

CASE NO.

3164

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

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

December 21, 1964

C
Mr. Bill Kastler
Gulf Oil Corporation
Post Office Drawer 1938
Roswell, New Mexico

O
Dear Mr. Kastler:

Enclosed herewith is Commission Order No. R-2849, entered in Case No. 3164, approving the expansion of Gulf Oil Corporation's W. A. Ramsey Waterflood Project.

P
Injection into the authorized injection well shall be through plastic-coated tubing and packer, said packer being set within 100 feet of the uppermost perforation. The casing-tubing annulus is to be loaded with corrosion inhibited fluid.

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 will increase from the present 1134 barrels per day to 1260 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,

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

-2-

Mr. Bill Kastler

**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**

ALP/ir

Enclosure

**cc: Mr. Frank Irby
State Engineer Office
Santa Fe, New Mexico**

**Oil Conservation Commission
Post Office Box 1980
Hobbs, New Mexico**

C
O
P
Y

**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. 3164
Order No. R-2849**

**APPLICATION OF GULF OIL CORPORATION
FOR A WATERFLOOD EXPANSION, LEA COUNTY,
NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on December 15, 1964, at Santa Fe, New Mexico, before Examiner Daniel S. Matter.

NOW, on this 21st day of December, 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, Gulf Oil Corporation, seeks authority to expand its W. A. Ramsay (NCT-A) Waterflood Project authorized by Order No. R-1820 by the injection of water into the Queen formation through one additional well at an unorthodox location 1315 feet from the South line and 1315 feet from the West line of Section 34, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico.

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

(4) That the proposed expansion of the W. A. Ramsay (NCT-A) Waterflood Project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

-2-

CASE No. 3164

Order No. R-2849

(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, Gulf Oil Corporation, is hereby authorized to expand its W. A. Ramsay (NCT-A) Waterflood Project authorized by Order No. R-1820 by the injection of water into the Queen formation through one additional well at an unorthodox location 1315 feet from the South line and 1315 feet from the West line of Section 34, Township 21 South, Range 36 East, NEPM, Lea County, New Mexico.

(2) That the expanded waterflood project 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 expanded 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

S E A L

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:

*File Case
3164*

CASE No. 2111
Order No. R-1820

APPLICATION OF GULF OIL CORPORATION
FOR AN ORDER AUTHORIZING A WATERFLOOD
PROJECT IN THE EUMONT AND SOUTH EUNICE
POOLS, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 2, 1960, at Santa Fe, New Mexico, before Elvis A. Utz, 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 16th day of November, 1960, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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, Gulf Oil Corporation, seeks authorization to institute a waterflood project in the Eumont and South Eunice Pools by the injection of water into the Queen formation through Wells No. 14, 24, 27, 32, 35, and 48 located on the William A. Ramsay lease in Sections 27 and 34, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico.

(3) That the proposed waterflood project area includes the following lands in Township 21 South, Range 36 East, NMPM, Lea County, New Mexico:

<u>Section 27:</u>	NW/4 SE/4, S/2 SE/4, SW/4
<u>Section 33:</u>	E/2 NE/4
<u>Section 34:</u>	N/2, SE/4, N/2 SW/4, SE/4 SW/4
<u>Section 35:</u>	E/2 NW/4, NW/4 SW/4

(4) That all lands in the proposed waterflood project area have a common royalty owner.

-2-

CASE No. 2111
Order No. R-1820

(5) That a large majority of the producing wells in the area to be waterflooded have reached an advanced state of depletion and are properly to be classified as "stripper" wells.

(6) That the proposed waterflood project should be authorized and should be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, be and the same is hereby authorized to institute a waterflood project in the Eumont and South Eunice Pools by the injection of water into the Queen formation through Wells No. 14, 24, 27, 32, 35, and 48 located on the William A. Ramsay lease in Sections 27 and 34, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico.

(2) That the waterflood project area shall include the following lands in Township 21 South, Range 36 East, NMPM, Lea County, New Mexico:

Section 27: NW/4 SE/4, S/2 SE/4, SW/4
Section 33: E/2 NE/4
Section 34: N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 35: E/2 NW/4, NW/4 SW/4

(3) That the 40-acre tract comprising the SE/4 SE/4 of Section 28, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico, may be included in the waterflood project area by administrative approval of the Commission upon proof that this tract has been unitized with the remainder of the project area, or that the ownership of this tract is common with that of the project area, or that all interests in this tract have been brought under a working agreement.

(4) That the operation of the waterflood project herein authorized shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area, except as provided for in Paragraph (3) above.

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

-3-
CASE No. 2111
Order No. R-1820

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

S E A L

esr/

DOCKET: EXAMINER HEARING - TUESDAY - DECEMBER 15, 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 3154: (Continued from the November 24th examiner hearing)
Application of Atlantic Refining Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Culwin Queen Unit Area comprising 820 acres, more or less, of State and Federal lands in Townships 18 and 19 South, Ranges 30 and 31 East, Eddy County, New Mexico.

CASE 3155: (Continued from the November 24 examiner hearing)
Application of Atlantic Refining Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Shugart Pool in its Culwin Queen Unit Area by the injection of water into the Queen formation through six injection wells in Section 36, Township 18 South, Range 30 East, Section 31, Township 18 South, Range 31 East, Section 1, Township 19 South, Range 30 East, and Section 6, Township 19 South, Range 31 East, Eddy County, New Mexico.

