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ROBERT E. FOX  
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KELLAHIN AND FOX  
ATTORNEYS AT LAW  
54½ EAST SAN FRANCISCO STREET  
POST OFFICE BOX 1769  
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315  
AREA CODE 505

December 16, 1965

*Case 3368*

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

Gentlemen:

Enclosed in triplicate is the application of Standard Oil Company of Texas, a Division of Chevron Oil Company for expansion of its water flood project in the Maljamar Pool.

It is requested that this application be set for hearing at the last examiner hearing in January.

A copy of the application has today been forwarded to the Office of the State Engineer.

Very truly yours,

KELLAHIN & FOX

*Jason W. Kellahin*  
Jason W. Kellahin

jwk/mas  
enclosures  
cc: Standard Oil Company of Texas

DOCKET MAILED

Date 12/21/65

# címa CAPITAN incorporated

(N.S.L.)

312 BOOKER BUILDING  
POST OFFICE DRAWER 1343

ARTESIA, NEW MEXICO

17 January 1966

MAIN OFFICE 000 AREA CODE 505  
TELEPHONE 748-1125

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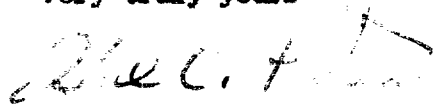
Standard Oil Company of Texas  
Box 1660  
Midland, Texas

Re: N. M. Oil Conservation  
Commission Case No. 3388,  
Expansion of Leonard Nichols  
Maljamar Project, Lea County,  
New Mexico

Gentlemen:

I have noted that the subject case is on the docket for hearing on January 28, 1966. Since we have holdings in Section 3, T17S, R32E, and you are proposing to convert producers to injectors in this section and other sections, would you please send me a copy of the proposed expansion program showing the proposed injection wells and the zones into which water will be injected?

Very truly yours



Cima Capitan, Incorporated  
Hal C. Porter  
Chief Engineer

HCP/w1

cc: N.M.O.C.C.

JASON W. KELLAHIN  
ROBERT E. FOX

KELLAHIN AND FOX  
ATTORNEYS AT LAW  
54½ EAST SAN FRANCISCO STREET  
POST OFFICE BOX 1769  
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315  
AREA CODE 505

December 16, 1965

100-33348

Mr. Frank Irby  
Office of the State Engineer  
State Capitol  
Santa Fe, New Mexico

Dear Frank:

C  
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P  
Y  
I am enclosing copy of an application for expansion of the old Leonard Nichols water flood project in the Maljamar Pool, filed on behalf of Standard Oil Company of Texas.

We have asked that this application be set for hearing at the last examiner hearing of the commission in January. Prior to that time, I will furnish you with a copy of the exhibits to be used and other information pertaining to this water flood expansion.

Very truly yours,

KELLAHIN & FOX

Jason W. Kellahin

jwk/mas  
enclosure

cc: Standard Oil Company of Texas  
Oil Conservation Commission of New Mexico

# STANDARD OIL COMPANY OF TEXAS

A DIVISION OF CHEVRON OIL COMPANY

P. O. BOX 1249 HOUSTON TEXAS 77001

December 14, 1965

*Page 3368*

United States Geological Survey  
205 North Linam  
Hobbs, New Mexico

Gentlemen:

Standard Oil Company of Texas, a Division of Chevron Oil Company, is applying to the New Mexico Oil Conservation Commission for authority to expand its waterflood in the Maljamar (Grayburg-San Andres) Pool, Sections 2, 3, 4, 8, 9, 10, 11, 14, and 15, Township 17 South, Range 32 East, Lea County, New Mexico. A copy of the application is attached together with a preliminary plat of the area.

We intend to convert to water injection the following five wells:

<u>Well</u>	<u>Unit</u>	<u>Section</u>
Standard-Sinclair Taylor No. 1	F	4
Standard-Taylor et al No. 3	H	9
Standard-Taylor H No. 2	L	10
Standard-Iles X Federal No. 8	N	10
Standard-Iles Federal No. 36	B	15

These conversions are necessary to optimize the waterflood and to protect royalty interests underlying this non-unitized project area.

