BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APRIL 27, 1960

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco Inc. for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of the State "CH" Well No. 1, located in Unit H, Section 36, Township 20 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of gas from an undesignated Atoka gas pool and the production of gas from the South Salt Lake-Pennsylvanian Gas Pool through parallel strings of tubing.

Case 1951

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: Case 1951.

MR. PAYNE: Application of Texaco Inc. for a gas-gas dual completion.

MR. WHITE: Charles White, Gilbert, White & Gilbert, appearing on behalf of the applicant. We have one witness, Mr. Herb Wade, to be sworn.

MR. UTZ: Let the record show that Mr. Wade was sworn for Case 1951 and 1952.

(Witness sworn.)

HERB WADE,

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

DIRECT EXAMINATION

BY MR. WHITE:

Q You are Mr. Herb Wade?

A Yes, sir.

Q And by whom are you employed?

A By Texaco Inc.

Q In what capacity?

A Division Economics Engineer.

Q Have you previously testified before the Commission?

A Yes, sir; I have.

Q And have your qualifications been accepted?

A Yes, sir.

Q Are you familiar with Texaco's New Mexico "CH" Lease?

A Yes.

Q And is it within any recognized area?

A Yes; it is in the Little Eddy Unit, approved in Order R-862 on August 30, 1956, Case No. 1117.

Q And what is the purpose of this application?

A The purpose of this applicatinn is to obtain approval of a dual completion between an undesignated Atoka zone in this well and the Salt Lake-Pennsylvanian South zone in the well.

Q Is that a gas-gas dual?

A Yes, sir; it is.

Q Will you refer to Exhibit 1, an ownership plat, and explain it to the Examiner, please?

A Yes, sir. Exhibit 1 is an ownership map with Texaco's State "CH" Lease outlined in yellow.

Q I ask at this point, is this the same plat that was filed with the application, or should there be a change?

A This is the same plat. The only change that should be made is that the plat filed with the application did not include the acreage shown in Section 31, Township 20 South, Range 33 East, and should have.

Q That should have been outlined in yellow?

A Yes, sir; it should.

Q Continue, please.

A The legend at the bottom of the sheet indicates the zones of interest for this application. It will be noted that the only other Salt Lake-Pennsylvanian South Pool well is Texaco's Audie Richards No. 1, located in Section 25, Township 20 South, Range 33 East, and directly north of the subject well. This well, also, that is, the Audie Richards, is within the Little Eddy Unit boundaries.

Q This also shows the undesignated Atoka Pool?

A Yes, sir; it does. That is a part of the legend. Off-

set operators are listed on the base of the plat.

Q Now, will you refer to Exhibit 2 and explain that diagrammatic sketch?

A Exhibit 2 is a diagrammatic sketch of the proposed dual completion installation. I might point out here that there is one slight change that has occurred since the filing of the application, a copy of which diagrammatic sketch was attached to that application, and it is this: the packer, Baker Model FA packer, 11,284 feet on the application sketch, has been left in the hole, but is not being utilized. A packer, also a Baker Model FA packer at 11,276 is the effective packer in the hole. Otherwise, this remains as indicated on our application.

Q In other words, the Exhibit attached to the application was the proposed installation, and Exhibit 2 is the actual installation?

A Yes, sir; that is correct. Just in general, running down what the sketch shows, we have 20-inch casing set at 1198 feet with cement circulated; 13 3/8 inch casing set at 2859 feet, cement also circulated; 9 5/8 casing at 8200 feet with two-stage tube at 4974 feet, cement circulated on that two-stage on the second stage. We then have 2 3/8 inch O.D. hydraulic tubing set in the dual zone flow tube to handle the Atoka gas. We have a Baker dual zone flow tube which is set in the Baker Model FA packer previously discussed at 11,276 feet. This packer is set in

7-inch casing at 11,422 with the two-stage tube at 8715. The top of the cement on this second stage cement job on the 7-inch is at 7775. We have 2 3/8 inch O.D. OEU tubing to 13,011 feet to handle the Morrow gas. The top of the Atoka is at 12,640 and its base is at 12,654. Those are the perforated intervals also shown on our sketch as the tops and base of the formation. I might point out that opposite the Atoka interval, on the 2 3/8 O.D. OEU tubing is a glass-wrapped and plastic-coated section to eliminate the abrasive effect of the Atoka gas being produced against this tubing string. There is also an Otis sliding valve immediately above the Baker Model D packer. That sliding valve is in the 2 3/8 tubing and the Model D packer set 12,999 to separate the Atoka and Morrow intervals. The Morrow is perforated from 13242 to 13266, and from 13,292 to 13,307. There is a bridge plug at 13,620. The only other pertinent information is a 5-inch liner set from 11,304 to 14,724. This liner is cemented around the shoe with 400 sacks of 2 per cent gel cement. The top of cement, 11,740, but the top of the liner was squeezed with 200 additional sacks of cement to obtain a seal at that point.

