

60-1000 #2
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STANDARD OIL COMPANY OF TEXAS

Midland, Texas
January 3, 1947

SCARP STRUCTURE Chaves & Otero Counties

MR. J. P. FOX:

Enclosed are three copies of a surface structure map of the Scarp structure located in Chaves and Otero Counties, New Mexico, together with an accompanying geological report by H. N. Frenzel and Walter Stachely and a transmitting letter by W. C. Warren.

The surface geology of the area was mapped by Frenzel and Stachely under the direction of Warren. The west side of the structure along the fault scarp was mapped by planetable and alidade and the gently sloping east flank was mapped on aerial photos using Paulin altimeter readings for elevation control. Structure contours were drawn to a datum on the top of the Glorieta formation.

The Scarp structure is a large faulted anticlinal structure along the west edge of the northern Guadalupe Mountains. The east flank dips very gently eastward into the Permian Basin. A series of normal faults together with associated steep west dip form the short west flank of the structure. The crest of the structure at a datum of 5873' on the Glorieta lies in the southwest quarter of Sec. 21, T. 21S, R. 18E. The structure plunges southeastward approximately 375' into a saddle in the northwest part of T. 22S, R. 19E, but structural plunge is resumed farther southeast. Critical closure lies to the north and total effective structural closure on the Glorieta amounts to about 475' and encloses an area of at least 75 square miles. A total of 58 square miles are enclosed by the 5500' contour on the Glorieta within the top 375' of closure. The San Andres formation of Permian age is present on the surface over the crest and east flank of the structure. On the scarp forming the west flank the San Andres is underlain by Glorieta sandstone and the Yezo formation.

As recommended by Warren, Frenzel and Stachely, the large size of the Scarp structure, both in area and structural relief, and the expectation of a favorable underlying pre-Permian section based on the Magnolia Black Hills Unit #1 well amply justify a test of this feature. The location recommended for the test is 1600' south of the north line and 200' west of the east line of Sec. 18, T. 21S, R. 18E. This location is about two miles northwest of the Glorieta crest to allow for the northward thinning of the interval between the Glorieta and the upper portion of the Yezo. The well will start in Yezo beds about 450' below the top of the Glorieta and will thus avoid the difficult drilling of the cavernous San Andres beds which overlie the higher topographic portions of the structure.

RECEIVED
OCT 1 1951

September 25, 1951

Standard Oil Company of Texas
P. O. Box 1249
Houston 1, Texas

Re: Scarp Unit Agreement

Attention: H. H. Easter, Land Lease Division.

Dear Sir:

I have examined your revised application for extension of the Scarp Unit Agreement, and subject to the approval of the United States Geological Survey being had and obtained, I am pleased to advise that I approve your Application for Extension of said Unit Agreement to December 31, 1952, and the same being subject to your agreement to commence a second test well upon some part of the area prior to the extension date aforesaid.

Very truly yours,

Guy Shepard
Guy Shepard,
Commissioner of Public Lands.

GG/veh

cc: Standard Oil Co.
Foster Morrell
R. E. Spurrier
Unit Agreement File

Mr. J. P. Fox
January 3, 1947
Page 2.

A depth of 6500' should be sufficient to reach the basement rock and to test possible objectives in marine Wolfcamp, Pennsylvanian, Mississippian, Silurian, and Ellenburger formations.

~~EU-10113~~

EB/im
3 Encls.



Case 99

January 6, 1953

Mr. Clarence M. Dinkle
Survey, and Dinkle
Clarence M. Dinkle
Asphalt, and Dinkle

Re: Certificate of dissolution
Lease Unit Area, Chavez and
Otero Counties, New Mexico

Dear Mr. Dinkle:

Reference is made to application submitted on October 2, 1952 by the Standard Oil Company of Texas requesting Dissolution of the above mentioned Unit Agreement. Our records reveal that all copies of the Unit Agreement were signed by the Commissioner of Public Lands and returned for approval by the Director of the United States Geological Survey. It was further requested that an executed copy be returned to our office so that we could make the necessary changes in our lease and tract books. Please send us the approved copy at your earliest convenience.

