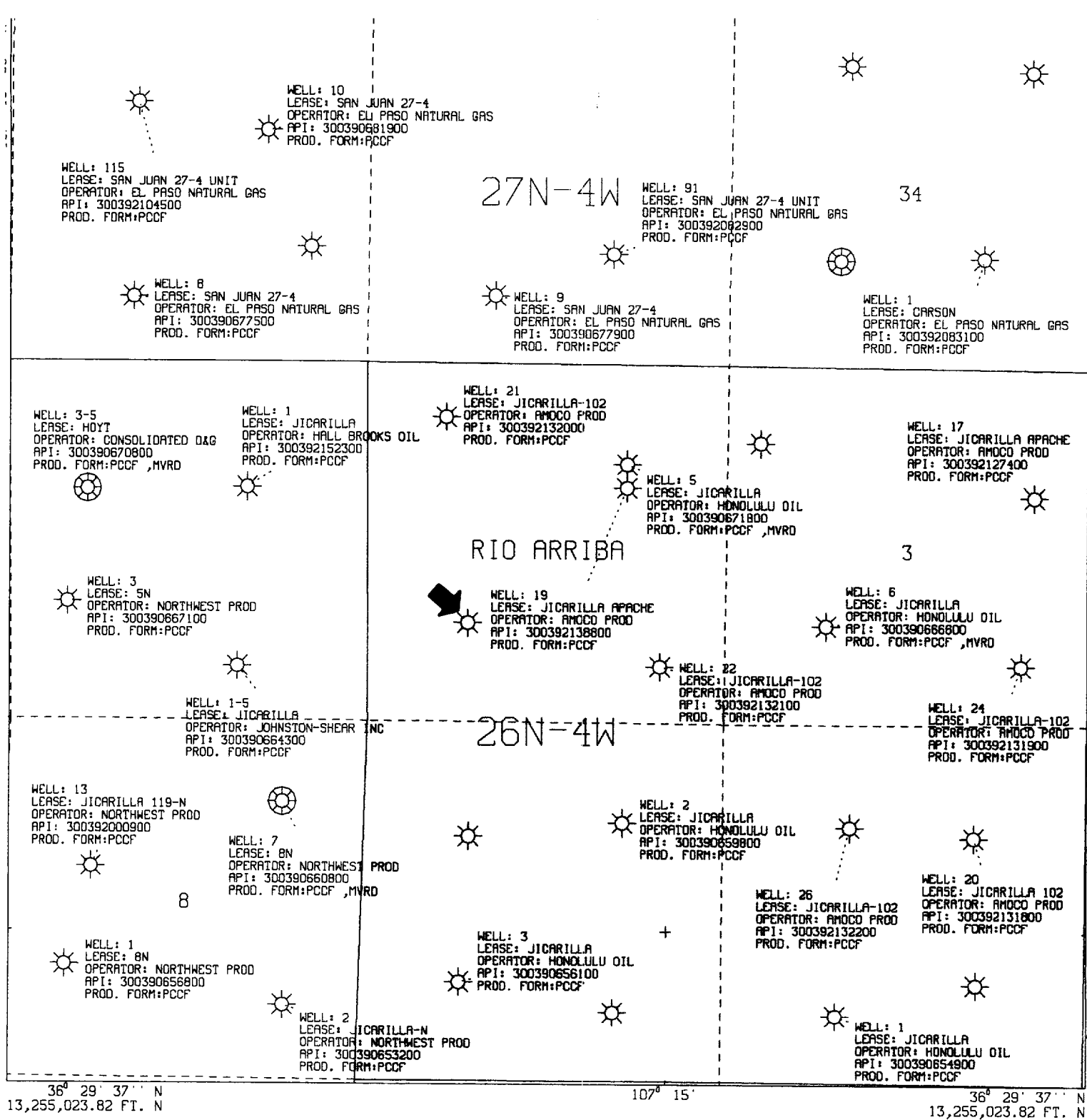
Date Surveyed **May 19, 1956**

Stephen H. Kinney

STEPHEN H. KINNEY,
Registered Professional Engineer and Land Surveyor

107° 13' 45" W
1,007,816.56 FT. E

107° 13' 45" W
1,007,820.91 FT. E



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AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Apache 102-4 Sec. 4-T26N-R04W
Rio Arriba New Mexico
SCALE 1 IN. = 2,000 FT. JUL 15, 1995

