

CASE 3010: Application of R. C.  
DAVOUST for expansion of a water-  
flood project, Eddy County, N.M.

*R. C. Davoust*

CASE No.

3010

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.



Figure 2  
Injection Performance  
Turkey Track - Queen Sand  
Eddy County, New Mexico

R. C. Davoust Company

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
*Agg* EXHIBIT NO. 5  
3010

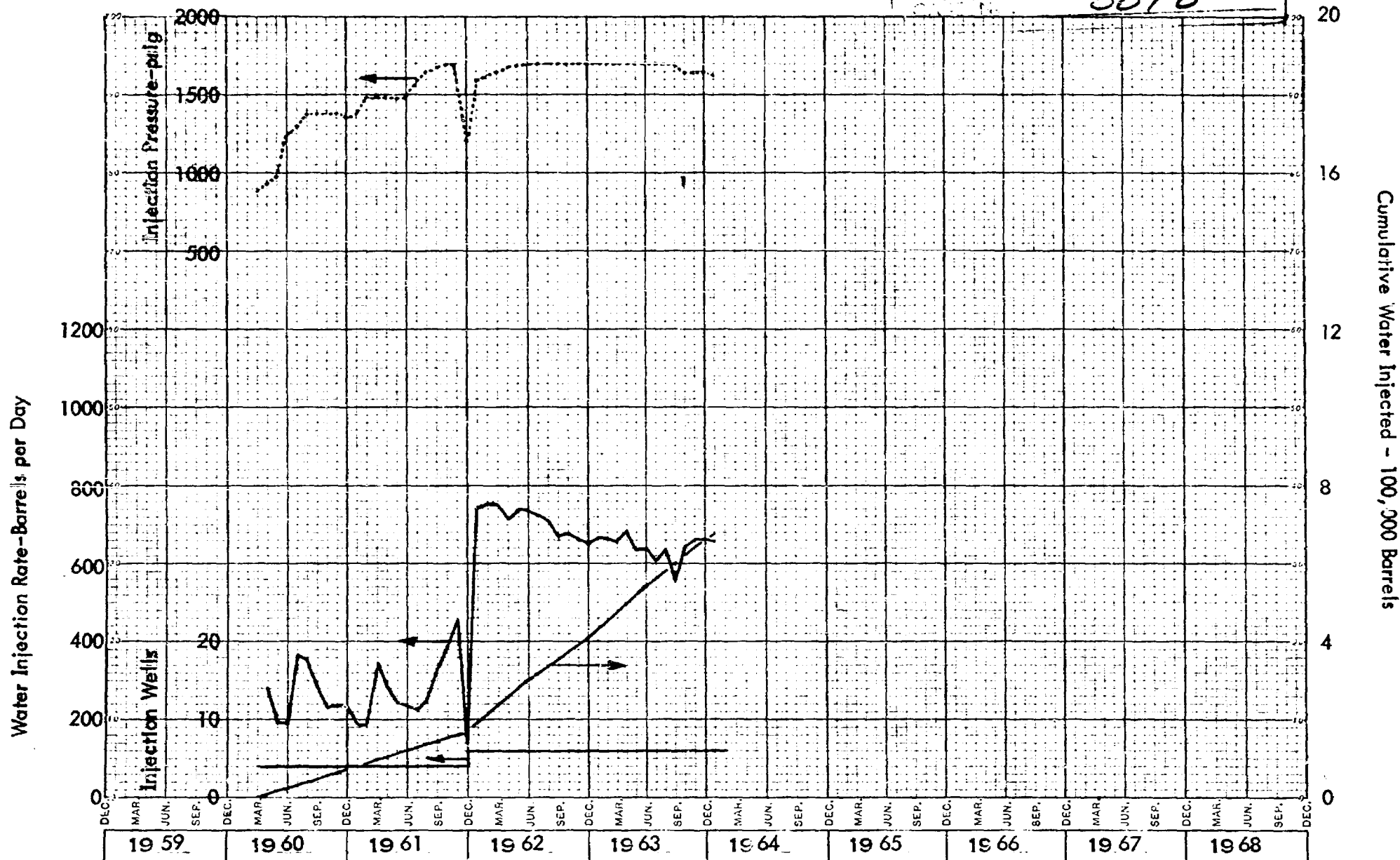




Figure 1  
Production Performance  
Turkey Track - Queen Sand  
Eddy County, New Mexico

R. C. Davoust Company

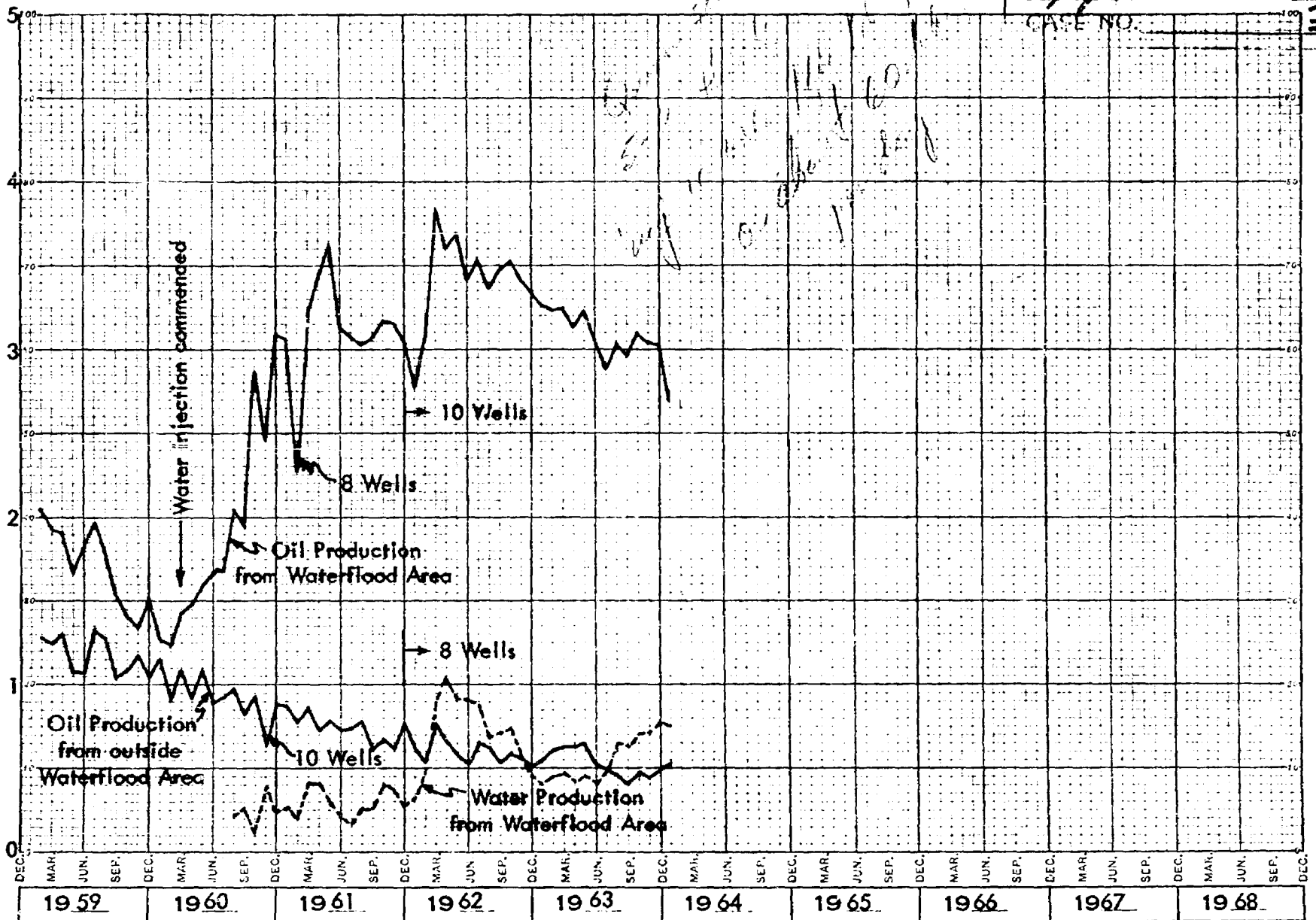
BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 4

CASE NO. 3010

Oil Production - 1,000 Barrels per Month  
Water Production - 1,000 Barrels per Month

