

CASE 3927: Application of GULF OIL
CORP. for an unorthodox oil well
location, Lea County, N. Mex.

Case Number

3927

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
November 12, 1968
EXAMINER HEARING

IN THE MATTER OF: Application of)
Gulf Oil Corporation for an)
Unorthodox Oil Well Location,)
Lea County, New Mexico.)

Case No. 3927

BEFORE: D. S. Nutter

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please.
The first case this morning will be Case 3927.

MR. HATCH: Case 3927: Application of Gulf Oil Corporation for an unorthodox oil well location, Lea County, New Mexico.

MR. KASTLER: If the Examiner please, I am Bill Kastler from Roswell, New Mexico, appearing on behalf of Gulf and our witness this morning will be Mr. Don G. Bilbrey.

(Witness sworn)

(Applicant's Exhibits 1 through 5 marked for identification.)

* * * * *

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

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you please state your name and address?

A My name is Don G. Bilbrey, B-i-l-b-r-e-y, 1201 West McGaffey, Roswell, New Mexico.

Q For whom do you work?

A Gulf Oil Corporation.

Q In what capacity?

A As Petroleum Engineer. I have worked in the reservoir

engineering section in the Roswell District Office for the last six years.

Q Have you previously testified before the New Mexico Oil Conservation Commission?

A Yes, I have on several occasions.

MR. KASTLER: Are Mr. Bilbrey's qualifications acceptable?

MR. NUTTER: They are.

Q (By Mr. Kastler) Would you briefly state the purpose of this hearing?

A Yes; Gulf, who is operator of the West Pearl Queen Unit, seeks permission to drill and complete an infill producing well at an unorthodox location within the West Pearl Queen waterflood project area.

Q Before going into detail concerning this proposed infill well, will you tell the Commission something about the West Pearl Queen waterflood project?

A Yes, I would like to refer to the plat which is Exhibit No. 1. The West Pearl Queen Unit is outlined in red on the plat. It's located in the southern part of Township 19 South, Range 35 East, Lea County, New Mexico. The unit was authorized by the Commission under Order R-2728, June 18, 1964. The waterflood project was authorized under Order

R-2729, which is also dated June 18, 1964. The 63-well 80-acre 5-spot project was installed during the latter part of 1964 and the early part of 1965. Actual injection was begun in March '65 along the east boundary, which adjoins Shell's East Pearl Queen Unit. By mid-May of 1965, the entire Unit was under flood. Since that time we have injected more than 12 million barrels of water in the Queen formation at a depth of approximately 5,000 feet. This has resulted so far in the recovery of almost two million barrels of secondary oil from the Unit Area.

Q Would you classify this project as successful?

A I would classify it as very successful. The performance so far indicates we will get more oil under secondary operations than was recovered under primary operations. I would like to refer now to Exhibit No. 2 which is the Unit Performance Curve; the oil production is marked in yellow and it shows how the Unit has performed. It kicked rather quickly after injection was started, reaching a maximum oil rate in 1967 of a little over 90,000 barrels a month. Since that time it has declined to 60,000 barrels a month.

Q Mr. Bilbrey, if the West Pearl Queen waterflood has been so successful, then what is the purpose of this proposed

infill well that Gulf wants to drill?

A Well, we really have two reasons. First, we believe that additional oil can be recovered - oil that otherwise would be left in the reservoir when producing wells in the vicinity of the proposed infill well have been watered out through normal waterflood operations. Second, we believe the productive capacity of the project can be increased with no adverse effects on offset producing wells. This increase would tend to slow, or retard, the rather steep decline in oil production which has occurred since the oil rate peak in 1967. The purpose, then, of the infill well is to test these theories and thereby determine the economic feasibility of expanding the infill program to other parts of the Unit in the future and to do this, of course, we need the approval of this application by the Commission.

Q Do you know of any infill drilling programs in other waterfloods similar to this which would tend to indicate that the drilling of the West Pearl Queen Unit No.163 would accomplish the beneficial results you anticipate?

A Yes. Gulf, in our Midland Texas District, is in the midst of two such programs in West Texas now. One is in the Goldsmith 5600 Field in Ector County and the other is in the North Ward Estes, in Ward County.

Q Where would this infill well be located?