CASE 3163: Application of Gulf Oil Corporation for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 120-acre non-standard gas proration unit comprising the E/2 SE/4 of Section 28, and the NE/4 NE/4 of Section 33, Township 21 South, Range 37 East, Blinbry Gas Pool, Lea County, New Mexico. Said unit to be dedicated to its J. N. Carson Well No. 6 located in Unit P of said Section 28.

CASE 3164: Application of Gulf Oil Corporation for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its W. A. Ramsay (NCT-A) waterflood project, South Eunice Pool, to include one additional water injection well to be located approximately 1320 feet from the South and West lines of Section 34, Township 21 South, Range 36 East, Lea County, New Mexico.

CASE 3165: Application of Sam Boren & Major & Giebel Oils for a non-standard proration unit, Lea County, New Mexico. Applicants, in the above-styled cause, seek approval of a 104.18 acre non-standard oil proration unit comprising all of lots 1 and 2 of Section 1, Township 11 South, Range 33 East, South Lane Pool, Lea County, New Mexico, to be dedicated to a well to be drilled within 150 feet of the center of said lot 1.

CASE 3166: Application of Tenneco Oil Company for four non-standard proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the following four non-standard oil proration units in the South Lane Pool:

Unit No. 1, 93.61 acres comprising the E/2 SE/4 and Lot 1 of Section 6, dedicated to applicant's State "E" Well No. 1 located in Unit P of Section 6;

Unit No. 2, 93.24 acres comprising the W/2 SE/4 and Lot 2 of Section 6, dedicated to applicant's State "E" Well No. 2 located in Unit J of Section 6.

December 15th Examiner Hearing

Unit No. 3, 92.87 acres comprising the E/2 SW/4 and Lot 3 of Section 6, dedicated to applicant's State "F" Well No. 1 located in Unit K of Section 6;

Unit No. 4, 81.76 acres comprising Lots 4, 5, and 6 of Section 6, dedicated to a well to be drilled 100 feet North of the center of Lot 5 of Section 6, all in Township 11 South, Range 34 East, Lea County, New Mexico.

CASE 3167: Application of IMC Drilling Mud, a division of International Minerals and Chemical Corporation for an amendment of Rule 107. Applicant, in the above-styled cause, seeks an amendment to Rule 107 of the Commission Rules and Regulations to provide an administrative procedure whereby oil-base casing packing material could be used in lieu of a portion of the portland cement normally used in cementing oil well casing.

CASE 3168: Application of Jake L. Hamon 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, Glorieta and Yeso formations through the open hole interval from 5000 feet to 9000 feet in its Fannye M. Holloway Well No. 1 located in Unit B of Section 13, Township 17 South, Range 38 East, South Knowles Devonian Pool, Lea County, New Mexico.

CASE 3169: Application of Pan American Petroleum Corporation for force-pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin Dakota Pool underlying the E/2 of Section 14, Township 29 North, Range 11 West, San Juan County, New Mexico.

CASE 3170: Application of Pan American Petroleum Corporation for force-pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin Dakota Pool underlying the E/2 of Section 8, Township 30 North, Range 13 West, San Juan County, New Mexico.

CASE 3171: Application of Pan American Petroleum Corporation for force-pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin Dakota Pool underlying the S/2 of Section 23, Township 29 North, Range 11 West, San Juan County, New Mexico.

CASE 3172: Application of Pan American Petroleum Corporation for force-pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin Dakota Pool underlying the S/2 of Section 21, Township 29 North, Range 10 West, San Juan County, New Mexico.

CASE 3173: Application of Pan American Petroleum Corporation for force-pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin Dakota Pool underlying the S/2 of Section 31, Township 30 North, Range 12 West, San Juan County, New Mexico.

December 15th Examiner Hearing

- CASE 3174: Application of Pan American Petroleum Corporation for force-pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin Dakota Pool underlying the N/2 of Section 28, Township 29 North, Range 10 West, San Juan County, New Mexico.
- CASE 3175: Application of Pan American Petroleum Corporation for an amendment of Order No. R-2424, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an amendment to Order No. R-2424, Special Pool Rules for Fowler Blinebry Pool to provide a limiting gas-oil ratio for oil wells in said pool of 6000 cubic feet of gas per barrel of oil.
- CASE 3176: Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (tubingless) of its C. C. Fristoe "b" (NCT-2) Well No. 9, located in Unit C of Section 35, Township 24 South, Range 37 East, Lea County, New Mexico, to produce oil from the Langlie Mattix, Justis Blinebry and North Justis Tubb-Drinkard Pools through 2-7/8 inch casing cemented in a common wellbore.
- CASE 3177: Application of Sinclair Oil & Gas Company for an amendment of Order No. R-1148, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an amendment of Order No. R-1148, which order authorized a 160-acre non-standard Tubb gas pool proration unit comprising the W/2 SW/4, SE/4 SW/4, and SW/4 SE/4 of Section 26, Township 21 South, Range 37 East, Lea County, New Mexico, to be dedicated to its J. R. Cone Well No. 1 located in Unit M of said Section 26. Applicant seeks the rededication of said unit and the allowable accrued thereto to its J. R. Cone Well No. 2 located in Unit L of said Section 26.
- CASE 3178: Application of Shell Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Comanche (San Andres) A Unit Area comprising 16,895 acres, more or less, of Federal, State and Fee lands in Townships 6 and 7 South, Ranges 25 and 26 East, Chaves County, New Mexico.
- CASE 3179: Application of Shell Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Comanche (San Andres) B Unit Area comprising 20,456 acres, more or less, of Federal, State and Fee lands in Township 7 South, Range 26 East, Chaves County, New Mexico.
- CASE 3180: Application of Shell Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Comanche (San Andres) C Unit Area comprising 15,081 acres, more or less, of Federal, State and Fee lands in Townships 7 and 8 South, Range 25 East, Chaves County, New Mexico.
- CASE 3181: Application of Shell Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Comanche (San Andres) D Unit Area comprising 15,925 acres, more or less, of Federal, State and Fee lands in Township 8 South, Ranges 25 and 26 East, Chaves County, New Mexico.

