BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
April 11, 1973

EXAMINER HEARING

IN THE MATTER OF:	
Application of Continental Oil Company for special pool rules, Lea County, New Mexico.	Case No. 4937

BEFORE: Elvis A. Utz
Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4937.

MR. CARR: Case 4937, Application of Continental Oil Company for special pool rules, Lea County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin, Kellahin & Fox, appearing on behalf of the Applicant. May the record show the witness is Mr. V. T. Lyon, he has been sworn in the previous case and his qualifications have been accepted.

MR. UTZ: Let the record so show.

* * * *

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Are you the same Mr. Lyon who has testified in the previous case?

A Yes, I am.

Q Mr. Lyon, are you familiar with the application of Continental Oil Company in Case 4937?

A Yes, sir.

Q What is proposed by the Applicant in this case?

A Case No. 4937 is the application of Continental Oil Company for the promulgation of special pool rules for the Bell Lake-Bone Spring Pool in Lea County, New Mexico, including a provision for 160-acre proration units.

Q Referring to what has been marked as Applicant's Exhibit No. 1 in this case, would you identify that exhibit?

A Yes, sir. Exhibit No. 1 is a location plat showing the general area of the Bone Spring development to date. This well is located within the Bell Lake unit, which perhaps I should explain, initially the unit contained some 50,000 acres. On September 30, 1968, the unit was contracted to the then existing participating areas which involved 29-section participating areas, which we generally refer to as the North area and the South area. This development is in the South participating area, the boundaries of which are shown on the heavy-dotted line. The dotted line in the Southwest quarter of Section 31 and the Northwest quarter of Section 6 is the proposed initial participating area for the Bone Spring development. Bone Spring wells are shown circled and consists of Well Number 3 which is located in Unit C of Section 6 and Well Number 11 located in Unit N of Section 31. This plat is slightly out of date. Well Number 12, located in Unit J of Section 31 is also a Bone Spring producer. We are in the process of drilling Well Number 13-Y in Unit H of Section 6. Well Number 13 was drilled and was within 300 feet of the target depth when the hole was lost. It was necessary to skid the rig 150 feet West to drill Number 13-Y. The wells shown on this plat Number 1 located in Unit N, a twin well to Number 11, was the discovery well in the Bell Lake Unit. It blew out and burned. The hole was lost in early 1954.

Well Number 1-A was drilled as a replacement well and it was completed in the Devonian and is now producing from the Morrow.

Well Number 4 is a Devonian well and is still producing from the Devonian. It is located in Unit F of Section 6. Well Number 5 located in Unit G of Section 1, Township 24 South, Range 33 East, was drilled to the Devonian, plugged back, and re-completed in the Morrow. Well Number 7 was drilled to the Bone Spring, was dry, and is now a salt water disposal well. I believe that the rest of the wells in that unit have been discussed.

Q This entire area was originally discovered by the Bell Lake Unit?

A Yes.

Q Was the working interest pool under a operating agreement?

A At the time that we re-completed Well Number 1-A in the Morrow, we entered into an operating agreement whereby the working interest in the 9-Section area was pulled below a depth of 9,000 feet, which is below the producing interval for the Bone Spring, so that the Bone Spring is not affected by that operating agreement. In effect, until a participating area is formed, the Bone Spring interest consists of the individual leases within this participating area, but the area is governed by the unit agreement.

Q Referring to what has been marked as Exhibit No. 2, would

you identify that exhibit?

A Yes, sir. Exhibit No. 2 is a copy of the structure map contoured on top of the Bone Spring line. The contour interval is 25 feet. As shown, based on the control data that we have, the structure is a North-South trending anticline, a relatively low relief.

Q Referring to Exhibit No. 3, would you discuss that exhibit?

A Exhibit No. 3 is a log comparison of Bell Lake Unit Number 3, the discovery well in the Bone Spring, and Well Number 11, which was recently completed, the first confirmation well. Well Number 3 was completed in 1955, the top of the Bone Spring line is shown on each log and the perforated intervals are shown by the arrows in the center section of the log.

Q Well Number 3 was drilled, it was completed, you say, in 1955?

A Yes, sir.

Q And that was from a depth of 8860 feet, is that correct?

A Yes, approximately that. There is a total of 88 feet perforated in that well and 4 shots per foot, and a total depth of 8860.

Q And Well Number 11 was completed in 1972, is that correct?

A Yes, sir.

MR. UTZ: We have a crash program for development here, don't we?

THE WITNESS: Yes, that is correct.

