

DHC

4/16/97

Mid-Continent Region  
Production United States

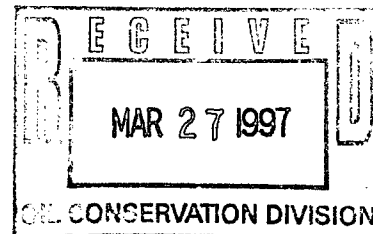


**Marathon  
Oil Company**

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 black ink, appearing to read 'Bryan L. Williams'.

Bryan L. Williams  
Production Engineer

BLW//regltry/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

## OIL CONSERVATION DIVISION

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429Form C-107-A  
New 3-12-96

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 b. (Original)	a. 100 psi Producing fluid level below perfs b.	a. 250 psi Producing fluid level below perfs 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)	Yes	Yes	Yes
* 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	Date: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	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 ☐ No11. 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 ☐ No13. 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. NMOC 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 3/21/97TYPE 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,

Bryan L. Williams  
Production Engineer

BLW//regltry/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

<u>Allocated Percentages</u>	<u>Oil %</u>	<u>Gas %</u>	<u>Water %</u>
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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.

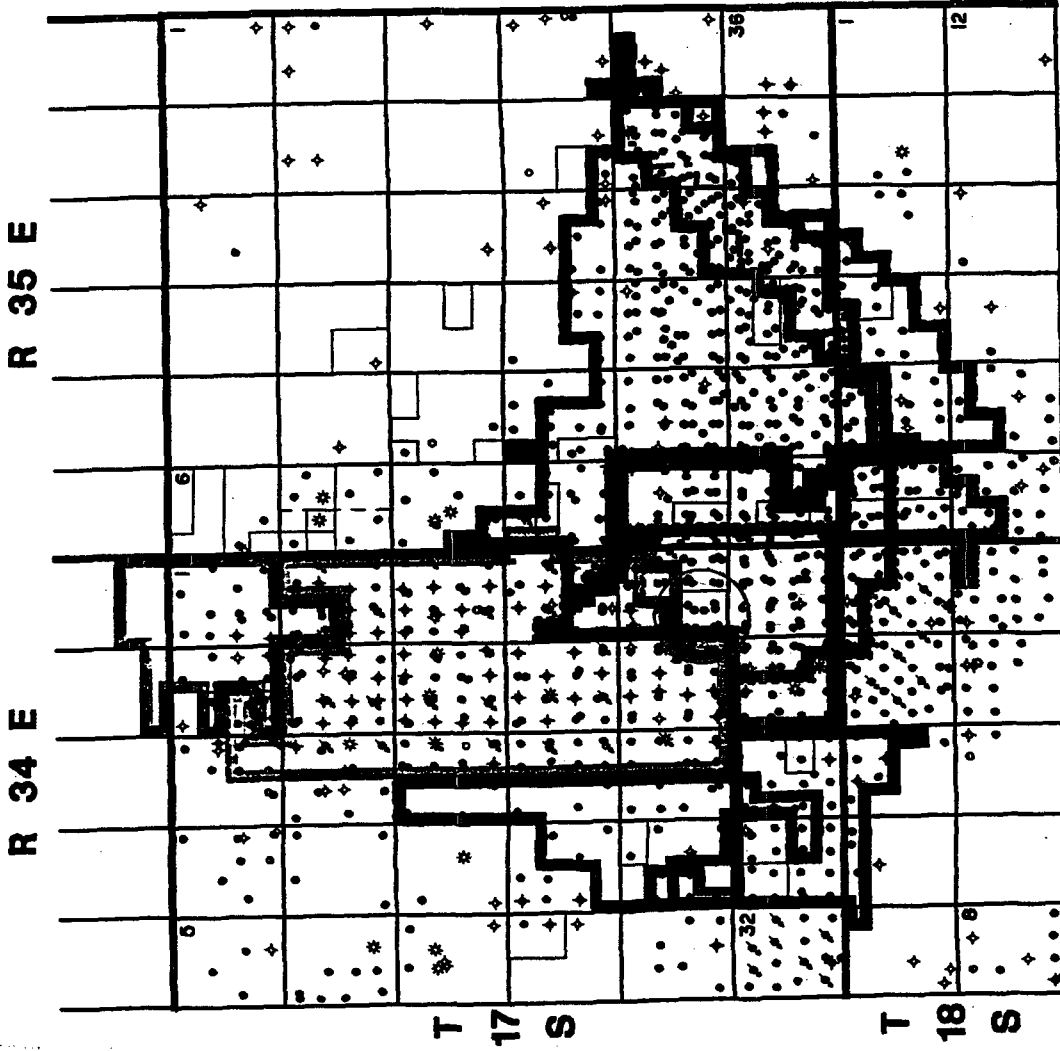
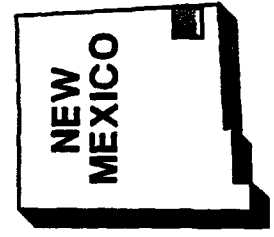
**K: Offset Operator Notification**

