

STATE OF TEXAS, COUNTY OF DALLAS  
OFFICE OF THE COUNTY CLERK  
STATE-MADE Well No. 8.

Casa No.

1970

Application, Transcript,  
Small Exhibits, Etc.

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

June 7, 1960

Mr. Bill Dautler  
Gulf Oil Corporation  
Box 669  
Roswell, New Mexico

Dear Sir:

Enclosed herewith are two copies of Order R-1668 in Case 1970 and two copies of Order R-1684 in Case 1971. These orders were issued by the Oil Conservation Commission this date.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

lr/

Enclosures: (4)

Carbon copies of orders sent to:  
Oil Conservation Commission  
Santa Fe, New Mexico

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**BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO**

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

**CASE No. 1970  
Order No. R-1686**

**APPLICATION OF GULF OIL CORPORATION  
FOR A GAS-OIL DUAL COMPLETION IN THE  
EAST PEARL-SEVEN RIVERS GAS POOL AND  
THE PEARL-QUEEN POOL, LEA COUNTY,  
NEW MEXICO.**

**ORDER OF THE COMMISSION**

**BY THE COMMISSION:**

This cause came on for hearing at 9 o'clock a.m. on June 1, 1960, at Santa Fe, New Mexico, before Elvis A. Uta, 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 June, 1960, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Uta, 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 owner and operator of the Lea-State "AQ" Well No. 8, located in Unit E, Section 32, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to dually complete the said Lea-State "AQ" Well No. 8 in such a manner as to permit the production of gas from the East Pearl-Seven Rivers Gas Pool and the production of oil from the Pearl-Queen Pool through the casing-tubing annulus and 2-3/8 inch tubing respectively.

(4) That since the evidence indicates that there will be no liquid problem in the East Pearl-Seven Rivers Gas Pool, the mechanics of the proposed dual completion are feasible and in accord with sound conservation practices.

(5) That approval of the subject application will neither cause waste nor impair correlative rights.

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CASE No. 1970  
Order No. R-1686

IT IS THEREFORE ORDERED:

That the applicant, Gulf Oil Corporation, be and the same is hereby authorized to dually complete its Lea-State "AQ" Well No. 3, located in Unit E, Section 32, Township 19 South, Range 35 East, MNM, Lea County, New Mexico, in such a manner as to permit the production of gas from the East Pearl-Seven Rivers Gas Pool and the production of oil from the Pearl-Queen Pool through the casing-tubing annulus and 2-3/8 inch tubing respectively.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter during the gas-oil ratio test period for the Pearl-Queen Pool or as directed by the Secretary-Director of the Commission.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or the protection of correlative rights; upon failure of the applicant to comply with any requirement of this order, the Commission may terminate the authority herein granted and require the applicant or its successors and assigns to limit its activities to regular single-zone production in the interest of conservation.

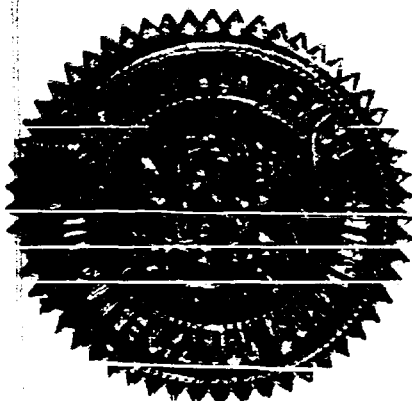
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*John Burroughs*  
JOHN BURROUGHS, Chairman

*Murray E. Morgan*  
MURRAY E. MORGAN, Member

*A. L. Potter, Jr.*  
A. L. POTTER, Jr., Member & Secretary



esx/



PETROLEUM AND ITS PRODUCTS

ROSWELL DISTRICT

W. A. SHELLSHEAR  
District Manager

F. D. MORTLOCK  
District Exploration Manager

M. I. TAYLOR  
District Production Manager

G. A. PRICE  
District Services Manager

GULF OIL CORPORATION

P. O. DRAWER 669 • ROSWELL, NEW MEXICO

FORT WORTH  
PRODUCTION DIVISION

April 27, 1960

Oil Conservation Commission  
State of New Mexico  
Post Office Box 871  
Santa Fe, New Mexico

Re: Application for Approval to Recomplete  
the Lea-State "AQ" Well No. 8 as a  
Gas-Oil Dual, East Pearl - Seven Rivers  
Gas and Pearl Queen Oil Pools, Section  
32-19S-35E, Lea County, New Mexico

Gentlemen:

Gulf Oil Corporation respectfully submits application for permission to gas-oil dually complete subject well and requests that the Commission set this matter for Examiner Hearing at an early date. A hearing is being requested for this gas-oil dual completion as the two zones involved have not previously been approved by the Commission.

The following facts are offered in support of this application:

- (1) Gulf Oil Corporation is the owner and operator of the 320 acre Lea-State "AQ" Lease which consists of the N/2 of Section 32-19S-35E, Lea County, New Mexico. Subject well is located 1980 feet from the north line and 660 feet from the west line of said Section 32.
- (2) The 8-5/8" OD casing in Gulf's Lea-State "AQ" Well No. 8 was set at 140 feet and the cement circulated. The 4-1/2" OD casing was set at 4,970 feet with 200 sacks of cement. Applicant proposes to perforate the East Pearl - Seven Rivers Gas in the interval 4,048 feet to 4,080 feet. The Pearl Queen oil perforations are in the interval 4,795 feet to 4,952 feet.
- (3) If approved, the subject well will be dually completed as shown on the diagrammatic sketch attached hereto. The two producing zones will be separated by means of a Baker Model A Tension Type Production Packer set at approximately 4,150 feet which is capable of withstanding any differential in pressures expected to be encountered between the two producing formations.

