Case Number.

4006

Application

Transcripts.

Small Exhibits

IZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAIL

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 28, 1969

EXAMINER HEARING

IN THE MATTER OF:

Application of Shell Oil Company) for an unorthodox oil well) location and amendment to Order) No. R-2538, Lea County, New Mexico.)

Case No.

4206

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING



(WHEREUPON, the hearing was reconvened from yesterday, August 27, 1969, on this date, August 28, 1969, at 8:30 o'clock, A. M.)

MR. UTZ: Case 4206.

MR. HATCH: Case 4206. Application of Shell
Oil Company for an unorthodox oil well location and
amendment to Order Number R-2538, Lea County, New Mexico.

MR. MORRIS: Mr. Examiner, I am Dick Morris, of Montgomery, Federici, Andres, Hannas and Morris, Santa Fe, appearing on behalf of Shell Oil Company, the Applicant. We have one witness, Mr. Wieder, and I ask that he be sworn, please.

(Witness sworn.)

MR. UTZ: Any other appearances?
You may proceed.

C. A. WIEDER

the witness, called by Mr. Morris, having first been duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

- Q. Mr. Wieder, please state your full name and where you reside?
 - A. C. A. Wieder, and I live in Midland, Texas.

- Q. By whom are you employed and in what capacity?
- A. Shell Oil Company, as a senior reservoir engineer.
- Q. Please state briefly your qualifications as a reservoir engineer, both as to your education and practical experiences?
- A. I graduated in May 1959 from the Colorado School of Mines, with a Geological Engineer degree. In June of that year, I went to work for Shell Oil Company in Midland, Texas, as a junior exploitation engineer.

In June of 1960, I became an exploitation engineer, and worked in the field, until September of 1962, where I went into production geology.

In December of 1963, I joined the supplemental recovery section, doing reservoir engineering.

And in February, 1969, I was promoted to senior reservoir engineer.

- Q. Are you familiar with Shell's application in this case?
 - A. Yes, I am.

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

MR. UTZ: Yes, sir, they are.

Q. (By Mr. Morris) Mr. Wieder, what is it that

Shell seeks in this application?

- A. Shell Oil Company, acting as the operator of the East Pearl Queen Unit, and respectfully requests permission to drill infill Well Number 56, at an unorthodox location. And also request amendment of Order Number R-2538, which authorized the waterflood project, to allow for administrative approval of future applications to drill at unorthodox locations.
- Q. Please refer to what has been marked as Exhibit

 Number One in this case and describe the unit and point

 out what else is shown on this exhibit?
- A. This is a plat of the East Pearl Queen Unit, showing the unit within the "X"-marked boundary -- the "X" pattern. The injection wells are shown as black circles, with inward-pointing arrows -- the production wells have black circles.

The location of the requested infill Well Number Fifty-six is shown as a square, colored red in Section 24 of Township 19 south, Range 35 east.

- Q. All right. Please relate briefly the history of this unit and of the waterflood project that is being conducted in it?
 - A. The unit was effective September the 1st, 1963.

If you would refer to Exhibit Number Two, you can follow the history of the project.

The effective date is shown, September 1st, 1963; injection started February the 7th of 1964. And we got our first oil response in October of '64, and reached a peak rate in excess of seventy thousand barrels a month, in May of 1966.

The decline started in January of 1967, and we are now producing at a rate of between twenty-six and twenty-seven barrels a month.

This Exhibit Two also shows the history of water production and water injection.

- Q. Mr. Wieder, what reasons do you have for wishing to drill your proposed infill Well Number Fifty-six at the proposed location?
- A. We propose to produce additional oil, which would not be recovered from the existing wells when they are watered out. This is estimated to be on the order of one thousand barrels.

In addition, we expect to increase the unit's production capacity, and do not expect any decrease in the capacity of the offset producers.

Q. Of course, this is an interior well in this East

Pearl Queen Unit; is it not?

- A. Yes, it is.
- Q. Refer back to your Exhibit Number One and talk a little bit about the well location and what you expect to encounter, geologically, and by way of production at that location?
- A. This location, thirteen hundred fifteen feet from the north line and twenty-six twenty-five feet from the west line of Section 34 was selected because it is in an area of thick pay development, high primary ultimate recovery, and very good waterflood response.

And we expect to obtain a well that will produce seven to eight thousand barrels a month at this location.

- Q. Please refer to your Exhibit Number Three and describe the proposed well in relation to its offsets?
- A. Exhibit Three is a cross section, showing the four offsetting wells, and the proposed Well Number Fiftysix in the center of the cross section.

Wells Number Forty and Forty-four have been injectors since 1964, and Wells Number Forty-one and Forty-five have produced a hundred and ninety-one thousand and two hundred and eighteen thousand barrels of secondary oil, respectively.

This exhibit shows our objectives in the proposed infill well.

The main objectives are Zone One, which is colored red, at about forty-seven forty-five to forty-seven fifty-five feet.

The Zone Two-A, colored orange, at about forty-eight seventy-five to about forty-nine ten, and Zone Three-A, colored green, at about forty-nine thirty-five to fifty-five.

Minor pay members, which may be perforated and produced in this well, are the so-called stray sands, above Zone One, and Zone Two-B, and Zone Three-B.

In addition to these producing zones, we want to evaluate on four, shown in purple in this exhibit.

At this location, we are about two and a quarter miles south of the area of major development. However, Well Number Forty-eight, at about half a mile southeast of this location, does produce from Zone Four.

If we find that Zone Four is oil productive at this location, we may develop the zone in the southern part of the union.

Q. Based on this information, please summarize your view of the need for this approval of this infill well?

A. The volumetric sweep efficiency of the flood is estimated to be about sixty-five percent, and the portion of the reservoir in the center of the existing pattern will not be swept when wells are no longer economical to produce.