December 15th Examiner Hearing

- CASE 3182: Application of Shell Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Comanche (San Andres) E Unit Area comprising 12,323 acres, more or less, of Federal, State and Fee lands in Townships 8 and 9 South, Range 25 East, Chaves County, New Mexico.
- CASE 3183: Application of Shell Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Comanche (San Andres) F Unit Area comprising 22,049 acres, more or less, of Federal, State and Fee lands in Townships 8 and 9 South, Ranges 25 and 26 East, Chaves County, New Mexico.
- CASE 2660: (Reopened and continued from the November 12, 1964 examiner hearing) In the matter of Case No. 2660 being reopened pursuant to the provisions of Order No. R-2348-A, which continued the original order establishing 80-acre proration units for the Middle Lane-Pennsylvanian Pool, Lea County, New Mexico, for an additional year. All interested parties may appear and show cause why said pool should not be developed on 40-acre proration units. Midwest Oil Corporation also requests that the Middle Lane-Pennsylvanian Pool Rules, in addition to being made permanent, be amended to provide the definition of the vertical limits of said pool and the deletion of the fixed well location requirements as provided by said Order No. R-2348.
- CASE 3184: Application of Benson-Montin-Greer Drilling Corporation for an amendment of Order No. R-2565, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an amendment of Order No. R-2565 to permit the shutting-in of wells for interference tests, to permit the accumulation and transfer of back allowables for said shut-in wells, and to permit a transfer well to produce its own allowable plus a transferred allowable up to 100% of 1 top unit allowable for the Puerto Chiquito-Gallup Oil Pool at anytime during the period of one year after the original assignment of said allowable.

*Case file
file 154
Chambers*

Gulf Oil Corporation

ROSWELL PRODUCTION DISTRICT

November 23, 1964

P. O. Drawer 2088
Roswell, New Mexico 88201

W. B. Hopkins
DISTRICT MANAGER
M. I. Taylor
DISTRICT PRODUCTION
MANAGER
F. O. Mortlock
DISTRICT EXPLORATION
MANAGER
H. A. Rankin
DISTRICT SERVICES MANAGER

2-3164

Secretary Director
New Mexico Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Application by Gulf Oil Corporation to Expand the W. A. Ramsay (NCT-A) Pilot Waterflood Area and to Drill a Non-Standard Location, Infill Water Injection Well, Approximately 1320 Feet From the South and West Lines of Section 34-21S-36E, Lea County, New Mexico.

Dear Sir:

Since June, 1961, Gulf Oil Corporation has been operating a 28-well pilot waterflood on the W. A. Ramsay (NCT-A) Lease, Eumont and South Eunice Pools, Lea County, New Mexico (Case No. 2111, Order No. R-1820). As shown on the attached plat injection has been through six wells in Section 34-21S-36E on a double 80-acre 5-spot pattern. After 40 months of injection only token response has been noted in three or four of the producing wells in the southeast portion of the pilot area. As yet the flood is uneconomical and expansion on this pattern cannot be justified.

Before abandoning operation of the pilot, Gulf would like to try another approach to waterflooding the Queen in this area. Gulf proposes to drill an infill well approximately 1320 feet from the south and west lines of Section 34-21S-36E to be used for injection of water into the Queen formation on a 40-acre 5-spot pattern. This would be a non-standard location centered among Wells No. 38, 34, 36 and 49. Since this area is contiguous to, but not included in the original 680-acre pilot area, Gulf proposes that the original area be expanded to include the 40 acres immediately surrounding the proposed infill well.

The purpose of this new injection well, to be operated in conjunction with the existing injection wells, would be to (1) better evaluate the oil reservoir through latest coring and logging methods, (2) insure that injected water is going into the main pay zones only, (3) test the feasibility of waterflooding this area on closer well spacings, and (4) quickly determine whether the Queen will flood successfully in this area.

Gulf requests the Commission's approval to drill a non-standard location injection well and to expand the Ramsay Pilot Waterflood area to include the 40 acres surrounding the infill well on the grounds that the proposed plan will in principle tend to promote the conservation of oil and gas, thus preventing waste.

DOCKET MAILED

Date 12-4-64



Secretary Director
New Mexico Oil Conservation Commission

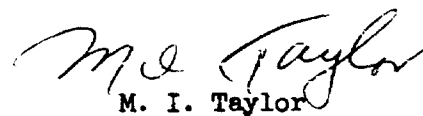
November 23, 1964

- 2 -

It is requested that this matter be set for hearing before an examiner. A copy of this application, complete with attachment, has been sent to the State Engineer Office, Santa Fe, New Mexico.

