BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 10, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its J. F. Janda (NCT-F) Well No. 6, located in Unit D of Section 4, Township 22 South, Range 36 East, Lea County, New Mexico, as a dual completion (conventional) in the Jalmat Gas Pool and South Eunice Pool with the production of oil from the Jalmat Gas Pool to be through a string of 1 1/4-inch tubing and the production of oil from the South Eunice Pool to be through a parallel string of 2 3/8-inch tubing.

Case 2555

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 2555.

MR. MORRIS: Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico.

MR. KASTLER: My name is Bill Kastler. I am an attorney from Roswell, New Mexico, appearing on behalf of Gulf Oil Corporation. Our principal witness in this case is Mr. John

H. Hoover.

(Whereupon, Gulf's Exhibits Nos. 1, 2 and 3 were marked for identification.)

(Witness sworn.)

JOHN H. HOOVER

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

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you please for our record state your name, and employment position?

A John Hoover, petroleum engineer, Gulf Oil Corporation, Roswell, New Mexico.

Q Have you previously appeared before the New Mexico Oil Conservation Commission and qualified as an expert petroleum engineer and given testimony?

A Yes, sir, I have.

MR. KASTLER: Are the witness's qualifications satisfactory?

MR. NUTTER: Yes, sir. Would you please proceed?

Q (By Mr. Kastler) Are you familiar with Gulf's application in Case 2555?

A Yes, I am.

Q Please outline what Gulf is seeking.

A We are seeking approval of an oil-oil dual completion for our J. F. Janda (NCT-F) No. 6.

Q Have there been other dual completions in this same pool which would normally allow administrative approval?

A Yes, sir, there have. However, in the installation that we would propose we would use tubing with less than 1.670 inch inside diameter. Therefore, this hearing is required.

Q Would you state one instance of a previous dual completion in the same two zones?

A Yes, sir, our J. F. Janda (NCT-F) Well No. 3. It was approved by Order R-1161 in Case 1411, dated April, 1958.

Q Mr. Hoover, I call your attention to a plat marked Exhibit 1. Would you refer to this plat and explain what is shown on that that's pertinent to this case?

A Yes, sir. This is a lease plat showing our J. F. Janda (NCT-F) lease outlined in red and described as all of Section 4, Township 22 South, Range 36 East, Lea County, New Mexico. We also show the pertinent well, being the Janda F Well No. 6 circled in red. It's located 660 feet from the north and west lines of this section.

Q Is that a state, federal or fee lease?

A It's a state lease.

Q Have you prepared, or caused to be prepared, a log for introduction here as Exhibit No. 2?

A Yes, sir.

Q What does it show?

A On this log we have shown the top of the Yates, we have marked the top of the Yates 3200 feet; we show the perforations in the lower section of the Yates, being in the interval 3395 to 3416, show the top of the Seven Rivers marked at 3416, the top of the Queen at 3785, and we show the perforations in the South Eunice Oil Pool at 3787 to 3866. These perforations in the lower Yates are within the vertical limits of the Jalmat Pool, and the perforations in the Queen are in the vertical limits of the South Eunice Oil Pool.

Q I now call your attention to Exhibit No. 3. Referring to this exhibit, would you please testify as to what is shown hereon and what its bearing on this case might be?

A Yes, sir. This is a proposed mechanical installation for this dual completion, and this well was originally drilled and completed in August of 1956. It was completed in the South Eunice Oil Pool. We have 8-5/8" casing set at 249'. Cement was circulated, we have 5½" casing set at 3890, and cemented with 1250 sacks, and the top of the cement is at 525' by temperature survey.

The well was completed at a total depth of 3890', plugged back to 3887. The installation that we propose to use here is using a string of 1¼" tubing for producing the Jalmat oil and a string of 2-3/8" tubing for producing the South Eunice oil. The reason that we need to use this small tubing is due to the fact that we have 5½" casing in the well. Normally you could get two strings of two inch Hydril, but in our particular installation I would like to explain the 2-3/8" tubing, we will set a Baker Model "C", cemented packer, at approximately 3460'. We will have a perforated tubing sub just below the packer which will serve as a gas vent for pumping out below the packer. We intend to pump the South Eunice oil up through the 2-3/8" tubing and the oil will be pumped up through hollow rods.

For the rod string we will use 3/4" Kobe tubing. It is necessary that we use the 2-3/8" tubing so that we will have clearance for the collars on the 3/4" Kobe tubing. The 2-3/8" OD has a drift diameter of 1.901. The 3/4" Kobe tubing coupling has a 1.660. Therefore, to use 2-3/8" tubing, which is necessary for this pump installation, it is necessary that we use the inch and a quarter.

