

DHC

4/16/97

Mid-Continent Region
Production United States

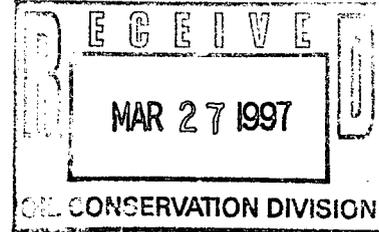


**Marathon
Oil Company**

P.O. Box 2409
Hobbs, NM 88241-2409
Telephone 505/393-7106

March 20, 1997

Mr. David Catanach
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Sante Fe, NM 87501



Re: Request for Exception to Rule 303-A
Downhole Commingling
McCallister St. No. 5
UL "M", 660' FSL & 560' FWL
Sec. 25, T-17-S, R-34-E
Abo, Wolfcamp, and Devonian Pools
Vacuum Field
Lea County, New Mexico

Dear Mr. Catanach:

Marathon Oil Company requests administrative approval for an exception to Rule 303-A to permit the downhole commingling of production in the above subject well from the Vacuum (Abo), Vacuum (Wolfcamp), and Vacuum (Devonian) pools.

The Devonian zone was abandoned in 1964 due to uneconomical production. The Abo and Wolfcamp zones are currently downhole commingled (DHC-120) and are reaching the producible economic limit. By commingling production from the three zones, production will be realized that could not economically justify the cost of equipment to segregate the Abo/Wolfcamp and Devonian zones. Rod pumping equipment will be utilized to keep the PBHP as low as possible preventing crossflow.

Enclosed is pertinent data supporting this application as outlined in Rule 303-A. If additional information is necessary, please advise.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Bryan L. Williams'.

Bryan L. Williams
Production Engineer

BLW//reglatory/dhc/coverpag/mcal#5
Enclosure

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
811 South First St., Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107-A
New 3-12-96

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

APPROVAL PROCESS:

Administrative Hearing

EXISTING WELLBORE

YES NO

APPLICATION FOR DOWNHOLE COMMINGLING

Marathon Oil Company PO Box 2409 Hobbs, NM 88240
Operator Address
McCallister State 1 M, Sec. 25, T-17-S, R-34-E Lea
Lease Well No. Unit Ltr. - Sec - Twp - Rge County
OGRID NO. 014021 Property Code 6431 API NO. 30-025-20116 Federal State (and/or) Fee

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zones	Lower Zone
1. Pool Name and Pool Code	N. Vacuum Abo 61760	Vacuum Wolfcamp 62340	Vacuum Devonian 61980
2. Top and Bottom of Pay Section (Perforations)	8336-9177	9510-9951	12,004-12,106
3. Type of production (Oil or Gas)	Oil	Oil	Oil
4. Method of Production (Flowing or Artificial Lift)	Artificial Lift	Artificial Lift	Artificial Lift
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 100 psi Producing fluid level below perfs	a. 100 psi Producing fluid level below perfs	a. 250 psi Producing fluid level below perfs
	b. (Original)	b.	b.
6. Oil Gravity (° API) or Gas BTU Content	39.0	38.3	42.0
7. Producing or Shut-In?	Producing	Producing	Producing
Production Marginal? (yes or no) * If Shut-In, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data * If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Yes	Yes	Yes
	Date: Rates:	Date: Rates:	Date: Rates:
	Date: 2/27/97 Rates: 9.2/28.5/9.5	Date: 2/27/97 Rates: 0.5/1.5/0.5	Date: 2/27/97 Rates: 10/44/50
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 47.5 % Gas: 38.5 %	Oil: 2.5 % Gas: 2.0 %	Oil: 50.0% Gas: 59.5 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical in all commingled zones? Yes No
If not, have all working, overriding, and royalty interests been notified by certified mail? Yes No
Have all offset operators been given written notice of the proposed downhole commingling? Yes No
11. Will cross-flow occur? Yes No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. Yes No (If No, attach explanation)
12. Are all produced fluids from all commingled zones compatible with each other? Yes No
13. Will the value of production be decreased by commingling? Yes No (If Yes, attach explanation)
14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. Yes No
15. NMOCD Reference Cases for Rule 303(C) Exceptions: ORDER NO(S). _____
16. ATTACHMENTS:
* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
* Production curve for each zone for at least one year. (If not available, attach explanation.)
* For zones with no production history, estimated production rates and supporting data.
* Data to support allocation method or formula.
* Notification list of all offset operators.
* Notification list of working, overriding, and royalty interests for uncommon interest cases.
* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Bryan L. Williams TITLE Production Engineer DATE 3/21/97
TYPE OR PRINT NAME Bryan L. Williams TELEPHONE NO. (505) 393-7106