Yours very truly,

W. S. Smith, Commissioner
of Public Lands

cc: G. S. Smith, Survey
Standard Oil Company of Texas, Houston, Texas
Oil Conservation Commission

ILLEGIBLE

cc

September 13, 1950

Standard Oil Company of Texas
P. O. Box 1249
Houston 1, Texas

Attention of Mr. H. H. Kuester

Re: I Sec. No. 816
Scarp Unit Agreement

Gentlemen:

I have carefully examined your application for an extension of time of eighteen months (until March 29, 1953) within which time:

- (1) to commence a second test well on the Scarp Unit Area and
- (2) and a like extension of the term of said Scarp Unit Agreement.

Because of the wildcat nature of the area I have concluded that the best interests of the State of New Mexico would be served by such requested extensions under the appropriate provision of the original agreement. Therefore, subject to the following conditions, I approve your application for extension of time within which the second well shall be commenced, through the same date.

This approval is entirely conditioned upon approval of this application for extension being had from the proper officials of the Department of Interior whose lands by and large are the most affected.

ILLEGIBLE

Very truly yours,

GUY SHEPARD

Commissioner of Public Lands

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STATE LAND OFFICE
STATE OF NEW MEXICO
SANTA FE, NEW MEXICO

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

RECEIVED
OCT 10 1948

October 8, 1948

Standard Oil Company of Texas
Post Office Box 1249
Houston 1, Texas

I - SEC 516
SCARP UNIT AGREEMENT
Chaves & Otero Counties
New Mexico

Gentlemen:

After carefully examining the application of Standard Oil Company of Texas for an extension of time within which to comply with the drilling requirements of the Scarp Unit Agreement in Chaves and Otero Counties, New Mexico, and the information contained in such application, and having concluded that the best interest of the State of New Mexico would be served by such further extension, I, therefore, approve said application for the extension of said Scarp Unit Agreement for a period of one year from the date of said application, September 29, 1948, to September 29, 1949.

My approval of said application is conditioned however upon similar action being taken in the premises by the proper officials of the United States Department of Interior.

Very truly yours,

John E. Mills
JOHN E. MILLS
Commissioner of Public Lands
of the State of New Mexico

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STANDARD OIL COMPANY OF TEXAS

P O Box 1249

HOUSTON 1, TEXAS

October 10, 1947

SCARP UNIT AGREEMENT
Chaves and Otero Counties,
New Mexico.

Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

Gentlemen:

We enclose herewith for filing a counterpart of the above Unit Agreement which has been approved by the Department of the Interior. This counterpart is incomplete only with respect to a counterpart executed by Nay Hightower; however, a counterpart of the Unit Agreement executed by Nay Hightower is also enclosed herewith for your record.

Also enclosed is a copy of letter dated September 30, 1947, from Mr. H. J. Duncan of the Geological Survey, which explains why the enclosed counterpart approved by the Department of the Interior does not contain the Nay Hightower counterpart.

Yours very truly,

H. H. Kuester

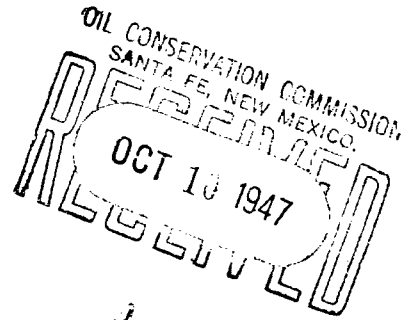
H. H. Kuester, Manager,
Land and Lease Division

VS:mnw

Encls.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 997
Roswell, New Mexico
October 8, 1947



Mr. R. R. Spurrier
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Subject: Lease Las Cruces 032828

Dear Mr. Spurrier:

In accordance with our agreement to furnish each office with copies of notices and records covering drilling operations on federal and state-owned or patented lands embraced in unit agreements approved by both Federal and State officials, I am enclosing for your files a copy of Notice of Intention to Drill, submitted by Standard Oil Company of Texas, for well No. 1 Blaize, approved by M. H. Soyster, District Engineer, on July 25, 1947. The well is located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 18, T. 21 S., R. 18 E., Otero County, New Mexico on federal oil and gas lease Las Cruces 062828.

