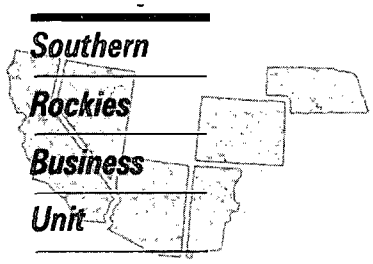
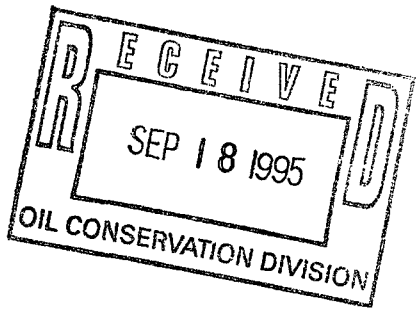
DHC 10·7·95



September 5, 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 146 #21R Well
1030' FSL & 1470' FWL, Unit N Section 3-T25N-R5W
Basin Dakota and Otero Chacra Pools
Rio Arriba County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Basin Dakota and Otero Chacra Pools in the Jicarilla 146 #21R Well referenced above. The Jicarilla 146 #21R well was originally a dual completion in the Dakota and Chacra formations. The two zones are expected to produce at a total commingled rate of about 193 MCFD with 4 BOPD. 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 Dakota formation and 26% 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 Dakota 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

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:	21 R
Well Location:	1030' FSL & 1470' FWL Unit N Section 3-T25N-R5W Rio Arriba County, New Mexico
Pools Commingled:	Otero Chacra Basin Dakota

(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 Dakota produced an average stabilized rate of 90 MCFD and 0.2 BCPD. The Chacra zone produced at an average rate of about 23 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.
Basin Dakota 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 968 PSIG while estimated bottomhole pressure in the Dakota formation is 963 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 Dakota 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:

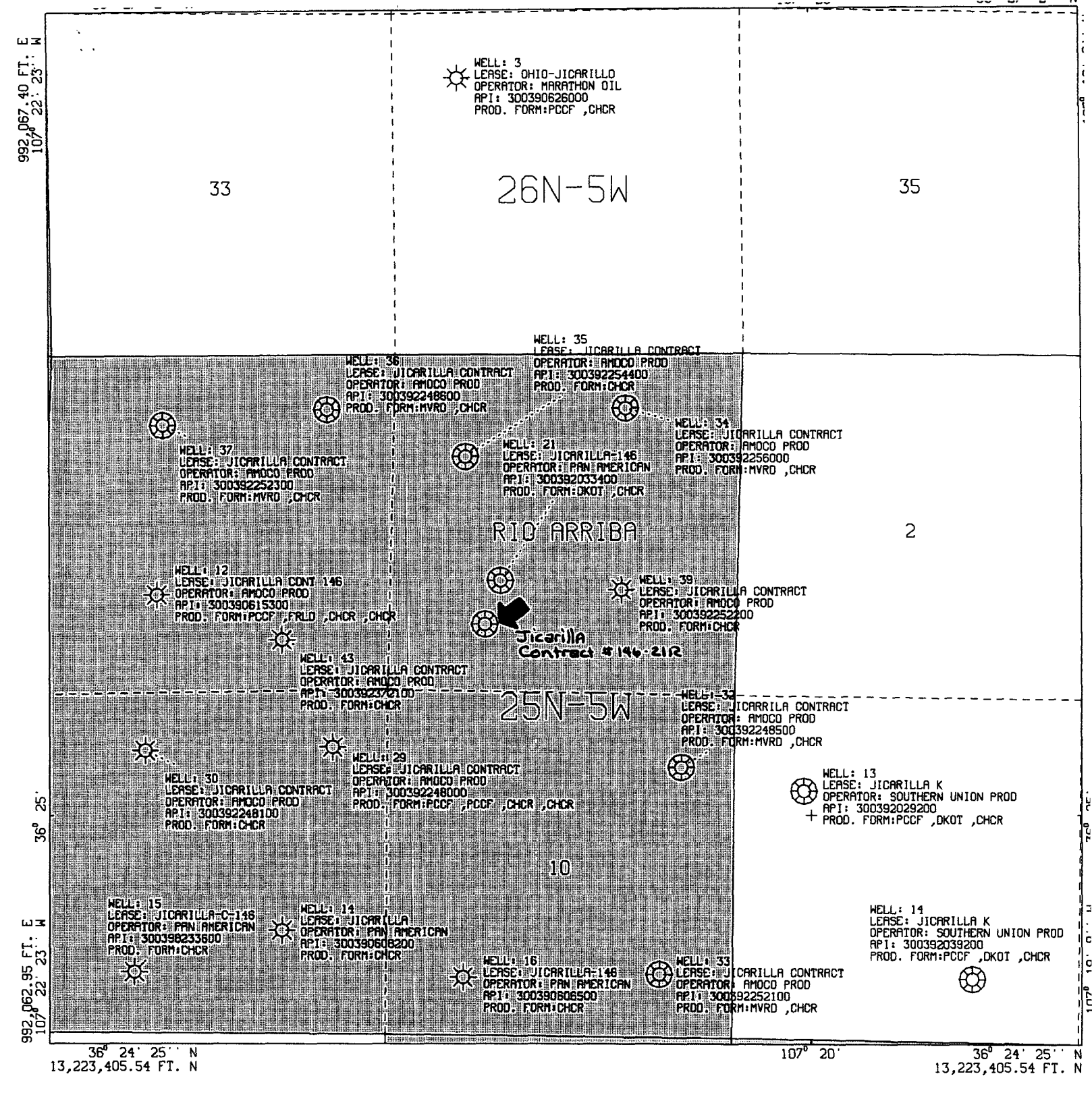
The BTU content of the produced streams are very similar and as such, we would expect the commingled production to have the same value as the sum of the individual streams.

