BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 25, 1961

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco, Inc. for a triple completion. Applicant, in the above-styled cause, seeks an order authorizing the triple completion of the C. H. Weir "B" Well No. 4, located in Unit I, Section 11, Township 20 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of gas from the Eumont Gas Pool, the production of oil from the Skaggs-Glorieta Pool and the production of oil from the Skaggs-Drinkard Pool through the casing-tube annulus, through 2 3/8-inch tubing, and through 2-3/8-inch tubing respectively. Case 2161

BEFORE:

Elvin A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Texaco, Inc. for a triple completion.

MR. KELLY: Booker Kelly, Gilbert, White & Gilbert, of Santa Fe, appearing on behalf of Texaco. We have one witness.

(Witness sworn.)

MR. PAYNE: Are there an other appearances?

MR. UTZ: No appearances.

J. E. ROBINSON, JR.

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Will you state your name, employer, and position, please?

A J. E. Robinson, Jr. I am employed by Texaco, Inc. as Proration Engineer in our Midland Division, in Texas.

Q Would you tell the Commission what Texaco is seeking by this application?

A We are seeking the approval from the Commission to triple complete our C. H. Weir "B" No. 4 by producing the Skaggs-Drinkard and the Skaggs-Glorieta through two separate strings of tubing, and by flowing the Eumont gas through the casing-tubing annulus.

Q Does Texaco have any similar triples in New Mexico?

A We have two other triples in New Mexico. However, each one of these varies from this proposed triple. One of the triples used three strings of tubing, and the other uses two strings of tubing with the gas flowing up the annulus. However, in this particular triple the gas is the middle zone, and it is crossed over into the annulus above the upper zone.

Q What is the present status of the Weir "B" No. 4?

A The well has reached T.D., and the casing strings have been set and cemented, and we have presently perforated the Dakota and are attempting a completion in this zone.

MR. NUTTER: The Dakota?

A Yes, sir.

MR. UTZ: I think we have two different cases here.

A I am sorry, the Drinkard.

Q (By Mr. Kelly) Now, referring to what has been marked Exhibit 1, would you explain that to the Commission?

A Exhibit No. 1 is the plat of the area which shows Texaco's C. H. Weir "B" No. 4 circled in red, which is the proposed well to be triple completed. Texaco's lease is bordered in yellow. It occupies the east half of Section 11, Township 20 South, Range 37 East. We also show on this Exhibit all wells on the lease and all offsetting wells with their designation as to what zones or what pools they are completed in. We also show all offset operators and their addresses.

Q Are all the zones in which you propose to complete productive in nearby wells?

A Yes. The Drinkard, the Glorieta, and the Eumont are all productive on Texaco's C. H. Weir "B" lease. Well No. 1 on the Weir "B" lease is a dual Drinkard and Glorieta well. Well No. 2 is a Drinkard well, and well No. 3 is a Eumont gas well.

Q Referring to what has been marked Exhibit No. 2, would you explain that in detail to the Commission?

A Exhibit No. 2 is a diagrammatic sketch of the proposed triple completion installation. Surface pipe consisting of 10 and 3/4-inch casing was set and cemented at 1,452 feet, with a total of 950 sacks of cement, with the cement circulating through the surface of the ground. The 7 and 5/8-inch casing was set at 5,475 with 2,455 sacks of cement, and a temperature survey indicated that the

top of the cement behind the 7 and 5/8-inch string was at 1,810 feet. After the 7 and 5/8-inch casing was set the whole size was reduced and the well drilled to a T.D. of 6,915. At that depth a 4 and 1/2-inch liner was set from 5,381, which is inside the 7 and 5/8-inch casing to the T.D. of 6,915. We cemented the liner with a hundred sacks of cement around the bottom of the liner, and we squeezed 200 sacks around the top of the liner.