107° 13' 45" W
1,007,816.56 FT. E

WELL: 102
LEASE: SAN JUAN 27 4 102
OPERATOR: EL PASO NATURAL GAS
API: 30039208300
PROD. FORM: MVRD ,GRRS

32 WELL: 108
LEASE: SAN JUAN 27 4 108
OPERATOR: EL PASO NATURAL GAS
API: 300392237500
PROD. FORM: MVRD

27N-4W

34 WELL: 120
LEASE: SAN JUAN 27 4 120
OPERATOR: EL PASO NATURAL GAS
API: 300392212200
PROD. FORM: PCCF ,MVRD

WELL: 136
LEASE: SAN JUAN 27 4 136
OPERATOR: EL PASO NATURAL GAS
API: 300392211500
PROD. FORM: MVRD

L O WELL: 27
LEASE: SAN JUAN 27-4 UNIT
OPERATOR: MRON OIL P
API: 300390679200
PROD. FORM: MVRD

WELL: 3-5
LEASE: HOYT
OPERATOR: CONSOLIDATED O&G
API: 300390670800
PROD. FORM: PCCF ,MVRD

WELL: 4-A
LEASE: JICAR APACHE TRIB102A
OPERATOR: AMOCO PRODUCTION CO
API: 300392321600
PROD. FORM: MVRD

WELL: 6-A
LEASE: JICARILLA APACHE
OPERATOR: AMOCO PROD
API: 300392319600
PROD. FORM: MVRD

WELL: 8-A
LEASE: JICARILLA APACHE
OPERATOR: AMOCO PROD
API: 300392319500
PROD. FORM: MVRD

WELL: 2-5
LEASE: HOYT
OPERATOR: CONSOLIDATED O&G
API: 300390669000
PROD. FORM: IOCT ,MVRD ,OKOT

WELL: 3-A
LEASE: HOYT
OPERATOR: CONSOLIDATED O&G
API: 300392151200
PROD. FORM: MVRD

WELL: 5
LEASE: JICARILLA
OPERATOR: HONOLULU OIL
API: 300390671800
PROD. FORM: PCCF ,MVRD

WELL: 8-M
LEASE: JICARILLA APACHE
OPERATOR: AMOCO PROD
API: 300392245400
PROD. FORM: MVRD ,GRRS

RIO ARRIBA

JICARILLA APACHE
102-4

WELL: 2A-5
LEASE: HOYT
OPERATOR: CONSOLIDATED O&G
API: 300392138900
PROD. FORM: MVRD

WELL: 5-A
LEASE: JICARILLA APACHE
OPERATOR: AMOCO PROD
API: 300392319700
PROD. FORM: MVRD

WELL: 6
LEASE: JICARILLA
