

CASE 3903: Appli. of CONTINENTAL
for a waterflood project, Lea
County, New Mexico.

Case Number

3903

Application
Transcripts.

Small Exhibits

ETC.

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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 23, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil)
Company for a waterflood project,) Case No. 3903
Lea County, New Mexico.)

BEFORE: Daniel Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please. The next case will be Case 3903.

MR. HATCH: Case 3903. Application of Continental Oil for a waterflood project, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin appearing for the applicant. We have as our witness Mr. V. T. Lyon who has previously been sworn.

MR. NUTTER: The record will show Mr. Lyon is still under oath.

(Whereupon, Applicant's Exhibits 1 through 9 were marked for identification.)

DIRECT EXAMINATION

BY MR. KALLAHIN:

Q Mr. Lyon, are you familiar with the application of Continental Oil in Case 3903?

A Yes, sir.

Q What is proposed by Continental Oil Company in this case?

A Case 3903 is the application of Continental Oil Company for amendment of Order No. R-3486 to authorize two additional injection wells for the pilot waterflood in the El Mar Pool by converting into water injection its Payne Wells Numbers 11 and 12.

Q Now, referring to what has been marked as Exhibit Number 1, would you identify that exhibit?

A Exhibit Number 1 is a location plat showing the El Mar Pool so far as it lies in New Mexico. It shows the Payne federal lease outlined in red which is described as lots 1, 2, 3 and 4 of Section 35, Township 26 South, Range 32 East and the south half and north half -- excuse me, the south half and south half of the north half of Section 30 and all of partial Section 31 in Township 26 South, Range 33 East, Lea County, New Mexico. It shows the two proposed additional injection wells circled in red. These are the Payne Wells Numbers 11 and 12. Number 11 is located 660 feet from the south line and 1650 feet from the west line of Section 30 and Number 12 is located 1934 feet from the north line and 2090 feet from the west line of Section 31.

MR. NUTTER: Two thousand and what, please?

THE WITNESS: Two thousand and ninety. It also shows the location and ownership of wells in radius of two miles from these wells.

Q (By Mr. Kellahin): Now, do you presently have a waterflood project under way on this property?

A No, we do not have a waterflood in operation at this time.

Q Do you have one authorized?

A We have authorization to inject water into our Wilder Wells Numbers 24 and 27, which are located in Section 26, Township 26 South, Range 32 East.

Q And the wells you are proposing in this application will be in addition to those wells, is that correct?

A Yes, sir.

Q Now, referring to what has been marked as Exhibit Number 2, would you identify that exhibit?

A Exhibit Number 2 is a copy of the form "C" 108 showing pertinent information for our Payne Well Number 11. It is shown to be located in Unit "N" of Section 30, Township 26 South, Range 33 East. Seven and five-eighths inch surface casing was set at three hundred thirty feet and cemented with one hundred seventy-five sacks of cement and the cement was circulated to the surface. Four and a half inch casing was set at four thousand seven hundred eighty-six feet with six hundred fifty sacks of cement, the top of the cement by temperature survey is at fourteen hundred ten feet. We propose to inject water through two and three-eighths inch plastic or cement lined tubing to be set in a packer at four thousand six hundred fifty feet. We propose to inject water into the Delaware sand in the interval forty six seventy-five to eighty-one, forty seven

forty-nine to fifty-one and forty seven fifty-five to sixty-five.

Q Now, referring to what has been marked as Exhibit Number 3, would you identify that exhibit?

A Exhibit Number 3 is the form "C" 108 for the Payne Well Number 12 which is in Unit "F" of Section 31, Township 26 South, Range 33 East. It shows that seven and five-eighths inch casing was set at three hundred thirty-two feet with one hundred seventy-five sacks of cement circulated to the surface. Four and a half inch casing was set four thousand seven hundred seventy-seven feet, cemented with nine hundred seventy-five sacks of cement and this was also circulated to the surface. We propose to inject through cement or plastic lined tubing two and three-eighths inch at four thousand six hundred fifty feet where it will be set in a packer at that depth. We propose to inject into the Delaware formation forty seven thirty-three to forty, forty six sixty-six to seventy-one, and forty six eighty-five to ninety-four.

Q Now, referring to what has been marked as Exhibit Numbers 4 and 5, would you discuss those two exhibits?

A Exhibits 4 and 5 are schematic diagrams showing essentially the same information which I described and read

from Exhibits two and three respectively.

Q Now, in the completion of these two wells for injection purposes, will you use an inert fluid between the casing tubing annulus?

A Yes, we will.

Q Will you have the casing tubing open at the surface or use a pressure gauge?

A Yes.

Q Which would you prefer to propose?

A We will install the pressure gauge.

Q On each well?

A Yes, sir.

Q Now, referring to what has been marked as Exhibit Number 6, would you identify that exhibit?

A Exhibit Number 6 is a copy of a part of the radio activity log on Payne Number 11. It shows the top of the Delaware line referred to as the La Mar at four thousand six hundred thirty-four feet. The top of the Delaware sand at four thousand six hundred seventy-four and the perforations four thousand six hundred seventy-five to eighty-one, four thousand seven hundred forty-nine to fifty-one, four thousand seven hundred fifty-five to sixty-five.

Q Now, would you give the same information from

Exhibit Number 7?

A Yes, sir. Exhibit Number 7 is the radio activity log of Payne Number 12 and it shows the top of the Delaware formation at four thousand six hundred eighteen, the top of the Delaware sand at four thousand six hundred fifty-eight, the perforations, four thousand six hundred sixty-six to seventy-one, four thousand six hundred eighty-five to ninety-four, four thousand seven hundred thirty-three to forty.

Q What is the present status of these two wells? Are they temporarily abandoned or producing?

A At the present time, I believe these wells are producing.

Q Now, are the intervals in which you are proposing to inject open in the other wells in the area?

A The producing formation in the El Mar Delaware Pool is primarily the Ramsey Sand which is the upper sand body between the -- I'm referring to Exhibit 6 -- between the point marked top of Delaware sand to the shale body which occurs at about four thousand seven hundred twenty-eight; the sand body below this shale break occurring at approximately four thousand seven hundred fifty-eight is called the Olds, o-l-d-s, sand and primarily the production

comes from the ramsey or the upper sand, but there is some spotty production from the olds member that is not consistent.

Q You will be injection into the perforations as shown on Exhibits 6 and 7, though, is that correct?

A Yes, sir.

Q Now, what is the source of the injection water?

A The water to be injected is that produced on our Wilder and Payne and Bradley leases and probably from the other leases from other operators in the El Mar Pool.

Q It will be produced water from these other leases?

A Yes, sir.

Q What volumes of water do you anticipate injection?

A We expect to inject between one hundred fifty and three hundred barrels per day in each well.

Q Now, do you have an analysis of the water to be injected?

A Yes, sir. Exhibit Number 8 is a copy of the analysis of the water which was sampled at our tank battery in the El Mar Pool. All three of the leases which I mentioned produced into this battery.

Q Now, is this the same water that you propose to inject into your Wilders Numbers 24 and 27 wells?

A Yes, it is.

Q Is it a potable water?

A No, it is not potable.

Q Is it comparable to the water found in the formation in which you propose to inject it?

