

Case No.

1761

Application, Transcript,
Small Exhibits, Etc.

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

April 6, 1964

C Watson & Watson
P.O. Drawer B
Artesia, New Mexico

Attention: Mr. Fred A. Watson

Gentlemen:

C Reference is made to your letter of March 20, 1964, wherein you request certain amendments to certain orders issued by this Commission relating to the waterflood project formerly operated by Stanton Oil Company in the Turkey Track Pool, Eddy County, New Mexico, and presently being operated by R. C. Davoust Company.

P Y It is our understanding that the original order for this flood, Order No. R-1524, authorized water injection into Wells Nos. 1-W, 2-W, 3-W, and 4-W through tubing and under a packer; that Administrative Order WFX-96 authorized water injection into Wells Nos. 5-W and 6-W down the casing after setting surface casing into the salt and cementing to the surface and setting the long string to the Queen formation and cementing back to 1500 feet; that Administrative Order WFX-166 authorized water injection into Wells Nos. 7-W and 8-W in a manner similar to that authorized for Nos. 1-W through 4-W; and that Commission Order No. R-2671 authorized water injection into Wells Nos. 9-W through 19-W in a manner similar to that authorized for Nos. 5-W and 6-W. It is our further understanding that you now seek authority to equip the wells authorized by Orders Nos. R-1524 and WFX-166 in the same manner as those authorized by Orders Nos. R-2671 and WFX-96, that is, inject water down the casing after setting surface pipe into the salt with cement circulated and setting the long string into the Queen and bringing the cement back to 1500 feet.

Inasmuch as this method of completion was explored at the hearing of Case No. 3010, and found to be satisfactory for this area, R. C. Davoust is hereby authorized to equip all injection wells in the Turkey Track Waterflood Project in this manner. The surface and long strings must be cased and cemented in accordance with the above, however, and this authority shall not apply to any of the original injection wells which were not so completed.

Very truly yours,

A. L. Porter, Jr.
Secretary-Director

ALP:DSN:ag

cc: H. L. Armstrong - Oil Conservation Commission - Hobbs
Frank Irby, State Engineer Office - Santa Fe
Case File 3010 - WFX File 96 - WFX File 166 - Case File 1761

OIL CONSERVATION COMMISSION

P. O. BOX 871
SANTA FE, NEW MEXICO

November 30, 1959

C
O
P
Y

Wood & McShane
405 South Allen
Monahans, Texas

Gentlemen:

Reference is made to Commission Order No. R-1524, entered November 12, 1959, in Case No. 1761, approving the Stanton-Turkey Track Water Flood Project.

According to our calculations, 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 364 barrels per day.

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

DSN:lg
cc: OCC - Hobbs
OCC - Artesia

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. 1761
Order No. R-1524

APPLICATION OF STANTON OIL
COMPANY, LTD., FOR AN ORDER
AUTHORIZING A PILOT WATER FLOOD
PROJECT IN THE TURKEY TRACK
POOL, EDDY COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 12th day of November, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced and the recommendations of the Examiner, Daniel S. Nutter, and being fully advised in the premises,

FINDS:

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

(2) That the applicant proposes to institute a pilot water flood project in the Turkey Track Pool with initial injection of water into the Queen formation in said Turkey Track Pool through the following-described wells at unorthodox locations in Section 34, Township 18 South, Range 29 East, NMPM, Eddy County, New Mexico.

Well No. 1-W, located 1320 feet from the North line and 1320 feet from the West line of Section 34;

Well No. 2-W, located 1320 feet from the North line and 2640 feet from the West line of Section 34;

Well No. 3-W, located 2640 feet from the North line and 1320 feet from the West line of Section 34;

Well No. 4-W, located 2640 feet from the North line and 2640 feet from the West line of Section 34.

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Case No. 1761
Order No. R-1524

(3) That in order to avoid locating injection wells on quarter-quarter section lines, the location of each of the four proposed injection wells should be moved five feet to the East and five feet to the North.

(4) That the producing wells in the area to be water flooded are substantially depleted.

(5) That the operation of the proposed pilot water flood project should be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to institute a pilot water flood project in the Turkey Track Pool and to inject water into the Queen formation in said Turkey Track Pool through the following-described wells at unorthodox locations in Section 34, Township 18 South, Range 29 East, NMPM, Eddy County, New Mexico:

Well No. 1-W, located 1315 feet from the North line and 1325 feet from the West line of Section 34;

Well No. 2-W, located 1315 feet from the North line and 2645 feet from the West line of Section 34;

Well No. 3-W, located 2635 feet from the North line and 1325 feet from the West line of Section 34;

Well No. 4-W, located 2635 feet from the North line and 2645 feet from the West line of Section 34.

(2) That the operation of the pilot water flood herein authorized shall be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

(3) That monthly progress reports on the water flood project herein authorized shall be submitted to the Commission in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

-3-

Case No. 1761
Order No. R-1524

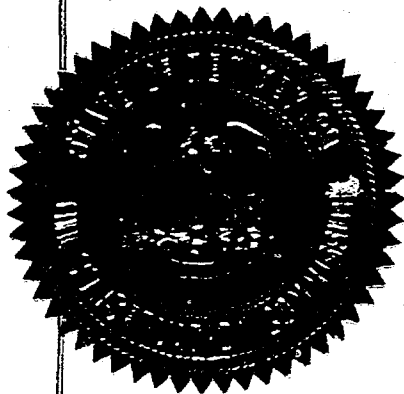
DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John T. Burroughs
JOHN BURROUGHS, Chairman

Murray E. Morgan
MURRAY E. MORGAN, Member

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



ven/

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

November 12, 1959

Mr. M. W. Hamilton
116 E. Palace Avenue
Santa Fe, New Mexico

Dear Mr. Hamilton:

On behalf of your client, Stanton Oil Company, Ltd.,
we enclose two copies of Order No. R-1524 in Case 1761,
issued by the Oil Conservation Commission this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)

*Copies to
Artesia CCC
& Hobbs CCC*

C
O
P
Y

Olen F. Featherstone

OIL PRODUCER
ROSWELL PETROLEUM BUILDING
ROSWELL, NEW MEXICO

October 6, 1959



Director,
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Re: NM 010907-A, Proposed Pilot Flood
Turkey Track Field

Dear Sir:

We have an overriding royalty interest in the W/2 of the NE/4 of Section 34, Township 18 South, Range 29 East, Eddy County, which tract is involved in the Pilot Flood proposed by Stanton Oil Company and Robert E. McKee. We have reviewed their plans for water injection wells to be located at the following locations:

- | | | | |
|-----|-----|--|----------------------------|
| (4) | (1) | Approx. 2640 feet from the north and west lines of Section 34 | 2635' FNL ✓
2635' FEL ✓ |
| (2) | (2) | Approx. 1320 feet from the north line and approx. 2640 feet from the west line of Section 34 | 1315' FNL ✓
2635' FEL ✓ |
| (3) | (3) | Approx. 2640 feet from the north line and approx. 1320 feet from the west line of Section 34 | 2635' FNL ✓
1325' FNL ✓ |
| (1) | (4) | Approx. 1320 feet from the north and west lines of Section 34 | 1315' FNL ✓
1325' FNL ✓ |

This plan has our approval.

Very truly yours,

OLEN F. FEATHERSTONE

By: H. N. Sweeney

H. N. Sweeney

HNS:ck

MAIN OFFICE OCC
APPLICATION FOR PILOT FLOOD

1939 OCT 13 AM 8:43

Case Number 1761, New Mexico Oil Conservation Commission

Application of Stanton Oil Company, Ltd. for an order
Authorizing a Pilot Waterflood Project in the Turkey Tract
Queen Sand Pool, Eddy County, New Mexico.

1. The present owner, Robert E. McKee, general contractor,
has agreed to a change of ownership of the subject leases
in favor of Stanton Oil Company, Ltd. for development of
a secondary recovery waterflood project. A letter from
Robert E. McKee acknowledging this agreement is submitted
in evidence.
2. The location of subject leases is shown on the attached
plat which is offered in evidence along with a tabulated
description of each present oil well and lease location.
3. The proposed pilot flood area includes 151 acres in
Section 34, T-18-S, R-29-E, and will contain 4 injection
wells on unorthodox locations and could be expected to show
increased production rates in two totally enclosed wells and
six partially enclosed wells. The attached plat shows the
proposed injection wells colored green, the producing wells
expected to show results circled in brown, the totally enclosed
pilot flood area colored in yellow, and the partially enclosed

pilot flood area colored in orange.

4. The expanded waterflood project would include 720 acres, or 18 forty acre drilling units and would contain 27 water injection wells and 20 producing wells.

5. Applicant proposes to flood the Queen Sand (Red Sand), Guadalupe Series, Permian Age found at an average depth in the Turkey Track Field area of 2080 feet. The reservoir is a porosity development in a Terrace Type Structure and produces by a gas drive mechanism. The original bottom hole pressure is unknown. There are no offset operators producing from the proposed waterflood reservoir, and it is our contention, therefore, that no adverse results will occur to other operators, due to the proposed flood program.

6. The proposed pilot waterflood area will enclose 40 acres and should effect an additional 111 acres. The reservoir is estimated to have an average gross pay thickness of 21 feet. Based on core analysis data from the Wilson # 5 well, located in the totally enclosed portion of the flood area, the net pay thickness is calculated to be 54% of the gross pay thickness, or 11.3 feet. The net pay average porosity is 19.5%, the average horizontal permeability is 103 millidarcys, the average residual oil saturation is 19% of pore space, the estimated

average connate water saturation is 35% of pore space, and the oil gravity is 34° A.P.I.

7. The first well on the subject lease was the Spencer No. 1, 3-19-28 completed March 8, 1944. The discovery well is reported to have been completed in 1943. According to the New Mexico Oil Conservation Commission reports the subject combined leases have produced from the existing 19 wells a total of 263,000 barrels of oil to August 1, 1959. The production rate during July, 1959 was 2,762 barrels of oil, or 145 barrels per well per month. The production is declining at the rate of 4% per month during the first seven months of 1959, and the continued decline at this rate would result in an average production of 90 barrels per well per month by June, 1960. These leases are therefore in the stripper production stage as they would be producing less than 9% of the unit top allowable. The gas production from the lease at this time is sufficient only for lease operation and the water production rate amounts to less than 2% of the oil produced.

