

DOYLE HARTMAN

Oil Operator

500 N. MAIN

P.O. BOX 10426

MIDLAND, TEXAS 79702

(915) 684-4011

April 5, 1991

OIL CONSERVATION DIVISION
RECEIVED

'91 APR 5 AM 8 53

CERTIFIED RETURN RECEIPT REQUESTED

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Case 10269

Attention: Mr. David J. Loran
Engineering Manager

Re: Proposed Waterflood Project
McDonald State Lease
Section 16, T-22-S, R-36-E
Lea County, New Mexico

JHM 4-9-91

Gentlemen:

Reference is made to our letter to you of April 4, 1991 concerning Marathon's proposed 600-acre McDonald State waterflood project to be situated in Section 16, T-22-S, R-36-E. In our recent letter to you, we expressed concern that Marathon's proposed water injection interval of 3500 feet to 3800 feet had the strong potential of adversely affecting the value of our Jalmat Gas Pool rights corresponding to our 320-acre Boren-Greer lease located in the NE/4 Section 20 and NW/4 Section 21, T-22-S, R-36-E.

Also, in our letter to Marathon, we presented two alternatives as to how to prevent our Jalmat leasehold ownership from being adversely affected by Marathon's proposed water injection. One alternative proposed by us was for Marathon to restrict its water injection in each injection well to the vertical interval from 100 feet subsea to 300 feet subsea and in support of this request we enclosed excerpts from the transcript of Conoco's Eunice South Unit waterflood hearing held before the NMOCD in November, 1970.

It has now come to our attention that ARCO has expressed a similar concern about having its Jalmat gas production adversely affected by Marathon's proposed water injection. We have also learned that ARCO and Marathon have reached a written agreement that apparently alleviates any concerns that ARCO may have about Marathon's proposed water injection.

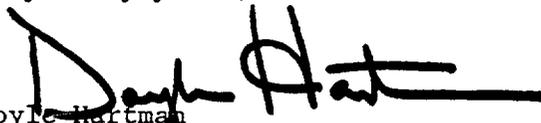
Since Hartman appears to be in a similar situation as ARCO concerning Marathon's proposed waterflood, we respectfully request that Marathon furnish a copy of the Marathon-ARCO agreement. After our own careful review of the Marathon-ARCO agreement, we believe any concerns that we

Marathon Oil Company
April 5, 1991
Page 2

may have about Marathon's proposed water injection can very likely be alleviated by an agreement similar to the Marathon-ARCO agreement.

Since Marathon's McDonald State waterflood hearing is scheduled to be concluded on April 18, 1991, we respectfully request to be furnished a copy of the Marathon-ARCO agreement no later than April 10, 1991.

Very truly yours,


Doyle Hartman

DH/lr
555:MARA0405

cc Mr. Ron Keisler
Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Mr. D. Leland Howard
Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Mr. Tim Robertson
Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Mr. J. E. Gallegos
Gallegos Law Firm
141 East Palace Avenue
Santa Fe, New Mexico 87501

Ms. Joanne Reuter
Gallegos Law Firm
141 East Palace Avenue
Santa Fe, New Mexico 87501

Mr. Jim Morrow (Case No. 10269)
Chief Engineer - State of New Mexico
✓ New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

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(915) 684-4011

April 3, 1991

REGISTRATION DIVISION
RECEIVED

'91 APR 3 AM 8 47

CERTIFIED RETURN RECEIPT REQUESTED

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Attention: Mr. David J. Loran
Engineering Manager

Re: Proposed Waterflood Project
McDonald State Lease
Section 16, T-22-S, R-36-E
Lea County, New Mexico

Case 10269

JHM 4-9-91

Gentlemen:

We have recently learned of and now have had an opportunity to adequately review Marathon's application to the NMOCD to unitize and waterflood its 600-acre McDonald State lease situated in Section 16, T-22-S, R-36-E. It is our understanding that Marathon's proposed waterflood project is to cover the vertical interval from 3500 feet to 3800 feet which includes the Seven Rivers and Queen formations.

Doyle Hartman owns 320 acres of Jalmat Yates-Seven Rivers rights offsetting and contiguous to Marathon's proposed waterflood project which rights are comparable in structural position to Marathon's McDonald State lease. Inasmuch as our leasehold ownership partially coincides with the geologic interval proposed to be flooded by Marathon, is contiguous to and offset by Marathon's waterflood project, and is situated at a comparable structural position, we strongly believe that the value of our offsetting Jalmat Gas Pool leasehold rights will be adversely affected by Marathon's currently proposed McDonald water injection project.

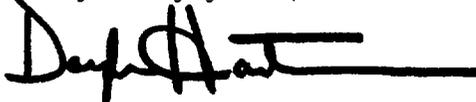
Although we ourselves most certainly do not want to be adversely affected by Marathon's newly proposed waterflood project (which calls for water injection pressures as high as 1400 psi), correspondingly we do not wish to impede in any manner Marathon's proposed secondary recovery plans. However, if the potential negative impact of Marathon's waterflood on our offset acreage is not immediately integrated into Marathon's thinking, Marathon's proposed maximum injection pressure of 1400 psi as well as its proposed injection interval of 3500 to 3800 feet will drastically reduce the future value of our 320 acres of Boren-Greer Jalmat rights covering the NE/4 Section 20 and NW/4 Section 21, T-22-S, R-36-E.

