

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

Case
3006

March 18, 1964

C
O
P
Y

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

Dear Sir:

Enclosed herewith is Commission Order No. R-2673, entered in Case No. 3006, approving the Continental Oil Company Pearsall Queen Waterflood 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-N-3 is 84 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

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

-2-

Mr. Jason Kallahin

through purchase or unitization, when wells have received a response to water injection, etc.

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Enclosure

cc: Mr. James T. Jennings

Oil Conservation Commission - Hobbs, New Mexico

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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. 3006
Order No. R-2673

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 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, Continental Oil Company, seeks authority to institute a waterflood project in the Pearsall (Queen) Pool by the injection of water into the Queen formation through its Pearsall AX Well No. 2 located in Unit M of Section 33, Township 17 South, Range 32 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 is in the interest of conservation and should result in 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 Rule 701 of the Commission Rules and Regulations.

-2-

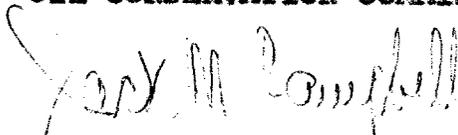
CASE No. 3006
Order No. R-2673

IT IS THEREFORE ORDERED:

- (1) That the applicant, Continental Oil Company, is hereby authorized to institute a waterflood project in the Pearsall (Queen) Pool by the injection of water into the Queen formation through tubing and packer in its Pearsall AX Well No. 2 located in Unit M of Section 33, Township 17 South, Range 32 East, NMPM, Lea County, New Mexico.
- (2) That the subject waterflood project 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, Chairman