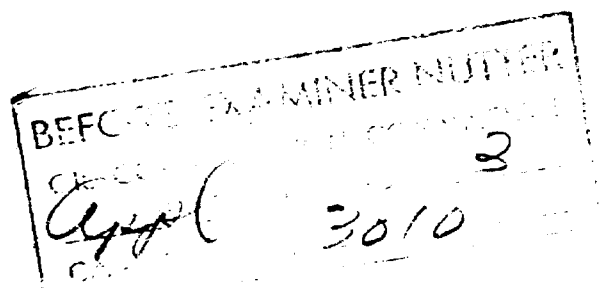


# OIL PRODUCTION STATISTICS

R. C. DAVOUST COMPANY

Turkey Track Queen Field  
Eddy County, New Mexico

| Well Name<br>and Number          | Oil Production<br>during<br>1963<br>Bbls. | Cumulative Oil<br>Production<br>at 12-31-63<br>Bbls. | Average Daily<br>Production December, 1963 |              |
|----------------------------------|---|--|--|--------------|
|                                  |   |  | Oil<br>B/D                                 | Water<br>B/D |
| Brainard #1                      | 2,384                                     | 24,615   | 4.7  | 0.0          |
| Brainard #2                      | 2,304                                     | 20,031   | 7.2  | 1.6          |
| Brainard #4                      | 9,162                                     | 45,191   | 29.6                                       | 1.5          |
| Brainard #5                      | 2,354                                     | 14,308   | 4.4  | 0.3          |
| Brainard #6                      | 5,574                                     | 24,504   | 12.4                                       | 3.4          |
| Featherstone #1                  | 1,662                                     | 15,685   | 4.9  | 0.6          |
| Featherstone #2                  | 875                                       | 13,149   | 1.9  | 5.2          |
| Wilson #1                        | 3,563                                     | 28,092   | 10.4                                       | 0.3          |
| Wilson #2                        | 7,764                                     | 50,517   | 18.1                                       | 2.8          |
| Wilson #5                        | 1,472                                     | 11,496   | 3.9  | 9.0          |
| Subtotal-Waterflood Area         | 37,114                                    | 247,588  | 97.5                                       | 24.7         |
| Spencer #1                       | 1,946                                     | 33,420   | 4.5  | 0.2          |
| Spencer #2                       | 841                                       | 54,426   | 4.4  | 0.0          |
| State #3                         | 730                                       | 12,493   | 1.6  | 0.2          |
| State #10                        | 696                                       | 28,608   | 1.9  | 0.0          |
| State #15                        | 512                                       | 22,698   | 0.1  | 0.3          |
| State #16                        | 1,042                                     | 19,455   | 2.4  | 0.0          |
| State #17                        | 615                                       | 11,951   | 1.1  | 0.0          |
| Subtotal-Outside Waterflood Area | 6,382                                     | 183,051  | 16.0                                       | 0.7          |
| TOTALS                           | 43,496                                    | 430,639  | 113.5                                      | 25.4         |



# Serv-A-Wel Corporation

"OIL FIELD CHEMICALS"

2621 CULLEN ST.  
EDISON 6-1074

P. O. Box 9035

PAYEE'S RECEIPT  
THE TEXAS STATE TREASURY  
FOR DEPOSIT OF FUNDS  
FOR THE STATE OF TEXAS

John W. Cook, Texas

May 25, 1967

TO: Mr. Will Krickert, Engineer  
Stanton Oil Company  
402 Wilkinson-Paster Building  
Midland, Texas

SUBMITTED BY:

WELL NO:

COUNTY:

W. K. Krickert  
Inspection Water  
Midland, Texas

Resistivity

Specific Gravity

pH

Total Dissolved Solids

Calcium (Ca)

Magnesium (Mg)

Chlorides (Cl)

Sulfates (SO<sub>4</sub>)

Carbonates (CO<sub>3</sub>)

Silicates (SiO<sub>2</sub>)

Total Iron

\* Milligrams per liter

0.91 - 75.2  
1.06  
7.6  
5.265 mpl\*  
1.09 mpl  
1.8 mpl  
2.384 mpl  
2.40 mpl  
negative mpl  
1.0 mpl  
negative pl

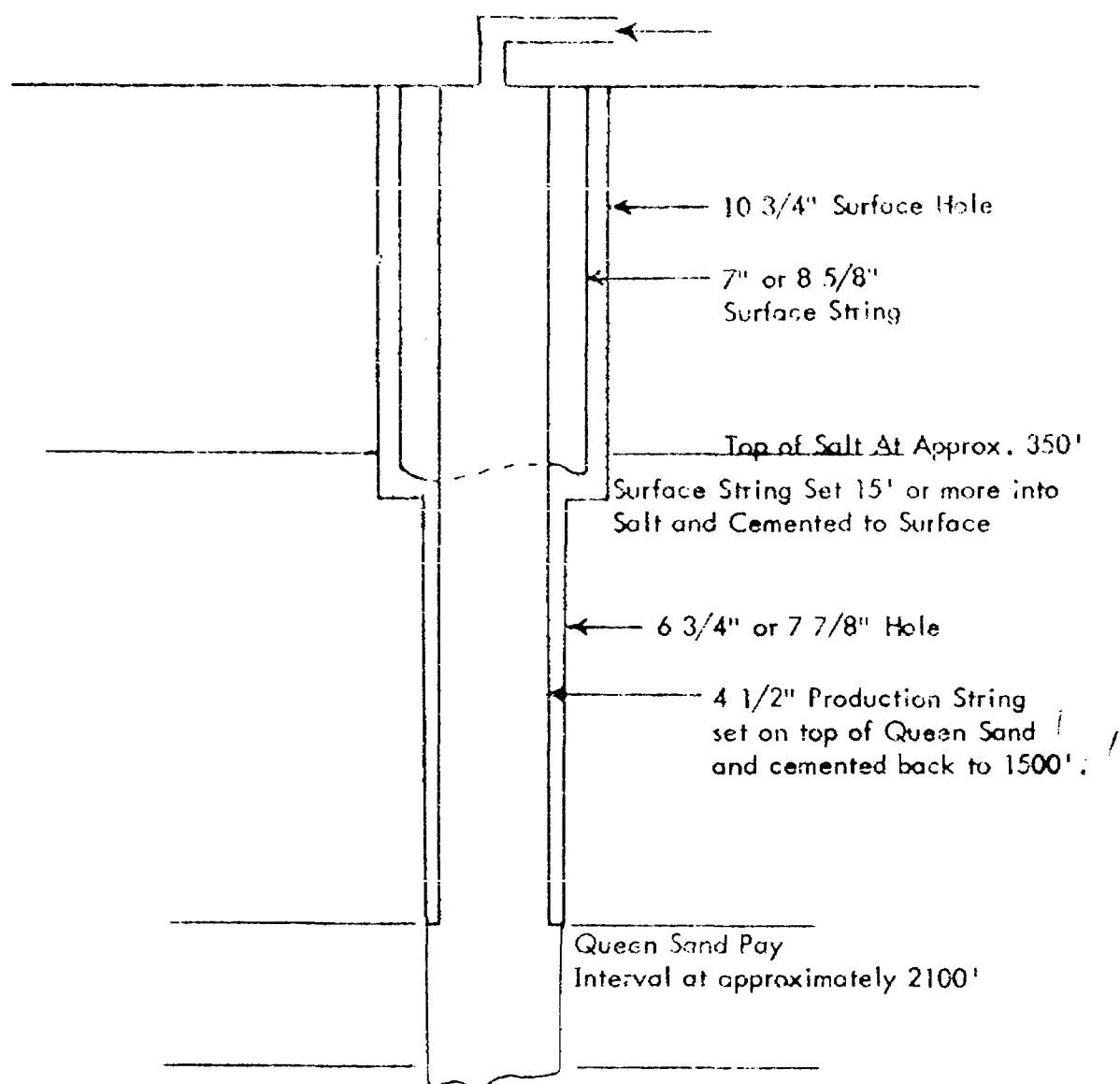
BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 6  
CASE NO. 3010

Respectfully Submitted,

Ed Lewis

Analyst



Total Depth Approximately 2150'