On September 10, 1947 the Assistant Secretary of the Interior, C. Girard Davidson, approved the unit agreement for the Scarp area, designated I-Sec. No. 516 for lands including the above lease and well location. Remaining reports on this well will be forwarded to you as received.

Very truly yours,

A handwritten signature in cursive script that reads "Foster Morrell".

FOSTER MORRELL,
Supervisor, Oil and Gas Operations.

Enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 997
Roswell, New Mexico
July 25, 1947

Standard Oil Company of Texas
P. O. Box 1219
Houston, Texas

Las Cruces 062323

Gentlemen:

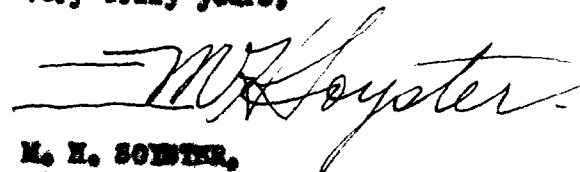
(SCARP UNIT AREA)

Receipt is acknowledged of your Notice of Intention to Drill dated July 23, 1947, covering your No. 1 Gabriel Y. Elaine, Jr., well on subject land in the NE 1/4 sec. 18, T. 21 S., R. 18 E., N.M.P.M., wildest area, Otero County, New Mexico.

The proposed work as outlined by this Notice is approved subject to compliance with the provisions of the "Oil and Gas Operating Regulations" revised May 25, 1942, a copy of which will be sent you upon request, and also subject to the following conditions:

- (1) Drilling operations so authorized are subject to the general conditions set forth on the attached sheet.
- (2) Please furnish this office with copies of the electrical log, sample log, or any other surveys that may be run in the well.

Very truly yours,



M. E. SOWTER,
District Engineer.



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PLEASE READ BEFORE STARTING OPERATIONS

Because suspension of field operations will be required by the District Engineer for failure to comply with the Operating Regulations and the conditions of drilling approval, particular attention is called to these general and special requirements most likely to be overlooked by the operator:

GENERAL

1. All drilling and producing wells shall be permanently marked in a conspicuous place with the name of operator, lease name, well number, and location. Necessary precautions must be taken to preserve such signs.
2. Any desired change of drilling plan or conditions of approval must have the written approval of the District Engineer BEFORE the change is made.
3. Unless otherwise specified in the approval to drill, the production string of casing must be set at the top of the pay zone, and completion shall be made with a reasonable gas-oil ratio.
4. Before work is started written approval must be obtained and after work is completed results must be reported to the U. S. Geological Survey by submitting complete information in triplicate on form 9-331a, covering:
 - a. Mudding or cementing, including proposed date and method of testing water shut-off.
 - b. Drill-stem tests or perforating.
 - c. Casing alterations, packer settings, or repairs of any kind.
 - d. Shooting, acid treatment, deepening or plugging back.
 - e. Gas-lift installations.
 - f. Drilling of water wells.
5. Monthly report of operations in duplicate, on form 9-329, must be submitted promptly each month beginning with spudding of the first well on a lease and continuing until approved abandonment of all drilling and producing operations.
6. Log, in triplicate, on form 9-330, must be submitted within 10 days of reaching temporary or permanent drilling depth. Copies of all electrical logs, cutting logs, drilling-time logs, and any other well information not given on the standard form, should be attached to same.
7. Separate application to drill any water well on federal land is required, and special procedure is necessary for abandonment of any well having a desirable water supply.
8. All wells and lease premises shall be maintained in first class condition with due regard to safety, conservation, appearance, and refuse disposal.
9. The notice of intention to drill any well is rescinded without further notice if drilling is not started within 90 days of approval.
10. Cement must be allowed to set a minimum of 72 hours on all strings of casing prior to drilling the plug.

SPECIAL (none, if so indicated.)