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



**NORTH VACUAM ABO WEST UNIT**  
(TEXACO OPER.)  
MOC W/L 3.9982%

**EAST VACUAM UNIT**  
(PHILLIPS OPER.)  
MOC W/L 4.4497%

**VACUAM ABO REEF UNIT**  
(PHILLIPS OPER.)  
MOC W/L 2.04% 9/94

**NORTH VACUAM ABO UNIT**  
(MOBIL OPER.)  
MOC W/L 0.3946%

**CENTRAL VACUAM UNIT**  
(TEXACO OPER.)  
MOC W/L 24.76%

**VACUAM GLORIETA WEST UNIT**  
(TEXACO OPER.)  
MOC W/L 15.82%

**NORTH VACUAM ABO NORTH**  
(SAGE OPER.)  
MOC W/L 4.9982%

**WEST VACUAM UNIT**  
(TEXACO OPER.)  
MOC W/L 13.43%

**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  
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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  
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Production Engineer

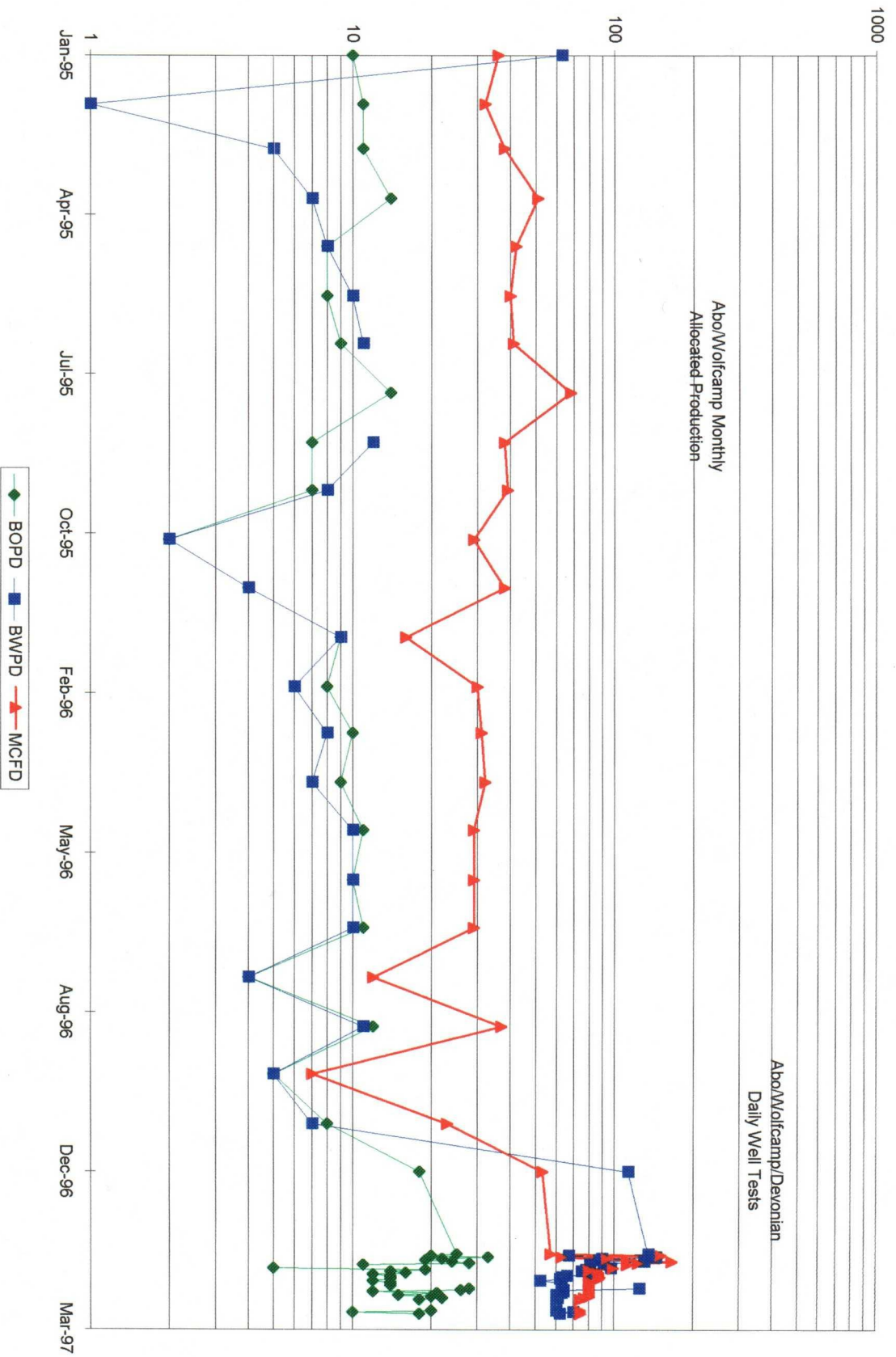
BLW/mcal#5  
Enclosure

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

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

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

Form C-116  
Revised 1/1/89

### GAS - OIL RATIO TEST

Operator <b>Marathon Oil Company</b>		Pool <b>N. Vac; Abo Vac; Wolfcamp/Devonian</b>		County <b>Lea</b>										
Address <b>P.O. Box 2409, Hobbs, NM 88240</b>		TYPE OF TEST - (X)		Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	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 BBL.S.	GRAV. OIL		OIL BBL.S.
<b>McCallister State</b>	<b>5</b>	<b>M</b>	<b>25</b>	<b>17S</b>	<b>34E</b>	<b>2/27/97</b>	<b>P</b>	<b>75</b>		<b>24</b>	<b>60</b>	<b>20</b>	<b>74</b>	<b>3700</b>
<b>DHC Application</b>														
<b>Zone Oil% Gas%</b>														
<b>Abo 47.5 38.5</b>												<b>9.5</b>	<b>28.5</b>	<b>3000</b>
<b>Wolfcamp 2.5 0.5</b>												<b>0.5</b>	<b>0.5</b>	<b>1000</b>
<b>Devonian 50 59.5</b>												<b>10</b>	<b>44</b>	<b>4400</b>
<b>For Information Only</b>														

#### 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.

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.