Therefore, as a solution to the dilemma presently faced by Marathon and Hartman, we hereby propose to trade to Marathon our 71.09375% working interest in our 320-acre Boren-Greer lease plus pay Marathon a cash consideration of \$400,000 in exchange for Marathon assigning to us its Eumont Gas Pool rights underlying its 320-acre B. J. Barber lease consisting of the N/2 SW/4 and NW/4 Section 5, T-20-S, R-37-E and S/2 SW/4 Section 32, T-19-S, R-37-E. Such a trade would enable Marathon to continue uninterrupted with its current plans for waterflooding its McDonald State lease and simultaneously would avoid any adverse impact Marathon's secondary recovery project may have on the value of our Boren-Greer Jalmat Gas Pool lease.

In the event that Marathon desires not to enter into an exchange of property as proposed herein, then, as an alternative solution to the dilemma faced by Marathon and Hartman, we must request that Marathon restrict its water injection interval in each injection well to the geologic section lying between 100 feet subsea to 300 feet subsea which is the geologic interval that possesses recoverable secondary reserves on Marathon's McDonald State leases and is the interval that Conoco testified to (at its Eunice South Unit waterflood hearing in 1970) as being productive of oil reserves in the Eunice South area. So that you are fully aware of Conoco's testimony before the NMOCED, we are enclosing excerpts from the transcript of Conoco's Eunice South Unit waterflood hearing held in November, 1970.

Also please find enclosed for your review a copy of a rate-time plot corresponding to Marathon's marginal Bertha Barber No. 11 Eumont well situated in D-5-20S-37E. Your prompt and careful review of both our enclosures and our proposed property exchange is respectfully requested as time is of the essence. Please advise if we can answer any questions that you may have concerning our proposal.

Very truly yours,



Doyle Hartman

DH/lr
555:MARA0403

cc Mr. Ron Keisler
Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

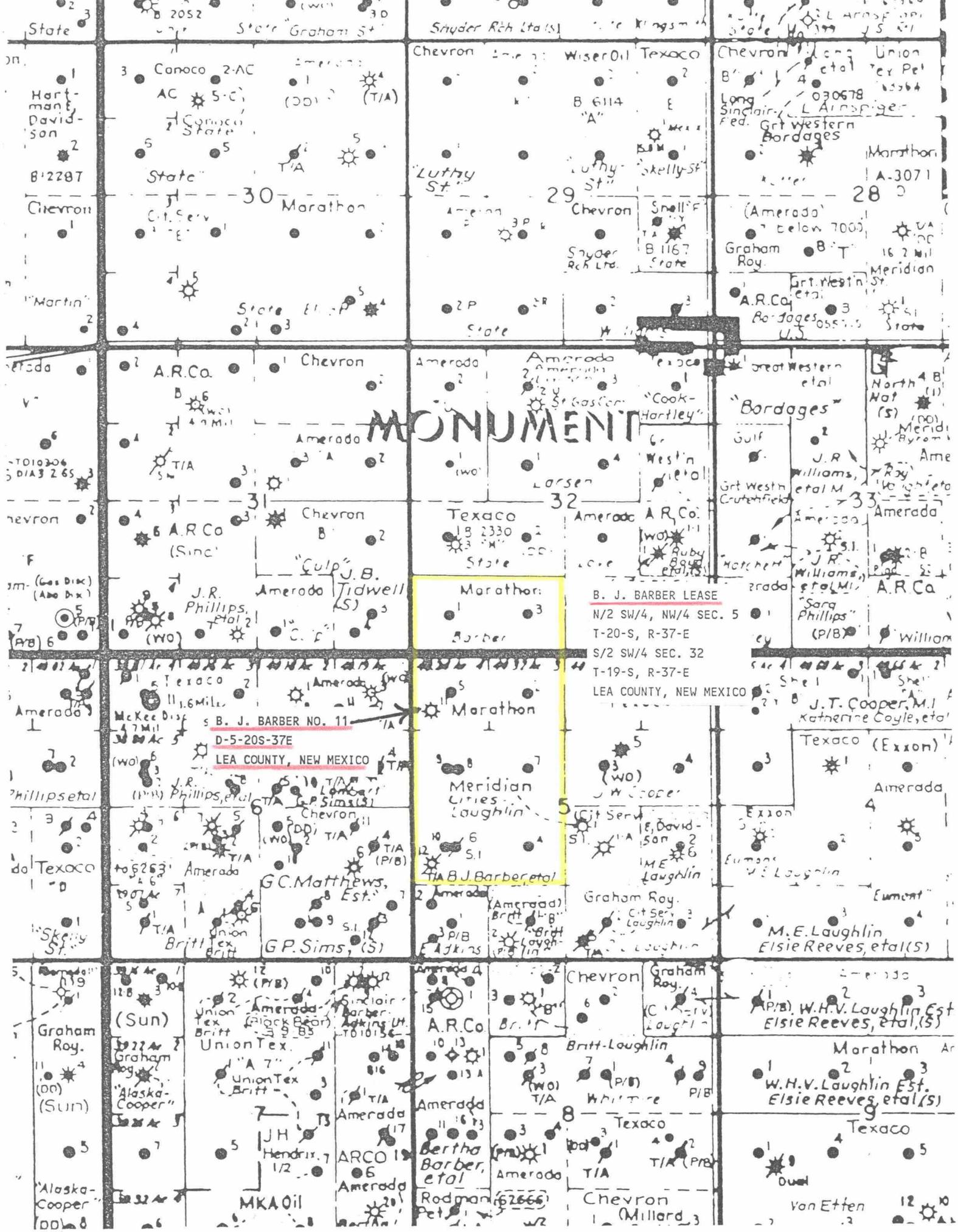
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Ms. Joanne Reuter
Gallegos Law Firm
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Santa Fe, New Mexico 87501