8. The source of proposed injection water is a red bed zone, in the Rustler formation which is found at a depth of 230 feet. At the present time two water supply wells have been drilled and completed in this zone and tests indicate that an adequate

supply of water will be available. If additional water should be required during the expansion of the waterflood project, several more wells will be completed. A chemical analysis of water sampled from this zone is submitted in evidence. Based on information taken from "Study and Interpretation of Natural Water", Geological Survey, Water Supply Paper 1473, U. S. Public Health Service (1946), this water is not suitable for human or stock consumption, nor is it suitable for irrigation purposes. The water is brackish and contains substantial quantities of sulfates.

9. The injection system will be closed and a minimum of treatment will be used as required to maintain control of chemical deposition, corrosion, bacteria and algae. The injection well pattern will require the unorthodox location of a well at or near each corner of the drilling units containing oil wells. In this manner the pattern will be a forty-acre five spot where the drilling unit contains one producer. It will provide for equity in the movement of secondary oil in that each lease will be producing oil swept from within its own boundaries, thereby the royalty and other interest holders rights are adequately protected. This spacing will also provide the maximum recovery of secondary reserves by effective sweeping the largest number

of acres with the most efficient pattern. Therefore, the instigation of this pattern will promote conservation and prevent the waste of natural resources. The initial injection pressure is expected to be 600 psi which should allow the injection rates to be 250 barrels per day per well. The initial injection will be into the four wells drilled for that purpose, and all present producing wells will remain active producers. There will be no new producing wells drilled in the pilot flood area. The flood will be maintained in balance by the use of equal maximum well head pressures which will be regulated and maintained below the formation break down pressure.

10. For the 40 acres pilot flood area, it is estimated that the residual oil saturation, at abandonment will be 19% ~~at of~~ pore space. It is estimated that the original oil in place for this 40 acre area was 271,200 barrels. It is further estimated that the ultimate additional oil that will be recovered as a direct result of this secondary recovery project will be 127,000 barrels from the 40 acre pilot area.

SUMMARY

- A. Robert E. McKee as present owner and operator has entered into an agreement with Stanton Oil Company, Ltd. whereby Stanton Oil Company, Ltd. is to instigate a waterflood project on his leases.
- B. The subject area is shown on the plat which has been submitted.
- C. The unorthodox locations of the four water injection wells will protect the interest of offset owners, and will certainly not result in adverse effects to any other party.
- D. The present production from the leases is in the stripper stage of production and is rapidly approaching the economic limit. A waterflood project is definitely necessary and will serve a useful purpose.
- E. A secondary recovery program will promote conservation and prevent the waste of oil that would otherwise not be produced.
- F. The commission is respectfully requested to grant this application for a pilot waterflood as it is certainly in the best interest of conservation.

WOOD & McSHANE

Petroleum Consultants

Engineering--Operation--Management

B. OLIVER WOOD
J. B. McSHANE, JR.

405 SOUTH ALLEN
MONAHANS, TEXAS

PHONE WI 3-3092
BOX 398

21 October 1959

Mr. Frank Irby, Chief Water Rights Division
State Engineer Office
P. O. Box 1079
Santa Fe, New Mexico

Re: N.M.O.C.C.
Case No. 1761

Dear Mr. Irby:

After the telephone conversation between you, Joe Stanton, and myself yesterday afternoon, a diagram of proposed well casing was prepared as you suggested.

Shown on the diagram which is attached are hole sizes, casing sizes, total depth, perforated interval, and the location of the injection tubing and packer. The surface string will be H-40 or equivalent API casing and will be cemented with the volume calculated to achieve fillup to the surface. The production string will meet or exceed API specifications for H-40 casing, and will be cemented with a volume calculated to achieve a fillup of 500 feet outside the production string. The casing for these wells has not been purchased, therefore two sizes for each string has been indicated.

The injection water will be injected down the tubing below a packer set immediately above the perforated interval. In the event of an injection tubing leak, repairs can be made immediately as the failure would be evidenced at the well head at once.

Specializing In Secondary Recovery

Mr. Frank Irby, Chief Water Rights Division
October 21, 1959

Page 2

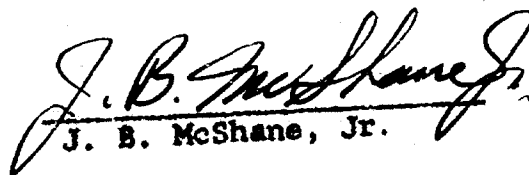
It is felt this proposed casing program will protect all Fresh Water Aquifers found in the Turkey Track Pool Area. In the event this program was not adequate all aquifers would be isolated by methods acceptable to the State Engineers Office and the New Mexico Oil Conservation Commission.

It is the desire of this firm in representing Stanton Oil Company, Ltd. in the instigation of the pilot waterflood as shown on the attached plat, to further the conservation of natural resources, both fresh water and oil, in the State of New Mexico.

Thanking you for your attention in this matter,
I remain,

Yours truly,

WOOD & McSHANE


J. B. McShane, Jr.

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O. C. C. TERMINOLOGY

STATE ENGINEER TERMINOLOGY

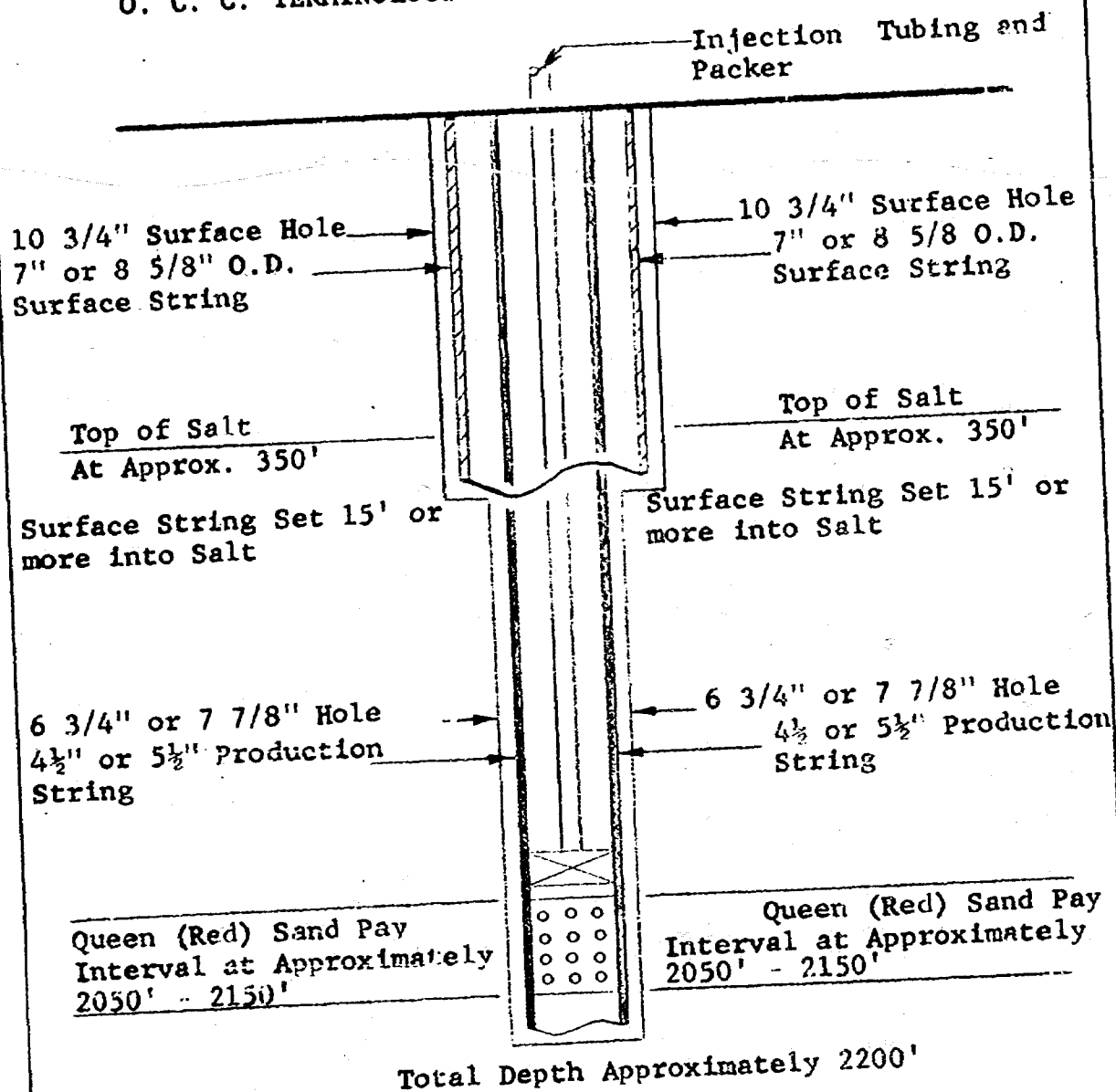


DIAGRAM OF PROPOSED WELL CASING
for
STANTON OIL COMPANY, LTD.
WATER INJECTION WELLS, 1W, 2W, 3W, & 4W
Turkey Track Pool
Eddy County, New Mexico
Prepared By: WOOD & McSHANE, Monahans, Texas

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three .40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool; the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

- CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.
- CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.
- CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.
- CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.
- CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abc Pool, Blinbry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.
- CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.
- CASE 1801: Application of Texaco Inc., for an order for pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

Docket No. 37-59

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20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802:

Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.

File Case 1761

NEW MEXICO STATE OIL CONSERVATION COMMISSION,
SANTA FE, NEW MEXICO.