OPERATOR: HONOLULU OIL
API: 300390666600
PROD. FORM: PCCF ,MVRD

WELL: 8-A
LEASE: JICARILLA 119N
OPERATOR: NORTHWEST PROD
API: 300392131400
PROD. FORM: MVRD

WELL: 7
LEASE: 8N
OPERATOR: NORTHWEST PROD
API: 300390660800
PROD. FORM: PCCF ,MVRD

WELL: 29
LEASE: JICARILLA APACHE102
OPERATOR: AMOCO PROD
API: 300392158100
PROD. FORM: MVRD

WELL: 30
LEASE: JICARILLA APACHE102
OPERATOR: AMOCO PROD
API: 300392158200
PROD. FORM: MVRD

WELL: 8-B
LEASE: N
OPERATOR: NORTHWEST PROD
API: 300390655700
PROD. FORM: MVRD ,OKOT

WELL: 7-A
LEASE: JICARILLA-119N
OPERATOR: NORTHWEST PROD
API: 300392111000
PROD. FORM: MVRD

WELL: 15
LEASE: JICARILLA APACHE102
OPERATOR: PAN AMERICAN
API: 300392018800
PROD. FORM: MVRD

WELL: 16
LEASE: JICARILLA APACHE102
OPERATOR: PAN AMERICAN
API: 300392019000
PROD. FORM: MVRD

36° 29' 37" N 107° 15' 36° 29' 37" N
13,255,023.82 FT. N 13,255,023.82 FT. N

107° 13' 45" W
1,007,820.91 FT. E

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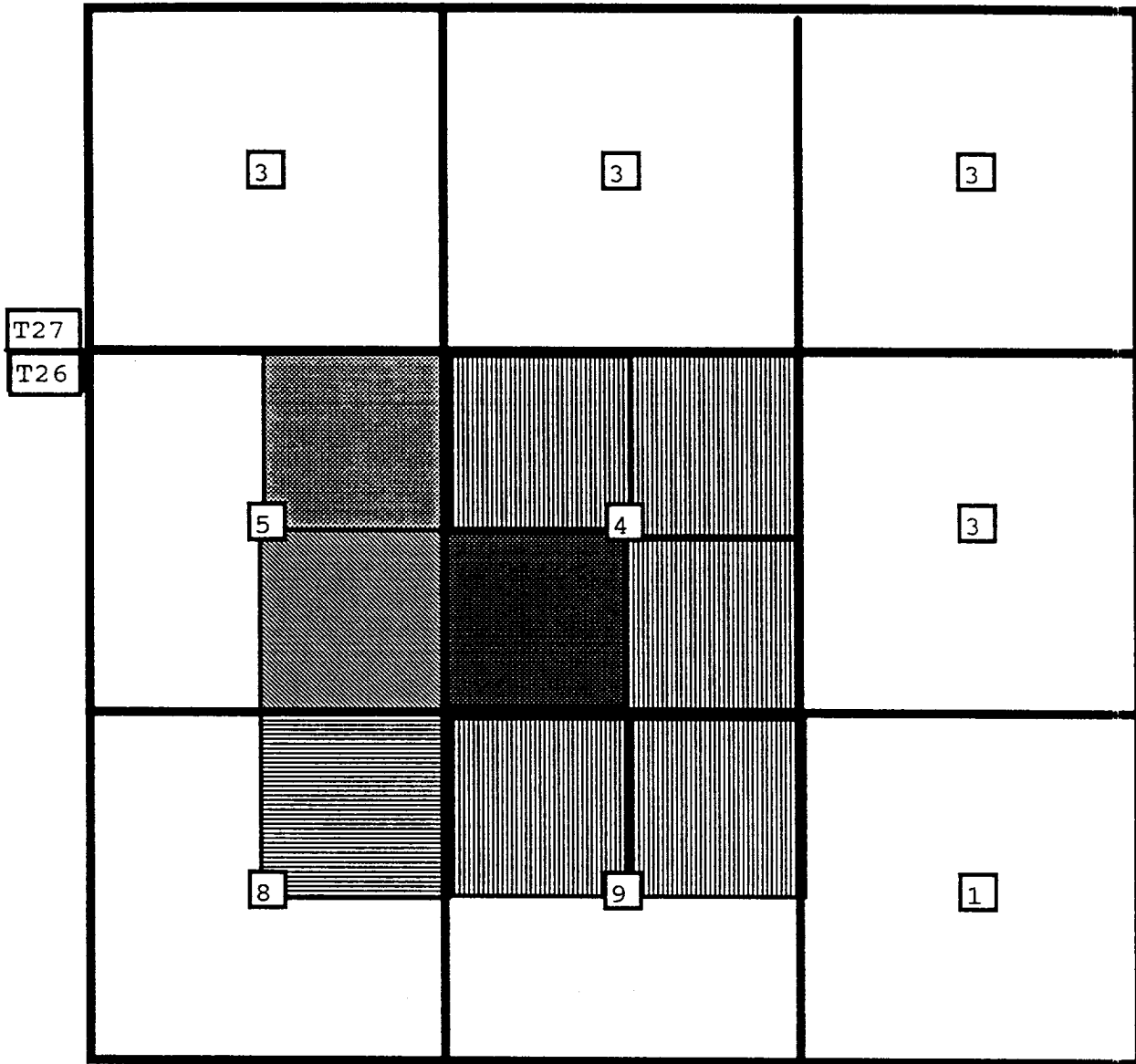
AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Apache 102-4 Sec. 4-T26N-R04W
Rio Arriba New Mexico FM: MVRD
SCALE 1 IN. = 2,000 FT. JUL 15, 1995






LIST OF ADDRESSES FOR OFFSET OPERATORS
Jicarilla Apache 102 Well #4

- 1 Meridian Oil, Inc.
P.O. Box 4289
Farmington, NM 87499
- 2 Snyder Oil Corp.
1625 Broadway
Denver, Co. 80202
- 3 Oklahoma and Northwestern Co.
c/o Dugan Production Corporation
P.O. Box 420
Farmington, New Mexico 87499
- 4 Rife Oil Properties, Inc.
c/o Dugan Production Corporation
P.O. Box 420
Farmington, New Mexico 87499