✓ Mr. Jim Morrow (Case No. 10269)
Chief Engineer - State of New Mexico
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088



MONUMENT

B. J. BARBER LEASE
 N/2 SW/4, NW/4 SEC. 5
 T-20-S, R-37-E
 S/2 SW/4 SEC. 32
 T-19-S, R-37-E
 LEA COUNTY, NEW MEXICO

B. J. BARBER NO. 11
 D-5-20S-37E
 LEA COUNTY, NEW MEXICO

Marathon Barber

Texaco (Exxon)

**M.E. Laughlin
 Elsie Reeves, et al (S)**

**W.H.V. Laughlin Est
 Elsie Reeves, et al (S)**

**Marathon Ar
 W.H.V. Laughlin Est.
 Elsie Reeves, et al (S)**

Texaco

Van Etten

**Meridian
 Lutes
 Laughlin**

**Marathon
 B.J. Barber, et al**

A.R.Co.

**Amerado
 Bertha Barber,
 et al**

Amerado

**G.C. Matthews,
 Est.**

G.P. Sims, (S)

Amerado

ARCO

MKA Oil

**Amerado
 G.C. Matthews,
 Est.**

**Union Tex.
 Britt**

**Union Tex.
 Britt**

**JH
 Hendrix**

Alaska-Cooper

Phillips et al

Texoco

Graham Roy.

Alaska-Cooper

Alaska-Cooper

**Graham Roy.
 Cit Serv
 Laughlin**

**Graham Roy.
 Cit Serv
 Laughlin**

Texaco

Chevron

Millard

**Exxon
 Laughlin**

**W.H.V. Laughlin Est
 Elsie Reeves, et al (S)**

**Marathon Ar
 W.H.V. Laughlin Est.
 Elsie Reeves, et al (S)**

Texaco

Van Etten

Amerado

Amerado

Chevron

Amerado

Amerado

Phillips et al

Texoco

Skelly St.

Graham Roy.

Alaska-Cooper

Alaska-Cooper

Alaska-Cooper

A.R.Co.

Amerado

A.R.Co.

Amerado

Texaco

Amerado

Amerado

Amerado

**Union Tex.
 Britt**

**Union Tex.
 Britt**

**JH
 Hendrix**

MKA Oil

Amerado

Amerado

Texaco

Marathon

Marathon

**Meridian
 Lutes
 Laughlin**

**Marathon
 B.J. Barber, et al**

Amerado

Great Western et al

Gulf

**Grt Westn
 Crutehfield**

Amerado

Texaco

Exxon

Laughlin

**M.E. Laughlin
 Elsie Reeves, et al (S)**

**W.H.V. Laughlin Est
 Elsie Reeves, et al (S)**

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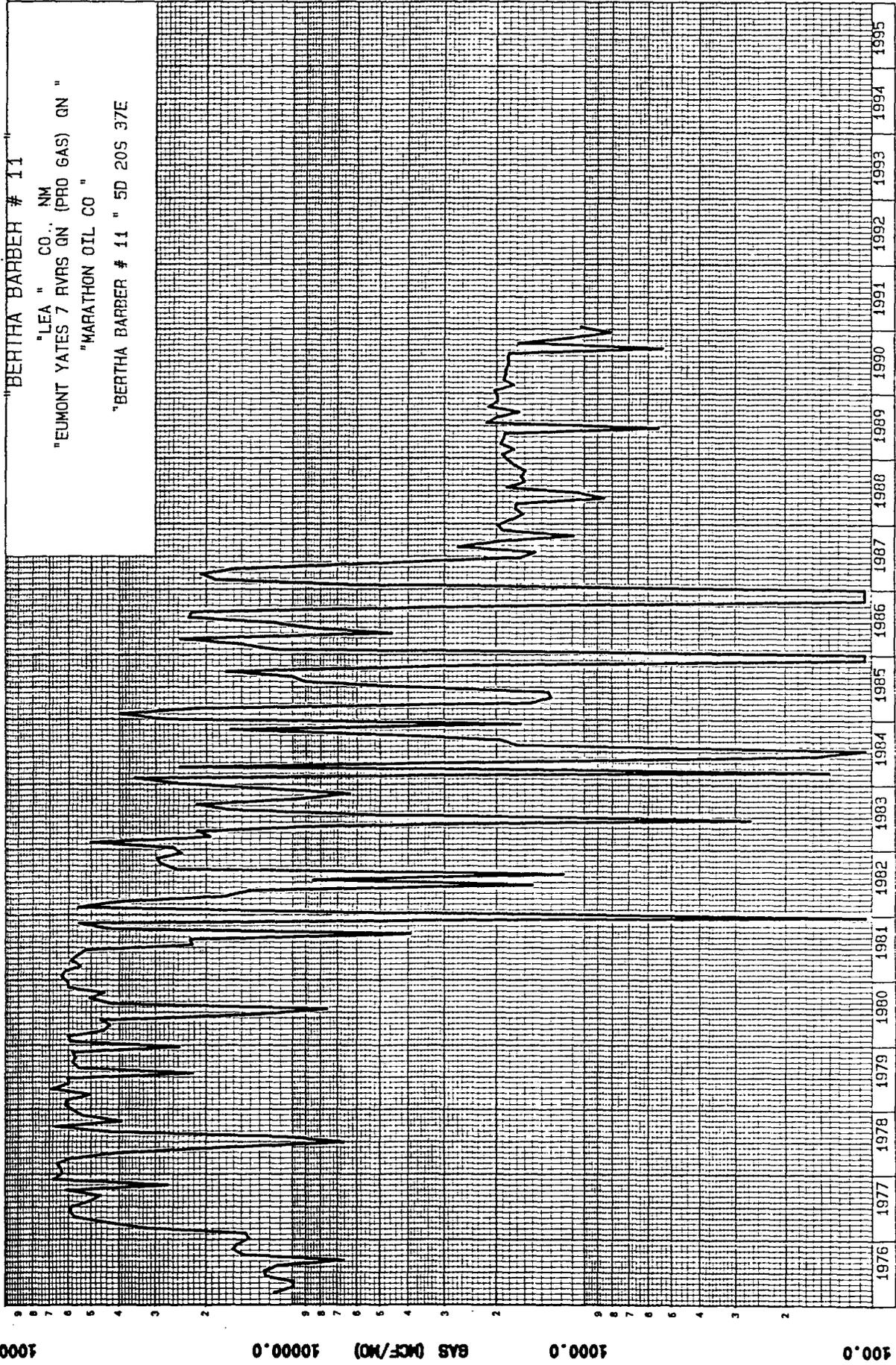
Texaco

