



dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 22, 1968

EXAMINER HEARING

IN THE MATTER OF:)

Application of Pennzoil Company)
for special pool rules, Lea)
County, New Mexico.)

Case No. 3771

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Case 3771.

MR. HATCH: Application of Pennzoil Company for special pool rules, Lea County, New Mexico.

MR. DURRETT: J. M. Durrett, appearing for the applicant. I have one witness, Mr. Charles Brown. May the record show that he has been sworn in the prior case and is still under oath in this case?

MR. NUTTER: The record will so show.

CHARLES A. BROWN

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

DIRECT EXAMINATION

BY MR. DURRETT:

Q You are the same Mr. Brown that testified before the Commission in Case 3751?

A Yes.

Q Will you once again state your position with Pennzoil Company?

A I am production manager of the Western Division for Pennzoil United.

Q Briefly, what is it that Pennzoil is seeking in this case, Case 3771?

A We're seeking promulgation of special pool rules

for the South Corbin-Wolfcamp Oil Pool, Lea County, New Mexico.

Q Will those rules that you call for provide for the promulgation of special pool rules for the South Corbin-Wolfcamp Oil Pool, Lea County, New Mexico?

A They do.

(Whereupon, Exhibits 1 through 6 were marked for identification.)

Q Do you have a plat of the area, which I believe is Exhibit 1?

A Yes. Exhibit 1 is a plat of the area.

Q Please refer to Exhibit No. 1 and state what that represents.

A This is a plat showing the location of the three wells that have been completed as Wolfcamp producers in the South Corbin-Wolfcamp field. It shows the offsetting acreage, the names of the operators and also their addresses.

Q Which three wells is it, now, that are the Wolfcamp wells?

A They have all been designated in some way with red color. The first well in the field was the Aztec Federal "MA" No. 2 which is in the Southeast of Section 21. The second well was the Aztec Federal "PA" No. 1 which is in the

Southeast of Section 20, and then our Hudson Federal "29" No. 1, which is in the Northeast of 29.

Q And Pennzoil is the owner and operator of that well in Section 29, is that correct?

A Right.

Q What are the characteristics of the Wolfcamp?

A The Wolfcamp is a thick-bedded limestone having very low structural relief in our area. It contains several zones of porosity, the areal extent of which is yet to be determined.

Q Will you go now to your Exhibit No. 2, which is a cross section?

A Exhibit No. 2 is a cross section which was shown on the Exhibit 1 as A-A¹. It is a north-south cross section through Pennzoil's Hudson Federal "29" No. 1 and the Aztec Federal "PA" No. 1. It shows that the Wolfcamp is, in fact, a low relief type reservoir. It shows the intervals that were tested during the drilling phase of both wells. It shows the intervals that have been perforated within the Wolfcamp. I believe that's the pertinent information that's shown on it.

Q It shows drillstem test data, too?

A Right.

Q Now, what about vertical communication, have you been able to determine anything about that?

A We don't have sufficient knowledge of this reservoir to say to what extent vertical communication might exist between the various zones of porosity. It might be significant to point out that the initial shut-in pressure on drillstem test, one of the drillstem tests in our well was 221 pounds lower than the shut-in pressure on the Aztec "PA" No. 1.

Q So you would feel that this might show some communication?

A I think it might be indicative of some vertical communication.

Q You don't have any other information at this time which you would feel would show that?

A No, I do not.

Q Do you have an exhibit now that shows some reservoir data? I believe that's Exhibit 3.

A Let's see, Exhibit No. 3 presents such reservoir data as we have. The porosity and water saturation values were taken from the logs, the permeability was determined from drillstem test results, and the formation volume factor and the recovery factor are based on historical data for the Wolfcamp in this general area.

Q Did you run any core on your well?

A We did not.

Q Have any of the other wells been cored, the other two wells?

A Not to my knowledge.

Q Let's go now to your production data, which is Exhibit No. 4. What does that show?

A That is a tabulation of the production by months from each of the three wells in the field, in the pool. The first production was from the "MA", the Aztec Federal "MA" No. 1, which started in August of 1967.

Q You mean No. 2?

A I mean No. 2, excuse me. "MA" No. 2.

Q Would you say that these wells are inclined to decline fairly rapidly?

A There is some evidence of that based on the performance of the wells today.

Q And that exhibit shows a cumulative to May 1?

A Right, of 29,304 barrels.

Q Your well has only been on nineteen days as of the date of this?

A As of the preparation of this exhibit.

Q When was that, about?

A Well, that was nineteen days in the month, in April.

Q In April?

A Yes.

Q Let's go to the bottomhole pressure data, which is Exhibit No. 5.

A Exhibit No. 5 shows the bottomhole pressure data which is available on the wells in the field. The bulk of this data was derived from drillstem test results. There is some question that adequate time elapsed after the wells were shut-in prior to the pressure determination.

Q But this is the best information you have available?

A This is the best information available.

Q Do you have some economics which you have calculated?

A Exhibit 6 is intended to show the economics for a given 160-acre tract in the South Corbin-Wolfcamp Pool. We have attempted to show the economics in regard, reflecting different well densities that might possibly be utilized in developing the remainder of the pool. The higher well density would be expected to effect a somewhat greater recovery from the tract, and on our exhibit we show that for 40-acre spacing our recoverable oil would be greater.

Q You show a net loss on 40 acres --

A Yes, based on volumetric calculation, the recoverable

oil on a 160-acre tract developed on 40-acre spacing would result in a net loss of \$328,600.00. If that same tract were developed on 80-acre spacing, the net profit would be very modest. Whereas one well on 160 acres would result in somewhat better net profit.

Q Have you calculated a profit to investment ratio, it doesn't show on the exhibit, did you calculate those figures?

