

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 16, 1975

EXAMINER HEARING

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IN THE MATTER OF:)
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Case 5219 being reopened pursuant
to the provisions of Order No.
R-4784, which order established
temporary special pool rules for
the South Empire-Wolfcamp Pool,
Eddy County, New Mexico, including
a provision for 80-acre spacing.

CASE NO. 5219

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

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Commission
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For the Applicant:

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MR. NUTTER: Case 5219.

MR. CARR: Case 5219. In the matter of Case 5219 being reopened pursuant to the provisions of Order No. R-4784, which order established temporary special pool rules for the South Emoire-Wolfcamp Pool, Eddy County, New Mexico, including a provision for 80-acre spacing.

MR. KELLY: Booker Kelly of White, Koch, Kelly and McCarthy, Santa Fe, New Mexico, on behalf of the Applicant. We have one witness and ask that he be sworn.

(Witness sworn.)

DANIEL R. CURRENS

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you please state your full name, by whom employed and in what capacity?

A Daniel R. Currens, Senior Staff Engineer, Amoco Production Company.

Q Have you previously been qualified as an expert witness in the field of petroleum engineering before this Commission?

A Yes, sir, I have.

Q Referring to Exhibit No. 1, would you bring the Examiner up to date? First, we might give him a brief history of this pool and then bring him up-to-date on what has happened since the last hearing.

A All right, sir. Exhibit No. 1 is a map showing structural contours on a Wolfcamp marker. This is a marker in the Wolfcamp and it is a marker that we have found to be associated with the pay in our Wolfcamp discovery in this area. Shown on the map in a yellow outline is the Empire South Deep Unit and further shown on the map is a red circle. It is Empire South Deep Unit Well No. 4 which is the discovery well for the pool that is the subject of this Hearing today. That well is located in Unit G of Section 32, Township 17 South, Range 29 East in Eddy County, New Mexico.

The other symbols that are shown on the map are other wells that have been drilled through the Wolfcamp in the area. Primarily, they are Morrow-gas completions or Morrow-gas tests that were drilled deeper and divide the structural control. You will note that the control doesn't really extend down to the southeast. Most of the wells that have been drilled are just pretty well on a southwest-northeast trend. Now, the only producer that we have in the South Empire-Wolfcamp pool is the Well No. 4.

There was one other Wolfcamp producer very briefly in the area and that is Well No. 3 that is shown in Section 31. This well had a completion attempt in the Wolfcamp. It produced about 3000 barrels and was plugged and abandoned.

I believe that is about all I have to say with respect to Exhibit 1, except that this is some sort of structural trap. I don't really see our production right now associated with anything other than a porosity permeability developed trend.

Q What is the proration unit assigned to, your Well No. 4?

A It would be the west half of the northeast quarter of Section 32, 80 acres.

Q Going on to Exhibit No. 2, would you explain the significance of that?

A Exhibit 2 is a performance curve that we had on our Well No. 4 from discovery to this point. The well was completed in May of 1974 through perforations from 8449 to 8522 and a potential flowing 303 barrels of oil with no water, a 1380 gas-oil ratio, 46-degree gravity crude on a 24-hour test.

Now, the production that is plotted here for oil, you will note was fairly constant for several months at

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around 350 barrels a day. This well has a basic allowable of 310 barrels of oil a day, plus a discovery bonus allowable of 58 barrels a day for a total of 368. Then the well started on decline and declined from those rates, around 350 barrels a day all the way down to 115 barrels a day in January. We went in to see if depletion had taken place or just what and discovered that we had some parafin problems in our tubing. We cut the parafin and the well has come back very very nicely, such that it is now capable of producing -- well, in February, about 400 barrels a day and the March production averaged 417, but I will tell you that that is not corrected yet for temperature corrections, B. S. and W.

You will note in the upper curve that the gas-oil ratio, even though it is a very short period, indicates that it is fairly constant. It is about 1200-cubic feet per barrel now. It was -- the potential test showed 1380 to 1 for a gas-oil ratio, so we still seem to be above the bubble point. Cumulative production is about 100,000 barrels.

I mentioned the bottomhole pressure, and I think that has significance here too. The initial bottomhole pressure taken in 1974 was 3691 PSI and the pressure taken

in March of '75 with the same datum was 2776, so we have had a 915 PSI loss in that 10 or 11 months.