Van Etten

Date: 04/01/91
Time: 11:34.59

PRODUCTION

File: BARB11.DSF
Get#: 1



"BERTHA BARBER # 11"
"LEA " CO., NM
"EUMONT YATES 7 RVRS GN (PRO GAS) GN "
"MARATHON OIL CO "
"BERTHA BARBER # 11 " 5D 20S 37E

YEARS

DOYLE HARTMAN
Oil Operator



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 18, 1970

EXAMINER HEARING

IN THE MATTER OF:)

Application of Continental Oil)
Company for a unit agreement, Lea)
County, New Mexico.)

Case 4458

Application of Continental Oil)
Company for a waterflood project,)
Lea County, New Mexico.)

Case 4459

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

OCT 15 1984

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO
1203 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO



I N D E X

WITNESS

PAGE

VICTOR T. LYON

Direct Examination by Mr. Kellahin

3



unit area which is also shown on Exhibit "A" and comprises 2720 acres described as the East half of the East half of Section 20, all of Section 21, the South half of the North half, Northwest quarter of the Northwest quarter, and Northwest quarter of the Northeast quarter, Section 22, all of Section 28, East half of the Northeast quarter and the Northeast quarter of the Southeast quarter, Section 29 North half, Southeast quarter, North half of Southwest quarter and Southeast quarter of the Southwest quarter. Section 33. All in Township 22 South, Range 36 East.

Q Does the unit agreement define the unitized formations?

A Yes, sir. The unitized formation is defined in Paragraph "F" of Section Two on Page Three, and it is defined as the interval between the base of the Queen and a point 232 feet above the top of the Queen, with a further provision that it shall not extend below a depth of 4,000 feet from the surface of the ground. The top and base of the Queen are shown on what we have designated, Exhibit No. 3, which will be discussed later.

Now, the South Eunice Pool as defined by the Oil Conservation Commission consists of the Queen formation and the lower 100 feet of the Seven Rivers. Therefore, the



unitized formation as we have defined it herein extends 132 feet above the top of the South Eunice Pool boundaries. It was necessary to do this in order to include all of the perforations in the oil wells which will be a part of the unit area.

MR. UTZ: Just a moment. Base of the Queen, and where did the 232 come in now?

A 232 feet above the top of the Queen.

MR. UTZ: Okay.

Q (By Mr. Kellahin) Are all of the substances unitized in this interval?

A No, sir. In Paragraph "C", we have defined unitized substances as being the oil gas, gaseous substances, et cetera, produced from the land, but it specifically excludes dry gas and associated hydro carbons so that we have -- that is from Jalmat gas wells so that we have excluded Jalmat gas wells within the unit area.

Q But you do include all of the oil produced from the South Eunice Pool?

A Yes, sir.

Q Is that correct? And from the lower limits of the Jalmat Oil Pool?

A That is correct.

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ridge in the Northwestern portion of the Exhibit and another high area to the Southeast in the Southeast portion of the Exhibit. That Northeast portion and the Southwest portion are low areas, so there is a trough trending from northeast to Southwest which is in the nature of an embankment on this anti-climb. The oil occurs in the several members predominately by their relationship to sea level between a minus 300 and up to approximately a minus 100.

Q Now, do these sums appear to be continuous throughout the unit area?

150 feet subsea is clearly defined as gas-oil contact as per Revised Secondary Recovery Study for the South Eunice Unit dated October 10, 1968.

A Yes.

Q Will they be capable of transmitting fluid from one well to another?

A Yes, all the information we have indicates that they will.

Q On that basis it would be possible to successfully waterflood the unit area?

A We believe that waterflooding can be carried out successfully.

Q Basically, what does the pay zone consists of here?

A It is primarily a fine grained sand interbedded with dense dolomite.

Q Now, referring to Exhibit No. 7, would you

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A There is no development to the East, that is East of Section 22. The development North is so scant that we have no hope of negotiating any lease-line agreements there, because there is no way that they could reciprocate. We have called Marathon's attention to the fact that we are proposing this, and they have offered no objection to our converting these wells to injection. Of course, there is no production to the West.

Q Now, referring to Exhibit No. 8, would you identify that Exhibit?

