BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 17, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of Mathis, Spencer & Hutson for pool creation and special pool rules Lea County, New Mexico.

CASE 5653

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: William F. Carr, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: W. Thomas Kellahin, Esq.
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I N D E X

EXHIBIT INDEX

MR. NUTTER: We will call the next Case Number 5653.

MR. CARR: Case 5653, application of Mathis, Spencer and Hutson for pool creation and special pool rules, Lea County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox appearing on behalf of the applicant and I have one witness to be sworn.

(THEREUPON, the witness was duly sworn.)

ROY C. WILLIAMSON, JR.

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Please state your name, by whom you are employed and in what capacity?

A. I'm Roy C. Williamson, Jr. and I'm President of the consulting firm of Sipes, Williamson and Aycock from Midland, Texas.

Q. What is your working relationship with the applicant in this case?

A. I have been retained as a consultant for Mathis, Spencer and Hutson.

Q. Are you familiar with and have you made a study of

the facts surrounding this particular application?

A. Yes, I have.

Q. Have you previously testified before this Commission and had your qualifications as an expert witness accepted and made a matter of record?

A. Yes, I have.

MR. KELLAHIN: If the Examiner please, are the witness's qualifications acceptable?

MR. NUTTER: Yes, they are.

Q. (Mr. Kellahin continuing.) Mr. Williamson, would you please refer to what we've marked as Exhibit Number One, identify it and explain what the applicant is seeking?

A. Exhibit One is Form C-123, which is the request for the extension of an existing pool or the creation of a new pool. I would like to clarify what, in my opinion is an error that had been, this particular form had been filed earlier on February 6th of 1976 by a production foreman in the employment of Mathis, Spencer and Hutson. At that time they asked that the well that is the subject of this study, the Mathis, Spencer and Hutson Clayton No. 1 Well be shown as an extension to a Permo-Penn field which was originally called the Burtner Field and the Burtner Field consisted of one well, the Standard of Texas State No. 1, which was in the northeast quarter of Section 22 of 15 South, 33 East. This well produced for some period of time less than thirty days

and had a cumulative production of approximately eight hundred and twenty-six barrels of oil. The production foreman assumed that this would be an extension of that particular field and therefore, so noted that in his 2/6/76 filing of 123. It is my opinion that the Spencer and Hutson Clayton No. 1 Well, although it produces from a correlative interval will show with future testimony, I do not think it is an extension of that field and, therefore, we are requesting the creation of a new pool. We are asking that three names be considered, the MHS Wolfcamp, the Clayton Wolfcamp or the Daisy Wolfcamp Field.

MR. KELLAHIN: That State of Texas Well that you referred to, if the Examiner please, is the subject of Order No. R-2946, entered September 1st, 1966. That is designated as the Burtner, B-u-r-t-n-e-r Wolfcamp.

MR. NUTTER: Is that the only well that was ever drilled in that pool?

MR. KELLAHIN: Yes, sir.

THE WITNESS: And the field area was designated as the northeast quarter of Section 22, I believe.

MR. KELLAHIN: That's right.

Q. (Mr. Kellahin continuing.) Please refer to Exhibit Number Two and identify it?

A. Exhibit Number Two is an area plat showing the well in question, the Mathis Spencer Hutson Clayton No. 1, which is located in the northwest quarter of the southwest quarter

of Section 22, 15 South, 33 East. This well was completed and the C-104 Form filed. It potentialed for three hundred and twenty barrels of oil on January 26th, 1976, no water and three hundred MCF of gas.

The Exhibit Two depicts an estimated limit of production from the particular interval that this well is completed in and I will show by a later exhibit, a cross section, the relationship of this zone to the well previously mentioned, the Standard of Texas State No. 1 and the Ashman and Hilliard Clayton No. 1 Well which lies immediately south of the Mathis Spencer Hutson Well.

Q. What is the spacing and proration unit you would dedicate to this well?

A. One hundred and sixty acres and the well location is six sixty from the quarter line section which is what we would ask for in the rules.

Q. All right, let me ask you that again. Now, do you have a proposed recommendation as to spacing of wells within the pool?

A. Yes, we are asking that an acreage allocation of a hundred and sixty acres be applied and no well be allowed to be drilled closer than six hundred and sixty feet to a quarter section line.

Q. Do you have any proposed recommendations with regards to a special depth bracket allowable?

A. No, just the standard.

Q. The existing allowable for wells of that depth is sufficient to satisfy your proposed needs?

A. That is correct, we are not asking for a discovery allowable per se.

Q. Please refer to Exhibit Number Three and identify it?

A. Exhibit Number Three is a cross section that includes the Ashman and Hilliard Clayton No. 1 Well in the southwest quarter of the southwest quarter of Section 22 of 15, 33.

Q. We are ready for Exhibit Number Three, it is.

A. Right. Exhibit Number Three is a cross section between the Ashman and Hilliard Clayton No. 1 Well and the Mathis Spencer Hutson Clayton No. 1 Well and the Standard of Texas State No. 1 Well. You will notice that the Ashman and Hilliard Clayton No. 1 Well was completed from a zone considerably below the completion interval of the Clayton No. 1. This zone was identified as the Cisco zone, the well produced nine hundred and forty-three barrels of oil before being plugged. The Mathis Spencer and Hutson No. 1 Well is producing from a porosity interval at approximately ninety-seven, seventy-two to eighty-two within the Wolfcamp zone and has accumulated to date something over five thousand barrels of oil.