A Again, referring to the plat, Exhibit No. 1, the well would be centrally located between Wells No. 125, 126, 140 and 141. The location is marked by the small red circle just south of the Section line. The well is at an unorthodox location, 5 feet from the north line and 1315 feet from the west line of Section 33, Township 19 South, Range 35 East, this would put it midway between two producing wells and two input wells. This location, as far from the four surrounding wells as we could get it, is in the area of a 5-spot pattern which is least likely to be completely contacted by water when the waterflood is abandoned. This, then, is where we believe the most additional oil can be recovered by an infill well.

Q How has this particular area, the vicinity of these four wells, responded to the waterflood?

A So far it has been one of the most responsive areas in the West Pearl Queen project. Individual well tests have been plotted for Wells No. 126 and 141, which is two producing wells. This is Exhibit No. 3. On that you will note that both wells have had very good responses although No. 126 did not quite reach the oil rate that 141 did. Also, you will note that water production is higher in 126 than in 141. Analysis

of performance of these two wells indicates that as much as 150% of primary has already been recovered from this particular area through our waterflood operations.

Q By 150% of primary, you mean all of the calculated ultimate primary, plus 50% of that again, is that the way --

A No, I mean we'll get one and a half times the primary recovery, or we have already at this particular location, 40-acres. This 40-acre location that we're talking about here, or 40-acre area.

Q Why was this spot picked for the infill well?

A The main reason is that this is an area where the total net pay from all zones of the Queen is rather thick. It ranges from 25 to 30 feet and gives us hope for the recovery of a sizeable amount of additional oil by means of the infill well. Also, as I have already mentioned, this is an area that has had good waterflood response and therefore, an area that we think is likely to produce at a fairly high rate from such an infill. I'd like to refer to Exhibit No. 4, it's a cross section through the two northernmost wells in this area of interest. Well No. 126 is a producing well and shown on the left, and Well No. 125 is an input well and shown on the right. For three and a half years now we have been putting water into three sandstone stringers marked in yellow

on the corss section, of the Queen in this area, Zone 1 at about 4730 feet, Zone IIA from about 4850 to 4900 feet and Zone IIIA at about 4950 feet. Results of injection have been good so far, as shown by responses in Wells 126 and 141. As good as this response has been, however, we still think there is a good chance that additional oil can be recovered by means of an infill well.

Q Don't you believe that this entire area will ultimately be swept clean by an injected water program where the injection could come from Wells 125 and 140?

A Well, under ideal or maybe laboratory conditions, it probably would be. However, if the reservoir were of uniform thickness, if it were homogeneous and isotropic, and we know it isn't, nearly 100% of the reservoir would be swept by the end of the flood in this are. However, early water breakthrough at the two producing wells and the history of a fairly high water cut at Well No. 126 compared to No. 141, indicate that the areal and volumetric sweep efficiencies are less than ideal, and under these circumstances, not all the reservoir under this area is likely to be flooded.

This early water breakthrough was probably caused by one or more factors: (1) maybe an unfavorable mobility ratio, (2) directional permeability formations, (3) natural

fractures, possibly, or (4) vertical stratification or variation in permeability. Whatever the reason or reasons, we believe the volumetric sweep efficiency is less than perfect and that not all of the reservoir will be completely swept either laterally or vertically in this area by the time the two existing producing wells are shut in due to excessive water. We do believe, however, that the bulk of the unswept portion of the reservoir will have been repressured and resaturated with oil due to the effects of water injection. To what extent, we don't know. It is this portion of the reservoir we hope to tap with Well No. 163 in order to produce oil that would otherwise be left in place.

Q What kind of production test or initial potential do you expect to receive when you drill this infill well, if this application is approved?

A Well, based on the results from the infill drilling program in the Goldsmith 5600 and the North Ward Estes floods in Texas, I would expect an initial potential from this well in line with current production tests on Wells No. 126 and 141. This would mean then, an oil rate of about 200 barrels per day with a water cut in the range of ten to fifty percent, hopefully in the lower range.

Q What about additional recovery?

A Well, this is really the big unknown and our main and chief reason for drilling a test well. There are too many unknown factors involved for us to put an exact number on the anticipated oil recovery from this location. Only through performance of the infill well do we think we can possibly make that determination. We hope the additional recovery will economically justify the drilling of the well; however, it will take several months of close observation to make any realistic evaluation.

Q If Gulf should determine that this well is a success, then what would be the plans for the future?