DIAGRAM OF PROPOSED WELL CASING

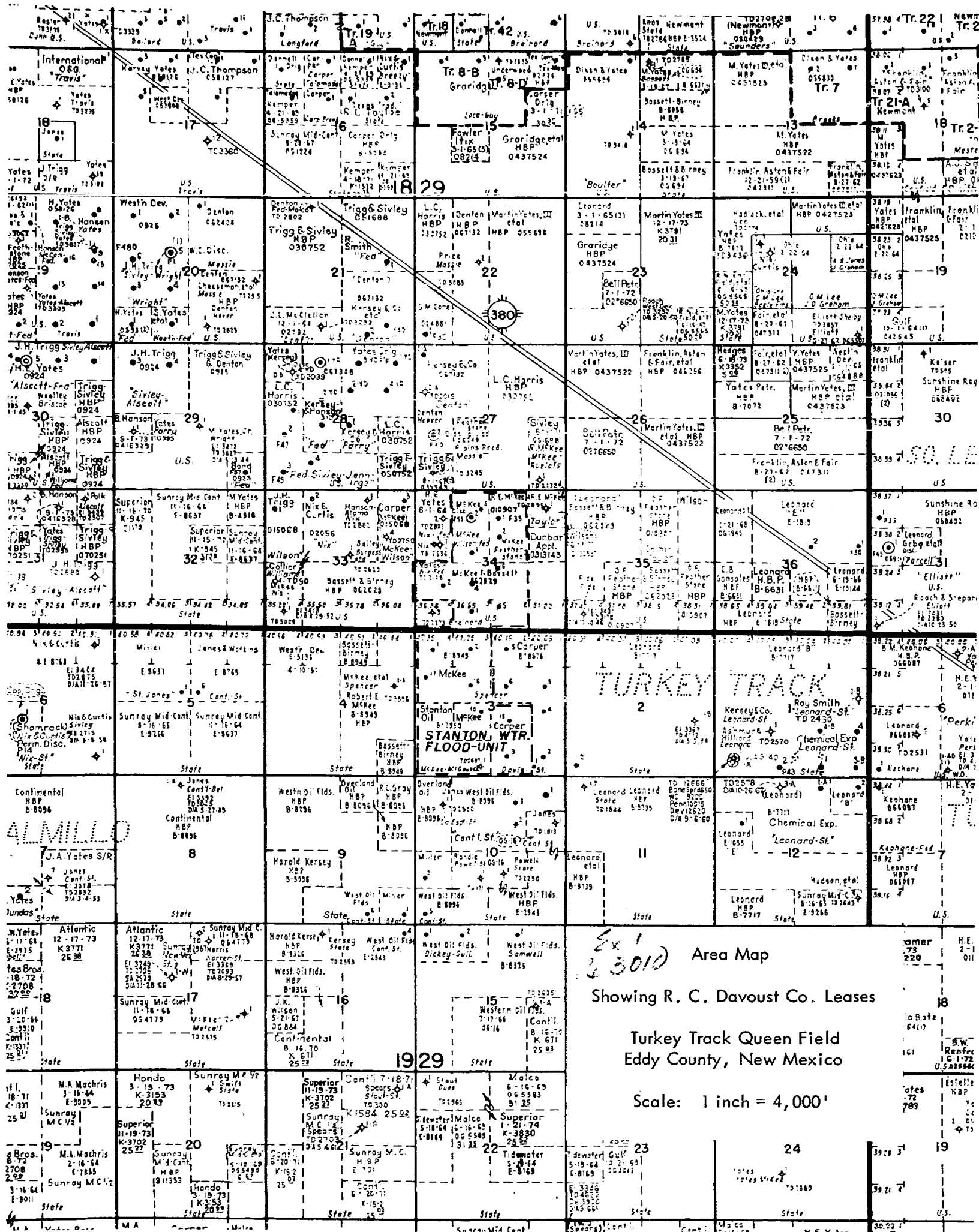
for

R. C. DAVOUST COMPANY  
WATER INJECTION WELLS

Turkey Track Field  
Eddy County, New Mexico

Prepared By: RYDER SCOTT COMPANY

|                             |      |
|-----------------------------|------|
| BEFORE EXAMINER NUTTER      |      |
| OIL CONSERVATION COMMISSION |      |
| EXHIBIT NO.                 | 7    |
| CASE NO.                    | 3010 |





MARCH 11, 1964 EXAMINER HEARING

- CASE 3004: Application of Ambassador Oil Corporation for a unit agreement Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Pearsall Queen Sand Unit comprising 960 acres of State and Federal land in Townships 17 and 18 South, Range 32 East, Lea County, New Mexico.
- CASE 3005: Application of Ambassador Oil Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Pearsall (Queen) Pool, Lea County New Mexico, by the injection of water into the Queen formation through 5 wells, located in Sections 4 and 5 Township 18 South, Range 32 East.
- CASE 3006: Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant in the above-styled cause, seeks authority to institute a waterflood project in the Pearsall (Queen) Pool, Lea County, New Mexico, by the injection of water into the Queen formation through one well located in Unit M of Section 33, Township 17 South, Range 32 East.
- CASE 3007: Application of Consolidated Oil & Gas, Inc. for a triple completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (conventional) of its Hoyt Well No. 2-5, located in Unit L of Section 5, Township 26 North, Range 4 West, Rio Arriba County, New Mexico, to produce gas from the Basin-Dakota and Blanco Mesaverde Gas Pools and oil from an undesignated Gallup oil pool through parallel strings of 2 1/16 inch, 1 1/2 inch, and one inch tubing, respectively.
- CASE 3008: Application of Phillips Petroleum Company for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (conventional) of its Santa Fe Well No. 87, located in Unit L of Section 31, Township 17 South, Range 35 East, Lea County, New Mexico, to produce oil from the North Vacuum-Abo, Vacuum-Wolfcamp and Vacuum-Glorieta Pools through parallel strings of 2 3/8-inch OD tubing.
- CASE 3009: Application of Cities Service Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Owen No. 1 Well located in Unit P of Section 35, Township 21 South, Range 37 East, Lea County, New Mexico, to produce oil from the Blinebry and Drinkard Oil Pools through parallel strings of 1½-inch and 2 1/16-inch tubing, respectively.
- CASE 3010: Application of R. C. Davoust for the expansion of a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, as successor to Stanton Oil Company, Ltd., seeks to expand the Turkey Track Pool Waterflood Project authorized by Order No. R-1524. Said expansion would be effected by the drilling of 11 water injection wells to the Queen formation at certain unorthodox locations no nearer than 5 feet distance from any 40-acre lot line in Section 34, Township 18 South, Range 29 East, and Section 3, Township 19 South, Range 29 East, Eddy County, New Mexico.

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 11, 1964

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

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

CASE 2988 (Continued from the February 5, 1964 Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit George E. Willett and all other interested parties to appear and show cause why the SDD Hare Well No. 7, located 600 feet from the South line and 1360 feet from the East line of Section 14, Township 29 North, Range 11 West, San Juan County, New Mexico, should not be plugged in accordance with a Commission-approved plugging program.

CASE 2998 (Continued from the February 19, 1964 Examiner Hearing)

Application of Tenneco Oil Company for a gas well-water injection well, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Central Totah Unit Well No. 24 located in Unit O of Section 11, Township 28 North, Range 13 West, San Juan County, New Mexico, to produce gas from the Basin-Dakota Gas Pool through 1 1/2 inch tubing and to inject water into the Gallup formation, Totah-Gallup Oil Pool, through 2 1/16 inch tubing with separation of the zones by a packer set at 5766 feet.

CASE 3001: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit O. A. Peters and all interested parties to appear and show cause why the Peters State Well No. 1, located 860 feet from the South line and 660 feet from the East line of Section 2, Township 1 North, Range 20 East, De Baca County, New Mexico, should not be plugged in accordance with a Commission-approved plugging program.

CASE 3002: Application of Pan American Petroleum Corporation for the creation of a new gas pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Lower Paddock Gas Pool for its SMU Well No. 16, located in Unit O of Section 15, Township 24 South, Range 37 East, and the establishment of special pool rules therefor, including a provision for 320-acre spacing, Lea County, New Mexico.

CASE 2737 (Reopened): In the matter of Case No. 2737 being reopened pursuant to the provisions of Order No. R-2429-A, which order established temporary 640-acre spacing units for the White City-Pennsylvanian Gas Pool, Eddy County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 160-acre spacing units.

CASE 3003: Application of Cabot Corporation for the creation of a new oil pool and for special pool rules, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Bough "C" Oil Pool for its Signal State Well No. 1, located in Unit A of Section 29, Township 8 South, Range 33 East, Chaves County, New Mexico, and for the establishment of temporary pool rules therefor, including a provision for 80-acre proration units.

GOVERNOR  
EDWIN L. MECHEM  
CHAIRMAN

State of New Mexico  
Oil Conservation Commission



LAND COMMISSIONER  
E. S. JOHNNY WALKER  
MEMBER

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

P. O. BOX 971  
SANTA FE

Mr. Fred A. Watson  
Watson & Watson  
Attorneys at Law  
P. O. Drawer E  
Artesia, New Mexico

Gentlemen:

Enclosed herewith is Commission Order No. R-2271, entered in Case No. 3010, approving the expansion of the R.C. Davoust Tract / Drilled and 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 1072 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

cc: 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. 3010  
Order No. R-2671

APPLICATION OF R. C. DAVOUST  
FOR THE EXPANSION OF A WATER-  
FLOOD PROJECT, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on  
March 11, 1964, at Santa Fe, New Mexico, before Examiner  
Daniel S. Nutter.