(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 74% from the Dakota formation and 26% 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 Dakota 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.

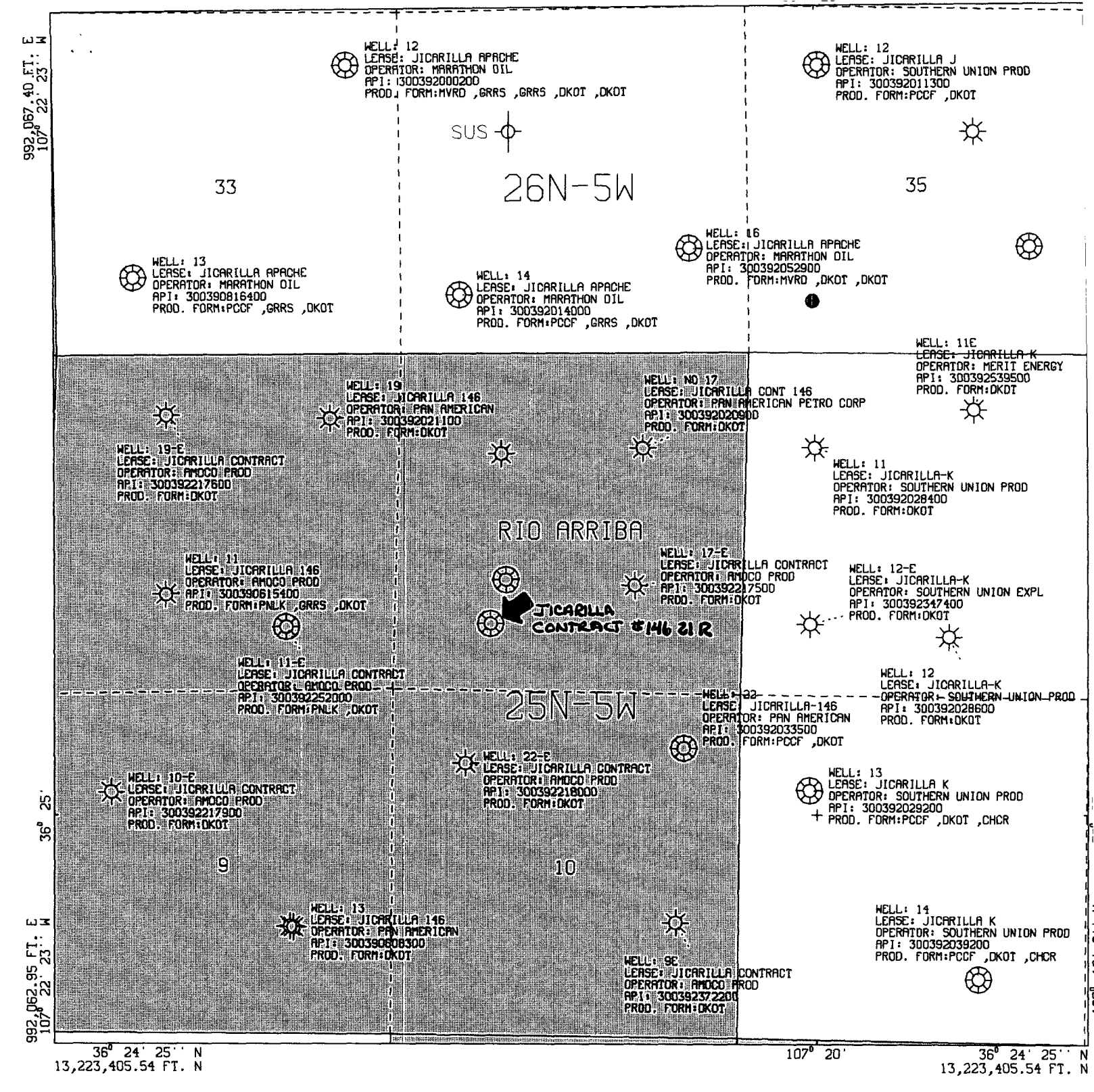
BLM will receive a copy of this application by certified mail. The offsetting operators listed on the attached sheet will receive a copy of this application by certified mail.



AMOCO

AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 146-21R Sec. 3-T25N-R05W
Rio Arriba New Mexico FM: CHCR

SCALE 1 IN. = 2,000 FT. JUL 15, 1995



AMOCO

AMOCO PRODUCTION COMPANY
PLAT MAP
Jicarilla Contract 146-21R Sec. 3-T25N-R05W
Rio Arriba New Mexico FM: DKOT

SCALE 1 IN. = 2,000 FT. JUL 15, 1995

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

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

Operator	Lease	Well No.
AMOCO PRODUCTION COMPANY	JICARILLA CONTRACT 146	21R

Unit Letter	Section	Township	Range	County
N	3	25N	5W	Rio Arriba

Actual Footage Location of Well:
1030 feet from the South line and 1470 feet from the West line

Ground Level Elev:	Producing Formation	Pool	Dedicated Acreage:
6651	Dakota / Chacra	Basin Dakota/Otero Chacra	320/160 Acres

