

CASE 2869: Application of MARATHON  
for the dual completion of its  
STATE WARR A/c 3 WELL NO. 5.

*State Warr A/c 3  
Well No. 5  
(P.L. 100-1)*

CASE No.  
2869

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.

Application of Marathon  
Oil Company,

RECEIVED  
OIL & GAS  
JUL 1 PM 3:58

State Warn a/c 3 well to S  
loc Unit 1

2310' FNL 330' FEL 33-T17S-R3SE  
Lea Co. dual compl (conventions)

Vasummi-Abo Reef  
and

Blinbury (under)  
or  
Isorita (under)

parallel string 2 1/16 OD  
(1.672) tubing 5 1/2" coq  
prod packer

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

## APPLICATION FOR DUAL COMPLETION

Field Name <b>Vacuum</b>		County <b>Lea</b>		Date <b>July</b>
Operator <b>Marathon Oil Company</b>		Lease <b>State Warn A/c 3</b>		Well No. <b>5</b>
Location of Well <b>H</b>	Unit <b>H</b>	Section <b>33</b>	Township <b>17 S</b>	Range <b>35 E</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES \_\_\_\_\_ NO X
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_ ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	Undesignated Glorieta	Vacuum Abo Reef
b. Top and Bottom of Pay Section (Perforations)	Propose to perforate within interval 6050 to 6150'.	Perforated within interval 8705 to 8905'
c. Type of production (Oil or Gas)	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Anticipate Flowing Completion	Anticipate Flowing Completion

4. The following are attached. (Please mark YES or NO)

Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

No c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*

Yes d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Skelly Oil Company, P. O. Box 38, Hobbs, New Mexico

Phillips Petroleum Company, P. O. Box 2105, Hobbs, New Mexico

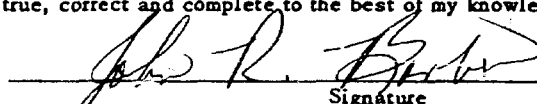
Mobil Oil Company Inc., P. O. Box 2406, Hobbs, New Mexico

Standard Oil Company of Texas, P. O. Box 397, Hobbs, New Mexico

Shell Oil Company, P. O. Box 1858, Roswell, New Mexico

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES \_\_\_\_\_ NO X. If answer is yes, give date of such notification \_\_\_\_\_.

CERTIFICATE: I, the undersigned, state that I am the Area Petroleum Engineer of the Marathon Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

  
Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.



**MARATHON OIL COMPANY**  
FORMERLY THE OHIO OIL COMPANY

July 17, 1963 JUL 17 1963 42

P. O. Box 220  
Hobbs, New Mexico  
88240

New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: Application for Dual Completion  
(Conventional) of State Warn  
A/c 3, Well No. 5, Lea County,  
New Mexico, (Docketed for  
Examiner Hearing July 24, 1963  
as Case No. 2869)

Dear Sir:

Enclosed please find Application for Dual Completion (conventional) of the above referenced well along with diagrammatic sketch of the proposed dual completion, plat of the State Warn A/c 3 lease, and a Gamma-Ray Sonic log of the subject well.

It may be noted, the application seeks approval of the dual completion (conventional) of the well to produce oil from the Vacuum Abo Reef Pool and oil from an undesignated Glorieta Pool through parallel strings of 2 1/16" O. D. tubing.

Case No. 2869, which appears on Commission Docket No. 21-63, wherein Marathon Oil Company seeks approval of the dual completion (conventional) of State Warn A/c 3, Well No. 5 to produce from the Vacuum Abo Reef Pool and either an undesignated Blinebry or Glorieta Pool through parallel strings of 2 1/16" O. D. tubing. However, subsequent to the submission of the letter requesting that the subject application be set for hearing, the Blinebry Zone was tested and proved to be productive of water. Therefore, this application is respectfully submitted for approval of a dual completion in the Vacuum Abo Reef Pool and an undesignated Glorieta Pool.

Yours very truly,

MARATHON OIL COMPANY  
Engineering Department

*John R. Barber*  
John R. Barber  
Area Petroleum Engineer

JRB:bje

cc: NMOCC-Santa Fe (2)

DOCKET MAILED

7/19/63  
Date *gh*

**NEW MEXICO OIL CONSERVATION COMMISSION**  
SANTA FE, NEW MEXICO

7-3-58

**APPLICATION FOR DUAL COMPLETION**

Field Name <b>Vacuum</b>		County <b>Lea</b>	Date <b>July 2</b>
Operator <b>Marathon Oil Company</b>		Lease <b>State Warn A/c 3</b>	Well No. <b>5</b>
Location of Well <b>H</b>	Section <b>33</b>	Township <b>17 S</b>	Range <b>35 E</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☐ NO ☒
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_; Operator, Lease, and Well No.: \_\_\_\_\_

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	<b>Undesignated Glorieta</b>	<b>Vacuum Abo Reef</b>
b. Top and Bottom of Pay Section (Perforations)	<b>Propose to perforate within interval 6050 to 6150'</b>	<b>Perforated within interval 8705 to 8905'</b>
c. Type of production (Oil or Gas)	<b>Oil</b>	<b>Oil</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Anticipate Flowing Completion</b>	<b>Anticipate Flowing Completion</b>

4. The following are attached. (Please mark YES or NO)
- Yes** a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Yes** b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- No** c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- Yes** d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.
- Skelly Oil Company, P. O. Box 38, Hobbs, New Mexico**
- Phillips Petroleum Company, P. O. Box 2105, Hobbs, New Mexico**
- Mobil Oil Company Inc., P. O. Box 2406, Hobbs, New Mexico**
- Standard Oil Company of Texas, P. O. Box 397, Hobbs, New Mexico**
- Shell Oil Company, P. O. Box 1858, Roswell, New Mexico**
6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☐ NO ☒. If answer is yes, give date of such notification \_\_\_\_\_

**CERTIFICATE:** I, the undersigned, state that I am the **Area Petroleum Engineer** of the **Marathon Oil Company** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

*John R. [Signature]*  
Signature

\* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

**NOTE:** If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.



**MARATHON OIL COMPANY**  
FORMERLY THE OHIO OIL COMPANY

July 1, 1963

100-101-1-1-15

P. O. Box 220  
Hobbs, New Mexico  
88240

New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.  
Secretary-Director

Re: Application for dual completion of Marathon Oil Company's State Warn A/c 3, Well No. 5, located in the SE/4 of the NE/4 of Section 33-T.17S-R.35E, Lea County, New Mexico for production of oil from the Vacuum-Abo Reef Pool, and production of oil from either an undesignated Blinebry formation or undesignated Glorieta formation

