

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
August 18, 1955

----- )  
IN THE MATTER OF: )

The application of Continental Oil Company )  
for approval of two unorthodox proration )  
units on its "Emma T. Russell-Federal" )  
Lease located in Section 35, T-26-S, )  
R-31-E, NMPM, in the North Mason Pool, )  
Eddy County, New Mexico. )  
----- )

Case No. 946

BEFORE:

Mr. E. S. (Johnny) Walker  
Mr. William B. Macey

TRANSCRIPT OF HEARING

MR. MACEY: Hearing come to order. The only case on the docket is Case 946.

MR. KELLAHIN: Jason Kellahin representing Continental Oil Company. We will have one witness Mr. J. A. Moore. If the Commission please, this is an application for two unorthodox proration units in an area lying along the southern boundary between the states of New Mexico and Texas in a short section.

J. A. MOORE

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

DIRECT EXAMINATION

By MR. KELLAHIN:

Q Mr. Moore, will you state your name for the record?

A J. A. Moore

Q By whom are you employed?

A Continental Oil Company

Q What is your position?

A Division Engineer of Production, New Mexico Division

Q Have you ever testified before this Commission before?

A No, sir.

Q Will you state to the Commission your education and experience as an engineer?

A I have a B. S. Degree in Petroleum Engineering from the University of Texas, which I received in 1942, and have been employed by Continental Oil Company since 1947 as a Petroleum Engineer and Production Engineer.

Q Where did you work as a Petroleum Engineer and Production Engineer?

A I have worked in North Texas, Oklahoma, West Texas and New Mexico.

Q In connection with your work, did you ever have any experience with the Delaware formation?

A Yes, sir. I have had experience with the Delaware Formation in Texas and in New Mexico.

MR. MACEY: You are referring to the Delaware Sand.

Yes, sir.

Q Mr. Moore, are you familiar with the subject matter of the application of Continental Oil Company in Case 946?

A Yes, sir.

Q Could you describe briefly in a general way the location and size of the lease and the characteristics of the lease?

A The lease is located in Section 35, Township 26 South, Range 31 East, Eddy County, New Mexico, and consists of all of the section, which is a small section. It has 261.6 acres in it.

Q Does Continental have the entire section under lease?

A Yes, sir.

Q Is all the royalty common?

A Yes, sir.

Q Have you prepared a plat of the lease showing the well locations and royalty ownership?

A Yes, I have.

Q Referring to what has been marked as Continental's Exhibit 1 in Case 946, would you state what that is.

A This is a plat that shows the location of this lease in respect to section lines; Shows the wells drilled on the lease and drilling on the lease; shows the offset leases and operators.

Q Who owns the offset leases?

A The lease to the East is held by Gulf Oil Company; leases to the South are held by Ibex, TXL Oil Company, Ohio Oil Company; leases to the North are held by the Texas Company and the lease to the West is held by the Ibex Company.

Q Does Exhibit 1 show any producing wells in this area?

A Yes, it shows all the producing wells in this area.

Q Referring to those producing wells, what is the producing formation?

A Delaware Sand.

Q What pool does this area lie in?

A This lies in the North Mason Delaware Pool.

Q This lease is along the north end of the pool and thus that pool extends over into Texas.

A Yes, it does.

Q Referring to the wells drilled by Continental, would you give the Commission the completion date of these wells?

A Well No. 1 was completed June 11, 1955. Well No. 2 was completed July 7, 1955. Well No. 3 was completed July 28, 1955. Well No. 4 was completed August 17, 1955.

Q Are all of those wells producing from the Delaware Sand?

A Yes

Q Are their locations properly shown on the plat?

A Yes, they are.

Q Are all those locations unorthodox locations under the Rules and Regulations of the Commission?

A I believe they are.

Q Do you have any present proration units set up for the granting of allowables for those wells?

A Yes.

Q What are those proration units?

A For the No. 1 Well, it has a proration unit of 25.55 acres. The No. 2, 3, and 4 Wells are located on 40 acre proration units.

Q At present, your No. 1 Well then is granted an allowable based on 25.55 acres.

A Yes.

Q What do you propose to do in forming proration units for the No. 1 Well and the remaining acreage?

A The South 100.6 acres, approximately, is divided into four proration units of approximately 25 acres each. We propose to combine the two most easterly to form one proration unit of approximately 51 acres, and likewise, the two most westerly to form one proration unit of 50.6 acres.

Q On Exhibit No. 1 you show acreage in those proposed units as to acres in lots. Have you checked the official government survey in connection with that acreage?

A Yes.

Q What plat did you check?

A I checked the official plat at the Bureau of Land Management.

Q What does that show as to the acreage of those lots.

A It shows Lot 1 has 25.55 acres; Lot 2 has 25.45 acres; Lot 3 has 25.35 acres; Lot 4 has 25.25 acres.

Q And to that extent, Exhibit 1 would be subject to correction.

A I believe that we have corrected the exhibits we have given to Mr. Macey.

Q In the formation of these units, are you asking an allowable based on the acreage?

A Yes, which would be approximately 51 acres in each instance.

