

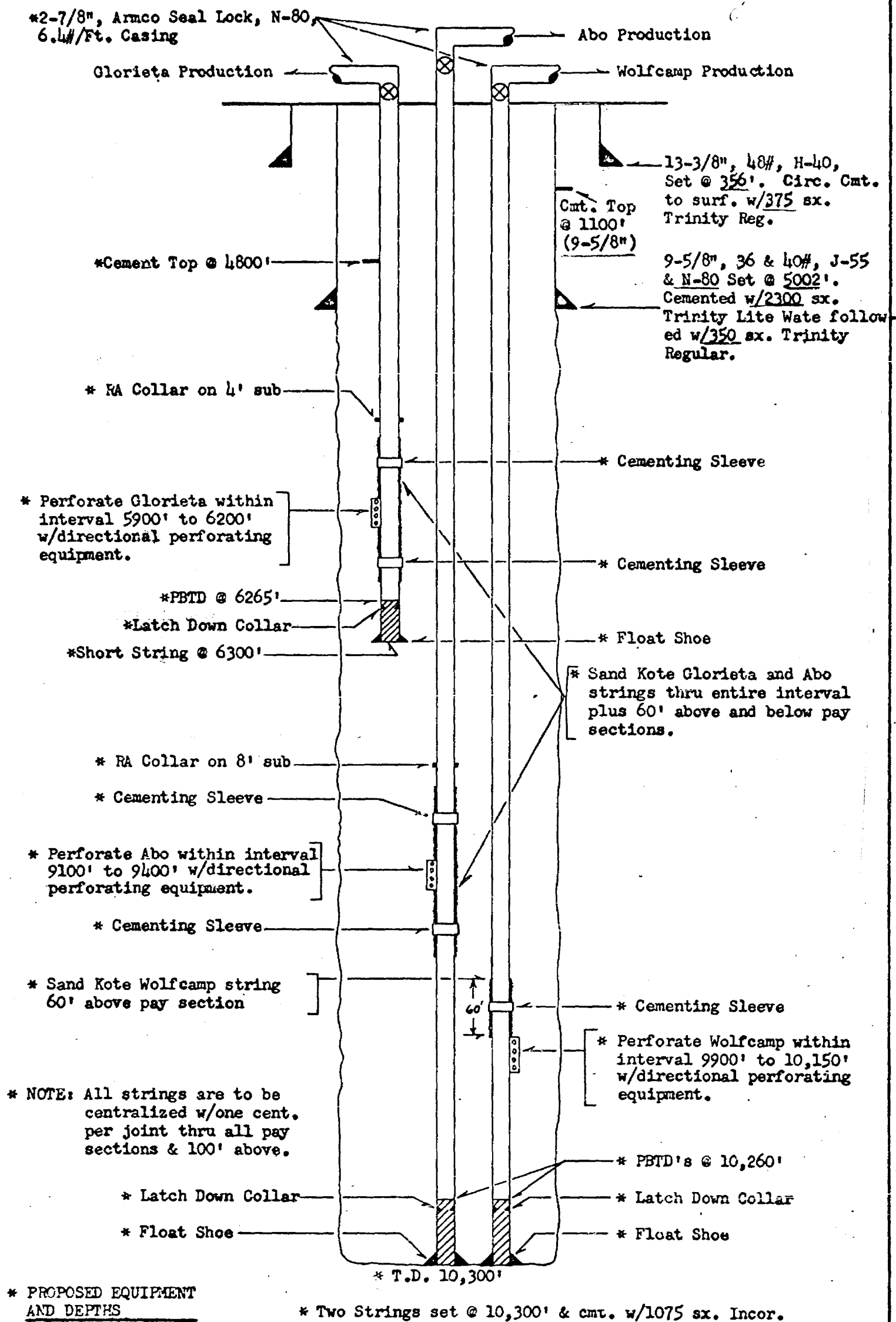
CASE 3046:Application of MARATHON
OIL CO. for a triple completion
and a non-standard oil pro. unit.

CASE No.

3046

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

MARATHON OIL COMPANY
 "Diagrammatic Sketch of Proposed Tubingless Triple Completion"
 St. Warn A/c 1, Well No. 3
 Unit F, Sec. 31, T-17-S, R-35-E
 Lea County, New Mexico



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. 3046

Order No. R- 3716

APPLICATION OF MARATHON OIL COMPANY
FOR A TRIPLE COMPLETION AND A NON-
STANDARD OIL PRORATION UNIT, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
May 27, 1964, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.
~~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 June, 1964, the Commission,
a quorum being present, having considered the ~~application and~~ testimony,
the record, ~~evidence adduced~~ and the recommendations of the Examiner,
 , 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 1 Well No. 3, located in Unit F
of Section 31, Township 17 South, Range 35 East, NMPM, Lea County,
New Mexico, as a triple completion (tubingless) to produce oil
from the Vacuum north Vacuum Abo and Vacuum Wolfcamp Paola
Glorieta, Wolfcamp, and Abo formations, Vacuum Field, Lea
County, New Mexico, through a parallel string of 2 7/8 inch casing cemented in a
common well bore.

(3) That the applicant also seeks approval of 80-acre
area in the north Vacuum Abo and Vacuum Wolfcamp Paola
non-standard oil proration unit comprising the SE/4 NW/4 and

NE/4 SW/4 of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, to be dedicated to the ~~aforesaid Wolfcamp~~ ~~and also zone~~ in applicant's State Warn A/c 1 Well No. 3.

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

(5) That approval of the ~~proposed non-standard unit and triple completion~~ ^{subject Application} will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise 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 1 Well No. 3, located in Unit F of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, as a triple completion (tubingless) to produce oil from the ~~Glorieta, Wolfcamp, and Abo formations~~ ^{Vacuum North Vacuum Abo and Vacuum Wolfcamp}

^{Pool} ~~Vacuum Field~~, Lea County, New Mexico, through ^{parallel strings of} ~~2 7/8 inch tubing cemented in a common well bore.~~

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 zone segregation tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the ~~Vacuum Wolfcamp Pool~~ ^{Vacuum Wolfcamp Pool}.

(2) That an 80-acre non-standard oil proration unit in the ~~aforesaid Wolfcamp and Abo zones in the Marathon Oil Company~~ ^{North Vacuum Abo Pool} State Warn A/c 1 Well No. 3 comprising the SE/4 NW/4 and NE/4 SW/4 of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, is hereby established and dedicated to ~~said well~~ ^{the Marathon Oil Company State Warn A/c 1 Well No 3.}

(4~~th~~) 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.

(3) That an 80-acre non-standard oil production unit in the Vacuum Wolfcamp Pool comprising the SE/4 NW/4 and NE/4 SW/4 of Section 31, Township 17 South, Range 35 East, NM PM, Lea County, New Mexico, is hereby established and dedicated to the Marathon Oil Company State Warm A/c 1 well no 3.



MARATHON OIL COMPANY

FORMERLY THE OHIO OIL COMPANY

LEGAL DEPARTMENT

J. O. TERRELL COUCH
DIVISION ATTORNEY

JOHN H. BEVAN, JR.