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

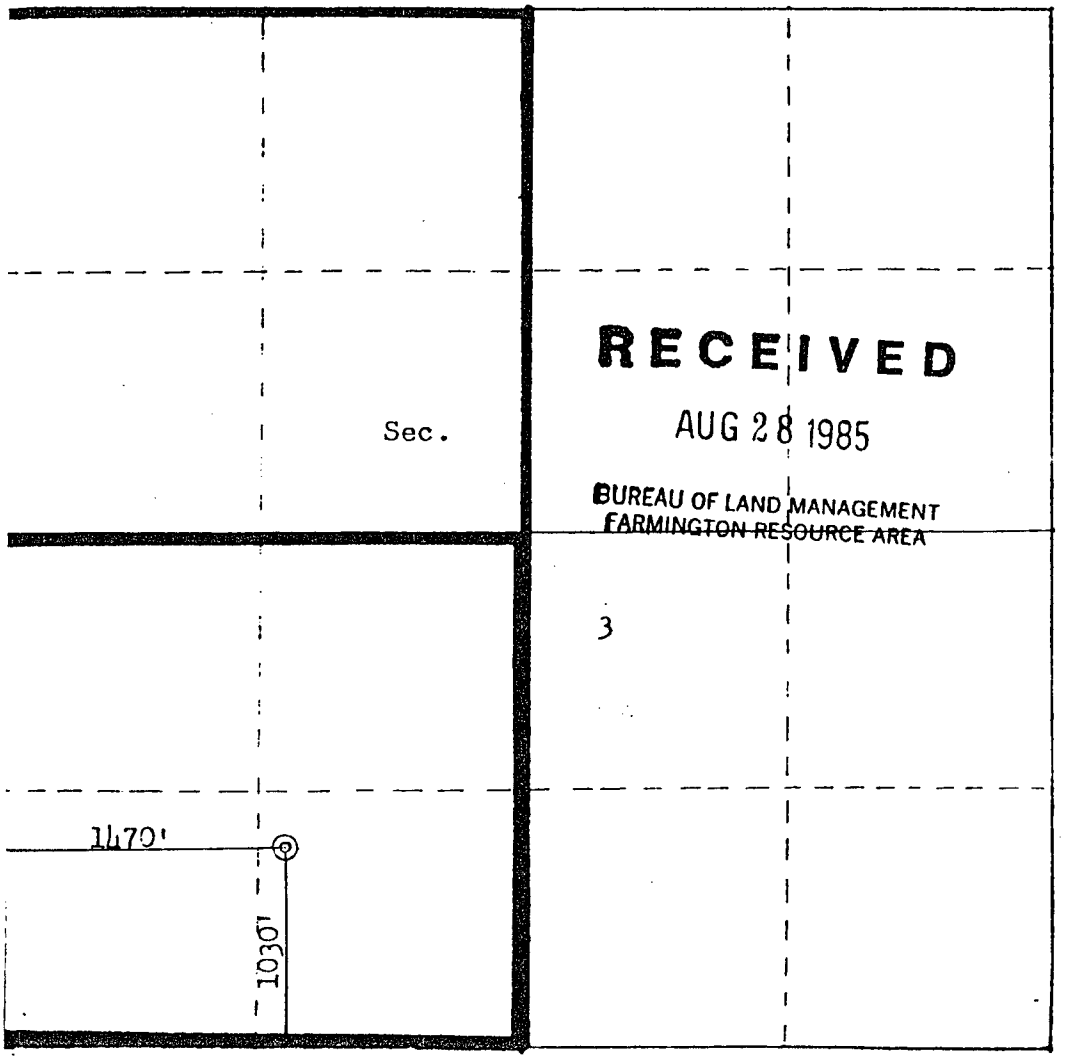
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

B. D. Shaw

Name: B. D. Shaw

Position: Adm. Supervisor

Company: Amoco Production Co.