Gentlemen:

Case No. 1761

Stanton Oil Co., Ltd. is hereby designated as our agent
for the development and operation of a water flood, as
described in hearing before the Oil Conservation Commission
on September 30, 1959.

Dated this 24th day of October, 1959.

Yours very truly,

ROBERT E. MCKEE GENERAL CONTRACTOR, INC.

by

J. P. Munn
Vice President.

ATTEST:

M. Maraman
Asst. Secretary.



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

October 22, 1959

ADDRESS CORRESPONDENCE TO:
P. O. BOX 1079
SANTA FE, N. M.

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

Dear Mr. Porter:

Reference is made to your Case No. 1761 which came on for hearing before the Commission on September 30, 1959 and was continued to October 28, 1959 after considerable evidence had been given.

I have this date received from Messrs. Wood and McShane, Petroleum Consultants, Monohans, Texas, a letter dated October 21, 1959 enclosing diagram of proposed well casing and a plat showing the pilot water flood area which is the subject of this case. Although the correspondence to me does not indicate that copies of this letter and the exhibits were forwarded to you, it was my understanding from Mr. McShane that copies would be forwarded to you.

The proposed casing and cementing program for the injection wells as set forth in the letter and the diagram appear adequate for the protection of any waters which might be encountered between the land surface and the producing zone. Therefore, this office offers no objection to the granting of this application.

Yours truly,

FEI/ma

cc-Messrs. Wood & McShane
Stanton Oil Company, Ltd.
F. H. Hennighausen

S. E. Reynolds
State Engineer

By:

Frank E. Irby
Chief

Water Rights Division

WOOD & McSHANE
MAIN OFFICE OCC Petroleum Consultants
Engineering--Operation--Management

1959 AUG 20 AM 8:33
B. OLIVER WOOD
J. B. McSHANE, JR.
405 SOUTH ALLEN
MONAHANS, TEXAS

PHONE WI 3-3092
BOX 398

August 5, 1959

New Mexico Oil Conservation Commission
107 Mabry Hall
Capitol Building
Santa Fe, New Mexico

Gentlemen:

The Stanton Oil Company, Ltd., San Antonio, Texas, is negotiating an acquisition of the R. E. McKee Properties located in Section 3, T19S, R29E, and Section 34, T18S, R29E, Turkey Track Queen Sand Pool, Eddy County, New Mexico. This firm has been retained by the Stanton Oil Company to instigate and to operate a water flood project on this property for them.

As engineering consultants for the Stanton Oil Company, we hereby request that a hearing be granted in accordance with rule 701 (A) to consider an application to water flood the subject property.

Yours very truly,

WOOD & McSHANE

By: B. Oliver Wood

B. Oliver Wood

BOW:pb

cc to N. M. O. C. C.
Artesia, New Mexico

cc to Stanton Oil Company, Ltd.
San Antonio, Texas

Specializing In Secondary Recovery

Had N.M. Sawyer

What the
Project area
consists of:

how many
injection wells
and their location
confirm formation

Just for

Revised 9-15-59
JN
10-8-59
JN

J. O. SETH
A. K. MONTGOMERY
OLIVER SETH
WM. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS

SETH, MONTGOMERY, FEDERICI & ANDREWS
ATTORNEYS AND COUNSELORS AT LAW
301 DON GASPAR AVENUE
SANTA FE, NEW MEXICO

POST OFFICE BOX 828
TELEPHONE YU 3-7315

October 15, 1959

RE: Case No. 1761
Application of Stanton Oil Co. Ltd.
Pilot Water Flood Project
Turkey Track Pool
Eddy County, New Mexico

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

Gentlemen:

With reference to the application in Case Number 1761 by Stanton Oil Company, Ltd., you will recall that Wilson Oil Company requested a continuance of the hearing pending clarification of the position of Stanton Oil Company, Ltd., as operator or as agent, and also pending a decision by the United States Geological Survey.

I have been informed by Wilson Oil Company that these matters have now been resolved and also that Wilson Oil Company has no objection to the water flood project as proposed to the Commission in the case as presented by Stanton. However, we would like for the Commission to expressly retain jurisdiction of the matter in order that should there be any deviation in the program from that presented which will effect the correlative rights of Wilson Oil Company, the matter may be resolved by the Commission.

As indicated above, this letter will also constitute a withdrawal by Wilson Oil Company of any further continuance of the matter, as well as an indication that it, as an interested party, has no objection to the program as presented.

Very truly yours,

Oliver Seth

OS:ms

cc: Mr. M. W. Hamilton, Santa Fe

WOOD & McSHANE

Petroleum Consultants
Engineering--Operation--Management

B. OLIVER WOOD
J. B. McSHANE, JR.

405 SOUTH ALLEN
MONAHANS, TEXAS

PHONE W1-3-3092
BOX 398

21 October 1959

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

Attention: Mr. D. S. Nutter, Chief Engineer

Dear Mr. Nutter:

The Stanton Oil Company, Ltd. application for a pilot flood, case No. 1761, was presented at a hearing on September 30, 1959 in Santa Fe, New Mexico. Testimony was presented at this hearing that two water supply wells had been drilled and tests of these wells indicated that an adequate supply of water was available on the leases to be flooded.

We have been advised recently that information with regard to the total amount of water required and the total amount of water available would be helpful to the Commission in reaching a decision on this application. It is expected that the expanded flood will include a total of 720 acres and will have 27 water injection wells. It is estimated that this total flood development will require the injection of approximately 17,000,000 barrels of water over a 8 to 10 year period. Since the water produced with the oil will be reinjected, it is estimated that only 5,500,000 barrels of water will have to be obtained from water supply wells. Assuming that the water productive zone is twenty feet in thickness and has a porosity of 25%, this amount of water could be produced from approximately 150 acres. If the two water supply wells already drilled will drain forty acres each, the drilling of two additional water supply wells should supply the required amount of water.

Specializing In Secondary Recovery

Mr. D. S. Nutter
21 October 1959

The assumptions with regard to the thickness, porosity, and acreage drained are considered to be conservative. There are presently nineteen producing wells in the flood area and all of these wells were drilled with cable tools and encountered good water shows in the zone proposed to be used for water supply purposes.

A chemical analysis of the supply water was presented at the hearing and testimony was given that based on information taken from "Study and Interpretation of Natural Water", Geological Survey, Water Supply Paper 1473, U. S. Public Health Service (1946), this water is not suitable for human or stock consumption, nor is it suitable for irrigation purposes.

In the event the present water supply source should prove to be inadequate, injection water will be available and can be purchased from the Caprock Water Company, Artesia, New Mexico. Attached please find a copy of a letter from this company advising that it could and would supply this water if necessary.

Very truly yours,

WOOD & McSHANE

B. Oliver Wood
B. Oliver Wood

BOW
ch

DOCKET: EXAMINER HEARING SEPTEMBER 30, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary-Director.

CONTINUED CASE

CASE 1739: Application of Shell Oil Company for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Henshaw Deep Unit Agreement comprising 4824 acres, more or less, of Federal and State lands in Township 16 South, Ranges 30 and 31 East, Eddy County, New Mexico.

NEW CASES

CASE 1760: Application of The Atlantic Refining Company for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Horseshoe-Gallup oil wells on its Navajo "B" Lease comprising certain acreage in Township 31 North, Range 16 West, San Juan County, New Mexico.

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1762: Application of Newmont Oil Company for an unorthodox water injection well location. Applicant, in the above-styled cause, seeks an order authorizing it to reopen and utilize for water injection a well located on an unorthodox location at a point 1620 feet from the North line and 1020 feet from the West line of Section 32, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico.

CASE 1763: Application of Southwestern Hydrocarbon Company for an order abolishing the Sawyer-San Andres and South Sawyer-San Andres Oil Pools in Lea County, New Mexico, and creating the Sawyer-San Andres Gas Pool; or in the alternative for an order extending the horizontal limits of the South Sawyer-San Andres Oil Pool to include the NE/4 of Section 6, the N/2 of Section 5 and the NW/4 of Section 4, Township 10 South, Range 38 East, Lea County, New Mexico, and removing all gas-oil ratio limitations for wells in said pool; or in the alternative for an order combining the Sawyer-San Andres and the South Sawyer-San Andres Oil Pools, as well as the intervening acreage, and removing all gas-oil ratio limitations for such pool.

CASE 1764: Application of Standard Oil Company of Texas for an unorthodox gas well location. Applicant, in the above-styled cause, seeks an order authorizing an unorthodox gas well location in the Atoka-Pennsylvania Gas Pool, at a point 1850 feet from the South line and 1650 feet from the East line of Section 14, Township 18 South, Range 26 East, Eddy County, New Mexico.

- CASE 1765: Application of The Ohio Oil Company for a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water into the Lower San Andres formation through its State B-4286 "A" Well No. 2, located in Unit F, Section 2, Township 17 South, Range 36 East, Lea County, New Mexico. The proposed injection interval is from 5725 feet to 5968 feet.
- CASE 1766: Application of Northwest Production Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its "S" Well No. 16-2, located in the SW/4 SW/4 of Section 2, Township 24 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to produce oil from an undesignated Gallup oil pool and to produce oil from an undesignated Dakota oil pool through parallel strings of tubing.
- CASE 1767: Application of El Paso Natural Gas Products Company for permission to produce more than 16 wells in a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing the production of a maximum of 35 wells in the Horseshoe-Gallup Oil Pool into a common tank battery. Said wells are located on applicant's Horseshoe Ute Lease comprising portions of Sections 27, 28, 33 and 34, Township 31 North, Range 16 West, San Juan County, New Mexico.
- CASE 1768: Application of T. F. Hodge for the rededication of acreage assigned to three oil wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order rededicating the acreage assigned to three oil wells on his Mary E. Wills Lease, Section 33, Township 26 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico. Applicant proposes to dedicate 40 acres to each of the three wells, said 40-acre units not to comprise a quarter-quarter section or legal subdivision.
- CASE 1769: Application of Pan American Petroleum Corporation for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Northeast Hogback Unit Agreement, comprising 10,572 acres, more or less, in Township 30 North, Range 16 West, San Juan County, New Mexico.
- CASE 1770: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its Lois Wengerd Lease in Sections 23 and 24, Township 12 South, Range 37 East, Gladiola-Devonian Pool, Lea County, New Mexico.
- CASE 1771: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its USA Malco Refinery "F" Lease, Section 1, Township 18 South, Range 27 East, Empire-Abo Pool, Eddy County, New Mexico.
- CASE 1772: Application of Pan American Petroleum Corporation for approval of an automatic custody transfer system for four state leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1292 to provide for automatic custody transfer of oil commingled thereunder.