We will determine, by use of electric logs, if the saturation in the unswept portion of the reservoir has been increased due to the waterflooding, and this will allow us to justify additional infill wells if it is indicated that additional oil will be recovered.

- Q. In your opinion, in the future, will it be necessary for you to drill additional infill wells and additional injection wells, some of which may be at unorthodox locations in this unit?
- A. I believe we will need to drill additional infill producers; we may need to drill additional infill injectors.
- Q. In that connection, Mr. Wieder, do you propose that the Commission should amend its Order Number R-2538, that established and approved this waterflood project to permit administrative approval of these unorthodox locations in the future?
 - A. Yes, I do.
 - Q. Are you familiar with the Order Number R-2729A,

that was entered in Case Number 4114, pertaining to administrative approvals for unorthodox injectors and infill wells in the West Pearl Queen Unit?

A. Yes, I am.

MR. UTZ: 4729A?

MR. MORRIS: Yes, sir. For the Examiner's reference, I hand you a copy of that order.

- Q. (By Mr. Morris) Mr. Wieder, are you familiar with the administrative approval provisions of that order?
 - A. Yes, I am.
- Q. Would the provisions, established by that order, for the West Pearl Queen Unit, be satisfactory to you for the East Pearl Queen Unit?
 - A. Yes, it would.
- Q. Were Exhibits One, Two, and Three prepared by you or under your direction?
 - A. They were.

MR. MORRIS: We move introduction into evidence the Exhibits One, Two, and Three.

MR. UTZ: Without objection, Exhibits One, Two, and Three will be entered into the record in this case.

(WHEREUPON, Applicant's Exhibits Numbers 1, 2, 3, inclusive were duly admitted.) MR. MORRIS: That's all I have, Mr. Examiner.

BY MR. UTZ:

- Q. Mr. Wieder, do you spell your name W-e-i-d-e-r?
- A. No, sir, it's W-i-e-d-e-r.
- Q. It's my understanding that this well will be five feet off the quarter quarter section line?

CROSS EXAMINATION

- A. It will be five feet north of the quarter quarter section line and fifteen feet to the west.
- Q. All right. Now, what zones are you flooding now in this?
- A. As shown on Exhibit Three, we are flooding Zones
 One through Three-B.
- Q. All right. And one of the purposes of this well is to investigate the other zones, the other three zones that you show on this exhibit?
 - A. Yes, it is -- Zone Four.
- Q. Well, what's happened to Zones Two-B and Three-A -- Three-B?
- A. They will probably be perforated -- they are just thinner zones. I wouldn't consider them to be primary objectives -- less oil would be in place there.

MR. UTZ: Any questions of the witness?

MR. MORRIS: No, sir.

MR. UTZ: Do we have the complete name of that?

MR. MORRIS: It's the Unit Well Number Fiftysix, I believe, Mr. Examiner.

MR. UTZ: The witness may be excused. Statements? The case will be taken under advisement.

INDEX

	Page
The Witness - C. A. WIEDER	
Direct Examination by Mr. Morris	2
Cross Examination by Mr. Utz	. 10
EXHIBITS	
	Admit ted
Annidoantia Erwidhita 1 through 3	Q

STATE OF NEW MEXICO SS COUNTY OF BERNALILLO

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

Witness my Hand and Seal this 14th day of November, 1969.

I do hereby pertify that the foregoing to a complete record of the proposedices the Examiner hearing of Case Mexico Oil Conservation Commission

SPECIALIZ NG IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS 1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87101 1400 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

OIL CONSERVATION COMMISSION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

September 30, 1969

Shell Oil Company P. O. Box 1509 Midland, Texas 79701

Attention: Mr. S. M. Paine

Administrative Order NSL-445

Gentlemen:

Reference is made to your application for approval of an unorthodox infill oil producing well location for your East Pearl Queen Unit Well No. 56, to be located 1355 feet from the North line and 2475 feet from the West line of Section 34, Township 19 South, Range 35 East, NMPM, East Pearl Queen Unit Waterflood Project Area, East Fearl-Queen Pool, Lea County, New Mexico.

By authority granted me under the provisions of Order No. R-2538-A, the above-described unorthodox location is hereby approved.

Order (1) of Order No. R-2538-A shall be held in abeyance.

Very truly yours,

A. L. PORTER, Jr. Secretary-Director

ALF/GMH/esr

ca: Gil Conservation Commission - Hobbs
Oil & Gas Engineering Committee - Hobbs

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. 4206 Order No. R-2538-A

APPLICATION OF SHELL OIL COMPANY FOR AN UNORTHODOX OIL WELL LOCATION AND AMENDMENT TO ORDER NO. R-2538, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 27, 1969, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 8th day of September, 1969, 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, Shell Oil Company, is the operator of a waterflood project in its East Pearl-Queen Unit Area, Pearl-Queen Pool, Lea County, New Mexico, approved by Commission Order No. R-2538.
- (3) That the applicant now seeks authority to drill a producing oil well at an unorthodox location 1315 feet from the North line and 2625 feet from the West line of Section 34, Township 19 South, Range 35 East, NMPM, Lea County, New Mexico, as an infill well in its East Pearl-Queen Unit waterflood project area.
- (4) That the proposed unorthodox location is necessary to complete an efficient oil producing pattern.