Gentlemen:

Marathon Oil Company hereby makes application to the Commission for authority to dually complete Marathon Oil Company's State Warn A/c 3, Well No. 5, for production of oil from the Vacuum Abo Reef Pool and production of oil from either an undesignated Blinebry formation or in the alternative an undesignated Glorieta formation. Applicant intends promptly to conduct such further tests and perform such further work as is necessary to determine whether the Blinebry or the Glorieta formations will be used in the dual completion. However, regardless of which of these formations is used in the dual completion of the well, Marathon proposes that such well will be a conventional dual completion using parallel strings of 2 1/16" OD (1.750 ID) tubing in a 5 1/2" casing with a production type packer set between the two producing zones to separate production therefrom. Prior to the time of a Hearing on this application, Marathon Oil Company will have determined whether the Blinebry or the Glorieta formation will be used in the dual completion and Marathon will use all reasonable efforts to file with the Commission in triplicate in advance of the Hearing hereon the Commission's form designated "Application for Dual Completion" together with a diagrammatic sketch of such dual completion showing all information required by the Commission and a copy of the

DO NOT MARK

Date

7/12/63  
*[Signature]*

Mr. A. L. Porter, Jr.  
Page 2

electric log of such well.

Attached hereto is a plat showing the log of the well to be dually completed and the location of all wells on Marathon Oil Company's lease and to the best of our knowledge all offset wells on offset leases. There is also attached hereto a list of the names and addresses of all interested parties known to Marathon Oil Company.

The approval of the dual completion of Marathon Oil Company's State Wern A/c 3, Well No. 5 in the manner proposed and outlined in this application for dual completion will not cause waste, but will prevent waste and will protect the correlative rights of Marathon Oil Company without infringing on the correlative rights of other operators in any of the pools affected by this application.

Marathon Oil Company requests that this application for dual completion be set for Hearing at the regular Examiner's Hearing during the latter part of July, 1963, which Hearing, Marathon Oil Company understands is to be set on July 24, 1963. Marathon further requests that due notice of this application and Hearing thereon be issued and published as required by law; that following such Hearing this application be granted and that the Commission enter its order authorizing the dual completion requested herein.

Respectfully submitted,

MARATHON OIL COMPANY

*Robert L. McLean*

By: Robert L. McLean  
Petroleum Engineer

WBL:bje

cc: NMOCC-Santa Fe  
Orig. & 2



NAMES AND ADDRESSES OF INTERESTED PARTIES

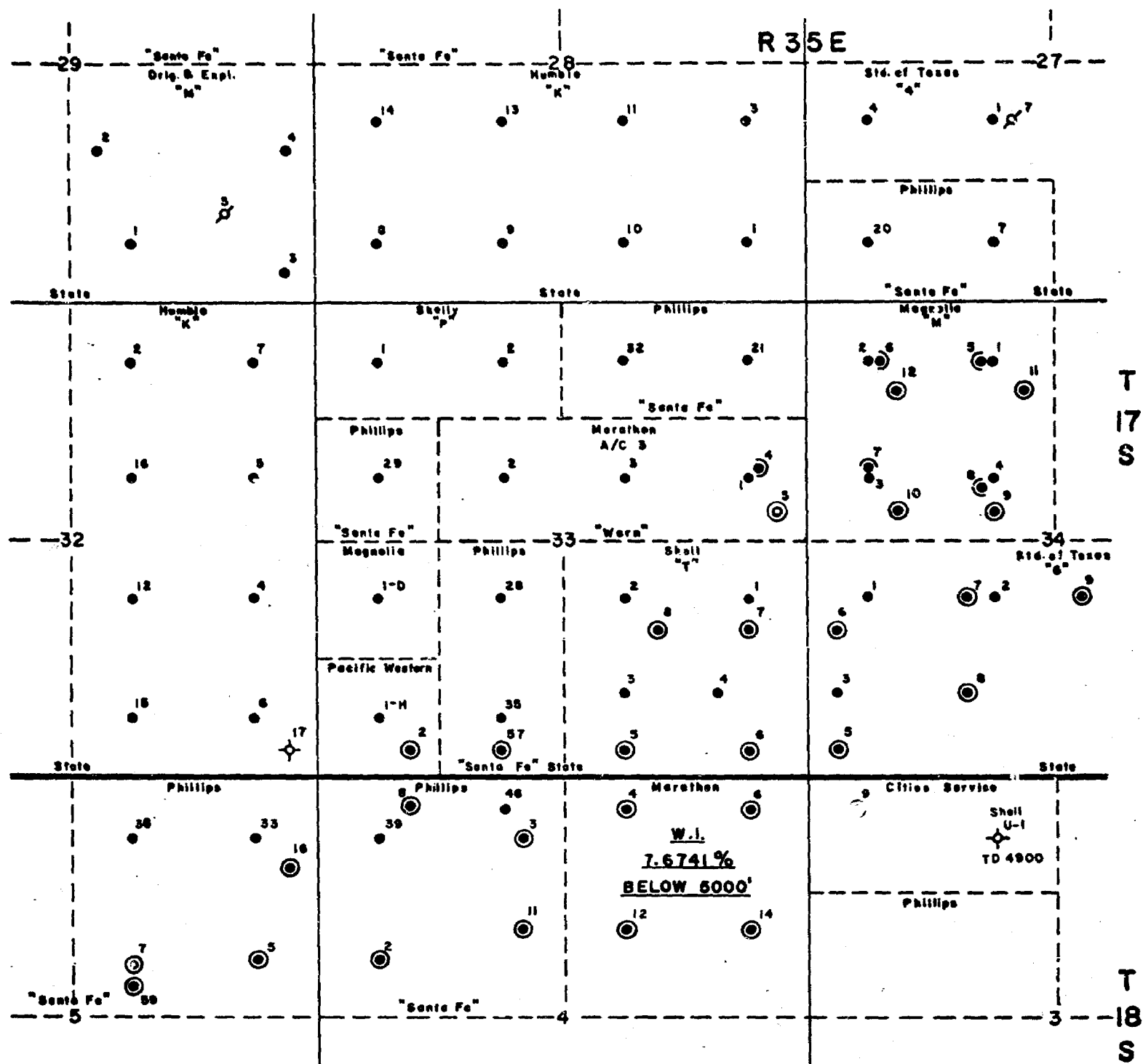
Skelly Oil Company  
P. O. Box 38  
Hobbs, New Mexico

Phillips Petroleum Company  
P. O. Box 2105  
Hobbs, New Mexico

Mobil Oil Company, Inc.  
P. O. Box 2406  
Hobbs, New Mexico

Standard of Texas  
P. O. Box 397  
Hobbs, New Mexico

Shell Oil Company  
P. O. Box 1858  
Roswell, New Mexico



# **MARATHON OIL COMPANY**

"Plat of St. Warn A/C 3 Lease"

Lea County, New Mexico

SCALE: 1" = 1500'

6-10-63

CASE 2850:

(Continued from July 10, 1963 examiner hearing)  
Application of Shell Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the East Pearl-Queen Unit Area comprising 2440 acres of State and Fee lands in Township 19 South, Range 35 East, Lea County, New Mexico.