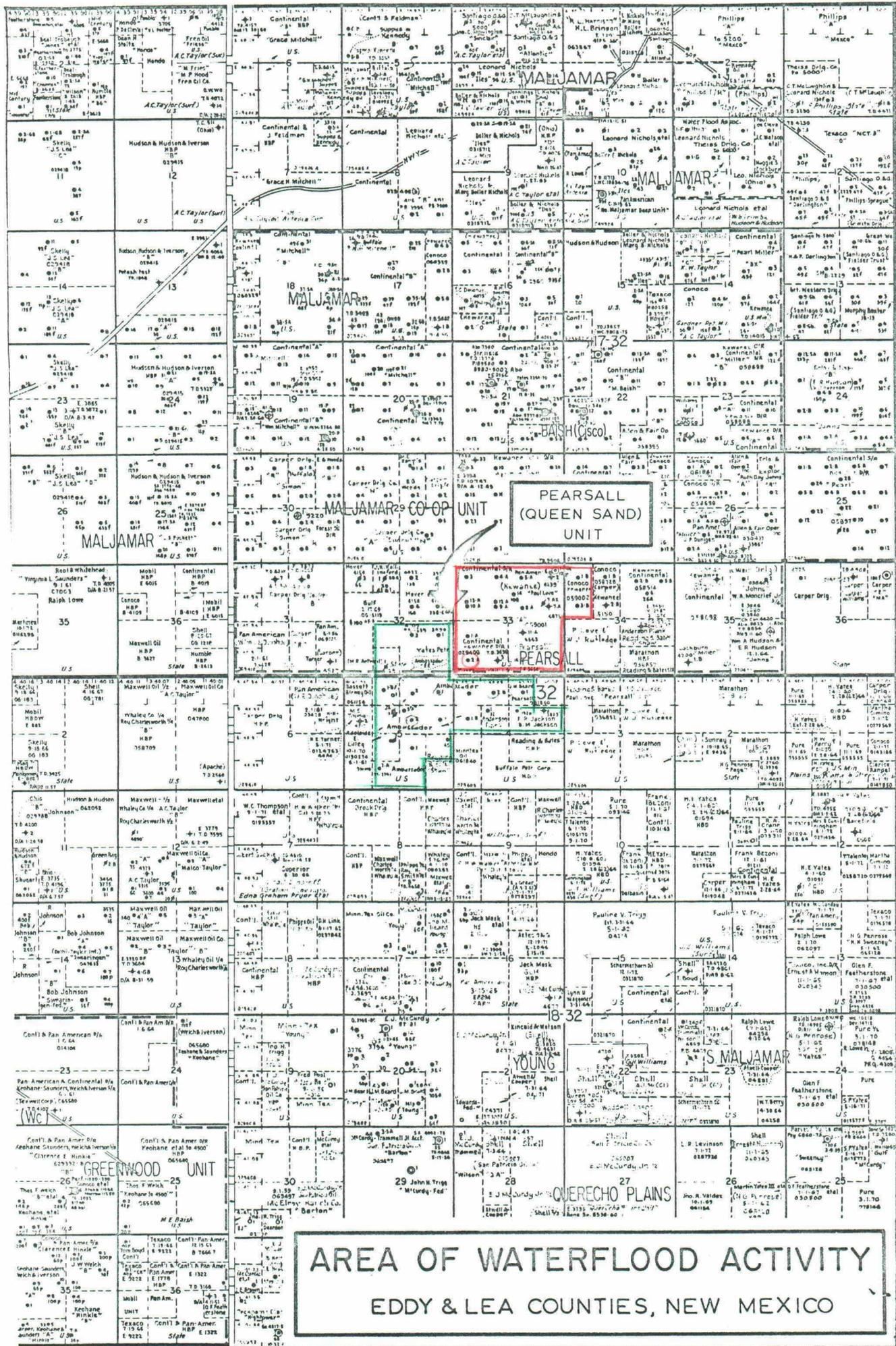
E. S. WALKER, Member



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



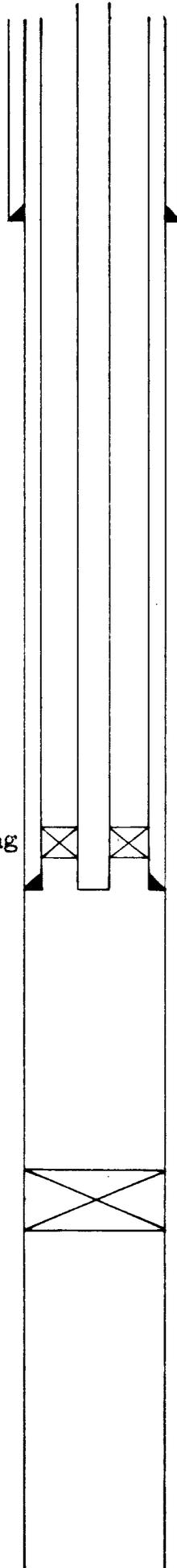
esr/



AREA OF WATERFLOOD ACTIVITY
EDDY & LEA COUNTIES, NEW MEXICO

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Cont EXHIBIT NO. 1
CASE NO. 3006

CONOCO
PEARSALL AX NO. 2



8 5/8" OD Surface Casing set
at 900' and cemented to 500'(est)
with 50 sacks

Cement Top - 2000' (Calculated)

Production packer
set @ 3400', tubing
set at 3430'

7" OD Production Casing Set at
3435' and cemented with 100
sacks.

Producing Zone - Open Hole
From 3435' to 3647'

PBD - 3647'

TD - 4873'

BEFORE EXAMINER NUTTER
CONSERVATION COMMISSION
Cent EXHIBIT NO. 2
CASE NO. 3006

NEW MEXICO OIL AND GAS COMMISSION
WATERFLOOD APPLICATION DATA

FIELD Pearsall COUNTY Lea
OPERATOR Continental Oil Company DATE 2-11-64
LEASE Pearsall "A", "AX" AND "BXY"
RESERVOIR _____ DISCOVERY DATE January, 1940

I. RESERVOIR AND FLUID CHARACTERISTICS

A. Information on Entire Reservoir

1. Name of Formation Queen Sand
2. Estimated Productive Area of Entire Reservoir 1,500 Acres
3. Composition (Sand, Limestone, Dolomite, Etc.) Sand
4. Type of Structure Stratigraphic
(Include cross-section and structure maps)
5. Type Drive During Primary Production Solution Gas
6. Original Reservoir Pressure Estimated 850 psi
7. Was Gas Cap Present Originally? No At Present No

B. Information on Proposed Project Area

(Include Plat of Lease(s) to be flooded, showing producing wells, proposed injection wells, and offset wells).