Oil Conservation Commission

-2-

April 27, 1960

The manner and method of the proposed dual completion is mechanically feasible and practical and the granting of this application is in the interest of conservation and the protection of correlative rights. Applicant will comply with all rules and regulations of the New Mexico Oil Conservation Commission to maintain separation of production from the two pays.

By copy of this letter of application, all offset operators are notified of the proposed dual completion.

Respectfully submitted,

GULF OIL CORPORATION

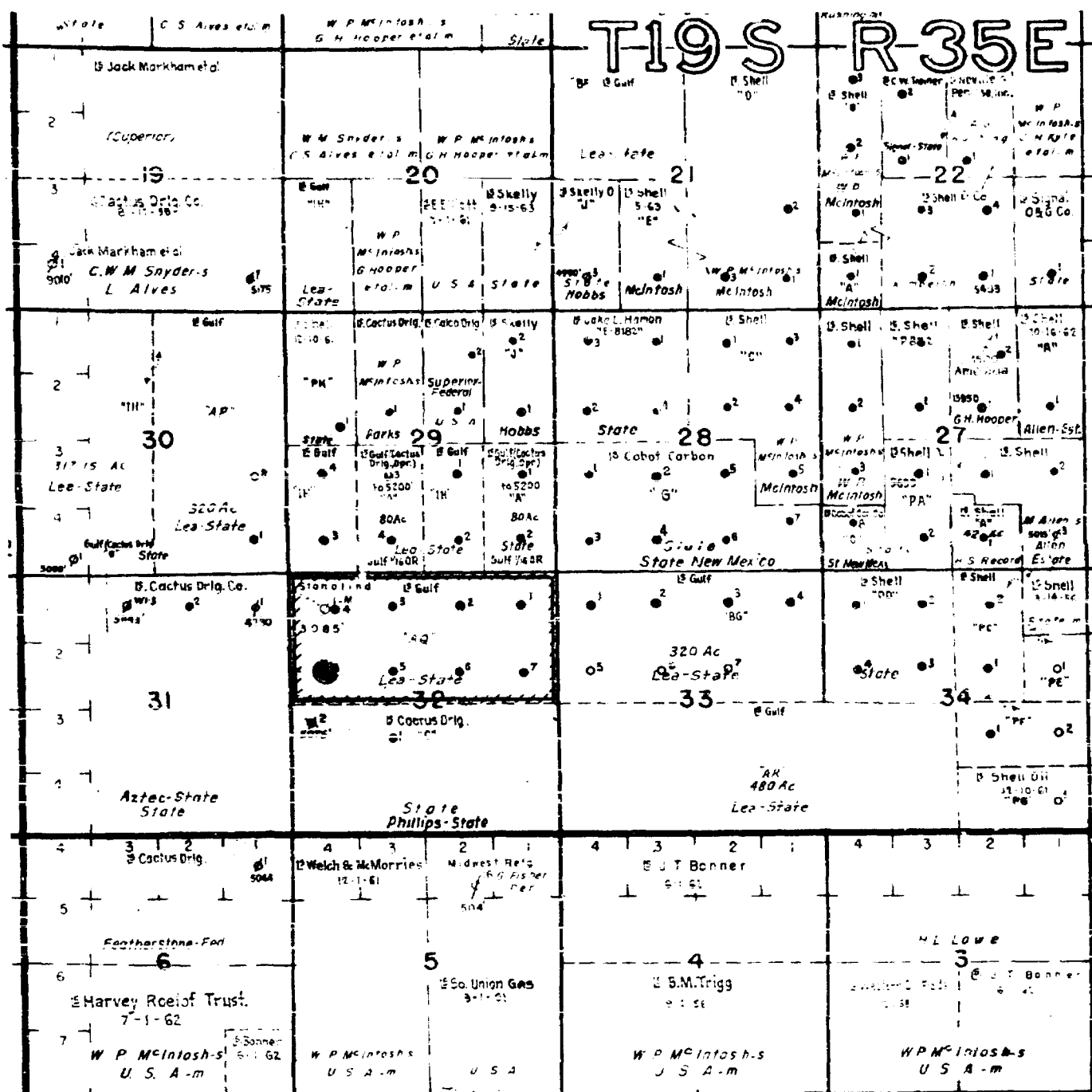
BY:

*T. W. Shellohear*  
District Manager

JHH:dec

cc: Oil Conservation Commission  
Post Office Box 2045  
Hobbs, New Mexico

Cactus Drilling Corporation  
Post Office Box 348  
San Angelo, Texas



LEASE PLAT  
LEA-STATE "AQ"

