



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

THE STATE OF NEW MEXICO
OIL & GAS DIVISION
11/1

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6174

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:

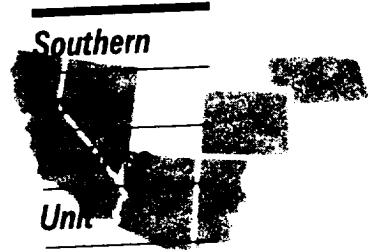
I have examined the application received on 9/17/95
for the Amoco Jicarilla "A" #9
OPERATOR LEASE & WELL NO.

D-20-26N-SW and my recommendations are as follows:
UL-S-T-R

Approve
Pressures are calculated in error.

Yours truly,

J. G.



August 31, 1995

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 "A" 9 Well
980' FNL & 835' FWL, Unit D Section 20-T26N-R5W
Blanco Mesaverde and Otero Chacra Pools
Rio Arriba County, New Mexico

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DIST. 3


Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Otero Chacra Pools in the Jicarilla "A" 9 Well referenced above. The Jicarilla "A" 9 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 the Mesaverde which if left as a dual completion, the marginal zone would remain shut-in in the future due to marginal production. 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 125MCFD 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. Amoco is the only offset operator in both formations, so notification will be only to the BLM.

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 86% from the Mesaverde formation and 14% from the Chacra formation. The Chacra 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,



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

LIST OF ADDRESSES FOR OFFSET OPERATORS

Jicarilla "A" Well 9

Note: Amoco Production Company is the only offset operator in either formation.

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 "A"
Well Number: 9
Well Location: 980' FNL & 835' FWL
Unit D Section 20-T26N-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 35 MCFD and 0.1 BCPD. The Chacra zone produced at an average rate of about 10 MCFD and 0 BCPD until earlier this year.

- (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 857 PSIG while estimated bottomhole pressure in the Mesaverde formation is 1268 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:

Based on historical production we recommend that the allocation for gas production be 86% from the Mesaverde formation and 14% from the Chacra formation. The Chacra 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.

991,943.97 FT. E
107° 24' 34" W

26N-6W



WELL: 1-E
LEASE: JICARILLA-A
OPERATOR: TENNECO OIL
API: 300382258000
PROD. FORM:OKOT ,CHCR

17



WELL: 7-E
LEASE: JICARILLA-B
OPERATOR: TENNECO OIL
API: 300382258500
PROD. FORM:OKOT ,CHCR



16



WELL: 2-E
LEASE: JICARILLA-B
OPERATOR: TENNECO OIL
API: 300382257800
PROD. FORM:OKOT ,CHCR



WELL: 9
LEASE: JICARILLA-A
OPERATOR: TENNECO OIL
API: 300382184300
PROD. FORM:MYRD ,CHCR

19

26N-5W

RIO ARRIBA



WELL: 5E
LEASE: JICARILLA-B
OPERATOR: AMOCO PROD
API: 300382288800
PROD. FORM:MYRD ,GLLP ,OKOT ,OKOT

WELL: 34
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300382341200
PROD. FORM:MYRD

WELL: 20-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300382234400
PROD. FORM:OKOT ,CHCR

WELL: NO 155 33
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PRODUCTION CO
API: 300392322700
PROD. FORM:MYRD

WELL: 18
LEASE: JICARILLA-251
OPERATOR: MARATHON OIL
API: 300392150200
PROD. FORM:PCCF ,CHCR

WELL: 30
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300382257000
PROD. FORM:MYRD ,CHCR

WELL: 16-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300382234800
PROD. FORM:GARS ,CHCR

WELL: 20
LEASE: JICARILLA 155
OPERATOR: AMOCO PROD
API: 300382021300
PROD. FORM:MYRD ,OKOT ,OKOT

WELL: 31
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300392258900
PROD. FORM:PCCF ,CHCR

WELL: 18-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300382234500
PROD. FORM:OKOT ,CHCR

WELL: 32
LEASE: JICARILLA CONT 155 32
OPERATOR: AMOCO PRODUCTION CO
API: 300392316600
PROD. FORM:MYRD

WELL: 13-E
LEASE: JICARILLA CONTRACT
OPERATOR: AMOCO PROD
API: 300382234700
PROD. FORM:OKOT ,CHCR

36° 27' 1" N
13,239,238.33 FT. N

36° 27' 1" N
13,239,238.33 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.

