

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 1, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil Company for an amendment of Order No. R-2385, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2385 to substitute for water injection purposes a well located in Unit H of Section 9, Township 17 South, Range 29 East, Eddy County, New Mexico, for the presently authorized well in Unit I of said Section 9.

Case No. 3074

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

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MR. UTZ: Case 3074.

MR. DURRETT: Application of Continental Oil Company for an amendment of Order No. R-2385, Eddy County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox, Santa Fe, representing the Applicant. I have one witness I would like to have sworn, please.

(Witness sworn.)

MR. UTZ: Are there other appearances in this case? Proceed, Mr. Kellahin.

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

V. T. LYON

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A V. T. Lyon.

Q By whom are you employed and in what position?

A Employed by Continental Oil Company as senior engineer located in the Hobbs District Office, Hobbs, New Mexico.

Q Have you ever testified before the Oil Conservation Commission and made your qualifications a matter of record?

A Yes, sir.

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MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. UTZ: Yes, sir, they are.

Q (By Mr. Kellahin) Are you familiar with the application of Continental Oil Company in Case 3074?

A Yes, sir.

Q Would you state briefly what's proposed by Continental in connection with this case?

A Case 3074 is the application of Continental Oil Company for authority to substitute Cave Pool Unit Well No. 45 as an injection well in place of Cave Pool Unit Well No. 46.

Q And the original authority to institute a waterflood in the Cave Pool Unit was authorized by Order No. R-2385 in Case 2703, was it not?

A Yes, sir.

Q Did that order make any provision for administrative approval for changing injection wells?

A Unfortunately, it did not.

MR. KELLAHIN: At this time we would like to ask the Examiner to take notice of the testimony in Case 2703 in so far as it pertains to this application.

MR. UTZ: We will so do.

Q (By Mr. Kellahin) Referring to what has been marked as Exhibit No. 1, would you identify that exhibit and discuss the information shown on it?



A Yes, sir. Exhibit No. 1 is a location and ownership plat showing the boundaries of the Cave Pool Unit, the location and designation of the wells, the injection wells being shown by a triangle inscribed around the well; and the producing wells by the conventional producing well symbol.

Well No. 46, which is presently an injection well, is shown with a green circle, and proposed to be used hereafter as a producing well. Well No. 45, which is presently a producing well, is shown with a red triangle inscribed around it as an injection well.

Q Now referring to what has been marked as Exhibit No. 2, would you identify that exhibit and discuss the information shown on it?

A Exhibit No. 2 is a schematic diagram of Cave Pool Unit Well No. 45 showing the depth and size of casing, the amount of cement used in setting the casing, the perforated interval, and the amount of tubing, which is merely a stub used at the surface of the well.

Q Was this information submitted to the Office of the State Engineer, Mr. Lyon?

A Yes, sir, it was.

Q As far as you know, it has been approved by the State Engineer, is that correct?

A Yes, sir. We have a letter from the State Engineer



indicating his approval, subject to testing the well and the casing therein at a pressure of 2,000 pounds per square inch, and on the condition that injection pressure does not exceed 1500 pounds per square inch.

Q But the casing will be tested to 2,000 pounds, is that correct?

A Yes, sir.

Q Injection will be through the casing?

A Yes, sir.

Q Referring to what has been marked as Exhibit No. 3, would you identify that exhibit and discuss the information on it?

A Exhibit No. 3 is the well data sheet which on the left hand side has a copy of a portion of the gamma ray neutron log run on Cave Pool Unit Well No. 45. The top of the Premier sand is shown by the red line; the perforated interval is shown by the conventional symbol from 2420 to 2434.

On the right hand side of the exhibit is data concerning the initial completion, test data, casing, and other pertinent data in regard to the well.

Q Why does Continental desire to change injection wells at this time?

A Our original plan of operation was to make Well No. 46 an injection well for the purpose of recovering any recoverable oil



in the thumb, or this projection of the Unit area lying between Well No. 46 and Well No. 45. Well No. 46 originally was a dry hole, but it was our opinion that there may be recoverable oil between there which could be recovered only by injection into Well No. 46.

Injection into the Cave Pool Unit began in October of 1963. The first water injection into Well No. 46 occurred in December of '63 and in the six-month period from December through May of 1964, we have succeeded in injecting a total of 959 barrels at a pressure as high as 1320 pounds into Well No. 46.

It has become obvious that further injection into the well will serve no purpose to the Unit. In our original plan, as soon as water breakthrough occurred in Well No. 45, we would then convert Well No. 45 to an injection well. As you can see on Exhibit No. 1, Well No. 45 conforms to the alternate well injection pattern with the rest of the Unit.

Since we have been unsuccessful in injecting satisfactory quantities of water into Well No. 46, we desire at this time to convert Well No. 45 into an injection well in conformance with the remainder of the injection pattern.

Q In other words, the Well No. 45 location conforms to the rest of the pattern in the Unit, is that what you are saying?