**Marathon
Oil Company**

P.O. Box 2409
Hobbs, NM 88241-2409
Telephone 505/393-7106

March 20, 1997

Mr. Pete Martinez
Commissioner of Public Lands
State Land Office Building
P.O. Box 1148
Sante Fe, NM 87504-1148

Re: Request for Exception to Rule 303-A
Downhole Commingling
McCallister St. No. 5
UL "M", 660' FSL & 560' FWL
Sec. 25, T-17-S, R-34-E
Abo, Wolfcamp, and Devonian Pools
Vacuum Field
Lea County, New Mexico

Dear Mr. Martinez:

Marathon Oil Company requests administrative approval for an exception to Rule 303-A to permit the downhole commingling of production in the above subject well from the Vacuum (Abo), Vacuum (Wolfcamp), and Vacuum (Devonian) pools.

The Devonian zone was abandoned in 1964 due to uneconomical production. The Abo and Wolfcamp zones are currently downhole commingled (DHC-120) and are reaching the producible economic limit. By commingling production from the three zones, production will be realized that could not economically justify the cost of equipment to segregate the Abo/Wolfcamp and Devonian zones. Rod pumping equipment will be utilized to keep the PBHP as low as possible preventing crossflow.

Enclosed is pertinent data supporting this application as outlined in Rule 303-A. If additional information is necessary, please advise.

Sincerely,

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Bryan L. Williams
Production Engineer

BLW//reglatory/dhc/coverpag/mcal#5
Enclosure

REQUEST FOR EXCEPTION TO RULE 303-A
McCallister St. No. 5
Vacuum Field

A: Operator

Marathon Oil Company
P.O. Box 2409
Hobbs, NM 88241-2409

B: Lease Name and Well Number

McCallister St. No. 5
UL "M" 660' FSL & 560' FWL
Sec. 25, T-17-S, R-34-E
Lea Co., New Mexico
Vacuum: Abo, Wolfcamp, Devonian Pools

C: Plats and Offset Operators

Attached

D: Form C-116

Attached

E: Production Decline Curves

Attached

F: Estimated Bottomhole Pressures

Vacuum (Abo) - 2000 psi
Vacuum (Wolfcamp) - 2150 psi
Vacuum (Devonian) - 4000 psi

G: Fluid Characteristics

Marathon has downhole commingled the produced fluids from the Abo and Wolfcamp zones without compatibility problems. The addition of the Devonian production will not cause any compatibility problems.

H: Value

Marathon receives the same price for the products from each zone and value will not be adversely affected.

I: Production Allocation

<u>Pool</u>	<u>BOPD</u>	<u>MCFPD</u>	<u>BWPD</u>	<u>Estimate Method</u>
Vacuum (Abo)	9.5	28.5	9.5	Pre-work allocated production
Vacuum (Wolfcamp)	0.5	1.5	0.5	Pre-work allocated production
Vacuum (Devonian)	<u>10</u>	<u>44</u>	<u>50</u>	Post-work incremental production
	20	74	60	Well test on 2/27/97

Allocated Percentages Oil % Gas % Water %

Pre-workover Administrative Order No. DHC-120

Vacuum (Abo)	95%	95%	95%
Vacuum (Wolfcamp)	5%	5%	5%

Post-workover utilizing above production

Vacuum (Abo)	47.5%	38.5%	16.0%
Vacuum (Wolfcamp)	2.5%	2.0%	1%
Vacuum (Devonian)	<u>50.0%</u>	<u>59.5%</u>	<u>83%</u>
Total	100	100	100

J: Ownership

Ownership of all zones is common and correlative rights will not be violated.