WARREN B. LEACH, JR.

JACK FARISS

RICHARD G. RORSCHACH
ATTORNEYS

SOUTHERN NATIONAL BANK BUILDING
P. O. BOX 3128
HOUSTON 1, TEXAS

77001

May 1, 1964

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

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

- Re: (a) Application for authority to triply complete Marathon Oil Company's State Warn A/c 1 Well No. 3, located in the SE/4 of the NW/4 of Section 31, Township 17 South, Range 35 East, Lea County, New Mexico, for production of oil from the Vacuum-Glorieta, Vacuum-Wolfcamp and North Vacuum-Abo Pools, and
- (b) Application for approval of a non-standard 80-acre oil proration unit in the Vacuum-Wolfcamp and North Vacuum-Abo Pools, consisting of the SE/4 of the NW/4 and the NE/4 of the SW/4 of Section 31, Township 17 South, Range 35 East, Lea County, New Mexico.

Gentlemen:

Marathon Oil Company respectfully requests that the Commission grant this application for authority to triply complete Marathon Oil Company's State Warn A/c 1 Well No. 3 for production of oil from the Vacuum-Glorieta, Vacuum-Wolfcamp and North Vacuum-Abo Pools. Attached hereto is the New Mexico Oil Conservation Commission form, Application for Multiple Completion, fully executed, together with a diagrammatic sketch reflecting the manner in which Marathon proposes to complete the well and a plat indicating to the best of our knowledge the location of all wells on Marathon Oil Company's lease and all offset wells on offset leases. Marathon Oil Company's State Warn A/c 1 Well No. 3 is located 2,080 feet from the north line and 1,908 feet from the west line of said Section 31.

Marathon Oil Company also respectfully requests that the Conservation Commission approve the designation of an 80-acre non-standard oil proration unit for the above-mentioned well in the Vacuum-Wolfcamp and North Vacuum-Abo Pools, such non-standard 80-acre proration unit to consist of the SE/4 of the NW/4 and the NE/4 of the SW/4 of said Section 31. The plat attached hereto indicates the

DOCKET MAILED

Date 5-15-64
dk

May 1, 1964
New Mexico Oil Conservation Commission
Page 2

location of the proposed unit and the surrounding tracts. Marathon Oil Company owns the oil and gas leasehold estate on the entire 80 acres within the proposed non-standard proration unit. According to Marathon Oil Company's records, Mobil Oil Company, Phillips Petroleum Company, Shell Oil Company, and Skelly Oil Company are the owners of oil and gas leases covering offset acreage.

The approval of the triple completion herein proposed and the approval of the non-standard 80-acre oil proration unit herein proposed will not cause waste and will not infringe upon the correlative rights of any other operator in any of the pools.

Marathon Oil Company requests that the above applications for triple completion and for approval of a non-standard 80-acre oil proration unit be set for hearing at the same time; that due notice of these applications and hearing thereon be issued and published as required by law, and that the hearing on these applications be held before an examiner. Marathon Oil Company further respectfully requests that these applications be granted and that the Commission enter its order authorizing the triple completion described herein and approving the non-standard oil proration unit herein requested.

The names and addresses of all interested parties known to Marathon are set forth in the attached list and a copy of this application, together with all attachments hereto, is being mailed this date to each of such parties.

Respectfully submitted,

MARATHON OIL COMPANY

By Warren B. Leach, Jr.
Warren B. Leach, Jr.

WBL:MK
Encls.

Case 3046

NAMES AND ADDRESSES OF ALL INTERESTED PARTIES KNOWN TO MARATHON OIL COMPANY IN CONNECTION WITH MARATHON'S APPLICATION DATED MAY 1, 1964, FOR TRIPLE COMPLETION OF ITS STATE WARM A/C 1 WELL NO. 3 AND APPROVAL OF A NON-STANDARD 80-ACRE OIL PRORATION UNIT IN THE VACUUM-WOLFCAMP AND NORTH VACUUM-ABO POOLS:

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

Phillips Petroleum Company
P. O. Box 2130
Hobbs, New Mexico

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

Skelly Oil Company
P. O. Box 730
Hobbs, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

5-1-61

APPLICATION FOR MULTIPLE COMPLETION

Case 3046

Operator Marathon Oil Company		County Lea	Date April 27, 1964
Address Box 220, Hobbs, New Mexico		Lease State Warn A/c 1	Well No. 3
Location of Well	Unit F	Section 31	Township 17 South
			Range 35 East

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES X NO
2. If answer is yes, identify one such instance: Order No. R-2657; Operator, Lease, and Well No.:

Phillips Petroleum Company, Santa Fe Well No. 87

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Vacuum Glorieta	No. Vacuum Abo	Vacuum Wolfcamp
b. Top and Bottom of Pay Section (Perforations)	Propose to perforate within interval 5900 to 6200	Propose to perforate within interval 9100 to 9400	Propose to perforate within interval 9900 to 10,150
c. Type of production (Oil or Gas)	Oil	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Anticipate flowing completion	Anticipate flowing completion	Anticipate flowing completion

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

- Yes a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and 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 multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
- No* 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.

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

Phillips Petroleum Company, P. O. Box 2130, Hobbs, New Mexico

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

Skelly Oil Company, P. O. Box 730, Hobbs, New Mexico

* Log will be submitted at a later date under Provisions of Rule 112-A.