Q. With regards to the Daisy Clayton No. 1 Well, is there any potential for production from the Wolfcamp in that

Well?

A. There is not. You will notice referring back to the Ashman Hilliard Clayton No. 1, a drill stem test was taken over the interval ninety-seven ten to ninety-seven, sixty-two and recovery was ninety feet of drilling mud with a slight show of oil, the final shut-in pressure was sixty-six pounds.

Q. Okay.

A. Whereas in the Mathis Spencer Hutson Clayton No. 1 the DST over the interval ninety-six, eighty to ninety-eight, oh, four flowed oil at the rate of eleven barrels per hour with a final shut-in pressure of thirty-three, ninety-two psig.

Q. How does this compare to the Standard Company Texas State 22 No. 1 Well?

A. Okay the Standard of Texas State 22 Well was completed over a very large interval from approximately ninety-seven twenty to ninety-nine ten. The DST over approximately that same interval had gas in thirteen minutes at three hundred and eighty-seven MCF, decreasing to too small to measure. It recovered sixteen hundred and seventy feet of oil, eight hundred and twenty feet of oil and gas cut mud, seven hundred and twenty-eight feet of slightly oil and gas cut mud and thirty feet of mud cut salt water. The flowing pressure was two hundred and ninety-nine pounds, increasing to six ninety-four. It had a final shut-in pressure of two thousand, three

hundred and thirty-seven. With such a large interval perforated there is no way to know precisely where the recovery of this well occurred from. It did produce a total of eight hundred and twenty-six barrels of oil, five hundred and fifty barrels of water and eleven hundred and forty-two MCF of gas and these figures were obtained from Standard of Texas. So, it is my contention that although it is a grossly correlatable interval that the zone in which the Clayton No. 1, Spencer and Hutson Clayton No. 1 Well is producing is non-existent in the Standard of Texas State 22 No. 1 Well or in the Ashman Hilliard Daisy Clayton No. 1 Well.

Q. Please refer to what has been marked as Exhibit Number Four and identify it?

A. Exhibit Number Four is a summary of the available pressure history on the Mathis Spencer and Hutson Clayton No. 1 Well showing the initial DST, final shut-in pressure of thirty-three, ninety-two, a measured flowing bottom-hole pressure was taken January 17th of '76 and was three thousand one hundred and twenty-one pounds. A shut-in bottom-hole pressure was taken on January 19th after forty-seven hours and was measured at thirty-four, seventy-three psig. Another bottom-hole pressure was measured after two hundred and eleven hours and thirty minutes shut-in of three thousand, five hundred and ten pounds. Then a draw-down flowing test was taken on January 27th, '76 and after flowing twenty-seven hours

the bottom-hole pressure at that point measured twenty-nine hundred and forty pounds. The well then was produced for a period of time and then was shut-in again on March the 4th, 1976 and after being shut-in for ninety-six hours the bottom-hole pressure was still building, the measured pressure was two thousand and sixty-one pounds and a conservative extrapolation indicated two thousand, four hundred and seventy-three pounds. This extrapolation is probably very inaccurate in that the pressure curve was still curving upward at the time but the operator chose not to leave the well shut in for a longer period of time. The cumulative production at that time was five thousand, three hundred barrels of oil and approximately five thousand, eight hundred and thirty MCF of gas.

In an attempt to define the drainage area available to this wellbore I made a volumetric estimate, utilizing a porosity value of eleven point eight percent from the logs, water saturation of eighteen percent from the logs, an estimated recovery factor of fifteen percent, a formation volume factor determined from lineature of one point seven five, a net pay thickness of ten feet, a drainage area of a hundred and sixty acres, which calculates a recoverable oil reserve of one hundred and two thousand, four hundred barrels of oil. In an attempt to verify that number, I assumed two production decline rates at the time that fifty-three hundred barrels of oil had been produced. If we assume a twenty percent

annual decline the ultimate recovery would be two hundred and thirty-eight thousand, four hundred and eighteen barrels of oil. If we assume a forty percent decline the ultimate recovery would be a hundred and eight thousand, one hundred and eight barrels of oil.

Inasmuch as the well at this time is not exhibiting any decline and for the five-day period ending March the 11th, 1976, the well averaged a hundred and forty-three barrels of oil per day with a gas-oil ratio between nine and eleven hundred cubic feet per barrel, so it appears rather obvious that the well is not about to begin a sharp decline and the recovery then should lie somewhere between the twenty and forty percent estimate just as a rough estimate.

Q. If the recovery falls between those two estimates, in your opinion, will this well be able to drain an acreage area of a hundred and sixty acres?

A. Yes, sir, it appears that it will if the reservoir does indeed cover the area that we have estimated and, of course, this is something that will have to be proven by later drilling. There is no way to know, of course, what the total area is. This is a stratigraphic trap and the size at this time of the total trap, of course, is unknown.

