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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 25, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco, Inc., for a
waterflood expansion, Lea County,
New Mexico.

Case 3868

BEFORE: Daniel S. Nutter
Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Case 3868.

MR. HATCH: Case 3868. Application of Texaco, Incorporated, for a waterflood expansion, Lea County, New Mexico.

(Whereupon, Applicant's Exhibits Numbers 1, 2, 3 and 4 were marked for identification.)

MR. KELLY: Booker Kelly, White, Gilbert, Koch and Kelly on behalf of Texaco. I have one witness and ask that he be sworn.

(Witness sworn.)

DALE McCARTER

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

DIRECT EXAMINATION

BY MR. KELLY:

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

A Dale McCarter, District Proration Engineer, Hobbs, New Mexico, employed by Texaco, Incorporated.

Q And you have previously testified before this Commission as an expert petroleum engineer?

A Yes, sir.

Q Were you the witness that testified in the original Case Number 3590 or the pilot waterflood project approval?

A Yes, I was.

Q Would you briefly state what Texaco seeks by this application?

A Texaco seeks approval to expand the Texaco BV Water-flood Project by conversion of its New Mexico BV State NCT-1 Well Number 5 to water injection into the Pennsylvanian section for the Lazy J Penn Field.

The well is located in Unit M of Section 26, Township 13 South, Range 33 East.

MR. NUTTER: Just a minute. Off the record.

(Whereupon, off-the-record discussion was had.)

Q Now, referring to what has been marked as Exhibit Number 1, would you locate the original project area and then the proposed addition?

A The original project area is outlined in blue in Section 26, comprises the Southwest Quarter of the Northwest Quarter and the North Half of the Southwest Quarter of Section 26, Township 13 South, Range 33 East.

The proposed expansion includes that proration unit upon which Well Number 5 is located which is the Southwest Southwest Quarter of that section.

Q And Well Number 5 is the proposed injection well?

A Correct.

Q What was your original anticipated volume injection for the original project?

A Original anticipated volume of water being injected into Number 1, the approved injection well, was approximately 175 barrels of water per day which was the produced water from Texeco's properties at that time.

Q What now is your injection rate?

A Injection rate is currently averaging about 300 barrels of water per day.

Q Referring to what has been marked as Exhibit 2, what type of response have you had, if any, to your production program?

A To date, we have received no response to water injection. You will note that on the exhibit, the exhibit has continued to decline. There is a scale change on that exhibit occurring on the January 1, 1967 date. Water injection commenced in September of 1967 and the oil production has continued to decline.

Q In your opinion, what is the reason for this lack of response?

A We haven't put enough water in the ground yet.

Q What is the amount of water that you feel will be necessary to put in before you would get response?

A You'd have to take into consideration the volume of voidage occurring during primary recovery which, in the area of original project, is approximately 400,000 barrels of oil plus

its associated gas. So we'd have to put in, I imagine, 400,000 before we'd even start to approach fill-up.

Q Now, how long has this project been going?

A Since September of '67.

Q About how long do you think it would take for you to get fill-up?

A I approximate two and a half years.

Q Now, what do you anticipate your injection rate will be on your second well?

A The injection rate, anticipated injection rate on the second well will be around 300 barrels of water per day also.

Q So your two, two and a half year area figure basis is posed on approval therefor to be able to inject into the two wells?

A No. I would say you could expect response in the area two and a half years based on the first well. The second well fitting into the pattern and including the production from that area immediately around it, it would take another two and a half years to, or the same two and a half years to get response on that area or more, because we are about 160,000 barrels of water behind.

Q I see. What is the source of the present water and, also, the source of the water for the proposed injection well?

A The source of the present injection water is the water

produced with the oil from Texaco's properties in the Lazy J Penn Field.

Q So this is serving as a salt water injection --

A Yes, sir, it is.