Lea County, New Mexico

-Legend-

Pertinent Gulf Lease

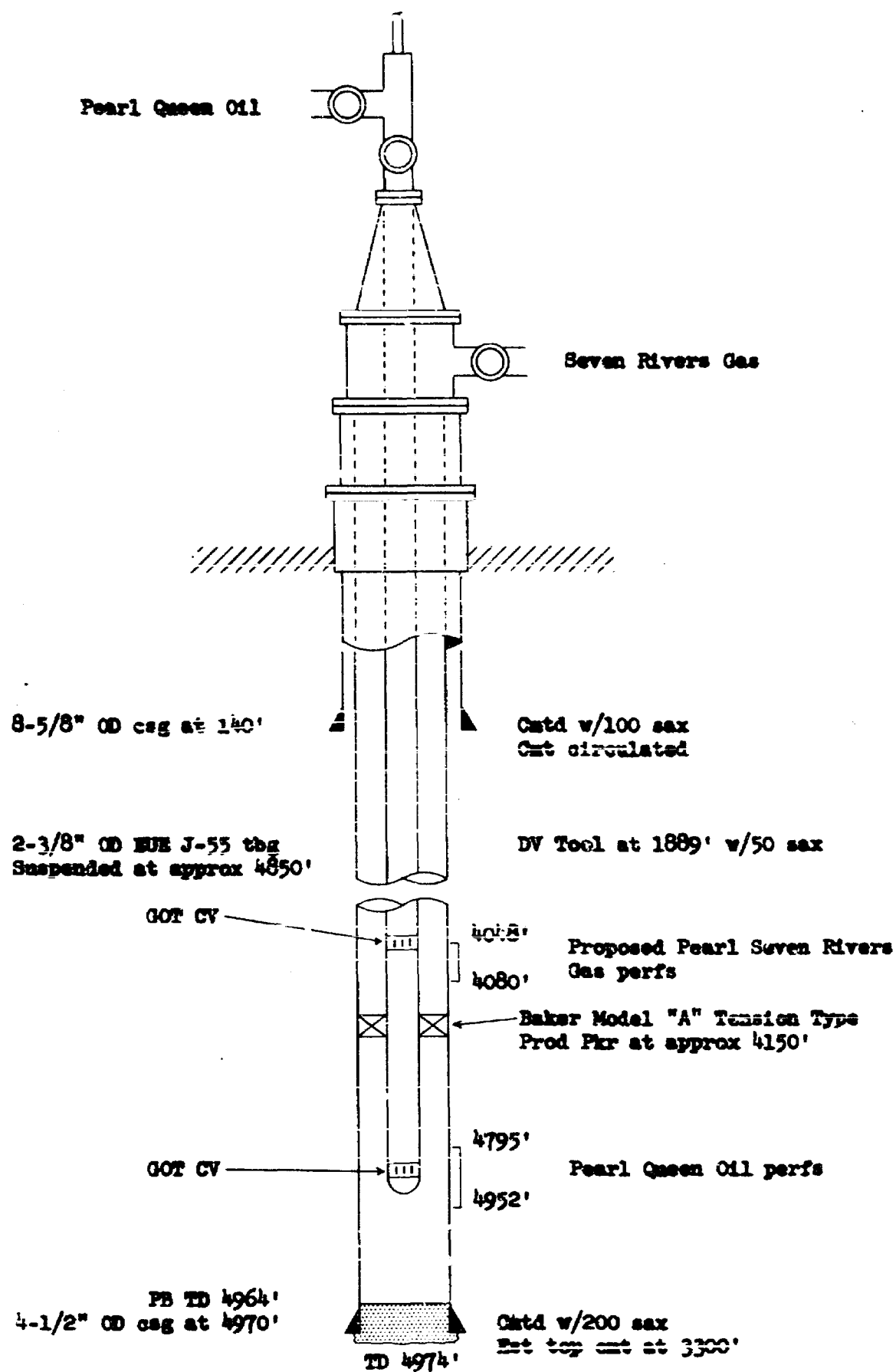
Pertinent Gulf Well

Gulf Oil Corp. Ft. Worth Prod. Div.  
Pet. Eng.

Case 1970



Case 1970



**NOTE**  
Drawing not to scale

PROPOSED MECHANICAL INSTALLATION  
OIL-GAS DUAL COMPLETION  
LEA STATE "AQ" NO. 8

EAST PEARL-SEVEN RIVERS GAS AND  
PEARL QUEEN OIL POOLS  
LEA COUNTY, NEW MEXICO

Gulf Oil Corp. Ft. Worth Prod.Div.  
Pet. Eng.

OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

CASE 1970 Date 6-2-60  
Hearing Date 6-1-60  
My recommendations for an order in the above numbered cases are as follows:

1. Grant Gulf's request for Lease over Oil  
Tract for their Lease State "A, 9" # 8-1250/12,  
660/W - 32-195-35 E in the East Pearl - Levee  
River Gas and Pearl - Levee Oil Pools.
2. Gas Annual Allowance flow.
3. Usual Deal otherwise.

*Christie R. [Signature]*

Staff Member

No. 15-60

DOCKET: EXAMINER HEARING JUNE 1, 1960

Oil Conservation Commission 9 a.m., Mabry Hall, State Capitol, Santa Fe, N.M.  
The following cases will be heard before Elvis A. Utz, Examiner, or Oliver E. Payne, Attorney, as alternate Examiner:

CASE 1970:

Application of Gulf Oil Corporation for approval of a gas-oil dual completion. Applicant, in the above-styled cause, seeks permission to dually complete its Lea-State "AQ" Well No. 8, located in Unit E of Section 32, Township 19 South, Range 35 East, Lea County, New Mexico, in such a manner as to permit the production of gas from the East Pearl-Seven Rivers Gas Pool and the production of oil from the Pearl Queen Pool through the casing-tubing annulus and 2-3/8 inch tubing respectively, utilizing a retrievable type packer to separate the two producing horizons.

CASE 1971:

Application of Gulf Oil Corporation for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks permission to commingle the Blinebry oil production with the Tubb gas condensate from all wells presently completed or hereafter drilled on its Evelyn Lineberry lease, consisting of the N/2 SW/4 of Section 29, Township 22 South, Range 38 East, Lea County, New Mexico, after separately metering the Blinebry oil production.

CASE 1972:

Application of Gulf Oil Corporation for permission to commingle the production from several separate pools. Applicant, in the above-styled cause, seeks permission to commingle the Blinebry oil production with the Blinebry gas condensate and Tubb gas condensate from all wells on its T. R. Andrews lease comprising the E/2 of Section 32, Township 22 South, Range 38 East, Lea County, New Mexico, after separately metering the Blinebry oil production.