(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

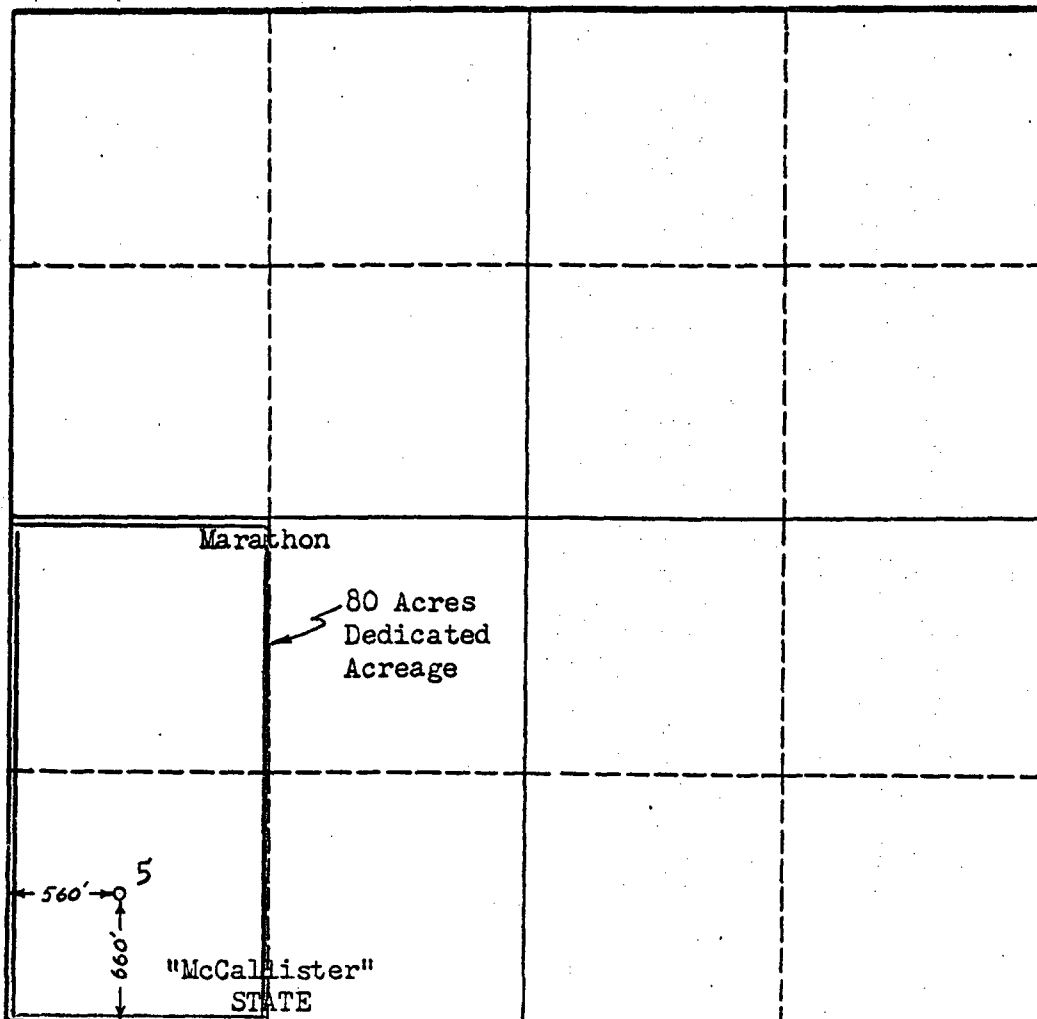
**SECTION A**

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

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

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

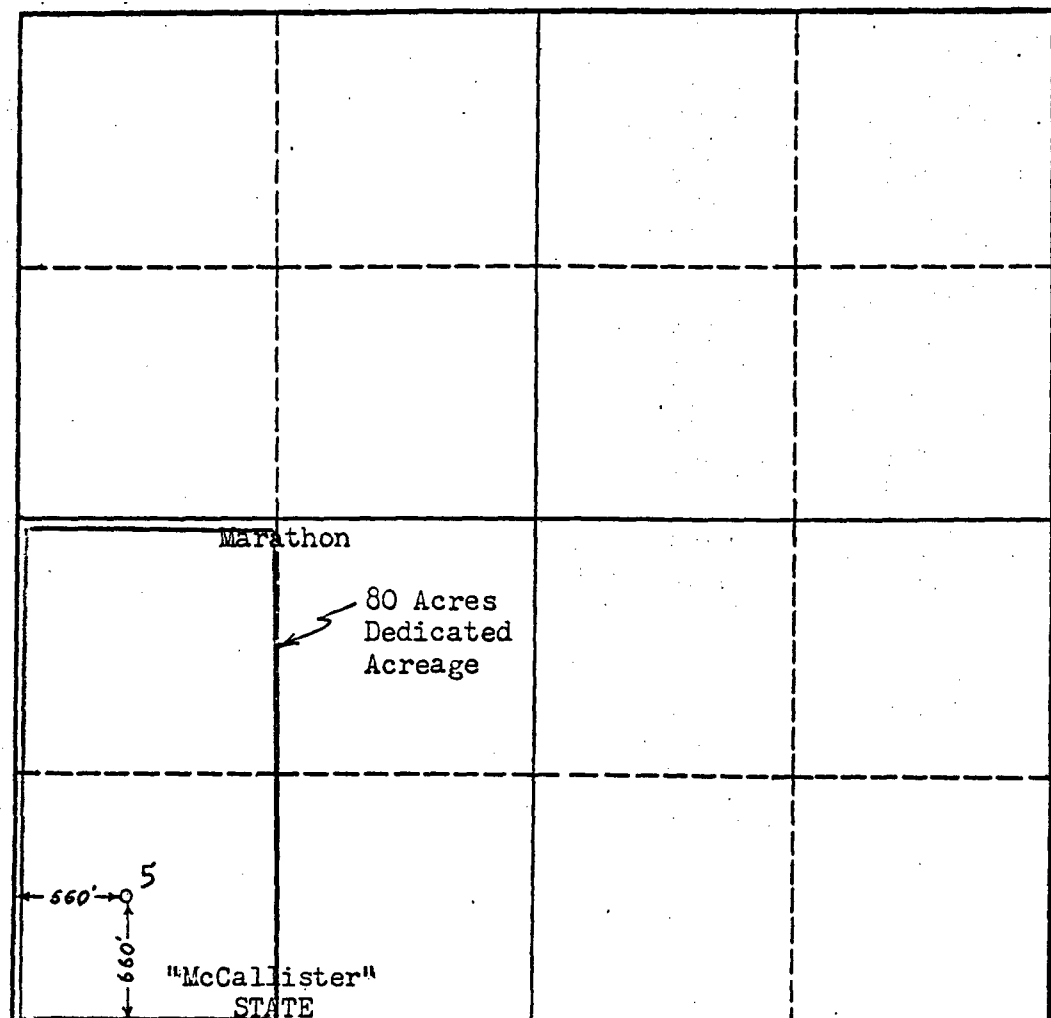
SECTION A