- CASE 1773: Application of Pan American Petroleum Corporation for approval of two automatic custody transfer systems for seven federal leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1399 to provide for automatic custody transfer of oil produced into the two commingled tank batteries authorized therein.
- CASE 1774: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 NW/4 and the W/2 NE/4 of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Britt B-15 No. 10 Well, located in the SW/4 NE/4 of said Section 15.
- CASE 1775: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 SE/4 of Section 15 and the W/2 SW/4 of Section 14, all in Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's SEMU Well No. 70, located in the NW/4 SW/4 of said Section 15.
- CASE 1776: Application of Continental Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for nine wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
Ascarate D-24 Well No. 1, Unit J, Section 24, T-25-S, R-36-E, Danciger A-8 Well No. 2, Unit P, Section 8, T-23-S, R-36-E, Jack A-20 Well No. 4, Unit G, Section 20, T-24-S, R-37-E, Jack A-29 Well No. 3, Unit H, Section 29, T-24-S, R-37-E, Meyer A-29 Well No. 1, Unit O, Section 29, T-22-S, R-36-E, Meyer B-28 Well No. 1, Unit E, Section 28, T-22-S, R-36-E, State A-32 Well No. 4, Unit F, Section 32, T-22-S, R-36-E, Stevens A-34 Well No. 1, Unit E, Section 34, T-23-S, R-36-E, Wells B-1 Well No. 1, Unit A, Section 1, T-25-S, R-36-E, all in Lea County, New Mexico.
- CASE 1777: Application of El Paso Natural Gas Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for two wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its E. J. Wells Lease Well No. 13, Unit L, Section 5, and its Wells B-4 Lease Well No. 1, Unit D, Section 4, both in Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for their overproduced status without being completely shut-in in order to prevent possible waste.
- CASE 1778: Application of Olsen Oils, Inc., for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
Cooper B Well No. 2, NE/4 NW/4 of Section 14, T-24-S, R-36-E, Myers B Well No. 1, SE/4 NW/4 of Section 13, T-24-S, R-36-E, S. R. Cooper Well No. 1, SE/4 NE/4 of Section 23, T-24-S, R-36-E, Winningham Well No. 3, NE/4 SE/4 of Section 30, T-25-S, R-37-E, all in Lea County, New Mexico.

CASE 1779: Application of Jal Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:

Legal Well No. 2, NE/4 SE/4 of Section 21,
Dyer Well No. 3, SE/4 NE/4 of Section 31,
Jenkins Well No. 2, NE/4 SW/4 of Section 29,
Ropollo Well No. 1, SW/4 NW/4 of Section 28,
all in Township 25 South, Range 37 East, Lea County, New Mexico.

CASE 1780: Application of Husky Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its Montecito Woolworth Well No. 2, Unit M, Section 33, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1781: Application of Texaco, Inc. for permission to continue producing an over-produced Jalmat gas well at a lesser rate. Applicant, in the above-styled cause, seeks an order authorizing it to produce its C. C. Fristoe (b) NCT-4 Well No. 2, Unit M, Section 31, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, at a maximum rate of 2500 MCF per month for lease use until over production has been compensated for.

WOOD & McSHANE

Petroleum Consultants
Engineering--Operation--Management

408 SOUTH ALLEN
MONAHANS, TEXAS

August 26, 1959

B. OLIVER WOOD
J. B. McSHANE, JR.

PHONE WI 3-3092
BOX 398

Case 1761

New Mexico Oil Conservation Commission
107 Mabry Hall
Capitol Building
Santa Fe, New Mexico

Attention: Mr. J. E. Kapteina

Dear Jim,

Oliver and I both are very pleased to hear you have located with the Commission there in Santa Fe. I am sure by now you are situated with your family and are pleased with your new work. After your call several days ago, the following information has been obtained to supplement the application for a water-flood submitted to the Conservation Commission in behalf of Stanton Oil Company, Ltd. on August 5, 1959.

Enclosed please find a Plat of the Stanton Oil Company, Ltd., Turkey Track Field, waterflood project area. Shown on the Plat are the locations of the four proposed water injection wells to be drilled and completed for the Pilot Flood operation. The cross-hatched area, drilling unit F, is the totally enclosed area in the Pilot Flood. The shaded area includes the producing wells possibly affected by the Pilot water injection. The totally enclosed area is approximately 40 acres, and contains two producing wells, Wilson 1 and 5. The shaded area containing producing wells possibly affected by water injection, is 161 acres. The total area of the full flood project being proposed in this application is colored on the Plat in yellow, and contains 720 acres.

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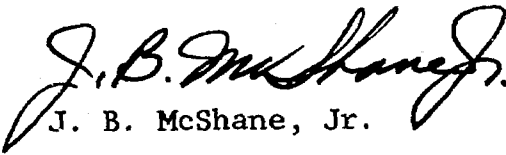
New Mexico Oil Conservation Commission
August 26, 1959
Page 2

It is understood that the location of the Pilot Flood, the injection wells in the Pilot Flood, and the total project area, are required by the Commission before an application is considered complete so that a hearing may be granted. If the enclosed Plat and data are not sufficient to meet Commission requirements for this application, please call us collect so that we may furnish all of the necessary data. It is anticipated that the hearing will probably be granted on or about September 23, 1959.

Thanking you very much for your attention, I am,

Yours truly,

WOOD & McSHANE


J. B. McShane, Jr.

JBM:pb

Enclosure

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING (DANIEL S. NUTTER)SANTA FE, NEW MEXICOREGISTERHEARING DATE OCTOBER 28, 1959 TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
Herbert D. Miller	Amerada Pet	Tulsa, Okla.
Robert E. Statton	Sunray Mid-Continent Oil Co.	Hobbs, N.M.
Jack M. Campbell	Campbell & Russell	Roswell N.M.
Wm. L. Davis	Hamco	Midland
Burns H. Erbe	Socony Mobil Oil Co., Inc.	Albuquerque
James M. McGuire	Socony Mobil Oil Co.	Hobbs.
W. S. O'Neil	Socony Mobil Oil Co.	Hobbs
H. Bryce Parker	Argo Oil Corp.	San Antonio, Texas
H. C. Winslow	Argo Oil Corp.	San Antonio, Texas
Jason Kellahin	Kellahin & Fox	Santa Fe
Frank E. Shry	State Engr. Office	Santa Fe
Joyce Hip	Leonard Oil Co.	Roswell
D. Christy	Harvey Nord & Hinkle	Roswell
John Hampton	Great Western Drilling Co.	MIDLAND
Sam H. Smith	✓	✓
Merrell Watson	✓	✓
W. Hooper	Gulf Oil Corp.	Roswell

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING (D. S. Nutter)

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE October 28, 1959

TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
<i>D. S. Nutter</i>	<i>Cities Service</i>	<i>Hobbs, N.M.</i>
<i>D. W. Stevenson</i>	<i>Late Oil Co.</i>	<i>" "</i>
<i>J. A. Ford</i>	<i>Granidge Corp.</i>	<i>Breckenridge, Texas</i>
<i>H. N. Wade</i>	<i>Texaco, Inc.</i>	<i>Midland, Tex</i>
<i>B. E. Hallman</i>	<i>Texaco Inc.</i>	<i>Midland, Tex</i>
<i>J. E. ROBINSON, Jr.</i>	<i>TEXACO INC.</i>	<i>MIDLAND, TEX</i>
<i>Gene A. Snow</i>	<i>John H. Tracy Co.</i>	<i>Maljamar, N. Mexico.</i>

*Nancy Lopez**M. Stachurski
Deputy Secy**Santa Fe*

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

Case 1761
(Cont.)

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please.
The first case on the docket this morning will be Case 1761

MR. PAYNE: Application of Stanton Oil Company, Ltd.,
for a pilot water flood project.

MR. HAMILTON: M. W. Hamilton, Santa Fe, New Mexico,
appearing for the Applicant. If the Examiner please, this hearing
was postponed at the request of the Wilson Oil Company; after the
last hearing they withdrew their protest and request for post-
ponement and have in fact approved the application. Since the last
hearing, we have also filed with the Commission a statement as
to the quantity and quality of water proposed to be used and the

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PHONE CH 3-6551

ALBUQUERQUE, NEW MEXICO



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PHONE CH 1-6691

ALBUQUERQUE, NEW MEXICO

availability of the water, and in a designation by Robert E. McKee, General Contractor, Inc. of the Stanton Oil Company, Limited. As their agent we would like to offer those documents in evidence and ask that they be considered a part of the record in the case.

MR. NUTTER: Mr. Hamilton, we do have the letter from Seth, Montgomery & Federici, Santa Fe, New Mexico on behalf of Wilson Oil Company. We have the letter from Wood & McShane as to the amount of water available and the quality and quantity of water and the designation by Robert E. McKee for Stanton Oil Company to operate this area for McKee. Do you have anything further to offer?

MR. HAMILTON: No. We have furnished the State Engineer with the proposed casing program, which I believe meets with their approval. I don't know if a copy of that was furnished to the Commission or not.

MR. NUTTER: We have a letter from the State Engineer which was received after the date of the last hearing.

MR. HAMILTON: Shall we ask that that be considered a part of the record?

MR. NUTTER: Shall we mark these as exhibits?

MR. HAMILTON: If you would.

MR. NUTTER: These letters will be marked as Exhibits. If nothing further in Case 1761 we will take the case under



advisement.

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 14th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1761 heard by me on 10-28, 1959.