A Yes, sir, it should be identical.

Q It is from the same formation, is it not?

A Yes, sir.

Q Has Continental Oil Company made an engineering study of the feasibility of waterflooding in the El Mar Pool?

A We have been in the process of making an engineering study and this study is completed with the exception that we have not yet determined definitely what our injection pattern will be, but we have formed engineering committees and working interests owners committees preparatory to unitization efforts.

Q Now, are the Payne Wells Numbers 11 and 12 property located for a waterflood pattern?

A Yes, sir. These wells, I think, are ideally located for pilot flood purposes and will be readily adaptable to a full-scale flood.

Q Now, I believe you said they were currently producing. At what rates are they producing?

A The two wells?

Q Yes, sir.

A Well Number 11 is producing at a rate of 2.7 barrels per day; Number 12 is producing at 6.3 barrels per day.

Q Now, are these wells practically at a stripper stage then?

A Yes, this is nearing the economic limits.

Q Since the water to be injected is produced from the same formation would there be any question of compatibility?

A There should not be. We don't anticipate any compatibility problems.

Q This is set up as a pilot waterflood project, is it not?

A Yes, sir.

Q It will also serve the purpose of salt water disposal to comply with the provision of Order Number R-3321, will it not?

A Yes, this is true. We are initiating the injection of water probably at least a year in advance of what we would have, had Order R-3321 not been entered.

Q Now, have you had any experience in flooding with the Delaware sand, Mr. Lyon?

A There is very limited experience in the flooding of the Delaware. I think it has been considered a good prospect for many years, but there are problems of waterflooding in the reservoir because the sand is rather loosely consolidated and it appears to exhibit unusual characteristics as to receptiveness of the produced water.

Q Do you anticipate you will learn anything from the pilot flood in connection with the feasibility of a large-scale flood in the area?

A We expect to learn a great deal from injecting into the formation. For one thing, how much water we can inject. If we have permeability data as to air and our injection experience will enable us to fit this into water permeability.

Q Now, Order Number R-3486 authorizing the injection of water into Continental's Wilders Wells Number 24 and 27, would you discuss the relationship of those wells with the proposed injection in this case?

A If you will refer to Exhibit Number 9 which is a structure map, on top of the Delaware limestone, that's the El Mar which I mentioned, you will note that Payne Numbers 11 and 12, which are circled in red, are on the down dip limits of the production. The previously authorized

wells, Wilder 24 and 27 are at the up dip limits of production. Just to the west of the Wilder Wells there is a permeability pinch out which limits production of the dip and is the trapping mechanism in this reservoir. At this point the permeability is extremely limited and so -- not only do the wells have limited injection capacity, but there is a difference in the situation as compared to the wells at the down dip structure. The Payne 11 and 12 are located near the oil-water transition zone. The permeability seems to be very good, but the production is limited by the appearance of water. Consequently, we have two wildly divergent situations in which to inject which will give us a much broader data to evaluate feasibility of waterflooding.

Q In addition to determining the feasibility of waterflooding, will the proposed wells give you a sufficient capacity for salt water disposal of produced water and disposal?

A We feel quite sure that they will.

Q Does Continental intend to use the wells authorized by Order R-3486 as well as those included in the application today?

A We may not. Initially, this is something that we will have to determine as we gain experience in the area.

Obviously, the wells to the east, the wells involved in this application, have the greater injection capacity and we will probably inject into those wells initially and perhaps at a later date, probably at a later date, we will inject also into the up dip wells.

Q Then you want to retain your authority to inject in the Wilder Wells, is that correct?

A Yes, sir. We would like to have as much flexibility as possible in injecting the wells.

Q Now, would you give a brief history of the El Mar Pool?

A The New Mexico portion of the El Mar Pool was discovered on March 10, 1959, by the Hill and Meeker, which is now the current County Land Company, State 36, Number 1 in Lea County, New Mexico. Subsequently, fifty-nine producers and two dry holes were drilled in New Mexico. At present, there are fifty-five producers in the New Mexico end of the Pool. The Pool limits are considered to be well defined and development is completed. Production is from the Ramsey and Olds sand members of the Bell Canyon, Delaware mountain groups formation. The sand occurs at an average depth of four hundred fifty feet. Well completion procedures in general were to perforate four and a half inch

production casings acidized to two hundred fifty to five hundred gallons of acid and fracture treatment two thousand to five thousand gallons of lease crude containing one pound of sand per gallon.

Q Now, what's the current daily average production of this pool?

A During the month of July, 1968 the pool averaged five hundred eleven barrels of oil per day and two hundred twenty-seven barrels of water per day, twenty-two hundred and forty-seven mcf of gas per day for an average gas-oil ratio of four thousand three hundred ninety-six cubic feet per barrel. This is an average of 9.2 barrels of oil per day per producing well.

Q Do these producing rates indicate that the reservoir is at an advanced stage of completion?

A It has not reached economic limits and is still producing commercial quantities but it is nearing the stripper stage.

Q Now, in the event this waterflood project is approved what would the allowable be according to your calculations?

A There are four direct and two diagonal off set wells to the injection wells creating an eight well project

area. Based on the minimum waterflood allowable of forty two barrels per day, a minimum waterflood unit allowable of three hundred thirty-six barrels a day would be anticipated. Under the current allowable of fifty-eight barrels per day, the unit or the project allowable would be four hundred sixty-four barrels per day.

Q Are all of the diagonal and direct off set wells presently producing?

A I believe they are.

Q In your opinion, would the granting of this application result in the protection of correlative rights and the prevention of waste?

A Yes, sir.

Q Do you anticipate that it would result in production of oil that would not otherwise be recovered?

A Yes, sir, we do.

Q Are exhibits one through nine prepared by you or under your supervision?

A Yes, sir, they were.

MR. KELLAHIN: At this time, I would like to offer in evidence Exhibits one through nine.

MR. NUTTER: Applicant's Exhibits one through nine will be admitted.

MR. KELLAHIN: That's all I have on direct examination, Mr. Nutter.

MR. NUTTER: Does anyone have any questions of the witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Lyon, wells numbers 9 and 12 are on partial tracts, aren't they; that wouldn't be a full forty acres there, would it?

A No, those are not full forty acre tracts and I'm sorry I don't have the acreage allocated to them.

Q The allowable would be decreased somewhat then just for acreage correction in determining the project allowable, I believe.

A That's true. I don't whether they are larger or smaller than forty acres.

Q Well, I believe they are smaller. Seven and ten are full forties I believe and then those are fractional lots down there at the state line.

A Right, I believe you are right.

MR. NUTTER: Are there any other question of Mr. Lyon? He may be excused. Do you have anything further Mr. Kellahin?

MR. KELLAHIN: That's all.

MR. NUTTER: Does anyone have anything they wish
to offer in Case 3903? The case will be taken under advisement.
(Witness excused.)

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WITNESS

PAGE

V. T. LYON

Direct Examination by Mr. Kellahin

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Cross Examination by Mr. Nutter

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EXHIBIT

MARKED

OFFERED AND
ADMITTED

Applicant's
1 through 9

2

15

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, GLENDA BURKS, Court Reporter in and for the
 County of Bernalillo, State of New Mexico, do hereby
 certify that the foregoing and attached Transcript of
 Hearing before the New Mexico Oil Conservation Commission
 was reported by me; and that the same is a true and
 correct record of the said proceedings, to the best
 of my knowledge, skill and ability.