Date: 8-22-85

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: August 1, 1985

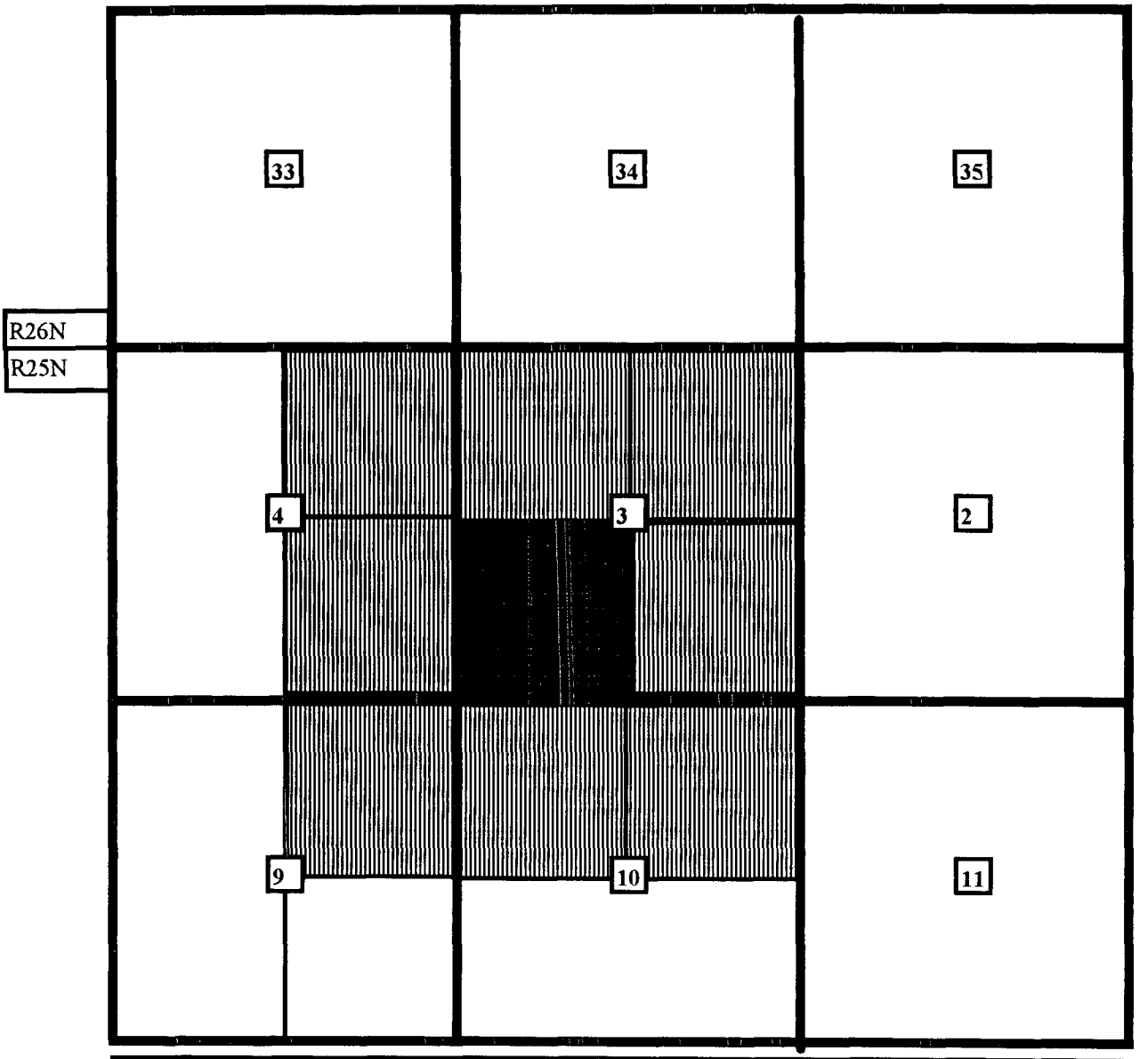
Registered Professional Engineer and Land Surveyor

Fred B. Kerr Jr.

Certificate No. 3950

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

Jicarilla 146 #21R Well
1030' FSL & 1470' FWL
Unit N Section 3-T25N-R5W
Otero Chacra Pool