Additionally, we can find no formal authority from the New Mexico Oil Conservation Commission for use of the following wells for water injection:

<u>Well</u>	<u>Unit</u>	<u>Section</u>
Standard-Iles Federal No. 32	L	3
Standard-Iles Federal No. 26	H	10
Standard-Iles Federal No. 23	J	10
Standard-Taylor E No. 3	N	11

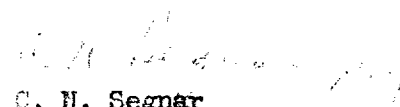
Leonard Nichols, operator of these wells at the time of their conversion, filed Forms C-103 and/or 9-331 notifying the New Mexico Oil Conservation Commission and the United States Geological Survey of their conversion,

United States Geological Survey  
December 14, 1965  
Page 2

and these forms were approved. However, these four wells are included in the application for expansion so that the wells will be authorized by formal order.

We would appreciate your approval of the proposed expansion of the Standard Oil Company of Texas Maljamar Waterflood Project.

Yours very truly,

  
C. N. Segnar  
Chief Engineer

JTC:ja

Attachments

cc: New Mexico Oil Conservation Commission ✓  
Santa Fe, New Mexico

State of New Mexico  
Oil Conservation Commission

P. O. BOX 2088  
SANTA FE

**February 9, 1966**

Re: Case No. 3368

Order No. R-3035

Applicant:


STANDARD OIL COMPANY OF TEXAS

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

Very truly yours,  
  
 A. L. PORTER, Jr.  
 Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC \_\_\_\_\_ **x**  
 Artesia OCC \_\_\_\_\_  
 Aztec OCC \_\_\_\_\_

Other \_\_\_\_\_

GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**

LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

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

P. O. BOX 2088  
SANTA FE

March 1, 1966

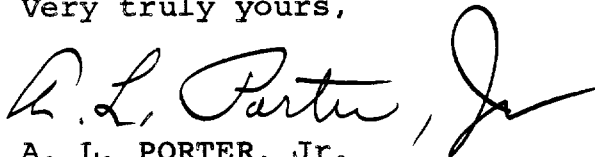
Mr. James E. Sperling  
Modrall, Seymour, Sperling, Roehl &  
Harris  
Attorneys at Law  
Post Office Box 466  
Albuquerque, New Mexico

Re: Case No. 3378  
Order No. R-3045  
Applicant:  
Socony Mobil Oil Company

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

  
A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC   x    
Artesia OCC   x    
Aztec OCC           

Other           Mr. Booker Kelly            
          Mr. Frank Irby



MAIN OFFICE 570

STATE OF NEW MEXICO FEB 15 1966

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

February 17, 1966

ADDRESS CORRESPONDENCE TO:  
STATE CAPITOL  
SANTA FE, NEW MEXICO 87501

Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
Santa Fe, New Mexico

Attn. Mr. E. A. Utz

*Case 3368*

Gentlemen:

Reference is made to the application of Standard Oil Company of Texas which was the subject of Oil Conservation Commission Case No. 3368 on January 26, 1966, and to Standard's letter dated February 4, 1966, a copy of which I have just received.

In view of the new evidence that four of the five wells had new casing installed in the last nine months and were tested to 3500 psi at that time, it would appear appropriate for me to withdraw my objection on these wells. The Sinclair Taylor No. 1 being the fifth well, is the exception.

In my opinion, no corrosive fluids should be injected through casing which has no cement behind it.

Yours truly,

FEI/ma  
cc-Standard Oil Co.  
F. H. Hennighausen

S. E. Reynolds  
State Engineer

By: *Frank E. Irby*  
Frank E. Irby, Chief  
Water Rights Division



OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

March 11, 1966

C  
Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

O  
Dear Mr. Kellahin:

Reference is made to Commission Order No. R-3035, recently entered in Case No. 3368, approving the expansion of the Standard of Texas Maljamar Waterflood Project.