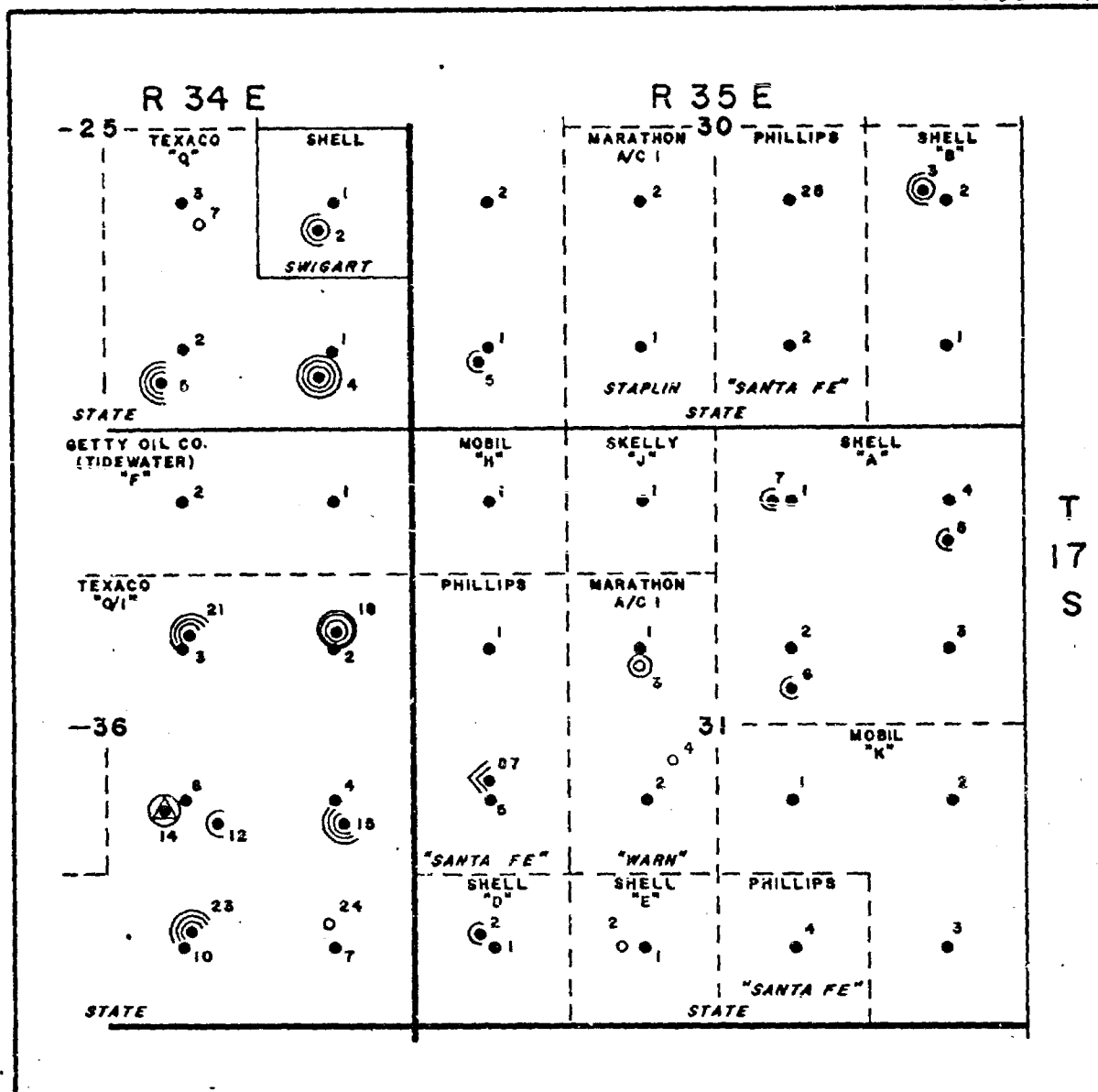
6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO . If answer is yes, give date of such notification May 1, 1964.

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

Page 3046



LEGEND

- VACUUM GRAYBURG-SAN ANDRES
- ◎ VACUUM BLINESRY
- ◉ VACUUM GLORIETA
- ◉ VACUUM (GLORIETA & BLINESRY)
- ◉ VACUUM (WOLFCAMP) & N. VACUUM (ABO)
- ◉ TRIPLE-VACUUM (WOLFCAMP, PENN) & N. VACUUM (ABO)
- ◉ TRIPLE-VACUUM (WOLFCAMP, GLORIETA) & N. VACUUM (ABO)
- ◉ PROPOSED TRIPLE-VAC. (WOLFCAMP, GLORIETA) & N. VAC. (ABO)
- DRILLING

MARATHON OIL COMPANY

"Plat of St. Warn A/c 1 Lease"

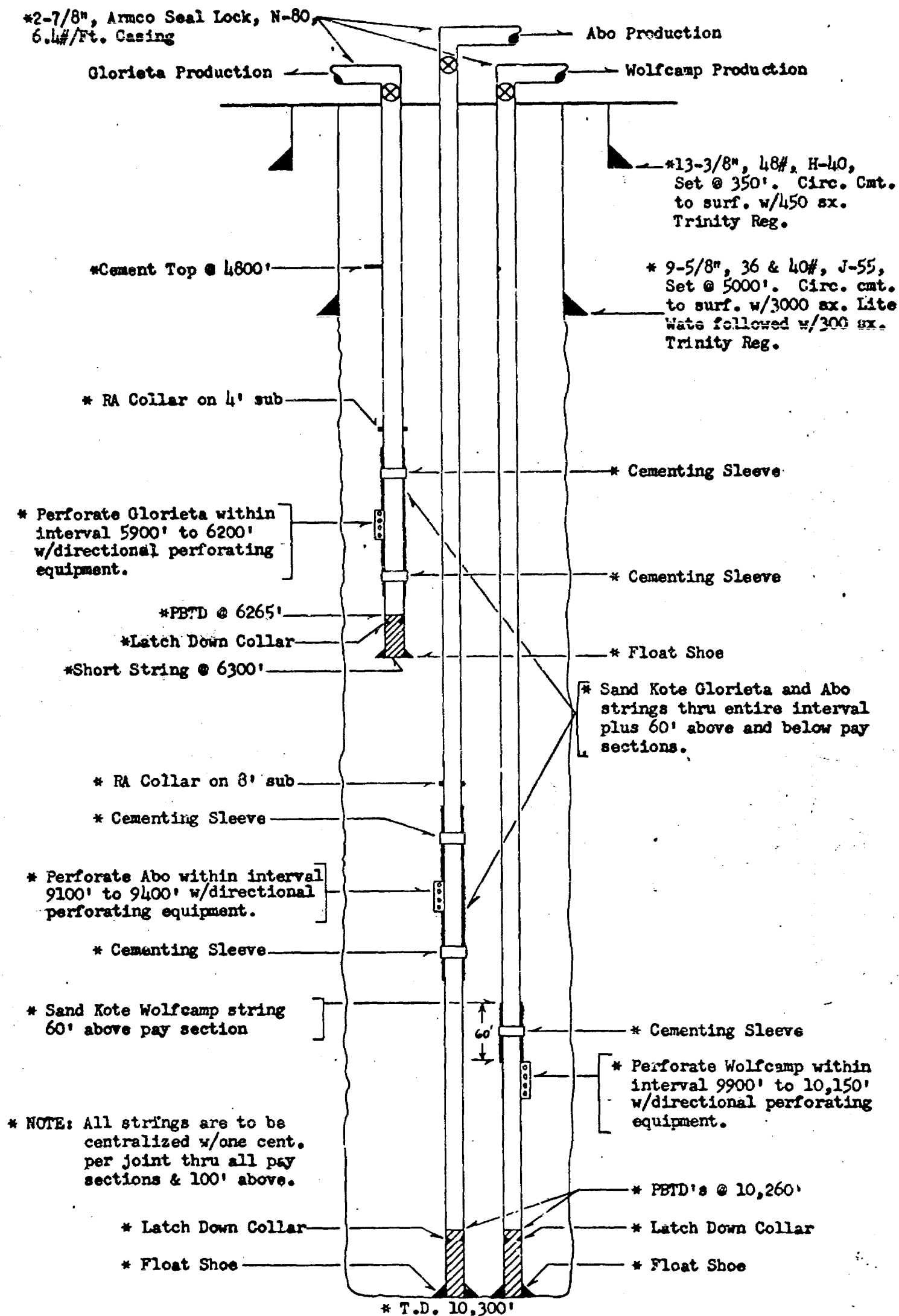
Lea County, New Mexico

Scale: 1" = 1500'

4-24-64

Plan 3046

MARATHON OIL COMPANY
 "Diagrammatic Sketch of Proposed Tubingless Triple Completion"
 St. Warr A/c 1, Well No. 3
 Unit F, Sec. 31, T-17-S, R-35-E
 Lea County, New Mexico



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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL = Day Letter

Night Letter

International Letter Telegram

=(30).

