



**Marathon
Oil Company**

P.O. Box 552
Midland, Texas 79702
Telephone 915/682-1626

May 19, 1989

RECEIVED

JUN 14 1989

**OIL CONSERVATION DIV.
SANTA FE**

State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Division Director

Case 9721

Re: Rule 303 C - Downhole Commingling

Marathon Oil Company requests permission to downhole commingle production in its Jicarilla Apache Well No. 13E. The legal description for this well is 1850' FNL and 930' FWL, Section 33, T26N, R5W, Rio Arriba County, New Mexico. This well is a dual completion under Division Order No. MC-2919. This well produces from the Basin Dakota from perforations at 7107'-7295' and from the Blanco Mesaverde from perforations at 5126'-5150'.

An attached C-116 shows the most recent production from the Basin Dakota formation and the Blanco Mesaverde formation. Previous commingling of these two zones by other operators in this area have shown that the gas, condensate and waters produced by these two formations are compatible and will not result in formation damage if commingled. The value of the commingled gas and condensate will not be reduced by commingling. Ownership of the two zones is also the same. The bottomhole pressures of the two zones corrected to a depth of 5126' for purposes of comparison is 1054 psia for the Blanco Mesaverde and 1001 psia for the Basin Dakota.

Letters have been sent to all offset operators and the BLM notifying them of the proposed commingling. A copy of one of these letters is attached. Also attached is a production decline curve for the past 5 years for the Basin Dakota formation. A map showing the location of the well is also attached. Production should be assigned to each of the zones using the allocation formula attached or using a straight percentage split: Mesaverde - 31%, Dakota - 69%.

Marathon Oil Company
May 19, 1989
Page 2

If any further questions or comments should arise, please contact Mr.
M. A. Zoller, Production Superintendent at (915) 682-1626. Thank you.

Sincerely,

MARATHON OIL COMPANY

A handwritten signature in cursive script that reads "Nancy Engler".

Nancy Engler
Production Engineer

NCE/akp
005-89



**Marathon
Oil Company**

P.O. Box 552
Midland, Texas 79702
Telephone 915/682-1626

May 15, 1989

Union Texas Petroleum
4001 Bloomfield Highway
Farmington, New Mexico 87410

Case 9721

Attention: Operations Manager

Re: Marathon Oil Company - Jicarilla Apache Well No. 13E
1850' FNL, 930' FWL, Sec. 33, T26N, R5W, Unit E
Rio Arriba County, New Mexico

Dear Sir:

Marathon Oil Company is requesting permission from the Oil Conservation Division to downhole commingle production in the above referenced well. The Jicarilla Apache Well No. 13E is presently dually completed in the Blanco Mesaverde and the Basin Dakota. Combined production from this well will average approximately 200 MCFGPD, 1 BCPD, and 0.5 BWPD.

If you have no objection to this request, please sign the waiver at the bottom of this letter and return it to my attention. If you have any questions, please contact this office. Thank you.

Sincerely,

MARATHON OIL COMPANY

A handwritten signature in cursive script that reads 'Nancy Engler'.

Nancy Engler
Production Engineer

NCE/akp
003-89

This is to acknowledge that the undersigned waives objection to the downhole commingling, as proposed by Marathon Oil Company in this letter.

Company

Date

Company Representative

Title

Submit 2 copies to Appropriate
District Office.
DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION

Form C-116
Revised 1/1/89

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

GAS - OIL RATIO TEST

Operator Marathon Oil Company		Pool Blanco Mesaverde/Basin Dakota		County Rio Arriba											
Address P.O. Box 552, Midland, Texas 79702		TYPE OF TEST - (X)		Scheduled <input type="checkbox"/> Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>											
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	SUSP. STAT.	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU/FT/BBL.
		U	S	T	R							WATER BRLS.	GRAV. OIL	OIL BRLS.	
Jicarilla Apache Blanco Mesaverde	13E	J	33	26N	5W	5-31-89	P	0.625	296		24	0.0	3.4	73	21,471
Basin Dakota	13E	J	33	26N	5W	5-31-89	P	0.875	304		24	0.6	2.5	138	55,200

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

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

Signature Kent M. Weissling

Printed name and title
Kent M. Weissling, Production Engineer

Date 6/5/89 (915) 682-1626
Telephone No.

Jicarilla Apache Well No. 13E

Allocation formula for production from
Blanco Mesaverde and Basin Dakota

Exponential decline factors: Mesaverde (MV) = 0.0128/month
Dakota (DK) = 0.0167/month

