Houston Division
Production Operations, U.S. & Canada

Marathon Oil Company

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

Approved
10/13/81

September 18, 1981

State of New Mexico Energy
and Minerals Department
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Joe D. Ramey - Director

Re: Downhole Commingling
Brunson Fusselman and Cary Montoya Pools
J. W. Grizzell Well No. 3
330' FSL & 1650' FEL
Section 5, T.22S, R.37E
Lea County, New Mexico

Gentlemen:

Marathon Oil Company respectfully requests administrative approval to downhole commingle production from the Brunson Fusselman and Cary Montoya Pools in the J. W. Grizzell Well No. 3 located 330' FSL and 1650' FEL of Section 5, T.22S, R.37E, Lea County, New Mexico.

This well was drilled to a total depth of 7500' and 5 1/2" casing set at that point. The Fusselman interval 7200-7212' was perforated and acidized with 1500 gallons of 15% acid. This interval was then swabbed and pump tested for 29 days. Final stabilized production from this zone was 2 BOPD and 4 BWPD. The interval 7200-7212' was then fracture treated with 30,000 gallons of versagel and 17,500 pounds of 20/40 sand. This interval (7200-7212') was pump tested for an additional 72 days. Final stabilized production for this zone after the frac job was 5 BOPD and 6 BWPD.

In an attempt to fully evaluate the formations that this wellbore had penetrated, the Montoya formation was perforated in the intervals 7256-57', 7272-79', 7292-96', 7340-46', and 7352-60'. A packer was set between the Fusselman and Montoya at 7230' and an attempt was made to acidize the Montoya perforations (7256-7360'). However, as soon as the acid job was begun, the Fusselman (7200-7212') and Montoya (7256-7360') perforations communicated behind the casing. The packer was reset at 7161' and the Fusselman and Montoya were treated together

with 5000 gallons of 15% acid. The two zones were pump tested together for 20 days. The final stabilized producing rate for the combined zones was 35 BOPD and 40 BWPD.

Since the Fusselman and Montoya zones are in communication behind the pipe, it is impossible to isolate the two zones in the wellbore with a packer. Also, any attempt to squeeze cement to eliminate communication would probably damage the producing formations and the present production level could not be restored.

Based on production history from this well it is estimated that the Montoya formation will contribute 85% and the Fusselman formation will contribute 15% of the commingled production from this well.

The estimated static bottom hole pressures for both the Fusselman and Montoya is 1750 psi. The produced fluid characteristics are such that there should be no compatibility problems in the wellbore. The gravity of the Fusselman crude oil is 37.8° API at 60° F. The combined gravity of the crude is 39.6° API at 60° F. From this, the calculated gravity of the Montoya crude is 39.9° API at 60° F. Therefore, the value of the combined crude will not be less than the individual crudes. All ownership in the Fusselman and Montoya zones in this well are common.

The following offset operators have been furnished with a copy of this letter.

Sincerely,

MARATHON OIL COMPANY

William D. Holmes

William D. Holmes
District Operation Engineer

WDH:bje

xc: St. of NM Energy & Minerals
OCC - Box 2088 O/1 - Santa Fe, N.M.

St. of NM Energy & Minerals
OCC - Box 1980 - Hobbs, N.M.

C. C. Saathoff
File

OFFSET OPERATORS TO:
MARATHON OIL COMPANY'S
J. W. GRIZZELL WELL NO. 3
LEA COUNTY, NEW MEXICO

Gulf Oil Exploration and Production Company
P. O. Box 670
Hobbs, New Mexico 88240

Sohio Petroleum Company
P. O. Box 3000
Midland, Texas 79702

Amoco Production Company
P. O. Box 68
Hobbs, New Mexico 88240

Texaco, Inc.
P. O. Box 728
Hobbs, New Mexico 88240

W. B. Yarborough
1800 First National Bank Building
Midland, Texas 79701

Midland District
Houston Division
Production Operations, U.S. & Canada

Marathon Oil Company

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

October 1, 1981

State of New Mexico Energy
and Minerals Department
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87501

Attention: Michael Stockner

Re: Downhole Commingling
Brunson Fusselman and Cary Montoya Pools
J. W. Grizzell Well No. 3
330' FSL & 1650' FEL
Section 5, T-22S, R-37E
Lea County, New Mexico

Gentlemen:

You have recently received the above referenced application. It was stated in this application that the estimated bottom hole pressure on both the Fusselman Zone and the Montoya Zone was 1750 psi. This was based on fluid level data obtained while swabbing the well. The method of determining this estimate is shown below:

Fusselman Zone (7200'-7212')
On 5/15/81, after being shut in for 13 hours, a swab was run in the tubing and found 4600' of fluid over the Fusselman perforations. The first swab run recovered gas cut water. Based on this, the estimated fluid gradient in the tubing was .38psi/ft. Therefore, the estimated BHP is 4600' x .38psi/ft = 1748 psi.

Montoya Zone (7256'-7360')
On 8/26/81, after being shut in approximately 13 hours, a swab was run in the tubing and found 4750' of fluid over the Montoya perforations. The first swab run recovered oil and gas cut water. Based on this the estimated fluid gradient in the tubing was .37psi/ft. Therefore, the estimated BHP is 4750' x .37psi/ft = 1757 psi.

Sincerely,

MARATHON OIL COMPANY

William D. Holmes

William D. Holmes
District Operations Engineer

WDH:cc

OIL CONSERVATION DIVISION
DISTRICT I

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

DATE September 22, 1981

RE: Proposed MC _____
Proposed DHC X
Proposed NSL _____
Proposed NSP _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application for the:

Marathon Oil Co.	J. W. Grizzell	No. 3-O	5-22-37
Operator	Lease and Well No.		Unit, S - T - R

and my recommendations are as follows:

O.K.---LAC

Yours very truly,

Jesse A. Clement

RECEIVED
SEP 24 1981
OIL CONSERVATION DIVISION
SANTA FE

/mc