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

LA116 SSA134

1964 MAY 26 PM 2:45

1964 MAY 26 PM 2:41

L HBA035 PD=HOBBS NMEX 26 227P MST=
A L PORTER JR, SECRETARY-DIRECTOR=
NEW MEXICO OIL CONSERVATION COMMISSION
STATE LAND OFFICE BLDG SANTA FE NMEX=

REGARDS NEW MEXICO OIL CONSERVATION COMMISSION CASE
NUMBER 3046 MARATHON OIL COMPANY HAS NOTIFIED US OF
THEIR APPLICATION FOR A NON-STANDARD 80 ACRE PRORATION
UNIT IN SECTION 31 T17S R35E LEA COUNTY NEW MEXICO.
SOCONY MOBIL OIL COMPANY INC WAIVES ANY OBJECTION TO
GRANTING OF THE NON-STANDARD 80 ACRE PRORATION UNIT
REQUESTED IN CASE NUMBER 3046=
G W BARB DISTRICT PRODUCING SUPT==
3406 31 T17S R35E 80 3046=

SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS
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LT = International
Letter Telegram

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LA120 SSE300

L RWA060 PD=ROSWELL NMEX 26 233P MST=
NEW MEXICO OIL CONSERVATION COMMISSION=
SANTA FE NMEX=

ALP

ATTN MR A L PORTER JR=

IN RE CASE NO 3046 DOCKET OF MAY 27 1964 THIS IS
TO ADVISE THAT SHELL OIL CO HAS NO OBJECTION
TO THE GRANTING OF MARATHON OIL COMPANYS REQUEST FOR
NON-STANDARD PRORATION UNITS IN THE VACUUM WOLFECAMP AND
NORTH VACUUM ABO POOLS=
T H DWYER DIVISION PRODUCTION MANAGER SHELL OIL CO=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

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unless its deferred char-
acter is indicated by the
proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS
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Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

LA073 KB207

K BRA078 NL PD 3 EXTRA=WUX BARTLESVILLE OKLA 25=
A L PORTER JR, NEW MEXICO OIL CONSERVATION COMMISSION=
SANTA FE NMEX=

REFERENCE CASE NUMBER 3046 APPLICATION MARATHON OIL
COMPANY FOR TRIPLE COMPLETION OF ITS STATE WARM A/C
NUMBER 1 WELL 3 AND FOR NON STANDARD 80 ACRE PRORATION
UNIT COVERING SE/4 NW/4 AND NE/4 SW/4 SECTION 31-17S-35E
LEA COUNTY. WE HAVE NO OBJECTION AND CONCUR IN
TESTIMONY TO BE PRESEKTED BY APPLICANT AT HEARING
MAY 27 1964=

PHILLIPS PETROLEUM CO EARL GRIFFIN MANAGER
PRODUCTION DIVISION=

SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

J. O. SETH (1883-1962)

A. K. MONTGOMERY
WM. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS
GEORGE A. GRAHAM, JR.
RICHARD S. MORRIS
FREDERICK M. MOWRER

SETH, MONTGOMERY, FEDERICI & ANDREWS

ATTORNEYS AND COUNSELORS AT LAW
350 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87501

May 25, 1964

POST OFFICE BOX 2307
AREA CODE 505
TELEPHONE 982-3876

New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico

Re: Case No. 3046, Application of
Marathon Oil Company for a triple
completion and a non-standard oil
proration unit, Lea County, New
Mexico.

Gentlemen:

We hereby enter our appearance in the above referenced
case on behalf of Marathon Oil Company. Associated
with us will be Mr. J. O. Terrell Couch and Mr. John M. Warren
Bevan, both members of the Houston, Texas bar; Mr. *Leach*
~~Bevan~~ will present the case for the applicant.