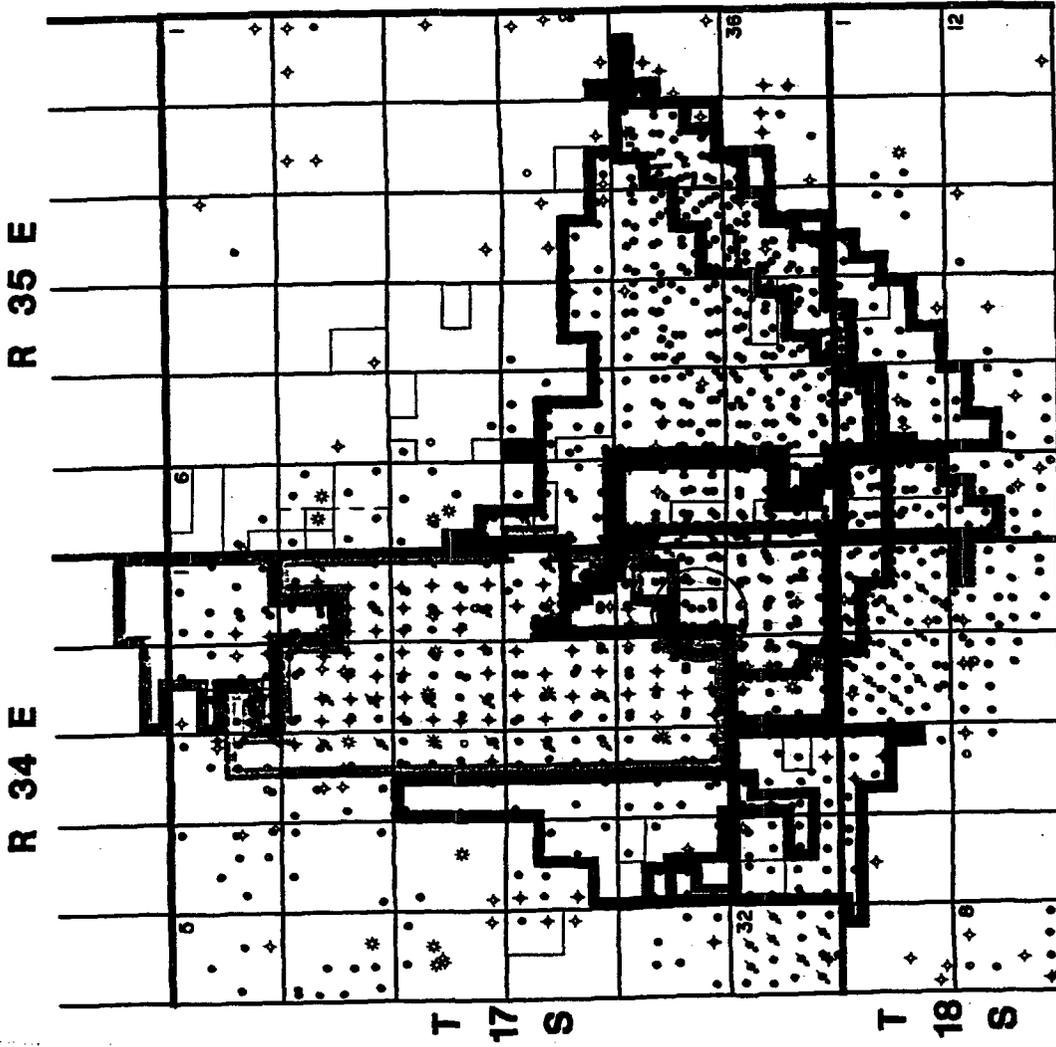
K: Offset Operator Notification

By copy of this letter we are notifying all offset operators (attached) of the proposed commingling, by certified mail.

MARATHON OIL COMPANY
MID-CONTINENT REGION

VACUUM FIELD

LEA COUNTY, NEW MEXICO



- VACUUM GLORIETA WEST UNIT**
(TEXACO OPER.)
MOC W.I. 15.82%
- NORTH VACUUM ABO NORTH**
(SAGE OPER.)
MOC W.I. 4.9662%
- WEST VACUUM UNIT**
(TEXACO OPER.)
MOC W.I. 13.43%
- VACUUM ABO WEST UNIT**
(TEXACO OPER.)
MOC W.I. 3.9982%
- EAST VACUUM UNIT**
(PHILLIPS OPER.)
MOC W.I. 4.4497%
- NORTH VACUUM ABO UNIT**
(MOBIL OPER.)
MOC W.I. 0.3946%
- CENTRAL VACUUM UNIT**
(TEXACO OPER.)
MOC W.I. 24.76%
- VACUUM ABO REEF UNIT**
(PHILLIPS OPER.)
MOC W.I. 2.04%