NOW, on this 18th day of March, 1964, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

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

(2) That the applicant, R. C. Davoust, as successor to  
Stanton Oil Company, Ltd., seeks authority to expand the Turkey  
Track Pool Waterflood Project authorized by Commission Order  
No. R-1524, by drilling 11 water injection wells at unorthodox  
locations in Section 34, Township 18 South, Range 29 East, and  
Section 3, Township 19 South, Range 29 East, NMPM, Eddy County,  
New Mexico.

(3) That the wells in the proposed project area are in an  
advanced state of depletion and should properly be classified as  
"stripper" wells.

(4) That the proposed expansion is in the interest of  
conservation and should result in recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the applicant should be authorized to expand the  
existing waterflood project as proposed, and that said expansion

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CASE No. 3010  
Order No. R-2671

should be governed by Rule 701 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, R. C. Davoust, is hereby authorized to expand the Turkey Track Pool Waterflood Project by the injection of water into the Queen formation through the following-described 11 wells to be drilled at the following-described unorthodox locations:

NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO

SECTION 34, TOWNSHIP 18 SOUTH, RANGE 29 EAST

Brainard Well No. 9-W, to be located 5 feet  
from the South line and 5 feet from the  
East line of Unit O

SECTION 3, TOWNSHIP 19 SOUTH, RANGE 29 EAST

Spencer Well No. 10-W, to be located 660 feet  
from the North line and 5 feet from the  
West line of Unit D

Spencer Well No. 11-W, to be located 5 feet  
from the South line and 5 feet from the  
West line of Unit C

Spencer Well No. 12-W, to be located 5 feet  
from the South line and 5 feet from the  
East line of Unit C

Spencer Well No. 13-W, to be located 5 feet  
from the South line and 5 feet from the  
East line of Unit B

State Well No. 14-W, to be located 5 feet from  
the South line and 5 feet from the West  
line of Unit F

Spencer Well No. 15-W, to be located 5 feet  
from the South line and 5 feet from the  
West line of Unit G

Spencer Well No. 16-W, to be located 5 feet  
from the South line and 5 feet from the  
West line of Unit H

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CASE No. 3010  
Order No. R-2671

State Well No. 17-W, to be located 5 feet  
from the South line and 5 feet from  
the West line of Unit K

State Well No. 18-W, to be located 5 feet  
from the South line and 5 feet from  
the East line of Unit K

State Well No. 19-W, to be located 5 feet  
from the South line and 5 feet from  
the West line of Unit I

(2) That the waterflood project herein authorized shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.

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

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

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION



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

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

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

esr/

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

*2-27-64*

March 18, 1964

C  
O  
P  
Y

Mr. Fred A. Watson  
Watson & Watson  
Attorneys at Law  
Post Office Drawer E  
Artesia, New Mexico

Dear Mr. Watson:

Enclosed herewith is Commission Order No. R-2671, entered in Case No. 3010, approving the expansion of the R. C. Davoust Turkey Track Waterflood Project.

According to our calculations, when all of the authorized injection wells have been drilled and placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 1092 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.

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

-2-

Mr. Fred A. Watson

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

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

cc: Oil Conservation Commission  
Artesia, New Mexico



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 11, 1964

EXAMINER      HEARING

IN THE MATTER OF: Application of R. C. Davoust  
for the expansion of a waterflood project,  
Eddy County, New Mexico. Applicant, in the  
above-styled cause, as successor to Stanton  
Oil Company, Ltd., seeks to expand the  
Turkey Track Pool Waterflood Project author-  
ized by Order No. R-1524. Said expansion  
would be effected by the drilling of 11 water  
injection wells to the Queen formation at  
certain unorthodox locations no nearer than  
5 feet distance from any 40-acre lot line in  
Section 34, Township 18 South, Range 29 East,  
and Section 3, Township 19 South, Range 29  
East, Eddy County, New Mexico.

Case No. 3010

BEFORE: DANIEL S. NUTTER, EXAMINER.

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
PHONE 325-1182

SANTA FE, N. M.  
PHONE 983-3971

ALBUQUERQUE, N. M.  
PHONE 243-6691



MR. NUTTER: We will call Case 3010.

MR. DURRETT: Application of R. C. Davoust for the expansion of a waterflood project, Eddy County, New Mexico.

(Whereupon, Applicant's Exhibits Nos. 1 through 7 were marked for identification.)

MR. WATSON: I am Watson of Watson and Watson, Artesia, New Mexico appearing for Applicant R. C. Davoust. We have one witness, Mr. Frickert.

(Witness sworn.)

MR. WATSON: If I may summarize the previous history of this project a little bit. Case 1761 before this Commission resulted in Order No. R-1524, authorizing a pilot waterflood of the Queen sand in the Turkey Track Pool, Eddy County, New Mexico through four injection wells at unorthodox locations. Thereafter, by administrative order WFX-96, expansion was permitted by injection into two additional wells and then a subsequent administrative order WFX-166 expanded the flood for two more injection wells.

We would like for the hearing Examiner to take notice of these proceedings merely for reference purposes. Under the present application the Applicant seeks further expansion of the flood by the drilling of 11 wells for injection of water into the Queen formation at unorthodox locations. The application, as submitted, is to some extent in conflict with this hearing because there are

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Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

two wells which have already been authorized by administrative order WFX-166. They were inadvertently included in the application, but they were stricken from the notices published, as I understand it.

MR. NUTTER: All right.

MR. FRICKERT

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

DIRECT EXAMINATION

BY MR. WATSON:

Q Now, Mr. Frickert, I will ask you to refer to what is marked as Exhibit 1. I'll ask you to state what that exhibit depicts.

A This Exhibit 1 is just an area map.

MR. WATSON: Just a moment, I am not sure that the witness has testified before the Commission.

A No, I have not.

MR. NUTTER: Qualify the witness, please.

Q Where do you live?

A Midland, Texas.

Q By whom are you employed?

A Rider Scott Company, petroleum engineers.

Q How long have you been employed by Rider Scott?



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General Court Reporting Service

Suite 1120 Simms Building

Albuquerque, New Mexico

Phone 243-6691

PAGE 4

A Since January, 1959.

Q What is your educational background?

A B. S. in petroleum engineering from the University of Texas.

Q Under your employment with Rider Scott Company have you worked upon any waterflood projects?

A Yes, sir.

Q Have you worked in particular upon any Queen waterflood projects in New Mexico?

A Yes, sir, in the Caprock-Queen field.

Q You have been with them since --

A January of 1959.

Q Is Rider Scott Company presently employed by R. C. Davoust?

A Yes. We are acting as an agent for R. C. Davoust Company.

Q You are a project engineer?

A Yes, sir.

Q On the project with which this application is concerned?

A Yes, sir.

MR. WATSON: Are the witness's qualifications acceptable?

MR. NUTTER: They are.

Q Now, referring to Exhibit No. 1, would you describe what this exhibit portrays?



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Suite 1120 Simms Building  
Albuquerque, New Mexico  
Phone 243-6601

A This exhibit is an area map on which the leases under consideration here are shaded yellow.

Q This shows the surrounding and offsetting area?

A Yes, sir.

Q Now we'll refer to Exhibit 2. I'll ask you to describe Exhibit 2, please.

A Exhibit 2 is a project map showing first of all the pilot area which includes Wells 1-W, 2-W, 3-W and 4-W.

Q These are at the top of the project area?

A Yes, sir.

Q Section 34?

A Section 34.

Q These are authorized as a part of the pilot flood?

A Yes, sir.

Q Then administrative order WFX-96 authorized two additional injection wells. Are those shown on this map?

A Yes, sir, they are shown as 5-W and 6-W in the lower half of 34.

Q Then the latest administrative order WFX-166 authorized two additional wells?

A Yes, sir, 7-W and 8-W.

Q Does this map show your proposed wells for which we apply under this application?



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Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

A Yes, sir, in Section 3, the double circle.

Q This is Section 3, Township 19 South, Range 29 East?

A Yes. The double circles in the unorthodox location are the 11 proposed injection wells to be drilled.

Q The numbers are what?

A 10-W through 19-W and 9-W up in Section 34.

Q 9-W?

A Yes.

Q That's 34, 18, 29?

A Yes.

Q If you'll refer to what has been marked Exhibit No. 3, which is labeled "Oil Production Statistics", what does this exhibit purport to show?

A This exhibit purports to show the oil production during 1963 for the producing wells involved. Another column is Cumulative Production to the end of 1963 for each well, and two columns showing the daily average oil and water produced during December of 1963. The upper group of wells are in the waterflood area presently and the lower group of wells are in the proposed waterflood area and are not now being water flooded.

