

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
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SANTA FE, N. M.  
PHONE 983-3971

ALBUQUERQUE, N. M.  
PHONE 243-6691

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 10, 1963

EXAMINER HEARING

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IN THE MATTER OF: )

Application of John H. Trigg Company for three )  
water injection wells, Chaves County, New Mexi- )  
co. Applicant, in the above-styled cause, )  
seeks authority to convert its Federal Trigg ) Case 2781  
Wells Nos. 17-9, 26-9, and 28-9, located in )  
Units N, L, and D respectively, Section 9, )  
Township 14 South, Range 31 East, Caprock- )  
Queen Pool, Chaves County, New Mexico, to )  
water injection off-setting Phillips Petroleum )  
Company's West Caprock waterflood project. )

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BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will call next Case 2781.

MR. DURETTE: Application of John H. Trigg Company  
for three water injection wells, Chaves County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox, rep-  
resenting the applicant. I would like to have the witness sworn,  
please.

(Witness sworn.)

JACK R. MCGRAW

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



DIRECT EXAMINATIONBY MR. KELLAHIN:

Q Would you state your name, please?

A Jack McGraw.

Q By whom are you employed and in what position?

A By Mr. John H. Trigg, as a reservoir and production engineer.

Q Mr. McGraw, have you ever testified before the Oil Conservation Commission?

A No, sir, I have not.

Q For the benefit of the Examiner, would you outline briefly your educational background and your experience as a petroleum engineer?

A I was graduated from the University of Texas in 1959 with a B. S. in petroleum engineering. My first employment was with the Dow Chemical Company in Artesia, New Mexico. I worked there for one year in an engineering capacity. I took the job that I now hold with Mr. Trigg in June, '60. I've been employed as a production and reservoir engineer for the past three years.

Q That's with John Trigg?

A Yes, sir.

Q What area do you work in?

A I work in this area, mainly in the Caprock-Queen Field

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on this waterflood project.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, they are.

Q Mr. McGraw, are you familiar with the application of John H. Trigg in Case 2781?

A Yes, sir.

Q Would you state briefly what's proposed by Mr. Trigg in this case?

A We propose to convert three wells to water injection in order to protect the correlative rights.

Q Do you have a plat showing the area involved here?

A Yes.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q Referring to what has been marked as Exhibit No. 1, will you identify that exhibit and state what's shown thereon?

A All right. The John H. Trigg Federal Trigg lease is outlined in yellow. The Cities Service Dricky-Queen Unit is outlined in red; the Phillips Petroleum West Cap-Queen Unit is outlined in black, portions of it. This plat is a portion of the Caprock-Queen Field, Chaves County, New Mexico, portions of Township 13, 14 South, Range 31 East.



The wells in question are the Wells No. 17, 26 and 28 in Section 9 of 14, 31. They are indicated by a broken circle colored with yellow. The broken circle to the Southwest, enclosing the wells that have this broken circle, indicate presently approved injection wells. They are not on injection wells, but they have been approved by the O.C.C. The wells to the Northeast with the penciled circle around, they are present injection wells. The wells indicated by a dot are present producing wells.

Q The John H. Trigg presently has a waterflood project going on their Federal Trigg lease, is that correct?

A That's right.

Q And the acreage is offset directly by the Phillips West Cap-Queen Unit and the Cities Service Dricky-Queen Unit?

A That's right.

Q They are both under waterflood, are they?

A The Phillips Unit is in the process of injecting water now. They are not presently injecting any water, but they will be in the next week or so.

Q The three subject wells are not on pattern of the present injection program, is that correct?

A Yes, these three wells, they follow the pattern.

Q What occasions this application to the Commission at this time?

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A Well, the approval of the 17 injection wells in the West Caprock for Phillips causes us to have to get approval for these three wells.

Q Does the approval of three injection wells for Cities Service have anything to do with it, too?

A Yes, we have a line agreement with Cities Service in this same area, and we've agreed to put these wells on.

Q Do you have a line agreement with Phillips?

A Yes, we do.

Q Is all the acreage Federal, State or fee?

A All of our acreage is Federal.

Q Do you have the approval of the United States Geological Survey for putting these wells on injection?

A Yes, we do, subject to Oil Conservation Commission approval.

Q Has this application been submitted to the office of the State Engineer?

A Yes, and we have a letter approving that.

Q In your opinion as a petroleum engineer, is the approval of these wells for water injection essential to protect the correlative rights of John H. Trigg Company?

A Yes, sir, very definitely so.