Respectfully submitted,

GULF OIL CORPORATION


M. I. Taylor

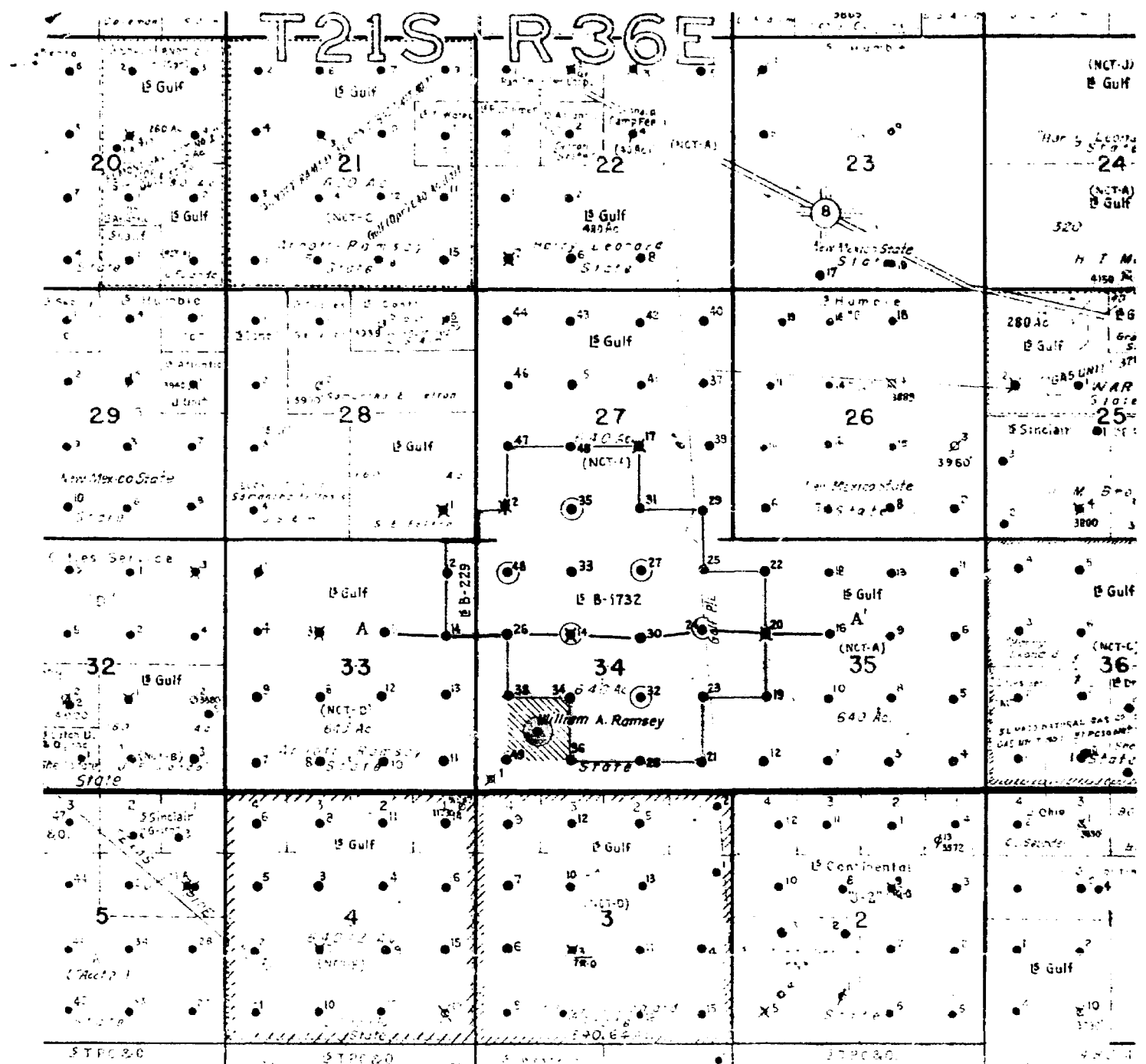
Attachment
DCB:sz

cc w/Attachment

Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

State Engineer Office
State of New Mexico
Capitol Building
Santa Fe, New Mexico 87501

New Mexico Oil Conservation Commission
Post Office Box 2045
Hobbs, New Mexico 88240



AREA PLAT

W. A. RAMSAY (NCT-A) LEASE
LEA COUNTY, NEW MEXICO

- LEGEND -

- ⊙ Proposed Infill Water Injection Well
- Water Injection Wells
- ▭ Pilot Waterflood Area
- ▭ Proposed Expansion Area