CASE 1973:

Application of Graridge Corporation for approval of the unorthodox locations of three water injection wells. Applicant, in the above-styled cause, seeks approval of an unorthodox location for three water injection wells to be located in the SE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

- CASE 1974: Application of C. T. Robertson for an order authorizing a water flood project. Applicant, in the above-styled cause, seeks an order authorizing him to institute a water flood project in the Coyote-Queen Pool, Chaves County, New Mexico, by the injection of water into the Queen formation through six wells located in Sections 11 and 14, Township 11 South, Range 27 East.
- CASE 1975: Application of Amerada Petroleum Corporation for approval of, an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its State LM "T" Well No. 5, located in Unit A, Section 36, Township 23 South, Range 36 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Jalmat Gas Pool and the production of oil from the Langlie-Mattix Pool through parallel strings of 1-inch tubing and 2-3/8 inch tubing respectively, utilizing a retrievable type packer to separate the two producing horizons.
- CASE 1976: Application of Caulkins Oil Company for approval of a gas-gas dual completion and for the establishment of a non-standard gas unit. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Reuter PC-297 well in such a manner as to permit the production of gas from the South Blanco-Pictured Cliffs Gas Pool and the production of gas from the Dakota Producing Interval through parallel of 1 1/4-inch and 2 3/8 inch tubing respectively. Applicant further seeks an order establishing a non-standard gas unit to be dedicated to the subject well in the Dakota Producing Interval consisting of the SW/4 of Section 15 and the NW/4 of Section 22, Township 26 North, Range 6 West, Rio Arriba County, New Mexico.
- CASE 1977: Application of Hondo Oil & Gas Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Empire-Abo Pool from all wells presently completed or hereafter drilled on the Hondo-Western-Yates State 647 lease, which lease consists of acreage in Sections 25, 26, 34, 35, and 36, all in Township 17 South, Range 28 East, Eddy County, New Mexico.

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Docket No. 15-60

CASE 1978:

Application of Shell Oil Company for an order authorizing two salt water disposal wells. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water through its State ETA Well No. 1, located in the NE/4 NE/4 of Section 3, Township 16 South, Range 35 East, Lea County, New Mexico, with the injection to be in the Wolfcamp formation in the interval from 10,365 feet to 10,463 feet. Applicant further seeks an order authorizing the disposal of produced salt water through its State EDA Well No. 2, located in the SW/4 SW/4 of Section 7, Township 16 South, Range 35 East, Lea County, New Mexico, with injection to be in the Wolfcamp formation in the interval from 10,712 feet to 10,734 feet.

CASE 1979:

Application of The Atlantic Refining Company for an order authorizing a water injection project in the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order authorizing the injection of water, for purposes of pressure maintenance and/or secondary recovery, into the Horseshoe-Gallup Oil Pool through 15 wells located in Sections 19, 20, 29, 30 and 31, Township 31 North, Range 16 West, San Juan County, New Mexico. Applicant further requests that special rules and regulations be promulgated governing the operation of this water injection project including the assignment of a project allowable.

CASE 1980:

Application of Hudson and Hudson for nine unorthodox locations. Applicant, in the above-styled cause, seeks an order authorizing the drilling of wells at nine 5-spot locations on its Puckett "A" Lease, Maljamar Pool, Lea and Eddy Counties, New Mexico, said wells to be located in the 40-acre units hereinafter described and within 100 feet of the indicated corner thereof.

SW Corner Unit O, Section 13, and the following wells in Section 24:

SE Corner Unit D;	SE Corner Unit F;
NW Corner Unit C;	NE Corner Unit G;
SW Corner Unit B;	NW Corner Unit K;
NW Corner Unit A;	NW Corner Unit I;

all in Township 17 South, Range 31 East, Eddy County.