-2-CASE No. 4206 Order No. R-2538-A

- (5) That the applicant further seeks the amendment of said Order No. R-2538 to provide for the establishment of an administrative procedure whereby the Secretary-Director of the Commission may authorize additional producing wells at unorthodox infill locations as may be necessary to complete an efficient producing pattern.
- (6) That approval of the aforesaid amendment will afford the applicant the opportunity to produce its just and equitable share of the oil in the Pearl-Queen Pool, and will otherwise prevent waste and protect correlative rights, provided said producing wells are drilled no closer than 990 feet to the outer boundary of said East Pearl-Queen Unit nor closer than 5 feet to any quarter-quarter section or subdivision inner boundary.
- (7) That the subject waterflood 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, Shell Oil Company, is hereby authorized to drill a producing oil well at an unorthodox location 1315 feet from the North line and 2625 feet from the West line of Section 34, Township 19 South, Range 35 East, NMPM, Lea County, New Mexico, as an infill well in its East Pearl-Queen Unit waterflood project area, East Pearl-Queen Pool.
- (2) That Order (2) of Order No. R-2538 is hereby amended to read in its entirety as follows:
- "(2) That the subject waterflood project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve such additional producing wells at unorthodox infill locations as may be necessary to complete an efficient production pattern, provided said wells are drilled no closer than 990 feet to the outer boundary of said East Pearl-Queen Unit nor closer than 5 feet to any quarter-quarter section or subdivision inner boundary, and provided further that the application therefor has been filed in accordance with Rule 701 B of the Commission Rules and Regulations."

-3-CASE No. 4206 Order No. R-2538-A

(3) 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

ALEX J. KRMX30, Member

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



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO P. O. BOX 2088 - SANTA FE 87801 GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

September 8, 1969

Mr. Richard S. Morris Re Montgomery, Federici, Andrews, Hannahs & Morris Attorneys at Law Post Office Box 2307 Santa Fe, New Mexico	Case No. 4206 Order No. R-2538-A Applicant: Shell Oil Company
Dear Sir:	•
Enclosed herewith are two copies of sion order recently entered in the	
A. L.	PORTER, Jr. tary-Director
	•
ALP/ir	
Copy of order also sent to:	
Hobbs OCC x Artesia OCC Aztec OCC	
Other	

CASE 4194 - Continued from Page 1 -

seeks authority to inject gas through two additional wells located in Unit L of Section 34, Township 17 South, Range 35 East and Unit B of Section 4, Township 18 South, Range 35 East and to expand said project area to include the SE/4 NE/4 of Section 33 and the NW/4, N/2 SE/4, and SW/4 SE/4 of Section 34 Township 17 South, Range 35 East. Applicant further seeks authority to dually complete all gas injection wells in the project in such a manner as to permit the production of oil from the lower section of the Abo Reef through tubing and the injection of gas into the upper section of the Abo Reef through the casingtubing annulus.

CASE 4195: Application of Continental Oil Company for eight non-standard gas proration units and a non-standard gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the rededication of acreage to establish the eight following non-standard gas proration units in Township 20 South, Range 37 East, Eumont

Gas Pool, Lea County, New Mexico:

A 120-acre non-standard unit comprising the SE/4 NE/4 and E/2 SE/4 of Section 14, to be dedicated to the "SEMU" Well No. 46, located in Unit T of said Section 14;

A 240-acre non-standard unit comprising the NE/4 and E/2 SE/4 of Section 26, to be dedicated to the "SEMU" Well No. 64, located in Unit G of said Section 26;

A 560-acre non-standard unit comprising the W/2 and W/2 SE/4 of Section 26 and the E/2 E/2 of Section 27, to be dedicated to the "SEMU" Well No. 65, located in Unit L of said Section 26;

A 640-acre non-standard unit comprising the W/2 and the W/2 E/2 of Section 14 and E/2 E/2 of Section 15, to be dedicated to the "SEMU" Well No. 66, located in Unit L of said Section 14,

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 27, 1969

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

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

- CASE 4191: Application of Gulf Oil 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 perforated interval from approximately 4408 feet to 4415 feet in its Roosevelt "AN" State Well No. 3 located in the NW/4 SE/4 of Section 32, Township 7 South, Range 36 East, adjacent to the Todd-Lower San Andres Pool, Roosevelt County, New Mexico.
- CASE 4192: Application of Southwest Production Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Buffalo Valley "Com" Well No. 2 at an unorthodox location 1650 feet from the North line and 990 feet from the East line of Section 35, Township 14 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, in exception to the provisions of Rule 2 of the special rules for said pool.
- CASE 4193: Application of Humble Oil & Refining Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Bowers "A" Federal Com 33 Well No. 33 located in Unit D of Section 29, Township 18 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Hobbs (Grayburg-San Andres) Pool and the Hobbs-Blinebry Pool through parallel strings of tubing.
- CASE 4194: Application of Phillips Petroleum Company for an amendment of Order No. R-3181 and dual completions, Lea County, New Mexico. Applicant, in the above-styled cause, sacks the amendment of Order No. R-3181, which order established special rules regulating the operation of the Fhillips Petroleum Company Vacuum Abo Pressure Maintenance Project, Vacuum-Abo Reef Fool, Lea County, New Mexico. Applicant

CASE 4197 - Continued from Page 3 -

Applicant now seeks authority to locate said well at an unorthodox location 1980 feet from the North line and 1450 feet from the West line of said Section 35 in the Forest (San Andres) Pool.