Gulf Oil Corporation November 23, 1964

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 12/16/64

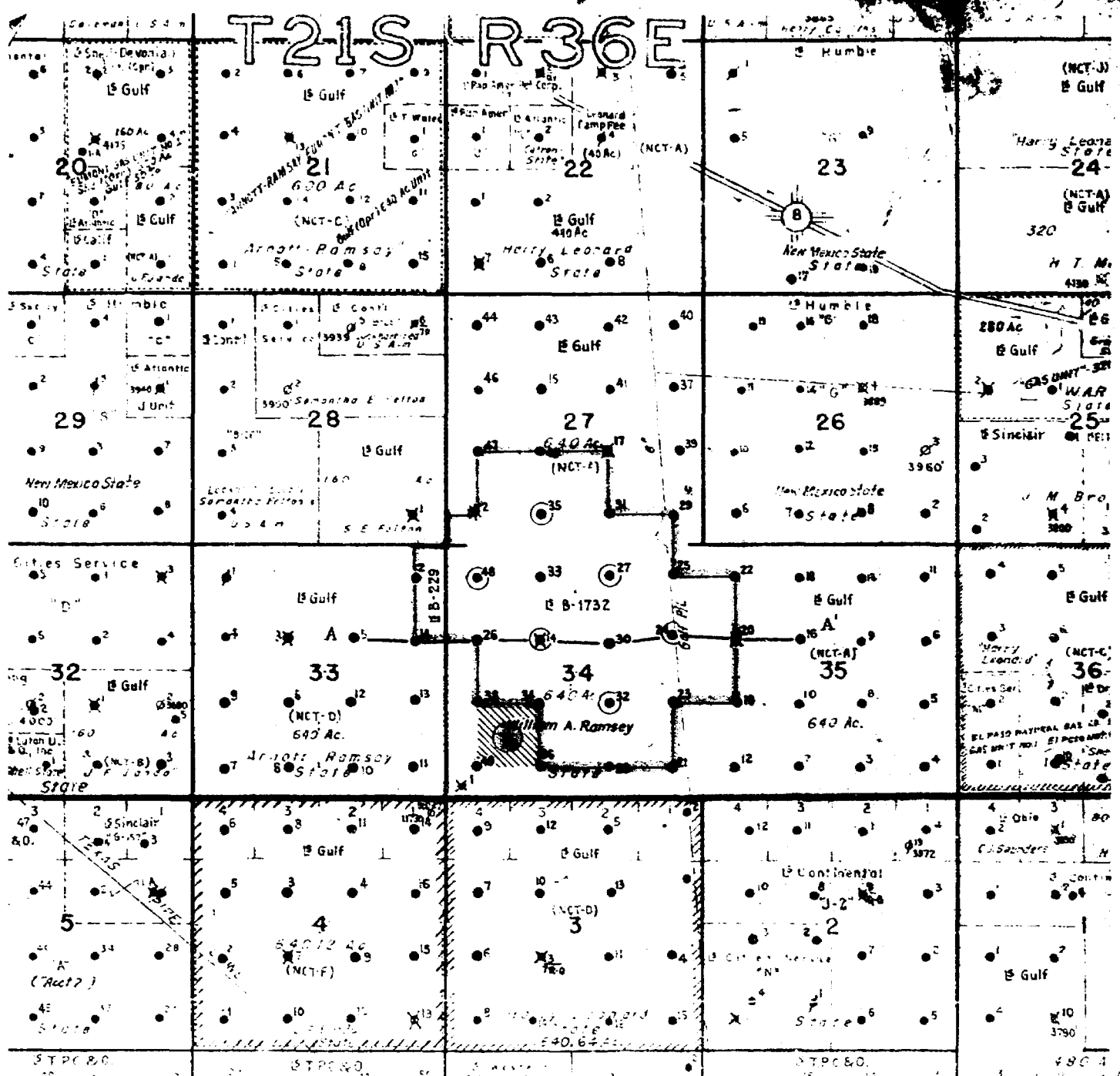
CASE 3164

Hearing Date 9am 12/15/64
DSN @ SF

My recommendations for an order in the above numbered cases are as follows:

Enter an order authorizing Gulf Oil Corp
to expand its W.A. Ramsay Waterflood
Project in Emmett and South Emme Pools
by the drilling and completion of one
additional water injection well to be
located ¹³¹⁵ 4325 feet from the south line and
¹³¹⁵ 4325 feet from the west line of Section
34, Township 21 S, Range 36 E. Injection
is to be into the Queen formation

Original flood was authorized by Order R-1820
11/16/60.



AREA PLAT

BEFORE EXAMINER NUTTER
 IL COMMISSION
 CASE NO. 3164

W. A. RAMSAY (NCT-A) LEASE
 LEA COUNTY, NEW MEXICO

- LEGEND -

- ⊙ Proposed Infill Water Injection Well
- ⊙ Water Injection Wells
- ▭ Pilot Waterflood Area
- ▨ Proposed Expansion Area