A We would probably want permission to expand the infill program to other parts of the Unit. First though, we would want to be reasonably sure that we are recovering enough additional oil to justify the drilling of the infill well and also that production from the infill well is not adversely affecting the two offset producing wells. We will determine this by analyzing and studying the performance of the three producing wells closely for several months, or as long as we feel is necessary. To my knowledge, this is the first application of its kind in New Mexico, and if infill wells should prove successful in the West Pearl Queen, we might want to try the same thing in other waterflood projects.

which we operate in Southeast New Mexico.

Q How do you plan to complete Well No. 163?

A It will be a typical West Pearl Queen Unit completion. We have a schematic diagram here which is Exhibit No. 5. As shown on the exhibit, we plan to drill through the three pay zones being flooded in this area, set five and one-half-inch casing to a total depth of 5,050 feet, then perforate and frac treat each of the three zones of interest. We intend, while drilling, to core all the pay in an effort to determine through fluid saturations what portion, if any, of the reservoir has been invaded by injection water at this location.

Q Has Gulf received approval from its other working interest owners in the West Pearl Queen Unit to drill this well?

A Yes, so far we have received 81% approval of the working interest owners and this is considerably more than is required under the terms of the Unit Operating Agreement.

Q Is Gulf requesting an increase in its allowable because of this infill well?

A We would expect the project allowable to be set in accordance with Statewide Rule 701 E-3. Under this, we understand that we would receive an additional $1/3$ of a proration unit allowable due to a second well being completed

on one of the proration units within the project area. For allowable purposes, then, we would be credited with 63.333 proration units rather than the 63 with which we are now credited. I'd like to emphasize, however, that this small increase in allowable had no influence on our decision to drill this infill well, since we have a rather large excess of allowable at this time in the Unit. In September, for instance, the West Pearl Queen Unit was capable of making just slightly over half of the maximum project allowable.

Q Is this application in the interest of conservation and the prevention of waste?

A Yes, it is.

Q Would its approval, in your opinion, impair anyone's correlative rights?

A No.

Q Were Exhibits 1 through 5 prepared by you or at your direction and under your supervision?

A Yes, they were.

MR. KASTLER: This concludes my questions on direct examination. I would like to move that Exhibits 1 through 5 be admitted into evidence.

MR. NUTTER: Gulf's Exhibits 1 through 5 will be admitted into evidence.

(Whereupon, Gulf's Exhibits 1 through 5 offered and admitted into evidence.)

MR. NUTTER: Are there any questions of the witness?

He may be excused.

(Witness excused.)

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

Kastler?

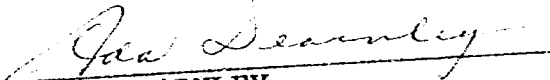
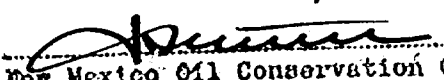
MR. KASTLER: Nothing.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3927? We will take the case under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

WITNESS my hand this 21st day of November, 1968.


ADA DEARNLEY
I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3927, heard by me on 11/12, 1968.

Examiner
New Mexico Oil Conservation Commission

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I N D E X

WITNESS

PAGE

DON G. BILBREY

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Direct Examination by Mr. Kastler

EXHIBITS

MARKED

OFFERED AND
ADMITTED

Gulf's Exhibits 1 through 5 2

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State of New Mexico
Oil Conservation Commission



P. O. BOX 2088
SANTA FE

November 19, 1968

Re: Case No. 3927
Order No. R-3572
Applicant:
Gulf Oil Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

Carbon copy of order also sent to:

Hobbs OCC x
 Artesia OCC
 Aztec OCC
 Other

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. 3927
Order No. R-3572

APPLICATION OF GULF OIL CORPORATION
FOR AN UNORTHODOX OIL WELL LOCATION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 19th day of November, 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, Gulf Oil Corporation, is the
operator of the West Pearl Queen Unit Waterflood Project in
the Pearl-Queen Pool, Lea County, New Mexico.

(3) That the applicant seeks authority to drill an oil
producing well as an infill well in said waterflood project at
an unorthodox location 5 feet from the North line and 1315 feet
from the West line of Section 33, Township 19 South, Range 35
East, NMPM, Lea County, New Mexico.

(4) That approval of the proposed location should increase
the efficiency of the West Pearl Queen Unit Waterflood Project
and result in greater ultimate recovery of oil, thereby
preventing waste.