CASE 2851:

(Continued from July 10, 1963 examiner hearing and readvertised)

Application of Shell Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its East Pearl Queen Unit by the injection of water into the Queen formation through 31 wells in Sections 15, 21, 22, 26, 27, 28, 34, and 35, Township 19 South, Range 35 East, Lea County, New Mexico.

CASE 2869:

Application of Marathon Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State Warn A/c 3 Well No. 5, located in Unit H of Section 33, Township 17 South, Range 35 East, Lea County, New Mexico, to produce from the Vacuum-Abo Reef Pool and either an undesignated Blinbry or Glorieta pool through parallel strings of 2 1/16" OD tubing.

CASE 2870:

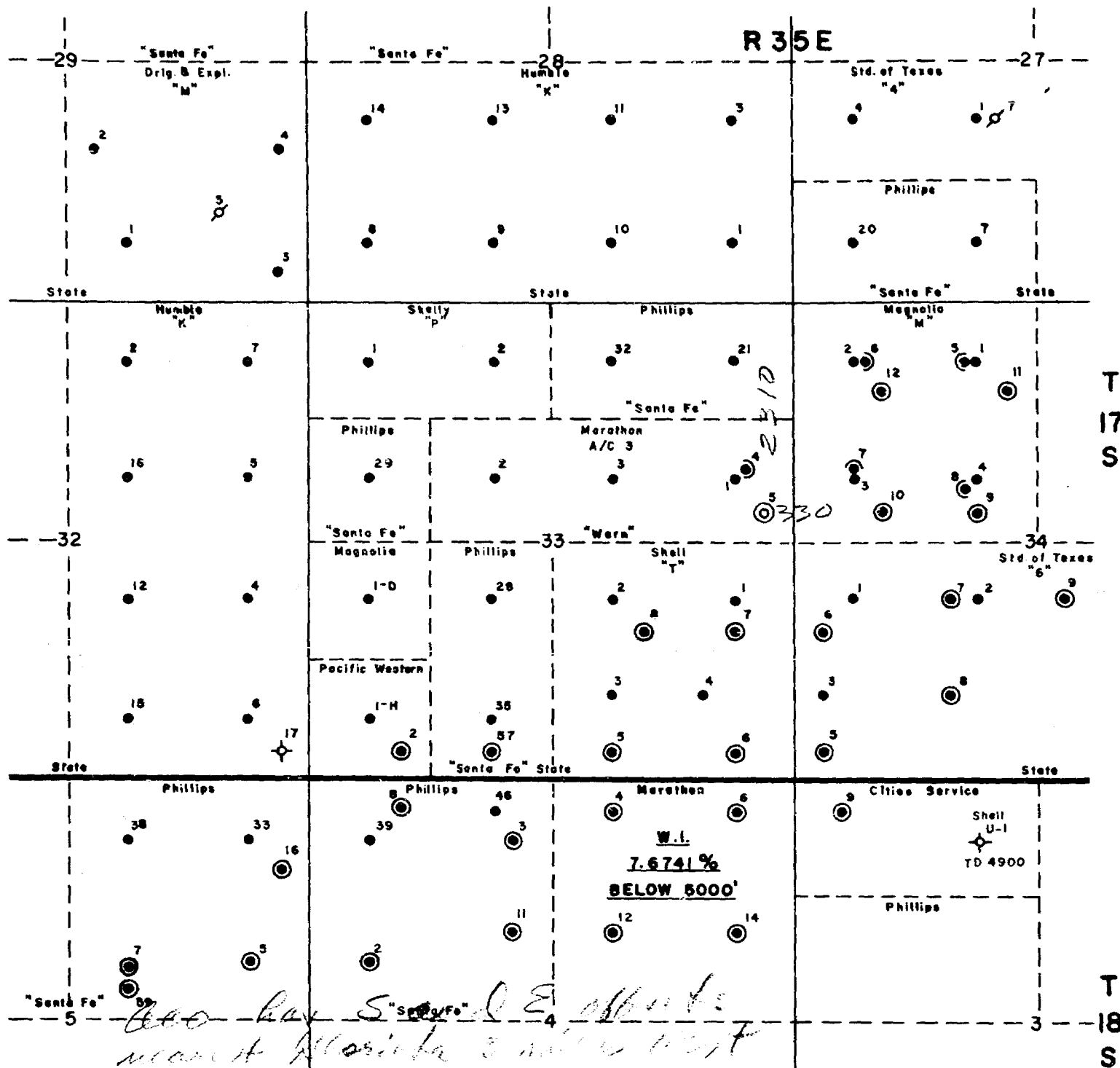
Application of J. Gregory Merrion & Associates for compulsory pooling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin-Dakota Gas Pool underlying the S/2 of Section 34, Township 25 North, Range 6 West, Rio Arriba County, New Mexico.