Leach

Very truly yours,

SETH, MONTGOMERY, FEDERICI & ANDREWS

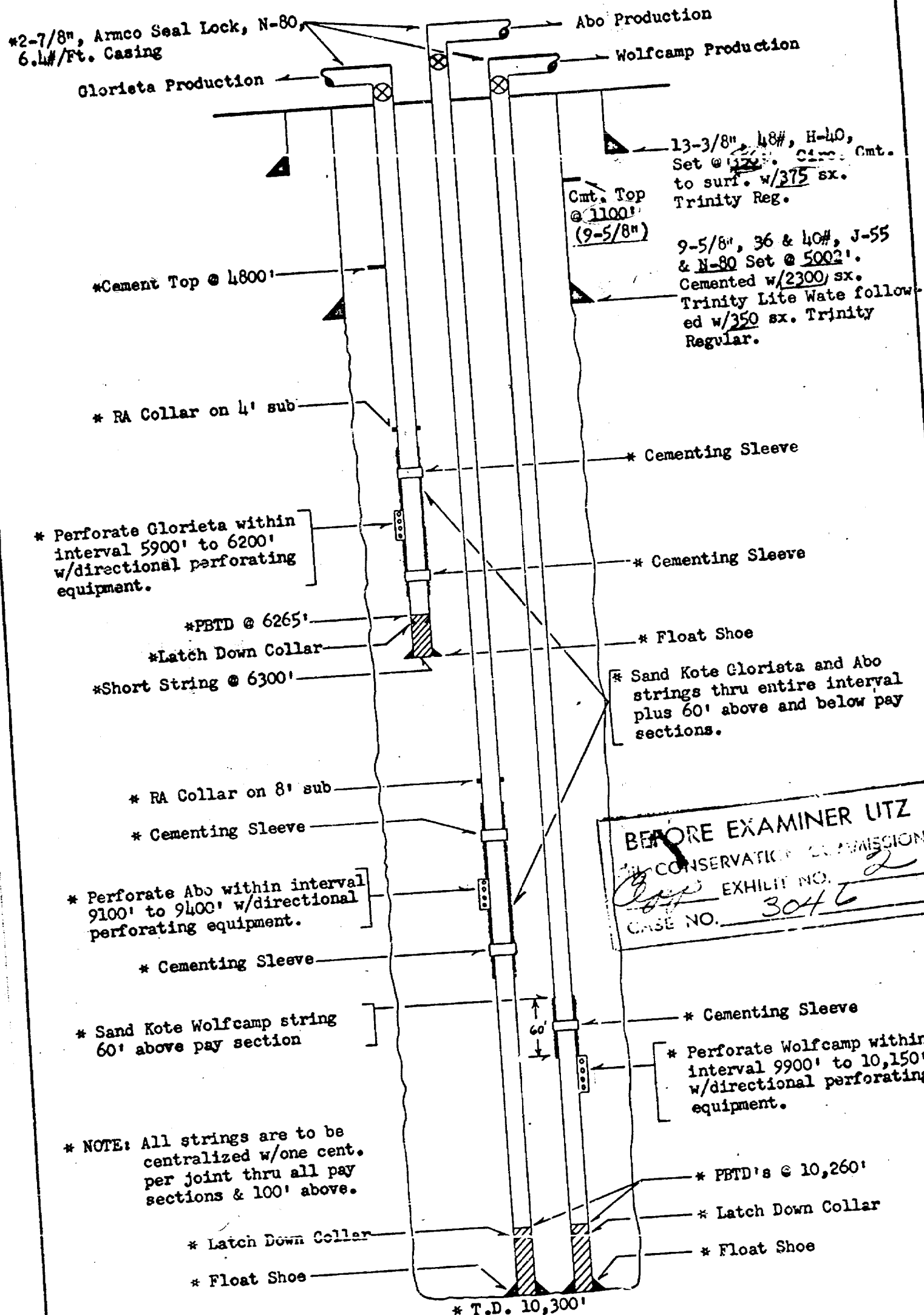
By

Richard S. Morris

cc: Mr. J. O. Terrell Couch
and
Mr. John Bevan
Marathon Oil Company
P. O. Box 3128
Houston, Texas

*Rich Morris
Called
Conservation
5/26/64
gl*

MARATHON OIL COMPANY
"Diagrammatic Sketch of Proposed Tubingless Triple Completion"
 St. Warn A/c 1, Well No. 3
 Unit F, Sec. 31, T-17-S, R-35-E
 Lea County, New Mexico



* PROPOSED EQUIPMENT
 AND DEPTHS

* Two Strings set @ 10,300' & cmt. w/1075 sx. Incor.

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 27, 1964

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

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

CASE 3033: (Continued from April 29, 1964 Examiner Hearing)

Application of Cherry Brothers and Cabot Corporation for the creation of a new oil pool and for special temporary pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Lower Wolfcamp production for its Austin State Well No. 1, located in Unit F of Section 19, Township 14 South, Range 36 East, Lea County, New Mexico, and for the establishment of temporary pool rules therefor, including a provision for 80-acre oil proration units.

CASE 3046:

Application of Marathon Oil Company for a triple completion and a non-standard oil proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (tubingless) of its State Well No. 1, located in Unit F of Section 31, Township 17 South, Range 35 East, to produce oil from the Glorieta, Wolfcamp, and Abo formations, Vacuum Field, Lea County, New Mexico. Applicant further seeks the approval of a non-standard 80-acre proration unit comprising the SE/4 NW/4 and NE/4 SW/4 of said Section 31 to be dedicated to the aforesaid Wolfcamp and Abo zones in said well.

CASE 3047:

Application of El Paso Natural Gas Company for three non-standard gas proration units and one unorthodox well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the following three non-standard gas proration units:

A 376.88-acre unit comprising the SE/4 and E/2 SW/4 of Lots 1, 2 and 3 of Section 9 and Lots 3 and 4 and the NW/4 SW/4 of Section 10;

A 357.84-acre unit comprising the SE/4, S/2 SW/4, and NE/4 SW/4 and Lots 1 and 2 of Section 10 and Lots 3 and 4 of Section 11;

A 359.20-acre unit comprising the S/2 and Lots 1 and 2 of Section 11, all in Township 32 North, Range 7 West, Blanco Mesaverde Pool, San Juan County, New Mexico. Applicant further seeks the approval of an unorthodox location for a well to be dually completed in the Mesaverde and Dakota formations at a point 1650 feet from the South line and 825 feet from the East line of said Section 9.

CASE 3048:

Application of E. L. Fundginsland for compulsory pooling, San Juan 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 3, Township 29 North, Range 13 West, San Juan County, New Mexico.

CASE 3049:

Application of Sohio Petroleum Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Littman San Andres Unit Area comprising 661 acres, more or less, of State and Federal lands in Sections 8, 9, 16, and 17, Township 21 South, Range 38 East, Lea County, New Mexico. The Unit Area also includes 1280 acres of fee land in Sections 5, 6, 7, 14, and 15, Block A-29, PSL, Andrews County, Texas.

- CASE 3050: Application of Sohio Petroleum Company for a waterflood project Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Littman-San Andres Pool by the injection of water into the San Andres formation through 4 wells in Sections 8, 9 and 16, Township 2 South, Range 38 East, Lea County, New Mexico. Said project is to be operated in Lea County, New Mexico. Said project is to be operated in conjunction with applicant's proposed waterflood project in the Littman San Andres Unit in Andrews County, Texas.
- CASE 3051: Application of Pan American Petroleum Corporation to amend Order No. R-2026, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks amendment of Rules 7 and 10 of Order No. R-2026 to permit the production of more than two times top allowable from wells in its Northeast Hogback Unit Pressure Maintenance Project even though they offset wells outside the project area.
- CASE 3052: Application of The Atlantic Refining Company to amend Order No. R-2210, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks amendment of Rules 7 and 10 of Order No. R-2210 to permit the production of more than two times top allowable from wells in the Horseshoe Gallup Unit Pressure Maintenance Project even though they offset wells outside the project area.
- CASE 3053: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Maljamar Pool by the injection of water into the Grayburg-San Andres formation through two wells located in Section 12, Township 17 South, Range 32 East, Lea County, New Mexico.
- CASE 3055: Application of Texas Pacific 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 J. P. Collier Well No. 1 located in Unit F of Section 10, Township 11 South, Range 33 East, Lea County, New Mexico, to produce oil from the North Bagley Upper and Lower Pennsylvanian Pools through parallel strings of tubing.
- CASE 3056: Application of Texas Pacific 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 "AP" Well No. 3, located in Unit L of Section 8, Township 18 South, Range 35 East, Lea County, New Mexico, to produce oil from the Abo and Wolfcamp formations, Vacuum Field, through parallel strings of tubing.
- CASE 3057: Application of Charles O. Trimble for an oil treating plant permit, Lea County, New Mexico. Charles O. Trimble, dba Trimble Mud Service, in the above-styled cause, seeks authority pursuant to Rule 312 to install and operate an oil treating plant approximately one mile South and West of Eunice, New Mexico, for the purpose of processing and treating sediment oil.
- CASE 3058: Application of Cities Service Oil Company to establish a special GOR limit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a special gas-oil ratio limit of 6000 cubic feet of gas for each barrel of oil produced in the Reeves-Pennsylvanian Pool, Lea County, New Mexico.

- 3 - Wednesday, May 27 Examiner Hearing

- CASE 3059: Application of Frank Darden for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Cowntown Unit Area comprising 280 acres, more or less, of State land in Sections 13 and 24, Township 18 South, Range 28 East, Eddy County, New Mexico.
- CASE 3060: Application of Frank Darden for a waterflood, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Artesia Pool in his Cowntown Unit Area, by the injection of water into the Grayburg formation through two injection wells in Sections 13 and 24, Township 18 South, Range 28 East, Eddy County, New Mexico.
- CASE 3061: Application of Kewanee Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Dayton Grayburg Pool by the injection of water into the Grayburg formation through one well in Section 25, Township 18 South, Range 26 East, Eddy County, New Mexico.
- CASE 3062: Application of Kewanee Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Atoka Grayburg Pool by the injection of water into the Grayburg formation through one well in Section 13, Township 18 South, Range 26 East, Eddy County, New Mexico.