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CASE No. 3927

Order No. R-3572

(5) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the pool, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to drill a producing oil well as an infill well in the West Pearl Queen Unit Waterflood Project Area at an unorthodox location in the Pearl-Queen Pool 5 feet from the North line and 1315 feet from the West line of Section 33, Township 19 South, Range 35 East, NMPM, Lea County, New Mexico.


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

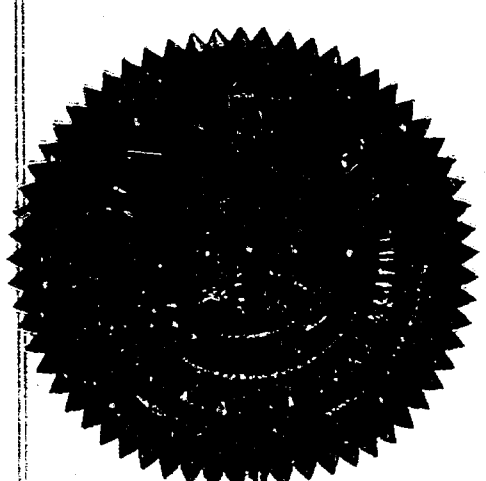
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID F. CARGO, Chairman


GUYTON B. HAYS, Member


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



eer/

DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 12, 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 3927: Application of Gulf Oil Corporation for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 5 feet from the North line and 1,315 feet from the West line of Section 33, Township 19 South, Range 35 East, as an infill well in the West Pearl Queen Unit Waterflood Project, Pearl-Queen Pool, Lea County, New Mexico.

CASE 3928: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Devonian oil pool for its State "K-33" Well No. 1 located 1980 feet from the South and West lines of Section 30, Township 16 South, Range 36 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 80-acre proration units.

CASE 3929: Application of Leonard Latch for three waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute three waterflood projects by the injection of water into the Yates formation through five wells on his Saunders A, B, and Travis leases located in Sections 12 and 13 of Township 17 South, Range 27 East, Empire (Yates-Seven Rivers) Pool, Eddy County, New Mexico.

CASE 3930: Application of Pan American Petroleum Corporation for a dual completion and water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Meyers "B" Federal Well No. 4 located in Unit E of Section 21, Township 24 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of gas from the perforated interval 2950 feet to 3090 feet, Jalmat Gas Pool, and the injection of water for secondary recovery purposes into the Seven Rivers-Queen formations, Langlie-Mattix Pool, in the open-hole interval from 3295 feet to 3650 feet through parallel strings of tubing.

CASE 3931: Application of Pan American Petroleum Corporation for salt water disposal, Roosevelt 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 4239 feet to 4389 feet in its Farrell Federal Well No. 10 located in Unit F of Section 28, Township 7 South, Range 33 East, and in

November 12, 1968

Examiner Hearing

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Docket No. 33-68

(Case 3931 continued)

the interval from 4402 to 4422 feet in its State "DF" Well No. 1 located in Unit I of Section 25, Township 7 South, Range 33 East, Chaverco-San Andres Pool, Roosevelt County, New Mexico.

CASE 3932: Application of Pan American Petroleum Corporation for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Justis-Blinbry and Justis-Fusselman Pools in the wellbore of its State "AJ" Well No. 6 located in Unit M of Section 30, Township 25 South, Range 38 East, Lea County, New Mexico, with the provision that no more than one single allowable will be produced from said well.

CASE 3933: Application of Texaco, Inc., 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 Drinkard formation through its C. H. Lockhart Federal NCT Well No. 8 located in Unit P of Section 18, Township 22 South, Range 38 East, Drinkard Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of a well response.

CASE 3934: Application of Texaco Inc., 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 Drinkard formation through the Drinkard string of its multiple completed (tubingless) V. M. Henderson Well No. 8 located in Unit E of Section 30, Township 21 South, Range 37 East, Drinkard Pool, Lea County, New Mexico.