Glenda Burks
 COURT REPORTER

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the hearing of Case No. 3903
 heard by me on 10/23, 1968.
[Signature]
 New Mexico Oil Conservation Commission

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

November 4, 1968

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

O Dear Sir:

Reference is made to Commission Order No. R-3540, recently entered in Case No. 3903, approving the Continental El Mar Payne Waterflood Project.

P Initial injection is to be through the two authorized water injection wells, each of which shall be equipped with cement-lined tubing set in a packer within 60 feet of the uppermost perforation. The casing-tubing annulus of each well shall be loaded with an inhibited fluid and equipped with a pressure gauge to facilitate detection of leakage in the casing, tubing, or packer.

Y As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 330 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

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Mr. Jason Kellahin
Kellahin & Fox
Santa Fe, New Mexico

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 appreciate.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/ix

cc: Oil Conservation Commission
Hobbs, New Mexico

U. S. Geological Survey
Hobbs, New Mexico

Mr. D. E. Gray, State Engineer Office,
Santa Fe, New Mexico

ROUGH DRAFT FOR WATERFLOOD LETTERS

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

Dear Sir:

Reference is made to Commission Order No. R-3540, *recently* entered in Case No. 3903, approving the Continental El Mar Payne Waterflood Project.

Initial injection is to be through the two authorized water injection wells, each of which shall be equipped with cement-lined tubing set in a packer within 50 feet of the uppermost perforation. The casing-tubing annulus of each well shall be loaded with an inhibited fluid and equipped with a pressure gauge to facilitate detection of leakage in the casing, tubing, or packer.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 330 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

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: Hobbs X
Artesia
Aztec

USGS Naples

Mr. Frank Irby, State Engineer Office, Santa Fe, New Mexico
Mr. D. E. Gray

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. 3903
Order No. R-3540

APPLICATION OF CONTINENTAL OIL
COMPANY FOR A WATERFLOOD PROJECT,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 23, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 31st day of October, 1968, 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, Continental Oil Company, seeks
permission to institute a waterflood project in the El Mar-
Delaware Pool by the injection of water into the Delaware
formation in its Payne Well No. 11, located 660 feet from the
South line and 1650 feet from the West line of Section 30,
and its Payne Well No. 12, located 1935 feet from the North
line and 2090 feet from the West line of Section 31, both in
Township 26 South, Range 33 East, NMPM, Lea County, New Mexico.

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

(4) That the proposed waterflood project should result in
the recovery of otherwise unrecoverable oil, thereby preventing
waste.

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CASE No. 3903

Order No. R-3540

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to institute a waterflood project in the El Mar-Delaware Pool by the injection of water into the Delaware formation through the following-described wells in Township 26 South, Range 33 East, NMPM, Lea County, New Mexico:

Payne Well No. 11, located 660 feet from the South line and 1650 feet from the West line of Section 30; and

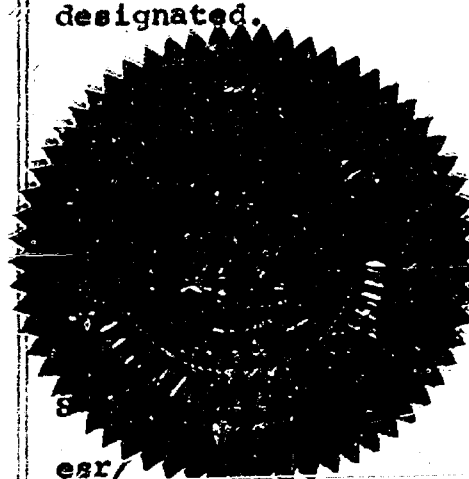
Payne Well No. 12, located 1935 feet from the North line and 2090 feet from the West line of Section 31.

(2) That the subject waterflood project is hereby designated the Continental El Mar Payne Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 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

David E. Cargo
DAVID E. CARGO, Chairman

Clinton B. Hays
CLINTON B. HAYS, Member

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

esr/

Docket No. 31-68

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 23, 1968

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 3894: Application of Signal Oil and Gas Company for a non-standard oil proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a non-standard oil proration unit comprising the W/2 NE/4 and the N/2 SE/4 of Section 17, Township 10 South, Range 34 East, Vada-Pennsylvanian Pool, Lea County, New Mexico, said unit to be dedicated to its State AP Well No. 1 located 1980 feet from the South line and 660 feet from the East line of said Section 17.

CASE 3895: Application of Sun Oil Company for a pressure maintenance project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in its New Mexico State "H" Lease by the injection of water into the San Andres formation through its New Mexico State "H" Well No. 13 located in the SE/4 SE/4 of Section 16, Township 8 South, Range 30 East, Cato-San Andres Pool, Chaves County, New Mexico. Applicant further seeks the promulgation of special rules to govern operation of said pressure maintenance project.

CASE 3887: (Continued from the October 9, 1968, Examiner Hearing)

Application of Kersey & Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Premier sand of Grayburg formation through two wells to be located in Units E and K of Section 12, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico. Applicant further proposes to produce oil from the Upper Grayburg through parallel strings of tubing, if said zones are productive in the subject wells.

CASE 3896: Application of Kersey & Hanson, Yates Drilling Company, and John H. Trigg for several waterflood projects, Eddy County, New Mexico. Applicants, in the above-styled cause, seek authority to institute several cooperative waterflood projects by the injection of water into the Queen and Grayburg formations through four injection wells located in Sections 21

CASE 3896 continued

and 23, Township 12 South, Range 29 East, Turkey
Track Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 3897: Application of Kersey-Wittkopp and E. A. Hanson for two waterflood projects, Eddy County, New Mexico. Applicants, in the above-styled cause, seek authority to institute two cooperative waterflood projects by the injection of water into the Queen formation through two injection wells located in the NW/4 SE/4 and the SW/4 SE/4 of Section 6, Township 19 South, Range 31 East, Shugart Pool, Eddy County, New Mexico.

CASE 3898: Application of Tenneco Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the open-hole interval from approximately 3258 feet to 3341 feet in its Ginsberg-Federal Well No. 6 located in Unit E of Section 31, Township 25 South, Range 38 East, Langlie-Mattix Field, Lea County, New Mexico.

CASE 3899: Application of Cities Service Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from approximately 4087 feet to 4176 feet in its State AD Well No. 8 located in Unit J of Section 22, Township 10 South, Range 32 East, Mescalero-San Andres Pool, Lea County, New Mexico.

CASE 3900: Application of Continental Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Vacuum Wolfcamp Pool and the North Vacuum Abo Pool in the well-bore of its State H-35 Well No. 7 located 660 feet from the North line and 1780 feet from the East line of Section 35, Township 17 South, Range 34 East, Lea County, New Mexico.

