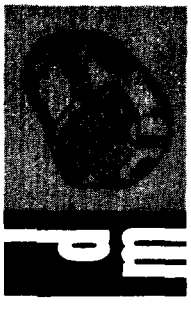

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 1, 1968
EXAMINER HEARING

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| IN THE MATTER OF: | |
| In the matter of Case No. 3002 being reopened pursuant to the provisions of Order No. R-2684 which order provided special rules and regulations for the Fowler-Lower Paddock Pool, Lea County, New Mexico. | Case 3002 (reopened) |

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3002.

MR. HATCH: Case 3002. Reopened. In the matter of Case No. 3002 being reopened pursuant to the provisions of Order No. R-2684-B, which order provided special rules and regulations for the Fowler-Lower Paddock Pool, Lea County, New Mexico.

MR. BUELL: For Pan American Petroleum Corporation, Guy Buell, we have one witness, Mr. Wight.

(Witness sworn)

MR. UTZ: Are there other appearances? You may proceed.

MR. BUELL: Mr. Examiner, it might be of help to you in that this is a rather unusual background that we have in the Fowler-Lower Paddock, if I make a very brief opening statement. This pool was discovered in December of 1963 when Pan American completed the South Mattix Unit No. 16, as a gas well. Pan American applied for and the Commission approved in March of 1964 by Order No. R-2684, temporary gas pool rules which among other things, provided for 320-acre units. As customary with the Commission's policy on temporary rules were reviewed in April of 1965. At that time South Mattix Unit or I'll refer to it in the future as SMU,

and anytime I say SMU I'm talking about the South Mattix Unit and not the university in Dallas. Sixteen was still the only well in the pool and it was still a gas well, so under those circumstances the Commission continued the gas pool rules as temporary for another year. By the time the rules were next reviewed by the Commission in April of 1966 three additional wells had been drilled and completed in the Lower Paddock, but these three new wells were completed as oil wells, so in view of this, we recommended to the Commission the adoption of pool rules which would apply to associated oil and gas pool which we obviously have in the Lower Paddock. The Commission approved these temporary rules for a two-year period to govern this associated oil and gas reservoir. Among the rules that they adopted as temporary for a two-year period, were 80-acre oil proration units, the rules provided for an allowable factor for these oil wells of 2.33. They continued the 320-acre gas units and provided a gas allowable which was four times the top gas limit for an 80-acre oil well. They also, in view of the producing characteristics of the oil wells in the pool, adopted a limiting gas-oil ratio of four thousand to one, so actually this hearing today is to review rules that started

out back in 1964 but over their temporary life they changed from gas pool rules to associated oil and gas pool rules, and today it will be our recommendation to the Commission that these rules now in effect as temporary be adopted as permanent pool rules for the Fowler-Lower Paddock pool.

(Whereupon, Applicant's Exhibits 1 through 5 marked for identification)

DAVID G. WIGHT

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Wight, will you state your name, by whom you are employed, in what capacity, and what location, please?

A My name is David George Wight, I'm employed by Pan American Petroleum Corporation as a Petroleum Engineer in their Fort Worth Division Office.

Q You have testified before the New Mexico Oil Conservation Commission before, have you not, and your qualifications as a Petroleum Engineer are a matter of public record?

A Yes, they are.

Q In connection with this subject case here today

I wish you would look first at what has been identified as Pan American's Exhibit No. 1. What is that exhibit?

A This is a base map of the Fowler area. It shows the various completions in the area of the Fowler-Lower Paddock pool. The Lower Paddock completions, of which there are four, are designated with yellow for gas and red for oil. The four completions starting with the initial one, which is a gas well, Well No. 16, is located in the southeast quarter of Section 15. Well No. 9, an oil well, is located in the northeast quarter of Section 15. Well No. 18, in the northeast quarter of Section 22 and Well No. 19 in the northwest quarter of Section 22.

Q All in 24 South, 37 East, Lea County?

A Yes.

Q Since this is an orientation map more or less, how have you designated the boundary of the south Mattix Unit?

A The South Mattix Unit which is located in Sections 15 and 22 is outlined with a heavy black dashed line.

Q And I believe you stated that this was a multi-pay area and you have color coded the various wells to show their reservoir completion?

A Yes.

Q Let's go now, Mr. Wight, to what has been identified as our Exhibit No. 2. What is that exhibit?

A This is a structure map using the same base map as our Exhibit No. 1. The structure is contoured on the top of the Fowler-Lower Paddock pool pay. Designated on this map by colors are the four Fowler-Lower Paddock wells, these being the same colors as on our Exhibit No. 1.