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

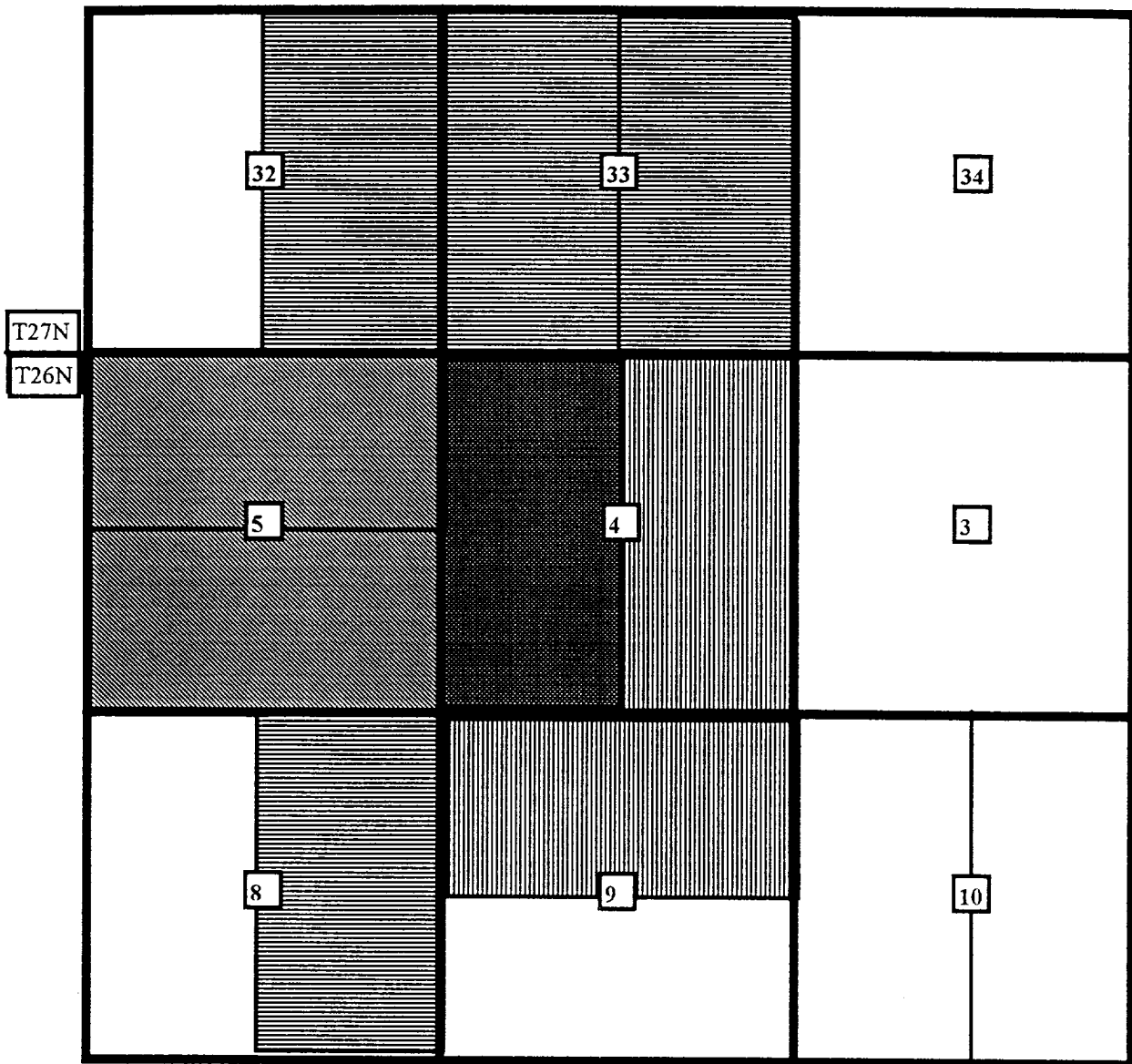
Jicarilla Apache 102 Well #4
1450' FSL & 1450' FWL
Unit K Section 4-T26N-R5W
Tapacito Pictured Cliffs







-  SPACING UNIT TO BE DOWNHOLE COMMINGLED
-  AMOCO PRODUCTION COMPANY
-  MERIDIAN OIL, INC.
-  RIFE OIL PROPERTIES
-  OKLAHOMA AND NORTHWESTERN CO.