Q Was Exhibit No. 1 prepared by you or under your



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supervision?

A Yes, sir.

MR. KELLAHIN: At this time I would like to offer in evidence Exhibit No. 1.

MR. NUTTER: Exhibit No. 1 will be admitted in evidence.

MR. KELLAHIN: That completes the direct examination of the witness.

MR. NUTTER: Any questions of Mr. McGraw?

CROSS EXAMINATION

BY MR. NUTTER:

Q This waterflood that is operated by John Trigg is of the capacity allowable type, is it not?

A Yes, sir.

Q You have circled Well No. 29 there in Unit M of Section 4 with a pencil?

A Yes.

Q That well is on water injection?

A It was one of the original wells put on in order to stop oil migration into the gas-cap area. Wells No. 29, 34, 35 and 36 were drilled for that purpose, in order to build a water barrier between our oil zone and our gas cap.

Q Would 34 and 36 also be injection wells, then?



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A 34 and 36 have already been plugged. We have moved in with the injection almost a half a million barrels of water in those wells. When we put Well No. 30, which is to the East of 34, we put it on injection in order to comply with the pattern of the field, we plugged the 34. We put Well No. 32 on injection, we plugged 36.

Q So both of those were used to saturate the gas cap and then when that was completed, you plugged?

A Yes, sir.

Q No. 35 is still on injection?

A It's still on its pattern well.

Q So, of the wells that are used for injection at the present time, 29 is the only one off pattern?

A It's still on and we will most likely plug it when we put 28 on.

Q Has Well No. 20 in Unit C of Section 9 received any response from the water injection program to date?

A Only to water. It has broken through to water. It was a gas well to begin with. It had no primary production history of much, if any.

Q No. 20?

A No. 20, yes, sir.

Q Did No. 28 have any primary production history?



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A Yes, sir, 28 produced 2,273 barrels primary.

Q Has 28 received any response as yet to the water injection in Well No. 29?

A No, sir, it has not.

Q When was Well No. 19 put on injection?

A Well No. 19 was put on injection in June of '61, approximately.

Q Have wells 27 or 18 received any response from it?

A Well No. 18 has not received any and neither has 27.

Q When was Well No. 10 put on injection, Mr. McGraw?

A Soon after 19. We only have approximately 50,000 barrels of water in 19, 10 and Well No. 2 on down in the corner. Those wells are extremely tight. They take water very slowly compared to the rest of the field.

Q Do you anticipate that 26 and 17 will be more or less of the same nature?

A No, sir, we feel that they'll be better wells. They were better primary wells, they're in a little better portion of the field as far as the reservoir is concerned.

Q Does the line agreement that you have with Phillips in operating their unit to the West stipulate the amount of water that's going to be injected into the wells?

A It stipulates that we will balance it. In other words,



if they're able to get in 400 barrels a day, then we will try to inject that amount. If they are not able to inject that amount, then we won't. In other words, it will be balanced across the line.

Q You expect that Phillips will have their wells on injection within a week?

A Possibly longer on their wells offsetting us. They're putting them on as fast as they can, it might be a little longer before they get out to that area, but they will go on just as soon as they can.

Q When do you expect to convert these three wells that is the subject of this hearing?

A We expect to convert them just as soon as Phillips converts their well.

MR. NUTTER: Are there any other questions of Mr. McGraw?

MR. NUTTER: Mr. Irby.

BY MR. IRBY:

Q I don't believe there's anything in the record concerning the casing program on this well or the matter of injection. Would you like me to ask questions?

MR. KELLAHIN: The casing program was attached as an exhibit to the application. We will be happy to have you ask any



questions that you wish.

A Yes, it was attached.

MR. IRBY: Do you have a copy of that with you that I could look at?

MR. DURETTE: Here's the one from the file.

MR. NUTTER: That is the casing program for all three wells?

A Yes, sir. It's a general form that we use for this field. It varies a little bit, some wells have four and a half casing, one of these wells has four and a half casing set through the pay and perforated, the other two are open hole completions with five and a half casing set above the pay and cemented with 100 sacks of regular Neet cement. We intend to inject through cement-lined tubing with packer set approximately 200 feet below the calculated cement top. This will be a tension-type packer.

MR. NUTTER: All three wells will have injection down tubing under a packer?

A That's right.

MR. IRBY: That's all I need, thank you.

MR. NUTTER: Did you have any questions, Mr. Irby?

MR. IRBY: No, nothing further.

MR. NUTTER: If there's no further questions of Mr.