**Marathon Oil Company
McCallister St. No. 5
UL "M", 660' FSL & 560' FWL
Section 25, T-17-S, R-34-E
Lea County, New Mexico
Vacuum Field**

Offset Operators and Addresses

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705

Mobil Exploration and Producing U.S. Inc.
500 W. Illinois, Midland, TX 79701
P.O. Box 633, Midland, TX 79702-0633

Texaco Exploration and Producing Inc.
Heritage Center, Midland, TX 79701
P.O. Box 3109, Midland, TX 79702-3109



**Marathon
Oil Company**

P.O. Box 2409
Hobbs, NM 88241-2409
Telephone 505/393-7106

March 20, 1997

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705

Re: Request for Exception to Rule 303-A
Downhole Commingling
McCallister St. No. 5
UL "M", 660' FSL & 560' FWL
Sec. 25, T-17-S, R-34-E
Abo, Wolfcamp, and Devonian Pools
Vacuum Field
Lea County, New Mexico

Ladies and/or Gentlemen:

Marathon Oil Company has filed an application with the New Mexico Oil Conservation Division to downhole commingle the above referenced well. Please find enclosed a copy of the application as outlined in Rule 303-A.

If you are in agreement and waive all objections to the downhole commingling, please sign below and mail the original to the NMOCD in the enclosed addressed envelope. Also, please return one copy to Marathon at the letterhead address.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bryan L. Williams'.

Bryan L. Williams
Production Engineer

BLW/mcal#5
Enclosure

Agreed and accepted this _____ day of _____ 1995

by _____, as representative of



**Marathon
Oil Company**

P.O. Box 2409
Hobbs, NM 88241-2409
Telephone 505/393-7106

March 20, 1997

Mobil Exploration and Producing U.S. Inc.
P.O. Box 633
Midland, TX 79702-0633

Re: Request for Exception to Rule 303-A
Downhole Commingling
McCallister St. No. 5
UL "M", 660' FSL & 560' FWL
Sec. 25, T-17-S, R-34-E
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Bryan L. Williams
Production Engineer

BLW/mcal#5
Enclosure

Agreed and accepted this _____ day of _____ 1995

by _____, as representative of



**Marathon
Oil Company**

P.O. Box 2409
Hobbs, NM 88241-2409
Telephone 505/393-7106

March 20, 1997

Texaco Exploration and Production Inc.
P.O. Box 3109
Midland, TX 79702-3109

Re: Request for Exception to Rule 303-A
Downhole Commingling
McCallister St. No. 5
UL "M", 660' FSL & 560' FWL
Sec. 25, T-17-S, R-34-E
Abo, Wolfcamp, and Devonian Pools
Vacuum Field
Lea County, New Mexico