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

Jicarilla Apache 102 Well #4
1450' FSL & 1450' FWL
Unit K Section 4-T26N-R5W
Blanco Mesaverde



-  SPACING UNIT TO BE DOWNHOLE COMMINGLED
-  AMOCO PRODUCTION COMPANY
-  MERIDIAN OIL, INC
-  SNYDER OIL CORP

Engr: zhab0b

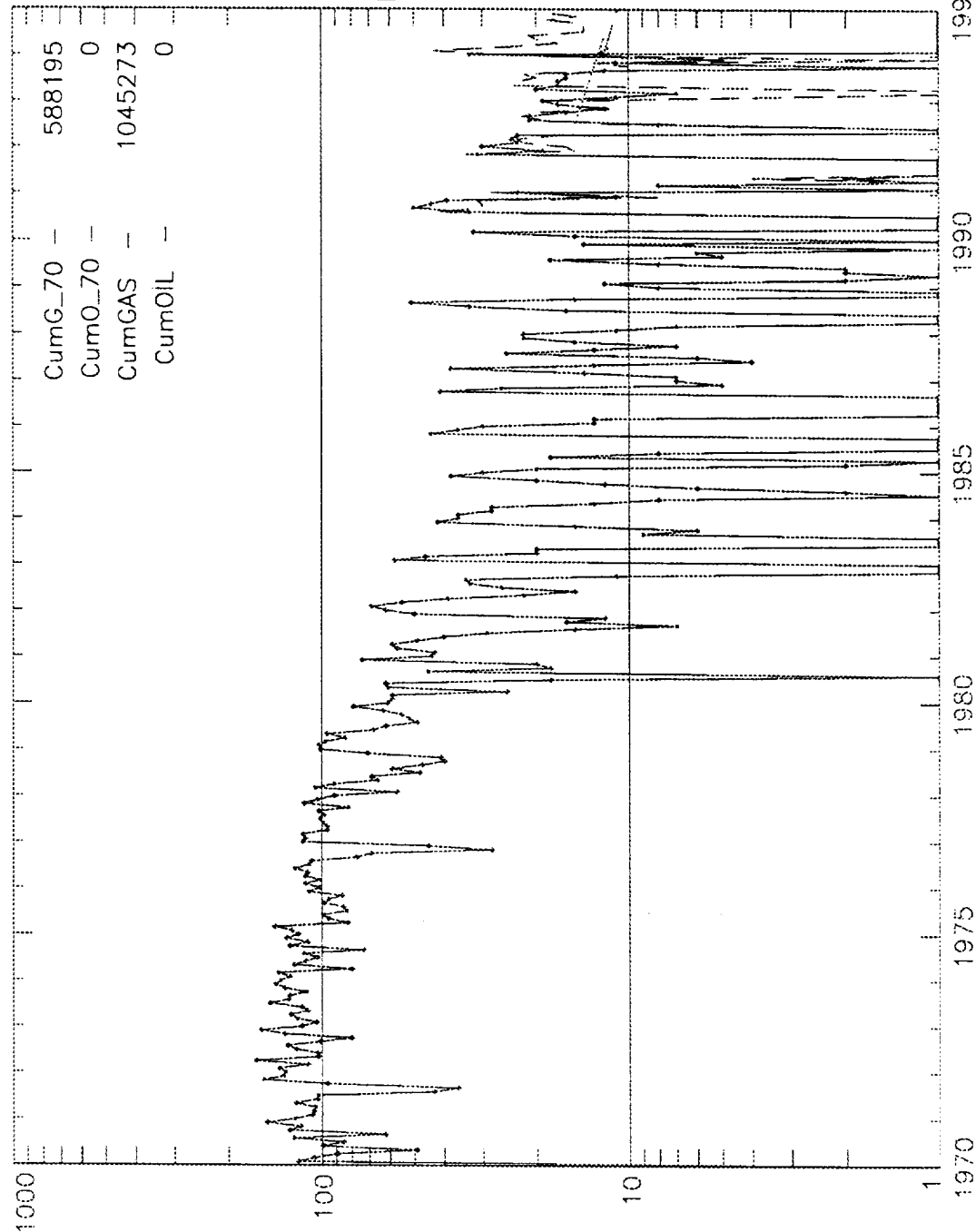