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 24, 1963

9:00 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, as alternate examiner:

- CASE 2864: Application of Midwest Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Custer Mountain Unit Area comprising 11,523.68 acres of State, Federal and Fee lands in Township 24 South, Range 35 East, Lea County, New Mexico.
- CASE 2865: Application of Humble Oil & Refining Company for a pressure maintenance project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in the Gallup formation underlying its Navajo "G" lease in Sections 1, 2, 11 and 12, Township 31 North, Range 17 West, San Juan County, New Mexico. Initial injection will be through applicant's Well No. 16 located in Unit G of said Section 1. Applicant further seeks the promulgation of special rules governing the operation of said project.
- CASE 2866: Application of Humble Oil & Refining Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (combination) of its State "BV" Well No. 1, located in Unit A of Section 18, Township 18 South, Range 35 East, Lea County, New Mexico, to produce oil from the Bone Springs and Devonian formations through parallel strings of 2 7/8 inch casing and 4 1/2 inch casing cemented in a common well bore.
- CASE 2867: Application of George L. Buckles Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Langlie-Mattix Pool by the injection of water into the Queen formation through nine wells on its Knight lease comprising the E/2 SE/4 of Section 21, W/2 SW/4 of Section 22, Township 24 South, Range 37 East, Lea County, New Mexico.
- CASE 2868: Application of Continental Oil Company for a non-standard oil proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 48.99-acre non-standard oil proration unit comprising Lots 2 and 3, Section 31, Township 26 South, Range 32 East, North Mason-Delaware Pool, Lea County, New Mexico, to be dedicated to its Russell Federal 31 Well No. 1, located in Lot 3 of said Section 31.
- CASE 2841: Application of Shell Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to drill its Middleton Federal Well No. B-1 at an unorthodox location 660 feet from the North and West lines of Section 31, Township 19 South, Range 32 East, Lusk-Morrow Gas Pool, Lea County, New Mexico.  
(Cont'd from  
June 26, 1963)



**MARATHON OIL COMPANY**

"Plot of St. Warn A/C 3 Lease"

Lea County, New Mexico

SCALE: 1" = 1500'

6-10-63

**BEFORE EXAMINER NOTED**

OIL CONSERVATION COMMISSION

EXHIBIT NO. 2869

CASE NO. 2869

CASE NO. 2869

EXHIBIT NO. 1

CASE 2850:

(Continued from July 10, 1963 examiner hearing)

Application of Shell Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the East Pearl-Queen Unit Area comprising 2440 acres of State and Fee lands in Township 19 South, Range 35 East, Lea County, New Mexico.

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Application of Marathon Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State Warn A/c 3 Well No. 5, located in Unit H of Section 33, Township 17 South, Range 35 East, Lea County, New Mexico, to produce from the Vacuum-Abo Reef Pool and either an undesignated Blinebry or Glorieta pool through parallel strings of 2 1/16" OD tubing. *11/10/63*

CASE 2870:

Application of J. Gregory Merriam & Associates for compulsory pooling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin-Dakota Gas Pool underlying the S/2 of Section 34, Township 25 North, Range 6 West, Rio Arriba County, New Mexico.

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 24, 1963

9:00 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM.  
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, as alternate examiner:

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- CASE 2867: Application of George L. Buckles Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Langlie-Mattix Pool by the injection of water into the Queen formation through nine wells on its Knight lease comprising the E/2 SE/4 of Section 21, W/2 SW/4 of Section 22, Township 24 South, Range 37 East, Lea County, New Mexico.
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(Cont'd from June 26, 1963)

GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

*State of New Mexico*  
**Oil Conservation Commission**



LAND COMMISSIONER  
L. B. JOHNNY WALKER  
MEMBER

P. O. BOX 871  
SANTA FE

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

August 1, 1963

Mr. Richard Morris  
Seth, Montgomery, Federici & Andrews  
Attorneys at Law  
Box 828  
Santa Fe, New Mexico

Re: Case No. 2869  
Order No. R-2536  
Applicant:  
Marathon Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced  
Commission order recently entered in the subject case.

Very truly yours,

A handwritten signature in cursive script that reads "A. L. Porter, Jr.".

A. L. PORTER, Jr.  
Secretary-Director

ix/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC       

Astec OCC       

OTHER



BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 2869  
Order No. R-2536

APPLICATION OF MARATHON OIL COMPANY  
FOR A DUAL COMPLETION, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on July 24, 1963, at Santa Fe, New Mexico, before Daniel S. Mutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 31st day of July, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Mutter, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Marathon Oil Company, seeks authority to complete its State Warn A/c 3 Well No. 5, located in Unit H of Section 33, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from an undesignated Glorieta pool and from the Vacuum-Abo Reef Pool through parallel strings of 2 1/16-inch tubing, with separation of zones by a packet set at approximately 8600 feet.

(3) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(4) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Marathon Oil Company, is hereby authorized to complete its State Warn A/c 3 Well No. 5, located

-2-

CASE No. 2869  
Order No. R-2536

in Unit H of Section 33, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from an undesignated Glorieta pool and from the Vacuum-Abo Reef Pool through parallel strings of 2 1/16-inch tubing, with separation of zones by a packer set at approximately 8600 feet.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Vacuum-Abo Reef Pool.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

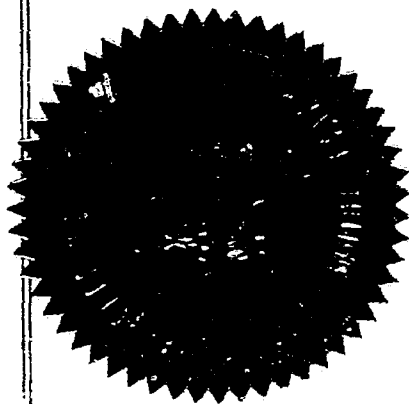
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Jack M. Campbell*  
JACK M. CAMPBELL, Chairman

*E. S. Walker*  
E. S. WALKER, Member

*A. L. Porter, Jr.*  
A. L. PORTER, Jr., Member & Secretary



esr/



**MARATHON OIL COMPANY**  
FORMERLY THE OHIO OIL COMPANY

July 17, 1963

100-111-11-12

P. O. Box 220  
Hobbs, New Mexico  
88240

New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: Application for Dual Completion  
(Conventional) of State Warn  
A/c 3, Well No. 5, Lea County,  
New Mexico, (Docketed for  
Examiner Hearing July 24, 1963  
as Case No. 2869)

Dear Sir:


Enclosed please find Application for Dual Completion (conventional) of the above referenced well along with diagrammatic sketch of the proposed dual completion, plat of the State Warn A/c 3 lease, and a Gamma-Ray Sonic log of the subject well.

It may be noted, the application seeks approval of the dual completion (conventional) of the well to produce oil from the Vacuum Abo Reef Pool and oil from an undesignated Glorieta Pool through parallel strings of 2 1/16" O. D. tubing.

Case No. 2869, which appears on Commission Docket No. 21-63, wherein Marathon Oil Company seeks approval of the dual completion (conventional) of State Warn A/c 3, Well No. 5 to produce from the Vacuum Abo Reef Pool and either an undesignated Blinebry or Glorieta Pool through parallel strings of 2 1/16" O. D. tubing. However, subsequent to the submission of the letter requesting that the subject application be set for hearing, the Blinebry Zone was tested and proved to be productive of water. Therefore, this application is respectfully submitted for approval of a dual completion in the Vacuum Abo Reef Pool and an undesignated Glorieta Pool.