A Yes.

Q What do you intend to do then with Well No. 46?



A Well No. 46 will be observed, and if there is any indication of oil accumulation in the well bore it will be put on production.

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

A Yes, sir.

MR. KELLAHIN: At this time I would like to offer in evidence Exhibits 1, 2, and 3.

MR. UTZ: Without objection, Exhibits 1, 2, and 3 will be entered into the record of this case.

(Whereupon, Applicant's Exhibits Nos. 1, 2, and 3 received in evidence.)

MR. KELLAHIN: That's all I have on direct examination.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Lyon, when was Well No. 45 completed?

A It was originally completed May 3rd, 1957.

Q Was that new casing, the seven-inch new casing at that time?

A I don't have that information available right here, but I can secure it for you. To my knowledge, it was new, but I'm not certain.

Q At any rate, it will be tested to 2,000 pounds?

A Yes, sir.



Q Are the other injection wells in this Unit injecting through casing?

A Yes, sir, I believe all of them are.

Q The Well No. 45 is listed in Order R-2385 as at Site U-984, is that correct?

A I believe that's correct.

MR. UTZ: Are there any other questions of the witness?

BY MR. NUTTER:

Q The original order authorizing this project contains some provisions for testing the casing, or something of that nature, prior to putting the wells on?

A I believe that's correct.

Q Were all those wells tested in accordance with the provisions of that order?

A I'm not certain that they were. This information was given to our field personnel, and I have confidence that they did this, but I do not, of my own certain knowledge, know that they did.

Q If you don't know that, you don't know how the casing withstood the tests or whether any additional repairs were necessary to the casing?

A No, sir.

Q You are proposing on this well to test it to 2,000 pounds prior to putting it on injection?



A Yes, sir.

Q I wonder if you could find out when you get home how these tests on these wells ran; that is, to let us know whether any casing failures occurred during the casing test program and what repairs were necessary, if any.

A Yes, sir, I can do that.

Q Has the State Engineer's Office agreed to the conversion of this well in this manner, as indicated on your Exhibit No. 2?

A Yes, sir. We have a letter here which I believe that the original copy went to the Conservation Commission. This is dated June 2nd, 1964, addressed to Mr. A. L. Porter, Jr., Secretary-Director of the Oil Conservation Commission, in Santa Fe.

Q And he agrees to the use of your Unit Well No. 45 for water injection by means of injection through the casing, is that correct?

A Well, we submitted copies of the exhibits which I've introduced today with our application to the State Engineer, and his statement in the letter says: "This office offers no objection to the granting of the application, provided that the injection pressure does not exceed 1500 psi; casing in all wells be tested to 2,000 psi before injection commences; and injection into all wells that will not withstand 2,000 psi be accomplished through tubing under a packer set well below the top of the cement surrounding casing."



MR. NUTTER: Thank you.

MR. DURRETT: Would you let him mark that letter and give us a copy for our file?

(Whereupon, Applicant's Exhibit No. 4 marked for identification.)

MR. KELLAHIN: We will at this time offer Exhibit No. 4, being a copy of the letter from the State Engineer.

MR. UTZ: I'll accept that for the record.

(Whereupon, Applicant's Exhibit No. 4 received in evidence.)

MR. UTZ: Mr. Durrett.

BY MR. DURRETT:

Q Mr. Lyon, I was wondering what the reason was that you couldn't come under Rule 701 under administrative procedures for this well. Was it because it hasn't received a response?

A There has been no response in this area.

Q That's the reason you had to come to a hearing, rather than an administrative procedure?

A We are not certain why it was necessary to have a hearing, except that the order did not specifically provide for additional wells or changing injection wells. The order numbered specifically those wells which were injection wells and provided no administrative procedure for substitutions or changes.

Q Along this same line of thought now, you don't contemplate this same problem occurring again where you have to change to

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another well or put on an additional injection well where you couldn't come under Rule 701, do you?

A We do have a situation coming up in the near future where the Unit area is being expanded and this is to include 120 acres of General American's Green B Lease in Sections 5 and 7. Two of these wells will be injection wells, and since the original order did not provide authority for administrative approval, it apparently will be necessary to have hearings on those wells. If we could avoid that, I'd be very happy.

BY MR. NUTTER:

Q The No. 4 Well in Section 7, is it going to be included in the Unit later?

A Yes, sir.

Q Will it be an injection well?

A Yes, sir.

Q I presume the No. 7 Well in Section 5 will be an injection well?

A That's correct.

BY MR. DURRETT:

Q Would I be correct in stating this, that it would be your desire, if your Commission felt it was within the call of this hearing and advisable, to establish an administrative procedure as part of an amendment to this order, whereby you could convert additional wells to injection?

Record of the proceedings in
the Examiner hearing of Case No. 3074,
heard by me on July 1, 1964.
Shirley J. ..., Examiner
New Mexico Oil Conservation Commission

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