The daily average production for the waterflood wells ranges from 1.9 barrels per day to 29.6 barrels per day in the waterflood area, and outside the waterflood area the range is from one-tenth



barrels per day to four and a half barrels per day.

Q Referring to the upper group of wells, being the producing wells within the waterflood area, has the project ever exceeded the Rule 701 allowable?

A No, sir. Our largest Rule 701 allowable was near 350 barrels a day. The largest allowable we have used to date is right near 120 barrels per day. The maximum producing rate at any well has been 40 barrels per day.

Q Now, referring to your lower group of wells, being the wells outside the waterflood area on Exhibit No. 3, as to your average daily production in December of 1963, do these wells, have they reached an advanced stripper state where they're reaching the economic limit?

A Yes, sir, they have.

Q Now refer to the exhibit which has been marked Exhibit No. 4, please.

A Exhibit No. 4 consists of three curves. The upper curve purports to show the monthly oil production from the waterflood area which indicates that substantial response has been received from the flood to date. The second curve shows the declining production rate for the wells outside the waterflood area, and the lower curve, which is dashed, indicates the monthly water production from the waterflood area.

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Q The significance of this is that you are receiving a response?

A Yes, sir, the waterflood has worked and is working right at this time.

Q If you'll refer to Exhibit No. 5, the injection performance graph.

A Figure 5 consists of four curves, the upper dotted curve is the injection pressure, which has recently been near 1650 pounds. The next lower curve is the daily average injection rate for all injection wells, which has averaged recently near 600 barrels per day. The next curve is a cumulative water injected to date, and the last curve shows the number of injection wells. We presently have six injection wells.

Q If you'll refer to Exhibit No. 6.

A Exhibit No. 6 is for information only. It shows the most recent water analysis of our injected water. This water is from the Rustler formation above 300 feet deep.

Q This exhibit is tendered for information only?

A Yes, sir.

Q Now, Exhibit No. 7.

A Exhibit No. 7 is a casing, proposed casing diagram which shows that we intend to set surface casing at least 15 feet into the salt formation, which in this area ranges from 400. Then we





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intend to set 4½-inch production string, in this case on top of the Queen sand, but this is to be, may be revised if a geologic condition exists which we may want to set through the sand. The 4½-inch production string will be cemented back to 1500 feet.

Q Have you had an opportunity to check this with the State Engineer's office?

A Yes, sir. They feel that this program that we have suggested here without the use of tubing and a packer is okay with the Engineer's Office.

Q This diagram, casing diagram, is submitted for the 11 wells which are applied for at this time?

A Yes, sir.

Q Isn't it also a fact that the Applicant would like to follow this casing diagram or program as to the most recent two wells authorized by administrative Order WFX-166?

A Yes, sir. We would like to if possible. The first administrative approval order allowed us to set casing without using tubing and packer.

Q But the Order WFX-166?

A Said use tubing and packer. We had asked for that, but we have looked at the economics.

Q You would like, if possible, to have this casing program considered in a reconsideration for the two wells authorized under



Order WFX-166?

A Yes, sir.

MR. WATSON: If the Examiner please, I don't know if this is a matter which requires publication or not.

MR. NUTTER: Those two wells are not a subject matter of this hearing at all?

MR. WATSON: Yes, sir.

MR. NUTTER: So we don't have jurisdiction of those two wells in this hearing. However, if you submit for amendment to that order by normal routine channels together with a copy of the State Engineer's Office, we might revise the WFX-166 to eliminate the tubing.

MR. WATSON: In other words, this is submitted for the 11 wells in this hearing.

MR. NUTTER: All right.

Q (By Mr. Watson) Approximately how long has the pilot flood authorized by Order R-1524 been in operation?

A The pilot flood was instigated in March of 1960.

Q March of 1960. Have you been familiar with this project most of its life?

A We became involved in this project in January of 1961. We've been with it ever since.

Q Were you employed then in January of 1961 by Stanton



Oil Company, Limited, the predecessor to R. C. Davoust?

A Yes.

Q You have been with it since that time?

A Yes.

Q Have you yourself been familiar with it?

A Personally, yes.

Q What have you learned during your employment in this project about the characteristics of the Queen sand?

A Well, the characteristics of the Queen sand in this area is similar to the Queen sand in other areas. It is a lenticular in nature and in our particular area it varies from five to eight feet in thickness. Our injectivities are normal. They're in the range of ten barrels per foot per day, but due to the thin nature of the sand we are limited to 60 barrels average injection rates, which limit the amount of production we can get from the stimulating.

Q In other words, by reason of the characteristic of the sand, your productivity is not as high as if it were thicker?

A Well, we're limited to our injection, which limits our production, in other words.

Q Have you any cores or logs indicating this sand characteristics?

A Yes, sir. We can place in evidence a log and a core



on our most recently drilled injection well, Brainerd No. 5-W,  
if you wish.

(Whereupon, Applicant's Exhibits  
Nos. 8 and 9 were marked for  
identification.)

Q You secured what has been marked as Exhibit 8 when you  
were employed by Stanton Oil Company, Limited?

A Yes, Core Laboratory.

Q It is a core analysis from Core Laboratories?

A Yes.

Q For the Brainerd No. 5-W Well?

A Yes.

Q And also you secured the log?

A Yes, sir, from Western.

Q From the Western Company?

A Yes, sir. It has been marked as Applicant's Exhibit No.  
9.

Q In line with the character of the sand and the other ex-  
perience you had in this project, what have you noted about the  
economics of the project?

A We have noted that although the Queen sand in this area  
is floodable as proven by our pilot and recent extension, the  
economics is hindered somewhat due to the fact that we have to  
drill injection wells to decrease the pattern size, and also to



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effect equal, or to protect equity of lease lines we feel that if we could develop this project in the near future, the whole project, and flood the reservoir at one time we could reduce the operating cost and effectively improve our economics.

Q How would this have the effect of improving your economics?

A Well, we would shorten the life of the project, and in drilling these wells we could get a drilling contract which we could get a lower per well drilling rate to move in and drill our wells for us.

Q And, of course, higher productivity?

A Yes, sir.

Q Referring for the moment to Exhibit No. 2, being the project map, the proposed locations of the injection wells applied for, do they, are they in a common pattern?

A Yes, sir. Generally they follow 40-acre five-spot pattern, which we have used in the past.

Q Which would give an effective sweep?

A Yes, this is a universally accepted pattern for water-flooding.

Q In the locations where you propose these wells, would they protect correlative rights?

A Yes, sir, they will protect correlative rights.



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PAGE 14

Q As to Exhibit 1 being the area map, 2 being the project map, 3 being the oil production statistics, 4 and 5 being the graphs as to production performance and injection performance, and Exhibit 7 being the casing diagram, were these prepared by you or under your supervision?

A Yes, sir, they were.

Q As to Exhibit 6, that was received by you when you were employed on the project?

A Yes, sir.

Q Your water analysis?

A Yes, sir.

Q I believe you testified that you were employed on the project when the core --

A Yes, sir.

Q -- and the log, Exhibits 8 and 9 were proposed?

A Yes, sir.

MR. WATSON: The Applicant offers Exhibits 1 through 9 for the record.

MR. NUTTER: Applicant's Exhibits 1 through 9 are admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 9 were offered and admitted in evidence.)

MR. NUTTER: Do you have any further questioning, Mr.



Watson:

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains.

BY MR. [illegible]

Q. Now, didn't you say that the 7.2 was the same as 7.2, which is what is also in the 7.2?

1. The first is a general statement of the purpose of the document.

Is the No. 2 in the same area there in the neighborhood of the Southwest?

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

[illegible][illegible]

BY MR. WATSON:

Q Do you know of any reason why an early decision in this case would be a disadvantage?

A Yes, sir. He would appreciate an early answer to this. We have a drilling rig drilling right at the present time on the well on 7-11 for which we have received approval for injection and approval to drill by the United States Geological Survey. In the very near future he will be wanting to move to the new location,

otherwise would have to pay the way out until we get permission to inject.

MR. NUTTER: Yes, I know what you mean.

A Yes, sir.

MR. NUTTER: So he has to finish 2 and get on 3?

A Yes, sir. Well, we have a problem here. We have no information in Section 2 as to the thickness of the reservoir except for old driller's logs, and we would like, if we get an early approval in order to figure our economics a little closer, we would like to step down through that section and get us some core information and be able to say how much of that we are going to be able to actually drill up, because some of the locations Mr. Davoust feels like I have a couple of dry holes there. In other words, we need some information.

MR. NUTTER: So you want to step out south and get some information?

A Yes, sir. We need to do this to see how far we can carry this project out. That's one of our real problems.