CASE 3935: Application of Sinclair Oil Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by injection of water into the Yates and Seven Rivers formations through its B Davis Well No. 1 located 330 feet from the South and West lines of Section 34, Township 23 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

November 12, 1968

Examiner Hearing

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Docket No. 33-68

- CASE 3936: 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 Yates and Seven Rivers formations in the perforated interval from approximately 2920 feet to 3134 feet in its E. J. Wells Well No. 2 located in Unit G of Section 12, Township 25 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.
- CASE 3937: Application of Anadarko Production Company for an amendment to Order No. R-2977, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2977, as corrected by Order No. R-2977-A, which authorized a cooperative waterflood project in the Square Lake Pool, Eddy County, New Mexico, to delete the water injection well previously authorized to be drilled 2630 feet from the South line and 2650 feet from the East line of Section 31, Township 16 South, Range 31 East, and to authorize for water injection its Grier Federal Well No. 6 located 1980 feet from the South and East lines of said Section 31.
- CASE 3938: Application of Aztec Oil & Gas Company for compulsory pooling and a non-standard proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pictured Cliffs formation underlying Lots 6, 7, NE/4 SW/4, and SE/4 SW/4 of Section 6, Township 29 North, Range 10 West, Aztec-Pictured Cliffs Gas Pool, San Juan County, New Mexico. Said non-standard unit to be dedicated to a well to be drilled 1830 feet from the South line and 1530 feet from the West line of said Section 6. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.
- CASE 3939: Application of Aztec Oil & Gas Company for four unorthodox gas well locations, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of unorthodox Blanco-Mesaverde Gas Pool locations for four wells located as follows:

SAN JUAN COUNTY, NEW MEXICO

Township 30 North, Range 11 West

Hampton Well No. 4 - 1,140 feet from the West line
and 970 feet from the North line
of Section 13

November 12, 1968

Examiner Hearing

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Docket No. 33-68

(Case 3939 continued)

Township 31 North, Range 12 West

Richardson Well No. 7 - 1,584 feet from the East line
and 1,621 feet from the South line
of Section 15

East Well No. 10 1,770 feet from the North line
and 790 feet from the West line of
Section 26

East Well No. 8 790 feet from the South and East
lines of Section 26.

CASE 3940:

Application of Shell Oil Company for an amendment to Order No. R-2808, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2808 to permit the dedication of a non-standard proration unit authorized therein to its Livingston Wells Nos. 7 and 2 located in Units V and W, respectively, of Section 3, Township 21 South, Range 37 East, Tubb Gas Pool, Lea County, New Mexico. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

CASE 3941:

Application of Agua, Inc., for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, proposes to dispose of produced salt water into the San Andres formation in the open-hole interval between the casing shoe set at 2050 feet and a cement plug at 5400 feet after cleaning out and acidizing the well between 2050 feet and 3600 feet in its Empire-Abo SWD Well No. 01, formerly the Humble Federal Empire-Abo Well No. 3, located in Unit O of Section 1, Township 18 South, Range 27 East, Empire-Abo Field, Eddy County, New Mexico.

CASE 3942:

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 Yates and Seven Rivers formations in the perforated interval from approximately 3790 feet to 3834 feet in its Closson "B" Well No. 18 located in Unit M of Section 19, Township 22 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

November 12, 1968
Examiner Hearing

Docket No. 33-68

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- CASE 3943: Application of Continental Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Lynn A-28 Well No. 5, located in Unit A of Section 28, Township 23 South, Range 36 East, Lea County, New Mexico, in such a manner as to produce gas from the Yates formation of the Jalmat Gas Pool through the casing-tubing annulus and to dispose of produced salt water through tubing into the Seven Rivers formation of said pool in the interval from 3340 to 3374 feet.
- CASE 3944: Application of Sun Oil Company for a pressure maintenance project, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in its James McFarland Lease by the injection of water into the San Andres formation through its James McFarland Well No. 4 located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico. Applicant further seeks the promulgation of special rules to govern operation of said pressure maintenance project.
- CASE 3945: Application of Mobil Oil Corporation for lease commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Vacuum Grayburg-San Andres production from its State "G" lease comprising the W/2 NE/4 and SE/4 NE/4 of Section 24, Township 17 South, Range 34 East, Lea County, New Mexico, with Vacuum Grayburg-San Andres production from that portion of its Bridges State lease comprising the W/2 of said Section 24, allocating the production to each lease on the basis of monthly well tests.

SCHEMATIC DIAGRAM
PROPOSED INFILL WELL
WEST PEARL QUEEN UNIT
OPERATOR: GULF OIL CORPORATION
WEST PEARL QUEEN UNIT NO. 163

5' FNL and 1315' FWL
Section 33-19S-35E
Lea County, New Mexico

8-5/8" 24# J-55 Csg
to be set @ 350' w/
cmt circ. to surface

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Agg. EXHIBIT NO. 5
CASE NO. 3927

2-7/8" 6.5# J-55 Tbg to
be set @ approx. 4750'

All three Queen pay zones
will be cored.