Adrian, Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1761

TRANSCRIPT OF HEARING

SEPTEMBER 30, 1959

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SEPTEMBER 30, 1959

2

IN THE MATTER OF:

CASE 1761 Application of Stanton Oil Company, Ltd., for :
a pilot water flood project. Applicant, in the :
above-styled cause, seeks an order authorizing :
it to institute a pilot water flood project in :
the Turkey Track Pool in Eddy County, New Mex- :
ico, by the injection of water into the Queen :
formation through four wells located in Section :
34, Township 18 South, Range 29 East. :

BEFORE:

Daniel S. Nutter, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. NUTTER: We will take next Case 1761.

MR. PAYNE: Case 1761. Application of Stanton Oil
Company, Ltd., for a pilot water flood project.

MR. HAMILTON: M. W. Hamilton, Santa Fe, New Mexico,
appearing for the applicant. We have two witnesses.

(Witnesses sworn)

OLIVER WOOD,
called as a witness, having been first duly sworn, testified as
follows:

DIRECT EXAMINATION

BY MR. HAMILTON:

MR. NUTTER: Are there any other appearances to be made in Case 1761?

MR. SETH: Oliver Seth. I would like to enter an appearance for Wilson Oil Company.

Q (By Mr. Hamilton) Will you state your name and occupation, please?

A My name is Oliver Wood. I reside in Monahans, Texas, and I'm a consulting petroleum engineer.

Q Are you a member of the firm of consulting engineers, Mr. Wood?

A Yes.

Q What is the name of that firm?

A Wood & McShane.

Q You represent the applicant in this case?

A Yes, we represent the Stanton Oil Company.

Q Will you state your engineering qualifications?

A I was graduated from the University of Texas in 1942 with a B. S. degree in petroleum engineering, and I worked with Gulf and Sinclair for the past twelve years. I have been working entirely in water flooding the past nine years in Monahans, Texas in the water flood area in there.

MR. HAMILTON: Does the Examiner accept the qualifications?

MR. NUTTER: Yes, sir. Please proceed.

Q You are familiar with the application in this case?

4

A Yes, sir.

Q Will you state briefly just what it contemplates?

A The application in this case is an application on behalf of the Stanton Oil Company, Limited, for an order authorizing a pilot water flood project in the Turkey Track Queen sand pool in Eddy County, New Mexico.

Q Do you have a plat showing the location of the producing wells, the injection wells and the --

A Yes, sir, we do.

(Thereupon, Stanton's Exhibit No. 1 was marked for identification.)

Q From that diagram, Mr. Wood, would you explain just what the location of these various wells is?

A We have shown on this plat, which is our Exhibit 1 or A, the location of the pilot flood area which will be in Section 34, Township 18 South, Range 29 East. And we propose to drill four water injection wells, marked in green, 1-W, 2-W, 3-W and 4-W. These four water injection wells would be located on the corner of each 40 acre -- of this 40-acre drilling unit. In that way, the oil that is moved by each injection well would be moved only to the proper leaseholder in that area. The wells circled in brown are the wells which we anticipate will feel some effect or benefit from the flood. Two of the wells are totally enclosed, No. 1 and 5 Wilson, and the remaining six wells are outside the totally enclosed five spot but close enough that we feel they will feel some

benefit from the pilot.

Q Are you familiar with the structure and formation there?

A Yes, we have made a study of the Turkey Track Queen sand field. The only data available are cable tool sample logs. These logs indicate that there is no structure there, in our opinion, for oil producing purposes; that the production is governed by a porosity development in the Queen sand. You'll notice on the Exhibit there are a number of dry holes. We have studied the sample logs on those wells along with the other wells and the red sand is present in those wells, but due to porosity pinchout the situation there is non-productive.

Q What conclusions have you drawn from your investigations there as to whether this formation will take the water that is to be injected?

A There is one well on the properties, Wilson No. 5, which is enclosed in the 40-acre pilot -- the proposed 40-acre pilot unit, outlined in yellow, that has been cored, and the core analysis on this particular well is, to summarize, indicates a horizontal permeability of approximately 103 millidarcies. It indicates a residual oil saturation of 19 percent, net pay average porosity of $19\frac{1}{2}$ percent. The average connate water saturation is 35 percent. Based on this core data information, we feel very sure that the formation will take water and that oil will be produced as a result of this water injection program.

Q Mr. Wood, will you go into the water situation, the source, analysis and so on, of the proposed water?

A The source of water supply would be from water supply wells located on the leases. Two wells have been tested and indicate sufficient amount of water to put on the pilot flood operation. In that connection, these wells were pumped for twenty-four hours before the test and then tested, and we have a water analysis of the proposed water supply, which we would like to submit. I would like to say further that this proposed source of supply is in a red bed zone found at approximately 230 to 250 feet deep, and that the water analysis which we have obtained indicates to us, or indicates the water is brackish and contains substantial quantities of sulfates, and based on the information taken from the "Study and Interpretation of Natural Water" in the Geological Survey, Water Supply Paper 1473, U. S. Public Health Service (1946), based on the standard setup in that paper, this water is not suitable for human nor stock consumption nor suitable for irrigation purposes.

Q What volume do you propose to inject?

A In the pilot flood area, in the four proposed water injection wells, we propose to try and inject 250 barrels per day per well, a total of a thousand barrels per day in the four proposed water injection wells. We anticipate the injection pressure to be approximately 600 pounds per square inch.

Q What program do you have for the casing in your in-

jection wells?

A The water injection wells will be drilled new. They will be new wells and the casing program will be the one that is has been used in the other producing wells in the Turkey Track Queen sand field. We will set surface casing into the top of the salt and cement it. We will set an oil string, or in the case of injection wells, I guess you would call a water string. We will set the long string of casing through the pay zone, which is the Queen sand or the red sand, and we will perforate the pay zone. We intend to core and log the pay zone and use that information to select our zone to be perforated and our zone to inject our water into.

Q Do you consider that would be adequate to protect the fresh water zone?

A Yes, sir, we do. In addition to that, we plan to use either baked on plastic lined casing or baked on plastic lined tubing with a packer. With the steel situation the way it is, we don't know just which way we are going, but one or the other is proposed to be used.

Q Now, what is your anticipated recovery?

A In the 40-acre pilot area, which will be totally enclosed and is shown in the Exhibit outlined in yellow, we anticipate that the ultimate additional oil that will be recovered directly as a result of this pilot flood program will be 127,000 barrels.

Q Are you asking for any allowable at this time?

A At this time we are only making application for a permit to institute a pilot water flood, and it is our intention, if and when, the flood does respond, that we will request another hearing or talk with the Commission with regard to approval to expand the flood, at which time we will discuss the allowables which we feel we will be able to know what will be needed. But we are not at this time requesting any allowable increase. In other words, the top unit allowable would be adequate for the pilot flood.

Q Do you have, Mr. Wood, the production history and the present capacities of the producing wells that would be affected?

A We have prepared a production graph. We don't have the production tabulated, but we have the production plotted on a rate time graph for all of the wells in the subject area, which we would like to submit.

Q Will you state briefly from this graph or from your other data approximately what that shows?

A This graph shows the production from all wells in the area. It shows that the nineteen existing wells in the area have produced a combined total of 263,000 barrels of oil as of August 1, 1959. And the production rate during the month of July, 1959 was 2762 barrels, which --

MR. NUTTER: Mr. Wood, excuse me a minute. When you

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refer to the nineteen wells in the area, do you mean the nineteen producing wells that are shown on your Exhibit No. 1?

A Yes, sir.

MR. NUTTER: I see.

A The production rate during the month of July, 1959 was 2762 barrels for nineteen wells, or an average of 145 barrels per well per month. In studying the curve and attempting to estimate the decline, we think the decline will be 4 percent per month, and by June of 1960, the production will be approximately 90 barrels per well per month. Further along the line, in the immediate pilot flood area the present producing rates of the wells in that pilot area are as follows: The Wilson No. 1, which is totally enclosed, outlined in yellow, is four barrels of oil per day. The Wilson No. 5 in the same totally enclosed area is three barrels per day. The Featherstone No. 1, just to the east of the pilot flood area, eight barrels per day. Featherstone 2, eight barrels per day. The Wilson No. 2, directly north of the 40-acre pilot area, ten barrels per day. Directly south of the pilot area in the Brainard Lease, the No. 2 Well, four barrels per day, and the No. 4 Well, eight barrels per day, the No. 6 Well, nine barrels per day.

Q Mr. Wood, have you furnished the State Engineer with a copy of the water analysis?

A Yes, sir, we have. We have -- I have a letter to him. Can that be submitted in evidence?

Q I don't think that is necessary, if you have --

A We furnished -- in accordance with the Commission's memorandum No. 5-58, we furnished him with the four items requested in that memorandum, which was a copy of the application, the geological location of the water source, name and depth of the formation, and an analysis of the water.

Q Do you have a written statement there covering substantially what you have testified to, sir?

A Yes, sir. We have a written statement covering it.

Q Is there anything further you care to say in connection with the application?

A The one thing I would like to say further is something in regard to the unorthodox water injection well locations. We feel that a pattern of this type would provide equity for the movement of secondary oil in that each lease will be producing oil swept from within its own boundaries. With the wells located in this manner, they will have to produce only the oil swept from their own boundaries. Therefore, the royalty and other interest holders will be adequately protected.

Q Do you feel that any of the adjoining or abutted owners will be injuriously affected?

A No, sir. I think from the way this is set up that they will not be affected adversely in any manner.

Q Mr. Wood, in your opinion, will this result in a greater recovery of oil?

A Very definitely. The production data indicates that the nineteen wells in the total area there will be down to an average of 90 barrels per well per month in less than a year's time, which we think indicates that it is rapidly approaching the economic limit, and that if this program is not instigated in the near future, a large amount of oil that could be recovered will be wasted and left in the ground.

Q Were these plats and diagrams prepared under your supervision?

A Yes, sir, they were.