Q Mr. Wade, will you explain Exhibit 3, please?

A Exhibit No. 3 is a radioactivity log of the subject well. On this log are the intervals outlined that have been perforated in this well. As indicated, they are from 12,640 to 12,654 in the Atoka, and the two intervals previously discussed opened in the

Morrow.

Q Have you completed your packer leakage test?

A No, sir; we haven't started them. We have just, in fact, completed the well. We were not going to do any additional completion work or testing until we got our well opened into pipe connections.

Q And the Commission will be furnished the results of these tests as soon as they are taken?

A Yes, sir.

Q Has the differential of the bottomhole pressures been determine as yet?

A No, sir; we haven't done that, either. We do have some information. We have taken some gas-oil ratio tests. On 4/1/60, 24-hour test, Morrow zone, the well flowed 114 barrels of 53.4 degree API condensate through 1-inch choke with a GOR of 30,930 to 1. Flowing tube pressure on this test, 500 PSI. On a test taken 4/11/60 the well, Atoka zone, flowed 49 barrels, 47.6 degree API condensate in 24 hours through a 22/64-inch choke with a GOR of 92,612 to 1. Its flowing tube pressure during this test, 600 PSI. As regards differential pressure, which we feel is representative across the packer in this instance, I have some information concerning the shut-in tubing pressures of the two zones. It is the only information we have. On April 7, the Atoka zone, after being shut-in for 15 hours had a tubing pressure 63.50 PSI; the Morrow

zone, at the same time, after having been shut-in also for 15 hours had a tubing pressure of 43.90. On April 8 the Atoka was opened to flow for 16 hours and had a flowing tubing pressure of 750 PSI; the Morrow, during this test, held steady at 4350. On April 10 the Atoka had a 5500 PSI tubing pressure after having been shut-in for ten hours. The Morrow, still shut-in, had a 4350 PSI, tubing pressure. On the 11th of April, with the Atoka flowing for 20 hours with a flowing tubing pressure 700 PSI, the Morrow continued to hold 4350 PSI. Although this is not conclusive information, we do think that it indicates that not only is there differential pressure of unusual amounts across the packers, which would be detectable under leakage circumstances, but also that the packers are not leaking. There seems to be no indication of communication.

Q Have similar types of installations as this you propose been approved in other areas by the Commission?

A Yes. The equipment to be used in this well has been approved in many instances.

Q Were Exhibits 1 through 3 prepared by you or under your direction?

A Yes, sir; they were.

MR. WHITE: We offer Exhibits 1 through 3.

MR. UTZ: Without objection they are accepted.

CROSS-EXAMINATION

BY MR. UTZ:

Q What types of gas do you have? Do you have sweet gas in each of these?

A Yes, it is my understanding they are sweet.

Q How much pressure has the Model D packer been tested for; how much is it supposed to take in differential?

A Mr. Utz, I don't believe I can tell you. I don't remember.

Q I had the impression it was around 5,000 pounds.

A That is the range I would think it would take, but I don't know that for sure.

Q Do you think there will ever be in excess of 5,000 pounds of differential even when the Atoka is shut in and the Morrow flowing? You have got 6350 surface.

A It could certainly approach it depending on the circumstances of production. It has been our experience in frac work and so forth, in dealing with this type of packer, that the differential exposed during much of the fracture work is not in any way damaging these packers, and in this case here we had performed, as I remember, a 5,000 pound frac job which was imposed across the upper packer without failure. That was a surface pressure.

MR. UTZ: Any other questions of the witness? If not the witness may be excused. Other statements in this case? Case will be taken under advisement.

STATE OF NEW MEXICO )
) ss
COUNTY OF BERNALILLO )

I, the 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.

June Cage
Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1951, heard by me on April 27, 1960.

Examiner
New Mexico Oil Conservation Commission