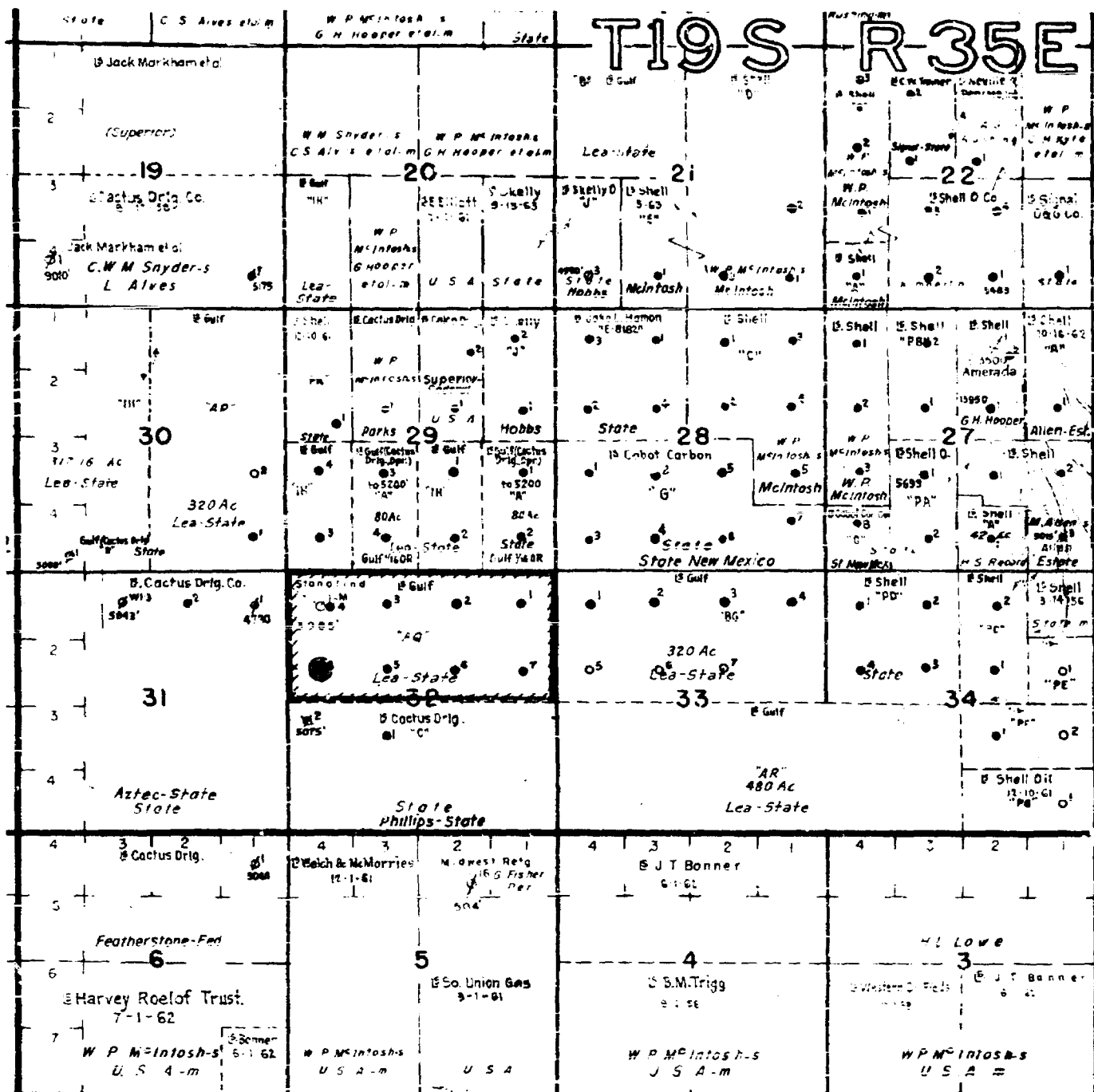
- CASE 1981: Application of El Paso Natural Gas Company for an order amending the special pool rules for the Blanco-Mesaverde Gas Pool. Applicant, in the above-styled cause, seeks an order amending the special pool rules for the Blanco-Mesaverde Gas Pool, Rio Arriba and San Juan Counties, New Mexico, to authorize district supervisors to approve "slim hole" completions in the Blanco-Mesaverde Gas Pool, regardless of depth.
- CASE 1982: Application of Otto Reynolds for an unorthodox oil well location. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location for his Wood Well No. 1, located 330 feet from the South line and 1629 feet from the West line of Section 14, Township 29 North, Range 11 West, San Juan County, New Mexico.
- CASE 1983: Application of Ralph Lowe for permission to commingle the production from several separate leases. Applicant, in the above-styled cause, seeks permission to commingle the production from an undesignated Delaware pool from several separate leases comprising the N/2 NW/4 of Section 17 and the E/2 NE/4 and the E/2 NW/4 of Section 18, Township 25 South, Range 30 East, Eddy County, New Mexico.
- CASE 1984: Application of Mountain States Petroleum Corporation for an unorthodox gas well location and for a 183-acre non-standard gas unit. Applicant, in the above-styled cause, seeks approval of an unorthodox gas well location for a well to be drilled 1050 feet from the North line and 750 feet from the West line of partial Section 31, Township 26 North, Range 2 West, Rio Arriba County, New Mexico. Applicant further seeks the establishment of a 183-acre non-standard gas unit in the Pine Lakes-Fictured Cliffs Gas Pool consisting of all of said partial Section 31 to be dedicated to the subject well.
- CASE 1985: Application of Charles Loveless, Jr. for a 280-acre non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 280-acre non-standard gas unit in the Atoka-Pennsylvanian Gas Pool consisting of the NE/4 NE/4, W/2 NE/4, NW/4 of Section 11, Township 18 South, Range 26 East, or in the alternative to force pool all mineral interest owners in the SE/4 NE/4 of said Section 11 in the Atoka-Pennsylvanian Gas Pool with the interests of those in the above-described non-standard unit in said pool. Said unit is to be dedicated to a well to be drilled 1650 feet from the North and West lines of said Section 11, Township 18 South, Range 26 East, Eddy County, New Mexico.

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Docket No. 15-60

CASE 1986:

Application of J. M. Welch for a gas-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of his Etz Well No. 3, located in the NE/4 SE/4 of Section 13, Township 16 South, Range 30 East, Eddy County, New Mexico, in such a manner as to produce gas from the Penrose sand of the Queen formation and to produce oil from the Lovington sand of the San Andres formation in the Henshaw (San Andres) Pool, through the casing-tubing annulus and 2-inch tubing respectively, utilizing a retrievable type packer to separate the two producing horizons.