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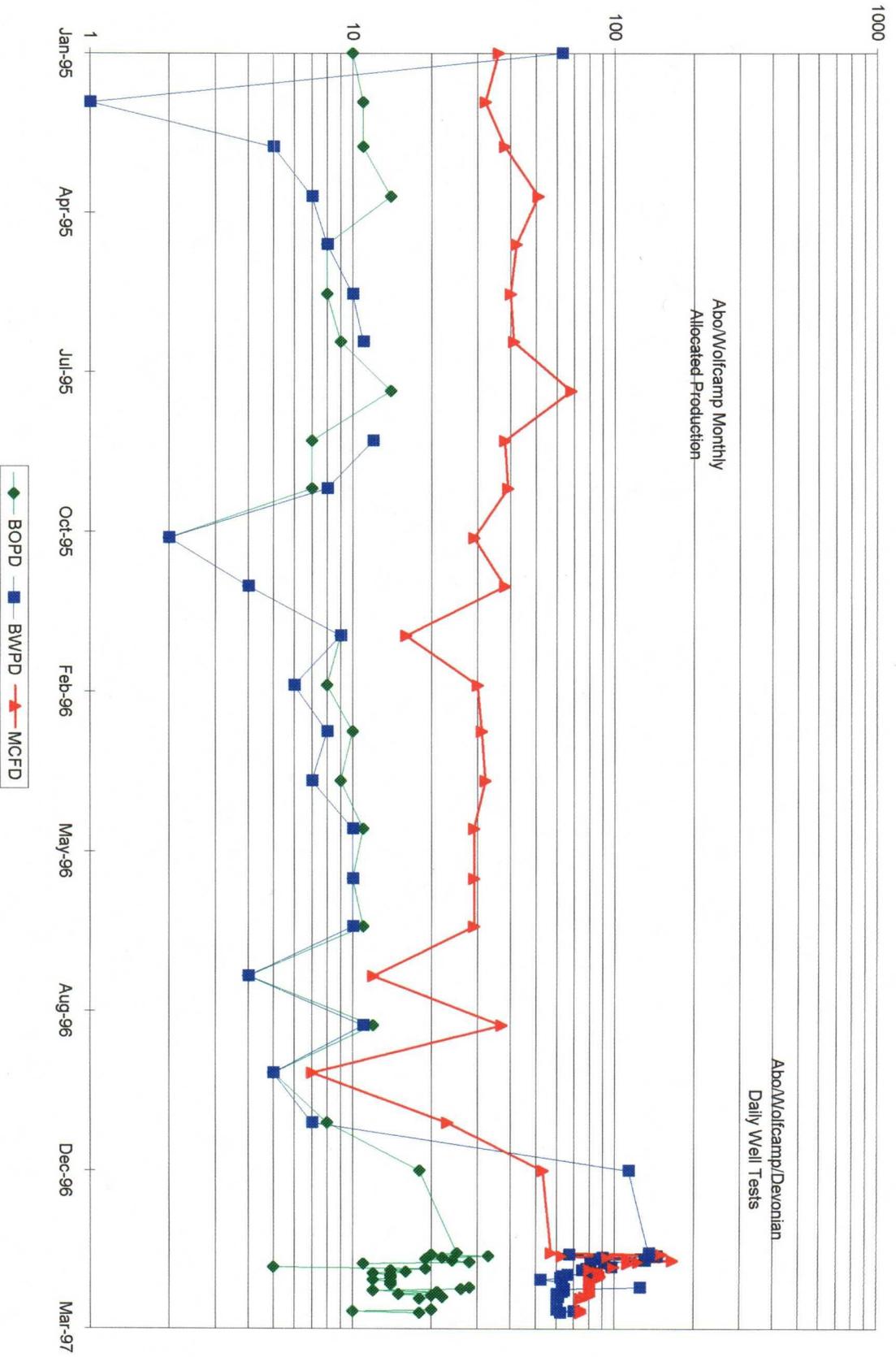
Bryan L. Williams
Production Engineer

BLW/mcal#5
Enclosure

Agreed and accepted this _____ day of _____ 1995

by _____, as representative of

McCallister St. No. 5



Sec. 25, T-17-S, R-34-E
660' FSL 560' FWL

Abo/Wolfcamp/Devonian DHC Application

3/18/97

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

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

GAS - OIL RATIO TEST

Operator Marathon Oil Company		Pool N. Vac; Abo Vac; Wolfcamp/Devonian		County Lea									
Address P.O. Box 2409, Hobbs, NM 88240		TYPE OF TEST - (X)		Completion									
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL
		U	S	T						R	WATER BBLs.	OIL BBLs.	
McCallister State	5	M	25	17S	34E	2/27/97	P	75	24	60	20	74	3700
DHC Application													
Zone Oil% Gas%													
Abo 47.5 38.5											9.5	28.5	3000
Wolfcamp 2.5 0.5											0.5	0.5	1000
Devonian 50 59.5											10	44	4400
For information Only													

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

Kelly Cook
Signature
Kelly Cook

Printed name and title
3/21/97
Date

393-7106
Telephone No.

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.)