Pay zones will be frac
trtd down csg w/30,000
gals gelled water con-
taining 1-3 #SD per gal
in 3 stages using RCNBS

5-1/2" 15.5# J-55 Csg to
be set @ 5050' and cmtd
from shoe to 3250'

TD 5050'

Zone I (Perfs approx. 4750-60')

Zone IIA (Perfs approx. 4880-90')

Zone IIIA (Perfs approx. 4950-60')

All zones to be perforated
with 2 - 1/2" JHPF

CASE NO. 3927
EXHIBIT NO. 5
GULF OIL CORPORATION

Gulf Oil Company - U.S.

EXPLORATION AND PRODUCTION DEPARTMENT
ROSWELL DISTRICT

T. W. Kidd
DISTRICT MANAGER
M. I. Taylor
DISTRICT PRODUCTION
MANAGER
P. E. Wyche
DISTRICT EXPLORATION
MANAGER
H. A. Rankin
DISTRICT SERVICES MANAGER

October 14, 1968

P. O. Drawer 1938
Roswell, New Mexico 88201

Case 3927

IT IS 1968

Oil Conservation Commission
State of New Mexico
Post Office Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Re: Application of Gulf Oil Corporation for Approval
to Drill an Infill Producing Well at a
Non-Standard Location, West Pearl Queen Unit,
Lea County, New Mexico

Gentlemen:

Gulf Oil Corporation, as Operator of the West Pearl Queen Unit, respectfully requests an Examiner Hearing to consider its application for approval to drill an infill producing well in the West Pearl Queen Unit, Lea County, New Mexico. It is proposed to drill the West Pearl Queen Unit Well No. 163 at an unorthodox location 5' from the north line and 1,315' from the west line of Section 33, T-19-S, R-35-E, Lea County, New Mexico, as shown on the attached plat.

In support of this application, the following facts are submitted:

- (1) The West Pearl Queen Unit Waterflood Project was approved by Order No. R-2729 in Case No. 3066, on June 18, 1964.
- (2) The West Pearl Queen Unit was approved by Order No. R-2728 in Case No. 3635, also on June 18, 1964.
- (3) The West Pearl Queen Unit was formed to increase the ultimate recovery of oil from the Pearl Queen Pool underlying the Unit.
- (4) The West Pearl Queen Unit waterflood project daily allowable is 3,654 BOPD and the current production is approximately 2,500 BOPD.
- (5) Applicant believes the drilling of this Well No. 163, located midway between two producing wells, will result in additional oil which will not be recovered with the existing wells.



A DIVISION OF GULF OIL CORPORATION

DOCKET MAILED

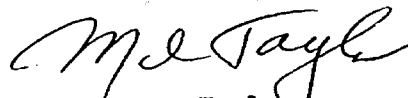
Date *11-1-68*

October 14, 1968

- (6) The waterflood project allowable will be in accordance with Statewide Rule 701 E-3.
- (7) This application is in the interest of conservation and prevention of waste.