P  
Y  
It is our understanding that the five newly authorized water injection wells will each be dually completed, and that water injection into the upper zone will be down the casing-tubing annulus and into the lower zone through tubing. Further, that fresh water only shall be injected through the annulus and fresh water or salt water down the tubing. Further, that in those cases where salt water is being injected, coupon tests to detect corrosion shall be conducted, and appropriate steps taken to combat said corrosion if it becomes apparent. Prior to placing the Sinclair Taylor Well No. 1 on injection, the casing and cement in said well shall be subjected to and satisfactory results obtained from a 3000 psi pressure test. Please notify the Hobbs District Office of the Commission of the date and hour said test is to be commenced.

As to allowable and in view of the fact that the subject area is being unitized, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 2646 barrels per day.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

-2-

March 11, 1966

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law

C  
O  
P  
Y  
Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area; i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/esr

cc: Mr. Frank Irby  
State Engineer Office  
Capitol Building  
Santa Fe, New Mexico

Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico



# STANDARD OIL COMPANY OF TEXAS

A DIVISION OF CHEVRON OIL COMPANY

P. O. BOX 1249 HOUSTON TEXAS 77001

FEB 7 AM 8:03

February 4, 1966

NMOCC Case No. 3368  
Maljamar Waterflood Expansion

✓ New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501  
Attention: Mr. Elvis A. Utz

Office of the State Engineer  
Capitol Building  
Santa Fe, New Mexico  
Attention: Mr. Frank Irby

Gentlemen:

In response to questions asked by Mr. Irby at the January 26 hearing on the captioned case, attached are (1) a description of the geology behind the production casing and (2) details of the cement jobs performed on all casing strings in the five wells for which injection authority is sought.

It was my impression at the hearing that an order authorizing this expansion might contain restrictions, including the provision that the casing be tested prior to annular injection. The figure 3000 psi was mentioned as a test pressure. I have learned after discussions with our field engineers that this procedure would cause considerable inconvenience because the type of packer we intend to use in these wells (Halliburton R-3 Packer, in Tension) is not designed for differential pressures of this magnitude from above the packer. This hardship seems unnecessary when it is considered that casing in four of the five wells was installed new within the last nine months and was tested just prior to fracture treatment at pressures in excess of 3500 psi (see attached cementing details). Casing in the fifth well, the Sinclair Taylor No. 1 (drilled by Santiago Oil and Gas Company) was tested to 2000 psi on completion on May 1, 1960, and was almost surely tested to a higher pressure during fracture treatment on May 2, 1960.

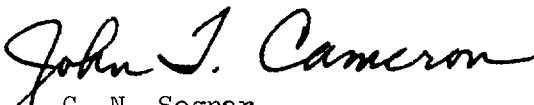
It should be noted that neither the order originally authorizing this project (R-1538) nor the orders authorizing its expansion (R-2777, WFX-150, and WFX-172) contained any provision requiring the operator to conduct casing tests prior to injection. Since the injection program proposed by Leonard Nichols and operated by him for several years before Standard

New Mexico Oil Conservation Commission  
Office of the State Engineer  
February 4, 1966  
Page 2

acquired the property was identical to that proposed in these five wells, it would seem less than fair to attach more stringent requirements to any order sought by Standard of Texas. We would have no objection whatever to a provision similar to that in Administrative Order WFX No. 150 prohibiting the injection of salt water down the annulus.

Therefore, Standard requests the Commission to issue an order authorizing the expansion without restrictions as to casing test. As an alternative, it is urged that Standard be required to test to 3000 psi only the casing in the Sinclair-Taylor No. 1 well, the other four wells having so recently been tested to 3500 psi or more.

Yours very truly,

  
for C. N. Segnar  
Chief Engineer

JTC:ja

Attachments

cc: Mr. Jason W. Kellahin

MALJAMAR (GRAYBURG-SAN ANDRES)

Typical Section Between Surface Casing (Approximately 300 Feet) and Grayburg (Approximately 3700 Feet):

300' to 950'	Typical Evaporite Red Beds (i.e., sandy red shales, shaly red sands, dolomite stringers, occasional anhydrite beds)
950' to 1100'	Massive anhydrite
1100' to 2400'	Salt with thin red shale and anhydrite streaks
2400' to 3700'	Anhydrite with thin red shale and occasional dolomite streaks

Nature of Formation in which Surface Casing is Landed:

Surface casing is landed in four of the five wells in the red bed section. This formation seems to be a very good casing seat, although logs are not completely diagnostic at this shallow depth. Holes have all been to gauge through the interval (no more than one inch of washout in any well) and there is no indication of any significant porosity zones in the interval. Surface casing in the fifth well (Taylor H No. 2) is landed at 1023' in the anhydrite section which, of course, is a perfect casing point.