POLYCONIC CENTRAL MERIDIAN - 107° 22' 55" W LONG
SPHEROID - 6

AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla /A/ #9 Sec. 20-T26N-R05W
Rio Arriba New Mexico
SCALE 1 IN. = 2,000 FT. JUL 13, 1995

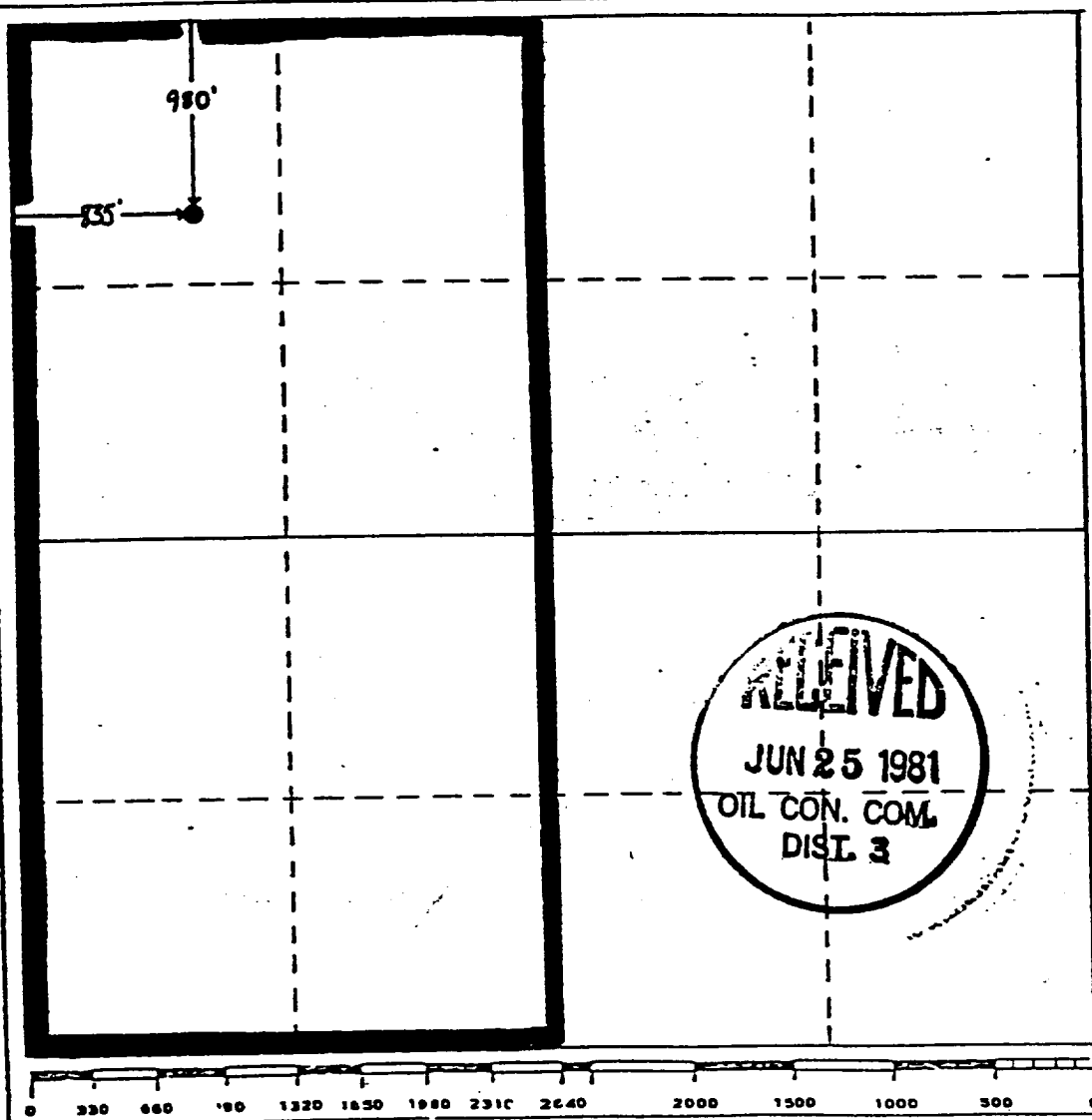
Tenneco Oil Company			Lease Jicarilla A		Well No. 9
Letter D	Section 20	Township 26N	Range 5W	County Rio Arriba	
Actual Footage Location of Well:					
980 feet from the North line and		835 feet from the West line			
Ground Level Elev. 6696' gr.	Producing Formation Mesaverde	Pool Blanco Mesaverde	Dedicated 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 Communitization