CASE 3901: Application of Continental Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formations in the perforated interval from approximately 3330 feet to 3552 feet in its Lynn A-28 Well No. 6 located in Unit H of Section 28, Township

(CASE 3901 continued)

23 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

CASE 3902:

Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the Queen formation through its Stevens "B" Well No. 8 located in Unit A of Section 12, Township 23 South, Range 36 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 3903:

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 by the injection of water into the Delaware formation in the perforated intervals from approximately 4675 feet to 4765 feet in its Payne Well No. 11 and from 4666 feet to 4740 feet in its Payne Well No. 12 located 660 feet from the South line and 1650 feet from the West line of Section 30, 1935 feet from the North line and 2090 feet from the West line of Section 31, respectively, Township 26 South, Range 33 East, El Mar-Delaware Pool, Lea County, New Mexico.

CASE 3904:

Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the Delaware formation through its Thompson Federal 19 Well No. 2 located in Unit F of Section 19, Township 26 South, Range 32 East, North Mason-Delaware Pool, Lea County, New Mexico.

CASE 3905:

Application of Texas Pacific Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the open-hole interval from approximately 12,269 feet to 12,541 feet in its State "O" Well No. 1 located in Unit J of Section 15, Township 10 South, Range 36 East, South Crossroads-Devonian Pool, Lea County, New Mexico.

- CASE 3906:** Application of Skelly Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Queen formation through its Mattix "A" Well No. 4 located in Unit K of Section 2, Township 24 South, Range 37 East, Langlie-Mattix Oil Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of well response.
- CASE 3907:** Application of Skelly Oil Company for a waterflood project, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the San Andres formation through its Hobbs "W" Well No. 9 located in Unit F of Section 29, Township 7 South, Range 34 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of well response.
- CASE 3908:** Application of Pan American Petroleum Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 3932 feet to 4027 feet in its Miller Federal Well No. 4 located in Unit L of Section 35, Township 7 South, Range 31 East, Tom-Tom San Andres Pool, Chaves County, New Mexico.
- CASE 3909:** Application of Champlin Petroleum Company for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into San Andres formation, Chaveroo-San Andres Pool, Roosevelt County, New Mexico, through the following two wells located in Township 7 South, Range 33 East:

Champlin Lauck-Federal Well No. 12,
Unit J of Section 29; Disposal Interval -
4202 feet to 4404 feet;

Champlin State 32-7-33 Well No. 5, Unit J
of Section 32; Disposal Interval - 4303
feet to 4425 feet.

October 18, 1968 - Bureau of Land Management
Page 5

CASE 3910:

Application of Atlantic Richfield Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Bough "C" zone of the Pennsylvanian formation underlying the SW/4 of Section 17, Township 10 South, Range 34 East, Vada-Pennsylvanian Pool, Lea County, New Mexico. Said acreage to be dedicated to a well located in the NE/4 SW/4 of said Section 17.

CASE 3911:

Application of Atlantic Richfield Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Bough "C" zone of the Pennsylvanian formation underlying the SE/4 of Section 8, Township 10 South, Range 34 East, Vada-Pennsylvanian Pool, Lea County, New Mexico. Said acreage to be dedicated to a well located in the NW/4 SE/4 of said Section 8. In the alternative applicant seeks approval of a non-standard oil proration unit comprising the E/2 SE/4 of said Section 8 and the W/2 SW/4 of Section 9, said Township and Range, said unit to be dedicated to a well to be drilled in the NE/4 SE/4 of said Section 8.

CASE 3882:

(Continued from the October 9, 1968, Examiner Hearing)
Application of Solar Oil Company for a special gas-oil ratio limitation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 506 of the Commission Rules and Regulations to provide for a limiting gas-oil ratio of 6,000 cubic feet of gas per barrel of oil in the Teague Blinbry Pool, Lea County, New Mexico.

CASE 3883:

(Continued from the October 9, 1968, Examiner Hearing)
Application of Solar Oil Company for a special gas-oil ratio limitation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 506 of the Commission Rules and Regulations to provide for a limiting gas-oil ratio of 6,000 cubic feet of gas per barrel of oil in the Imperial Tubb-Drinkard Pool, Lea County, New Mexico.

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Continental Oil Company		ADDRESS Box 460 Hobbs, New Mexico	
LEASE NAME Payne	WELL NO. 11	FIELD El Mar	COUNTY Lea
LOCATION UNIT LETTER <u>N</u> WELL IS LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>1650</u> FEET FROM THE <u>West</u> LINE, SECTION <u>30</u> TOWNSHIP <u>26S</u> RANGE <u>33E</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	7 5/8	330	175
INTERMEDIATE	-	-	-
LONG STRING	4 1/2	4786	650
TUBING	2 3/8	4650'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Model AD or equivalent set at 4650'
NAME OF PROPOSED INJECTION FORMATION Delaware		TOP OF FORMATION 4634	BOTTOM OF FORMATION Approx. 5750
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing		PERFORATIONS OR OPEN HOLES? perfs.	PROPOSED INTERVAL(S) OF INJECTION 4675-81', 4749-51', & 4755-65'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? producing oil well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Est. 300'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA none	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none
ANTICIPATED DAILY INJECTION VOLUME (BBL/DAY) MINIMUM 150 MAXIMUM 300	OPEN OR CLOSED TYPE SYSTEM closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? pressure	APPROX. PRESSURE (PSI) 1500
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -	WATER TO BE DISPOSED OF yes	NATURAL WATER IN DISPOSAL ZONE yes	ARE WATER ANALYSES ATTACHED? no
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) USA, lessee Mrs. Ida Goedeke Box 1264 Jal, New Mexico			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Tenneco Oil Company, Box 1031, Midland, Texas			
BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION EXHIBIT NO. <u>2</u> CASE NO. <u>3902</u>			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER no	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL no	THE NEW MEXICO STATE ENGINEER no
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)?	PLAN OF AREA yes	ELECTRICAL LOG no	DIAGRAMMATIC SKETCH OF WELL no

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

[Signature]
(Signature)

Asst. Division Manager
(Title)

September 26, 1968
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Revised 1-1-63

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Continental Oil Company		ADDRESS Box 460 Hobbs, New Mexico			
LEASE NAME Payne	WELL NO. 12	FIELD El Har	COUNTY Lea		
LOCATION UNIT LETTER <u>F</u>		WELL IS LOCATED 1935 FEET FROM THE N LINE AND 2090 FEET FROM THE			
LINE, SECTION 31		TOWNSHIP 26S RANGE 33E NMPM.			
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	7 5/8	332	175	surface	circulated
INTERMEDIATE					
LONG STRING	4 1/2	4777'	975	surface	circulated
TUBING	2 3/8	4650'			
NAME OF PROPOSED INJECTION FORMATION Delaware		NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Model AD or equivalent @ 4650'			
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing		PERFORATIONS OR OPEN HOLES perf.		PROPOSED INTERVAL(S) OF INJECTION 4733-40', 4666-71', 4685-94'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? no		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? producing oil well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Est. 300'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA none		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none	
ANTICIPATED DAILY INJECTION VOLUME (BBL/D.)	MINIMUM 150	MAXIMUM 300	OPEN OR CLOSED TYPE SYSTEM none closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? none	APPROX. PRESSURE (PSI) 1500
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF yes	NATURAL WATER IN DISPOSAL ZONE yes	ARE WATER ANALYSES ATTACHED? no
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) USA Lessee Mrs. Ida Goedeke, Box 1264, Jal, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Tenneco Oil Company, Box 1031, Midland, Texas					
Humble Oil & Refining Company, Drawer H, Monahans, Texas					
BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION EXHIBIT NO. 3 CASE NO. 3903					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER no			
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-D)		PLAT OF AREA yes			
		ELECTRICAL LOG no			
		DIAGRAMMATIC SKETCH OF WELL no			