1. Number of Productive Acres in Lease(s) to be flooded (540)
2. Average depth to top of pay (Feet) 3,650
3. Average Effective Pay Thickness (Feet) 15
4. Average Porosity (%) 11
5. Average Horizontal Permeability (Mds.) 15 Range 10-60
6. Connate Water Content (% of Pore Space) 32
7. Gravity of Oil (API) 36 Viscosity Unknown

II. PRIMARY PRODUCTION HISTORY

1. Date First Well Completed on Lease(s) January, 1942
2. Oil, Gas, Water Production By Months Since Discovery.
(Graphically as well as in tabular form).
3. Stage of Depletion of Project Area Stripper
4. Number of producing wells on each lease in project area 4
5. Average Daily Oil Production Per Well At Present Time 1-2
6. Cumulative Oil Production to date from lease(s) 269,028

III. RESULTS - EXPECTED

1. Estimated Original Oil In Place (Bbls.) 3,660,000
2. Estimated Oil Saturation At Present Time (% of Pore Space) 65
3. Estimated Residual Oil Saturation at Abandonment 25
4. Estimated ultimate additional oil that will be recovered as
a direct result of injection (bbls.) 505,000

MINER NUTTER
CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. _____

IV. INJECTION

1. Source of Injected Water (Formation, Depths) Commercial Water Company
2. Fresh or Salt Water Fresh
3. Flood Pattern and Spacing 5 Spot - 80 Acres
4. Initial Injection Pressure to be used (PSI) 700
5. Estimated Initial Per Well Rate of Injection (Bbls.) 500
6. List Complete Injection Well Data On Reverse Side of this sheet.

INJECTION WELL DATA

Well - Pearsall "AX" No. 2

Surface Casing - 8 5/8" OD @ 900' and cemented with 50 sacks.

Production Casing - 7" OD @ 3435' and cemented with 100 sacks.

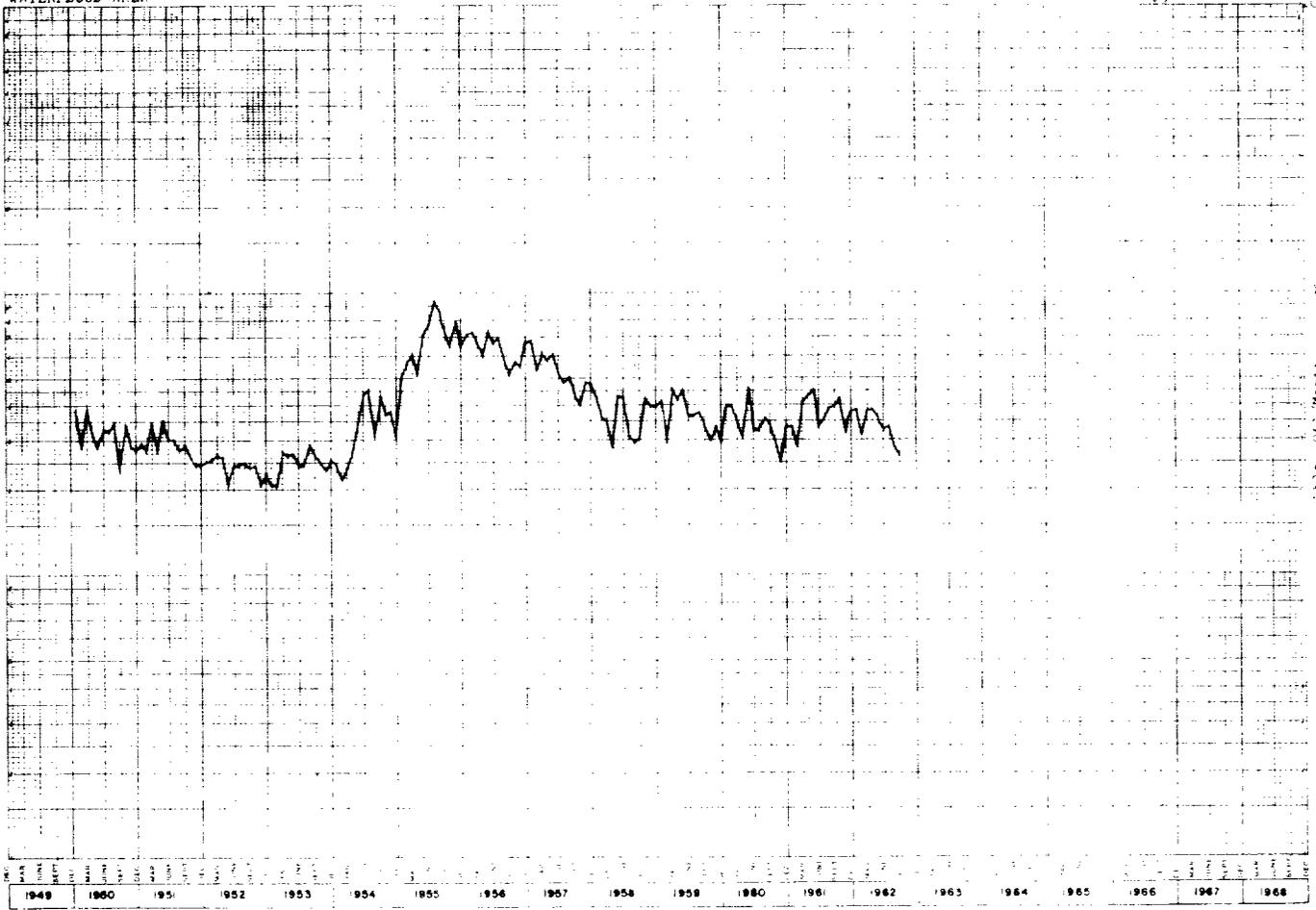
Tubing - 3430' w/packer to be set at 3400'.