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Law Offices
Long, St. Lewis & Nyce
National Press Bldg.
Washington, D. C.

UNITED STATES DEPARTMENT OF THE
INTERIOR
GEOLOGICAL SURVEY
Washington 25, D. C.

SEP 30 1947

Long, St. Lewis, and Nyce, Esqs.,
National Press Building
Washington 4, D. C.

Gentlemen:

On September 10, 1947, Assistant Secretary of the Interior C. Girard Davidson approved the unit agreement for the Scarp Area, Chaves and Otero Counties, New Mexico, filed by you in behalf of the Standard Oil Company of Texas, unit operator thereunder. The agreement is effective as of date of approval and has been designated I-Sec. No. 516.

Four sets of approved counterparts thereof are enclosed, to one of which has been attached a counterpart filed in this office September 29, 1947, signed by Nay and Emma Hightower. An insufficient number of the Hightower counterpart were filed to permit its attachment to the other three sets of approved counterparts herewith. One complete counterpart of this agreement should be delivered to the State of New Mexico for its record.

Yours very truly,

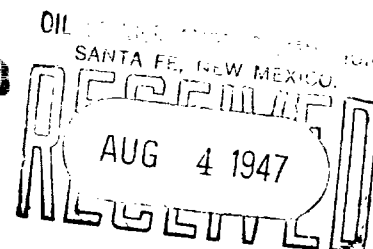
(Sgd) H. J. Duncan

H. J. Duncan,
For the Director.

Enclosure 423.

STANDARD OIL COMPANY OF TEXAS

P. O. Box 1660
Midland, Texas
July 31, 1947



New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Attention: Mr. R. R. Spurrier, State Geologist

Gentlemen:

We hand you herewith in triplicate our Notice of Intention to Drill Standard Oil Company of Texas Gabriel Y. Blaize, Jr. No. 1 Well in the NE/4 SE/4, Section 18, Township 21 South, Range 18 East, Otero County, New Mexico. We also hand you herewith certified plats showing the location of this well with reference to section lines.

This well is to be drilled on Federal Permit No. Las Cruces 062828, and our Notice of Intention to Drill has been conditionally approved by the U. S. Geological Survey on July 25, subject to a justification in writing for the well being drilled a distance of only 120' from the East line of Section 18, also subject to the submission to it of four copies of a certified plat of the location. These conditions are being complied with by letter today.

We submit to you the following as justification for making the location of Standard Oil Company of Texas Blaize No. 1 Well at a point 120' west of the East line and 2360' north of the South line of Section 18, Township 21 South, Range 18 East, Otero County, New Mexico:

Aside from the primary consideration of locating this test on top of the structure, two other factors must be taken into account - topography and faulting.

The Scarp structure lies along the crest of a high scarp with steep west slope and gentle east slope. The gentle east slope offers more opportunity to make the location of the test conform to the land lines, but a test on top of the scarp would start 1500' higher stratigraphically than the proposed location near the foot of the scarp and would have to penetrate nearly 1000' of cavernous limestone (San Andres formation) which has been eroded from the proposed location. Water would

New Mexico Oil Conservation Commission
July 31, 1947 Page 2

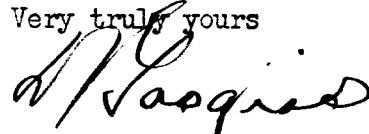
also be more of a problem on top the scarp.

The Scarp structure has a major fault along its west side with a vertical displacement of approximately 1300' down thrown to the west. Outcrops along the fault indicate that the plane of the fault is probably nearly vertical with steep dip to the west, but in spite of these indications it is entirely possible that the fault is a reverse fault with its plane dipping steeply to the east. Consequently, it is necessary to make the location a safe distance east of this major fault, as well as a minor fault that branches off the major fault in the vicinity of the location.

The location for the test of the structure has been made at the foot of the scarp to avoid drilling through the cavernous San Andres limestone which would be necessary at any location on top of the scarp. It has been placed as far east as rough topography permits in order to avoid the danger of crossing the major fault or any associated fault at depth. The selected location is only 1600' east of the major fault and about 800' east of a minor fault. No other location to the north or south can be made as far east of the fault on topography as suitable for building a road and levelling a well site. Locally, the location chosen can be levelled off more easily than any other spot within 300 yards.