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

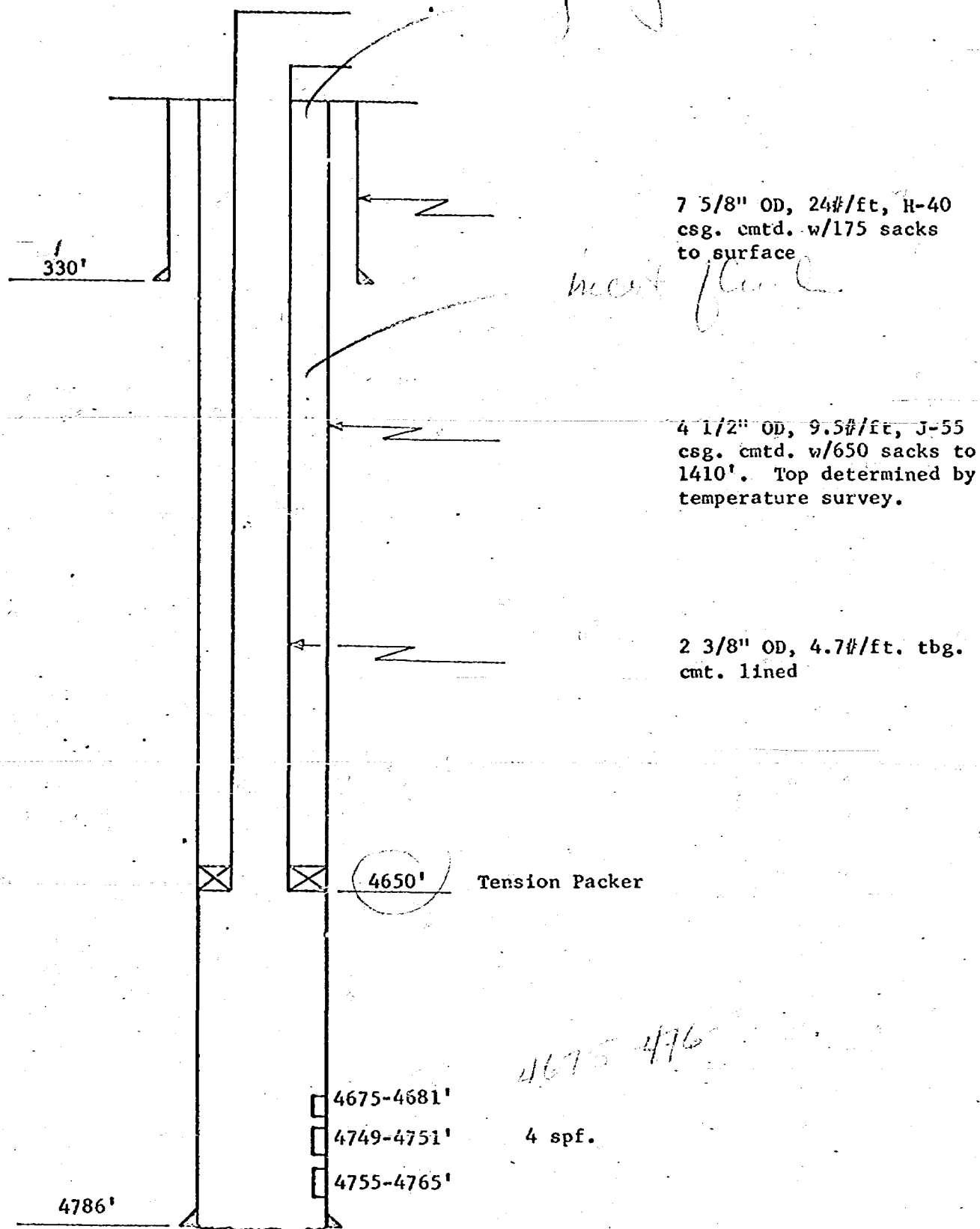
Asst. Division Manager

September 26, 1968

(Date)

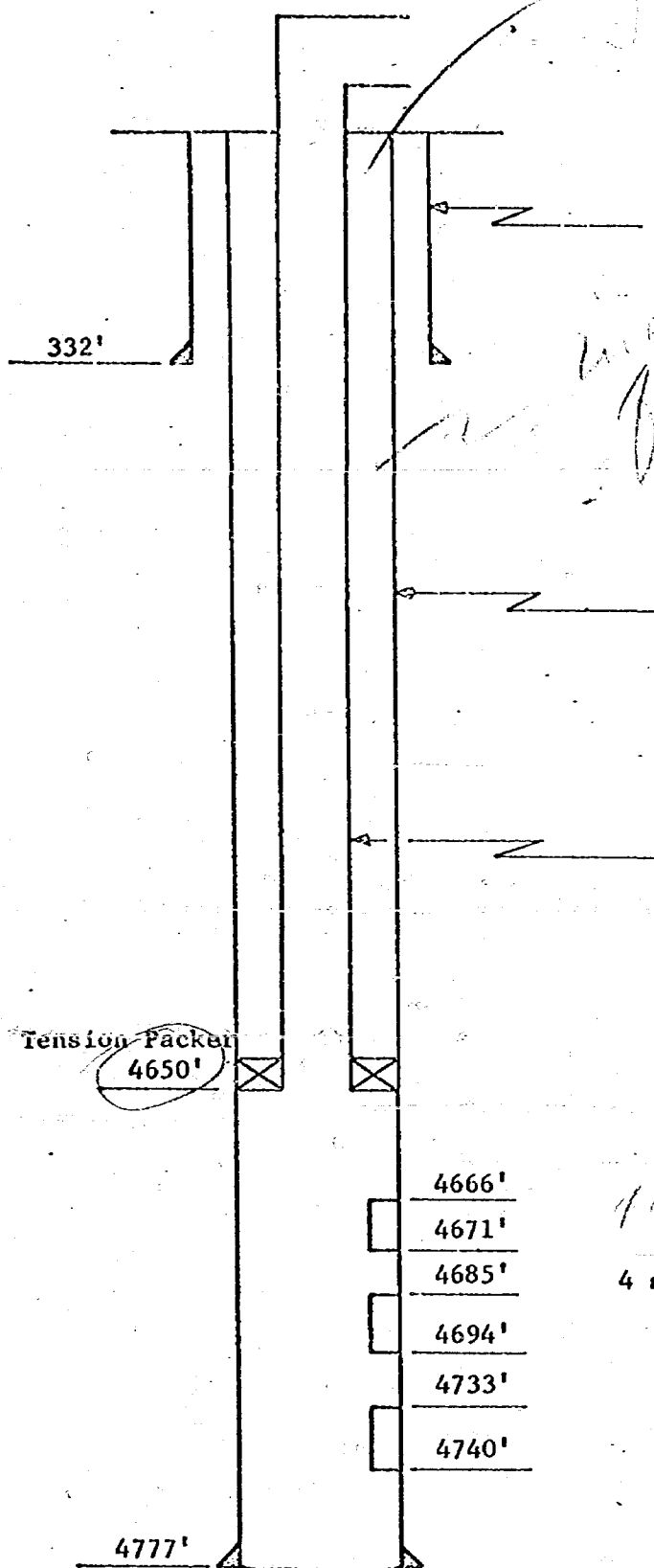
NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

Payne No. 11
1650' FWL & 660' FSL, Sec. 30, T-26S, R-33E
Elev. 3113' (11' above L.F.)