Gulf Oil Corporation Roswell District

Case No. 3164

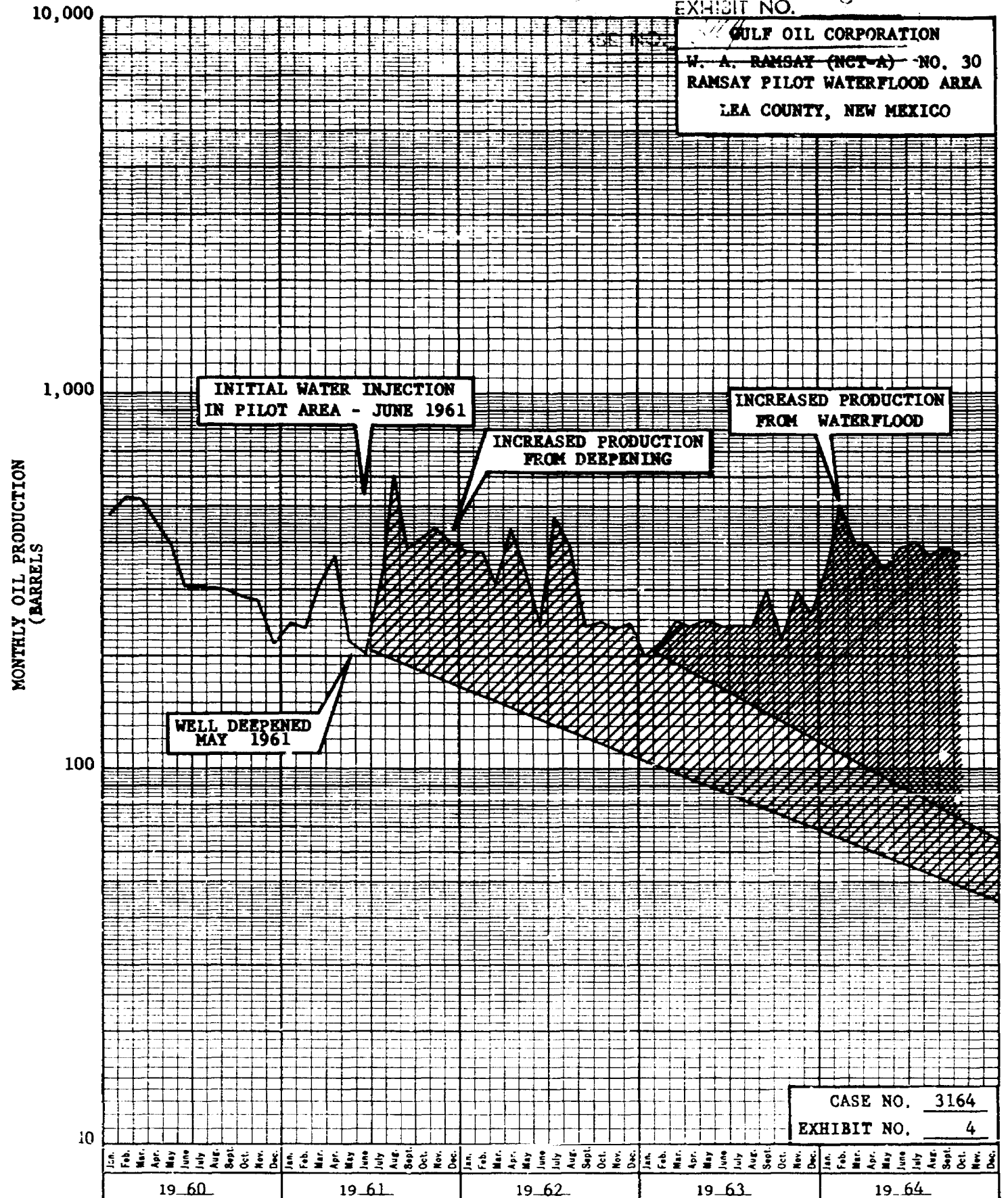
Exhibit No. 1

FORE EXAMINER NUTTES

CONSERVATION COMMISSION

EXHIBIT NO.

GULF OIL CORPORATION
W. A. RAMSAY (NCT-A) NO. 30
RAMSAY PILOT WATERFLOOD AREA
LEA COUNTY, NEW MEXICO



SCHEMATIC DIAGRAM

PROPOSED INFILL INJECTION WELL

GULF OIL CORPORATION
W. A. RAMSAY (NCT-A) WELL NO. 50
LOC. APPROX. 1320' PS&W LINES SEC. 34-218-36E
KUNICK SOUTH POOL LEA COUNTY, NEW MEXICO

BEFORE EXAMINER NOTED
CONSERVATION COMM.
EXHIBIT NO. 3164 5

8-5/8" OD 24 1/2' J-55 CSG.
SET @ 325' WITH CEMENT
CIRCULATED

2-3/8" OD 4 7/8' J-55 PLASTIC COATED TUBING

ANNULUS LOADED WITH
CORROSION INHIBITED FLUID

GAMMA RAY

NEUTRON

SONIC LOG WILL BE RUN
IN PROPOSED WELL

TOP QUEN

3700'

BAKER MODEL "AD"
TENSION PACKER
@ APPROX. 3750'

3800'

TOP PENROSE

ZONES OF INTEREST
TO BE CORRELATED AND
ANALYZED BY
PLUG ANALYSIS

F1 PERM. IN ANNUAL
INTERVAL 3800-3840'

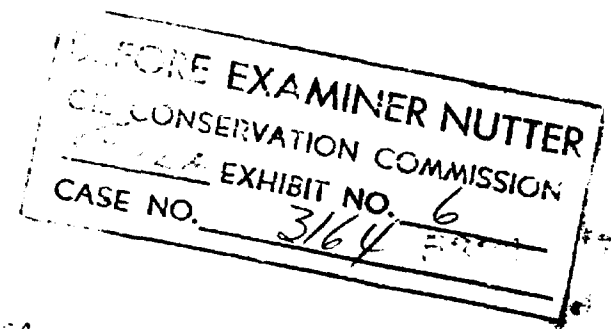
F2 ZONES TO BE TREATED BY
FRACTURE STIMULATION

3900'