Where $DK_1, MV_1 \Rightarrow$ current production
 $DK_2, MV_2 \Rightarrow$ estimated production for following month
 $DK_3, MV_3 \Rightarrow$ allocated production for following month

$$\ln (MV_1) - 0.0128 = \ln (MV_2)$$

$$\ln (DK_1) - 0.0167 = \ln (DK_2)$$

Where for any given month:

$$DK + MV = \text{Total Production (T)}$$

Allocate using $(MV_2/DK_2 + 1) DK_3 = \text{Known Total Production (T}_3)$

Example: $MV_1 = 1600$ $\ln MV_1 = 7.3778$
 $DK_1 = 3500$ $\ln DK_1 = 8.1605$

$$7.3778 - 0.0128 = 7.3650 = \ln MV_2; MV_2 = 1580$$

$$8.1605 - 0.0167 = 8.1438 = \ln DK_2; DK_2 = 3442$$

$$MV_2/DK_2 = 0.459$$

If Total Volume to be allocated (T_3) is 6000 MCF

$$\text{then } (0.459 + 1) DK_3 = 6000$$

$$DK_3 = 4112 \text{ MCF}$$

$$MV_3 = 6000 - 4112 = 1888 \text{ MCF}$$

For a more simplistic, less accurate allocation use: MV = 31%
DK = 69%

NE:akp

File No. 004-89

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Budget Bureau No. 1004-0113
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

Tract 251, Cont. 000154
6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Jicarilla Apache

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Jicarilla Apache

9. WELL NO.

13E

10. FIELD AND POOL, OR WILDCAT

Blanco Mesaverde/Basin Dakot

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 33, T26N, R5W

12. COUNTY OR PARISH

13. STATE

Rio Arriba

N. Mexico

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

Marathon Oil Company

3. ADDRESS OF OPERATOR

P.O. Box 552, Midland, Texas 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)

At surface

SE NW Unit Letter E 1850' FNL & 930' FWL

14. PERMIT NO.

30-039-22446

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6598' GL, 6610 KB

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other) Please see below

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Marathon is applying for permission from the Oil Conservation Division to downhole commingle production from the Blanco Mesaverde and Basin Dakota formations. Upon receiving approval from the NMOCD, the sliding sleeve will be opened and production from the two zones will be commingled. Estimated start date of this work is July 1, 1989.

18. I hereby certify that the foregoing is true and correct

SIGNED

m. a. jell

TITLE

Production Superintendent

DATE

6-12-89

(This space for Federal or State office use)

APPROVED BY

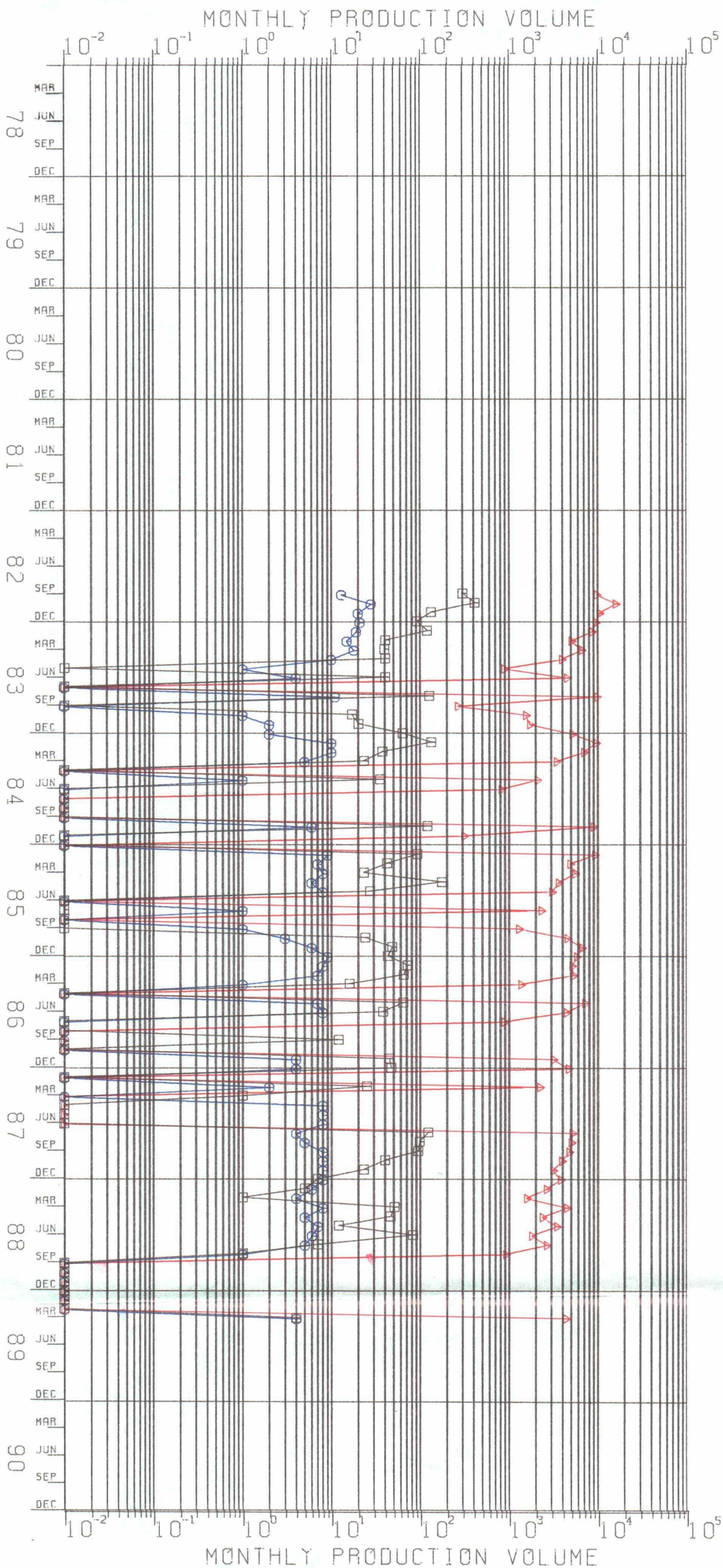
TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

