

40-acre spacing or 10-acre spacing, changes that picture at all. Certainly we have -- in any oil pool, we reach the edge of the pool, and we find certain parts, whatever the spacing unit may be, that probably lie beyond the limits of oil production, or beyond the limits of economic oil production. There may be some oil there, but it is not economic to drill. Then, that is, for all practical purposes, it becomes the limit of the pool. And there were no land lines there when that oil pool was formed. They have been put there subsequently, and they, as a general rule, are curve lines, as has been indicated in the testimony here; and regardless of the spacing, I think that those same conditions will exist. And the fact that we cannot recover all of the oil by 80-acre spacing, I don't see that it introduces any problems that wouldn't exist under any other spacing unit.

Q Then, in your opinion, the spacing pattern which we have presented here will not prevent any of the owners in that reservoir from obtaining their fair and equitable share of the oil in the reservoir?

A I think that under the recommendations that we have made here as to spacing and allocation, they will provide each operator, each land owner, each royalty owner, the opportunity to obtain his fair and equitable share of the oil from the reservoir.

MR. KELLOUGH: That's all.

CROSS EXAMINATION

Q (By Mr. Adair) Mr. Millikan, do you know what the virgin bottom-hole pressure in this reservoir was?

A About -- I believe according to Mr. Christie, it was 4261.

Q For your information, and Mr. Schaehle can verify this, the bottom-hole pressure in our well was 4390.

A What depth?

MR. SCHAEHLE: We may be able to correct that. It is -- 24 feet from total depth of State B 1, is 10,890.

THE WITNESS: Well, that would show a little higher pressure than ours, reduced to the same datum.

Q (By Mr. Adair) Well, reduced to the same datum, what would 4390 be in the B.T.A. well?

A 44 -- about 4407.

Q 4407, and Mr. Christie testified that after 4 months' production, the bottom-hole survey was run, and what was the bottom-hole pressure?

A 4247.

Q Will you subtract those and give us the drop of the pressure -- the drop of the bottom-hole pressure in 4 months' production from your B.T.A. No. 1 well?

A Now, you want the difference in pressure?

Q The drop in pressure.

A You want the difference?

Q Assuming you converted our 4390 to whatever it was for your B.T.A. well, did you not?

A I'm assuming your pressure is correct.

Q And assuming our pressure is correct.

A That would be a decline of 260 pounds.

Q In four months' production?

A And assuming your pressure is correct.

Q Is such a decline alarming?

A Not to me, because I don't believe it exists that much. Our own pressure, taking the same pressure element, gets a variation of difference in pressure in the well there on the order of a quarter and a half of a percent.

Q You don't mean to say, at the same subsea datum point in the

reservoir that the pressure would be different, would you?

A I'm maintaining they will be the same.

Q Then what you don't have any confidence in is our bottom-hole pressure, is that correct?

A Well, I don't think I would go that far. Maybe our pressures are wrong. But at least, they were taken with the same instrument and relatively they ought to be about correct.

Q Well, assuming such a drop, would that not indicate that the water drive is not as effective as you have --

MR. KEELOUGH (Interrupting) Well, he is asking the witness to assume a set of facts which the witness has said does not exist, or rather, which the witness did not admit.

MR. MCCORMICK: That is improper --

GOV. MABRY (Interrupting) We can't hear counsel. We can hear the witness clearly, but not counsel.

MR. ADAIR: Sorry, Governor. I asked Mr. Millikan to correlate the bottom-hole pressure found in our well to be 4390 pounds, into the pressure he would expect to find in his well at his depth, and he got a pressure of 4407 pounds, I believe. Mr. Christie testified that after four months' production, they took a bottom-hole pressure in the B.T.A. well, which is the well we are talking about; and he found it to be 4200 and what?

THE WITNESS: 47 pounds -- 4247 pounds.

MR. ADAIR: 4247 pounds, a decline in pressure, not based upon assumption, but based upon actual pressures found at the subsea datum of the B.T.A. Well, resulting in a decline of pressure of how much? How many pounds, Mr. Millikan?

THE WITNESS: Well, the difference in pressure is 260 pounds.

MR. ADAIR: A decline in pressure of 260 pounds after four months' production.

THE WITNESS: But that is not the decline in pressure, in my opinion, because the decline which we found between our original pressure and the pressure after four months production, was only a difference of 14 pounds, taken at the same level and with the same instrument, which is as close as you can read pressures at a pressure -- that is, as close as the instrument can be read.

Q (By Mr. Adair) Now, my next question, to go on, Mr. Millikan, either you or anyone who knows, Mr. Kellough, can answer. To save time, I don't want to have to read the application of Amerada here. Will one of you tell me whether or not your application for this hearing made any request for definite 80-acre units such as you have asked for today, based upon the east and west 80s of a 160-acre tract?

MR. KELLOUGH: The application speaks for itself and the testimony is all in.

MR. ADAIR: I was trying to save time. I guess I'll have to read it.

GOV. MABRY: Somebody can tell us that. Your testimony is in. What did you show?

MR. McCORMICK: The application speaks for itself.

GOV. MABRY: True enough. and we'll get into that if you don't know.

MR. ADAIR: That's perfectly all right.

MR. KELLOUGH: The application asked for 80-acre pro-rata units, and we did not, in the application, recite the description of the particular units, but we did describe the location of the wells which we were asking, or requesting the

hearing on.