MR. NUTTER: One other thing, I realize that you stated that you might amend this, but you would set your 4 $\frac{1}{2}$  on top of the Queen and the pay is at approximately 2100 in the Queen. Where is the approximate top of the Queen?

A We'll set it at 2100 or in the top. I didn't quite





understand.

Q (By Mr. Watson) That's right, the pay is in the Queen 21, so what is the top of the Queen?

A The top of the Queen would be maybe ten feet higher.

MR. NUTTER: In other words, this pay is right up in the top of the Queen formation?

A No, it's in the lower half, but the actual Queen pay is possibly some ten feet down. In other words, we'll set it into the oil-bearing section.

Q (By Mr. Watson) In other words, your exhibit here where you say  $4\frac{1}{2}$  production string set on top Queen sand, you mean the Queen sand pay?

A Queen sand pay.

MR. NUTTER: I see. Not the Queen formation?

A No, it will depend on our core analysis. When we pull our core we'll decide where the oil saturation is and set it there.

MR. NUTTER: Any other questions? Mr. Irby.

RECROSS EXAMINATION

BY MR. IRBY:

Q I have one question, Mr. Frickert, the water analysis which is your Exhibit 6, --

A Yes, sir.

Q -- the sample was taken from your No. 2-WSW Well in the



Southeast corner of the Northeast of the Southwest of 34?

A No, sir. Our water supply, we have two water supply wells, one, No. 1, is in the Southwest of the Southwest Quarter, and then we have the No. 2 in the Northeast of the Southwest Quarter. We are presently only using the No. 1 water supply well and this sample came from this well. It doesn't say on here, but they're both completed in the sand, but the No. 2 water supply well is not being used at the present time.

MR. IRBY: Thank you.

MR. NUTTER: Anything else, Mr. Irby?

MR. IRBY: That's all, thank you.

MR. NUTTER: If no further questions of the witness, he may be excused.

(Witness excused.)

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

MR. WATSON: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3010? We'll take the case under advisement and the hearing is adjourned.



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

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 6th day of April, 1964.

*Ada Dearnley*  
Notary Public-Court Reporter

My commission expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3010, heard by me on 2/11, 1964.

*James*, Examiner  
New Mexico Oil Conservation Commission



DRAFT

JMD/esr  
March 13, 1964

*Special letter*

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:

APPLICATION OF R. C. DAVOUST  
FOR THE EXPANSION OF A WATER-  
FLOOD PROJECT, EDDY COUNTY,  
NEW MEXICO.

CASE No. 3010

Order No. R- 2271

*2671*

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 11, 1964, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this        day of March, 1964, the Commission, a quorum being present, having considered the ~~application~~ testimony, the record, ~~evidence adduced~~ and the recommendations of the Examiner, ~~and being fully advised in the premises,~~

FINDS:

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

*as successor to Stanton Oil Company, Ltd.,*

(2) That the applicant, R. C. Davoust, *seeks authority to authorize by Commission Order No. R-1524* expand the Turkey Track Pool Waterflood Project by drilling 11 water injection wells at unorthodox locations in Section 34, Township 18 South, Range 29 East, and Section 3, Township 19 South, Range 29 East, NMPM, Eddy County, New Mexico.

(3) That the wells in the proposed project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed expansion is in the interest of conservation and should result in recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the applicant should be authorized to expand the existing waterflood project as proposed, and that said expansion should be governed by Rule 701 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, R. C. Davoust, is hereby authorized to expand the Turkey Track Pool Waterflood Project by the injection of water into the Queen formation through the following-

described 11 wells to be drilled at ~~the following described~~ *the following described*  
~~unorthodox locations:~~ *unorthodox locations:*  
~~not line in the following described:~~ *not line in the following described:*

NEW MEXICO, PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO

SECTION 34, TOWNSHIP 18 SOUTH, RANGE 29 EAST

Brainard Well No. 9-W, to be located *5 feet from the south line and 5 feet from the East line of Unit D*

SECTION 3, TOWNSHIP 19 SOUTH, RANGE 29 EAST

Spencer Well No. 10-W, to be located *660 feet from the North line and 5 feet from the west line of Unit D*

Spencer Well No. 11-W, to be located *5 feet from the South line and 5 feet from the west line of Unit C*

Spencer Well No. 12-W, to be located *5 feet from the South line and 5 feet from the East line of Unit C*

Spencer Well No. 13-W, to be located *5 feet from the South line and 5 feet from the East line of Unit B*

State Well No. 14-W, to be located *5 feet from the South line and 5 feet from the West line of Unit F*

Spencer Well No. 15-W, to be located *5 feet from the South line and 5 feet from the West line of Unit G*

Spencer Well No. 16-W, to be located *5 feet from the South line and 5 feet from the West line of Unit H*

State Well No. 17-W, to be located *5 feet from the South line and 5 feet from the West line of Unit K*

State Well No. 18-W, to be located *5 feet from the South line and 5 feet from the East line of Unit K*

State Well No. 19-W, to be located *5 feet from the South line and 5 feet from the West line of Unit I*

project

(2) That the waterflood/herein authorized shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.

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

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

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



CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

COMPANY STANTON OIL COMPANY, LTD. FILE NO. WP-3-1842  
 WELL BRAINARD NO. 5-N DATE 12-28-61 ENGRS. SCHMITT HOGAN  
 FIELD TURKEY TRACK FORMATION QUEEN ELEV. 3422' CL  
 COUNTY EDDY STATE NEW MEXICO DRUG FLD. SALT BASE MTD CORES DIAMOND 3 1/2"  
 LOCATION 1325' KSL 1225' NW 34 T18S R29E REMARKS FROZEN - SAMPLED AS DIRECTED BY CLIENT

## COMPLETION COREGRAPH

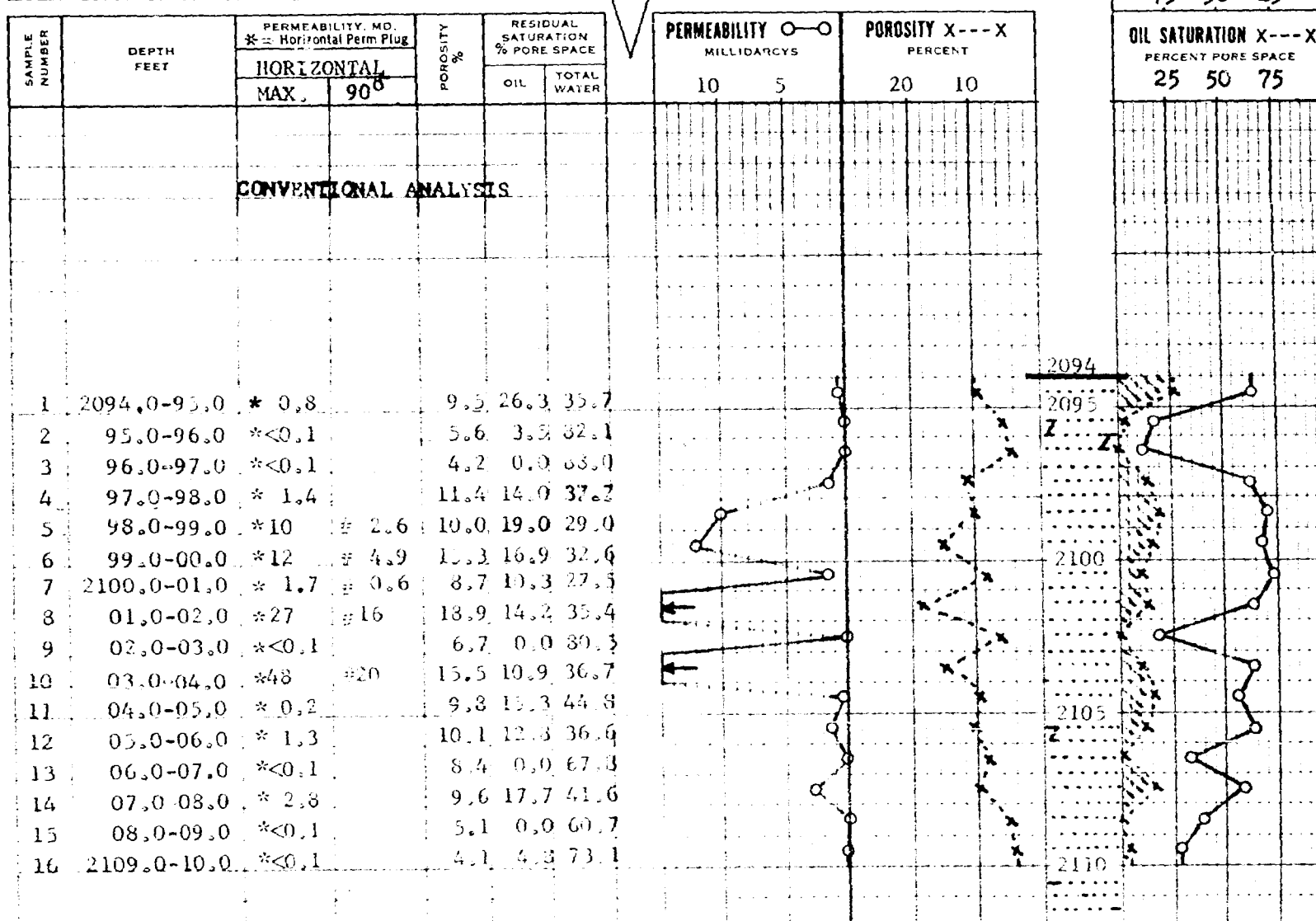
These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. all errors and omissions excepted but Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representations as to the productivity, proper operation or profitability of any oil, gas or other mineral well or sand in connection with which such reports are used or relied upon.