Yours very truly,

MARATHON OIL COMPANY  
Engineering Department

  
John R. Barber  
Area Petroleum Engineer

JRB:bje

cc: NMOCC-Santa Fe (2)

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

## APPLICATION FOR DUAL COMPLETION

Field Name <b>Vacuum</b>		County <b>Lea</b>		Date <b>July</b>
Operator <b>Marathon Oil Company</b>		Lease <b>State Warn A/c 3</b>		Well No. <b>5</b>
Location of Well	Unit <b>H</b>	Section <b>33</b>	Township <b>17 S</b>	Range <b>35 E</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES \_\_\_\_\_ NO X
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	Undesignated Glorieta	Vacuum Abo Reef
b. Top and Bottom of Pay Section (Perforations)	Propose to perforate within interval 6050 to 6150'.	Perforated within interval 8705 to 8905'
c. Type of production (Oil or Gas)	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Anticipate Flowing Completion	Anticipate Flowing Completion

4. The following are attached. (Please mark YES or NO)

- Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- No c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- Yes d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Skelly Oil Company, P. O. Box 38, Hobbs, New Mexico

Phillips Petroleum Company, P. O. Box 2105, Hobbs, New Mexico

Mobil Oil Company Inc., P. O. Box 2406, Hobbs, New Mexico

Standard Oil Company of Texas, P. O. Box 397, Hobbs, New Mexico

Shell Oil Company, P. O. Box 1858, Roswell, New Mexico

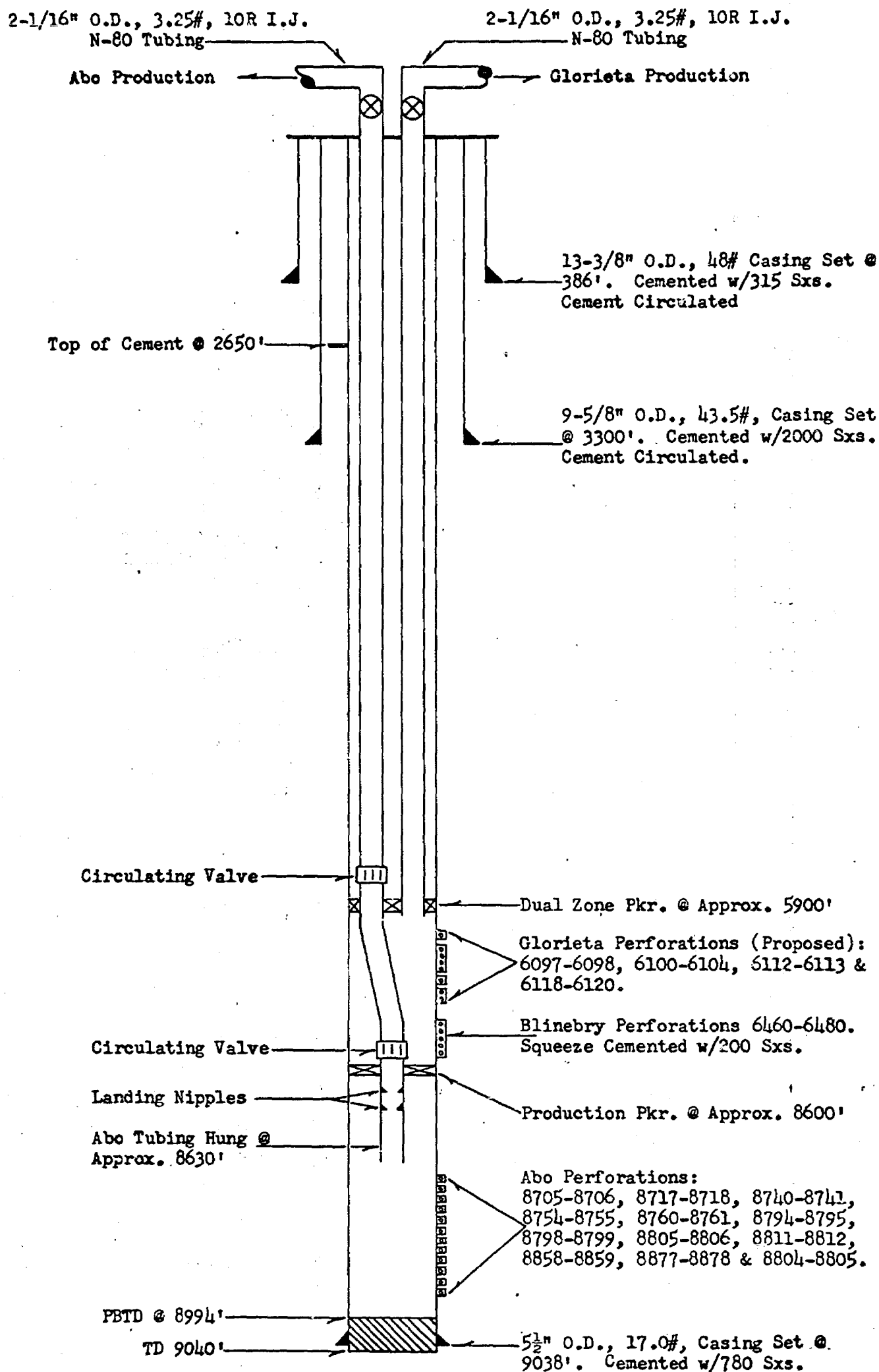
6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES \_\_\_\_\_ NO X. If answer is yes, give date of such notification \_\_\_\_\_