Q And your contour is on top of the Lower Paddock pay?

A Yes, sir.

Q Now, while there are only four completions in the Lower Paddock reservoir, most of the wells in this area have penetrated it, have they not?

A Yes, we have many completions in other horizons which have penetrated the Lower Paddock pay. This gives us excellent control on the structure and wells that we have logs on through the Paddock pay, Lower Paddock, have tops picked.

Q How would you describe the structure of the Lower Paddock as reflected on this exhibit?

A This is an asymmetrical anticline trending from the northwest to the southeast; it has a gas cap which we have estimated to be at a minus 1,960 feet.

Q You say, "gas cap," you mean gas-oil contact?

A Gas-oil contact, yes.

Q Have you designated that on Exhibit No. 2?

A Yes, it is designated by a light dashed line and appropriately labeled.

Q Would you say that the Lower Paddock Pool is predominantly a gas reservoir with just a small oil accumulation?

A Yes, by looking at our structure and the completions you can see that it is primarily a gas reservoir with a small amount of oil associated in the rim.

Q Let's move on now to what has been identified as our Exhibit No. 3. What is that exhibit?

A Exhibit No. 3 consisting of four parts, are performance curves on the wells in the Fowler-Lower Paddock pay. They are plots of production versus time for each well.

Q For each of the four completions?

A Yes, sir.

Q Look now to Exhibit No. 4, what is that exhibit?

A Exhibit No. 4 also consisting of four parts, is a tabulation on each individual well completed in the Lower Paddock pay as to production data.

Q Looking at the production history of these wells, particularly the three oil completions, what does it reveal to you?

A Most recently, looking at the oil completions, Well No. 9 shows that it produced 12 barrels of oil per day in December of 1967, Well No. 19 produced 15 barrels per day in December of '67, and Well No. 18 produced 6 barrels a day in December of 1967..

Q These wells are not barnburners in any sense of the word, are they, Mr. Wight?

A No, these production tabulations indicate that they are somewhat marginal in nature.

Q Have you had available to you any interference data which would indicate the degree or magnitude of an area that one well in this pool will effectively drain?

A Yes.

Q In that connection I wish you would look at what has been identified as Exhibit No. 5, what is that exhibit?

A This is a plot of bottom hole pressures versus time that we have obtained on the Fowler-Lower Paddock completions.

Q Would you briefly explain for the Examiner and the record the exact data which this exhibit reflects?

A Well No. 16, the discovery well, had an initial pressure on completion of 2,214 pounds, this was in December of 1963.

Q Virgin pressure in the Lower Paddock Pool was 2411?

A 2,214.

Q 2214.

A Yes, sir. At a later date in March of 1965 we obtained another pressure on Well No. 16, this pressure being 1811 PSI, or showing a decline of approximately 400 pounds. Subsequent pressures were obtained on completion of additional wells in the reservoir; in May of 1965 Well No. 9 was completed in the Lower Paddock pay. This was the second completion and it had an initial bottom hole pressure of 1,911 pounds, approximately 300 pounds less than the discovery pressure.

Q Approximately how far is No. 9 located from No. 16, which at that time was the only producing well in the pool?

A This Well No. 9 is located 3,600 feet from No. 16.

Q And these data certainly show that one well in this pool will effectively and efficiently drain an extremely large area?

A Yes, using this distance you can calculate a drainage radius for Well No. 16 in excess of 900 acres.

Q Do you have any other initial pressures on subsequently completed wells on this exhibit?

A Yes, sir, in July of 1965 Well No. 18 was completed in the Lower Paddock pay; this was the third Lower Paddock completion, it had an initial pressure of 1,828 PSI, some 400 pounds below the discovery pressure. This well is located some 3,000 feet from the discovery well No. 16, and this exhibit or this data shows a drainage radius in excess of 600 acres for Well No. 16.

Q This exhibit also reflects a subsequent pressure on the discovery Well No. 16 at about the same time that Wells No. 9 and 18 were completed, does it not?

A Yes, sir, this pressure taken in March shows that the pressure of 1,811 on No. 16 is approximately the same as the later completions in the same year on the other wells, showing good drainage of the reservoir.

MR. UTZ: When was No. 18 completed?

A No. 18 was completed in July of 1965.

Q (By Mr. Buell) Now, in addition to these interference data which show that wells in this pool can effectively and efficiently drain a large area, what about this pool from the standpoint of economics? Can you economically justify a well in this pool, an oil well, to a

unit size of less than 80?