We estimate that we will have a pumping well in the South Eunice, and we estimate it ten to twenty barrels per day, ten water, pumping 35 degree gravity at 60 degrees, and it will be

sour crude. The Jalmat, we anticipate a penalized flowing well of 18 barrels, no water, with a gas-oil ratio of approximately 18,700. The gravity of this crude will be 37 degrees at 60 degrees. The bottom hole pressure in the South Eunice, which was taken on our Janda F No. 3 the latter part of '61, was 365 pounds.

Although we do not have a bottom hole pressure in the Jalmat zone, based on offset Jalmat wells we anticipate a bottom hole pressure in the neighborhood of 740 pounds. Therefore, we are showing that we have no or very small differential of very light duty for a packer.

I believe that explains Exhibit No. 3.

Q Is that the primary use for using Baker Model "C" Full-Bore retrievable packer?

A The reason we want to use that is for two reasons. First, it's a very dependable packer. We have used it hundreds of times in remedial work, and we know what it can do and its capabilities.

The second reason for using it is that it is easily retrievable, and we anticipate in this particular area we have a pilot water flood to the northeast of our lease in the Eumont oil or the Queen formation. We anticipate that that water flood will be expanded, and if and when it is, we believe that we will probably have to go back in the wells to rework the Queen.

Therefore, in setting a Baker Model "D" packer it would be necessary to drill out, where in this one we will be able to retrieve it. Those are the two main reasons for using it.

Q Have offset operators been notified of this application?

A Yes, sir, they have.

Q If granted, would this application cause any waste?

A No, sir.

Q Would it, in your opinion, protect correlative rights?

A Yes, sir, it would.

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

A Yes, sir.

MR. KASTLER: This concludes our direct testimony.

MR. NUTTER: Are there any questions of Mr. Hoover?

CROSS EXAMINATION

BY MR. NUTTER:

Q With the installation of this inch and a quarter pipe to the Jalmat, are you going to be able to artificially lift it in the event that you have to?

A No, we will not be able to. What we would plan to do is to flow the Jalmat as long as it will flow and then evaluate which zone should be temporarily abandoned to deplete the other zone, and at that time that would have to be decided.

Q First of all, has it been perforated in the Jalmat yet?

A The No. 6?

Q This well. A Yes, sir, it has.

Q Now, you said that you anticipated or estimated that you would have a flowing well with 18 barrels of oil. Is this an actual test that you have run?

A Yes, it is. It was a flow test through 2-3/8" tubing. We had a test of 30 barrels of oil, no water, through a 24/64 choke, 500 MCF gas volume with a gas-oil ratio of 18,700, a tubing pressure of 110 pounds. I might add also that on the dual completion on our Janda F No. 3, it also has the inch and a quarter tubing flowing the Jalmat oil.

Q Now, this retrievable cementer packer, how is that packer set, Mr. Hoover?

A It is set in tension. The packer is run on the tubing string, and by rotating you release the slips which grab the casing wall. You pull the packer in tension to set it. It is left in tension.

Q How is it released?

A It is released by taking weight of the tubing, and it has a built in unloader sub with a packer which will equalize the pressures when pulling it, when releasing it.

Q Well, now, will the action of the rod pump or the

sucker rods in the tubing have any tendency to release this packer?

A No, sir. I believe it would be the other way, that the strain would be up on the pump which would tend, in other words, pumping up would tend to even hold it tighter. I do not believe that the --

Q Because tension holds it set?

A Tension holds it set.

Q How about when the pumps come down, the rods come down?

A Well, the tubing is left in tension, which would offset any force there.

Q I presume from your testimony that this gas comes up the annulus outside the hollow sucker rods, then?

A Yes.

Q Where is that pilot flood at the present time?

A It's in Section 34 to the northeast.

Q Is this acreage dedicated to any gas, this 40-acre lot No. 4 dedicated to any gas in the acreage in the Jalmat Pool?

A No, sir, it is not.

MR. NUTTER: Any further questions of Mr. Hoover? He may be excused.

(Witness excused.)

MR. KASTLER: I would like to ask that Exhibits 1, 2

and 3 be admitted in evidence.

MR. NUTTER: Gulf's Exhibits 1 through 3 will be admitted in evidence. Do you have anything further, Mr. Kastler?

MR. KASTLER: Nothing in this case.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2555? We will take the case under advisement and recess the hearing until 1:30.

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 1st day of June, 1962.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.