# - INDICATES VERTICAL PERMEABILITY

SAMPLE CHARACTERISTICS  
 F=Fractured L=Laminated FG; MG; CG=Type Grain Size S:Stylolitic V:Vuggy

PROBABLE PRODUCTION  
 G:Oil W:Water G:Gas T:Transitional



DENSE-NO SHON

17. 2129.0-30.7. <0.1. <0.1. 3.6. 3.6. 79.5.  
18. 2130.7-32.0. <0.1. <0.1. 2.9. 3.4. 57.3.

DENSE-NO SHON

2115

2120

2125

2130

2135

2140

2144



CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

MP-3-1842

COMPANY STANTON OIL COMPANY, LTD. FIELD TURKEY TRACK FILE MP-1-5386  
 WELL BRAINARD NO. 5-W COUNTY EDDY DATE 12-28-61  
 LOCATION 1325' FSL 1225' FWL S34 T18S STATE NEW MEXICO ELEV. 3422' GL  
R29E

## CORE-GAMMA CORRELATION

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive use and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted), but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand or other formation with which such report is used or relied upon.

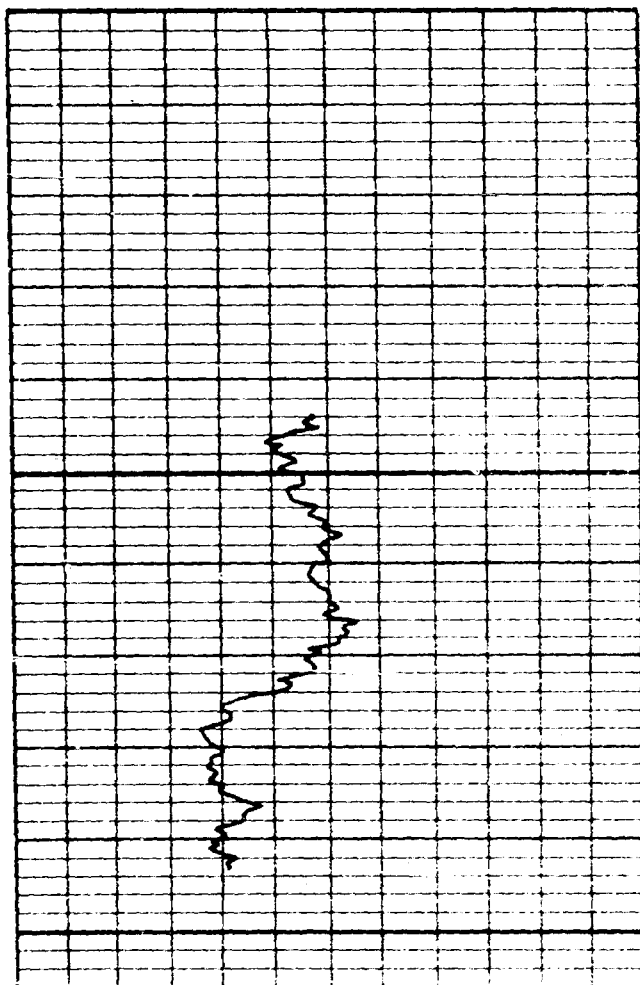
VERTICAL SCALE: 5" = 100'

### CORE-GAMMA SURFACE LOG

(PATENT APPLIED FOR)

GAMMA RAY

RADIATION INCREASE

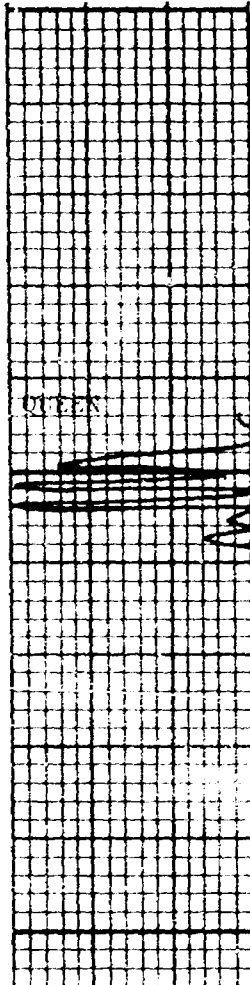


### COREGRAPH

PERMEABILITY

MILLIDARCYS

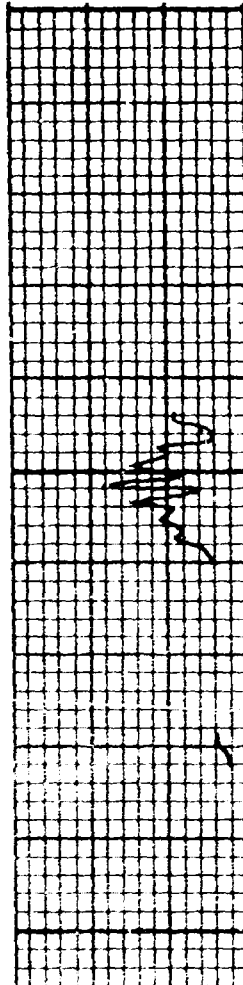
10 5



POROSITY

PERCENT

20 10



TOTAL WATER

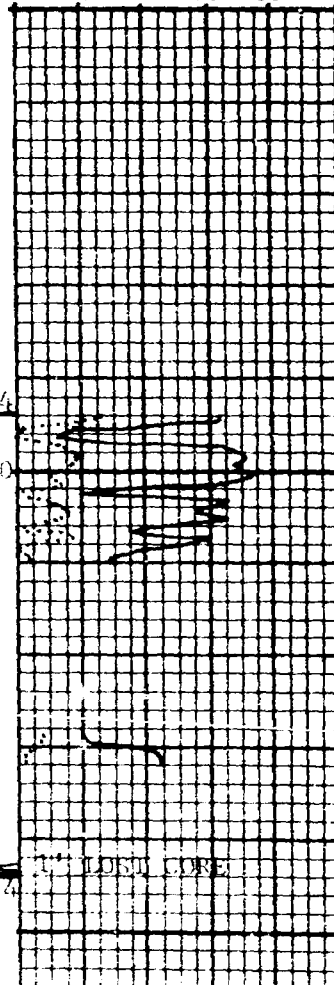
PERCENT TOTAL WATER

80 60 40 20 0

OIL SATURATION

PERCENT PORE SPACE

0 20 40 60 80



2094

2100

2174

LOST CORE

CORE LABORATORIES, INC.  
*Petroleum Reservoir Engineering*  
DALLAS, TEXAS

January 10, 1962

REPLY TO  
P. O. BOX 4337  
MIDLAND, TEXAS

Stanton Oil Company, Ltd.  
408 Wilkinson Foster Building  
Midland, Texas

Attention: Mr. Bill Fickert

Subject: Core Analysis  
Brainard No. 5-W Well  
Turkey Track Field  
Eddy County, New Mexico  
Location: Sec. 34-T18S-R29E

Gentlemen:

Queen formation analyzed at intervals between 2094 and 2132 feet is interpreted to be oil productive where permeable. The productive capacity is inadequate for satisfactory rates of flow without formation treatment. Average core analysis values and theoretical maximum recoverable oil estimates have been calculated for the interval and are presented on page one of this report.

Prior to performing core analysis, surface gamma ray measurements were made on the recovered formation and the results are presented on the accompanying Core-Gamma Correlation graph.

We appreciate this opportunity to be of service to you.

Very truly yours,

Core Laboratories, Inc.