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.

Don H. Morrison

Name

Production Analyst

Position

Tenneco Oil Company

Company

June 19, 1981

Date

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

Registered Professional Engineer and/or Land Surveyor

Certificate No.

Well Location of Well:			
980	feet from the North	line and 835	feet from the West
Ground Level Elev:	Producing Formation	Pool	Dedicated Acreage:
6696' gr.	Chacra	Chacra	160 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 Communitization

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.

Don H. Harrison

Name _____

Production Analyst _____

Position _____

Tenneco Oil Company _____

Company _____

June 19, 1981 _____

Date _____

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 _____

Registered Professional Engineer and/or Land Surveyor _____

Certificate No. _____

TICARILLA A-9

D - SEC 20 - T26N - R5W R10 April 68

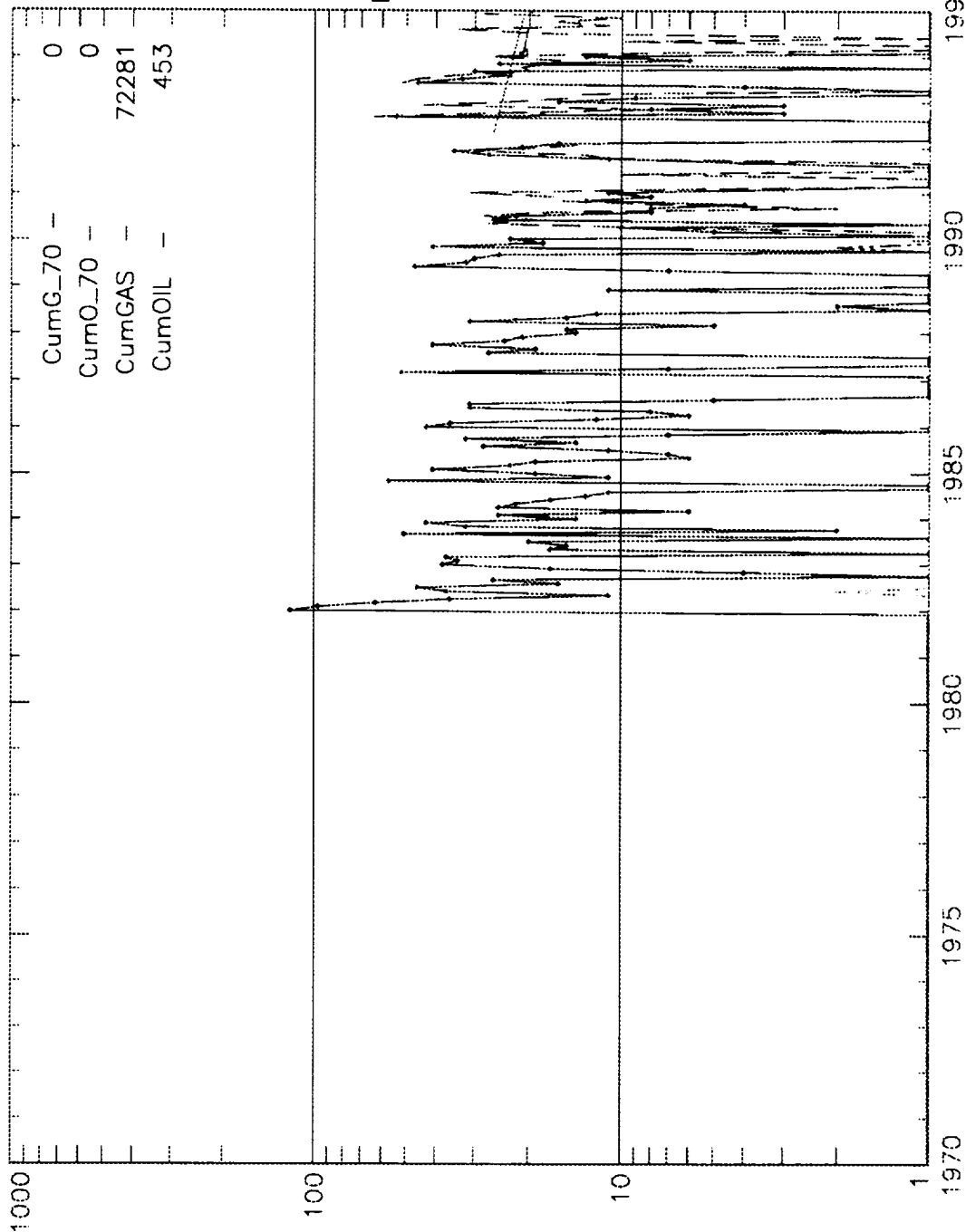
Engr: zhab0b

JICARILLA A 9

Operator- AMOCO PRODUCTION CO

300392164300MV D202605-009 MV

APC_WI - 0.25000000



Engr: zhab0b

JICARILLA A 9

Operator- AMOCO PRODUCTION CO

300392164300CK D202605-009 CK

APC_WI - 0.25000000

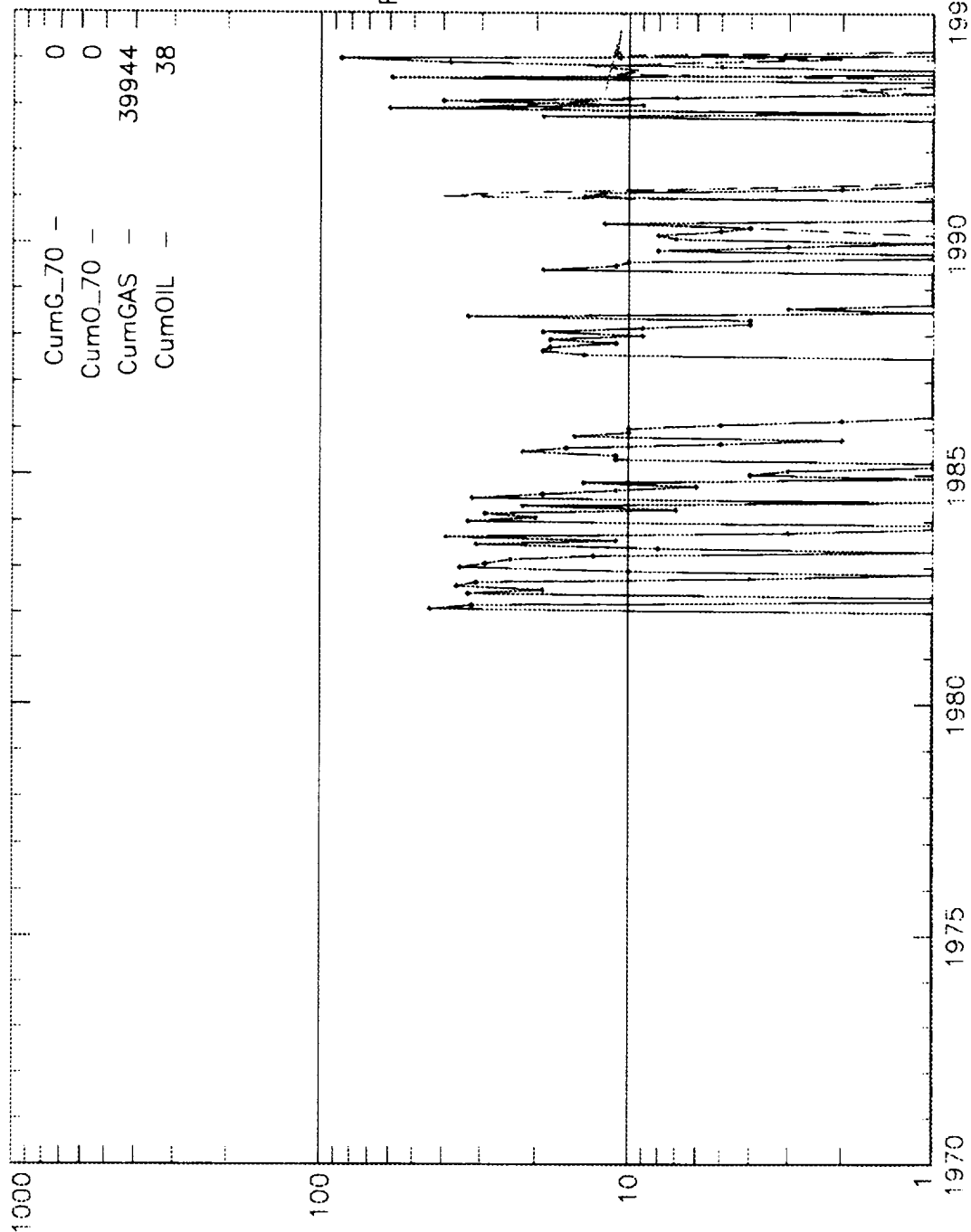
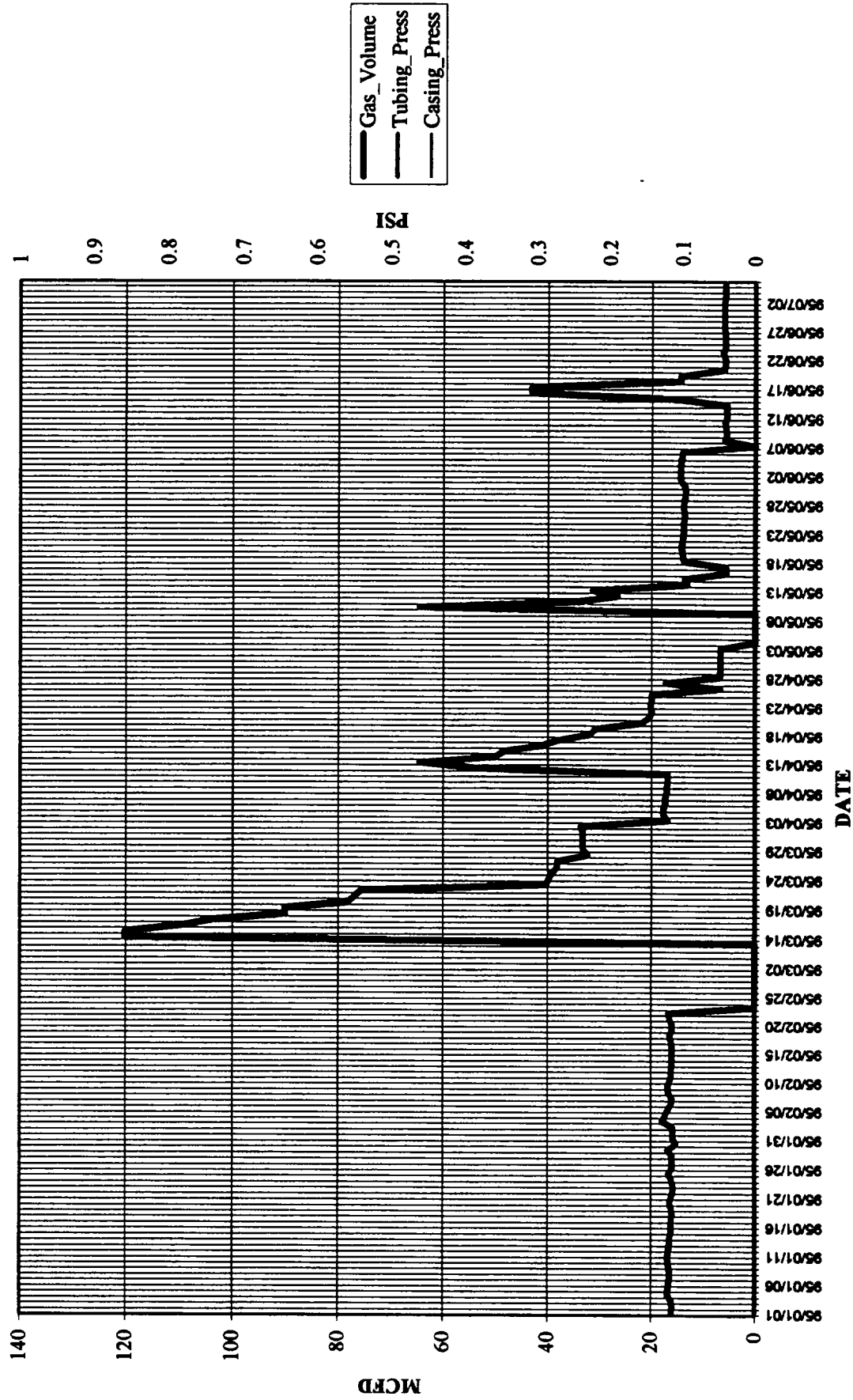