- CASE 4198: Application of Continental Oil Company for amendment of Order No. R-3487, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3487 which authorized the applicant to utilize its Eaves "A" Well No. 10, located in Unit P of Section 19, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, to dispose of salt water into the Seven Rivers formation in the interval from 3208 feet to 3255 feet. Applicant now seeks authority to inject produced salt water into the Yates and Seven Rivers formations in the perforated and open-hole interval from approximately 3107 feet to 3410 feet in said well and the reclassification of said salt water disposal well to a pressure maintenance injection well.
- CASE 4199: Application of Burleson & Huff for compulsory pooling and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the SE/4 of Section 28, Township 25 South, Range 37 East, Lea County, New Mexico. Said 160-acre non-standard gas proration unit to be dedicated to the Burleson & Huff "Cook" Well No. 2, a recompleted well, located 660 feet from the South and East lines of said Section 28, Also to be considered will be the costs of drilling and/or recompleting 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 4200: Application of Burleson & Huff for compulsory pooling and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the NE/4 of Section 29, Township 25 South, Range 37 East, Lea County, New Mexico. Said 160-acre non-standard gas proration unit to be dedicated to a well.

CASE 4195 - Continued from Page 2 -

A 320-acre non-standard unit comprising the SE/4, S/2 NE/4, and E/2 SW/4 of Section 24, to be dedicated to the "SEMU" Well No. 67, located in Unit K of said Section 24;

A 640-acre non-standard unit comprising the E/2 and E/2 W/2 of Section 23 and W/2 W/2 of Section 24, to be dedicated to the "SEMU" Well No. 58, located in Unit J of said Section 23;

An 80-acre non-standard unit comprising the E/2 NW/4 of Section 24, to be dedicated to the "SEMU" Well No. 69, located in Unit F of said Section 24;

A 320-acre non-standard unit comprising the E/2 E/2 of Section 22 and the W/2 W/2 of Section 23, to be dedicated to the "SEMU" Well No. 90, to be completed at a non-standard location 550 feet from the South and East lines of said Section 22.

- CASE 4196: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of three existing non-standard gas proration units into one 360-acre non-standard unit comprising the W/2 and the NW/4 NE/4 of Section 18, Township 23 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its Stevens "B" Wells Nos. 15 and 16, located in Units F and K, respectively, of said Section 19. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesail wells in any proportion.
- CASE 4197: An lication of Continental Oil Contany for an amendment to Order No. R-37%, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3755 which authorized, among other things, the exilling of a water injection well in the Forest Donahue Waterflood Project area at a location 1980 feet from the North line and 1850 feet from the West line of Section 35, Township 16 South, Range 29 East, Eddy County, New Mexico.

CASE 4204 Continued from Page 5 -

and unorthodox locations in Sections 3 and 4, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby additional injection wells at orthodox and unorthodox locations may be approved for said project administratively.

CASE 4205:

Application of Tesoro Petroleum Corporation for four unorthodox injection well locations and amendment of Order No. R-2807, McKinley County, New Mexico.

Applicant, in the above-styled cause, seeks authority to inject water into the Hospah Upper Sand Oil Pool in its Hospah Unit Waterflood Project Area through four additional injection wells at unorthodox locations in Section 36, Township 18 North, Range 9 West, McKinley County, New Mexico, said wells to be located as follows:

Well No. 62 located 1900 feet from the South line and 1140 feet from the West line;

Well No. 63 located 1980 feet from the North line and 2310 feet from the West line;

A well to be drilled 1430 feet from the South line and 2625 feet from the East line;

A well to be drilled 30 feet from the South line and 2350 feet from the East line,

Applicant further seeks the amendment of Order No. R-2807, which order authorized the aforesaid waterflood project, to establish a procedure whereby additional injection wells at unorthodox locations, as may be necessary to complete an efficient injection pattern, may be approved administratively.

CASE 4206:

Application of Shell Oil Company for an unorthodox oil well location and amendment to Order No. R-2538, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 1315 feet from the North line and 2625 feet from the West line of Section 34, Township 19

CASE 4200 - Continued from Page 4 -

to be recompleted, located 660 feet from the East line and 1980 feet from the North line of said Section 29. Also to be considered will be the costs of drilling and/or recompleting 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 4201: Application of Mobil Oil Corporation for a unit agreement, Lea County, New Mexico, Applicant, in the above-styled cause, seeks approval of the Langlie Mattix Queen Unit Area comprising 1120 acres, more or less, of federal and fee lands in Sections 10, 11, 14, 15, 22, and 23, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 4202: Application of Mobil Oil Corporation for a waterflood project and unorthodox injection well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Langlie-Mattix Queen Unit Area by the injection of water into the Queen sand through 17 wells at orthodox and unorthodox locations in Sections 10, 11, 14, 15, 22, and 23, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby additional injection wells at orthodox and unorthodox locations may be approved for said project administratively.
- CASE (203: A offication of Mobil Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Humphrey Queen Unit Area comprising 751 acres, more or less, of federal and fee lands in Sections 3 and 4, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 4204: Application of Mobil Oil Corporation for a waterflood project and unorthodox injection well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Humphrey Queen Unit Area by the injection of water into the Queen sand through 11 wells at orthodox

CASE 4208 - Continued from Page 7 -

several waterflood projects by the injection of water into the Seven Rivers formation through his Mary Lou Well No. 1 located in Unit H of Section 29 and his Caroline Well No. 4 located in Unit E of Section 28, both in Township 19 South, Range 28 East, East Millman-Seven Rivers Pool, Eddy County, New Mexico.

CASE 4209: Application of Harvey E. Yates Company of Artesia for several pressure maintenance projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute several pressure maintenance projects by the injection of water into the Seven Rivers and Queen formations, McMillan (Seven Rivers-Queen) Pool, Eddy County, New Mexico, through the following-described wells in Township 20 South, Range 27 East:

Page & Yates Well No. 8 - Unit M - Section 5 Page & Yates Well No. 6 - Unit I - Section 6 Page & Yates Well No. 7 - Unit J - Section 6 Lillie Yates Well No. 2 - Unit B - Section 7 CASE 4206 - Continued from Page 6 -

South, Range 35 East, as an infill well in its East Pearl-Queen Unit Waterflood Project area, East Pearl-Queen Pool, Lea County, New Mexico. Applicant further seeks the amendment of Order No. R-2538, which order authorized the aforesaid waterflood project, to establish a procedure whereby additional producing wells at unorthodox infill locations in the aforesaid project area, as may be necessary to complete an efficient producing pattern, may be approved administratively.