A Yes, sir. Exhibit No. 8 is a data sheet giving pertinent data on the unit area and the performance and our -- in essence, the result of our calculations on a waterflood.

Q Now, is this area at an advanced stage of depletion?

A Yes, sir.

Q Is it ready --

A The current daily oil production, or at least the production for August of 1970 was 1.5 barrels of oil per day, 1.6 barrels of water per day. Gas-oil ratio is 23,000. ←

Substantially higher GOR than would be expected for an oil well producing solution gas at an advanced stage of depletion.

Q What was the cumulative production?

A Cumulative production to September 1st of 1970 was 3,135,218 barrels.



Q Do you estimate that additional production of oil will be achieved by a waterflood project?

A We estimate that an additional 3,310,000 barrels can be recovered by waterflooding in this unit area.

Q Now, is that in the interest of conversation and the prevention of waste?

A Yes, sir. In my opinion, it is.

Q In referring to Exhibit No. 9, would you identify that Exhibit, please?

A Yes, sir. Exhibit No. 9 is a copy of a water analysis of water which we believe to be typical of what we'll be using for injection water. This actually came from our Lynn "A" Lease approximately three miles to the South. But as you can see, the solids are quite low. So we believe this is typical of the water. ←

No mention of the fact that water from Capitan Reef is highly corrosive as was discussed in Revised Secondary Recovery Study dated October 10, 1968.

Q Well, where do you propose to get your water?

A The water is supposed -- I mean, we anticipate developing the Jalmat Section in leases which are immediately adjacent to the West of the unit area and it will be water we expect to be produced with oil from the Jalmat Pool.

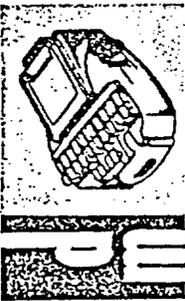
Q Would that be Seven Rivers Reef water?

A Yes, sir.

Q And if necessary, would you drill additional wells

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for the production of water --

A If it's necessary.

Q --to carry on this flood?

A Yes.

Q Do you have any estimate on the amount of water that will be injected?

A We expect to inject a maximum of 13,000 barrels per day into the 30 injection wells, and we think that the maximum injection pressure will be in the order of 1500 pounds.

Q And would the completion as you propose for your injection wells be able to handle that pressure without any danger?

A Yes.

Q Do you request an administrative procedure for adding or substituting injection wells in this waterflood project?

A Yes, sir. Referring back to Exhibit No. 7, I believe it is, the irregularities of the unit boundary and some of the locations of the wells indicate that there may be some reason to modify this injection pattern, and we would like to have administrative procedures in the order for substituting or adding injection wells.

Q Would they be at similar locations or would the location also be a factor?

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A I'm sorry. I didn't understand you.

Q Would the location of your injection wells be a factor? I mean, would they be a similar location to those proposed or would you have them closer to the lease, the quarter-section lines or farther away?

A As we contemplate it now, they would be more standardized, more in the center of the quarter quarter section. We do not anticipate at this time that there would be any non-standard locations used for injection.

Q Turning back to the unit agreement, has that been submitted to the Department of the Interior for approval?

A Yes, it has. It has been submitted to them for preliminary approval and this approval was given -- I forget the exact date. I believe it was February 27th, 1970. I mean February 25th.

Q And there being no State land, no approval of the State Land Commissioner is required?

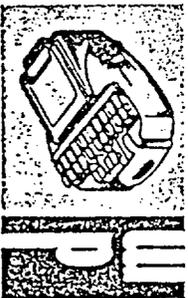
A That is correct.

Q Were Exhibits 1 through 9, including the multiple Exhibits 4 and 5, prepared by you or under your supervision?

A Yes, they were.

Q At this time I would like to offer into evidence the Exhibits in this case.

MR. UTZ: Without objection Exhibits 1 through 9



DOYLE HARTMAN

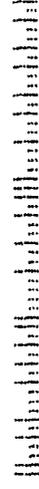
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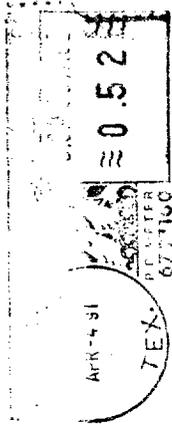
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New Mexico Oil Conservation Division
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Santa Fe, New Mexico 87504-2088

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DIVISION
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF CONSIDERING:**

**CASE NO. 10269
(READVERTISED)**

**APPLICATION OF MARATHON OIL COMPANY
FOR A WATERFLOOD PROJECT AND 12
UNORTHODOX INJECTION WELL LOCATIONS,
LEA COUNTY, NEW MEXICO.**

DOYLE HARTMAN'S PROPOSED FINDINGS AND ORDERING PARAGRAPHS

1. Doyle Hartman owns and operates oil and gas (including rights in the Jalmat Gas Pool and Upper Queen Formation) in the NE/4 Section 20 and NW/4 Section 21, T-22-S, R-36-E in Lea County, New Mexico, offsetting Marathon's waterflood project proposed in this case.

2. In a Letter Agreement entered between Hartman and Marathon on April 12, 1991, admitted in evidence in this proceeding, and as more fully set forth there, Hartman agreed not to oppose Marathon's waterflood project in exchange for Marathon's agreement to limit its waterflood project as follows:

A. That an upper vertical limit of injection be established for Marathon's proposed injection wells #30 and #31 at the top of the Queen Formation as defined in Marathon's McDonald State A/C 1 Well #8, at a depth of 3618' RKB on Apollo

Perforators Inc. Dual Spaced Compensated Neutron/GR/CCL Log dated 9/19/90, and attached to the April 12, 1991 Hartman - Marathon agreement.