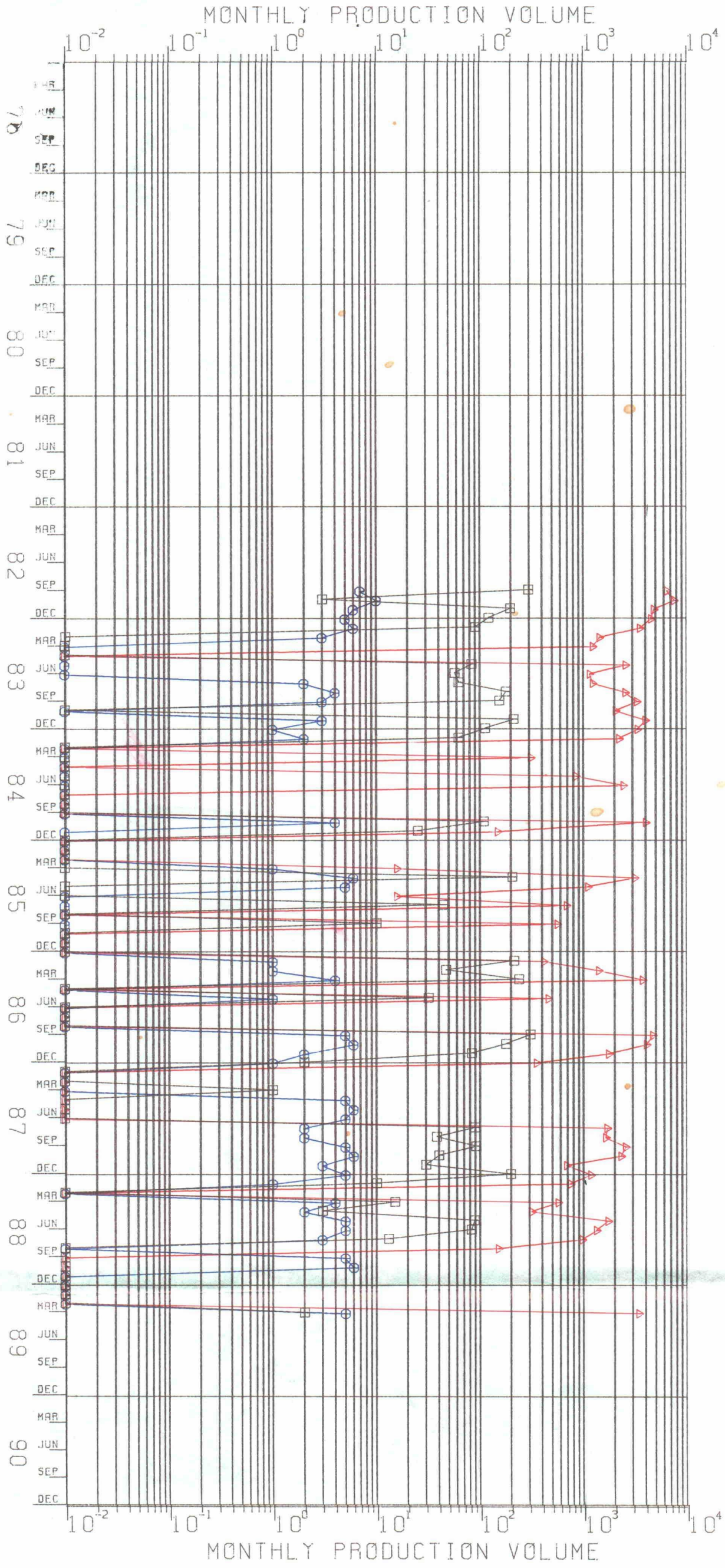
*See Instructions on Reverse Side

FIELD - JICARILLA
RESERVOIR - BASIN DAKOTA
LEASE - JICARILLA APACHE
WELL - JICARILLA BD 13E
BLANCO PICTURE CLIFFS CONT-90154



FIELD - JICARILLA
RESERVOIR - BLANCO MESAVARDE
LEASE - JICARILLA APACHE
WELL - JICARILLA PL 13E

BLANCO PICTURE CLIFFS CONT-90154





STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

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

Date: 6-16-89

RECEIVED

JUN 22 1989

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

OIL CONSERVATION DIV.
SANTA FE

Re: Proposed MC _____
Proposed DHC x _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 6-14-89
for the Marathon Acuña Apache #1736
Operator Lease & Well No.

E33-260-52 and my recommendations are as follows:
Unit, S-T-R

Reel for King

Yours truly,

Jim L. G.