Injection - 3435'-3647' through tubing.

PRODUCTION DECLINE CURVE

Pearsall Pool
Lee County, New Mexico

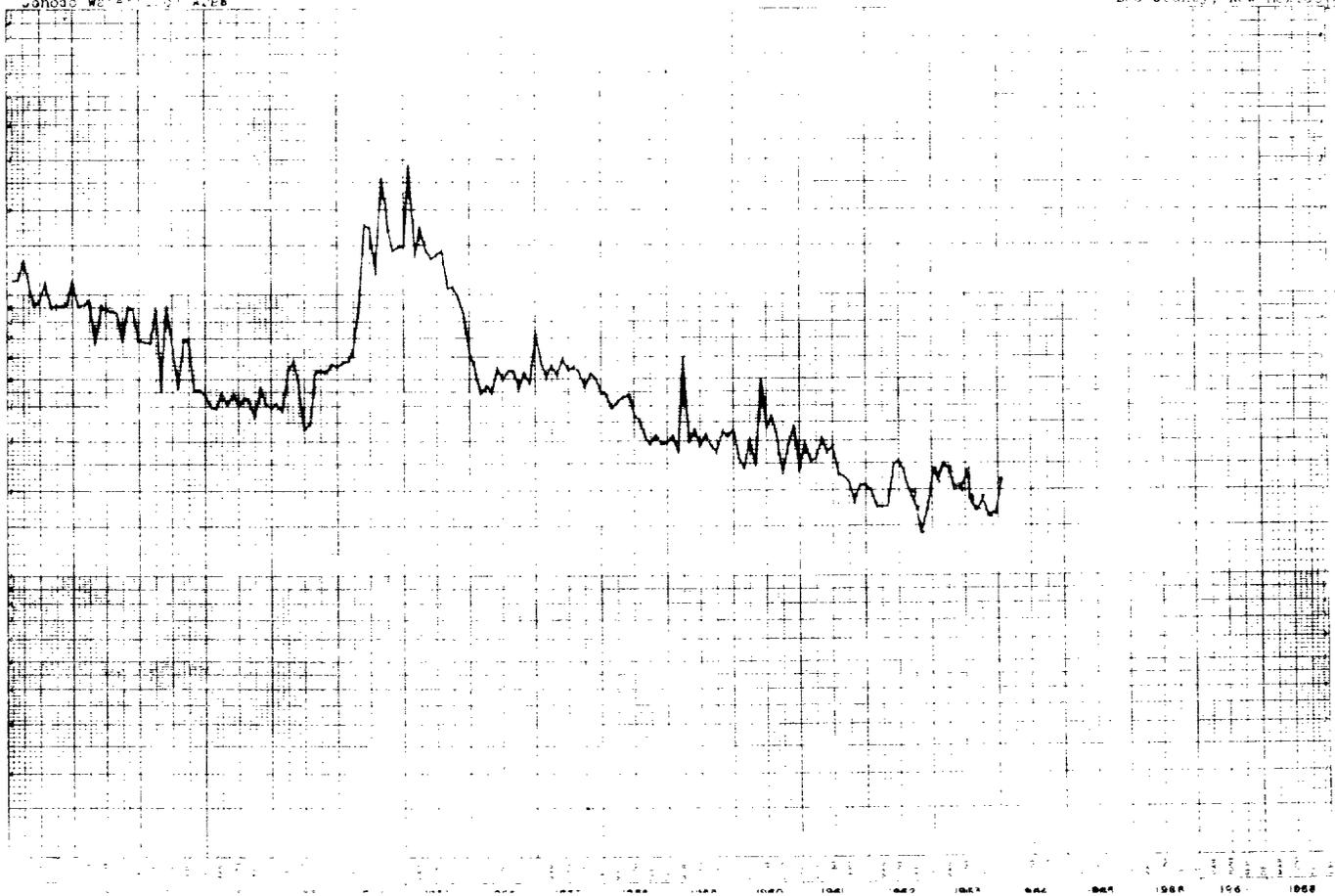
WATERFLOOD AREA



PRODUCTION DECLINE CURVE

Pearsall Pool
Lee County, New Mexico

Pearsall "A" and "AX" Leases
Gonzo Waterflood Area



Pearshall, C. N.