- B. That maximum surface injection pressure in well #30 and #31 be limited to 0.2 psi/ft, unless Step Rate Tests verify that any other proposed injection pressure is below breakdown.
- C. That hydraulic fracture treatments be allowed for injection wells #30 and #31 only if the treatments are tagged with radioactive tracer material, and logged immediately after the fracture treatment to ensure that the fracture treatment, and subsequent water injection are contained within the Queen zone. Copies of the radioactive tracer surveys will be provided to Doyle Hartman for examination.
- D. That Marathon run cement bond logs to verify integrity across the zones of interest in injection wells #30 and #31, and provide copies to Doyle Hartman for examination.
- E. That Marathon run an initial injectivity Survey to verify that injection is being maintained within the defined zone intervals, and provide copies to Doyle Hartman for examination.
- F. Marathon shall not commingle production in the producing wells of its McDonald State A/C #1 lease, South Eunice Oil Pool waterflood, with gas production from the Jalmat Gas

Pool. The South Eunice Oil Pool is defined by NMOCD as that interval from 100' above the base of the Seven Rivers Formation down to the base of the Queen Formation. The Jalmat Gas Pool is defined as that interval from the top of the Tansill Formation down to a point 100' above the base of the Seven Rivers Formation.

- G. If results of any surveys or tests run indicate that the limitations detailed above are not being met, Marathon shall not commence or continue injection into the well or wells involved. Provided, however, that either party may apply for a determination by the NMOCD, after proper notice to the other, whether the failure to meet the limitations will jeopardize the Hartman Jalmat wells.
- H. Marathon shall make a concerted effort not to flood/water out any gas bearing zones in the upper part of the Eunice South Pool (being the lower 100' of the Seven Rivers formation), and in the event Marathon desires to flood the lower 100' of the Seven Rivers Formation, sufficient data as to residual oil saturation will be gathered to make certain such interval is not predominantly gas bearing.

- I. Marathon preserves the right to apply to the NMOCD at a later date for approval to inject water into the Seven Rivers formation in the two injection wells described above.

IT IS THEREFORE ORDERED THAT:

(1) Marathon's waterflood project proposed herein is approved subject to and as limited by the provisions of the April 12, 1991 Letter Agreement entered between Marathon and Doyle Hartman and described in Findings Nos. (1) through (2) above.

RESPECTFULLY SUBMITTED,
GALLEGOS LAW FIRM

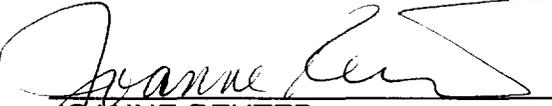
By 
JOANNE REUTER

141 East Palace Avenue
Santa Fe, New Mexico 87501
(505) 983-6686

ATTORNEYS FOR DOYLE
HARTMAN, OIL OPERATOR

CERTIFICATE OF SERVICE

It is hereby certified that on the 18th day of April, 1991, a true and correct copy of the foregoing Doyle Hartman's Proposed Findings and Ordering Paragraphs were hand delivered to Marathon's counsel of record, W. Thomas Kellahin, Esq., 117 N. Guadalupe, Santa Fe, New Mexico 87501.


JOANNE REUTER

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DIVISION
OIL CONSERVATION DIVISION**

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CALLED BY THE OIL CONSERVATION
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- A. That an upper vertical limit of injection be established for Marathon's proposed injection wells #30 and #31 at the top of the Queen Formation as defined in Marathon's McDonald State A/C 1 Well #8, at a depth of 3618' RKB on Apollo

Perforators Inc. Dual Spaced Compensated Neutron/GR/CCL Log dated 9/19/90, and attached to the April 12, 1991 Hartman - Marathon agreement.

- B. That maximum surface injection pressure in well #30 and #31 be limited to 0.2 psi/ft, unless Step Rate Tests verify that any other proposed injection pressure is below breakdown.
- C. That hydraulic fracture treatments be allowed for injection wells #30 and #31 only if the treatments are tagged with radioactive tracer material, and logged immediately after the fracture treatment to ensure that the fracture treatment, and subsequent water injection are contained within the Queen zone. Copies of the radioactive tracer surveys will be provided to Doyle Hartman for examination.
- D. That Marathon run cement bond logs to verify integrity across the zones of interest in injection wells #30 and #31, and provide copies to Doyle Hartman for examination.
- E. That Marathon run an initial injectivity Survey to verify that injection is being maintained within the defined zone intervals, and provide copies to Doyle Hartman for examination.
- F. Marathon shall not commingle production in the producing wells of its McDonald State A/C #1 lease, South Eunice Oil Pool waterflood, with gas production from the Jalmat Gas

Pool. The South Eunice Oil Pool is defined by NMOCD as that interval from 100' above the base of the Seven Rivers Formation down to the base of the Queen Formation. The Jalmat Gas Pool is defined as that interval from the top of the Tansill Formation down to a point 100' above the base of the Seven Rivers Formation.

- G. If results of any surveys or tests run indicate that the limitations detailed above are not being met, Marathon shall not commence or continue injection into the well or wells involved. Provided, however, that either party may apply for a determination by the NMOCD, after proper notice to the other, whether the failure to meet the limitations will jeopardize the Hartman Jalmat wells.
- H. Marathon shall make a concerted effort not to flood/water out any gas bearing zones in the upper part of the Eunice South Pool (being the lower 100' of the Seven Rivers formation), and in the event Marathon desires to flood the lower 100' of the Seven Rivers Formation, sufficient data as to residual oil saturation will be gathered to make certain such interval is not predominantly gas bearing.