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT**

FORM C-128
Revised 5/1/57

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

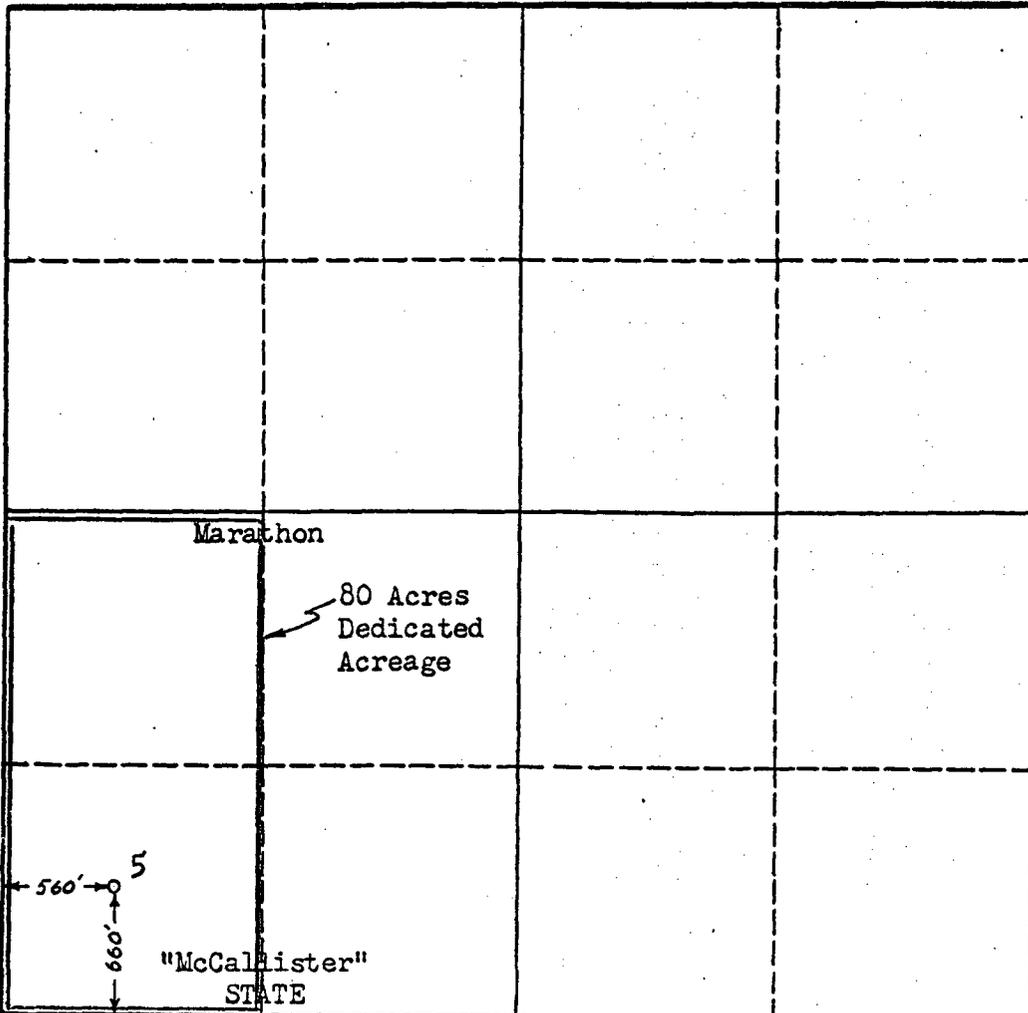
SECTION A

Operator Marathon Oil Company		Lease State McCallister		Well No. 5
Unit Letter M	Section 25	Township 17 S	Range 34 E	County Lea
Actual Footage Location of Well: 660 feet from the South line and 560 feet from the West line				
Ground Level Elev. 4007	Producing Formation Abo	Pool North Vacuum Abo	Dedicated Acreage: 80 Acres	

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES NO . ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)
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:

Owner	Land Description

SECTION B



CERTIFICATION

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

John R. Barber

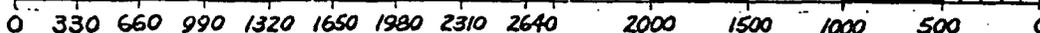
Name
John R. Barber
Position
Area Petroleum Engineer
Company
Marathon Oil Company
Date
April 2, 1962

I hereby 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
12-7-62
Registered Professional Engineer
and/or Land Surveyor

/s/ John W. West

Certificate No.



NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

FORM C-128
 Revised 5/1/57

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

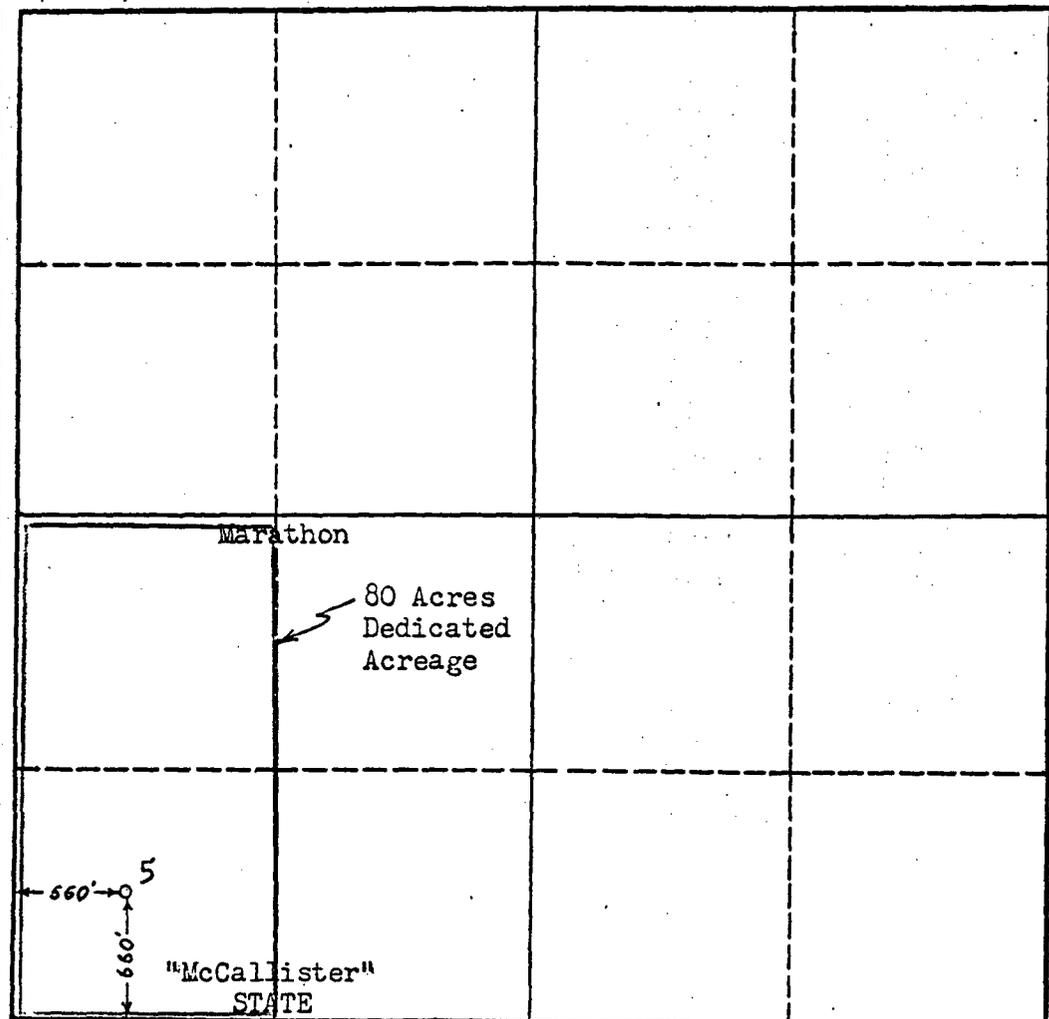
SECTION A

Operator Marathon Oil Company		Lease State McCallister		APR 2 1962	Well No. 40 00
Unit Letter M	Section 25	Towship 17 S	Range 34 E	County Lea	
Actual Footage Location of Well: 660 feet from the South line and 560 feet from the West line					
Ground Level Elev. 4007	Producing Formation Wolfcamp	Pool Vacuum Wolfcamp		Dedicated Acreage: 80 Acres	

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES NO . ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)
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:

Owner	Land Description

SECTION B



CERTIFICATION

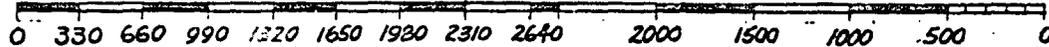
I hereby certify that the information in SECTION A above is true and complete to the best of my knowledge and belief.

John R. Barber
 Name
John R. Barber
 Position
Area Petroleum Engineer
 Company
Marathon Oil Company
 Date
April 2, 1963

I hereby 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
12-7-62
 Registered Professional Engineer
 and/or Land Surveyor

/s/ **John W. West**
 Certificate No.



NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

FORM C-128
 Revised 5/1/57

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

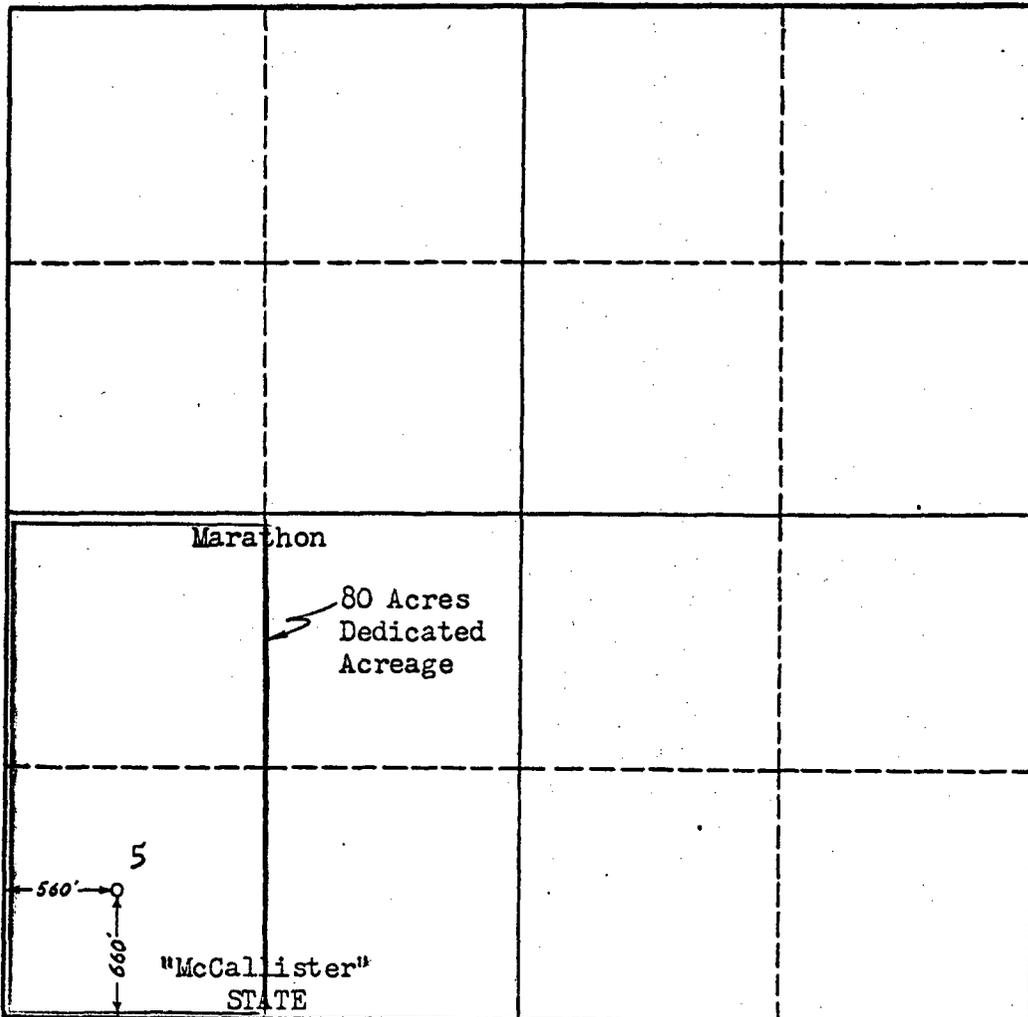
SECTION A

Operator Marathon Oil Company		Lease State McCallister		APR 4	Well No. MT 10 03
Unit Letter M	Section 25	Township T 17 S	Range R 34 E	County Lea	
Actual Footage Location of Well: 660 feet from the South line and 560 feet from the West line					
Ground Level Elev. 4007	Producing Formation Devonian		Pool Vacuum Devonian	Dedicated Acreage: 80 Acres	

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES X NO ____ . ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)
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 _____
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Owner	Land Description

SECTION B



CERTIFICATION

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

John R. Barber
 Name
 John R. Barber
 Position
 Area Petroleum Engineer
 Company
 Marathon Oil Company
 Date
 April 2, 1963

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Date Surveyed
 12-7-62
 Registered Professional Engineer
 and/or Land Surveyor
 /s/ John W. West
 Certificate No.