In the event it is necessary that a special hearing be called to further justify the location which we propose, we request that such a hearing be called at your earliest convenience.

Very truly yours



D. S. Googins
Div. Petroleum Engr.
Western Division

DSG/pb

cc - Mr. Glenn Staley, Chairman
Lea County Operators Committee

CERTIFICATE OF APPROVAL BY COMMISSIONER OF
PUBLIC LANDS, STATE OF NEW MEXICO, OF UNIT
AGREEMENT FOR DEVELOPMENT AND OPERATION OF
SCARP UNIT AREA, CHAVES AND OTERO COUNTIES,
NEW MEXICO

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, an agreement for the development and operation of the Scarp Unit Area, Chaves and Otero Counties, New Mexico, dated April 28, 1947, in which the Standard Oil Company of Texas is designated as Operator and which has been executed by various parties owning and holding oil and gas leases embracing lands within the unit area and upon examination of said agreement the Commissioner finds:

a. That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said field;

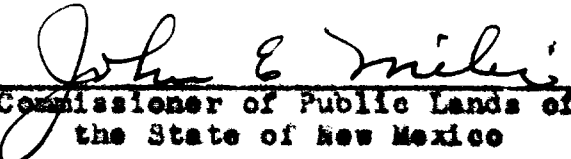
b. That under the operations proposed, the State will receive its fair share of the recoverable oil or gas in place under its lands in the area affected;

c. That the agreement is in other respects for the best interest of the State;

d. That the agreement provides for the unit operation of the field, for the allocation of production, and the sharing of proceeds from a part of the area covered by the agreement on an acreage basis as specified in the agreement;

NOW, THEREFORE, by virtue of the authority conferred upon me by Chapter 88 of the Laws of the State of New Mexico, 1943, approved April 14, 1943, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said agreement, as to the lands of the State of New Mexico included in said Scarp Unit Agreement, and subject to all the provisions of the aforesaid Chapter 88 of the Laws of the State of New Mexico, 1943.

Executed this 23 day of May, 1947.



Commissioner of Public Lands of
the State of New Mexico

J. M. HERVEY
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.

GEORGE H. HUNKER, JR.

BY

I am, dear Mr. Garrison,
 sincerely yours &c.
 Wm. Lloyd Garrison

STATE OF NEW MEXICO
OFFICE OF STATE GEOLOGIST
SANTA FE, NEW MEXICO

May 6, 1947

Alamogordo News
Alamogordo, New Mexico

Roswell News Dispatch
Roswell, New Mexico

Santa Fe New Mexican
Santa Fe, New Mexico

Gentlemen:

RE: Notice of Publication - Case No. 99

Please publish the enclosed notice once, immediately.
Please proof read the notice carefully and send a copy
of the paper carrying such notice.

UPON COMPLETION OF THE PUBLICATION, PLEASE SEND PUBLISHER'S
AFFIDAVIT.

For payment please submit statement in duplicate, accompanied
by voucher executed in duplicate. The necessary blanks are
enclosed.

Very truly yours,

RRS:bsp

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STATE OF NEW MEXICO
OFFICE OF STATE GEOLOGIST
SANTA FE, NEW MEXICO

May 6, 1947

Honorable Clarence Hinkle
Harvey, Dow & Hinkle
Roswell, New Mexico

RE: Case 99 - Notice of Publication

Dear Clarence:

Enclosed is notice of publication in Case 99.

Very truly yours,

RRS:bsp

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STATE OF NEW MEXICO
OFFICE OF STATE GEOLOGIST
SANTA FE, NEW MEXICO

May 6, 1947

Mr. Glenn Staley
Proration Office
Hobbs, New Mexico

RE: Case 99 - Notice of Publication

Dear Glenn:

Enclosed is notice of publication in Case 99.

Very truly yours,

RRS:bsp

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