Case 3046

Heard 5-27-64

Rec. 5-28-64

1. Grant Marathon request to
Triple Complete (Tubulose) their
St. Wam A/c 1 & 3 F, 31-175-35E
in Vacuum ~~Ab~~, Vacuum Glorietta,
North Vacuum Abco & Vacuum Wolfcamp.
pools.

2. Grant Non-Hd production
unit for Vacuum Wolfcamp &
North Vacuum Abco consisting of
SE/4 NW/4, NE/4 SW/4 31-175-35E.

Thos. M. J.

State of New Mexico
Oil Conservation Commission



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

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. 3046
Order No. R-2716

APPLICATION OF MARATHON OIL COMPANY
FOR A TRIPLE COMPLETION AND A NON-
STANDARD OIL PRORATION UNIT, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on May 27, 1964, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 3rd day of June, 1964, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, 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 1 Well No. 3, located in Unit F of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, as a triple completion (tubingless) to produce oil from the Vacuum-Glorieta, North Vacuum-Abo, and Vacuum Wolfcamp Pools, Lea County, New Mexico, through parallel strings of 2 7/8-inch tubing cemented in a common well bore.

(3) That the applicant also seeks approval of an 80-acre non-standard oil proration unit in the North Vacuum-Abo and Vacuum-Wolfcamp Pools comprising the SE/4 NW/4 and NE/4 SW/4 of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, to be dedicated to the State Warn A/c 1 Well No. 3.

-2-

CASE No. 3046

Order No. R-2716

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

(5) That approval of the subject application will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise 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 1 Well No. 3, located in Unit F of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, as a triple completion (tubingless) to produce oil from the Vacuum-Glorieta, North Vacuum-Abo, and Vacuum-Wolfcamp Pools, Lea County, New Mexico, through parallel strings of 2 7/8-inch tubing cemented in a common well bore;

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 zone segregation tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Vacuum-Wolfcamp Pool.

(2) That an 80-acre non-standard oil proration unit in the North Vacuum-Abo Pool comprising the SE/4 NW/4 and NE/4 SW/4 of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, is hereby established and dedicated to the Marathon Oil Company State Warn A/c 1 Well No. 3.

(3) That an 80-acre non-standard oil proration unit in the Vacuum-Wolfcamp Pool comprising the SE/4 NW/4 and NE/4 SW/4 of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico, is hereby established and dedicated to the Marathon Oil Company State Warn A/c 1 Well No. 3.

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

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CASE No. 3046
Order No. R-2716

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M Campbell

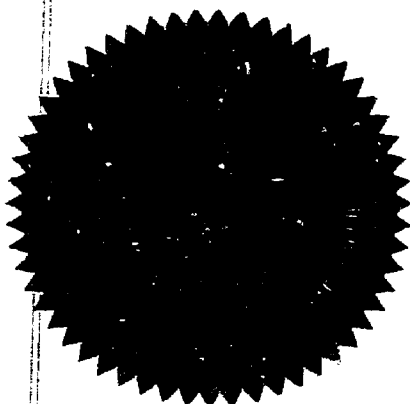
JACK M. CAMPBELL, Chairman

E. S. Walker

E. S. WALKER, Member

A. L. Porter, Jr.

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



esr/

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 27, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Marathon Oil Company for
a triple completion and a non-standard oil
proration unit, Lea County, New Mexico.
Applicant, in the above-styled cause, seeks
approval of the triple completion (tubing-
less) of its State Warn A/c 1 Well No. 3,
located in Unit F of Section 31, Township
17 South, Range 35 East, to produce oil
from the Glorieta, Wolfcamp, and Abo form-
ations, Vacuum Field, Lea County, New
Mexico.

Case No. 3046

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

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MR. UTZ: Case 3046.

MR. DURRETT: Application of Marathon Oil Company for a triple completion and a non-standard oil proration unit, Lea County, New Mexico.

MR. LEACH: Mr. Examiner, I am Warren B. Leach, Jr. I'm a member of the Texas Bar representing Marathon Oil Company, and I believe that Mr. Dick Morris has entered an appearance for me in this case.

MR. UTZ: Yes, he has.

MR. LEACH: Mr. Examiner, I have one witness, Mr. R. P. Scott.

MR. UTZ: Will you stand and be sworn, please?

(Witness sworn.)

MR. UTZ: Are there other appearances in this case? You may proceed.

R. P. SCOTT

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LEACH:

Q Your full name is R. P. Scott, is that correct?

A That's right.

Q Have you ever testified before the Oil Conservation Commission in New Mexico?



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A No, I haven't.

Q Will you state briefly for the record your educational background and experience in the field of petroleum engineering?

A I was graduated from the University of Tulsa in Oklahoma in January, 1951 with a degree of Bachelor of Science in Petroleum Engineering. I went to work for the Ohio Oil Company, now Marathon Oil Company, in June of 1952 as a petroleum engineer, and have since worked in the States of Wyoming, Nebraska, New Mexico, and Texas over a twelve-year period as a petroleum engineer.

Q What is your present position with Marathon?

A At the present time I'm a petroleum engineer on the staff in the Division Office in Houston, Texas.

Q Are you familiar with Marathon Oil Company's State Warn A/c 1 Well No. 3 in Lea County, New Mexico?

A I am.

MR. LEACH: Is the Examiner satisfied with his qualifications?

MR. UTZ: His qualifications are acceptable.

Q (By Mr. Leach) Mr. Scott, have you prepared any exhibits or had any exhibits prepared under your supervision and direction for use in this hearing?

A Yes, sir, I have, two exhibits.

MR. LEACH: Mr. Examiner, we would ask that this map be marked as Exhibit 1 for identification, and have this schematic



diagram marked as Exhibit 2.

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

Q (By Mr. Leach) Mr. Scott, referring to Exhibit 1, will you locate on that map, please, the well which is the subject of this hearing?

A Marathon State Warn A/c 1 Well No. 3 is located in Section 31, Township 17, Range 35. It is in the Southeast Quarter of the Northwest Quarter.

Q Is this the well which Marathon Oil Company desires to triple complete?

A It is.

MR. UTZ: What is the foot location of that well?

A That well is located 2,080 feet from the North line and 1908 feet from the West line of Section 31.

MR. UTZ: 1980?

A No, 1908.

MR. UTZ: Thank you.

Q (By Mr. Leach) What three pools or reservoirs does Marathon desire to complete this well in?

A The Vacuum-Glorieta, the North Vacuum-Abo, and the Vacuum-Wolfcamp.

Q Will you explain briefly the color code that you have on your map here?

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A On Exhibit 1, the oil wells that are shown with purple color are present completions in the Vacuum-Glorieta. Those wells shown with a green color are North Vacuum-Abo; and those with the orange are Vacuum-Wolfcamp completions. The combinations of colors represent the dual and triple completions in these zones.

There are other zones completed in this area but they're not color coded because they are not the subject of this hearing.