A No, sir, the 80-acre spacing for oil wells represents marginal economics and a reduction in the unit size would present unfavorable economics.

Q Is the marginal nature of this reservoir rather vividly demonstrated by the fact that so many wells in this pool have the Lower Paddock behind the pipe and yet haven't attempted a completion in the Lower Paddock?

A Yes, sir.

Q From your earlier testimony, Mr. Wight, it's pretty obvious that the three oil completions in this pool at this time cannot even approach producing the 80-acre allowable. Why would you recommend to the Commission that the rules providing for an 80-acre allowable remain in effect?

A Although these wells cannot produce an 80-acre allowable this will be an incentive to operators, Pan American, and offset operators to attempt additional completions in the Lower Paddock pay.

Q In other words, this appears to be a salvage type reservoir and you believe you need all the incentive possible to encourage an operator to salvage as much from it and recover as much oil and gas as we can?

A Yes, sir.

Q You are recommending then to the Commission that these rules as currently in effect be continued as permanent rules?

A Yes, sir, that's my recommendation.

Q In your opinion, if the Commission takes that action will it serve conservation through the prevention of waste as well as protecting correlative rights of all the owners of interest in this pool?

A Yes, sir, it will.

Q Do you have anything else you care to add at this time?

A No, sir.

MR. BUELL: May it please the Examiner, that's all we have by way of Direct. I would like to formally offer Pan American's Exhibits 1 through 5.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record of this case.

(Whereupon, Applicant's Exhibits 1 through 5 were offered and admitted in evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q Do you have any information as to how the gas-oil

contact is acting, whether it's stationary, moving up or down dip?

A Well, Well No. 18 is the basis for picking the gas-oil contact. It has a high gas-oil ratio and our production tabulation will reflect that. The other two wells which are completed lower continue to have low gas-oil ratios and although they are completed at some distance lower, we have not seen any evidence of the gas cap going in that direction. Well No. 16 makes no oil at this time and so that would be indicative of no oil going up into the gas cap to this well. This is the only data we have to present in that regard.

MR. BUELL: Actually Well No. 16, the gas well is producing less liquids than it did on completion.

A Yes.

Q (By Mr. Utz) How about the No. 18 GOR? Has it gone up or down? Just scanning your exhibit here it looks like it's increasing substantially, is that true?

A It's fluctuated to a great extent. Other than the initial gas-oil ratio shown on this tabulation in September, gas-oil ratios have been on the order of 20,000 or higher. It would appear to me that the gas-oil ratio has been about the same with periodic variances up as high

as 59,000 -- excuse me, 61,000.

Q Have you any explanation for the eradic GOR of this well, for example in April of '67, 53,000, December of '67, 26,000?

A No, sir, I don't.

MR. BUELL: It doesn't even appear to be related to the oil production, does it, Mr. Wight?

A No, sir, we examined the producing rates,in June we had one of the higher producing rates during the year, you had one of your lower gas-oil ratios, so I can't draw a conclusion as to the cause of this fluctuation in the gas-oil ratio.

Q It wouldn't appear that the gas cap is expanding?

A No, sir, I don't believe it has moved very much.

Q Do you have any information as to the production of the Gulf well in Section 23?

A Which well are you speaking of?

Q The Plains-Knight, I believe it's the No. 1 that's completed in this zone, isn't it? Isn't one of those wells completed in the Lower Paddock?

A No, sir, the only Lower Paddock completions are within the South Mattix Unit. The Plains-Knight, Gulf Plains-Knight wells are No. 1 is an Ellenburger, No. 3 is an Upper

Paddock gas well, No. 2 is a Blinebry well.

MR. BUELL: You were probably thinking of that Upper Paddock completion, Mr. Examiner.

Q (By Mr. Utz) I'm thinking of the time that they wanted this unorthodox location and you opposed them on it. Was that the Upper Paddock?

A I think it was the Ellenburger, wasn't it?

MR. BUELL: Yes, sir, Ellenburger.

A Ellenburger, I believe.

Q (By Mr. Utz) So actually, your request here is for permanent rules of the current order in every respect?

A Yes, sir.

MR. UTZ: Are there other questions of the witness? He may be excused.

(Witness excused)

MR. UTZ: Take the case under advisement.

STATE OF NEW MEXICO )
) ss
COUNTY OF BERNALILLO )

I, KAY EMBREE, 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 7th day of May, 1968.

Kay Embree
NOTARY PUBLIC

My Commission Expires:

November 19, 1971

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3002, heard by me on 5-1-68, by

, Examiner
New Mexico Oil Conservation Commission