Q Are you familiar with the development pattern and spacing in the Texas portion of the North Mason Delaware Pool?

A Yes, I am.

Q What is the spacing pattern?

A It is one well to 40 acres.

Q Are you familiar with the proration allowables which have been set for that area?

A Each well is given an allowable of 93 barrels, which, of course, is subject to shut-down days.

Q Do you know what the present allowable would be?

A The present allowable is 45 barrels per day.

Q Does that allowable compare with the New Mexico portion of the pool?

A At present, the New Mexico side of the pool is granted 48 barrels per well on 40 acre spacing.

Q Mr. Moore, have you made any study of the Delaware Sand in this area?

A Yes. On the average, pay thickness on our lease here is approximately 10 feet.

Q Does it vary throughout the lease?

A Yes, it does. It varies from about 5 feet to 14 feet.

Q Are you familiar with the permeability of the formation?

A Yes. On the average the permeability varies from about one to 66.

Q Would you characterize that as being good, fair or poor.

A It is about common for the Delaware Sand. It is fairly low compared to the other reservoirs.

Q Have you made any study of the cost and drilling and equipping of this lease?

A Yes, I have.

Q What would it be based on our actual cost?

A The average cost per well is \$44,914.00.

Q Mr. Moore, considering the consistency of the sand and thickness of the pay section, in your opinion, would it be economical to drill wells on each one of these lots?

A In my opinion it would not.

Q In your opinion, would your well effectively and economically drain the proposed units?

A I believe that it will.

Q In your opinion, would the drilling of additional wells recover any additional amount of oil?

A No.

Q Would it constitute waste to drill such wells?

A Yes, it would.

Q Referring to Exhibit "No. 1, Mr. Moore, the proposed proration unit

to the left side, have you made a proposed location for a well?

A We have a proposed location for a well which is 433 feet from the South line and 2310 feet from the West line of the section.

Q That would put it over to the East side of the proposed unit.

A Yes. We feel that this location would more adequately protect drainage from the offset wells.

Q From the offset wells, you are referring to the wells to the South.

A Yes, in the Texas side of the field.

Q What is the status of that well at the present time, Mr. Moore?

A I believe we have an application into the Commission for permission to drill the well and the location has been staked.

Q Do you have anything you want to add to the testimony, Mr. Moore?

A I do not believe so.

MR. KELLAHIN: That is all.

MR. MACEY: Does anyone have anything further in the case?

MR. RIEDER: What do you contribute the productivity of what would be the SW/4 of the W/2, Lot 4?

MR. MOORE: If I understand you correctly, the production would be from the Delaware Sand.

MR. RIEDER: Mr. Moore, on what basis did you decide that Lot 4 would be productive?

MR. KELLAHIN: Mr. Moore, in your opinion, are all of the proposed units reasonably expected to be productive of oil from the Delaware Sand?

MR. MOORE: I believe so within the limits of determination.

MR. KELLAHIN: Now, can you answer Mr. Rieder's question in regard to what you base your opinion on as to the productivity of Lot 4?

MR. MOORE: There has been no wells drilled out there to condemn the area. In the absence of that information, I believe that it could be reasonably presumed to be productive.

MR. RIEDER: I notice on your map that in the NE/4 NE/4 of Section 34 there is a dry hole. Has any effort been made to construct a contour map on the basis of the wells drilled? I realize there would not be much control and with that dry hole, it is rather close. It is my understanding though that this dry hole had two feet of pay in it. I also understand there are plans to re-enter that well. Has any contour map been constructed?

MR. MOORE: Yes. I have seen one. I have not constructed one myself.

MR. GURLEY: Your proposed well is to be in Lot 3, is that correct?

MR. MOORE: Yes, sir.

MR. GURLEY: You refer to drainage from offset wells in Texas, is that well indicated as No. 4 in the cross section?

MR. MOORE: TXL Oil Company Loving Fee No. 4.

MR. GURLEY: Were there any others you refer to as offset wells?

MR. MOORE: I believe you refer to the offset well. There is just one well.

MR. RIEDER: I wonder if you have the information on the Ohio H-1 that is in Texas, Section 4, SE/4 NE/4 of 4.

MR. MOORE: The only information I have is what is on this plat. It shows the total depth of 4,115. Apparently it was dry.

MR. RIEDER: It would seem that there are three dry holes along the west side.

MR. MOORE: Yes. I might point out that the limits of the field here are not determined by structural position but only by permeability development and with that type of reservoir you can have a dry hole in the middle of the field as the permeability shales out.

MR. MACEY: Anything further? Mr. Moore, I notice from figures opposite each completed well, for instance, your No. 2 Russell, you use the figure 4,606, is that depth to the top of the pay? That is the sub-sea depth. This is the depth to the top of the pay from the derrick floor.

MR. MOORE: Yes.

MR. MACEY: If that is correct, the figure immediately underneath that would be the initial potential and the fourth figure is the watercut.



MR. MOORE: I believe that water is in barrels rather than per cent.

MR. KELLAHIN: Do you have the potential on No. 4?

MR. MOORE: Yes, I do. It flowed 60 barrels of oil in 16 hours for a daily potential of 90 barrels of oil, no water.