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 3903

Payne No. 12
1935' FNL & 2090' FWL, Sec. 31, T-26S, R-33E
Elev. 3108' (11' above G.L.)



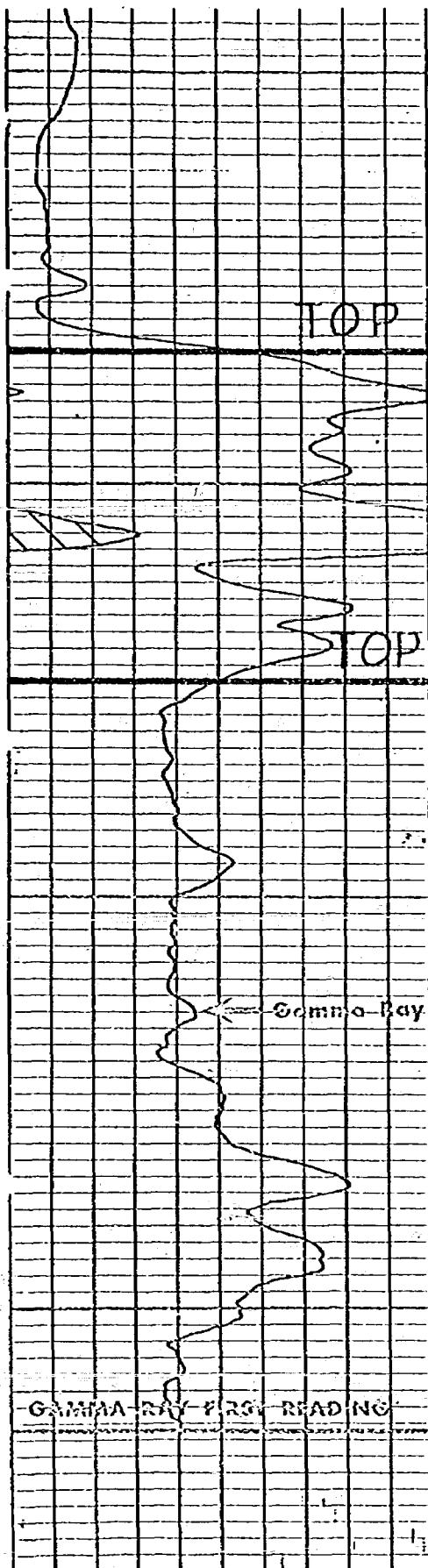
7 5/8" OD, 24#/ft., H-40 csg.
cmtd. w/175 sacks to surface

4 1/2" OD, 9.5#/ft., J-55
csg. cmtd. w/975 sacks to
surface

2 3/8" OD, 4.70#/ft. tbg. *plastic*
cmt. lined

4666 - 4740
4 spf.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 3903



4600

4675'
4681'

4700

4749'
4751'
4755'
4765'

ONE FOOT SPACING

PAYNE NO. 11

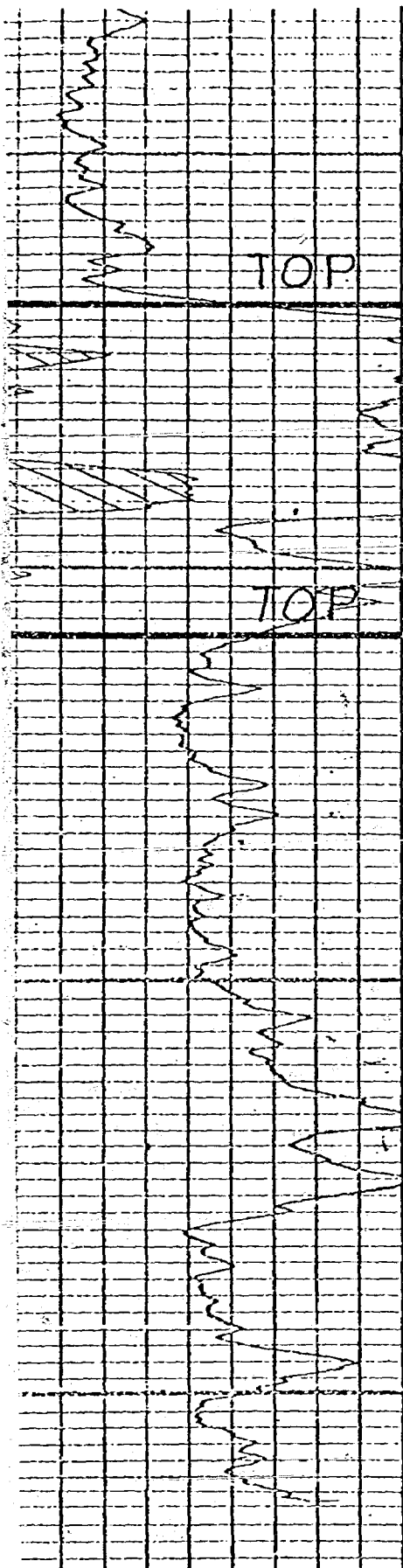
OF DELAWARE (LAMAR)

OF DELAWARE SAND

Sonic Curve

BEFORE EXAMINER NUTTER
CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 3903

EXHIBIT NO. 6



4600

PAYNE NO. 12

OF DELAWARE (LAMAR)

OF DELAWARE SAND

PERFS.

4666'

4671'