A The intial potential on Well Number 3 was 53 barrels of oil and 2 barrels of water with a GOR of 1,049 cubic feet per barrel. We stimulated the well with 25,000 gallons of acid, and the small potential gave us very little hope that the well would pay out, but it just refused to decline in a producing rate, so we had done some further evaluation of that well and some of the drilling data obtained from other wells drilled within the unit and decided it was worthwhile to drill a confirmation well.

Q That was the reason for the Number 11 Well?

A Yes, sir.

Q What was the cumulative production from the Number 3 Well?

A As of January 1, 1973, 158,322 barrels of oil.

Q Referring to what has been marked as Exhibit No. 4, would you identify that exhibit?

A Exhibit No. 4 is a tabulation of reservoir characteristics of the Bell Lake-Bone Spring Reservoir. The first part is a geologic description which I won't read unless you feel it is necessary to enter it into the record verbally. The second part is the reservoir data which we have gathered. The porosity is 3.35%, interstitial water saturation 25%, reservoir volume factor 1.5 -- she has marked per cent but it shouldn't be -- solution GOR 1,049 cubic feet per barrel, crude gravity is 40 degrees or approximately that,

average net effective pay is 74 feet, estimated recovery efficiency is 15%.

Q Have you made a calculation of what you anticipate the ultimate recovery will be?

A Using this data, we estimate primary recovery per acre to be 1,385 barrels. The estimated ultimate recovery for Bell Lake Unit Number 3 is 232,822 barrels, which, divided by the per acre recovery, indicates that it will drain a total of 168 acres. The estimated cost to drill and complete a well in this pool is $220,000.

Q Referring to what has been marked as Exhibit No. 5, would you identify that exhibit?

A Exhibit No. 5 is a copy of the declined curve of Well Number 3. As you can see, it has a very, very flat decline. The well has just been stimulated again within the last 30 days and we picked the producing rate up again a little bit, but we are not certain how well it is going to hold up.

Q On the basis of your experience with Well Number 3 and what you have learned from your Well Number 11, in your opinion, will one well in the Bone Spring formation drain in excess of 160 acres?

A Yes, sir.

Q Do you recommend to this Commission that they adopt rules giving 160-acre spacing and proration units for Bone Spring

production?

A Yes, I do.

Q Referring to what has been marked as Exhibit No. 6, would you identify that exhibit?

A Exhibit No. 6 are the proposed special rules and regulations for the Bell Lake-Bone Spring Pool. They provide that each well should be located on a quarter section, that is, a well should be located not closer than 660 feet to the outer boundary of the quarter section and not closer than 320 feet to the inter-boundary of a quarter section, and it provides a grandfather clause approving a location for any well which was drilling or completed before or on April 1, 1973.

Q Do these proposed rules generally conform to rules that had been adopted by the Commission in other pools?

A Yes, sir.

Q In your opinion, will the development of this pool on 160-acre units cause waste?

A No, I don't think it will cause waste, I think it will prevent waste if drilled on 160 acres.

Q Will the correlative rights of all the owners be protected?

A Yes, I think they will.

Q Were Exhibits 1 through 6 prepared by you or under your supervision?

A Yes, they were. I might point out, too, sir, that Rule 5

provides that the depth bracket allowable of 470 barrels per day would be the assigned allowable.

Q Now, is that in conformity with the rules of the Commission?

A Yes.

MR. KELLAHIN: At this time, I'd like to offer in evidence Exhibits 1 through 6 inclusive.

MR. UTZ: Without objection, Exhibits 1 through 6 will be entered into the record of this case.

MR. KELLAHIN: That's all we have, Mr. Utz.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Lyon, Exhibit 4 doesn't show any permeability. Do you have permeability figures?

A I haven't made that calculation. I can make it.

Q Pretty low, though, isn't it?

A Pretty low, yes.

Q Have you completed the Number 11 Well?

A Yes, Number 11 has been completed. It was recently re-entered and perforated in some additional sections which were open within Well Number 12. I might mention that Well Number 12 was completed February 1, with an initial potential of 240 barrels, 3 barrels of water, 598 mcf gas.

Q Would you repeat that again?

A 240 barrels of oil, 3 barrels of water, 598 mcf gas, tubing

pressure was 1,025 pounds, the choke was 14/64.

Q Do you have any potential data on the Number 11 Well?

A I believe so. It was completed with an initial potential pumping 123 barrels of oil, 90 barrels water. That was on November 30, 1972.

MR. UTZ: Are there other questions of the witness?

(No response)

MR. UTZ: The witness may be excused. Are there statements in the case?

(No response)

MR. UTZ: The case will be taken under advisement.

* * * *

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, JOHN DE LA ROSA, 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 that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

John De La Rosa
CERTIFIED SHORTHAND REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4937, heard by me on April 11, 1962.

Examiner
New Mexico Oil Conservation Commission

I N D E X