CEMENTING DETAILS  
MALJAMAR (GRAYBURG-SAN ANDRES)

Sinclair Taylor No. 1

8-5/8" @ 307' with 250 sacks Class A cement with 2% CaCl.  
Circulated to surface. Tested to 1500 psi.

5-1/2" @ 4193' with 300 sacks Class A cement with 1% Pozmix  
and 2% gel. Calculated top cement 3003'. Tested to  
2000 psi 5-1-60.

Taylor et al No. 3

8-5/8" @ 305' with 200 sacks Class A cement with 2% CaCl.  
Circulated 80 sacks to surface. Tested to 1000 psi  
7-7-65.

4-1/2" @ 4200' with 450 sacks 50-50 Incor Pozmix with 4% gel,  
2% CaCl, 18% Salt, followed by 100 sacks Incor neat  
cement (Class C). Tested to 1500 psi 7-16-65. Tested  
above packer prior to frac treatment on 7-19-65 to  
4000 psi.

Taylor H No. 2

8-5/8" @ 1023' with 500 sacks 50-50 Incor Pozmix with 4% gel.  
Circulated 200 sacks to surface. Tested to 700 psi 4-16-65.

4-1/2" @ 4237' with 1350 sacks 50-50 Incor Pozmix with 2% gel  
and 1% D-30 (turbulence inducer, in first 560 sacks only).  
Circulated 160 sacks to surface. Tested to 1500 psi  
5-1-65. Tested prior to frac treatment on 5-5-65 to  
3500 psi.

Iles X Federal No. 8

8-5/8" @ 304' with 200 sacks Class A with 2% CaCl. Circulated to  
surface. Tested to 1000 psi 6-6-65.

4-1/2" @ 4184' with 450 sacks 50-50 Incor Pozmix with 4% gel, 0.1%  
D-45 (fraction reducer), 2% CaCl, saturated salt slurry  
followed by 100 sacks Incor neat cement. Tested to 1000 psi  
6-15-65. Tested prior to frac treatment on 6-18-65 to  
4500 psi.

Iles Federal No. 36

8-5/8" @ 309' with 200 sacks Class A 2% CaCl. Circulated 80 sacks to surface. Tested to 1000 psi 5-26-65.

4-1/2" @ 4200' with 650 sacks 50-50 Incor-Pozmix with 2% gel, 18% salt and 0.75% CFR-2 (friction reducer). Tested to 700 psi 6-4-65. Tested prior to frac treatment on 6-9-65 to 4400 psi.

Case 3365

Case -

Earnest McCants  
Standard Oil Co of Texas  
Ames, Texas

915 HI 34621

Baran Creek Houston





IN REPLY REFER TO:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

P. O. Box 1157  
Hobbs, New Mexico 88240

January 3, 1966

Standard Oil Company of Texas  
P. O. Box 1249  
Houston, Texas 77001

Attention: Mr. C. N. Segnar

Your letter of December 14 requests approval to expand the co-operative waterflood of the Grayburg formation, Maljamar Pool, approved by our letters of December 17, 1963, and December 9, 1964. The project area includes all or portions of sec. 3, 4, 9, 10, and 15, T. 17 S., R. 32 E., Lea County, New Mexico. Federal leases involved are Las Cruces 059576 and 064150 and New Mexico 09015 and 0315712.

The plan you propose for expansion of the Maljamar Waterflood Project is satisfactory to this office.

Appropriate notices to convert existing wells to water injection should be submitted for approval prior to commencing the work.

Sincerely yours,

  
Arthur R. Brown  
District Engineer

2 COPIES SRB 1/11/66

RECEIVED

JAN 6 - 1966

HOUSTON

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	6
CASE NO.	3368