- I. Marathon preserves the right to apply to the NMOCD at a later date for approval to inject water into the Seven Rivers formation in the two injection wells described above.

IT IS THEREFORE ORDERED THAT:

(1) Marathon's waterflood project proposed herein is approved subject to and as limited by the provisions of the April 12, 1991 Letter Agreement entered between Marathon and Doyle Hartman and described in Findings Nos. (1) through (2) above.

RESPECTFULLY SUBMITTED,
GALLEGOS LAW FIRM

By 

JOANNE REUTER

141 East Palace Avenue
Santa Fe, New Mexico 87501
(505) 983-6686

ATTORNEYS FOR DOYLE
HARTMAN, OIL OPERATOR

CERTIFICATE OF SERVICE

It is hereby certified that on the 18th day of April, 1991, a true and correct copy of the foregoing Doyle Hartman's Proposed Findings and Ordering Paragraphs were hand delivered to Marathon's counsel of record, W. Thomas Kellahin, Esq., 117 N. Guadalupe, Santa Fe, New Mexico 87501.


JOANNE REUTER

DOYLE HARTMAN

Oil Operator

500 N. MAIN

P.O. BOX 10426

MIDLAND, TEXAS 79702

(915) 684-4011

April 10, 1991

Rec'd 4-15-91

~~JAH~~
Case 10269

4/15/91

HAND DELIVERED

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Attention: Mr. David J. Loran
Engineering Manager

Re: Application of Marathon to Waterflood
the McDonald State A/C #1 Lease
Section 16, T-22-S, R-36-E
Lea County, New Mexico

Gentlemen:

We acknowledge receipt of your letter of April 9, 1991 and thank you for the prompt response to our letters of April 3, 1991 and April 5, 1991, which expressed our concerns with Marathon's proposed injection of water into its McDonald State A/C #1 lease located in Section 16, T-22-S, R-36-E, Lea County, New Mexico.

Enclosed you will find a copy of NMOCD Form C-103 which reflects that we had approvals to redevelop our Boren-Greer lease in 1986 at the time Lea County was shut-in by El Paso Natural Gas Company in violation of our gas contracts with El Paso. For more than three years, the abrogation of the El Paso gas contracts was litigated and due to the almost total loss of revenue from our wells in Lea County, we were not financially able to drill any wells for a three-year period. Thus, our redevelopment plans were temporarily put on hold. Following the resolution of the issues with El Paso Natural Gas Company in February, 1989, we have been actively involved in the redevelopment of our Eumont and Jalmat lease inventory, and we currently have budgeted for 1991 at least one well on our Boren-Greer lease in the NE/4 Section 20 and NW/4 Section 21, T-22-S, R-36-E. Nonetheless, we were unaware that there was any prescribed time limit to develop our acreage before we waived our right not to be watered out by a proposed offsetting waterflood.

As we expressed in our previous letters regarding this matter, it is not our desire to impede Marathon's proposed waterflood, but only to prevent our Jalmat Gas Pool rights from being prematurely watered out. Therefore, we request that Marathon prepare and forward to us a letter agreement with terms substantially identical to the terms of Marathon's letter agreement of March 20, 1991 with ARCO, a copy of which you

forwarded to us under your letter of April 9, 1991. As with your agreement with ARCO, we are requesting that your McDonald State injection interval be confined and we are suggesting it be confined either to a depth below 100 feet subsea or a depth below the top of the Queen formation. Based upon an approximate Kelly Bushing elevation of 3600 feet for Section 16, T-22-S, R-36-E, a depth of 100 feet subsea would then be equivalent to a depth of 3700 feet RKB. This depth coincides with Paragraph A of your letter agreement with ARCO, which places the top of the Queen at a depth of 3695 feet RKB.

Again, we request that you prepare a letter agreement along the lines of your agreement with ARCO, but define the injection interval as we have requested herein. Thank you for your cooperation in this matter and please call if you have any questions.

Very truly yours,

DOYLE HARTMAN



Bryan E. Jones
Landman

BEJ/lr
Enclosures
555:MARA0410

cc Mr. Ron Keisler
Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Mr. D. Leland Howard
Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Mr. Tim Robertson
Marathon Oil Company
P. O. Box 552
Midland, Texas 79702-0552

Mr. J. E. Gallegos
Gallegos Law Firm
141 East Palace Avenue
Santa Fe, New Mexico 87501

Marathon Oil Company
April 10, 1991
Page 3

Ms. Joanne Reuter
Gallegos Law Firm
141 East Palace Avenue
Santa Fe, New Mexico 87501

Mr. Jim Morrow (Case No. 10269)
✓ Chief Engineer - State of New Mexico
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

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OPERATOR	

5a. Indicate Type of Lease
 State Free
 5. State Oil & Gas Lease No.