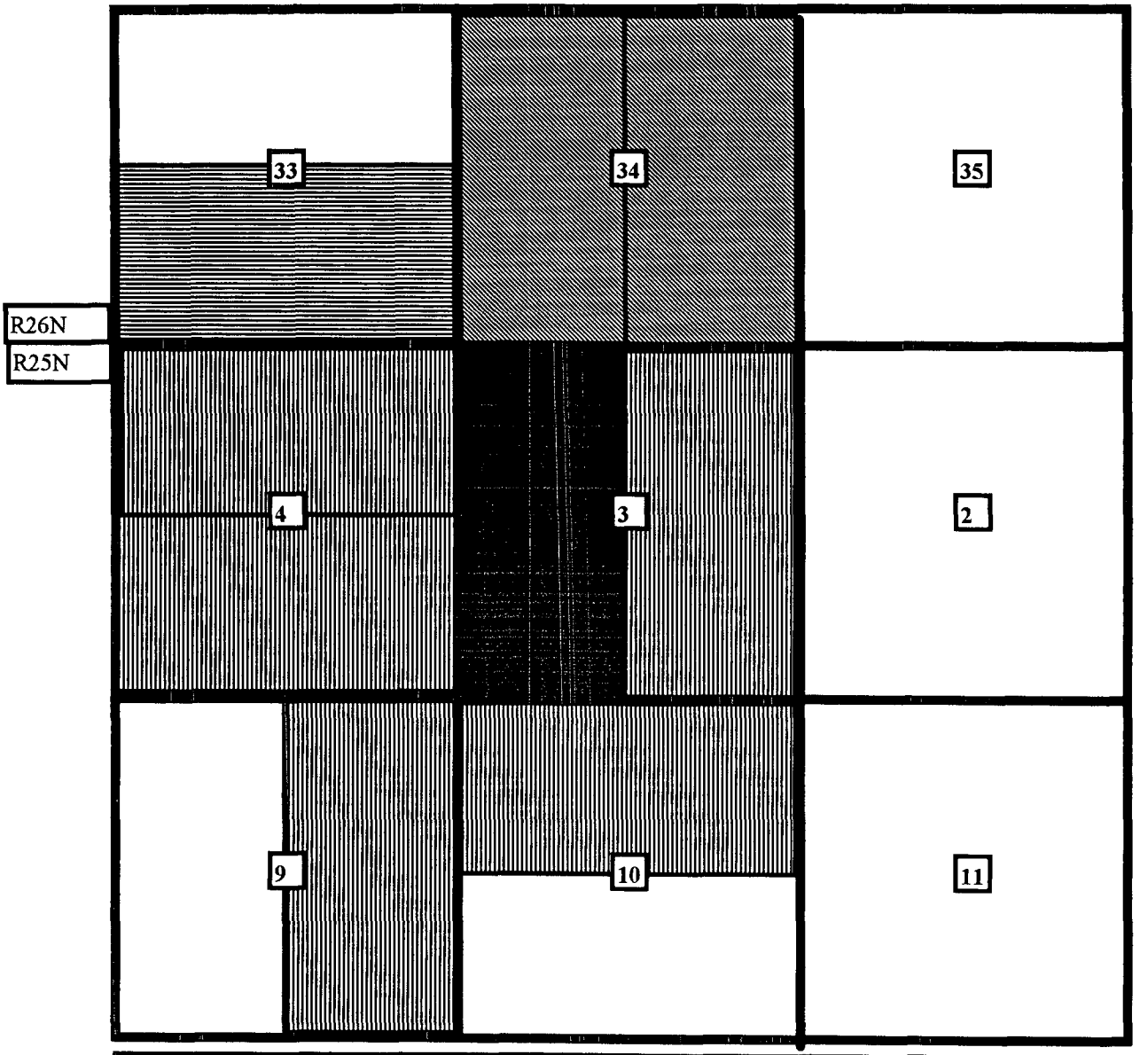


SPACING UNIT TO BE DOWNHOLE COMMINGLED

AMOCO PRODUCTION COMPANY

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

Jicarilla 146 #21R Well
1030' FSL & 1470' FWL
Unit N Section 3-T25N-R5W
Basin Dakota Pool



LIST OF ADDRESSES FOR OFFSET OPERATORS
Jicarilla 146 #21 Well

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

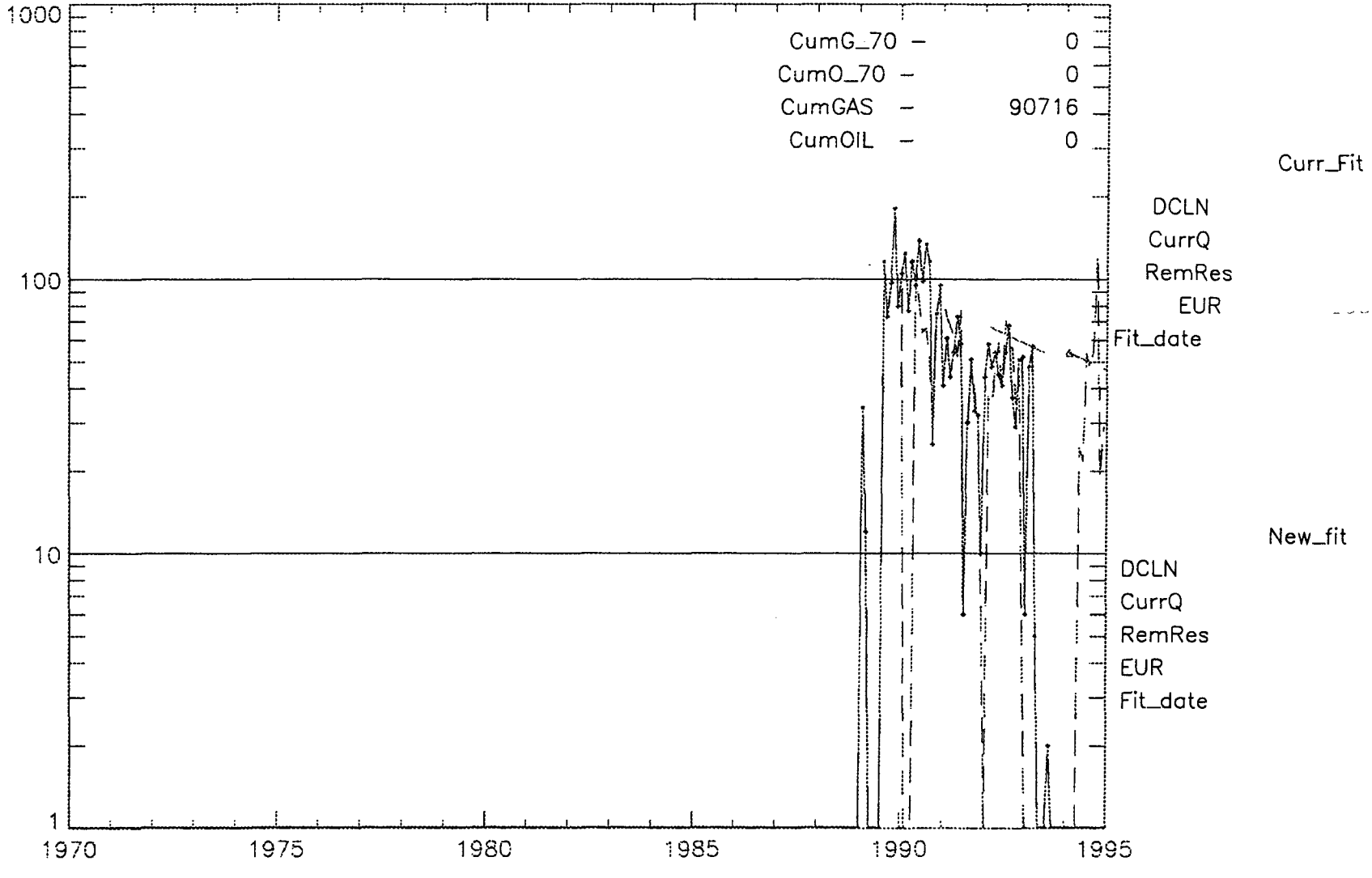
2 Marathon Oil Compasny
P.O. Box 552
Midland, Texas 79702