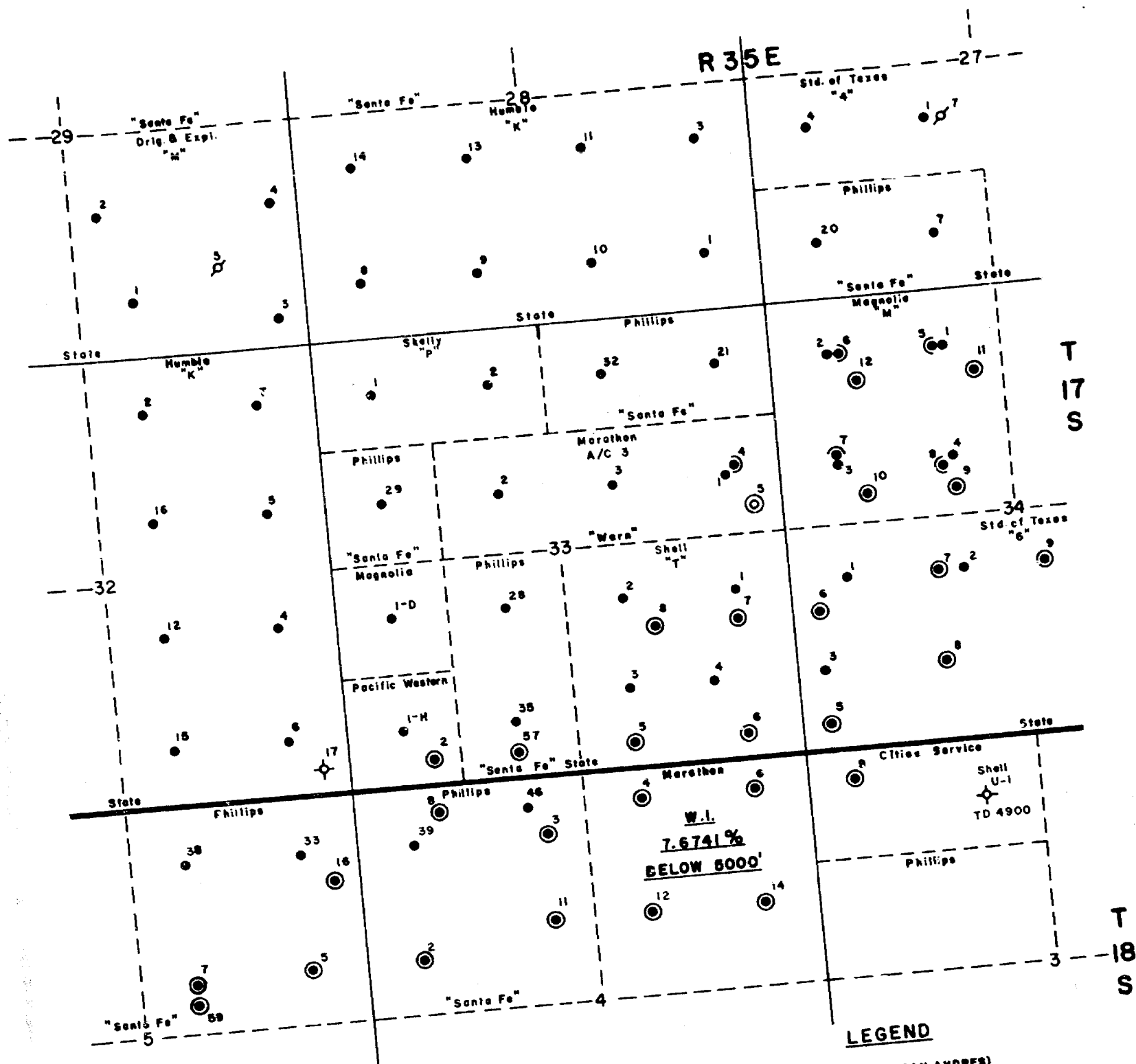
CERTIFICATE: I, the undersigned, state that I am the Area Petroleum Engineer of the Marathon Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

John R. Barber  
Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

State Warn A/c 3, Well No. 5  
Unit H, Sec. 33, T-17-S, R-35-E  
Lea County, New Mexico





**MARATHON OIL COMPANY**  
 "Plat of St. Warn A/C 3 Lease"  
 Lea County, New Mexico  
 SCALE: 1" = 1500'  
 6-10-63

DRAFT

JMD/esr

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 2869

Order No. R- 2526

APPLICATION OF MARATHON OIL COMPANY  
FOR A DUAL COMPLETION, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on  
July 24, 1963, at Santa Fe, New Mexico, before Daniel S. Nutter,  
Examiner duly appointed by the Oil Conservation Commission of New  
Mexico, hereinafter referred to as the "Commission," in accordance  
with Rule 1214 of the Commission Rules and Regulations.

NOW, on this \_\_\_\_\_ day of July, 1963, the Commission,  
a quorum being present, having considered the application, the  
evidence adduced, and the recommendations of the Examiner,  
Daniel S. Nutter, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant, Marathon Oil Company, seeks author-  
ity to complete its State Warn A/c 3 Well No. 5, located in Unit H  
of Section 33, Township 17 South, Range 35 East, NMPM, Lea County,  
New Mexico, as a dual completion (conventional) to produce oil  
from the Vacuum-Abo Reef Pool and an undersaturated Florita pool through  
parallel strings of 2 1/16-inch OD tubing, with separation of  
zones by a packer set at approximately 8600 feet and 5920 feet.

(3) That the mechanics of the proposed dual completion are  
feasible and in accord with good conservation practices.

(4) That approval of the subject application will prevent  
waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Marathon Oil Company, is hereby authorized to complete its State Warn A/c 3 Well No. 5, located in Unit H of Section 33, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil ~~an undesignated formation~~ from the Vacuum-Abo Reef Pool ~~and~~ 8600 feet ~~pool~~ through parallel strings of 2 1/16-inch ~~OD~~ tubing, with separation of zones by ~~a~~ packers set at approximately 8600 feet.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter during the gas-oil Ratio Test Period for the Vacuum - Abo Reef Pool.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



MARATHON OIL COMPANY  
 "Diagrammatic Sketch of Proposed Dual Completion"  
 State Warn A/c 3, Well No. 5  
 Unit H, Sec. 33, T-17-S, R-35-E  
 Lea County, New Mexico

CASE NO. 2869  
 EXHIBIT NO. 3

2-1/16" O.D., 3.25#, 10R I.J.  
 N-80 Tubing

2-1/16" O.D., 3.25#, 10R I.J.  
 N-80 Tubing

Abo Production

Glorieta Production

13-3/8" O.D., 48# Casing Set @  
 386'. Cemented w/315 Sxs.  
 Cement Circulated

Top of Cement @ 2650'

9-5/8" O.D., 43.5#, Casing Set  
 @ 3300'. Cemented w/2000 Sxs.  
 Cement Circulated.

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 3

Case 2869

*Handwritten notes:*  
 D-T 6097-6104  
 20' 2300' pair  
 100' 2 hrs  
 5 min  
 5460' 180' ACD

Circulating Valve

Dual Zone Pkr. @ Approx. 5900'

Glorieta Perforations (Proposed):  
 6097-6098, 6100-6104, 6112-6113 &  
 6118-6120.