Operator Marathon Oil Company		Lease State McCallister		APR 4 1963	Well No. 40 00
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 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 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 \_\_\_\_
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.

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  
Rev. 5/1/57

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

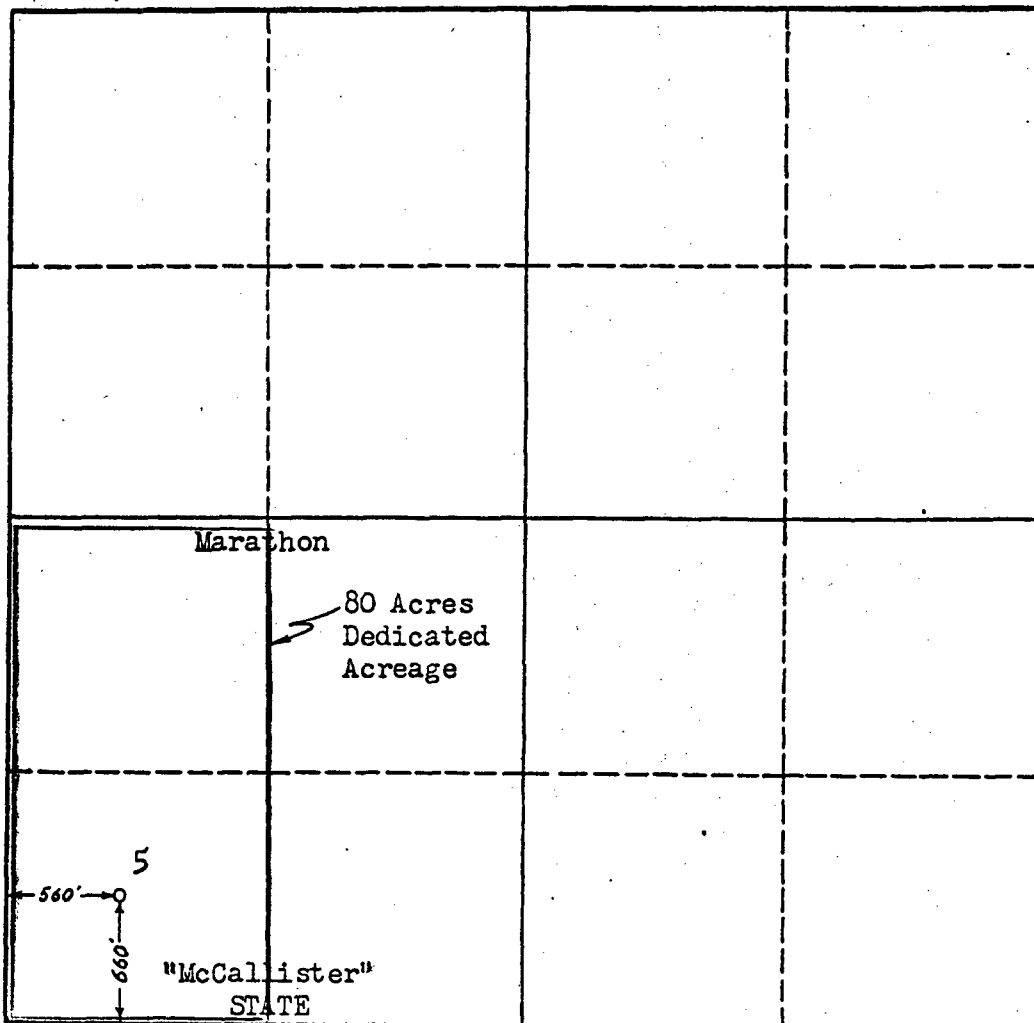
SECTION A

Operator Marathon Oil Company		Lease State McCallister		APR 4	Well No. 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.)
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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.

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.