The Drinkard, the lowermost zone, has been perforated from 6,897 to 6,909 with two jet shots per foot. Originally we had expected this well to flow in the Drinkard from the past experience from other wells in the immediate vicinity. However, our first reports from this zone indicate that we may have to pump the Drinkard formation. The bottomhole pressure in the zone is approximately 2,400 PSI, which was established by drillstem tests. The crude is a sweet type crude with a gravity of 33 degrees, and the zone will not propose any paraffin or corrosion problems.

Q What type of gas-oil ratio do you expect from the Drinkard?

A That is rather hard to say at this time. In February, 1960, on our Weir "B" No. 1, we had a gas-oil ratio of 5743, and our well No. 2 on this lease had a gas-oil ratio of 4521. We expect a lower gas-oil ratio than these wells from the first report, especially if the well will require being pumped.

Q If this zone must be pumped, can this be done with your proposed completion?

A Yes, sir. The Baker dual zone flow tube is a full open-

ing tube which would permit you to run a pump through the flow tube to be seated down opposite your perforations, and you could pump the Drinkard if it becomes necessary. The Glorieta, the middle zone, will be perforated from approximately 5,270 to 5,290. The bottomhole pressure in the Glorieta is estimated to be approximately 1450 pounds per square inch, with an estimated gas-oil ratio of 390. This is based on other Glorieta wells in the immediate vicinity which all have low gas-oil ratios. The gravity of the Glorieta is 41 degrees, and the crude is a sweet crude. The Glorieta production will pass through the flow tube and will be pumped through a second string of tubing. The Glorieta is sweet; we do not expect any corrosion problems, and have no difficulty with any paraffin problems.

The upper zone, the Penrose formation in the Eumont, will be perforated from approximately 3,600 to 3,700 and will be produced through the casing-tubing annulus. This annulus is equal to a pipe having an internal diameter of 3.07 inches. The zones will be segregated by a Baker Model D packer set at 5,350, and a Baker Model DA packer set at 5,200. The dual zone flow tube will be latched into the DA packer set at 5,200. The dual zone flow tube will be made up on the long string, and we will have proper spacing nipples and seals on the lower part of the long string that will effectively seal off, through the Baker Model D packer, the Drinkard and the Glorieta and the seal arrangements on the Baker flow tube will seal off the Glorieta and the Penrose formation through the

Model DA packer set at 5,200. We will then run our short string of 2 and 3/8-inch tubing and it will be latched into the packer flow tube with both strings of tubing being standard 2 and 3/8-inch tubing.

Q Referring back again to Exhibit No. 1, it shows that both Eumont oil and Eumont gas wells are in the area. Will the Penrose formation produce gas or oil?

A It will produce gas. This well, our Well No. 4, ran 48 feet high to our Weir "B" No. 3, which is a Eumont gas well. Giving a little bit of history on the Weir "B" No. 3, it was completed in December, 1956, as an oil well with a gas-oil ratio of 17,628, and by July, 1957, approximately seven months after the well was completed the gas-oil ratio had increased to 157,333. At that time the well was reclassified as a gas well, and in an attempt to obtain a better gas well we opened up an additional section in August of 1958. This remedial work resulted in lowering of the gas-oil ratio back down to 26,666, and then in January, 1959, the ratio had increased back to 146,400, and in July, 1959, the ratio increased to 196,800, and the well is now reclassified as a gas well, and it is shut in waiting pipeline connection. So, with this well, our No. 4, running 48 feet high to our well No. 3, we have reason to believe it will be a gas well.

Q Under your proposed completion, and with the expected results of the Penrose, do you think you will have efficient flow by producing up the casing-tubing annulus?

A Yes, sir, I believe we will.

Q If the Penrose produces oil, will you be able to run a third string of tubing?

A Yes. If we do get an oil well in the Penrose formation, or,perhaps, a fairly low gas-oil ratio well, we can run a third string of 2 and 3/8-inch tubing to produce the Penrose formation through. We can run the third string, and we will have a tolerance of .16 of an inch between the three strings. We have done this before inside 7 and 5/8-inch casing, and you can do it. However, we do not believe it will be necessary since we are expecting a gas completion. However, if we do not obtain an efficient flow well we can then run the third string to produce the Eumont through.