MR. NUTTER: When was that first pressure measured?

THE WITNESS: I have that on 4/1/74 is the date I have it. Amoco was not the operator at that time. I think that is a good --

MR. NUTTER: (Interrupting) That first pressure was April 1st of '74 and the second one was March what?

THE WITNESS: March the 8th of '75, with a 915 pound decline in pressure during that time. As I say, we still seem to be above the bubble point, so I think performance data indicates that we have a good drainage radius here, that one well is capable of draining a significant area and that certainly 80-acre rules seem to be justified for continuous performance.

BY MR. KELLY:

Q Do you feel there is any evidence that this rate of withdrawal on 80-acre spacing is affecting the reservoir in any adverse way at all?

A No, I don't see that at all. I don't believe that rate is too high by any means.

Q Do you expect there will be additional drilling?

A We are certainly looking at it very closely right

now, if we can find another good spot there.

Q Would you recommend that the temporary rules be made permanent at this time?

A Yes, sir, I would.

Q Do you see that the making permanent of these rules would have any adverse effect on correlative rights?

A No, sir. I believe correlative rights are very well protected in here. This Wolfcamp is in a participating area that consists of Section 32 as well as the southwest quarter of Section 33.

Q And the drilling of wells on a 40-acre spacing would be unnecessary expense, I assume, in this situation?

A It does not appear necessary at this time. Of course, the existing rule does provide that wells can be drilled on both 40-acre tracts, and if it were necessary, it would be covered under these 80-acre rules.

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

A Yes, they were.

MR. KELLY: We move the introduction of Amoco's Exhibits 1 and 2.

MR. NUTTER: Amoco's Exhibits 1 and 2 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 and 2 were marked for identification, and were offered and admitted into evidence.)

MR. KELLY: That completes our direct examination.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Currens, you mentioned that this Well No. 3 in Section 31 had produced 3000 barrels from the Wolfcamp and then we've got your Well No. 4 which we are talking about here today. Has there been any other test of the Wolfcamp made anywhere in this area?

A In this area there were drill stem tests run by the former operator of this unit on Well No. 1, which is located in Section 6, and that drill-stem test recovered 1000 feet of oil and approximately 7000 feet of heavy gas-cut mud. There was no completion attempt made. Well No. 2, which is just south of Well No. 1 and also in Section 6 had a drill-stem test in the Wolfcamp that recovered 675 feet of oil and 100 feet of heavy oil and gas-cut mud, and again, no completion attempt was made. Other than that, I don't know of any tests that have been made of the Wolfcamp in the area. Log evaluation certainly has been made of them, particularly in the Tenneco Well in

Section 33 which is near this well. It didn't appear to have a developed porosity zone.

Q Okay, now, you've got the one well which has been producing since early 1974. Does Amoco have any plans for any "further drilling in the Wolfcamp formation in this area?

A We are looking at it very closely right now. We acquired the operation of this unit last summer, along with a number of other properties that Mid-West had operated and, just frankly, we haven't gotten through all of them to the extent we would like to yet, but we have just gotten pressure information and discovered what our mechanical problem was on this well and we are looking for another location right now.

Q Now, there are a number of Morrow wells here. Do you have any plans for any additional development in the Morrow formation?

A I believe our plan of development for this year calls for at least three additional Morrow wells.

Q And this will give you an opportunity to look at the Wolfcamp formation?

A It certainly will. No. 4 was originally a Morrow test and it was dry in the Morrow, and we found the Wolfcamp.

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Q So, you have prospects for at least three additional looks at the Wolfcamp formation?

A We sure do.

Q Now, at the original Hearing of Case No. 5219, Exhibit No. 5 gave some formation and reservoir data. Have you examined this case file in the original?

A I had an opportunity to look through it briefly, but I haven't had a chance to study it and, unfortunately, I have not found those exhibits in the file that we took over from Mid-West.

Q So, you don't know whether you concur with the information that is in here or not?

A No, sir, I don't.

MR. NUTTER: Are there any further questions of Mr. Currens?

MR. KELLY: Nothing further.

MR. NUTTER: He may be excused.

(Witness dismissed.)

MR. NUTTER: Do you have anything further, Mr. Kelly?

MR. KELLY: No, sir, I do not.

MR. NUTTER: Does anyone have anything they wish to offer in Case No. 5219? If not, we will take the case under advisement.