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" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL GAS WELL OTHER
 2. Name of Operator: Doyle Hartman
 3. Address of Operator: Post Office Box 10426 Midland, Texas 79702
 4. Location of well: UNIT LETTER D, 660 FEET FROM THE North LINE AND 660 FEET FROM THE West LINE, SECTION 21, TOWNSHIP 22S, RANGE 36E
 7. Unit Agreement Name
 8. Firm or Lease Name: Boren Greer Gas Com
 9. Well No.: 1
 10. Field and Pool, or Wildcat: Jalmat (Gas)
 11. Elevation (Show whether DF, RT, GR, etc.): 3537 G.L.
 12. County: Lea

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASINGS <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOBS <input type="checkbox"/>	OTHER Squeezed existing perforations <input checked="" type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Moved in and rigged up service unit. Pulled out of hole with rods, pump, and tubing. Ran in hole with overshot and mill. Washed over and recovered tubing from 3228 to 3349. Ran in hole with Halliburton E-Z Drill cement retainer on 2-3/8 tubing and set at 2878. Mixed and pumped 150 sx Thixotropic cement followed by 700 sx of Class C neat cement. Maximum pressure and final pressure 2400 psi. Lay down 2-3/8 tubing.

Job complete 4-12-85.

Following perforations are now squeezed: 3065 to 3094, 3103 to 3117, 3133 to 3140, 3153 to 3203, 3217 to 3250, 3343 to 3349, 3391 to 3395, 3412 to 3438, and 3461 to 3470. All perforations are now squeezed off and well is temporarily abandon awaiting further evaluation.

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

SIGNED Larry A. Neuman TITLE Engineer DATE October 25, 1985

ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT SUPERVISOR

OCT 30 1985

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

E. J. ... 10/30/86

OCT 31 1985

CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-77

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FILE	
U.S.O.S.	
LAND OFFICE	
OPERATOR	

5a. Indicate Type of Lease

State Free

5. State Oil & Gas Lease No.

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" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator Doyle Hartman	8. Firm or Lease Name Boren Greer Gas Com
3. Address of Operator Post Office Box 10426 Midland, Texas 79702	9. Well No. 2
4. Location of well UNIT LETTER <u>C</u> <u>890</u> FEET FROM THE <u>North</u> LINE AND <u>1780</u> FEET FROM THE <u>West</u> LINE, SECTION <u>21</u> TOWNSHIP <u>22S</u> RANGE <u>36E</u> N.M.P.M.	10. Field and Pool, or Wellcat Jalmat (Gas)
15. Elevation (Show whether DF, RT, GR, etc.) 3523 G.L.	12. County Lea

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOBS <input type="checkbox"/>	OTHER <u>Squeezed existing perforations</u> <input checked="" type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Moved in and rigged up service unit. Pulled out of hole with rods, pump, and tubing. Ran in hole with Halliburton E-Z Drill cement retainer on 2-3/8" tubing and set at 2000'. Mixed and pumped 150 sx Thixotropic cement followed by 900 sacks of Class C Neat cement. Maximum pressure and final pressure 2500 psi. Pulled out of cement retainer and reversed out 25 sacks of cement. Pull and lay down 2-3/8" tubing. Job complete: 1-29-85.

Following perforations are now squeezed: 3515, 3517, 3519, 3521, 3523, 3541, 3543, 3545, 3444, 3446, 3448, 3452, 3454, 3456, 3459, 3461, 3481, 3483, 3485, 3491, 3493. All perforations are now squeezed off and well is temporarily abandoned awaiting further evaluation.

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

SIGNED Larry A. Neuman TITLE Engineer DATE March 21, 1985

ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT I SUPERVISOR

APPROVED BY _____ TITLE _____ DATE APR - 8 1985

CONDITIONS OF APPROVAL, IF ANY:

Expires 4/8/86

APR 9 1985



P.O. Box 2490
Hobbs, New Mexico 88240
Telephone 505/393-7106

August 2, 2000

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

*CASE FILE -
10269
AUG - 4*

Re: Drinkard Area Water Production

Dear Mr. Catanach:

Marathon Oil Company would like to inform the New Mexico Oil & Gas Division of its intent to add 42 BWPD to the amount that it currently takes (128 BWPD) to the McDonald State A/C 1 Eunice Seven Rivers Queen Waterflood. This is from our recently recompletion of L. G. Warlick Well No 7 to the Penrose Skelly Grayburg. Currently an average of 868 BWPD (740+128) is injected in the waterflood. The waters tested positive for compatibility. Leases effected: Lou Worthan, Mark Owen, L.G. Warlick, Walter Lynch, J.L. Muncy, William Turner, Dayton Hardy, Edith Butler A, Edith Butler B, & McDonald State A/C 1 Waterflood.

Producers			
<u>Field</u>	<u>Zone</u>	<u>BWPD</u>	<u>BWPM</u>
Brunson	Ellenburger	18	545
Drinkard	Abo	9	273
Drinkard	Blinbry	51	1535
Drinkard	Drinkard	15	445
Drinkard	Tubb	9	283
Eumont	Yates 7 Rivers Queen	1	15
Hare	Simpson	2	61
Penrose Skelly	Grayburg	43	1290
S. Brunson Drinkard	Abo	6	172
Wantz	Abo	15	445
Wantz	Granite Wash	3	91
Total		172	5155
Injectors			
Eunice	Seven Rivers Queen	740	22422

Attached are water analyses from the batteries and water production by well. If additional information is necessary, please advise.

Sincerely,

Thomas P. Kacir
Thomas P. Kacir
Production Engineer



P.O. Box 2490
Hobbs, New Mexico 88240
Telephone 505/393-7106

August 2, 2000

Mr. Chris Williams
District I Supervisor
Oil Conservation Division
P.O. Box 1980
Hobbs, NM 88240

Re: Drinkard Area Water Production

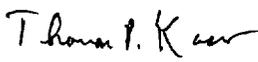
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Sincerely,


Thomas P. Kacir
Production Engineer