Respectfully submitted,

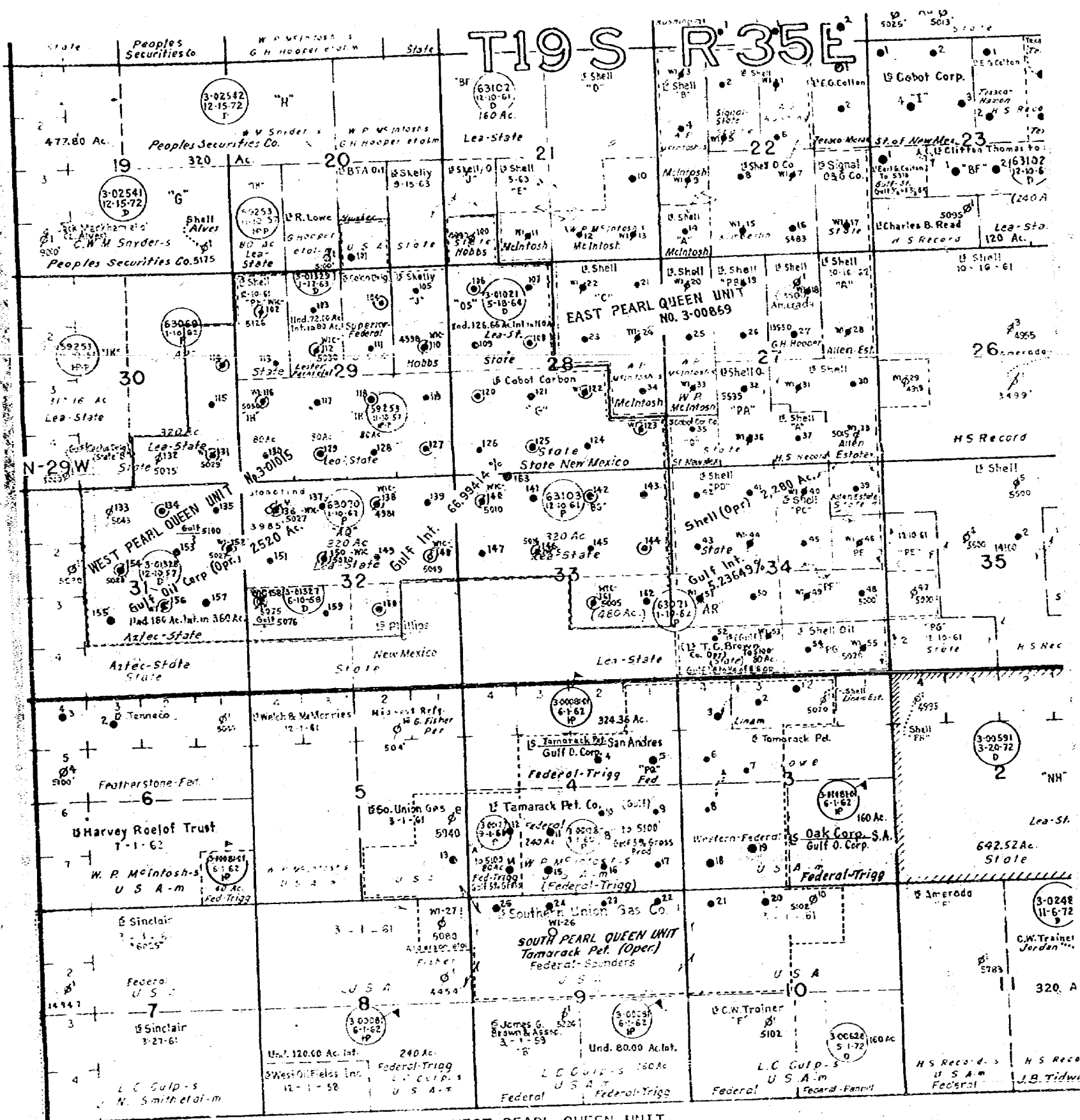
GULF OIL CORPORATION


M. I. Taylor

Attachment
JHH:dch

cc: New Mexico Oil Conservation Commission
Post Office Box 1980
Hobbs, New Mexico 88240

Working Interest Owners
West Pearl Queen Unit



WEST PEARL QUEEN UNIT
Lea County, New Mexico

- LEGEND -

- Unit Boundary
 - Water Injection Well
 - Proposed Infill Producing Well
- Gulf Oil Corporation

October 14, 1968

Case 3927

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. 3927

Order No. R-3572

APPLICATION OF GULF OIL CORPORATION
FOR AN UNORTHODOX OIL WELL LOCATION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of November, 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, Gulf Oil Corporation, is the
operator of the West Pearl Queen Unit Waterflood Project in
the Pearl-Queen Pool, Lea County, New Mexico.

(3) That the applicant seeks authority to drill an oil
producing well as an infill well in said waterflood project at
an unorthodox location 5 feet from the North line and 1315 feet
from the West line of Section 33, Township 19 South, Range 35
East, NMPM, Lea County, New Mexico.

(4) That approval of the proposed location should increase
the efficiency of the West Pearl Queen Unit Waterflood Project
and result in greater ultimate recovery of oil, thereby
preventing waste.

(5) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the pool, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to drill a producing oil well as an infill well in the West Pearl Queen Unit Waterflood Project Area at an unorthodox location in the Pearl-Queen Pool 5 feet from the North line and 1315 feet from the West line of Section 33, Township 19 South, Range 35 East, NMPM, Lea County, New Mexico.

(2) 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.