Circulating Valve

Blinberry Perforations 6460-6480.  
 Squeeze Cemented w/200 Sxs.

Landing Nipples

Production Pkr. @ Approx. 8600'

Abo Tubing Hung @  
 Approx. 8630'

Abo Perforations:  
 8705-8706, 8717-8718, 8740-8741,  
 8754-8755, 8760-8761, 8794-8795,  
 8798-8799, 8805-8806 & 8811-8812

PBTD @ Approx. 8840'

Bridge Plug w/cmt. cap

Abo Perforations:  
 8858-8859, 8877-8878 & 8904-8905'

PBTD @ 8994'

TD 9040'

5 1/2" O.D., 17#, Casing Set @ 9038'.  
 Cemented w/780 sxs.

*Handwritten note:*  
 10' 2650'

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
July 24, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Marathon Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State Warn A/c 3 Well No. 5, located in Unit H of Section 33, Township 17 South, Range 35 East, Lea County, New Mexico, to produce from the Vacuum-Abo Reef Pool and either an undesignated Blinbry or Glorieta pool through parallel strings of 2 1/16" OD tubing.

Case No. 2869

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

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SANTA FE, N. M.  
PHONE 693-3871

ALBUQUERQUE, N. M.  
PHONE 243-6691

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
July 24, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Marathon Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State Warn A/c 3 Well No. 5, located in Unit H of Section 33, Township 17 South, Range 35 East, Lea County, New Mexico, to produce from the Vacuum-Abo Reef Pool and either an undesignated Blinbry or Glorieta pool through parallel strings of 2 1/16" OD tubing. CASE 2869

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will Call Case 2869.

MR. DURRETT: Application of Marathon Oil Company for a dual completion, Lea County, New Mexico.

MR. MORRIS: Mr. Examiner, I'm Richard Morris of Seth, Montgomery, Federici, and Andrews, Santa Fe, appearing for the Applicant, Marathon Oil Company. We will have one witness, Mr. John Barber, and ask that he be sworn at this time.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1, 2, and 3 marked for identification.)

JOHN R. BARBER  
called as a witness, having been first duly sworn on oath, testified as follows:

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DIRECT EXAMINATION

BY MR. MORRIS:

Q Please state your name and position.

A John R. Barber, employed by Marathon Oil Company in the capacity of Area Petroleum Engineer in Hobbs, New Mexico.

Q Have you previously testified before the Oil Conservation Commission or one of its examiners, Mr. Barber?

A Yes, I have.

Q Your qualifications are a matter of record?

A Yes, they are.

Q What is it that Marathon seeks by its application in Case 2869?

A Marathon seeks authority to complete its State Warn A/c 3 Well No. 5 as a dual completion, conventional, to produce oil from the Vacuum-Abo Pool and oil from an undesignated Glorieta Pool through parallel tubing strings. This well is located in Unit H, Section 33, Township 17 South, Range 35 East, Lea County, New Mexico.

Q Mr. Barber, I note on the application in this case and from the advertisement that the Commission has given that Marathon was asking, in the alternative, to produce oil either from the Blinbry or Glorieta. What is the status of that alternative request at this time?

A At the time the original application was submitted, the Blinbry zone had not been tested. As I will show later, this

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zone was found to be productive of water. Therefore, the Blinebry zone should no longer be considered a part of this case.

Q Do you have a plat of the subject lease showing the well in question?

A Yes, I have. Exhibit No. 1 is a plat of the State Warn A/c 3 lease. This lease contains 120 acres and has been outlined in yellow. Marathon Oil Company owns a 100 percent working interest in this lease. All offset operators to the Warn A/c 3 lease have been shown on Exhibit 1, to the best of my knowledge.

The pool designation for each individual well is also shown on Exhibit 1, to the best of my knowledge. State Warn A/c 3 Well No. 5, the subject of this application, is circled in red. This well is located 310 feet from the north line and 330 feet from the east line of Section 33, Township 17 South, Range 35 East.

The nearest Abo production to Well No. 5 is offsets to the south and east. The nearest Glorieta production is approximately three miles west of the subject well.

Q Now referring, if you will, Mr. Barber, to what has been marked Exhibit No. 2, that being the log of the subject well, would you explain the information shown there?

A Exhibit No. 1 is a gamma ray sonic log of State Warn A/c 3 Well No. 5 with the tops of the producing zones, the total depth, and the respective perforated intervals indicated thereon.



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PAGE 5

The subject well was spudded May the 28th, 1963, and drilled to a total depth of 9040. After running open hole logs, 5-1/2 inch, 17 pound casing was set to 9038. The Blinebry zone was then perforated, treated, and tested. We perforated the Blinebry from 6460 to 6480 as is indicated on Exhibit No. 2.

The treatment was 3,000 gallons of acid, and we swabbed 110 barrels of fluid, of which 98 percent was water. These perforations were squeezed with 200 sacks of cement, as may also be noted on Exhibit No. 2.

Q Still referring to Exhibit No. 2, could you point out and explain the information concerning the Abo section?

A The Abo section was selectively perforated from 8705 to 8905. These perforations were treated with 250 gallons of Spearhead acid and 25,000 gallons of retarded acid. Following swab test on these perforations, we set a retrievable bridge plug, isolating the bottom three sets of perforations. That left the perforations open from 8705 to 8812. We treated these perforations with 40,000 gallons of retarded acid.

We are presently swabbing back acid water, and the latest test on this zone was 57 barrels of oil and 70 barrels of water in 12 hours. The percentage of oil is increasing. We have not determined a static bottom hole pressure on the Abo section as yet; however, it's expected to be approximately 2700 psi. This assumption is based on a bottom hole pressure of 2772 obtained on Mobil's State "M" Well No. 10. This well is an east offset to



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State Warn A/c 3 Well No. 5.

The pay section for the Abo zone is a fine to medium crystalline dolomite containing secondary crystalline porosity. It is my opinion, based on the available data, that the reservoir mechanism for this zone is solution gas drive.

Q Could you give the information that you have concerning the Glorieta zone in this well?

A Yes, sir. The Glorieta zone in State Warn A/c 3 Well No. 5 will be selectively perforated within the interval 6097 to 6120. We anticipate that this zone will be productive of oil, based on a DST taken during drilling operations. The results of the DST follows: The test interval was from 6,095 to 6,145. After taking a 30-minute initial shut-in pressure, the tool was opened for two hours with gas to surface in five minutes. We did not have fluid to surface within a two-hour interval. The recovery was 5460 feet of gas-cut oil, 180 feet of mud-cut oil, and 180 feet of free water.