JICARILLA APACHE 102 4

Operator- AMOCO PRODUCTION CO

300390666400PC

K042604-004 PC

APC_WI - 1.0000000



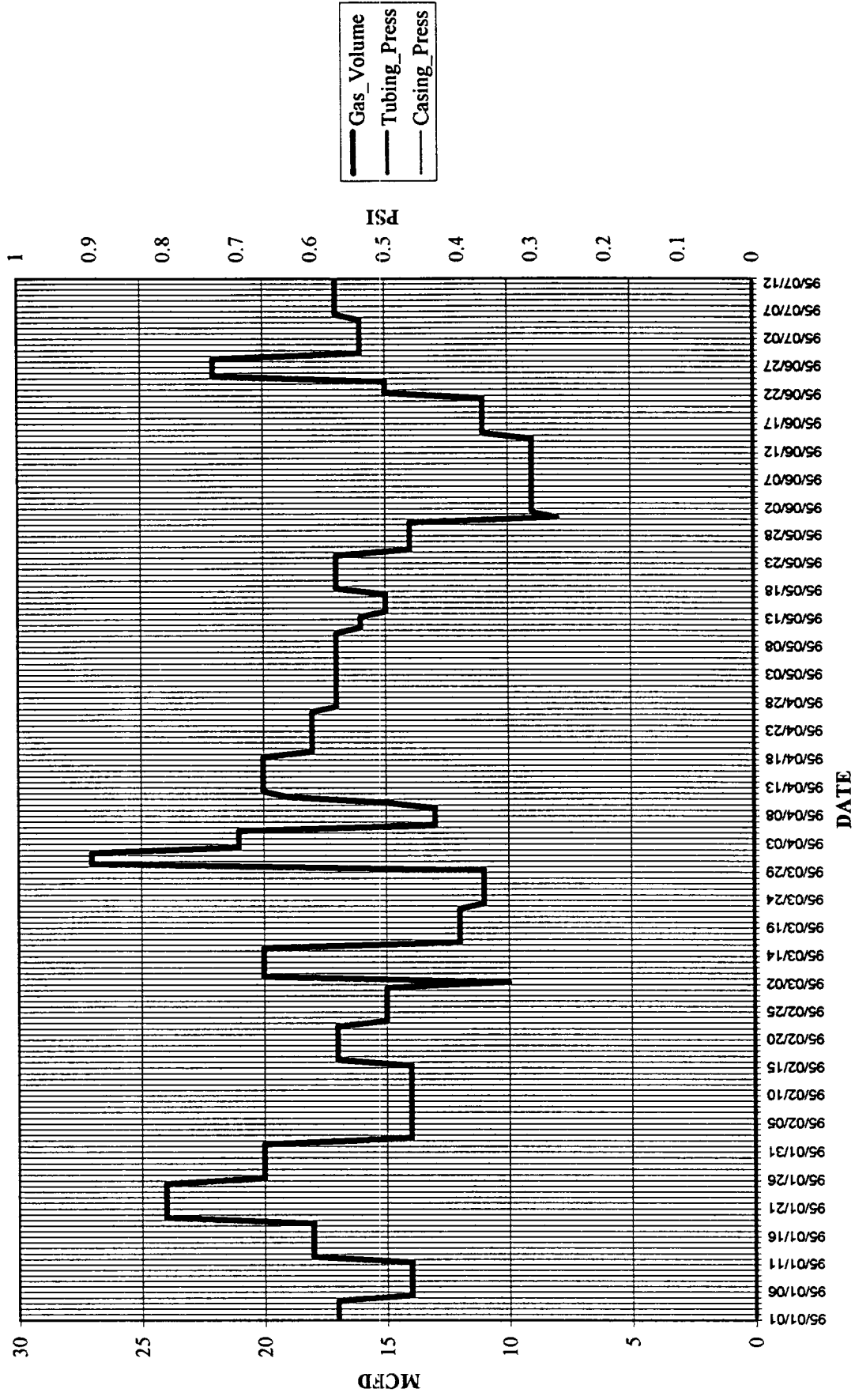
DCLN 0.108
CurrQ 12
RemRes 16898
EUR 1062171
Fit_date 1994 7

New_fit

DCLN
CurrQ
RemRes
EUR
Fit_date

Chart1

Well: JIC APACHE 102 004-PC (92417302)