MR. HAMILTON: That's all. We'll offer -- what were they -- Exhibits 1, 2 and 3 in evidence.

MR. NUTTER: Without objection, applicant's Exhibits 1 through 3 will be entered.

(Whereupon, Stanton's Exhibits Nos. 1 through 3 were received in evidence.)

MR. NUTTER: Does anyone have any questions of Mr. Wood?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Wood, I believe you testified you had an adequate water supply for your pilot, is that right?

A Yes, sir.

Q Now, do you have enough water for your proposed total

flood?

A The proposed total flood will be expanded as the production warrants and as the Commission approval is granted. And we anticipate that we can use substantial quantities of produced water from the oil wells, and that we will be able to drill additional water supply wells to augment that produced water.

Q Now, once a well receives a response from water injection, you need to back it up, don't you, with another injection well?

A Yes, sir.

Q So that you need to be fairly well assured that you are going to have enough water for that purpose?

A Yes. I might -- if I may state that all of these wells on the properties were drilled with cable tools, and this water producing zone which we have tested is found all over the area, and we feel certain in our own minds that an adequate source of water supply will be there.

Q Now, is this in a declared water basin?

A No, it is not.

Q So you don't need a permit from the State Engineer to drill a water well?

MR.HAMILTON: We have a permit from the State Land office exclusively, five years.

Q You have a water lease from the State Land office?

A Yes.

Q Do you propose to inject through tubing or through casing?

A I stated that we were not sure at this time whether we would inject down the casing or through tubing in a packer, but, in any event, the media that we extend through will be baked on plastic treated pipe.

Q So you don't feel there would be much danger of a casing leak or a tubing leak?

A No, sir, I do not.

Q Now, Mr. Wood, are your four injection wells located on lease lines?

A Yes, sir, they are. They are on the corner of each 40-acre tract.

Q Would you have any particular objection to moving them five feet north, each one of them?

A Well, it was our thinking that if we drilled them exactly on the corner that we would certainly be sweeping oil from each tract to each tract.

Q Do you have permission to drill these on Wilson's property?

A No. We are asking that this hearing grant permission for these unorthodox locations.

MR. PAYNE: That's all for now. Thank you.

QUESTIONS BY MR. NUTTER:

Q Mr. Wood, if you were to move the location of these

wells a few feet one direction or another, that probably wouldn't materially affect the efficiency of the sweep, would it?

A No, sir, I don't think it would.

Q We probably couldn't control the straightness of the holes to the point where the bottom of the holes are going to be exactly in the middle of these wells anyway?

A That's right.

Q Which direction would you prefer to move them, if we moved them a few feet?

A Well, I think if we move all of them off of the line, I don't think it would make any -- from an engineering standpoint -- any particular difference so long as they were all moved the same direction, the same distance. A small footage, such as less than five feet, I don't think would materially affect the efficiency of the flood in any way.

Q Now, I missed the present productivity of the two wells that are enclosed within the pilot area, No. 1 and 5.

A The Wilson No. 1 and No. 5, which are in the enclosed area. The No. 1 Well makes four barrels per day at the present time, and No. 5 Well three barrels per day at the present time.

Q Mr. Wood, you offered this water analysis result -- tabulation, but I don't believe you mentioned what the quantity of the water that you are producing amounts to. How many barrels per day will these wells make?

A These two wells will make -- were tested about 2500

barrels per day. One of them is a much better well than the other. One of them tested about 2000 barrels per day, and the other one about 400 barrels a day, 500 barrels a day.

Q Are the producing wells making any water at the present time?

A At the present time the producing wells are making a very negligible quantity of producing water.

Q So at the present time you don't propose to use produced water in addition to the new water?

A There isn't a sufficient amount to even try to use it at the present time.

Q Have you made any tests, Mr. Wood, to determine the compatibility of the water here with any water in the formation itself?

A No, sir, we have not made a compatibility test, as such. However, the water that we intend to use is slightly brackish, and there is just a very very small amount of produced water, and we don't anticipate any problem with the compatibility of the waters.

Q I suppose you would install treating facilities if you did run into troubles, as far as compatibility is concerned?

A Yes, that's one thing I failed to bring out. We do plan to treat the water for prevention of corrosion and for the prevention of formation of bacteria and algae, and also insure that it will go into the Queen Sand formation.

Q I note on Exhibit 3, Mr. Wood, that in the early part of 1955 the production of -- from this pool started increasing. What was that due to, additional wells being drilled?

A No, sir. I failed to point that out. In 1955 there were a number of new wells drilled on the property, and that's the reason for the large increase at that time.

Q What was the original area of development in this pool?

A You mean the first well drilled --

Q Yes, sir. It appears that the production from 1944 to 1945 was more or less constantly declining, and I assume that there were a constant number of wells there. Then, there must have been additional spurt of development. I just wondered where the original and new development occurred.

A I believe from 1944 to the end of '54, I believe that represents land wells, doesn't it, Joe? I'm recalling from memory, but I'm just certain that from '44 through '54 are nine producing wells, and during '55 ten additional wells were drilled.

Q Now, where were the original nine wells?

A Well, sir, I'd have to go through the records to tell you well by well, but I can do that.

Q Were they pretty well scattered out through the entire two-section area or --

A I frankly do not know exactly the order in which the wells were drilled.

Q Well, now, these new wells that have been drilled, Mr. Wood, what are they capable of making at the present time?

A Well, the overall average for all nineteen was brought out here as being 125 barrels -- 145 barrels per well per month for all nineteen wells at the present time.

Q So we might say that the average for all nineteen wells in the entire area is mainly five barrels per day?

A Approximately.

Q Approximately?

A Approximately, yes, sir.

Q Are any wells capable of making top unit allowable?

A I don't believe any well in the area is capable of producing the top unit allowable.

Q Do you know the well that is capable of making the largest amount of oil in this nineteen-well area and how much it is capable of making?

A Offhand, sir, I do not know which well is making the largest amount of oil.

MR. PAYNE: Mr. Irby, do you have any questions on the casing program?

MR. IRBY: I do, if I may, please. Frank Irby, State Engineer's office.

QUESTIONS BY MR. IRBY:

Q Mr. Wood, you said you would set your surface strings into the salt. How deep is the salt?

A It would be approximately 350 to 400 feet deep. We would probably go into the salt 10 or 15 feet to insure we were completely into the salt section.

Q What is your cementing plan on this surface string?

A We would cement the surface strings on the water injection well exactly as they have been done in the past for the producing well.

Q That doesn't answer my question.

A I'm not familiar with what the requirement is, but it would certainly be the same. The other wells indicate 25 sacks of cement. We would cement with enough cement, approximately 50 sacks, to try and circulate the cement around that surface string of casing.

Q Circulate it to the surface?

A To the surface.

Q Well, now, is that a definite statement that you will do that?

A We will attempt to do it, yes, sir.

Q What is your cementing plan on your long string?

A On our long string, our plans were to cement as required on the other wells in the area, which would be, I assume, approximately 50 to 100 sacks; based on the size hole and the size casing. In other words, we thought the casing program which had been used on the nineteen wells in the area could be followed in the completion of the water injection wells, and we certainly

didn't intend to cut down on the cementing or do anything different from what previously had been done.

Q Is there any fresh water at all in the zone above the red beds?

A Based on the information that has been reported to us, these wells have all been drilled with cable tools, and there is no fresh water. The only water zone is just one slightly brackish water zone, and there is no water from there down to the Queen Sand or the red sand pay zone.

Q This strata from which you propose to take your water for this flood project, what is the thickness of that strata?

A Approximately 20 to 30 feet, my understanding.

Q And is all of that saturated?

A Apparently so. In drilling with cable tools, it seems that when we get into it that there is water in the 20 to 30 foot interval there.

Q Is that under water table condition, or under hydrostatic pressure?

A I believe it would be under water table conditions.

Q Is there a confining bed of any sort above it, an impervious bed?

A Seems to be a red impervious shale above it which would more or less confine it, I think, to that zone.

Q But it doesn't rise in the hole when you drill into it?

A The water level?

Q Yes.

A It will rise. I believe the test information indicated it would rise from a 340-foot depth up the hole to approximately 200 feet; in other words, 140 feet, I would say. 230 to 200, only 30 feet.

Q Do you have any information as to the porosity and permeability of this water strata?

A The water strata? No, sir, I do not.

MR. IRBY: That's all.

MR. NUTTER: Are there any further questions of Mr. Wood? He may be excused.

MR. SETH: I would like a couple of questions on behalf of Wilson Oil Company.

QUESTIONS BY MR. SETH:

Q Did your firm develop this proposed plan, Mr. Wood?

A Yes, sir, we did.

Q Did you consult in that connection with any other interested parties in the area besides Stanton?

A Not directly, no, sir.

Q Did you do it indirectly?

A No, sir.

Q Who are the other interested parties?

A It is our understanding that there are no operating interests in the area. The other interests would be royalty in-

terests and overriding royalty interests, and that sort of interest.

Q Is that true with regard to Section 34, Mr. Wood, do you know?

A No, sir, I do not. We were employed to try and develop a water flood pattern there that would be fair and equitable to everyone, and we did not go into the ownership phase of it.

Q You are not familiar, then, with the proper ownership, particularly in this area?

A No.

Q Is that a consideration in developing a plan of this character?

A Well, I'm sure that it would be, if we propose to drill wells back and forth across the lease line or something of that nature, but we felt the leases within each 40-acre tract that it not be --

Q I'm not too clear on just what interest Stanton has in this acreage. Perhaps I missed that when you testified.

A That, again, is more of a legal problem than engineering, but it is our understanding that the properties are owned and operated by Robert E. McKee, and he has negotiated a contract with the Stanton Oil Company whereby they will instigate this water project and at some future time will acquire the properties. We have a letter in this regard from Robert E. McKee, general contractor, advising of this agreement.

MR. NUTTER: Do you want to mark this as an Exhibit, Mr. Hamilton?

A MR. HAMILTON: Yes. This will be 4. We will offer Exhibit 4.

(Thereupon, Stanton's Exhibit No. 4 was marked for identification.)