Q. You would request temporary rules for a period of one year from the date of the order entered in this case?

A. That is correct. This would allow time to evaluate

further development as well as the performance of the currently developed well, to more accurately define what the reservoir characteristics are.

Q. In your opinion, Mr. Williamson, will approval of this application be in the best interests of conservation, prevention of waste and the protection of correlative rights?

A. Yes.

Q. And were Exhibits One through Four either prepared by you directly or compiled under your direction and supervision?

A. Yes.

MR. KELLAHIN: If the Examiner please, we move the introduction of Exhibits One through Four.

MR. NUTTER: Applicant's Exhibits One through Four will be admitted into evidence.

(THEREUPON, Applicant's Exhibits One through Four were admitted into evidence.)

MR. KELLAHIN: That concludes our case.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Williamson, I think you stated that the old Standard of Texas Well over here had only produced for thirty days with a total cumulative of eight hundred and twenty-six barrels, is that it?

A. Yes, sir, those were the figures that we were able to

derive from --

Q. Then what happened to it?

A. It was plugged.

Q. Why did it quit producing, did it just water out or quit producing everything or what?

A. It just quit producing.

Q. How much water did it make with that eight hundred and twenty-six barrels of oil?

A. It had made five hundred and fifty barrels of water and, of course, there was no way to determine whether that came from the lower part of the perforations or not, they had perforated over such a large interval.

Q. Now, the interval that it was producing from does include the interval that you are producing from in this MSH Well, right?

A. Yes, sir.

Q. So, you don't know that they are not correlative or that they are not producing from the same zone, you just suspect that they may not be?

A. Yes, sir, that's all, because just from my gross correlation there is no way to separate them.

Q. On any of these three logs here are you able to pick the top of the Pennsylvanian?

A. No, sir, we've got a top of the Wolfcamp and, of course, the correlations in here are somewhat uncertain as to

terminology and various things but the Pennsylvanian should lie above.

Q. Well, I think you have mentioned the word "Cisco zone" in referring to the Ashman and Hilliard Well over here.

A. Yes, sir, that is what they call that zone, that they perforated the Cisco zone.

Q. Is that the perforation shown on the extreme left way out here near the bottom?

A. Yes, sir.

Q. So, Cisco is Pennsylvanian?

A. Right, yes, sir, it should lie somewhere in here but I notice also that the Burtner Well or the well that was called the Burtner Field, they call that Permo-Penn, so I guess that is an indication that they were uncertain as to exactly where the completion lay.

Q. So, apparently back in 1966 they didn't know where the top of the Pennsylvanian was either?

A. No, sir.

Q. Now, this oval shape that you have drawn on your Exhibit Number Two, that is just a randomly drawn oval shaped thing there that doesn't bear on any geology or stratigraphy or anything does it?

A. No. The only thing that we have and I should have mentioned this earlier, in Section 16, in the southwest quarter of the southeast quarter of 15, 33, a well was drilled there

by Humble and I don't see the date but it was an abandoned well and the logs indicate just a trace of this Wolfcamp zone that is completed in the Mathis Spencer Clayton No. 1, so, somewhere between the completion and that hole, of course, the Wolfcamp zone that we are completed in goes out.

Q. Wolfcamp or Permo-Penn?

A. Well, interchangeably probably, it is not certain exactly which one is what.

Q. Now, how about this Ashman Hilliard Well, did it actually go on production?

A. Yes, sir, it produced, according to the record, a total of nine hundred and forty-three barrels of oil and production ceased and it was plugged.

Q. Did it make water too, do you know.

A. I was unable to find any record of water so I don't know.

Q. But your well has already made fifty-three hundred barrels?

A. Yes, sir, and it is currently producing about an average of a hundred and forty to fifty barrels a day.

Q. A hundred and forty-three, I think.

A. With no water and the gas-oil ratio has been relatively constant throughout its life.

Q. Now, you had proposed hundred and sixty acre units here and you would dedicate the hundred and sixty acres,

being the southwest quarter of Section 22 to the Clayton No. 1, I guess, even though you've got a completed well or whatever it is on that one hundred and sixty.

A. Yes, sir, it might be that even the proration units may have to be changed to lie within this productive area after additional drilling is done.

Q. And as I understand your proposed rules with the one hundred and sixty acre unit you propose that the well locations be permitted no closer than six hundred and sixty feet to the quarter section line?

A. Yes, sir.

Q. And you mentioned a standard allowable, what kind of a standard allowable was it?

A. Just whatever the current allowable is for this depth well.

Q. On what spacing?

A. One hundred and sixty acres.

Q. On a hundred and sixty?

A. Yes, sir.

Q. That would be five hundred and some?

A. Yes, sir, which is well above the capacity of this well.

MR. NUTTER: Are there any further questions of the witness? He may be excused.

(THEREUPON, the witness was excused.)

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

MR. KELLAHIN: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 5653? We will take the case under advisement?

We will recess the hearing until one fifteen.

(THEREUPON, the hearing was in recess.)

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5753, heard by me on 3/17, 1976.

....., Examiner
New Mexico Oil Conservation Commission

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