CASE 4207: Application of C. W. Trainer and DEL-LEA, Inc., for an unorthodox gas well location, Lea County, New Mexico. Applicants, in the above-styled cause, seek an exception to Rule 104 C TT to permit the drilling of a well at an unorthodox gas well location 330 feet from the North line and 660 feet from the West line of Section 35, Township 12 South, Range 34 East, West Ranger Lake-Devonian Gas Pool, Lea County, New Mexico. The N/2 of said Section 35 to be dedicated to the well.

CASE 4186: (Readvertised)

Application of Tenneco Oil Company for compulsory pooling and an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Basin-Dakota Gas Pool underlying the North half of Section 11, Township 29 North, Range 13 West, San Juan County, New Mexico. Said acreage to be dedicated to a well to be drilled at an unorthodox gas well location 2250 feet from the North line and 600 feet from the East line of said Section 11. 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. In the absence of a valid objection an order will be issued upon the record entered in the subject case August 6, 1969.

CASE 4208: Application of John A. Yates of Artesia for several water-flood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute

-2-CASE No. 2851 Order No. R-2538

(6) 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.

IT IS THEREFORE ORDERED:

(1) That the applicant, Shell Oil Company, is hereby authorized to institute a waterflood project in the East Pearl-Queen Unit Area, Lea County, New Mexico, by the injection of water into the Queen formation through the following-described 31 wells in Township 19 South, Range 35 East, NMPM, Lea County, New Mexico:

<u>Well</u>	Unit	Section
Sanford-Union State 1	N	15
Shell-McIntosh E-1	N	21
Shell-McIntosh D-1	P	21
Shell-Rushing 2	В	22
Shell-McIntosh B-3	D	22
Shell-Signal State 1	F	22
Colton-Texaco Moran 2	H	22
Shell-Kimberlin 4	J	22
Shell-McIntosh B-1	L	22
Shell-Kimberlin 2	N	22
Collier-State 1	P	22
Shell-Record 1	· L	26
Shell-Hooper 2	B	27
Shell-McIntosh l	α	27
Shell-State PB-1	F	27
Shell-Allen Est. A-1	H	27
Shell-Allen Est. 1	J	27
Shell-McIntosh 3	L	27
Shell-State PA-2	N	27
Shell-Allen Est. 3	P	27
Shell-McIntosh C-1	В	28
Shell-McIntosh C-4	H	28
Shell-State PC-2	В	34
Shell-State PD-1	σ	34
Shell State PD-3	F	34
Shell-State PE-1	H	34
Shell-State PF-1	J	34
Gulf-State AR-2	L	34
Mid-Tex - Gulf. State 1	N	34
Shell-State PG-1	P	34
Shell-State PE-2	L	35

(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.

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. 2851 Order No. R-2538

APPLICATION OF SHELL 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 July 24, 1963, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 7th day of August, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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 East Pearl-Queen Unit Agreement has been approved by the Commission by Order No. R-2537; that the East Pearl-Queen Unit Area comprises 2,440 acres, more or less of State and Fee lands in Township 19 South, Range 35 East, NMPM, Lea County, New Mexico, as more fully described in said order.
- (3) That the applicant, Shell Oil Company, seeks permission to institute a waterflood project on its East Pearl-Queen Unit by the injection of water into the Queen formation through 31 wells located within said unit area.
- (4) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.
- (5) That the proposed waterflood project is in the interest of conservation and should result in recovery of otherwise unrecoverable oil, thereby preventing waste.

-3-CASE No. 2851 Order No. R-2538

- (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 herein-above designated.

STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

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

SEAL

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. 4054 Order No. R-3704

APPLICATION OF AMERADA PETROLEUM CORPORATION FOR AN UNORTHODOX OIL WELL LOCATION AND AMENDMENT TO ORDER NO. R-2197, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 26, 1969, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 12th day of March, 1969, 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, Amerada Petroleum Corporation, is the operator of the Langlie Mattix Woolworth Unit Waterflood Project in its Langlie Mattix Woolworth Unit Area, Langlie-Mattix Pool, Lea County, New Mexico, approved by Commission Order No. R-2197 and expanded by Orders No. R-3407, as amended by R-3407-A.
- (3) That the applicant seeks authority to drill a producing oil well in said waterflood project area at an unorthodox location 2220 feet from the South line and 1250 feet from the West line of Section 28, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico.
- (4) That the proposed unorthodox location is necessary to complete an efficient oil producing pattern.

-2-CASE No. 4054 Order No. R-3704

- (5) That the applicant further seeks the amendment of said Order No. R-2197 to provide for the establishment of an administrative procedure whereby the Secretary-Director of the Commission may authorize expansion of said Langlie Mattix Woolworth Unit Waterflood Project to include additional lands and injection wells and producing wells at orthodox and unorthodox locations as may be necessary to complete an efficient injection and producing pattern without the necessity of showing well response.
- (6) That approval of the aforesaid amendment will afford the applicant the opportunity to produce its just and equitable share of the oil and gas in the Langlie-Mattix Pool, and will otherwise prevent waste and protect correlative rights, provided said producing wells and injection wells are drilled no closer than 330 feet to the outer boundary of said Langlie Mattix Woolworth Unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary.
- (7) That the Langlie Mattix Woolworth Unit Waterflood Project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided, however, that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