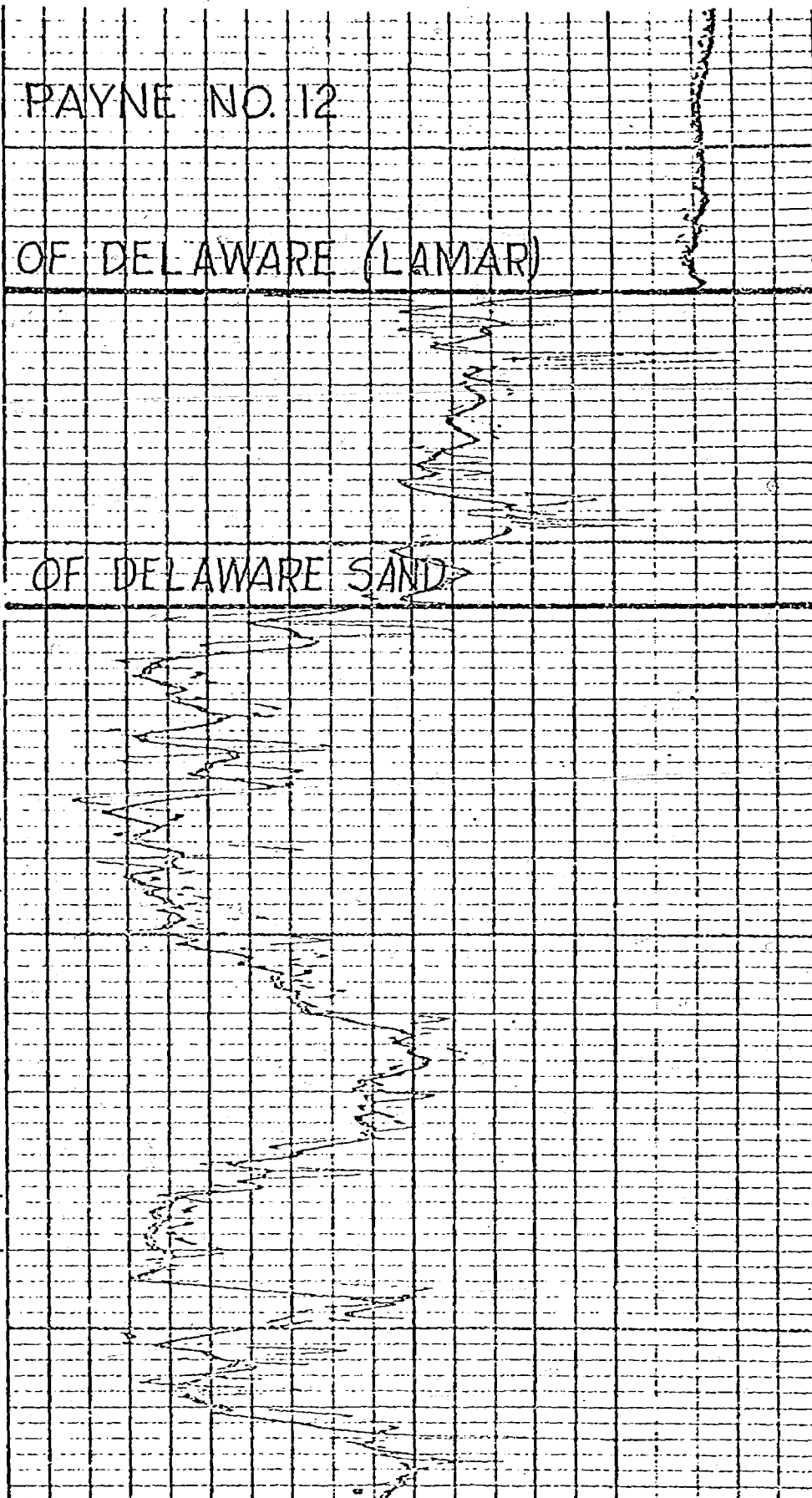
4685'

4694'

4700

4733'

4740'



BEFORE EXAMINER NUTTER
CIL CONSERVATION COMMISSIC
EXHIBIT NO. 7
CASE NO. 3903

TELEPHONE: HOBBS 393-6215



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Continental Oil Company
 Field El Mar Delaware Sand
 Lease El Mar Sampling Date 6/24/68
 Type of Sample Treater

WATER ANALYSIS

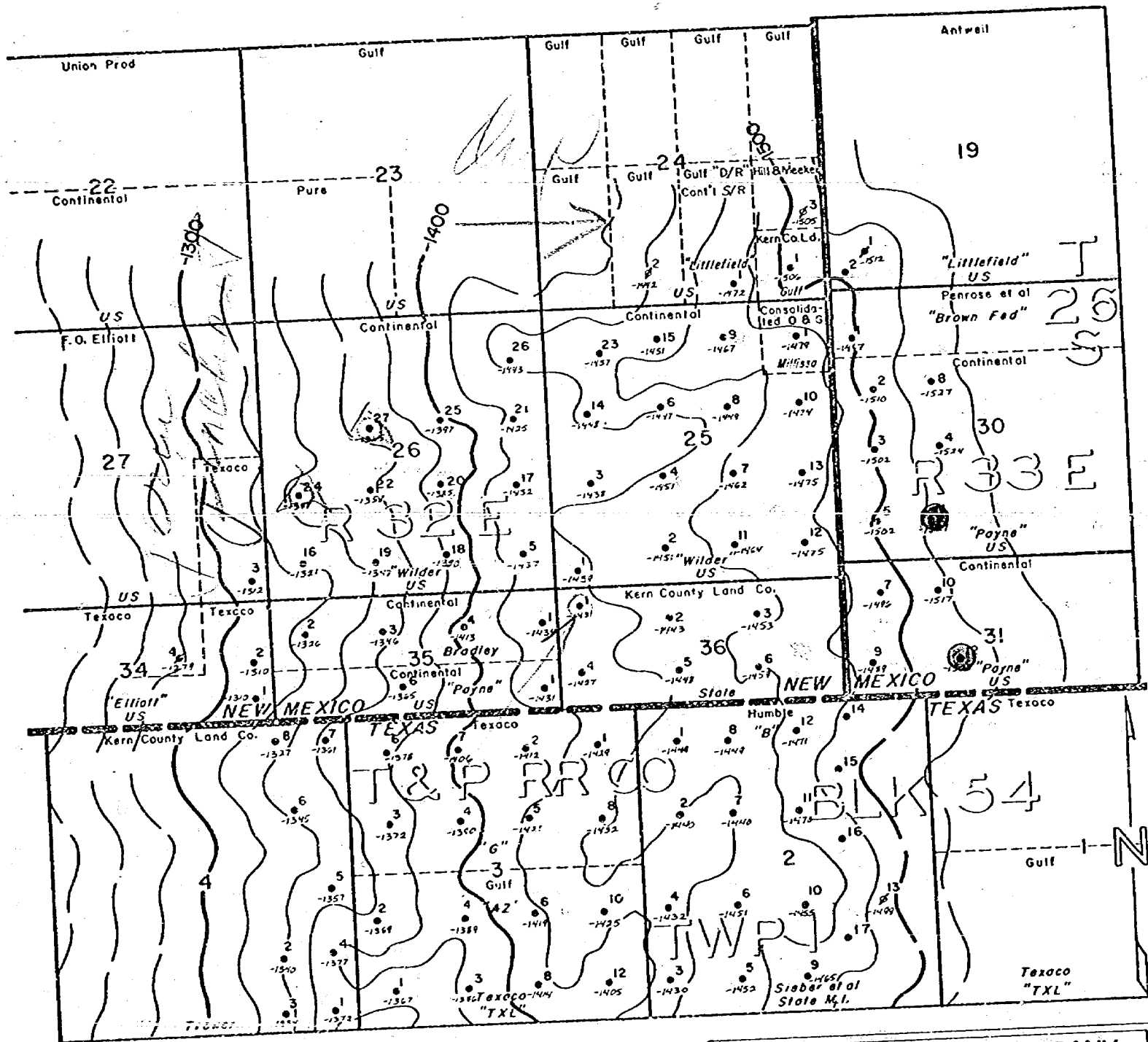
IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	1357.28	27,200
Magnesium (Mg++)	386.86	4704
Sodium (Na+) (cal.)	2890.34	66,449
Iron		138
Bicarbonate (HCO ₃)	1.10	67
Carbonate (CO ₃ -)	NOT	FOUND
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	8.58	412
Chloride (Cl-)	4624.80	164,000
5.6 pH @ 68 °F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	1744.14	87,207
Carbonate Hardness, as CaCO ₃ (temporary)	1.10	55
Non-Carbonate Hardness as CaCO ₃ (permanent)	1743.04	87,152
Alkalinity as CaCO ₃	1.10	55
Specific Gravity @ 68° F	1.165	