**LEASE PLAT  
LEA-STATE "AQ"**

Lea County, New Mexico

-Legend-

Pertinent Gulf Lease

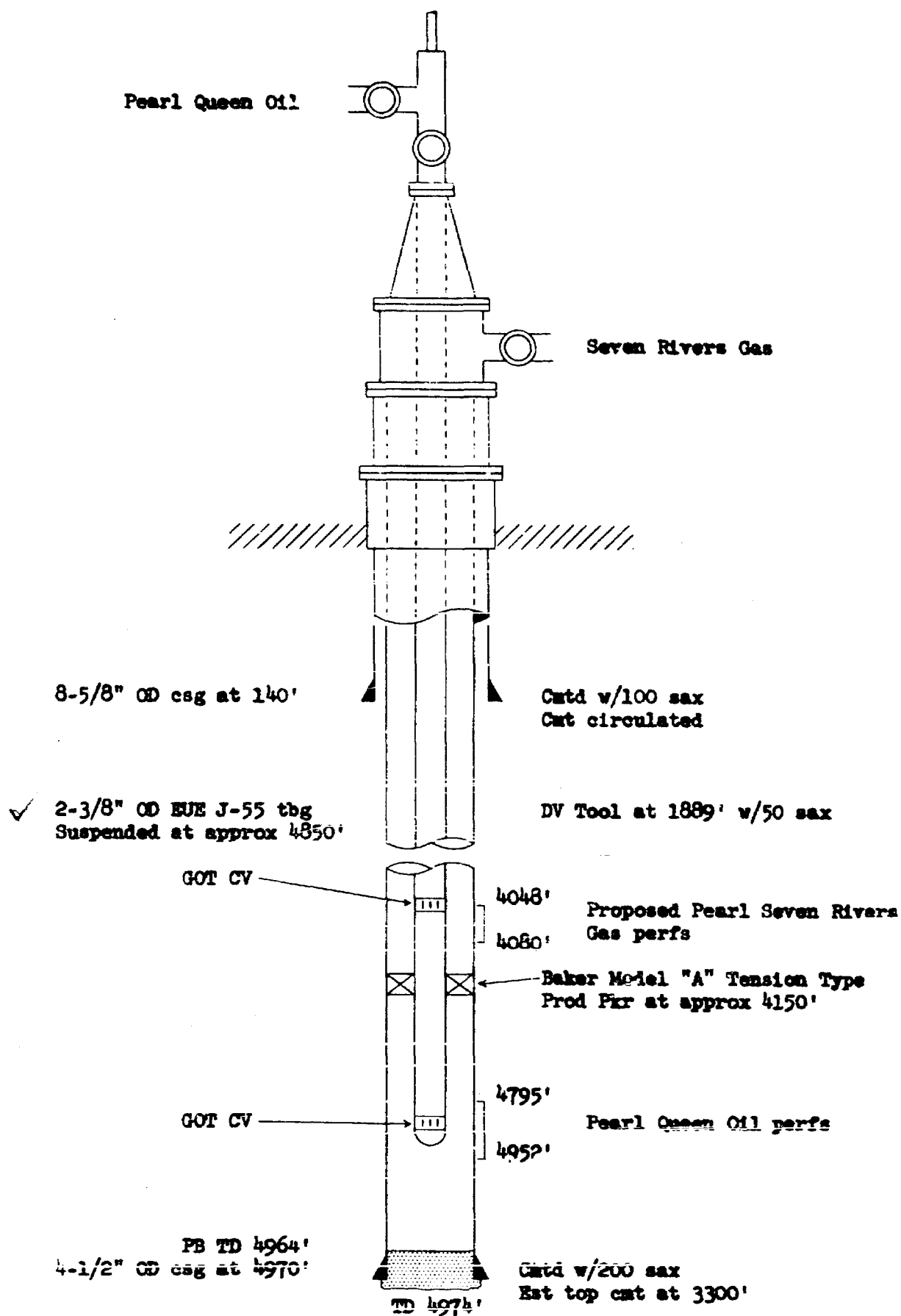
Pertinent Gulf Well

Gulf Oil Corp. Ft. Worth Prod. Div.  
Pet. Eng. June 1, 1960

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
Exhibit No.	1
Case No.	1970

Case No. 1970  
Exhibit No. 1





Case No. 1970  
Exhibit No. 3

NOTE  
Drawing not to scale

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
*Utz* EXHIBIT NO. 3  
CASE NO. 1970

PROPOSED MECHANICAL INSTALLATION  
OIL-GAS DU/.. COMPLETION  
LEA STATE "AQ" NO. 8

EAST PEARL-SEVEN RIVERS GAS AND  
PEARL QUEEN OIL POOLS  
LEA COUNTY, NEW MEXICO

Gulf Oil Corp. Ft. Worth Prod. Div.  
Pet. Eng. June 1, 1960

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
June 1, 1960

EXAMINER HEARING

IN THE MATTER OF:

Application of Gulf Oil Corporation for approval of a gas-oil dual completion. Applicant, in the above-styled cause, seeks permission to dually complete its Lea-State "AQ" Well No. 8, located in Unit E of Section 32, Township 19 South, Range 35 East, Lea County, New Mexico, in such a manner as to permit the production of gas from the East Pearl-Seven Rivers Gas Pool and the production of oil from the Pearl Queen Pool through the casing-tubing annulus and 2-3/8 inch tubing respectively, utilizing a retrievable type packer to separate the two producing horizons.

Case 1970

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 1970.

MR. PAYNE: Application of Gulf Oil Corporation for approval of a gas-oil dual completion.

MR. KASTLER: I'm Bill Kastler from Roswell, New Mexico representing Gulf Oil Corporation, and our witness this morning will be John E. Hoover.

(Witness sworn.)

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



JOHN H. HOOVER

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Mr. Hoover, would you please state your name and your position with Gulf Oil Corporation?

A John Hoover, Drilling Engineer with Gulf Oil Corporation in Roswell, New Mexico.

Q Have you previously appeared before the New Mexico Oil Conservation Commission and qualified as an expert production engineer witness?

A Yes, sir, I have.

Q Are you familiar with Gulf's application in Case 1970?

A Yes, I am.

Q Would you briefly outline what Gulf is seeking this morning and why a hearing is necessary?