PRODUCTION DECLINE CURVE

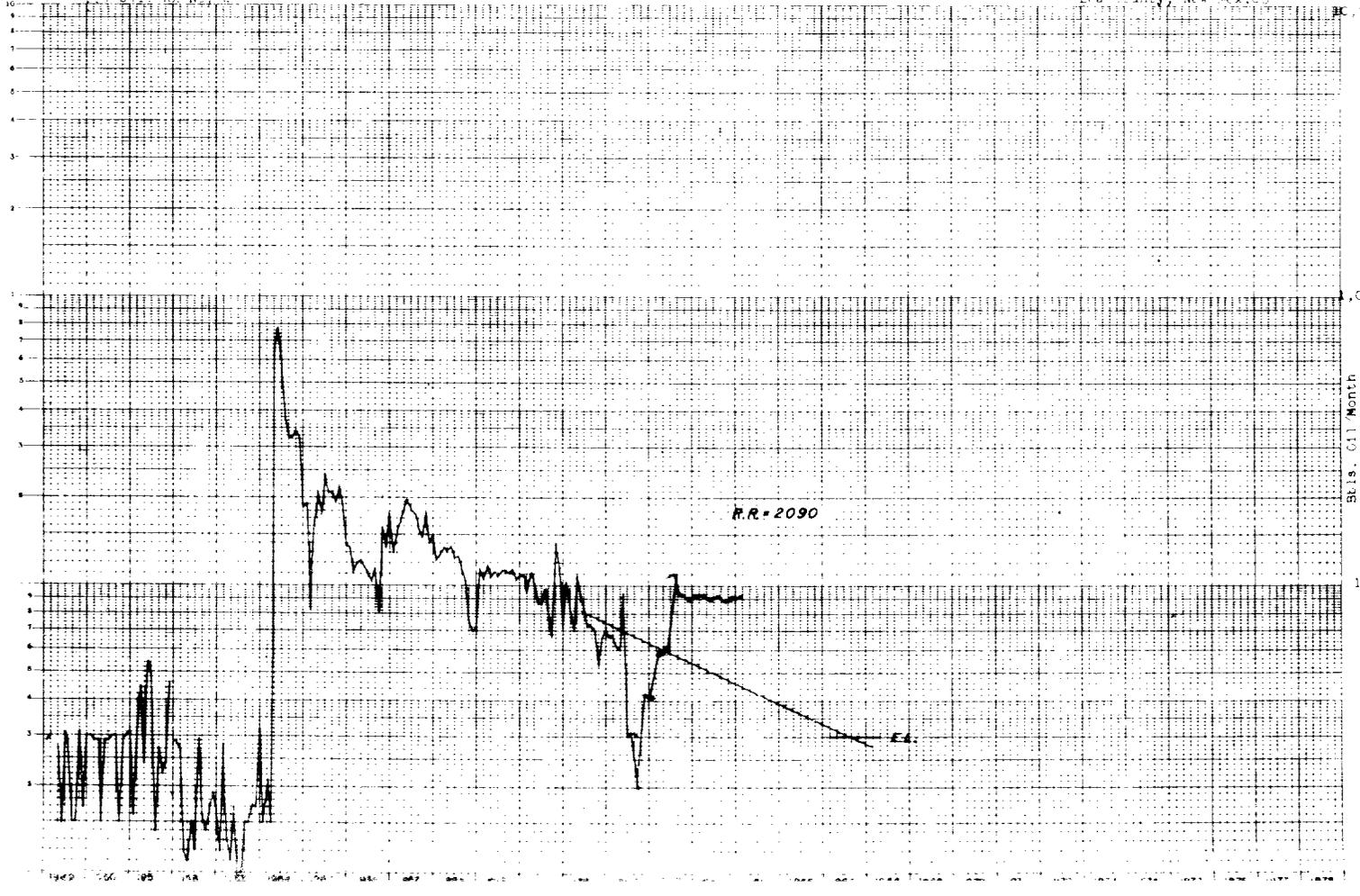
Pearshall Pool
Lea County, New Mexico

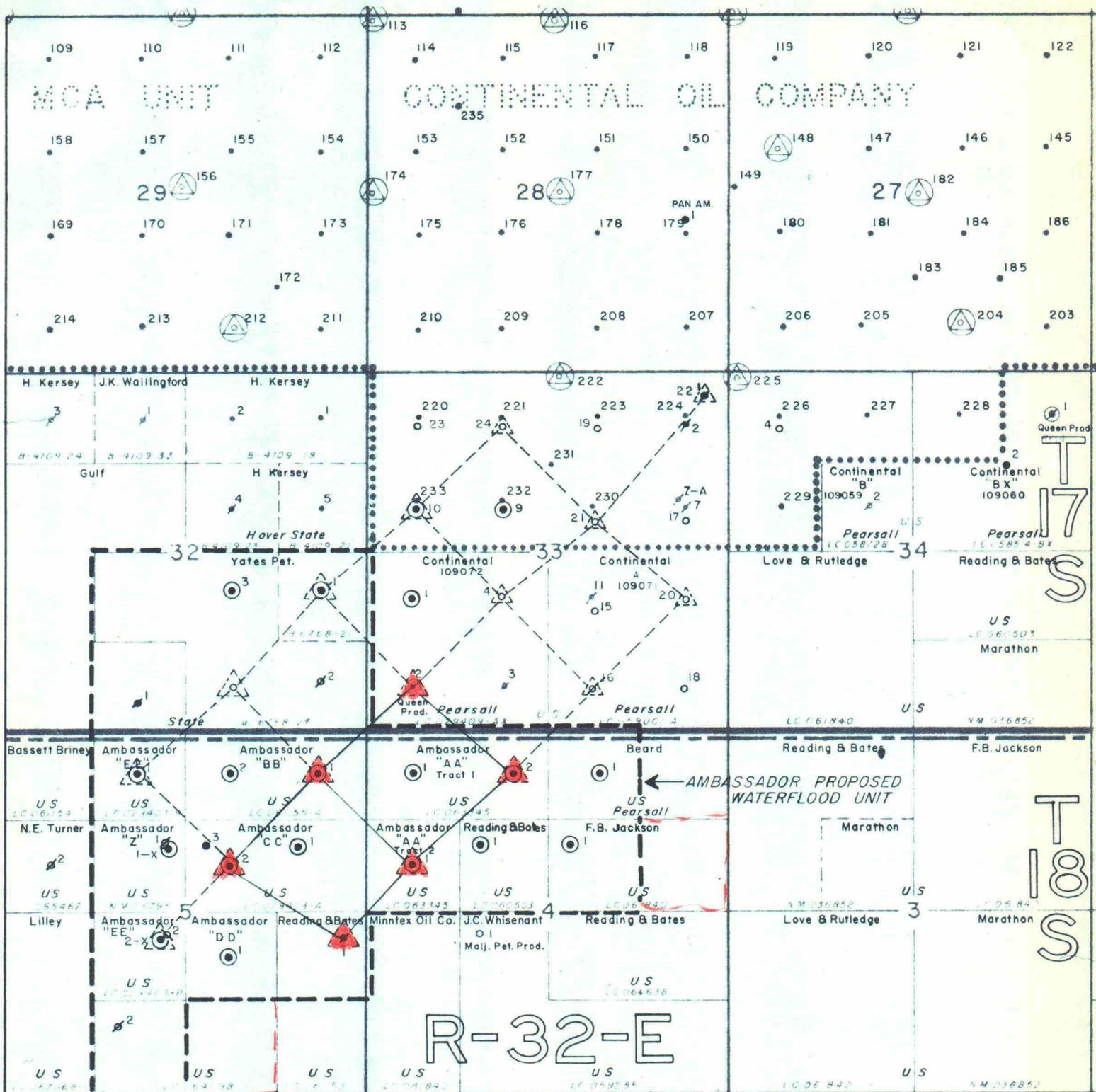


Continental
Pearshall, A. N.

PRODUCTION DECLINE CURVE

Pearshall Pool
Lea County, New Mexico





— LEGEND —

- Queen Well
- Grayburg-San Andres Well
- ⊙ Gas Injection Well
- ⊙ Proposed Water Injection Well

CONTINENTAL OIL COMPANY
 PRODUCTION DEPARTMENT
 HOBBS DISTRICT
PEARSALL POOL
 Lea County, New Mexico

SCALE
 0' 1000' 2000'

R.L.

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 850 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.



Case 3006

CONTINENTAL OIL COMPANY

P. O. BOX 460
HOBBS, NEW MEXICO

February 19, 1964

1001 NORTH TURNER
TELEPHONE: EX 3-4141

PRODUCTION DEPARTMENT
HOBBS DISTRICT
A. B. SLAYBAUGH
DISTRICT MANAGER
G. C. JAMESON
ASSISTANT DISTRICT MANAGER

New Mexico Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico

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

Gentlemen:

We forward herewith, in triplicate, application for authority to install a salt water injection project on our Pearsall AX Well No. 2, located in Section 33, T-17S, R-32E, Lea County, New Mexico. This well is a part of the pilot waterflood project in cooperation with the Pearsall Queen Sand Unit.

It is our understanding that Ambassador Oil Corporation is filing application for approval of their unit and waterflood project. In view of the fact that their application is directly related to this one, it is respectfully requested that our application be placed on the same docket as that of Ambassador's.

Yours very truly,

W. W. Walker

VTL-DFW
Enc.

cc: (By Certified Mail) State Engineer's Office
Box 6079
Santa Fe, New Mexico

cc: Ambassador Oil Corporation
R. G. Parker
G. Wear
J. W. Kellahin

DOCKET MAILED

Date 2-28-64

BEFORE THE OIL CONSERVATION COMMISSION
OF THE
STATE OF NEW MEXICO

FILED 7 11 00

IN THE MATTER OF THE APPLICATION OF
CONTINENTAL OIL COMPANY FOR APPROVAL
OF A WATER INJECTION PROJECT IN
COOPERATION WITH THE PEARSALL QUEEN
SAND UNIT, LEA COUNTY, NEW MEXICO

Case 3006

A P P L I C A T I O N

Comes now applicant, Continental Oil Company, and respectfully requests permission to install a water injection project in cooperation with the Pearsall Queen Sand Unit, specifically to inject into the Pearsall "AX" Well No. 2 located 660 feet from the South and West lines of Section 33, T-17S, R-32E, Lea County, New Mexico, and to expand the project under the provisions of Rule 701 E, and in support thereof would show:

1. Applicant is the owner and operator of the Pearsall "AX" lease consisting of SW/4 of Section 33, the Pearsall "A" lease consisting of N/2 and SE/4, Section 33, and the Pearsall "BXY" lease consisting of W/2 NW/4, Section 34, all in T-17S, R-32E, Lea County, New Mexico.