Engr: zhab0b

JICARILLA APACHE 102 4

Operator- AMOCO PRODUCTION CO

300390666400MV K042604-004 MV

APC_WI - 1.0000000

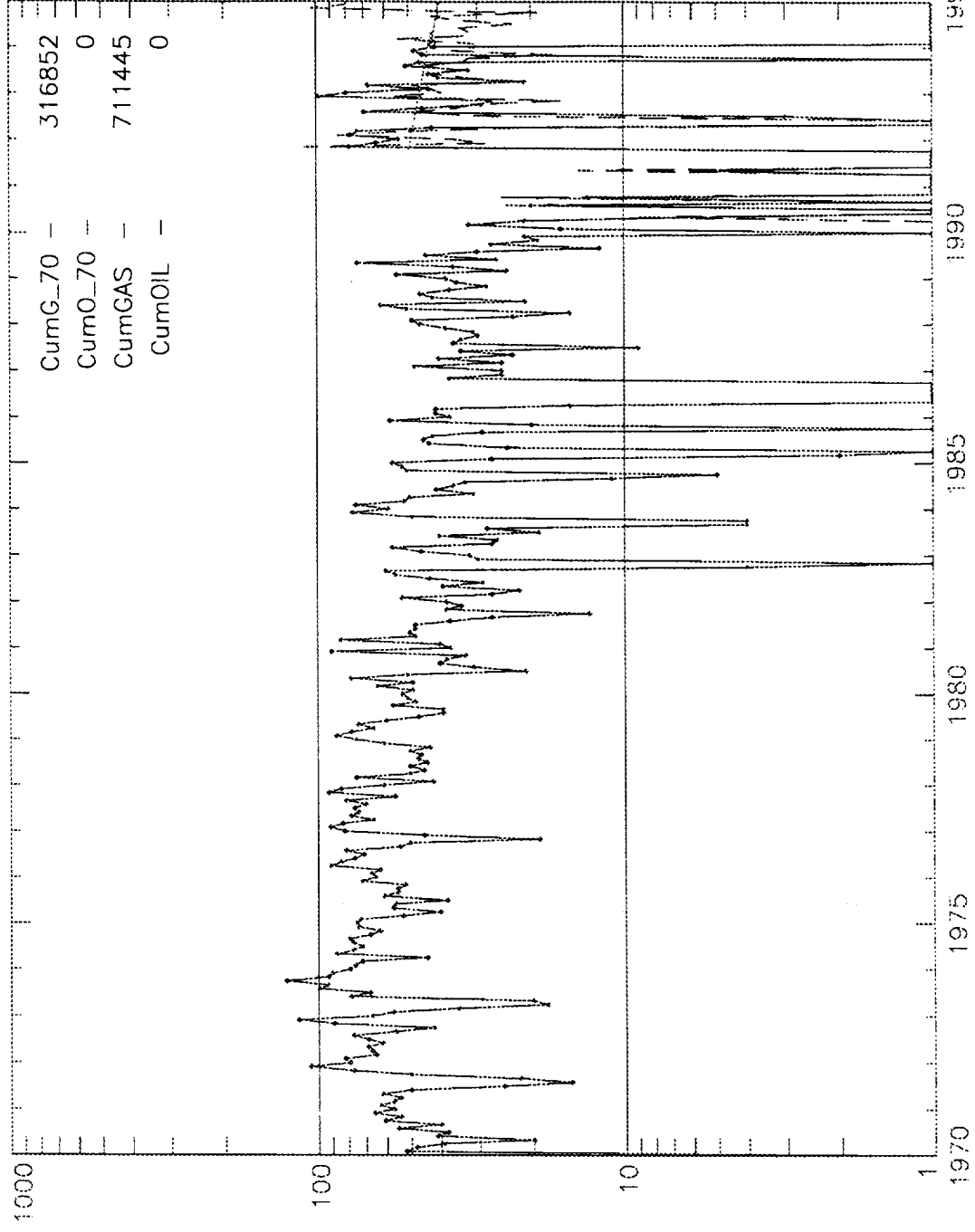
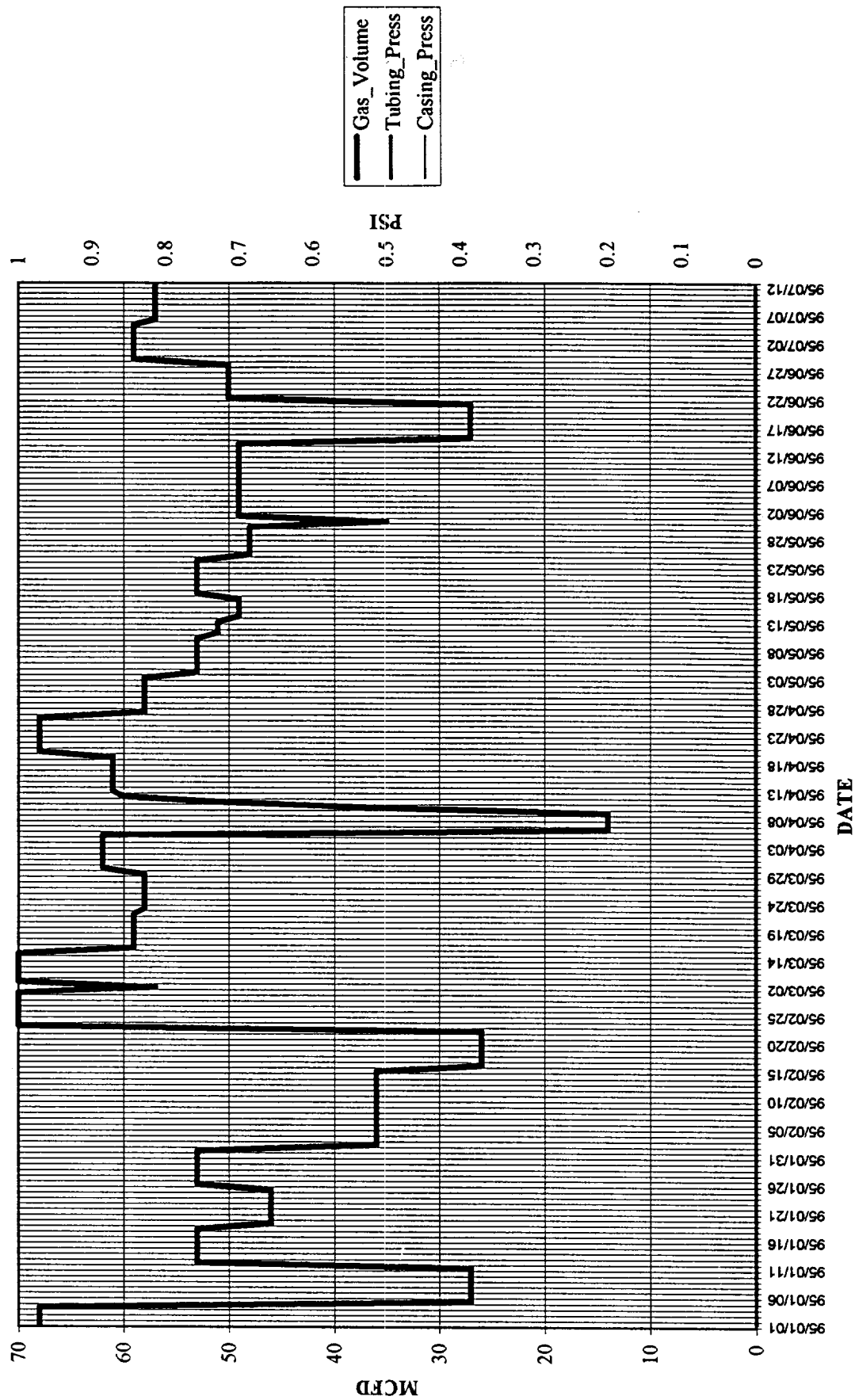