MR. ADAIR: That answers my question perfectly. Thank you.

Q (By Mr. Adair) Now, Mr. Millikan, will you refer to the T.P. Exhibit on the far left over there, No. "C"? If you will refer to the T.P. lease shown here in yellow, which is shown on this map as being T.P. Lease, NO. 211, being the E $\frac{1}{2}$ NW $\frac{1}{4}$ and the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 2, 12 South, 33 East, you will see from that Exhibit that that is all one lease, will you not?

A That is the way you show it on the map.

Q Well, assuming that to be true, Mr. Millikan, based upon your application as originally filed, is there any reason why T.P. cannot form its 80-acre unit out of these two quarter sections of 240-acre tracts, which would be the NE $\frac{1}{4}$ NW $\frac{1}{4}$ and the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of said Section 2?

A Is there any reason why that can't be done?

Q Yes.

A I don't know of any.

Q Still, here you come in today with your Exhibit "C", Amerada Exhibit "C", or your map, and request that -- first let me say the testimony shows, if the Commission please, a well now being drilled by T.P. at this point, which is now 4,000 feet deep, or more; and your application here -- and what I'm getting at is that you have stated in your testimony that you thought this was fair from the standpoint of correlative rights to the operators. You have requested that the T.P. take in Amerada, which owns this lease, the NE $\frac{1}{4}$ NE $\frac{1}{4}$ -- as a partner, and form an 80-acre unit, taking the 40 acres off of the 120 acres which we had there, together, and form with Amerada an 80-acre unit as shown by our dotted lines here on Amerada Exhibit No. 1.

A That was our recommendation. We did not say it was a request. That was our recommendation only.

MR. ADAIR: The notice of this hearing, if the Commission please, if I may so state, which did not, in my opinion, encompass a pooling or a unitization hearing; and the result of the adoption -- the result of such a proceeding by Amerada here, if adopted, would be the first step for such a request for unitization. We have conformed, if the Commission please, in drilling of this well, to the proposed pattern. At the time we started the well, we had no idea at all that they would ask for east 80s and west 80s of quarter sections. We have 80 acres up there.

MR. McCORMICK: Mr. Adair, the application asks only for 80-acre spacing, and this tendered Exhibit here, No. 1, I believe, merely suggested a pattern; and the Commission, if it should adopt 80-acre spacing, could adopt that pattern, or any other pattern it wanted to work out.

MR. ADAIR: I'm just pointing out the Amerada proposal that they proposed for the pattern to be formed as shown on the Exhibit, which would require unitization.

MR. McCORMICK: That's right.

Q (By Mr. Adair) Mr. Millikan, if I may direct your attention here to the Texas-Pacific Exhibit No. "O" --

A (Interrupting) As superimposed on Exhibit "B"?

Q Yes, sir. Referring here again to Texas-Pacific well C.S. 1, which is now drilling, and Amerada's 40-acre tract immediately to the east, would you say that, assuming this contour map to be correct, would you say there was as much oil under the Amerada 40-acre tract as there is under the Texas-Pacific 40-acre tract?

A I don't know. If you want to make some point of that, why, I'll take either side of it.

Q I am not referring to taking some point of it, Mr. Millikan; I may ask you a question. Assuming the contour lines are correct, would you say or wouldn't you say there was less oil under the Amerada tract than there would be under the T.P. tract?

A Well, I think the point you make, Mr. Adair, that you --

Q (Interrupting) Well, can you answer the question, Mr. Millikan?

A No, I can't answer directly; but I would say there is a possibility there may be less.

Q Thank you.

MR. ADAIR: That's all.

A (Continuing) Is that all that you wanted? But there, that same thing might apply to any other set of contours that may be assumed or eventually proven in regard to that lease or any other lease in the field, the same as it exists in any other field in New Mexico, or in any other part of the country.

Q That's right. Well, while we are talking of fields in other parts of the country, other than the B. T. A. or the Hightower area, other than the Crossroads area and other than the Jones Ranch Field that you mentioned in Texas, do you know of any other Devonian field in New Mexico or Texas that has been developed on 80 acres fixed-pattern spacing?

A No, I don't have knowledge -- I don't know of any others, but I think probably there are others that would be just as well off had they been developed on 80-acre spacing. The mere fact that they have been developed on 40-acre spacing is not prima facie evidence that they may not have been developed with

equal equity on 80-acre spacing; nor ~~does~~ it also prove that they might not have done better had they drilled on 10-acre spacing.

MR. ADAIR: Thank you, sir. That's all.

MR. KELLOUGH: That's all.

MR. McCORMICK: Any other rebuttal witnesses?

MR. KELLOUGH: No.

MR. McCORMICK: Does counsel wish to make a summation?

MR. ADAIR: Texas-Pacific does, yes, sir.

MR. KELLOUGH: Yes, I think so.

MR. McCORMICK: Do you want a slight recess to prepare?

GOV. MABRY: Take a four or five-minute recess if you want to.

(Whereupon, at 4:30 o'clock, P.M., a recess was taken, the hearing being adjourned following statements by counsel).

I HEREBY CERTIFY, That the foregoing transcript of proceedings before the Oil Conservation Commission of New Mexico in Santa Fe, New Mexico, on December 20, 1949, is the true record of such proceedings to the best of my knowledge, skill, and ability.

Dated at Albuquerque, New Mexico, this 27th day of December, A. D. 1949.

Pat Warden
Reporter.