2. Said leases are adjacent to the proposed Pearsall Queen Sand Unit, the pilot project area of which includes applicant's Pearsall "AX" No. 2 well. Exhibit No. 1, attached hereto, is a plat showing the leases described above, the proposed injection well, the Pearsall Queen Sand Unit, and the leases and wells within a radius of two miles of the said leases.

3. Exhibit No. 2, attached hereto, shows schematically the casing size and depth, cementing information, and other data in regard to the manner of completion of said No. 2 well. There is no log available on the well.

4. Applicant proposes to inject fresh water to be obtained from a commercial water company at a rate of approximately 500 barrels per day into the Queen formation at a depth of approximately 3,700 feet. Said injection is to be carried out in cooperation with the Pearsall Queen

Sand Unit for the purpose of evaluating waterflooding operations.

5. Applicant further proposes to expand its injection program to other wells on the leases described above, in full conformity with Rule 701 E. All of said leases are federal leases.

6. The granting of this application is in the interest of preventing waste and the protection of correlative rights.

Wherefore, applicant respectfully prays that this application be scheduled for hearing before the Commission's duly appointed examiner and that upon hearing, an order be entered approving the water injection project described above.

Respectfully submitted,

CONTINENTAL OIL COMPANY



G. C. Jamieson
Assistant District Manager
of Production
Hobbs District

VTL-MLH

Cc by Certified Mail:

State Engineer, Box 1079, Santa Fe, New Mexico

NEW MEXICO OIL AND GAS COMMISSION
WATERFLOOD APPLICATION DATA

FIELD Pearsall COUNTY Lea
OPERATOR Continental Oil Company DATE 2-11-64
LEASE Pearsall "A", "AX" AND "BXY"
RESERVOIR _____ DISCOVERY DATE January, 1940

I. RESERVOIR AND FLUID CHARACTERISTICS

A. Information on Entire Reservoir

1. Name of Formation Queen Sand
2. Estimated Productive Area of Entire Reservoir 1,500 Acres
3. Composition (Sand, Limestone, Dolomite, Etc.) Sand
4. Type of Structure Stratigraphic
(Include cross-section and structure maps)
5. Type Drive During Primary Production Solution Gas
6. Original Reservoir Pressure Estimated 850 psi
7. Was Gas Cap Present Originally? No At Present No

B. Information on Proposed Project Area

(Include Plat of Lease(s) to be flooded, showing producing wells, proposed injection wells, and offset wells).

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4. Average Porosity (%) 11
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6. Connate Water Content (% of Pore Space) 32
7. Gravity of Oil (API) 36 Viscosity Unknown

II. PRIMARY PRODUCTION HISTORY

1. Date First Well Completed on Lease(s) January, 1942
2. Oil, Gas, Water Production By Months Since Discovery.
(Graphically as well as in tabular form).
3. Stage of Depletion of Project Area Stripper
4. Number of producing wells on each lease in project area 4
5. Average Daily Oil Production Per Well At Present Time 1-2
6. Cumulative Oil Production to date from lease(s) 269,028

III. RESULTS - EXPECTED

1. Estimated Original Oil In Place (Bbls.) 3,660,000
2. Estimated Oil Saturation At Present Time (% of Pore Space) 65
3. Estimated Residual Oil Saturation at Abandonment 25
4. Estimated ultimate additional oil that will be recovered as a direct result of injection (bbls.) 505,000

Case 3006

IV. INJECTION

1. Source of Injected Water (Formation, Depths) Commercial Water Company
2. Fresh or Salt Water Fresh
3. Flood Pattern and Spacing 5 Spot - 80 Acres
4. Initial Injection Pressure to be used (PSI) 700
5. Estimated Initial Per Well Rate of Injection (Bbls.) 500
6. List Complete Injection Well Data On Reverse Side of this sheet.

INJECTION WELL DATA

Well - Pearsall "AX" No. 2

Surface Casing - 8 5/8" OD @ 900' and cemented with 50 sacks.

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Injection - 3435'-3647' through tubing.