- (1) That the applicant, Amerada Petroleum Corporation, is hereby authorized to drill a producing oil well in the Langlie Mattix Woolworth Unit Waterflood Project in its Langlie Mattix Woolworth Unit Area, Langlie-Mattix Pool, at an unorthodox location 2220 feet from the South line and 1250 feet from the West line of Section 28, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico.
- (2) That Order (2) of Order No. R-2197 is hereby amended to read in its entirety as follows:
- "(2) That the Langlie Mattix Woolworth Unit Waterflood Project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the Langlie Mattix Woolworth Unit Waterflood Project to include such additional lands and

-3-CASE No. 4054 Order No. R-3704

injection wells and producing wells at orthodox and unorthodox locations as may be necessary to complete an efficient injection and producing pattern, provided said wells are drilled no closer than 330 feet to the outer boundary of said Langlie Mattix Woolworth Unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary, and provided that the application therefor has been filed in accordance with Rule 701 B of the Commission Rules and Regulations, and provided further, that a copy of the application has been sent to all offset operators, if any there be, and no such operator has objected within 15 days. The showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection."

(3) 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

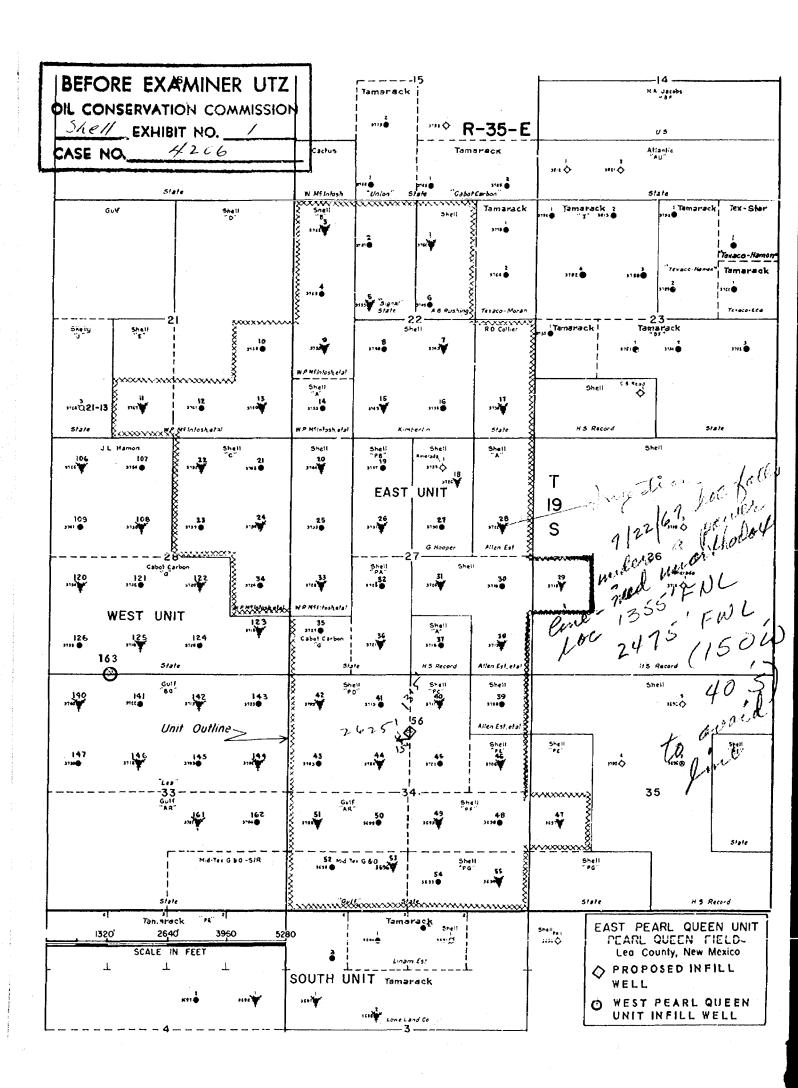
DAVID F. CARGO, Chairman

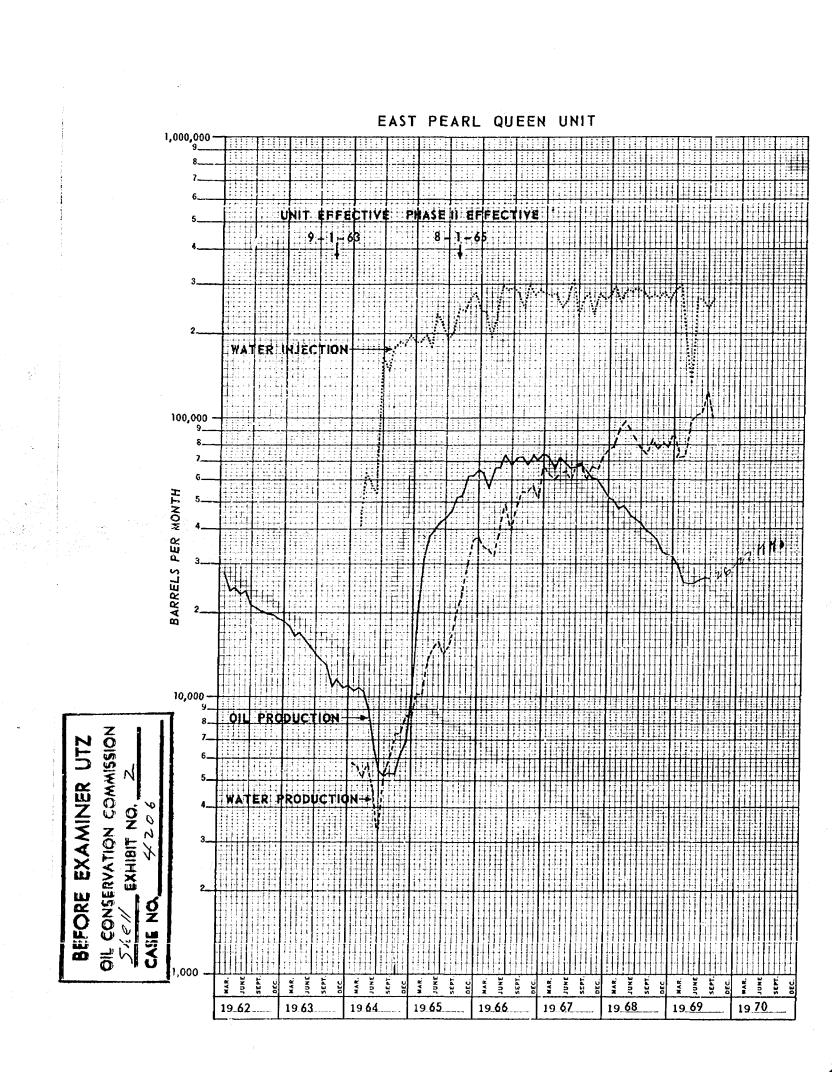
ALEX J. ARMIJO, Member

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

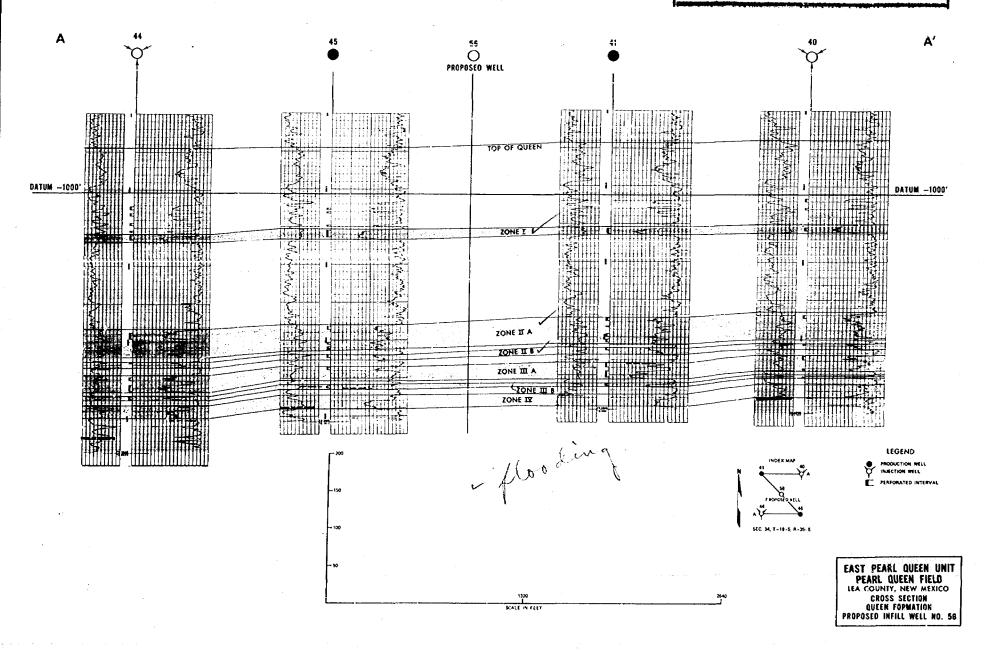
S E A L

4206 Keard 8-28 69 Rec. 8-29.69 Grayet Shell Oil an NSL inferrel to be drilled 1315/h & 2625/ W lines 195- 35 E in their 2. Pearl Quen waterflood cenit. Said well is 26 25 from unit Sene. (Dufell)





DEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Shell EXHIBIT NO. 3
CASE NO. 4206



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 MEYICO FOR THE PURPOSE OF CONSIDERING:

CASE No. 4114 Order No. R-2729-A