A We are asking for approval to dually complete our Lease State "A" Well No. 8 in the Pearl Queen Oil Pool in the East Pearl-Seven Rivers Gas Pool. The reason that a hearing is required is it is the first dual completion with these two zones open in the same well bore.

Q Will it be a gas over oil dual completion if allowed?

A Yes, gas will be the top pay.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 2-6651

ALBUQUERQUE, NEW MEXICO



Q Have you prepared for introduction here a Lea-State "AQ" Lease Plat showing the location of the lease, the location of the dually completed well and so forth?

A Yes, this is marked Exhibit No. 1 and it shows the Lea-State "AQ" Lease outlined in red and also the Lea-State "AQ" Well No. 8 circled in red and being located 1980 feet from the North line, 660 feet from the West line of Section 32, Township 19 South, Range 35 East, Lea County, New Mexico.

Q Are there eight Pearl Queen oil wells completed on the Lea-State "AQ" Lease at this time?

A Yes, there are.

Q Where is the nearest offset Seven Rivers gas well?

A It's the Cactus Drilling Company, Phillips State C No. 2, which is the South offset to our Well No. 8.

Q Does your plat also show the names of the offset operators?

A Yes, sir, it does.

Q And have all these operators been given notice of this application?

A Yes, sir, they have.

Q Is this a State, Federal or fee lease?

A This is a State lease.

Q And beneficiary is common schools?

A Common schools, yes, sir.



Q I now call your attention to your proposed Exhibit No. 2. Would you state what this is and what is shown on here and explain Exhibit No. 2?

A Exhibit 2 is a log of our, in our Lea-State "AQ" No. 8. We have marked the top of the formations, the Yates, the Seven Rivers, which show at 4,030 feet, we show the proposed perforations in the Seven Rivers; these are proposed since we have not perforated the well as yet.

Q At what depth will you perforate?

A We will perforate in the interval 4,048 feet to 4,038 feet. Also shown on the log is the top of the Queen.

Q What intervals are you now perforated in the Queen?

A 4795 feet to 4752 feet.

Q Is the Pearl Queen oil a top allowable oil well?

A Yes, it is.

Q Is it pumping or flowing?

A It's a pumping well.

Q I now wish to call your attention to the Exhibit No. 3, a schematic diagram of your installation, is that correct?

A Yes, it is.

Q Would you please outline the nature of the completion of your well and the proposed nature of the dual completion?

A On our proposed mechanical installation we indicate that the well has 8-5/8" O.D. casing set at 140 feet, cemented with

DEARNLEY-MEIER REPORTING SERVICE, Inc.  
ALBUQUERQUE, NEW MEXICO

PHONE CM 3-6691



100 sacks and the cement was circulated. We have 4- $\frac{1}{2}$ " casing set at 4970 feet, it was cemented with 200 sacks and the estimated top of the cement is at 3300 feet. The well was originally drilled to a total depth of 4947 feet, plugged back to 4964 feet.

We propose to produce the Pearl Queen oil, pump the Pearl Queen oil through 2- $\frac{3}{8}$ " tubing, which will be set through a Baker Model A tension type packer, which will be set at approximately 4150 feet. We will have a circulating valve above and below the packer.

Q What's the purpose of the circulating valve above the packer?

A The purpose of that is we can close the lower circulating valve and produce the upper zone through the tubing if necessary.

Q For tests and so forth?

A For tests or for kicking the well off after completion.

Q Do you propose to produce the Seven Rivers gas through the tubing casing annulus?

A Yes, we do.

Q Do you anticipate any liquid problems involved in that?

A No, we don't. Based on the offset well, they reported just a trace of liquid.

Q Why has Gulf proposed to use a Baker Model A tension type production packer?

A Due to the size of our casing, which being 4- $\frac{1}{2}$ " that is

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



the only packer that we can use which will give full opening for 2-3/8" tubing. If we used a Baker Model D packer as we have in other duals, the maximum tubing that could be run would be a 1.315" O.D. or being one inch nominal tubing. The Baker Model F retainer production packer, it also would only handle one inch. This Baker Model A tension type packer is a full opening for 2-3/8" tubing.

Q Has the retrievable type packer been approved in principle by the New Mexico Oil Conservation Commission?

A I believe that the retrievable packers have been approved. I don't know if this particular type has been approved before or not.

Q Mr. Hoover, if granted, would Gulf Oil Corporation comply with all the necessary requirements of the New Mexico Oil Conservation Commission performing tests and submitting reports and so forth?

A Yes, sir, we would.

Q Is this installation in the interest of the prevention of waste?

A Yes, it is.

Q Would any correlative rights of any party be affected?

A No, they would not.

Q Would you testify as to the relative cost of the installation?

DEARNLEY-MEIER REPORTING SERVICE, Inc.

ALBUQUERQUE, NEW MEXICO

PHONE CH 3-6691



A If we had to drill another well to produce the Seven Rivers gas, it would cost us between forty and forty-five thousand dollars. We estimate the dual completion of this well can be accomplished for \$12,000.

Q With the present type casing that is already in the hole, it would not be possible or practicable to involve any crossover assembly or packer of that type so the gas could be produced through tubing and the oil produced through the casing annulus?

A No, there's not enough room on any 2-3/8" tubing, the O.D. of the couplings are 3.063", your inside diameter on the 4-1/2" casing is just a little over 4", so we're speaking of approximately, well, we figure about .94 of an inch or roughly one inch clearance which would not allow one inch tubing to be run.

Q Isn't it further true that the fact that you are pumping the Pearl Queen oil, a further reason for making the installation that's proposed here?

A Yes. We have to have 2-3/8" tubing, or we would like to have 2-3/8" tubing to pump the Pearl-Queen oil.