Q Have you had prepared a diagrammatic sketch reflecting the manner in which Marathon would desire to complete this well?

A Yes, Exhibit 2 is the diagrammatic sketch.

Q Would you explain the manner in which Marathon proposes to complete the well?

A As is shown on the diagrammatic sketch, this will be a tubingless triple completion with three strings of 2-7/8th inch O.D. casing run and cemented in the well. At the present time, as is shown on the sketch, the 13-3/8ths inch surface casing has been run and cemented, and the 9-5/8ths inch intermediate string has been run and cemented.

At the present time the well is drilling at 8-3/4 inch hole at depth of 7579 feet this morning. Upon completion of the hole to total depth--there will be no drill stem testing or coring prior to drilling to T.D. On completion of the hole to total depth, the three strings of 2-7/8ths inch casing will be run. Two of the strings of casing will be run to total depth. The third



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string will be run to an approximate depth of 6300 feet. All of these strings of casing will have centralizers on them; there will be, as is shown in the lower left-hand part of the sketch -- all of the strings will be centralized with one centralizer per joint through all the pay sections and for 100 feet above each pay section. Each string of casing will be equipped with a float shoe and latch down collar to be used during cementing.

The strings will be run independently in the well. Circulation will be maintained during the running of all strings of casing. The strings will be cemented with a total of approximately 1,075 sacks of cement, as is shown at the very bottom of the sketch.

Approximately 775 sacks of this cement will be pumped down the two long strings, while circulation is maintained in the hole at all times. Upon the displacement of this volume of cement and the bumping of the plugs in these two strings of cement, the additional 300 sacks of cement will start down the short string of casing.

The top of the cement we anticipate to be at approximately 4800 feet, which will be approximately 200 feet back up into the 9-5/8ths inch casing. This cement will all be pumped at rates anticipated to cause turbulent flow.

We will have, as is shown on the sketch, a section through each -- on each tubing string through the pay section in which



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completion is anticipated through that string. The casing will be coated with Sand Kote, which is a resin bonding sand onto the outside of the casing. This is to insure a good cement job in the hole.

Q Mr. Scott, is this diagrammatic sketch the exact same sketch as was attached to Marathon's application in this case?

A No, it is not. The diagrammatic sketch that was originally attached to the application was made up prior to spudding of this well, and as such, the exact setting depths of the two shallower strings of casing were not -- well, they weren't accurate as it was finally run.

In fact, the 13-3/8ths was set at a depth of 360 feet, and I believe it was shown as 350 feet. This casing was cemented with 375 sacks and it was circulated; the 9-5/8ths was set at a depth of 5,002 feet rather than 5,000 feet, and cemented with 2300 sacks of Lite Wate followed by 300 sacks of Trinity Regular. This was not sufficient to cause circulation, and the cement top was located at 1100 feet.

Q The changes in the diagrammatic sketch have been underlined in red on Exhibit 2, is that right?

A That's right.

Q And the data then reflects the manner in which the well has actually been completed at this time?

A The way these two strings have been cemented and run,



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that's right.

Q What's the present status of this well?

A Well, at 6:00 o'clock this well was at 6970 feet, approximately, in the upper part of the Abo.

Q Now, Mr. Scott, in your opinion will the completion of this well in the manner in which Marathon proposes, permit safe and efficient production from each of these zones?

A Yes, it will.

Q Will it prevent communication between the zones?

A Yes, and in the completion of this well, we will make tests utilizing the cement sleeve shown on the diagram to test each string around each pay zone to assure that we do not have communication.

This will follow the procedure, this procedure: The first string of casing with the cementing sleeve set the deepest portion, this will be for the Wolfcamp pay. This cementing sleeve will be opened and a pressure test will be made. If that test is satisfactory, the lower sleeve on the second long string, that is the one which will be used to produce from the Abo, the lower sleeve will be opened and a pressure test will be made. At the same time, the Wolfcamp sleeve will be left open and pressure measurement will be taken there to assure there is no communication between those zones.

If that is all right, we will close the lower sleeve in



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the Abo, open the upper sleeve in the Abo, pressure test it, still checking the Wolfcamp to make sure that there is no communication there. If that's all right, we'll close that sleeve, open the lower -- no, I am sorry, we will not close that sleeve, the upper sleeve on the Abo. We will go on and open the lower sleeve for the Glorieta completion, pressure test there and check through the upper sleeve on the Abo and the sleeve in the Wolfcamp pay to make sure there's no communication between those three zones.

If that checks all right, we will close that sleeve and open the upper sleeve on the short string and pressure test again, still checking for pressure in the Abo and Wolfcamp strings.

If all of this is all right, we will close all the sleeves. If at any time we find that the strings will not hold pressure, we will squeeze cement until we do get a satisfactory test by this method.

Q Generally, will the well be completed in accordance with the Oil Conservation Commission Rule 112-A?

A Yes, sir, I believe it will.

Q Will the well be equipped so that the reservoir pressures in each zone may be separately measured?

A Yes, sir.

Q Will the well be equipped so that gas-oil ratios in each zone may be separately determined?

A Yes. In this connection, we have filed an application



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for commingling of these three zones. On that application, the method of handling on the surface through the separation, measurement and separation facilities, shows that two of the zones will be metered separately; the third zone production being found by subtraction method.

Q But there will be provided a means by which the production from each zone can be measured?

A Yes, and gas-oil ratio tests will be possible through the separators and treaters on the surface.

Q Mr. Scott, will you tell us generally what the estimated cost of this tubingless triple completion is, please?

A It was our estimate prior to starting drilling the well it would cost us approximately \$270,000 to complete this well in this manner.

Q What is the estimated cost of three separate single completions?

A A single completion to the Glorieta will cost us approximately \$73,000; a single completion to the North Vacuum-Abo would cost us approximately \$135,000; and a single would be approximately \$170,000 to the Vacuum-Wolfcamp, the total cost here being in the vicinity of \$400,000 for three singles.

Q Are there any other triple completions in this area of these three pools?

A There is one other triple completion of these three zones.



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This is in Phillips Santa Fe Well No. 87, this well being located in the Northwest Quarter of the Southwest Quarter of Section 31.

Q Is this well completed in the same manner as Marathon's?

A No, this is a conventional triple completion that Phillips has made.

Q Now, Mr. Scott, I understand there is a possibility that this Marathon well may be drilled deep enough to test the Pennsylvanian formation, is that correct?

A Yes. Since Pennsylvanian is very close below the anticipated Lower Wolfcamp pay, it's possible that this well will be taken to a depth of a little bit deeper than what is stated on this form, for the purpose of testing. However, there is no drill stem testing set up. It will be a log examination of that formation.

Q If the Pennsylvanian is productive, what would Marathon propose to do at that point?

A It's possible that we might want to make this a triple with the North Vacuum-Abo, the Vacuum-Wolfcamp, and the Vacuum-Pennsylvanian.

Q Does Marathon understand that if this application is granted, it will not permit the triple completions in this manner?

A Yes, we do.

Q Are there other triple completions of these three zones?