4-1/2" OD 9 5/8' J-55 CSG.
SET @ 3900'. CEMENT TO BASE
OF SALT @ APPROX. 2900' WITH
CENTRALIZERS THROUGHOUT CMT.
COLUMN AND SCRATCHERS FROM
CSG. SHOE TO APPROX. 3600'

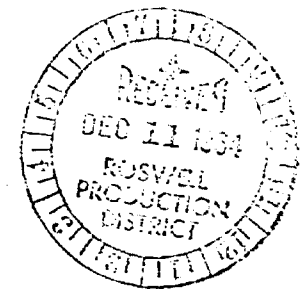
T.D. 3900'

CASE NO. 3164
EXHIBIT NO. 5



December 10, 1964

87501



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

Dear Mr. Porter:

Reference is made to the application of Gulf Oil Corporation submitted November 23, 1964, which seeks approval for expansion of their W. A. Ramsey (NCF-A) pilot waterflood and permission to drill an infill water injection well. Further reference is made to my letter of December 2, 1964 to Gulf Oil Corporation, a copy of which was forwarded to you,

Mr. Taylor has forwarded me the information desired.

The diagrammatic sketch of the proposed infill injection well indicates that the 4 1/2 inch casing will be cemented from the shoe at approximately 3900 feet to the base of the salt at approximately 2900 feet, and that injection will be down 2 3/8 inch O.D. plastic-coated tubing with a tension packer set at approximately 3750 feet, and that the annulus between the tubing and the 4 1/2 inch casing will be loaded with corrosion inhibited fluid. It appears, from the planned construction and equipping of the well, that no threat of contamination to the fresh waters which may exist in the area will occur. Therefore, this office offers no objection to the granting of this application.

FBI/ma
cc-Gulf Oil Corp.
F. H. Hennighausen

Yours truly,

Frank E. Ivey
Chief
Water Rights Division

CASE NO. 3164
EXHIBIT NO. 6

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

PAGE 1

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
December 15, 1964

EXAMINER HEARING

IN THE MATTER OF:

APPLICATION OF GULF OIL CORPORATION FOR A
WATERFLOOD EXPANSION, LEA COUNTY, NEW MEXICO)

Case No. 3164

BEFORE:

DANIEL S. NUTTER

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case Number 3164--application of Gulf Oil Corporation for a waterflood expansion, Lea County, New Mexico.

MR. KASTLER: Again, Bill Kastler appearing for Gulf Oil Corporation; and our witness is Don G. Bilbrey, who has already been sworn.

D O N G. B I L B R E Y, the witness, having first been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Mr. Bilbrey, what is the purpose of this hearing?

A In this hearing Gulf Oil Corporation seeks permission to drill an infill water injection well on a non-standard location 1,320 feet from the southwest lines, Section 34-21S-36E, Lea County, New Mexico, and to expand the W. A. Ramsay NCTA pilot waterflood area to include the 40 acres surrounding the well.

Q Where is the pilot located?

A As you refer to Exhibit 1, which is the plat, the pilot is outlined in yellow and is located in parts of Sections 27, 33, 34 and 35, T-21-S, R-36-E, Lea County, New Mexico. It includes 27 wells in the Eumont and South Eunice Pools and covers 670 acres.

Q How long has the waterflood been in operation?

A Actual water injection has been going on since June, 1961. The hearing, Case Number 2111, was held before the Oil Conservation Commission in November, 1960 and authorization to install and operate the pilot waterflood was granted under Order Number R1820, dated November 16, 1960.

Q What formation is being flooded?

A I'd like to refer you to Exhibit 2, which is a gamma ray neutron log, Range 38A. We are waterflooding the Queen formation at a depth of approximately 3,800 feet, and putting water into a gross interval of 250 to 300 feet, covering both the Queen and Penrose sections. There are 13 possible pay sands within this interval and we have had as many as 11 of these open to the well bore in some wells in the pilot.

Q How many injection wells are involved?

A Six injection wells, on a double 80 acre file spot as shown on Exhibit 1. The wells are circled.

Q On Exhibit 1?

A Yes.

Q What volumes of water are currently being injected and at what pressures?

A During October, 1964, we injected an average of 819 barrels per day per well, at pressures ranging from 1,346 to 1,818 per square inch. The average injection pressure was 1,560 per square inch.

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

PAGE 4

Q What is the source of the injected water?

A Queen-Grayburg produced water from our consolidated tank batteries in the area, supplemented with San Andres water from the J. F. Jonda NCTF Number 17 water supply well, located in the northeast quarter of Section 4.

Q How has the pilot performed to date?

A Very poorly. I'd like to refer you to Exhibit 3, the performance curve of the 27-well area. You will note that there has been no sizeable increase in oil production since injection was begun some 3½ years ago. There was a slight kick in mid-1961, but this was probably the result of deepening 12 wells, including six producers, to lower zones in the Penrose section prior to actual injection of water. There was a temporary halt in the production decline during the first half of 1963, but for the last year or so production has again been declining, but at a lesser rate. We feel that this last hump in the curve represents a token response to the flood in three or four of the producing wells.

Q Which wells have apparently responded?