*R S Bynum Jr*

R. S. Bynum, Jr., (R)  
Division Manager

RSB:JR:bjm  
10 cc. - Addressee

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
**DALLAS, TEXAS**

WP-3-1842

Page 1 of 1 File WP-1-5386

Well Brainard No. 5-W

**CORE SUMMARY AND CALCULATED RECOVERABLE OIL****FORMATION NAME AND DEPTH INTERVAL:** Queen 2094.0 - 2132.0

|  |      |  |          |
|--|------|--|----------|
| <b>FEET OF CORE RECOVERED FROM ABOVE INTERVAL</b>              | 38.0 | <b>AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE</b>                            | 35.8     |
| <b>FEET OF CORE INCLUDED IN AVERAGES</b>                       | 10.0 | <b>AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE</b>                          | (c) 34   |
| <b>AVERAGE PERMEABILITY: MILLIDARCY</b>                        | 11   | <b>OIL GRAVITY: °API</b>   | (e) 33   |
| <b>PRODUCTIVE CAPACITY: MILLIDARCY-Feet</b>                    | 110  | <b>ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL</b>                            | (e) 250  |
| <b>AVERAGE POROSITY: PER CENT</b>                              | 11.9 | <b>ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL</b> | (e) 1.16 |
| <b>AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE</b> | 15.7 | <b>CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT</b>                | 525      |

Calculated maximum solution gas drive recovery is 105 barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is 380 barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (Please refer to footnotes for further discussion of recovery estimates.)

**FORMATION NAME AND DEPTH INTERVAL:**

|  |  |  |  |
|--|--|--|--|
| <b>FEET OF CORE RECOVERED FROM ABOVE INTERVAL</b>              |  | <b>AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE</b>                            |  |
| <b>FEET OF CORE INCLUDED IN AVERAGES</b>                       |  | <b>AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE</b>                          |  |
| <b>AVERAGE PERMEABILITY: MILLIDARCY</b>                        |  | <b>OIL GRAVITY: °API</b>   |  |
| <b>PRODUCTIVE CAPACITY: MILLIDARCY-Feet</b>                    |  | <b>ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL</b>                            |  |
| <b>AVERAGE POROSITY: PER CENT</b>                              |  | <b>ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL</b> |  |
| <b>AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE</b> |  | <b>CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT</b>                |  |

Calculated maximum solution gas drive recovery is                barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is                barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (Please refer to footnotes for further discussion of recovery estimates.)

(c) Calculated    (e) Estimated    (m) Measured    (\*) Refer to attached letter.

*These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.*

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc., and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

TELEPHONE CALL FROM MR. FRED WATSON

Case 3010

APPLICANT: R. C. Davoust  
P. O. Box 266  
Evansville, Indiana

Successor in interest to Stanton Oil  
Company, Ltd.

202  
The pilot waterflood was authorized in OCC Case No. 1761, and  
Order No. R-1524 authorized injection of water into the Queen  
Sand formation in four wells. The applicant now seeks to expand  
the waterflood project by drilling 13 wells as water injection  
wells to inject water into the Queen Sand formation. All of said  
injection  
13/wells are to be drilled at unorthodox locations in Section 34,  
Township 18 South, Range 29 East and Section 3, Township 19 South,  
Range 29 East, NMPM, Eddy County, New Mexico, as follows:

Brainard Well No. 7-W, to be located 5 feet from  
the South line and 1325 feet from the West  
line of Section 34

Brainard Well No. 8-W, to be located 5 feet from  
the South line and 2635 feet from the East  
line of Section 34

Brainard Well No. 9-W, to be located 5 feet from  
the South line and 1325 feet from the East  
line of Section 34

Spencer Well No. 10-W, to be located 660 feet from  
the North line and 5 feet from the West line  
of Section 3

Spencer Well No. 11-W, to be located 1315 feet  
from the North line and 1325 feet from the  
West line of Section 3

Spencer Well No. 12-W, to be located 1315 feet from  
the North line and 2635 feet from the West line  
of Section 3

Spencer Well No. 13-W, to be located 1315 feet from  
North line and 1325 feet from the East line  
of Section 3

Wells 7  
& 8  
Approved  
Administration  
W.F.V.  
166  
Feb 5, 1966  
Fred  
Watson  
When  
checked  
OK

25-64

State Well No. 14-W, to be located 2635 feet from  
the North line and 1325 feet from the West line  
of Section 3

Spencer Well No. 15-W, to be located 2635 feet from  
the North line and 2635 feet from the East line  
of Section 3

Spencer Well No. 16-W, to be located 2635 feet from  
the North line and 1315 feet from the East line of  
Section 3

State Well No. 17-W, to be located 1325 feet from  
the South line and 1325 feet from the West line  
of Section 3

State Well No. 18-W, to be located 1325 feet from  
the South line and 2635 feet from the West line  
of Section 3

State Well No. 19-W, to be located 1325 feet from  
the South line and 1315 feet from the East line  
of Section 3.

NEIL B. WATSON  
FRED A. WATSON

LAW OFFICES  
WATSON & WATSON  
CARPER BUILDING - P. O. ~~BOX~~ Drawer E  
ARTESIA, NEW MEXICO

TELEPHONE  
SHERWOOD 6-4151

February 24, 1964

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

Gentlemen:

Re: Queen Water Flood Project, Turkey Track Pool,  
Eddy County, New Mexico; formerly operated by  
Stanton Oil Company, Ltd., and now operated  
by R. C. Davoust, as successor in interest to  
Stanton Oil Company, Ltd.

In Case No. 1761, Stanton Oil Company, Ltd., the applicant, sought authority to institute a pilot water flood project in the Turkey Track Pool and, by Order No. R-1524, the Oil Conservation Commission authorized said pilot water flood project and the injection of water into the Queen Formation through four wells, at unorthodox locations, in Section 34, Township 18 South, Range 29 East, N.M.P.M., Eddy County, New Mexico, with the locations of said wells being as more particularly shown in said Order No. R-1524.

Subsequently, the applicant in the above described case was granted authority, by Administrative Order WFX No. 96 of the Oil Conservation Commission, to inject water into two additional wells, at unorthodox locations, in Section 34, Township 18 South, Range 29 East, N.M.P.M., Eddy County, New Mexico, with the locations of said wells being as more particularly shown in said Order WFX No. 96.

R. C. Davoust, P. O. Box 266, Evansville, Indiana, is present operator and successor in interest to Stanton Oil Company, Ltd. The said R. C. Davoust, as applicant hereunder, now requests authority, by Order of the Oil Conservation Commission of the State of New Mexico, to expand the Queen Water Flood Project in the Turkey Track Pool, Eddy County, New Mexico, by injecting water into the Queen Formation through thirteen wells, proposed to be drilled as injection wells at unorthodox locations, in Section 34, Township 18 South, Range 29 East, N.M.P.M., and Section 3, Township 19 South, Range 29 East, N.M.P.M., Eddy County, New Mexico, with said wells being more particularly designated and located as follows:

- ✓ Well No. Brainard 7-W, located 5 feet from the South Line and 1325 feet from the West Line of said Section 34.
- ✓ Well No. Brainard 8-W, located 5 feet from the South Line and 2635 feet from the East Line of said Section 34.
- Well No. Brainard 9-W, located 5 feet from the South Line and 1325 feet from the East Line of said Section 34.
- Well No. Spencer 10-W, located 660 feet from the North Line and 5 feet from the West Line of said Section 3.
- Well No. Spencer 11-W, located 1315 feet from the North Line and 1325 feet from the West Line of said Section 3.
- Well No. Spencer 12-W, located 1315 feet from the North Line and 2635 feet from the West Line of said Section 3.
- Well No. Spencer 13-W, located 1315 feet from the North Line and 1325 feet from the East Line of said Section 3.

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MAIN OFFICE OCC

Well No. State 14-W, located 2635 feet from the North Line and 1325 feet from the West Line of said Section 3.

Well No. Spencer 15-W, located 2635 feet from the North Line and 2635 feet from the East Line of said Section 3.

Well No. Spencer 16-W, located 2635 feet from the North Line and 1315 feet from the East Line of said Section 3.

Well No. State 17-W, located 1325 feet from the South Line and 1325 feet from the West Line of said Section 3.

Well No. State 18-W, located 1325 feet from the South Line and 2635 feet from the West Line of said Section 3.

Well No. State 19-W, located 1325 feet from the South Line and 1315 feet from the East Line of said Section 3.

Applicant hereby requests that this matter be heard, after due and proper notice as provided by law, by hearing examiner duly appointed by the Oil Conservation Commission of the State of New Mexico, and that after said hearing an Order be entered authorizing the injection of water into the Queen Formation in the Turkey Track Pool, Eddy County, New Mexico, through the injection wells to be drilled at the unorthodox locations more particularly described hereinabove.

Respectfully submitted,

WATSON & WATSON

By

Lued A. Watson  
Attorneys for R. C. Davoust

FAW:rjb