A Yes. Texaco has two tubingless triples of these three



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zones, one being the Texaco "Q" Well No. 4 in Section 25; one being the Texaco Well No. 18 in Section 36, Township 17, Range 34.

Q Marathon would then propose to file an application for administrative approval of that form of triple?

A Yes, because there have been other triples made using the tubingless method. Since ours would then be a tubingless for those three, we would file for administrative approval.

Q Marathon also understands that it would also have to file an application for approval of a non-standard proration unit in the Pennsylvanian Pool?

A That's right.

Q Referring to Exhibit 1 in connection with Marathon's application for non-standard proration units in the North Vacuum-Abo and the Vacuum-Wolfcamp, first will you tell us what the pool rules provide for proration units in these two pools?

A Pool rules provide for 80-acre standard proration units, which will be either the North Half, South Half, West Half or East Half of a Quarter Section.

Q What do the rules provide with regard to the location of the wells?

A The regular locations are in the Southeast Quarter Quarter Section or the Northwest Quarter Quarter Section.

Q Marathon's State Warn A/c Well No. 3 has a regular



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location?

A It is a regular location.

Q And it's a non-standard 80-acre unit for what reason?

A Because we propose to unitize the Southeast Quarter of the Northwest Quarter and the Northwest Quarter of the Southwest Quarter.

Q What do you mean, unitize these two?

A That is, use these as the two 40's to make up the 80-acre proration unit for these two zones.

Q Is the 80-acre one lease?

A It is one lease. It's a separate portion of Warn State A/c 1 lease. There's no Marathon acreage contiguous to it.

Q I'm now referring to your Exhibit 1. Will you tell us what this exhibit reflects with regard to Marathon's application for non-standard unit?

A Of course, going back through the whole thing, the well circled in red is the Marathon State Warn A/c 1 No. 3. The yellow bordered sections on the map are the Marathon acreage. It shows no other contiguous acreage to the 80 acres of our State Warn lease. The contours that are shown on this map are, as are reflected in the legend, contoured on the Lower Wolfcamp main pay. This Lower Wolfcamp main pay is the correlation point as found on the type log on the left hand side of the map, which is a log of Marathon's State McAllister Well No. 5. The Lower Wolfcamp is found



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at a depth of approximately 9835 feet. This is the marker upon which these contours are drawn.

Q Mr. Scott, are you satisfied, or do you have an opinion as to the nature of the trapping in the Wolfcamp reservoir?

A In the Wolfcamp particularly, there hasn't been sufficient drilling development yet to adequately determine whether or not it is a structural trap. From the information presently at hand, it would be my inclination to believe that this is a stratigraphic trap.

Q Based upon the information available to you in the other completions in this Wolfcamp reservoir, Mr. Scott, is it your opinion that Marathon's 80 acres here could reasonably be deemed to be productive in the Wolfcamp formation?

A Yes, I believe all the 80 acres will be productive.

Q Is it your opinion that one well in this reservoir would drain 80 acres?

A Yes, it is.

Q Have you prepared, Mr. Scott, any exhibits reflecting the structure or any features of the Abo formation?

A No, no map has been prepared on the Abo; and, in fact, it's extremely difficult to prepare a map on the Abo in that it's a very difficult correlation point. The pay in the Abo is in the lower part of the Abo, as shown on the type log on the left hand side of the exhibit. The pay in the State McAllister Well No. 5



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of Marathon was in the interval roughly from 9,070 feet to 9180 feet. This is low in the Abo. We do know that in the Abo the pay varies from well to well. This again is very likely a stratigraphic trap.

Q Based upon the information available to you, is it your opinion that the structure in the Abo conforms generally to structure in the Wolfcamp?

A Generally, in that the pay is found low in the Abo and the Abo overlays directly the Wolfcamp, the Abo structure generally will conform to the Wolfcamp structure. In general, it will follow roughly the structure indicated on Exhibit 1. The individual contours of course will not be the same.

Q Is it your opinion that the entire 80 acres included in Marathon's proposed non-standard unit could reasonably be deemed to be productive in the Abo formation?

A Yes, it is.

Q Is it your opinion that one well in that formation would drain 80 acres?

A Yes, it is.

Q Have there been any other non-standard units approved in this area?

A Yes, the Phillips 87 is on a non-standard proration unit directly offsetting Marathon's acreage to the west.

Q Has that non-standard proration unit been approved by



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the New Mexico Oil Conservation Commission?

A It has been.

MR. LEACH: Mr. Examiner, I believe that's all. I believe there are in the Commission's files three waivers, one from Phillips Petroleum Company, one from Shell, and one from Mobil, I believe in effect waiving the objection to the granting of Marathon's application here.

MR. UTZ: Yes, sir, they are in the file in the form of telegrams and will be made a part of this record.

MR. LEACH: We will offer Exhibits 1 and 2 for identification in evidence, please.

MR. UTZ: Exhibits 1 and 2 will be accepted into the record in this case.

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

CROSS EXAMINATION

BY MR. UTZ:

Q This location for your No. 3 Well, I believe you stated it is a standard location in the Wolfcamp?

A It is, yes, sir.

Q How about the Abo and Glorieta?

A Yes, sir, the Glorieta is on 40's.

Q Do you have any information as to pressures, type of crude or the gas-oil ratios that you might expect?

A It would be only from the other completions that have



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been made in these wells. I do have, of course, the Scout tickets on other wells in this area, if you would like them.

Q I think they're a matter of record, I believe, in previous cases.

A Yes, I believe so.

Q You set your 13-3/8ths at 356 and the top of your cement on the 9-5/8ths was 1100 feet. What is in the open hole area between 356 and 1100, what water zones or oil producing zones?

A No, sir, no fresh water zones or oil producing zones in this area.

Q It's a dry area then?

A To my knowledge, it is.

Q I note that you are going to put centralizers, multi-joint, 100 feet above your pay zones. How about below the two upper pay zones?

A I think that's part of the -- yes, I'm pretty certain it is. I can check it a little bit farther. No, it was not part of the casing program to put them below. They would be on each joint in each of the pay zones.

Q And you would depend on the centralizers for only 100 feet above the pay zones to give you a good cement job only above the pay zones, which would protect the lower part of that upper pay?

A Well, these centralizers would hold the pipe centralized



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in the hole; and, of course, there are other features here that are put in to assure a good cement job, and particularly the cementing sleeves for squeeze-cementing the Sand Kote on the casing, our anticipation of using turbulent flow in all of the cementing.

Q You don't think that centralizers below the pay zones would assure you of the possibility of a better cement job?

A I would have to say yes, that they very likely would. Centralizers through the whole thing would, of course.

MR. UTZ: Are there any other questions of the witness?
The witness may be excused.

(Witness excused.)

MR. LEACH: We have nothing further, Mr. Examiner.

MR. UTZ: Any other statements in this case? The case will be taken under advisement.

* * *



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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 record of the said proceedings, to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 10th day of June, 1964.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:
June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3046, heard by me on *May 23*, 1964.
Thomas A. [Signature], Examiner
New Mexico Oil Conservation Commission