A Wells 23, 25 and 30 give the best indications of having responded to the flood. These wells are located in the southeast portion of the pilot area, and response has been very slight. Exhibit 4 is the performance curve for Well Number 30, which is a center producer. The kick in production in mid-1961

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

PAGE 5

is a result of the well having been deepened nearly 100 feet to at least three additional pay zones in the Penrose. Production declined until early 1963, when production leveled off before kicking slightly. During 1963 and 1964 production for this well has been increased from 200 barrels to 375, an increase of only six barrels per day. These three or four wells with similar production performance have hardly affected the production decline for the 27-well pilot itself.

Q Have you had any difficulties injecting water into the Queen in this area?

A There has been no trouble out of the ordinary in putting water into the reservoir, but since the flood has not responded as we would have liked, there is some doubt that the water is going where it should go. There was some early water breakthrough in several wells, but only one, the Number 45, has been closed in because of high water production. Breakthrough occurred within a month or two after injection was begun, and we suspected cycling of water through one or more high water saturation sand stringers in this gross Queen-Penrose section. In February of this year we plugged the six injection wells back to the bottom of P-2 to try and eliminate this problem to some extent, as well as cut down on the volume of reservoir being flooded. As yet we have seen no significant response to this last effort.

Q What is Gulf's current evaluation of the pilot water-flood?

A Right now it has to be classified as a failure. The token response to flooding shown in some wells in the southeast gives us some faint hope that the Queen in this area might still be successfully waterflooded. However, as it stands now, we will have to abandon operations in the near future.

Q The proposed infill injection well, then, is a last-ditch effort to successfully flood this area?

A It appears so at this time. Operations are expensive and even Gulf can't continue to put money in an unsuccessful venture.

Q Where would the new input well be located?

A Referring to Exhibit 1, it would be located approximately 1,320 feet from the south and west lines of Section 34, 21 South, 36 East, and the location is circled and colored in yellow. It is centered among Wells Number 38, 34, 36, 49 and it would be on a 40-acre pattern.

Q That is outside the pilot area?

A Yes, and if we are permitted to drill the input well, we would want the 40 acres surrounding the well to be included in the unit area. Two additional wells would thus be added to the pilot, Well Number 49 and the new input well, Number 50.

Q How do you plan to complete the well?

dearnley-meier reporting service, inc.

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

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

PAGE 7

A I'd like to refer you to Exhibit 5, which is a schematic diagram of the well. It is a typical injection well, completed and equipped the same as the six original input wells with injection down tubing beneath a packer. We plan to core the pay zone and run a sonic log to better evaluate or re-evaluate the reservoir in this vicinity. Casing will be carefully cemented through the reservoir to eliminate communication between zones behind the pipe. Only the two best pay zones, P-1 and P-2, will be perforated, in the Penrose section. At this time I would like to refer to Exhibit 6, which is a letter from Mr. Frank Irby, Chief, Water Rights Division, State Engineer's Office, to Mr. A. L. Porter, Jr., in which his office says they have no objection to granting the application, after having looked over the schematic diagram of the well completion.

Q Will operation of the well be similar to those now in operation?

A Yes, we plan to inject 500 to 1,000 barrels of water per day into P-1 and P-2 at approximately 1,500 per square inch. We will use the same water and injection facilities that are now being used in the pilot.

Q What is the purpose of drilling a new well?

A First, we want to try a closer spacing, a 40-acre five-spot, and second, we want to limit injection to only the best two pay zones. We think by limiting injection in sizeable

dearnley-meier reporting service, inc.

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

1120 SIMAN BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

PAGE 8

volumes of water to the best pay on a closer well spacing, we believe we can quickly and with assurance determine whether or not it will be possible to waterflood the Queen in the Ramsay Area.

Q And a new look at the reservoir through coring and sonic logging will be helpful?

A Yes, it will give us another look at the reservoir.

Q Is this application in the interests of conservation and the protection of correlative rights, and the prevention of waste?

A We believe so.

Q Were Exhibits 1 through 6 prepared or reproduced by you or at your direction or under your supervision?

A Yes.

MR. KASTLER: I'd like at this time to move that Exhibits 1 through 6 be admitted into evidence.

MR. NUTTER: Gulf Exhibits 1 through 6, inclusive, are admitted into evidence.

MR. KASTLER: And this concludes our direct testimony.

MR. NUTTER: Are there any questions of Mr. Bilbrey?
... Mr. Bilbrey, the application for the well gave the location as 1320 feet from the south and west lines. In order to designate this well to some particular 40-acre tract we will probably have to move the well five feet in some direction. Do you have

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

120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

MR. BILBREY: As long as it's in the neighborhood of five feet, I think it will make no difference.

MR. NUTTER: Are there any other questions of this witness? ... He may be excused. Do you have anything further, Mr. Kastler?

MR. KASTLER: Nothing further.

MR. NUTTER: If there is nothing further in Case Number 3164, we will take the case under advisement.

* * *

[illegible]

I, ELIZABETH K. HALE, Notary Public and Court Reporter,
do certify that the foregoing transcript in Case Number 3164
is a true and accurate record of proceedings to the best of my
knowledge, skill and ability.

Witness my hand and seal this 17th day of December, 1964.

Walter K. Gale
Notary Public and Court Reporter

My commission expires:

May 23, 1968.

I do hereby certify that the foregoing is
a complete record of the proceedings by
the Board of Managers of the [redacted] 3/64
dated as above 12/15 [redacted] 1964.
 J. S. ...
Nat'l Wildl. & Conservation Commission