Chart1

Well: JICARILLA A 009-MV (97829101)



ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION
JICARILLA A # 9

CK Perforations at 3923-4014' midperf at 3968'

DK Perforations at 5066-5270' midperf at 5168'

11/88 shut in pressures --- CK = 540 PSIG
DK = 855 PSIG

GRADIENT = 0.08 PSI/FT

CK BHP = 540 PSIG + 3968' X 0.08 PSIG
= 857 PSIG

DK BHP = 855 PSIG + 5168' X 0.08 PSIG
= 1268 PSIG

857 PSIG / 1268 PSIG = 64% WHICH MEETS THE >50% RULE

STATE OF NEW MEXICO
ENERGY and MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

Page 1
Revised 10/01/78

This form is not to
be used for reporting
packer leakage tests
in Southeast New Mexico

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator TENNECO OIL CO. Lease JICARILLA A Well No. 9
Location of Well: Unit D Sec. 20 Twp. 26N Rge. 5W County RIO ARriba

	NAME OF RESERVOIR OR POOL	TYPE OF PROD. (Oil or Gas)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tub. or Casing)
Upper Completion	BLOOMFIELD CHACRA	GAS	FLOW	CASING
Lower Completion	BLANCO MESA VERDE	GAS	FLOW	TUBING

PRE-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
	12:00 noon 11-07-88	72 hours	540	yes
Lower Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
	12:00 noon 11-07-88	72 hours	855	yes

FLOW TEST NO. 1

Commenced at (Hour, date)* 12:30 pm 11-10-88				Zone producing (Upper or Lower): lower	
TIME (Hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower Completion		
10:30 am 11-11-88	22 hours	540	440		
11:00 am 11-12-88	46 1/2 hours	540	370		