Chart1

Well: JIC APACHE 102 004-MV (92417301)



ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION
JICARILLA APACHE #102-4

PC Perforations at 3919-3974' midperf at 3946'
MV Perforations at 6074-6170' midperf at 6122'

11/80 shut in pressures --- PC = 359 PSIG
MV = 527 PSIG

GRADIENT = 0.08 PSI/FT

PC BHP = 359 PSIG + 3946' X 0.08 PSIG
= 675 PSIG

MV BHP = 527 PSIG + 6122' X 0.08 PSIG
= 1017 PSIG

675 PSIG / 1017 PSIG = 66% WHICH MEETS THE >50% RULE

STATE OF NEW MEXICO
OIL and MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #: JIC AP 102 4

RECEIVED

OCT 16 1990

OIL CON. DIV.,
DIST. 3

Location of Well: K042604 Meter #: 228321 RTU: 1-024-02 County: RIO ARriba

NAME RESERVOIR OR POOL	TYPE PROD	METHOD PROD	MEDIUM PROD
TAPACITO PICTURED CLIFF 233604	GAS	FLOW	CSG
BLANCO MESAVERDE 228321	GAS	FLOW	TBG

PRE-FLOW SHUT-IN PRESSURE DATA

Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilized
09/17/90	72 Hours	359	yes
09/17/90	72 Hours	527	yes

FLOW TEST DATE NO. 1

Tested at (hour, date) *				Zone Producing (Upper/Lower)	
TIME (hour, date)	LAPSED TIME SINCE *	PRESSURE		Prod. Temp.	REMARKS
		Upper	Lower		
09/17/90	Day 1	342	523		Both Zones SI
09/18/90	Day 2	348	524		Both Zones SI
09/19/90	Day 3	355	526		Both Zones SI
09/20/90	Day 4	359	527		Lower Zone on
09/21/90	Day 5	356	381		
09/22/90	Day 6	357	270		

Production rate during test

BOPD based on BBLs in Hrs Grav GOR
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)
---------------	-------------------	----------------	---------------------