MR. KELLAHIN: When was that taken?

MR. MOORE: It was taken on August 17th. That information was not available when this exhibit was completed.

MR. WALKER: Gulf Oil Corporation. I missed completion date of Well No. 4.

MR. MOORE: It was completed August 17, 1955.

MR. MACEY: Mr. Moore, inasmuch as the states of Texas and New Mexico have not had a formal hearing, more or less, of a consolidated group of pool rules, I think that this Commission would be rather reluctant to allow someone to dedicate, at some time in the future, if you were to drill a well in the NW/4 of 35. If it was a dry hole it would tend to minimize the productivity of Lot 4.

MR. MOORE: Yes, it would.

MR. MACEY: I am wondering if some arrangement could not be made whereby in the event the Commission should see fit, they would grant the proration unit for your No. 1 Well and possibly withhold the granting of the complete proration unit on your second proposal. Your No. 5 Well you have staked in Lot 3. After all, we are not dealing so much with New Mexico operators, we are dealing with the equities of Ohio and TXL.

MR. KELLAHIN: Did they receive a notice of this hearing?

MR. MACEY: I do not know. I am sure that Ohio is aware of this application, but again they may not be. It is perfectly possible.

MR. KELLAHIN: Under the law they both have notice.

MR. MACEY: Well, I agree with you that under the law from the standpoint of New Mexico, but TXL is not operating in the State of New Mexico. If they had operations in the State I feel that they would know what was going on. You do propose to start your No. 5 Well immediately.

MR. MOORE: Yes, I believe it would be started within two or three days.

MR. MACEY: In your No. 4 Well, was there good sand?

MR. MOORE: According to core analysis we had 9 feet of pay, which is about average, one foot below average.

MR. MACEY: What is the average for the reservoir?

MR. MOORE: I do not have any information on it.

MR. RIEDER: Do you know what it is where you plan to drill, NW/4 of Section 35?

MR. MOORE: I do not know. I don't have any information.

MR. KELLAHIN: In the event Ohio drills in the NW/4, that would be granted a 40 acre allowable immediately; whereas if we got down to one lot, we would be something over half of that and the same is true of TXL. They are fully developed on their acreage.

MR. MACEY: Would you be satisfied with a 40 acre proration unit?

MR. MOORE: We would prefer that to 25.35 acres.

MR. KELLAHIN: I would be a little curious on what factors the Commission would base such a unit.

MR. MACEY: It has been done before; in very similar circumstances involving a lot on the state line east of Hobbs in the East Hobbs San Andrews Pool, and structure was the controlling factor. It was reasonably easy to determine above the oil-water content.

MR. KELLAHIN: If the Commission, please, when the company does project this well No. 5, if any additional data would be available, we would be more than happy to bring it to your attention. In the absence of any indication that the acreage is not productive, we would allocate the entire acreage to the well.

MR. MACEY: The presence of those dry holes is a little bit indicative. That is what we are afraid of.

MR. KELLAHIN: That well No. 2 of Ibex, as the witness testified, had two feet of pay. There is nothing in the regulations that it has to be productive. Probably is not commercially productive because of the small pay zone. In other words, if we have two or three feet on the west side, might not it be possible to go over there and drill a well for that particular area.

MR. MACEY: That is true. In a great many reservoirs, said portions of a tract are not as productive as others. Would you be willing to submit to us an isopach map? The most logical instrument would be an isopach map of the sand thickness.

MR. MOORE: Structure does not mean anything.

MR. MACEY: If you can get the data we would like to see it. It may be that it is available on the Ibex and Ohio 1-H.

MR. RIEDER: If it is available, we would certainly like to see some data on pay thickness to supplement the data that is submitted here.

MR. KELLAHIN: Mr. Adams tells me that the pay has not been penetrated in that area because they encountered water. We will furnish all information as to the pay thickness in this area. Would be happy to do so.

MR. LYONS: We could, I am sure, furnish an isopach map, but it would be quite interpretative because of the control on that end of the lease. Of course, it is the area in which you and we are both interested in.

MR. MACEY: Does anyone else have a question or comment? If not, the witness may be excused.

(Witness excused)

MR. KELLAHIN: If the Commission please, in view of the questions that have come up, I am sure that Continental would have a little additional information at the time this well No. 5 is completed. I am sure we will furnish that to the Commission. In regard to whether that is productive or not, I cannot agree it is not productive and in view of the fact that No. 2 has had a pay zone while it was not thick. It is fairly thick on the east side of our lease, increases as you go east. I would like to offer Exhibit No. 1 as evidence in this case.

MR. MACEY: Anything further in the case? If not we will take the case under advisement.

NEW MEXICO OIL CONSERVATION COMMISSION  
MABRY HALL - STATE CAPITOL  
SANTA FE, NEW MEXICO

REGISTER

HEARING DATE August 18, 1955 TIME: 9:00 a.m.

NAME:	REPRESENTING:	LOCATION
Don Waller	Superior	Albuquerque
R. C. Allen	...	...
W. R. Allen	...	...
J. T. Lyon	...	...
ILLEGIBLE		...