Engr: zhab0b

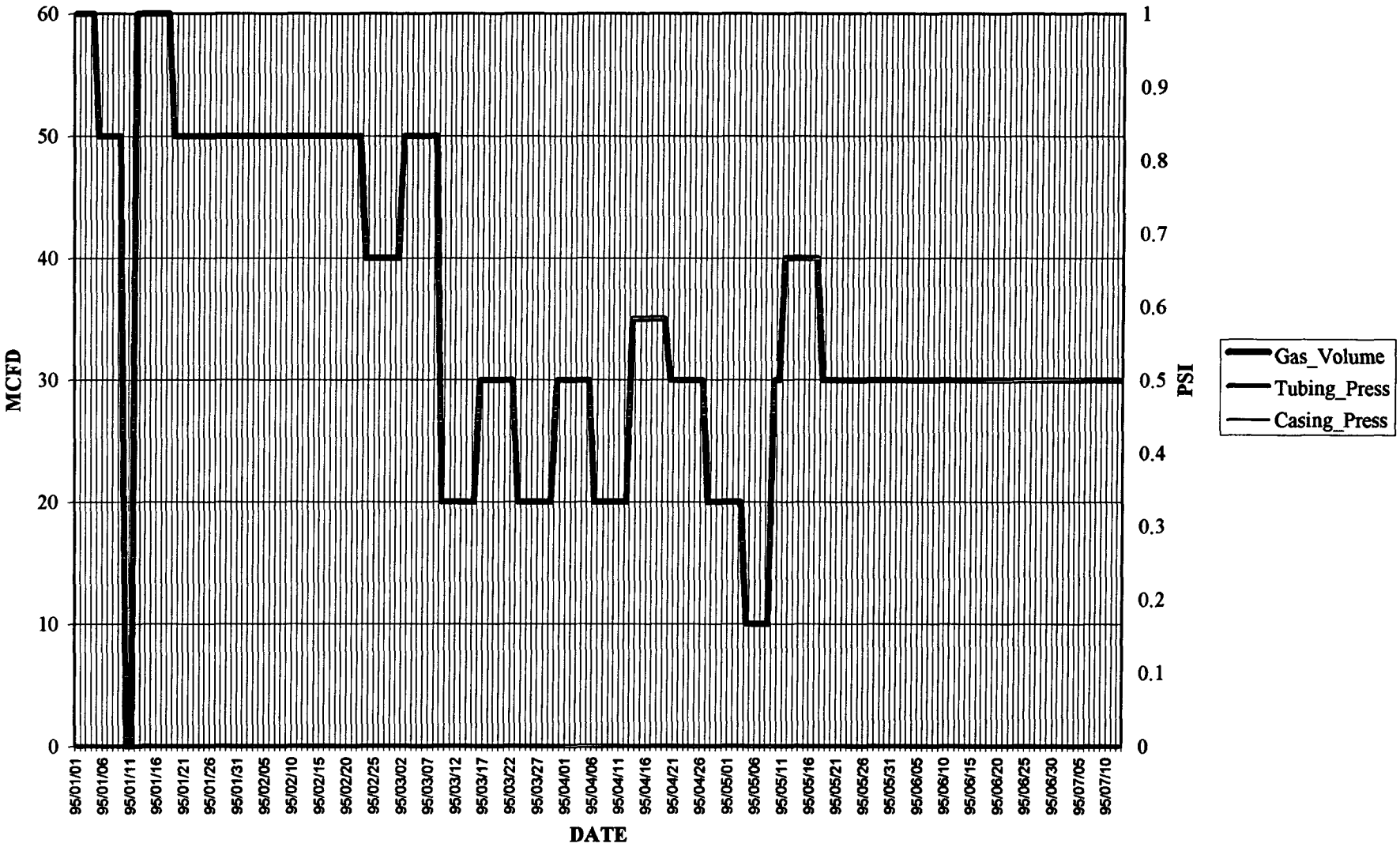
JICARILLA CONTRACT 146 21R

Operator– AMOCO PRODUCTION CO

300392391600CK N032505–021RCK APC_WI – 1.0000000



Well: JICARILLA CONT 146 021R-CK (84657001)