APPLICATION OF GULF OIL CORPORATION FOR TWO UNORTHODOX OIL WELL LOCATIONS AND AMENDMENT TO ORDER NO. R-2729, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 23, 1969, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 5th day of May, 1969, 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, West Pearl Queen Unit Area, Pearl-Queen Pool, Lea County, New Mexico, approved by Commission Order No. R-2729.
- (3) That the applicant now seeks authority to drill two producing oil wells as infill wells in its West Pearl Queen Unit Waterflood Project at unorthodox locations in Township 19 South, Range 35 East, NMPM, Pearl-Queen Pool, Lea County, New Mexico, said wells to be located as follows:

West Pearl Queen Unit Well No. 164 to be located in Unit F 1325 feet from the North line and 2635 feet from the West line of Section 32;

-2-CASE No. 4114 Order No. R-2729-A

Wost Pearl Queen Unit Well No. 165 to be located in Unit K 1420 foot from the South line and 1325 feet from the Wost line of Section 29.

- (4) That the proposed unorthodox locations are necessary to complete an efficient oil producing pattern.
- (5) That the applicant further seeks the amendment of said Order No. R-2729 to provide for the establishment of an administrative procedure whereby the Secretary-Director of the Commission may authorize additional injection wells and producing wells at orthodox and unorthodox infill locations as may be necessary to complete an efficient injection and producing pattern without the necessity of showing well response.
- (6) That approval of the aforesaid amendment will afford the applicant the opportunity to produce its just and equitable share of the oil in the Pearl-Queen Pool, and will otherwise prevent waste and protect correlative rights, provided said producing wells and injection wells are drilled no closer than 990 feet to the outer boundary of said West Pearl Queen Unit nor closer than 5 feet to any quarter-quarter section or subdivision inner boundary.
- (7) That the West Pearl Queen Unit Waterflood Project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided, however, that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to drill the following producing oil wells as infill wells in its West Pearl Queen Unit Waterflood Project, West Pearl Queen Unit Area, Pearl-Queen Pool, at unorthodox locations in Township 19 South, Range 35 East, NAPM, Lea County, New Mexico.