Q -- project, along with --

A It serves very well as a salt water injection well also. The anticipated injection water for Well Number 5 will be supplied by Skelly Oil Company. We expect them to tie into our salt water disposal system in the very near future and dispose of their water prior to the no-pit order.

MR. NUTTER: That will be produced water also?

THE WITNESS: Yes, sir, from the Penn. It would be around 300 barrels of water per day.

Q What is the present status of the injection well?

A The well is currently shut-in. It has been shut-in since January of 1965.

Q Now, referring to what has been marked as Exhibit Number 3 which is your sketch, would you explain the proposed installation?

A The proposed installation involves running a string of two and seven inch OD internally plastic coated tubing, set on a packer at an estimated 9600 feet and to load the tubing casing annulus with inhibited fluid, installing a pressure valve, pressure gauge into the surface to be sure we have no leaks.

Q Is this the same basic installation as your original injection well?

A It is the same basic installation. The only difference being the original well has two inch nominal OD internally plastic coated tubing.

Q And would you have some kind of pressure gauge on your annulus?

A Yes.

Q This is all salt water, I assume?

A Yes.

Q And the actual characteristics of the water were furnished by an exhibit in the original case, is that correct?

A That's correct. There was an exhibit to that effect.

Q Is there any fresh water in the area that could be endangered by this injection well?

A There is fresh water in the area, the Ogallala Formation which is a portion of the Lea County underground water basin. However, the casing and the cementing program on the surface and intermediate string precludes any damage to that formation.

Q What pressures, if any, would you inject this water into?

A Initially, we expected it to be injected on a vacuum, then we found it to be the case on the original well.

Q You don't expect this well to have any trouble taking

the amount of water that you anticipate?

A No, sir, I do not.

Q Now, Exhibit Number 4 is a log of the well, is that right?

A That's correct.

Q In your opinion, would the granting of this application have any adverse effect on the correlative rights of any other operators in the area?

A I do not think so. No, sir.

Q Referring back to Exhibit Number 1 and to the correspondence with -- What's the name of it?

A Elco Oil Company.

Q Elco Oil Company. Are there any producing wells -- First, where is the acreage that this man has?

A According to his letter, it does not show on the map that is prepared under my supervision because the information was not available. He owns all of Section 27, the mineral interest, which is immediately west and adjacent to the proposed and the current project area.

Q Are there any producing wells on 27?

A There are no producing wells, currently, in that section.

Q All those wells are --

A All the wells that have been completed in the Lazy J Penn in that section have been abandoned. There are no wells

immediately offset to Texaco's acreage in that section.

Q Now, did the original mineral owner at the time of the original hearing have notification or enter into this original case at all?

A Yes, sir, he did. He furnished a waiver of objection. That was the Ralph Lowe Estate at the time of the original hearing.

Q Were Exhibits 1 through 4 prepared by you or under your supervision?

A Yes, sir, they were.

MR. KELLY: I move the introduction of Texaco Exhibits 1 through 4 at this time.

MR. NUTTER: Texaco's Exhibits 1 through 4 will be admitted in evidence.

MR. KELLY: That's all we have on direct.

(Whereupon, Applicant's Exhibits 1 through 4 admitted in evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. McCarter, you have been injecting approximately 300 barrels of water per day into the Number 1. How much water has been injected to date?

A Approximately 160,000 barrels of water.

Q So you've got less than half of the required amount to achieve fill-up then, correct?

A Yes, sir.

Q And you'd anticipate for the down southwardly producing wells, you'd have to inject approximately the same amount as Number 5?

A Yes, sir, I do.

Q The water is being injected in Number 1 and will be injected in Number 2 in the same producing interval as Numbers 2 and 3 are completed, isn't that right?

A Yes, sir, they are.

MR. NUTTER: Are there any further questions of Mr. McCarter? He may be excused. Do you have anything further, Mr. Kelly?

MR. KELLY: Nothing further.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3868? We'll take the case under advisement.

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