Q Do you believe the mechanics of the proposed triple completion are feasible and in accordance with good conservation practices?

A Yes, I do.

Q Upon the completion of the well will you submit all necessary packer leakage tests and a log of the well with all perforations, with tops marked?

A Yes, sir, we will, and in addition to that we will also include a corrected diagrammatic sketch to show the actual perforations. The Glorieta and Penrose are estimated perforations at this time.

MR. KELLY: I forgot earlier to ask if the witness's qualifications are acceptable?

MR. UTZ: Yes, they are.

Q (By Mr. Kelly) Were these Exhibits 1 and 2 made by you or under your direction?

A Yes, sir, they were.

MR. KELLY: I move Exhibits 1 and 2 be accepted in evidence.

MR. UTZ: Without objection Exhibits 1 and 2 in this case will be accepted into the record.

MR. KELLY: That is all we have.

MR. UTZ: Any questions of the witness?

BY MR. PAYNE:

Q What is the footage description of the subject well?

A The footage?

Q Yes, sir.

A It was drilled to a T.D. of --

Q I mean the location?

A It is drilled 2,044 feet from the south line, and 660 feet from the east line of the section.

Q Assuming you get a Eumont gas well, what do you propose to dedicate to it?

A We will dedicate the southeast quarter of this section to it. At the present time we have 160 acres dedicated to our well No. 3.

Q Which is shut in?

A Which is shut in, yes, sir. At the present time there is no intermediate gas line in the area. El Paso has a high pressure

line in there and Warren has a low pressure line that they take casinghead gas from the other wells in the area, but those are the only two lines in the area.

Q Is this Baker Model DA packer a permanent type packer?

A Yes, sir. Both the DA and Model D are both permanent packers.

Q Most of the wells in this area, completed in the Eumont, do produce liquids, do they not?

A Yes, sir, they do.

Q But notwithstanding that you feel you can have efficient flow through the casing-tubing annulus?

A Yes, sir, as long as we don't get a great deal of liquids. Of course, if we do and can't prove an efficient flow we will then run the third string, but if it is dry gas, or a high ratio well and we can show that we can have efficient flow through the casing-tubing annulus we would like to produce it that way.

Q How do you determine whether you have efficient flow or not?

A By taking back pressure tests and, if upon taking the back pressure test you show there is no restriction in the flow, that is good proof that you have efficient flow.

MR. PAYNE: Thank you.

BY MR. UTZ:

Q Do you have an opinion on about what GOR you would have to have in order to have this efficient flow? In other words, the breaking point between efficient and non-efficient flow in an effect-

ive diameter of 3.07?

A No, sir. I haven't figured that out. Any figure I would give you would have to be an estimate. I would say that even if we had a well with a ratio of this Weir "B" No. 3, which is 150,000, 200,000 to one, we would certainly have efficient flow in that case. The well only produces approximately two barrels of liquid a day.

Q If you had a flow of less than a million a day, and something like a 50,000 GOR you might possibly have trouble?

A I would think it would all depend upon the volume of gas that we would be producing a day. If you would be producing a million cubic feet a day with a gas-oil ratio of 50,000 to one, you would have more efficient flow than if you were only producing 100,000 with a gas-oil ratio of 50,000 a day. It would all depend on the potential of the well and the amount you could sell, the rate you would be producing the well and the gas-oil ratio determining if you would have efficient flow.

Q You would only have 160 acres dedicated to this well; is that correct?

A Yes, sir, we will.

Q So your allowables won't be too high?

A That is right. We will only have 160 acres dedicated to it.

MR. UTZ: Any other questions?