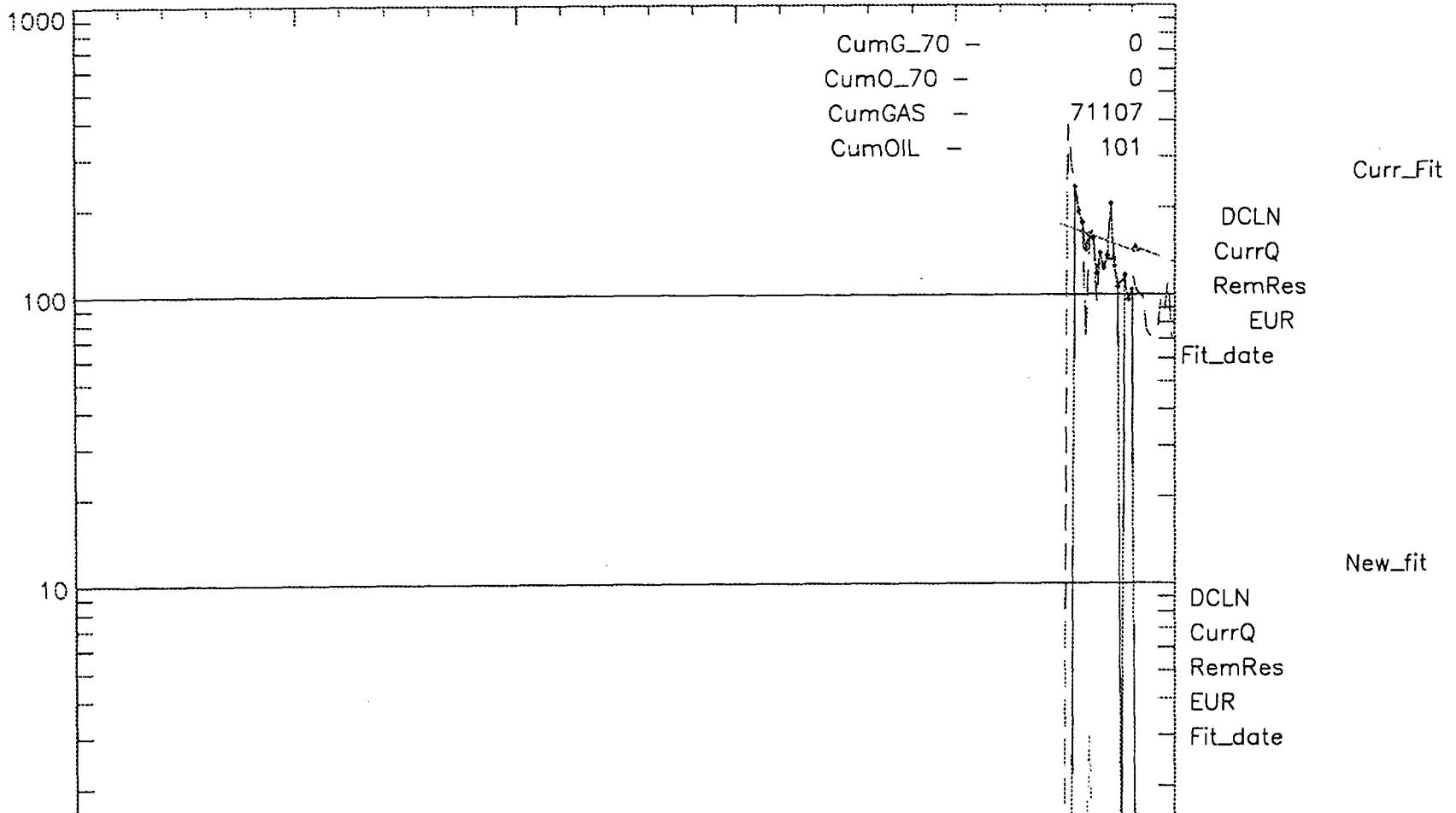


Engr: zhab0b

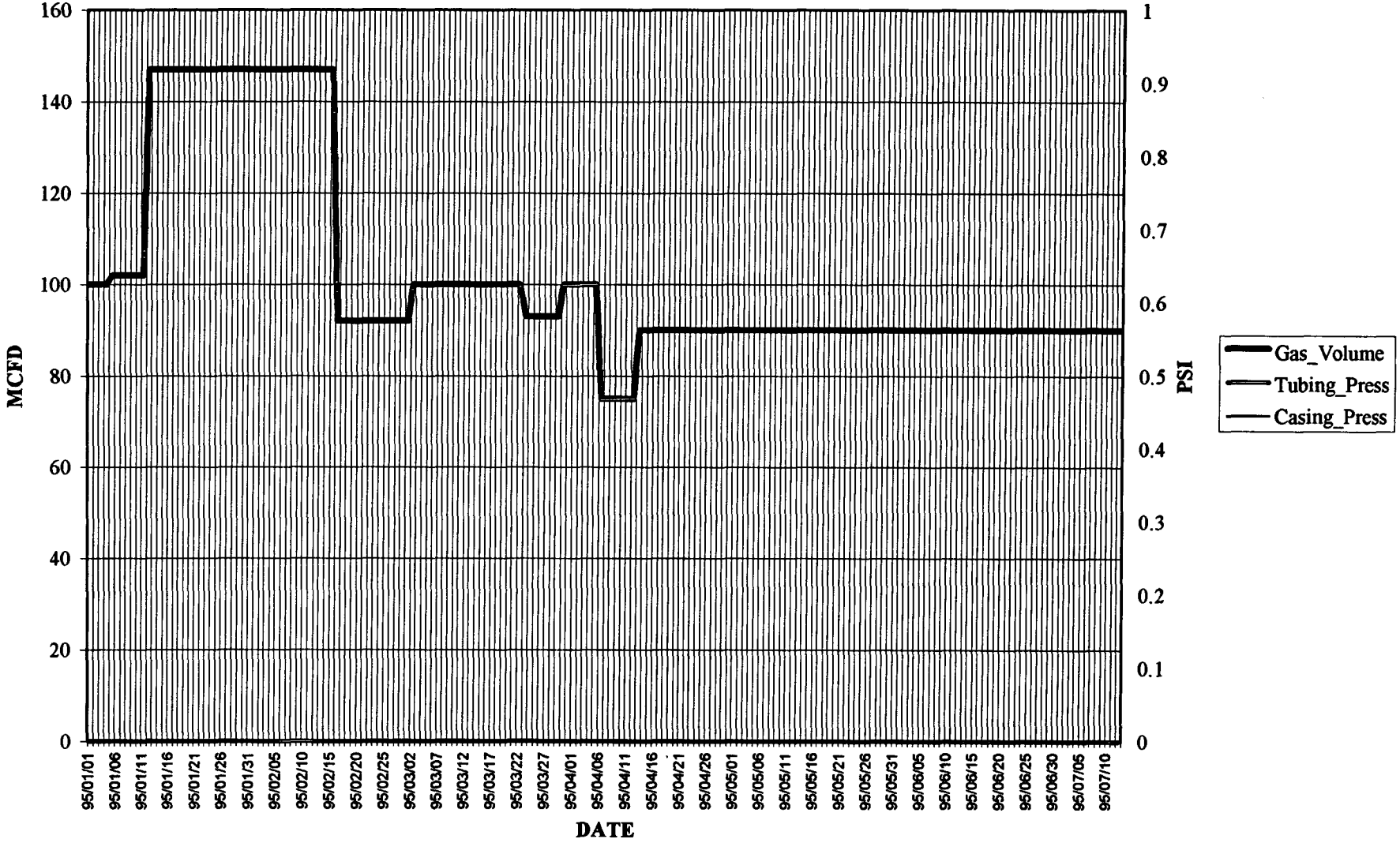
JICARILLA CONTRACT 146 21R

Operator- AMOCO PRODUCTION CO

300392391600DK N032505-021RDK APC_WI - 1.0000000



Well: JICARILLA CONT 146 021R-DK (84657002)



ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION
JICARILLA CONTRACT #146-21R

CK Perforations at 3816-3838' midperf at 3827'
DK Perforations at 7662-7302' midperf at 7271'

11/86 shut in pressures --- CK = 662 PSIG
DK = 381 PSIG

GRADIENT = 0.08 PSI/FT

CK BHP = 662 PSIG + 3827' X 0.08 PSIG
= 968 PSIG

DK BHP = 381 PSIG + 7271' X 0.08 PSIG
=963 PSIG

963 PSIG / 968 PSIG = 99% WHICH MEETS THE >50% RULE

STATE OF NEW MEXICO
ENERGY and MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

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

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator Amoco Production Co. Lease Jicarilla Contract 146 Well No. 21R

Location of Well: Unit N Sec. 3 Twp. 25 Rge. 5 County Rio Arriba

	NAME OF RESERVOIR OR POOL	TYPE OF PROD. (Oil or Gas)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
Upper Completion	Otero Chacra	Gas	Flow	Csg.
Lower Completion	Basin Dakota	Gas	Flow	Tbg.

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
Upper Completion	1-21-86	7 days	662	Yes
Lower Completion	1-21-86	7 days	381	Yes

FLOW TEST NO. 1

Commenced at (hour, date)* 1-28-86 Zone producing (Upper or Lower): UPPER

TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE Upper Completion (662)	PRESSURE Lower Completion (381)	PROD. ZONE TEMP.	REMARKS
1-28-86	15 min.	386	381		Upper
1-28-86	30 min.	250	381		Upper
1-28-86	45 min.	120	381		Upper
1-28-86	1 hr.	102	381		Upper
1-28-86	2 hr.	72	381		Upper
1-28-86	3 hr.	119	381		Upper

Production rate during test

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

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

RECEIVED
FEB 7 1986

MID-TEST SHUT-IN PRESSURE DATA

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

(Continue on reverse side)

FLOW TEST NO. 2

Commenced at (hour, date)** 2-4-86 Zone producing (Upper or Lower): LOWER

TIME (hour, date)	LAPSED TIME SINCE **	PRESSURE Upper Completion	PRESSURE Lower Completion	PROD. ZONE TEMP.	REMARKS
		678	639		
2-4-86	15 min.	678	790		Lower
2-4-86	30 min.	681	410		Lower
2-4-86	45 min.	681	160		Lower
2-4-86	1 hr.	681	71		Lower
2-4-86	2 hr.	681	52		Lower
2-4-86	3 hr.	681	48		Lower

Production rate during test

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

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

Remarks: Test conducted by Joe Elledge

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

Approved FEB - 7 1986 19___
New Mexico Oil Conservation Division

By Original Signed by CHARLES GHOLSON

Title DEPUTY OIL & GAS INSPECTOR, DIST. #3

Operator Amoco Production Co.

By J.J. Barnett

Title Measurment tech.

Date 2-4-86

NORTHWEST NEW MEXICO PACKER LEAKAGE TEST INSTRUCTIONS

1. A packer leakage test shall be commenced on each multiply completed well within seven days after actual completion of the well, and annually thereafter as prescribed by the order authorizing the multiple completion. Such tests shall also be commenced on all multiple completions within seven days following recompletion and/or chemical or fracture treatment, 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-zone tests must be measured on each zone with a deadweight pressure gauge at time intervals as follows: 3 hours tests: 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 mid-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 Aztec District Office of the New Mexico Oil Conservation Division on Northwest New Mexico Packer Leakage Test Forms 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).

DHC-1161

MERIDIAN OIL
A Subsidiary of BURLINGTON RESOURCES

OIL CONSERVATION DIVISION
RECEIVED
'95 SEP 22 AM 8 52

September 20, 1995

Mr. William J. LeMay
State of New Mexico
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

RE: APPLICATION TO DOWNHOLE COMMINGLE
JICARILLA 146 #21R
SE SW SECTION 03, T25N, R05W
RIO ARRIBA COUNTY, NEW MEXICO

Meridian Oil Inc. has no objections to the downhole comminglinge of this well.

Very truly yours,

Van L. Goebel
Senior Landman

VLG/dg

File: Amoco Correspondence

cc: Amoco
Frank Chavez-NMOCD
Robert Kent-BLM

P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700, Fax 505-326-9833
3535 East 30th St., 87402-8891

STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DIVISION

OIL CONSERVATION DIVISION

AZTEC DISTRICT OFFICE

RECEIVED
95 SEP 22 AM 8 52

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 DHC X
Proposed NSL _____ Proposed SWD _____
Proposed WFX _____ Proposed PMX _____
Proposed NSP _____ Proposed DD _____

Gentlemen:

I have examined the application received on 9/13/95

for the Amoco Jicarilla Cont. 146 #21R
OPERATOR LEASE & WELL NO.

N-3-25N-5W and my recommendations are as follows:
UL-S-T-R

Approve

The pressures are calculated incorrectly.

Yours truly,

F. Y.