The 30-minute initial shut-in pressure was 2300 psi. The 60-minute final shut-in pressure was 2245 psi. The initial flowing pressure was 170 psi and the final flowing pressure was 910 psi.

MR. NUTTER: You didn't actually recover any free oil?

A We recovered gas-cut oil. What happened to us there, they started out of the hole and the well unloaded on them after they had pulled about three stands, so it was heavily gas-cut,



but it wasn't mud-cut.

MR. NUTTER: I see.

A It was water-free oil, so as far as recovering dead oil, we did not recover a dead column of oil as such. The pay section for the Glorieta zone is a very fine to fine crystalline dolomite containing pinpoint to secondary crystalline porosity. It is my opinion that the reservoir mechanism for this zone will be solution gas drive.

Q (By Mr. Morris) Mr. Barber, would you refer to what has been marked Exhibit No. 3 in this case, that being the diagrammatic sketch of the mechanism installation of this well?

A Exhibit 3 is a diagrammatic sketch illustrating the downhole equipment that we propose to use in the completion of this well. This sketch is essentially the same as the one that was submitted with the original application. The casing program that we utilized is illustrated on Exhibit No. 3.

This program conforms to the provisions of Rules 106 and 107 of the general rules and regulations of the Conservation Commission, and adequately protects all oil, gas, and water-bearing strata which were encountered in the drilling of this well.

Briefly, we propose to use the following procedure to effect the illustrated dual completion. After we perforated, treated, tested, and squeezed the Blinbry section, we perforated, treated, and are presently testing the Abo section. On Exhibit 3

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it shows a bridge plug isolating the bottom three sets. At present we have a retrievable bridge plug at this point, and when we complete our test we will run a permanent bridge plug and put a cement cap on top of it, as is illustrated on the exhibit.

Also following this Abo test and the setting of the bridge plug, we will run an Otis Type WA production packer on wireline and set it at approximately 8600 feet. This packer will be run with the tail pipe and landing nipples attached. We will then set a retrievable bridge plug at approximately 6300 feet, isolating the Abo zone. At that time we will perforate, treat, and test the Glorieta section.

Following the testing of the Glorieta section, we will remove the bridge plug from the well and run the Abo tubing string of 2-1/6 inch OD tubing and latch into the lower packer. The upper packer will be run on this tubing string. Then the Glorieta tubing string, 2-1/16 OD tubing will be run and latched into the upper packer. The inside diameter of the Abo and Glorieta tubing strings is the same, or 1.75 inches.

The wellhead equipment that we propose to use on this dual completion conforms to the provisions of Rule 115 of the general rules and regulations.

Q Mr. Barber, would you comment on and give us your opinion on the effectiveness of this type of completion?

A This installation is designed and will be installed in accordance with sound engineering practices and principles,



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and it is my opinion that it will effectively prevent communication between producing zones. This installation or types of this installation is widely used in Southeastern New Mexico. By utilizing this type of installation, it will be possible to measure the reservoir pressure on each zone without necessity of shutting in the zone not being tested. We will also equip the well with all necessary connections for conducting packer leakage tests and we will also install surface equipment such that the production from the oil and gas, production from each zone will be separately and accurately measured. We do not anticipate any corrosion problems of any consequence in this installation. We base this on the fact that these two crudes are characteristically sweet and offer little or no corrosion problems.

Q Now, Mr. Barber, if it should be necessary to artificially lift either or both of these zones, would that be possible with the installation that you propose?

A Yes, it will. If we have to lift either of these zones, it is my opinion that they can be efficiently lifted by gas lift means. By equipping the existing Abo and Glorieta tubing strings with gas lift valves, approximately 150 barrels of fluid per day may be lifted from the Abo zone and approximately 200 barrels of fluid may be lifted from the Glorieta zone. It is my opinion that these zones can be safely, efficiently, and effectively depleted by this method.

Q Do you have any information concerning the costs of



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this installation, the costs of individual well completions, and the savings that might be effected by this type of installation?

A Yes, I have. The cost of drilling and dual completing Well No. 5 is estimated to be \$147,130. The cost of drilling a single well to each of these zones and completing therein is estimated to be \$195,685. By dual completing this well, it is estimated that it will result in a savings of \$48,555. The application for authority to dual complete this well is in the interest of conservation and will protect correlative rights. The proposed dual completion will not cause waste and will prevent the drilling of unnecessary wells.

Q Were Exhibits 1 and 3 prepared by you or under your direction, and was the information placed on Exhibit No. 2 done under your supervision or direction?

A Yes, it was.

MR. MORRIS: We offer at this time Marathon's Exhibits 1, 2, and 3 into evidence.

MR. NUTTER: Marathon's Exhibits 1 through 3 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1, 2, and 3 admitted in evidence.)

MR. MORRIS: That's all we have at this time.

CROSS EXAMINATION

BY MR. NUTTER:

Q What was the reason that the three lower sets of



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perforations in the Abo will be bridged off?

A After we treated those, we swabbed 27 barrels of oil and nine barrels of water. We assumed that the biggest part of our water production was coming from the lower part of the formation. Therefore, we set the bridge plug.

Q They weren't squeezed, however?

A They were not squeezed.

Q And they won't be squeezed?

A No.

Q You cemented the 5-1/2 with 780 sacks?

A Yes.

Q What is the top of the cement?

A 2650. It's tied back into the intermediate string. We

have cemented behind the entire length up to 2650.

Q What was your 30-minute shut-in pressure on your drill-stem test on the Glorieta?

A 2300 psi.

Q The nearest Glorieta production is three miles to the west?

A Yes, sir, it's in the new area that's being developed over there.

Q What type of a packer is this production packer at 8600?

A This is an Otis type WA.

Q Would that be regarded as a permanent type packer?

A Yes.



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Q Drillable permanent type?

A Yes, very similar to the Baker model D with opposing set of slips set on wireline.

MR. NUTTER: Any other questions of Mr. Barber? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Morris?

MR. MORRIS: No, I do not.

MR. NUTTER: Does anyone have anything further to offer in Case 2869? We will recess the hearing until 1:30.

(Whereupon, a recess was taken.)

\* \* \*

STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal this 22nd day of August, 1963.

*Ada Dearnley*  
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I certify that the foregoing is a true and correct record of the proceedings in the proceedings of Case No. 2869 heard by me on 7/24, 1963.

*[Signature]* Examiner  
New Mexico Oil Conservation Commission