BY MR. NUTTER:

Q Mr. Robinson, it seems that there are about three or four

Eumont gas wells depicted on your plat, and quite a number of Eumont oil wells. What would the structure look like if you had a structure map drawn here?

A Well, our well No. 4 ran 48 feet high to our well No. 3 --

MR. UTZ: Which 3 is that?

A That is well No. 3 that is located up in the northeast part of the Weir lease.

MR. UTZ: C. H. Weir "B" rather than the Mary Weir "B"?

A That is correct. The structure would be rising to the south.

Q (By Mr. Nutter) How does this Cities Service Eumont oil well compare with your No. 3 well?

A Cities Service AR in Section 2?

Q Yes.

A I don't have the tops on that, Mr. Nutter.

Q What are the ratios of these wells north of your No. 3 well, have you gone into that?

A No. I understand that most of the ratios are high, and some of these wells are penalized wells, but I don't have a tabulation on the ratios of the wells.

Q Your No. 3 well started out with a ratio of 17,000 and went to 157,000 in seven months?

A Yes, sir.

Q Then you worked it over and dropped the ratio to 26,000. What did you do, open a lower zone?

A No, sir. We came up and opened a higher point in this well.

Q You opened a higher zone and lowered the ratio?

A Yes, sir, we did.

Q If that is the case, being 48 feet high to this No. 3 well wouldn't be necessarily assurance you would have a higher ratio well?

A That is true. We don't have any assurance that we will. However, in case that we do have a gas well or a high gas-oil ratio well we would like to have the approval to flow it up the casing-tubing annulus, but if it comes in like our No. 3 as an oil well we would run the tubing string. This is just a proposal that we are requesting in case we do get a gas well.

Q This proposal is in the event you get a gas well?

A Yes, sir, in case we don't we will run the third string of tubing to produce this from.

Q Do you have a log of this well?

A I tried to get a log of the well. The well has been logged. However, we had not received our final prints of it, and we only had a field copy which has been marked up quite a bit, and that was the only one they had in the office.

Q Will you provide the Commission with a log of this well when you get one?

A Yes, sir. We will provide a log, and have all tops and perforations marked on it.

Q Is there any likelihood, Mr. Robinson, of unseating the dual zone flow tube in the DA packer in the event you have to pump the Drinkard?

A No, sir. Let me see if I understand you. You asked if there was any possibility of unseating the flow tube in the DA packer if you pump the lower zone?

Q Yes, sir, in the event you had to seat your pump down below that, or in the event you had to seat a pump in that tubing string to the Drinkard?

A No.

Q You are depending on an adequate seat of the flow tube in the packer to separate the Eumont from the Glorieta?

A Yes, sir, that is correct. However, this flow tube will be latched into the DA packer, and in order to retrieve it, then it must be turned.

Q An up and down motion wouldn't unseat it?

A No, sir. It would be latched in, the same way the flow tube will be latched into the DA packer, and then the short string from which we will be producing the Glorieta will also be latched in.

Q Is this a J-type of a latch?

A Roughly, yes. It has to be turned. It is really not a J-type. It is a thread arrangement that, as you place it in, it latches in, and then in order to release it you have to turn it a quarter around to get it loose.

MR. NUTTER: I believe that is all. Thank you.

BY MR. UTZ:

Q Mr. Robinson, in regard to this third string of tubing, would you believe that a provision in the order written in this case providing for a back pressure test with the four points in proper alignment would be a reasonable test to determine whether or not your string of tubing should be run?

A Yes, sir. I think that would be a reasonable test.

MR. UTZ: Other questions? 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, JUNE PAIGE, 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 31st day of January, 1961.

June Paige
Notary Public - Court Reporter

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EXHIBITS

NUMBER	EXHIBIT	IDENTIFIED	OFFERED	ADMITTED
Ex.#1	Plat	3	8	8
Ex.#2	Diagrammatic Sketch	3	8	8

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2161, heard by me on Jan. 25, 1961.

....., Examiner
New Mexico Oil Conservation Commission