West Pearl Queen Unit Well No. 164 to be located in Unit F 1325 feet from the North line and 2635 feet from the West line of Section 32;

West Pearl Queen Unit Well No. 165 to be located in Unit K 1420 feet from the South line and 1325 feet from the West line of Section 29.

-3-CASE No. 4114 Order No. R-2729-A

- (2) That Order (2) of Commission Order No. R-2729 is hereby amended to read in its entirety as follows:
- "(2) That the West Pearl Queen Unit Waterflood Project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commismission may approve such additional injection and producing wells at orthodox and unorthodox infill locations as may be necessary to complete an efficient injection and producing pattern, provided said wells are drilled no closer than 990 feet to the outer boundary of said West Pearl Queen Unit nor closer than 5 feet to any quarter-quarter section or subdivision inner boundary, and provided that the application therefor has been filed in accordance with Rule 701 B of the Commission Rules and Regulations. The showing of well response as required by Rule 701 B-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection."

(3) 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

ALEX J. ARMIJO, Member

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

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF SHELL OIL COMPANY FOR AN UNORTHODOX LOCATION AND FOR THE ESTABLISHMENT OF AN ADMINISTRATIVE PROCEDURE FOR APPROVAL OF FURTHER UNORTHODOX LOCATIONS, EAST PEARL QUEEN UNIT, LEA COUNTY, NEW MEXICO.

Case No. 4206

APPLICATION

comes now SHELL OIL COMPANY and applies for an unorthodox location and for the establishment of an administrative procedure for approval of further unorthodox locations, East Pearl Queen Pool, Lea County, New Mexico, and in support of its application states:

- 1. Shell Oil Company is the operator of the East Pearl Queen Unit and of the Waterflood Project being conducted therein, located in Sections 21, 22, 26, 27, 28, 34 and 35, Township 19 South, Range 35 East, N.M.P.M., Lea County, New Mexico.
- 2. Applicant proposes to drill an infill, producing well in the East Pearl Queen Unit area and Waterflood Project at an unorthodox location one thousand three hundred fifteen (1,315) feet from the north line and two thousand six hundred twenty-five (2,625) feet from the west line of Section 34, Township 19 South, Range 35 East, N.M.P.M., Lea County, New Mexico.
- 3. The said proposed infill well will increase the efficiency of the East Pearl Queen Unit Waterflood Project and result in greater ultimate recovery, thereby preventing waste.

DOCKET MARIE

Date 8-15-6

4. Applicant further proposes to drill additional infill wells in the said East Pearl Queen Unit Waterflood Project area at locations that have not yet been determined, and seeks the establishment of an administrative procedure whereby approval may be obtained therefor in cases where the proposed wells are to be located no closer than nine hundred ninety (990) feet to the outer boundary of said Unit nor closer than five (5) feet to any quarter-quarter section line or subdivision inner boundary.

WHEREFORE, applicant requests that this application be set for hearing before the Commission or one of its Examiners and that the Commission enter its order approving this application.

MONTGOMERY, FEDERICE, ANDREWS,

HANNAHS & MORRIS

Post Office Box 2307

Santa Fe, New Mexico 87501

Attorneys for Applicant Shell Oil Company 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:

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CASE No. 4206

Order No. R- 2538-A

APPLICATION OF SHELL OIL COMPANY FOR AN UNORTHODOX OIL WELL LOCATION AND AMENDMENT TO ORDER NO. R-2538, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on <u>August 27</u>, 196<u>9</u>, at Santa Fe, New Mexico, before Examiner <u>Elvis A. Utz</u>.

NOW, on this day of day

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, Shell Oil Company, is the operator of a waterflood project in its East Pearl-Queen Unit Area, Pearl-Queen Pool, Lea County, New Mexico, approved by Commission Order No. R-2538.
- (3) That the applicant now seeks authority to drill a producing oil well at an unorthodox location 1315 feet from the North line and 2625 feet from the West line of Section 34, Township 19 South, Range 35-East, NMPM, Lea County, New Mexico, as an infill well in its East Pearl-Queen Unit waterflood project area.
- (4) That the proposed unorthodox location is necessary to complete an efficient oil producing pattern.

- (5) That the applicant further seeks the amendment of said Order No. R-2538 to provide for the establishment of an administrative procedure whereby the Secretary-Director of the Commission may authorize additional producing wells at unorthodox infill locations as may be necessary to complete an efficient producing pattern.
- (7) That the subject waterflood 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, Shell Oil Company, is hereby authorized to drill a producing oil well at an unorthodox location 1315 feet from the North line and 2625 feet from the West line of Section 34; Township 19 South, Range 35 East, NMPM, Lea County, New Mexico, as an infill well in its East Pearl-Queen Unit waterflood project area, East Pearl-Queen Pool.
- (2) That Order (2) of Order No. R-2538 is hereby amended to read in its entirety as follows:
- "(2) That the subject waterflood project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve such additional producing wells at unorthodox infill locations as may be necessary to complete an efficient injection pattern, provided said wells are drilled no closer than go feet to the outer boundary of said East Pearl-Queen Unit nor closer than feet to any quarter-quarter section or subdivision inner boundary, and provided further that the application therefor has been filed in accordance with Rule 701 B of the Commission Rules and Regulations."

(3) 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.

CASE 4207: Application of C. W. TRAINER & DEL-LEA, INC. for an unorthodox gas well location.