Q Do you have anything further you would like to add on your direct testimony?

A I might add one thing in regard to pressures. Based on the Cactus well having a shutin pressure of 1253 pounds and --

Q You are speaking of the Seven Rivers gas well offsetting





DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

this to the South?

A Yes, sir, the Seven Rivers gas. Correcting that to our packer setting, or proposed packer setting, at 4150 feet we would have approximately 1480 pounds on top of the packer based on the bottom hole pressure of an offset well in the Pearl Queen Oil Pool of 1335 pounds at approximately 4800 feet. Correcting that to our packer, we would have approximately 1100 pounds, so we would be speaking of a differential across our packer of something, oh, between three and four hundred pounds. And the manufacturer says that this packer will stand well in excess of that differential.

Q If there were any leakage in the packer, how would this be detected, Mr. Hoover?

A It would be readily detected because we have a pumping well on one side with a very low GOR in the neighborhood of 400, I believe. If we had leakage it would show up immediately on our Pearl Queen oil production.

Q Due to the pressure differential, you would not expect the Pearl Queen oil to migrate above the packer into the Seven Rivers perforated area?

A No, sir.

Q Were Exhibits 1, 2 and 3 prepared by you or at your direction or under your supervision?

A Yes, sir.

Q Is there anything else you want to add at this time?



A I believe that's all.

MR. KASTLER: We conclude this as our direct testimony, and I would like to move that Exhibits 1, 2 and 3 be incorporated into the record.

MR. UTZ: Without objection the Exhibits 1, 2 and 3 will be admitted in the record.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Hoover, you haven't perforated the Seven Rivers in this well, have you?

A No, we haven't and we don't propose until the approval is given for the dual.

Q The closest offset to the Seven Rivers is the Cactus well to the South?

A Yes, sir, I believe that's the only gas well in the East Pearl-Seven Rivers gas at the present time.

Q Are there other oil wells in the Seven Rivers gas?

A No, sir, not to my knowledge.

Q This is, you feel, strictly a gas reservoir?

A Yes, sir.

Q I believe you said that the Cactus well only had a trace of liquids?

A That's what they advised us verbally.

Q So there wouldn't be any GOR available on that well?

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A No, sir. I could not find one. There is a four point pressure test on that well on file with the Commission.

Q How about the gravity of the liquids, did you learn anything about that?

A Based on the --

Q Of the Seven Rivers liquids.

A No, sir, there was no report on that.

Q How about the gravity of the gas?

A The gravity of the gas was .685.

Q You are producing the Queen Zone?

A We were producing it at the present time.

Q What kind of GOR do you have on that?

A That well was completed in March of 1960, and it pumped 57 barrels of oil, 11 barrels of water. Let me correct that, it pumped 61 barrels of oil, 8 barrels of water, had 25 MCF of gas with GOR of 410.

Q What was the gravity of the oil?

A The corrected gravity on a test was 35.3.

Q Does your 4- $\frac{1}{2}$ " come clear to the surface?

A Yes, sir.

Q The annular area would be equivalent to about what size tubing, considerably bigger than 2- $\frac{3}{8}$ ths?

A Yes, sir. The area of 4" and subtracting, taking the area of 4" and subtracting the area of 2- $\frac{3}{8}$ ", we would come up

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with a difference of about eight square inches, and that would fall in the range of about 3-1/4 to 3-1/16 inch tubing. It would be slightly less than that because I didn't figure the area of the couplings which would be greater than 2-3/8 and it would throw it less than that 3".

Q What kind of a gas well do you anticipate here?

A Well, we, our log indicates as good a porosity zone or better than the Cactus well and their well had a 3650 absolute open flow. On their test, on the four point test they produced 499 MCF at 1215 pounds, 1,062 MCF at 1,045 pounds, 1108 MCF at 990 pounds and 2256 MCF at 840 pounds. We think we'll get as good a well as that.

Q What's the name of this Seven Rivers pool?

A They call it the East Pearl-Seven Rivers gas. I believe that is set up as an oil pool now.

Q It is an oil pool?

A No, is a gas pool.

MR. PAYNE: No, it's a gas pool.

A It's set up by the Commission as a defined gas pool.

Q Your lower completion is in which pool?

A The Pearl Queen oil.

MR. UTZ: Are there other questions of the witness?

BY MR. PAYNE:

Q In the event the subject well started making considerable



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amounts of liquid from the East Pearl-Seven Rivers Gas Pool, would you be willing to install tubing to produce that zone?

A I don't believe that we could.

Q You don't believe that the size of the casing would allow you to install tubing?

A No, sir, we probably would have to deplete the lower zone and then come back and deplete the upper zone.

Q What about one inch tubing, you wouldn't have room for that?

A Not with the 2-3/8".

Q Have you considered the possibility of using 2" to the Pearl Queen instead of 2-3/8ths?

A You mean 2" hydril or something like that?

Q Yes, sir.

A No, sir, but that would be a possibility except that we now have our string and tubing and it would entail an additional string of tubing expense.

MR. PAYNE: I see, thank you.

Q (By Mr. Payne) This well has been completed, has it?

A It has been completed in the Pearl Queen oil.

Q That zone is producing now?

A It is producing.

MR. UTZ: Are there any other questions of the witness?

If not, the witness may be excused.



(Witness excused.)

MR. UTZ: Are there other statements in this case? If there are none, the case will be taken under advisement.

STATE OF NEW MEXICO )  
: SS  
COUNTY OF BERNALILLO )

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 6th day of June, 1960.

*Ada Dearnley*  
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1922, heard by me on June 1, 1960.  
*Arthur A. Ditt*  
Examiner  
New Mexico Oil Conservation Commission

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