MR. NUTTER: Without objection, applicant's Exhibit No. 4, being a letter from Robert E. McKee, general contractor, will be admitted.

(Whereupon, Stanton's Exhibit No. 4 was received in evidence.)

Q (By Mr. Seth) Do you know whether or not it is a fact, Mr. Wood, that these leases are held under an operating agreement from Wilson Oil Company, and they are not, in fact, owned by Robert E. McKee?

A It is my understanding that some of the properties are held by an operating agreement, yes, sir.

Q Are you familiar with the agreement?

A No, sir, not completely. I have read it, but I'm not a lawyer.

Q Do you know whether it would permit secondary recovery operations at all?

A Again I do not know, sir.

Q Yet you did not take this up with Wilson Oil Company, the owner of the lease, the question of whether a secondary recovery program should be instituted?

A No, sir, we did not.

Q Did you take it up with the U.S.G.S.?

A The flood has been discussed some with the U.S.G.S., the water supply situation has been discussed some, but as far as the operating interest and that sort of thing, I have not discussed it.

Q Did you discuss the plan with a representative of the U.S.G.S.?

A The general plan.

Q Did you do it yourself?

A No, sir, not myself.

Q Who did it, do you know?

A I think the representatives of Mr. McKee.

Q And with whom did he discuss it?

A I understood with the U.S.G.S. representative in Artesia.

Q You don't know who that was. You don't know of your own knowledge whether it has been discussed at all, do you; just what has been told you?

A Mr. McKee's representative told me that he had done that, yes, sir.

MR. THOMPSON: I'm Ed Thompson with the U.S.G.S.

MR. NUTTER: What was your first name, please?

MR. THOMPSON: Ed Thompson, U.S.G.S. at Roswell.

Q (By Mr. Thompson) Do you know when this was dis-

cussed with our representative in Artesia?

A Well, it is my understanding, again from talking, that this thing has been -- the flooding of this property has been discussed for about a year, and, at first, I think McKee tried to flood it himself, and then another party, and then finally a deal was consummated with Stanton Oil Company, Limited. I don't know exactly when it was discussed with the U.S.G.S., no, sir.

Q (By Mr. Thompson) The reason I ask, I talked to our district engineer in Artesia yesterday, and he said it had not been discussed with him. However, he is fairly new there. We had a part time representative in Artesia for a considerable period of time following the death of Mr. Frost, which I'm sure you know, and there is nothing in our regional office records in Roswell that this had ever been discussed. Our new district engineer, Mr. Faunoff, was not familiar, and that was the reason I wondered whether it had been discussed prior to Mr. Frost's death or possibly with our temporary representative in Artesia.

A Again, sir, I do not know. The final thing that we have presented here was not available until just shortly before the hearing, and it is our thinking that before anything could be done, we would have to secure the application -- or the permit to water flood from the State before we could go any further. In other words, if the State saw reason to deny it, there was no reason to go in for one.

MR. SETH: I have one more question, Mr. Wood.

Q (By Mr. Seth) This is not a legal question. How deep will the water go, is there an impervious bed at the bottom, or will the water --

A In the Queen Sand?

Q In the Queen.

A The water injected into the Queen Sand producing zone?

Q Yes.

A The water will move in the point of least resistance, which would be the normal flow pattern of your oil, which would be the porous zones.

Q I'm thinking about the vertical. What is there at the base of the Queen that will prevent the water from going into greater depth?

A I believe that the logs that we looked at all indicated a sandy lime or red shale under the pay zone, which would certainly isolate it.

Q Are you testifying that there is such a bed, Mr. Wood, or is that just your --

A Based on the data we have looked at, I would say there is.

Q About what depth is that, do you recall?

A Well, it would be approximately 2240 to 2250, depending on the well.

Q I didn't quite hear you.

A Approximately 2240 to 2250 feet, depending on the well.

Q To what depth does the interest of the Stanton Oil Company go, how deep is their ownership?

A I understand just from hearsay only that it's through this Queen Sand. I think 3,000 feet. I do not know, sir.

MR. SETH: That's all we have.

MR. NUTTER: Are there any other questions of Mr. Wood?

MR. PAYNE: Yes, sir.

MR. NUTTER: Mr. Payne.

QUESTIONS BY MR. PAYNE:

Q Mr. Wood, I'll ask you this question. If you don't know, perhaps Mr. Hamilton can answer. Do the Federal leases covering the acreage in the pilot area provide that secondary recovery operations can be carried on only after approval of the U.S.G.S.?

A I think that is correct, that you have to get their approval, but I'm not sure.

MR. HAMILTON: I believe that's right, yes.

MR. PAYNE: Thank you.

MR. NUTTER: Any further questions? Mr. Wood may be excused.

(Witness excused)

JOE B. McSHANE, JR.,

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

DIRECT EXAMINATION

BY MR. HAMILTON:

Q Will you state your name, please?

A My name is Joe E. McShane, Jr.

Q You are in the firm with Mr. Wood?

A I'm Mr. Oliver Wood's partner in the Oliver Wood & McShane Firm, Monahans, Texas. I was educated in the University of Trinity at San Antonio and the University of Texas in Austin. I was graduated from the University of Texas with a Bachelor of Science degree in petroleum engineering. I have worked for the Forest Oil Corporation in their water flooding activities in West Texas. I have also worked for the Signal Oil & Gas Company in their water flood operations in West Texas, and their water flood studies of the past three years in Southeastern New Mexico. I am presently a partner of Mr. Wood's in a consulting firm, Wood & McShane.

MR. HAMILTON: Will the Examiner accept his qualifications?

MR. NUTTER: Yes, sir. Please proceed.

Q Will you state the history, if you know, or the production history of these wells? I believe you are more familiar with that than Mr. Wood.

A In answer to the Examiner's earlier question with

regard to maximum production rates at the present time, according to the Conservation Commission's records, the Featherstone Wells No. 1 and 2 appear to be the maximum producers in the total nineteen-well area. They are also the maximum producers in the partially enclosed water flood area along with the McKee-Wilson No. 2 Well. These maximum productions range from 8 to 10 barrels per day per well.

Q Is there any other statement you care to make in connection with the application, Mr. McShane?

A I would be happy to attempt to answer any additional questions that the Examiner feels were left unanswered.

MR. NUTTER: Does anyone have any questions of Mr. McShane?

MR. SETH: I have a question with regard to one thing, Mr. Nutter. It is the well in the NE NE of Section 33.

CROSS EXAMINATION

BY MR. SETH:

Q Mr. McShane, do you have a plat there in front of you?

A Yes, sir.

Q How does that well fit into your overall plan and the acreage south of that?

A In this hearing we are attempting to bring out all of the information with regard to the pilot flood that is being applied for. In regard to the pilot flood, the Wilson No. 3 Well

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located in the NE of the NE Section 33, Township 18, Range 29,
will not be affected in any manner.

Q Not by the pilot plan?

A That is correct.

Q Is it in your ultimate plans?

A The ultimate plans in that area are not finalized
at this time, no, sir.

Q You indicate that you will ultimately apply seven
hundred odd acres?

A Seven hundred twenty acres, yes, sir.

Q And that proposed area does not include this well,
as you now contemplate?

A At the present time that is correct. I would like
to state in answer to that, in our opinion, -- in my opinion --
the expansion of this pilot flood will come with due engineering
as additional water input wells are drilled and as additional
reservoir information becomes available. If the reservoir infor-
mation should indicate that that lease should be flooded or could
be flooded, we would certainly then pursue the expansion of the
flood in that area. However, our information at this time does
not indicate that.

MR. SETH: That's all I have. Thank you.

MR. NUTTER: Any further questions of Mr. McShane?

He may be excused.

(Witness excused)

MR. HAMILTON: That's all. We would like to reserve the right to submit to the Commission evidence as to the title involved in this situation, showing just what the --

MR. NUTTER: That will be satisfactory.

MR. PAYNE: Do you wish to put on a case, Mr. Seth?

MR. SETH: No, we wish to make a statement.

MR. NUTTER: Does anyone have any further testimony they wish to offer in Case 1761? Does anyone have any statement they wish to make?

MR. SETH: Mr. Nutter, I would like to make just a brief statement. The Wilson -- we don't wish to be misunderstood in this connection. Wilson Oil Company certainly is anxious to go along with any secondary recovery program and would be very much in favor of one in this area, but they would like to be a little more fully advised of the proposed program, and also to see that they inform us of the ownership problems which result out of the operating agreement with Robert McKee. We also don't quite see the position of Stanton Oil Company by way of the ownership, whether they are the operator or whether he is the operator, and we would like very much to have an opportunity to discuss this more fully with these gentlemen here and with Stanton Oil Company and see if -- and be more fully advised on the program. Wilson Oil Company has made a number of attempts to seek information relevant to the program for development from the McKee group, and we are unable to get it. The first opportunity we

had was last night when Mr. Wilson got in touch with these people here. And we would like to ask the Commission if they would consider continuing the case until the next hearing to work out the several problems that have been raised.

MR. HAMILTON: We will be entirely happy to meet with them and give them all of the information that they have. I would like to ask Mr. Seth; the inference has been left here, I think, that the interest of the Wilson Oil Company is such that it would be injuriously affected by the granting of this application. My understanding is that their interest was limited to a royalty interest; if they are contending they have a further interest, we would like to have it made a matter of record.

MR. SETH: Wilson Oil Company does own the leases, and they own them -- complete ownership below a certain depth, they have an overriding royalty as to each 40-acre tract to a hundred feet below total depth of the well. That has not been developed at this hearing, what the total depth of the wells are in each instance. They have an overriding royalty a hundred feet below total depth. The Wilson Oil Company owns the leases entirely below that depth; they are the lessee of record. The only interest that McKee has is by virtue of an operating agreement which it holds.

MR. PAYNE: Mr. Seth, who operates the two wells that are entirely enclosed --

MR. SETH: Robert E. McKee is the operator under

this agreement. They also drilled the wells.