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DIST. 2

Production rate during test

Oil: _____ BOPD based on _____ Bbls. in _____ Hours. _____ Gcv. _____ GOR _____
Gas: _____ 114 MCFPD; Tested thru (Orifice or Meter): _____ meter

MID-TEST SHUT-IN PRESSURE DATA

Upper Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
Lower Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)

(Continue on reverse side)

FLOW TEST NO. 2

Commenced at (Hour, date) **				Zone producing (Upper or lower)	
TIME (Hour, date)	LAPSED TIME SINCE **	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower Completion		

Production rate during test

Oil: _____ BOPD based on _____ Bbls. in _____ Hours. _____ Grav. _____ GOR _____

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

Remarks: _____

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

Approved _____ 19 _____
New Mexico Oil Conservation DivisionBy Charles HolsonTitle DEPUTY OIL & GAS INSPECTOR, DIST. #3Operator TENNECO OIL CO.By DEBBIE WRIGHT *Debbie Wright*Title AGENTDate 11-18-88

NORTHWEST NEW MEXICO PACKER LEAKAGE TEST INSTRUCTIONS

1. A packer leakage test shall be commenced on each multiple completed well within seven days after actual completion of the well, and annually thereafter as prescribed by the order authorizing the multiple completion. Such test shall also be commenced on all multiple completions within seven days following recompletion and/or chemical or fracture treatments, and whenever remedial work has been done on a well during which the packer or the tubing have been disturbed. Tests shall also be taken at any time that communication is suspected or when requested by the Division.

2. At least 72 hours prior to the commencement of any packer leakage test, the operator shall notify the Division in writing of the exact time the test is to be commenced. Offset operators shall also be so notified.

3. The packer leakage test shall commence when both zones of the dual completion are shut-in for pressure stabilization. Both zones shall remain shut-in until the well-head pressure in each has stabilized, provided however, that they need not remain shut-in more than seven days.

4. For Flow Test No. 1, one zone of the dual completion shall be produced at the normal rate of production while the other zone remains shut-in. Such test shall be continued for seven days in the case of a gas well and for 24 hours in the case of an oil well. Note: if, on an initial packer leakage test, a gas well is being flowed to the atmosphere due to the lack of a pipeline connection the flow period shall be three hours.

5. Following completion of Flow Test No. 1, the well shall again be shut-in, in accordance with Paragraph 3 above.

6. Flow Test No. 2 shall be conducted even though no leak was indicated during Flow Test No. 1. Procedure for Flow Test No. 2 is to be the same as for Flow Test No. 1 except

that the previously produced zone shall remain shut-in while the zone which was previously shut-in is produced.

7. Pressures for gas-oil tests must be measured on each zone with a deadweight pressure gauge at time intervals as follows: 3 hours each: immediately prior to the beginning of each flow period, at fifteen-minute intervals during the first hour thereof, and at hourly intervals thereafter, including one pressure measurement immediately prior to the conclusion of each flow period. 7-day tests: immediately prior to the beginning of each flow period, at least one time during each flow period (at approximately the midway point) and immediately prior to the conclusion of each flow period. Other pressures may be taken as desired, or may be requested on wells which have previously shown questionable test data.

24-hour oil zone tests: all pressures, throughout the entire test, shall be continuously measured and recorded with recording pressure gauges the accuracy of which must be checked at least twice, once at the beginning and once at the end of each test, with a deadweight pressure gauge. If a well is a gas-oil or an oil-gas dual completion, the recording gauge shall be required on the oil zone only, with deadweight pressures as required above being taken on the gas zone.

8. The results of the above-described tests shall be filed in triplicate within 15 days after completion of the test. Tests shall be filed with the Asset District Office of the New Mexico Oil Conservation Division on Northwest New Mexico Packer Leakage Test Form Revised 10-01-78 with all deadweight pressures indicated thereon as well as the flowing temperatures (gas zones only) and gravity and GOR (oil zones only).