A I do have something for that. On the 40-acre spacing the figure would be 41.1 percent loss. For 80-acre spacing we could expect a 16 percent profit, and for 160-acre spacing, 118.9 percent profit.

Q So that would give you a ratio on the 80 --

A Two spacings, that would result in a profit; on the 80 acres, the ratio would be 1.6 to one and for 160, 1.189 to one.

Q Have you contacted the other operators in the pool concerning this proposal for 160-acre spacing?

A We have.

Q What are the results of that?

A All are in favor of the suggested pool rules.

MR. HATCH: Here is a letter from Robert Enfield in support and a letter from Mobil in support of the application.

There's one from Aztec over there.

MR. NUTTER: Aztec doesn't make any mention of the pool rules. Mobil's letter doesn't say anything about the pool rules. Enfield's is a combination letter. Hudson and Hudson say nothing of the pool rules, nor does Aztec, nor Atlantic.

MR. DURRETT: We do have additional letters, we will furnish them to the Commission.

MR. HATCH: We do have the one from Robert Enfield and Mobil.

Q (By Mr. Durrett) You have contacted all the operators and they have all stated they would support you, is that correct?

A Yes.

Q I realize that you don't have a great deal of information available about this pool, but let me ask you if it is your opinion, based on the information that you do have available to you, that one well will efficiently and economically drain and develop 160 acres in this pool?

A I do.

Q You feel that 160-acre spacing would be the most orderly development for the pool?

A I do.

MR. DURRETT: If the Examiner please, I would at this time move the introduction of Exhibits 1 through 6 and that will conclude my direct examination.

MR. NUTTER: Applicant's Exhibits 1 through 6 will be admitted in evidence.

(Whereupon, Exhibits 1 through 6 were offered and admitted in evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q What is the story here on the two Aztec wells, they have declined drastically in their productivity? Are the wells on artificial lift, do you know?

A I am not quite sure about that Federal "MA" No. 2. I know that the "PA" No. 1 is still producing by flowing.

Q And it has declined from 6400 barrels last November, I guess, it is down to 474 barrels in April, but they haven't put artificial lift on there yet, so you don't know what the effect would be if they pumped these wells, do you?

A No, sir, I don't.

Q Now, your well came in, in the previous hearing you said three hundred some --

A 340 barrels, as I recall.

Q Have you had a recent test on the well?

A We don't have anything that reflects capacity of the well. We have been producing it.

Q Do you know if it is making as much oil as it was making, or not?

A Well,--

Q If it has declined yet?

A We have seen some decline in bottomhole pressure but we've seen very little decline in our producing rate.

Q Well, I was just wondering, by comparing your Exhibit No. 4 with your Exhibit No. 6, if maybe the economics that you show here for 40, 80 and 160 might be pretty optimistic even for any spacing here.

A Well, we would certainly agree that that interpretation might be made. We feel, however, that we lack sufficient knowledge of this reservoir, really, to evaluate it.

Q And from the oil that has been produced here from these Aztec wells, compared with the porosity, the feet of net pay, recovery factor, the formation volume factor and so forth, you don't have a barrels per acre for it, it would appear to me that maybe these Aztec wells are not draining ten acres, much less 160. It looks like they've almost disappeared from the production scene.

A It's true that they have experienced some decline,

certainly that "PA" No. 1 from natural flow, as you pointed out awhile ago, we don't know what it might do on artificial lift.

Q Do you know if they have plans to put pumps on these wells or not?

A I know they have considered it. Whether or not they have made a definite plan to install pumps, I can't say.

Q I note that you do predict this is a solution gas drive. Do you know if their wells are making water?

A Our well is not making any water and as far as I know neither are theirs.

Q Your bottomhole pressure, you have a bottomhole pressure test May the 16th, just a few days ago, and your bottomhole pressure had declined from 3900 pounds in January down to 2400 pounds in May, correct?

A Yes, sir.

MR. NUTTER: Are there any other questions of this witness? He may be excused.

(Witness excused.)

MR. NUTTER: Mr. Durrett, what are you proposing, pool rules similar to those that the Commission promulgated for the Strawn Pool in this area?

MR. DURRETT: Yes. I had meant to mention that.

MR. NUTTER: I think you did in your application.

MR. DURRETT: Pool rules similar to the one for the Strawn. I think they had a special GOR in there which we feel wouldn't be necessary in this situation, and a no-flare order which I don't think would be applicable, but otherwise, it would be the same rules.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3771? Mr. Motter.

MR. MOTTER: Yes. Gene Motter. We have an undeveloped 80 acres which is a Northeast diagonal to the proposed 160-acre spacing. We support Pennzoil in their application and would like to make a comment on hearing their testimony.

It appears that this is probably a salvage operation to date. More evidence may come forward; as we see it, I don't see how for drilling out there these deeper zones, gas and so on, that we can expect any closer spacing than 160 for the Wolfcamp.

MR. NUTTER: Does Cities Service have any plans?

MR. MOTTER: We have it under study right now and will have an answer in sixty days.

MR. NUTTER: We will take the case under advisement.

I N D E X

<u>WITNESS</u>		<u>PAGE</u>
CHARLES A. BROWN		
Direct Examination by Mr. Durrett		2
Cross Examination by Mr. Nutter		10
<u>EXHIBIT</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Exhibits No. 1 through 6	3	10

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 12th day of June, 1968.

Ada Dearnley

NOTARY PUBLIC

My Commission Expires:
June 19, 1971.

I do hereby certify that the foregoing is a true and correct record of the proceedings in the County of Bernalillo, State of New Mexico, held on the 5/22/68 at 3771.
Ada Dearnley
Notary Public