MR. NUTTER: Mr. Hamilton, any information that you said that you would submit concerning the title of the properties and so forth, you would be willing to furnish Mr. Seth a copy of that?

MR. HAMILTON: Yes, sir.

MR. NUTTER: Do you have any objection to the continuance of the case, Mr. Hamilton?

MR. HAMILTON: You mean until --

MR. NUTTER: Until such time as the parties have had a chance to meet and discuss this matter, and reappear here, which would probably be on October the 28th.

MR. HAMILTON: If that is the desire of the Commission, we certainly have no objection.

MR. NUTTER: Without objection, the case will be continued to a hearing before the same Examiner on October the 28th. If you feel that it is necessary at that time, Mr. Seth, you can make an appearance in the case. If you feel that it is necessary to make an appearance, Mr. Hamilton, you can make an appearance. However, if you have reached an agreement, an appearance by letter should be satisfactory on the 28th.

MR. HAMILTON: Thank you.

MR. NUTTER: Is there anything further in Case 1761? It will be continued, then, to nine o'clock a.m. October 28, before the same Examiner.

MR. HAMILTON: Nothing further as far as the applicant is concerned.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 12th day of October
1959, in the City of Albuquerque, County of Bernalillo, State of
New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1761 heard by me on 9-30, 1959.

heard by the Commission, Examiner

Treat-Rite Water Laboratories, Inc.
BOX 548 - MONAHANS, TEXAS
RESULT OF WATER ANALYSES

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

APP NO. 2

LABORATORY NO. M85932 1761

TO: Stanton Oil Company, c/o Wood & McShane
P. O. Box 398, Monahans, Texas

SAMPLE RECEIVED 8-14-59
RESULTS REPORTED 8-21-59

COMPANY Stanton Oil Company LEASE Brainard
FIELD OR POOL Turkey Track - Queens Sand
SECTION 34 Monahans 189 Range 29-8 COUNTY Eddy STATE N. M.

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from water supply well.

NO. 2

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
SPECIFIC GRAVITY AT 60°F.	1.0093			
PH WHEN SAMPLED				
PH WHEN RECEIVED	7.2			
TOTAL ALKALINITY AS CaCO ₃	80			
SATURATED ALKALINITY AS CaCO ₃				
UNDERSATURATION AS CaCO ₃				
TOTAL HARDNESS AS CaCO ₃	3.467			
CALCIUM AS CaCO ₃	2.005			
MAGNESIUM AS CaCO ₃	1.462			
SODIUM AND/OR POTASSIUM	2.907			
SULFATE AS SO ₄	3.118			
CHLORIDE AS SO₄ AS Cl	4.363			
SILICA AS SiO ₂	7.5			
IRON AS Fe	12.6			
MANGANESE AS Mn				
BARIUM AS Ba	none			
TURBIDITY ELECTRIC	142			
COLOR AS Pt	2.3			
DISSOLVED SOLIDS AT 103°C.	11,204			
TOTAL SOLIDS AT 103°C.	11,346			
TEMPERATURE °F.				
CARBON DIOXIDE CALCULATED	10.4			
DISSOLVED OXYGEN WINKLER				
HYDROGEN SULPHIDE	none			
RESIDUAL CHLORINE				
RESISTIVITY OHMS/CC	82			
Chlorides, as NaCl	7,187			
Boron	2.2			

NOTE: All Results Reported as Parts Per Million. Divide by 17.1 to Convert to Grains Per Gallon

Additional Determinations and Remarks Please feel free to contact me for any details or discussion concerning this analysis.

By Waylan C. Martin, H. A.

ROBERT E. MCKEE GENERAL CONTRACTOR INC.

EP-8245-E

Re: Contract Agreement with
Stanton Oil Co., Ltd.

El Paso, Texas

1918 Texas Street — P. O. Drawer 562

September 26, 1959

Wood and McShane, Consulting Engineers
c/o Mr. M. W. Hamilton
P. O. Box 775
Santa Fe, New Mexico

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
App'l	EXHIBIT NO. <u>4</u>
CASE NO.	<u>1761</u>

Attention: Mr. Oliver Wood

Gentlemen:

This is to advise that under Contract dated August 4, 1959, we entered into agreement with Stanton Oil Co., Ltd. whereby they were to undertake the installation of a water flood operation by injection of water into the Queen formation on the following described lands in the Turkey Track Pool in Eddy County, New Mexico:

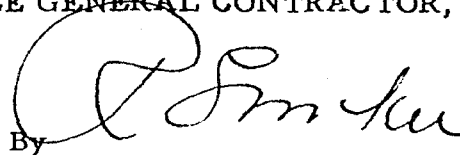
NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 33, Township 18 South, Range 29 East;
NW $\frac{1}{4}$ SW $\frac{1}{4}$, E $\frac{1}{2}$ W $\frac{1}{2}$, W $\frac{1}{2}$ E $\frac{1}{2}$ Section 34, Township 18 South,
Range 29 East;
NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ Section 3, Township 19 South,
Range 29 East

The title to these leases is in the name of Robert E. McKee General Contractor, Inc.; however, it is agreed in the Contract that Stanton Oil Co., Ltd. is to make application to the Oil Conservation Commission of the State of New Mexico, for the water flood installation.

This is to certify that Stanton Oil Co., Ltd. has full authority under said Contract to make application to the Oil Conservation Commission of the State of New Mexico on the lands listed above covered by leases and operating agreements owned by Robert E. McKee General Contractor, Inc.

Very truly yours,

ROBERT E. MCKEE GENERAL CONTRACTOR, INC.

By 

President

REM:mb

cc:Stanton Oil Co., Ltd.

cc:Mr. M. W. Hamilton

cc:A

LOS ANGELES, CALIFORNIA : DALLAS, TEXAS : SANTA FE, NEW MEXICO

Card
1761

PRELIMINARY DATA
STANTON OIL COMPANY, LTD.
TURKEY TRACK FIELD, EDDY COUNTY, NEW MEXICO
QUEEN SAND WATER FLOOD PROJECT

The attached Plat is submitted on behalf of the Stanton Oil Company, Ltd., as a portion of their application for a waterflood permit of the Queen Sand Formation on certain leases of the Turkey Track Field, Eddy County, New Mexico.

Proposed Flood Data:

Pilot Flood Area, Totally Enclosed	40 Acres
Pilot Flood Area, Partially Enclosed	151 Acres
Pilot Flood Injection Wells	1-W, 2-W, 3-W, and 4-W
Pilot Flood Producers, Totally Enclosed	Wilson 1 and 5
Pilot Flood Producers, Partially Enclosed	Wilson 2, Featherstone 1 and 2, Brainard 2, 4, and 6
Full Flood Project Area	720 Acres

The total enclosed portion for the proposed Pilot Flood Water Injection is the SE/4 of the NW/4, Section 34, T-18-S, R-29-E, Eddy County, New Mexico.

The full flood project area includes the following:

E/2 of the NE/4, Section 33, T-18-S, R-29-E;

The E/2 of the NW/4, W/2 of the NE/4, the N/2 of the SW/4, the N/2 of the SE/4, and the SW/4 of the SE/4, Section 34, T-18-S, R-29-E;

the S/2 of the NW/4, the N/2 of the SW/4, the N/2 of the SE/4, and the SW/4 of the SE/4, Section 3, T-19-S, R-29-E;

Eddy County, New Mexico.

Submitted with plat on August 26, 1959, by Wood & McShane,
Box 398, Monahans, Texas.

Wood & McShane--Monahans, Texas

SCHEDULE "A"

<u>Wells</u>	<u>Well No.</u>	<u>Lease No.</u>	<u>S T & R</u>	<u>Location</u>
State	3	B-8876-6	3-19S-29E	SW $\frac{1}{4}$ SE $\frac{1}{4}$
State	5	B-8876-6	3-19S-29E	NW $\frac{1}{4}$ SE $\frac{1}{4}$
State	15	B-8876-6	3-19S-29E	NE $\frac{1}{4}$ SE $\frac{1}{4}$
State	10	B-7950-23	3-19S-29E	NE $\frac{1}{4}$ SW $\frac{1}{4}$
State	16	E-3949-14	3-19S-29E	SE $\frac{1}{4}$ NW $\frac{1}{4}$
State	17	B-8949-13	3-19S-29E	SW $\frac{1}{4}$ NW $\frac{1}{4}$
Spencer	1	B-8949-17	3-19S-29E	NW $\frac{1}{4}$ NW $\frac{1}{4}$
Spencer	2	B-8949-17	3-19S-29E	NE $\frac{1}{4}$ NW $\frac{1}{4}$
Brainard	1	LC 062029	34-18S-29E	SE $\frac{1}{4}$ SW $\frac{1}{4}$
Brainard	2	LC 062029	34-18S-29E	NW $\frac{1}{4}$ SW $\frac{1}{4}$
Brainard	4	LC 062029	34-18S-29E	NE $\frac{1}{4}$ SW $\frac{1}{4}$
Brainard	5	LC 062029	34-18S-29E	SW $\frac{1}{4}$ SE $\frac{1}{4}$
Brainard	6	LC 062029	34-18S-29E	NW $\frac{1}{4}$ SE $\frac{1}{4}$
McKee-Featherstone	1	NM 010907-A	34-18S-29E	NW $\frac{1}{4}$ NE $\frac{1}{4}$
McKee-Featherstone	2	NM 010907-A	34-18S-29E	SE $\frac{1}{4}$ NE $\frac{1}{4}$
McKee-Wilson	1	NM 015068	34-18S-29E	SE $\frac{1}{4}$ NW $\frac{1}{4}$
McKee-Wilson	5	NM 015068	34-18S-29E	SE $\frac{1}{4}$ NW $\frac{1}{4}$
McKee-Wilson	2	NM 015068	34-18S-29E	NE $\frac{1}{4}$ NW $\frac{1}{4}$
McKee-Wilson	3	NM 015068	33-18S-29E	NE $\frac{1}{4}$ NE $\frac{1}{4}$

The above leases are all located in Eddy County, New Mexico.