- * mg/l = milligrams per Liter
- * me/l = milliequivalents per Liter

BEFORE EXAMINER NUTT,
 OIL CONSERVATION COMMISSION
 EXHIBIT NO. 8
 C. NO. 3903

EXHIBIT NO. 8

Makes Water Work



BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 9

C. P. NO.

3903

CONTINENTAL OIL COMPANY

PRODUCTION DEPARTMENT - HOBBS DISTRICT

EL MAR-DELAWARE PCOL

LEA COUNTY, NEW MEXICO

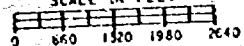
LOVING COUNTY, TEXAS

Contoured on T/Delaware Limestone

Contour Interval: 20'

Exhibit No. 9

SCALE IN FEET



1/6/67



CONTINENTAL OIL COMPANY

September 27, 1968

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

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

Re: Application for Amendment to
Order No. R-3486

Gentlemen:

Forwarded herewith in triplicate are completed forms C-108 requesting authority to inject produced water into our Payne Wells Nos. 11 and 12 in the El Mar Delaware Pool. Order No. R-3486 authorized injection into our Wilder Wells Nos. 24 and 27. It is now contemplated that the waterflood project include injection into wells on the down dip side of the structure so as to insure adequate injection capacity and to observe the effects of injection in this portion of the reservoir.

It is respectfully requested that this matter be set for hearing on your October 23, 1968 docket for amendment of Order No. R-3486 to authorize Payne Wells Nos. 11 and 12 as injection wells in the El Mar pilot waterflood project.

Yours very truly,

VTL-JS
cc: RLA JJB JWK
Attach

DOCKET MAILED

Date 10-11-68

PIONEERING IN PETROLEUM PROGRESS SINCE 1875

Case 3903

*As the subject wells
are on a separate lease
from previous order -
case will be admitted
as a separate flood.
gms*

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Continental Oil Company		ADDRESS Box 460 Hobbs, New Mexico	
LEASE NAME Payne	WELL NO. 11	FIELD El Mar	COUNTY Lea
LOCATION UNIT LETTER <u>N</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>1650</u> FEET FROM THE <u>West</u> LINE, SECTION <u>30</u> TOWNSHIP <u>26S</u> RANGE <u>33E</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	7 5/8	330	175
INTERMEDIATE	-	-	-
LONG STRING	4 1/2	4786	650
TUBING	2 3/8	4650'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Model AD or equivalent set at 4650'
NAME OF PROPOSED INJECTION FORMATION Delaware		TOP OF FORMATION 4634	BOTTOM OF FORMATION Approx. 5750
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing		PERFORATIONS OR OPEN HOLE? perfs.	PROPOSED INTERVAL(S) OF INJECTION 4675-81' 4749-51', & 4755-65'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? producing oil well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Est. 300'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA none	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 150	MINIMUM 300	MAXIMUM closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? pressure
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -		WATER TO BE DISPOSED OF yes	NATURAL WATER IN DISPOSAL ZONE yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) USA, lessee Mrs. Ida Goedeke Box 1264 Jal, New Mexico		APPROX. PRESSURE (PSI) 1500	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Tenneco Oil Company, Box 1031, Midland, Texas			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	
SURFACE OWNER no		no	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		THE NEW MEXICO STATE ENGINEER	
PLAY OF AREA yes		no	
		ELECTRICAL LOG no	
		DIAGRAMMATIC SKETCH OF WELL no	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

[Signature]
(Signature)

Asst. Division Manager
(Title)

September 26, 1968
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

Chas 390.3

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Continental Oil Company		ADDRESS Box 460 Hobbs, New Mexico	
LEASE NAME Payne	WELL NO. 12	FIELD El Mar	COUNTY Lea
LOCATION UNIT LETTER <u>F</u> ; WELL IS LOCATED <u>1935</u> FEET FROM THE <u>N</u> LINE AND <u>2090</u> FEET FROM THE <u>W</u> LINE, SECTION <u>31</u> TOWNSHIP <u>26S</u> RANGE <u>33E</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	7 5/8	332	175
INTERMEDIATE			
LONG STRING	4 1/2	4777'	975
TUBING	2 3/8	4650'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Model AD or equivalent @ 4650'
NAME OF PROPOSED INJECTION FORMATION Delaware		TOP OF FORMATION 4618	BOTTOM OF FORMATION 5750
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing		PERFORATIONS OR OPEN HOLES perf.	PROPOSED INTERVAL(S) OF INJECTION 4733-40', 4666-71', 4685-94'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? producing oil well		HAS WELL EVER BEEN PERFORMED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Est. 300'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA none	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 150	MINIMUM 300	MAXIMUM none	OPEN OR CLOSED TYPE SYSTEM closed
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - yes		WATER TO BE DISPOSED OF yes	IS INJECTION TO BE BY GRAVITY OR PRESSURE? none
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) USA Lessee Mrs. Ida Goedeke, Box 1264, Jal, New Mexico		APPROX. PRESSURE (PSI) 1500	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
Tenneco Oil Company, Box 1031, Midland, Texas			
Humble Oil & Refining Company, Drawer H, Monahans, Texas			
SEP 26 1968			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER no	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL no	THE NEW MEXICO STATE ENGINEER no
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)	PLAY OF AREA yes	ELECTRICAL LOG no	DIAGRAMMATIC SKETCH OF WELL no

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

[Signature]
(Signature)

Asst. Division Manager
(Title)

September 26, 1968
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

Case 3903

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3903

Order No. R- 3540

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 23, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 10th day of October, 1968, 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, Continental Oil Company, seeks
permission to institute a waterflood project in the El Mar-
Delaware Pool by the injection of water into the Delaware forma-
tion in ~~the perforated interval from approximately 4675 feet to~~
~~4762 feet~~ ^{OK} its Payne Well No. 11 ^{OK} located 660 feet from the
~~South line and 1650 feet from the West line of Section 30,~~
and ~~in the perforated interval from approximately 4666 feet to~~
~~4740 feet~~ ^{OK} in its Payne Well No. 12, located 1935 feet from the
North line and 2090 feet from the West line of Section 31,
both in Township 26 South, Range 33 East, NMPM, Lea County,
New Mexico.

the recovery of otherwise unrecoverable oil, thereby preventing
waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to institute a waterflood project in the ~~===== Unit Area~~ El Mar-Delaware Pool by the injection of water into the Delaware formation through the following-described wells in Township 26 ~~North~~, South, Range 33 ~~West~~ East, NMPM, Lea County, New Mexico:

Payne Well No. 11, located 660 feet from the South line and 1650 feet from the West line of Section 30 ~~in the perforated interval from approximately 4675 feet to 4765 feet,~~ and

Payne Well No. 12, located 1935 feet from the North line and 2090 feet from the West line of Section 31 ~~in the perforated interval from approximately 4666 feet to 4740 feet.~~

(2) That the subject waterflood project is hereby designated the Continental El Mar Payne Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 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.