BEFORE THE

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

May 7, 1969

EXAMINER HEARING

IN THE MATTER OF:

Application of Eastern Petroleum Company for special pool rules, San Juan County, New Mexico.

Case 4117

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4117.

MR. HATCH: Case 4117, continued from the April 23, 1969, Examiner Hearing. Application of Eastern Petroleum Company for special pool rules, San Juan County, New Mexico.

MR. McDERMOTT: W. H. McDermott, appearing for the Applicant, Eastern Petroleum Company, and I have one witness I would like to have sworn in.

(Thereupon, Applicant's Exhibits 1 thru 4 were marked for identification.)

ROBERT E. LAUTH,

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

DIRECT EXAMINATION

BY MR. McDERMOTT:

MR. UTZ: Any other appearances? You may proceed.

Q State your name, please?

A Robert E. Lauth.

Q Where are you located?

A In Durango, Colorado.

Q What is your occupation?

A I am a Geological Consultant.

Q Are you presently employed by Eastern Petroleum Company?

A Yes.

Q Would you state for the Examiner your education and your brief working experience?

A I am a graduate geologist out of the University of Minnesota, B. A. in 1951. I have been a Consultant in Durango in the Four Corners area for fourteen years, and I worked for various companies and individuals, banks, estates throughout the area.

MR. McDERMOTT: Are the qualifications of the witness acceptable?

MR. UTZ: Yes, they are.

Q Are you acquainted with the application of Eastern Petroleum Company in Case 4117 here before the Examiner?

A Yes.

Q Are you acquainted with the Rattlesnake Field in San Juan County, New Mexico?

A Yes.

Q Have you had an opportunity in the past to study this particular field?

A Yes, I made a study on the thing back in 1966,

and on the results of the report in there, did interest Eastern Petroleum Company into taking a farm-out on it from Continental Oil Company.

Q Do you have your report on which you make certain statements as to production in this area?

A Yes.

Q Do you have that report with you?

A Yes.

Q Would you just limit your comments from the report as to the geological situation in the Rattlesnake Field?

A The Rattlesnake Field is a really interesting field. It was discovered in 1924, and has been producing since that time, almost a period of forty-five years. The oil is a very low viscosity, high gravity oil on the order of about 74 -- 71 to 74 API gravity. The Rattlesnake structure is anticlinal -- I will just go back a ways -- is anticlinal, and the production comes from the Dakota beds at about six to seven feet in depth. And the wells, Continental has taken about four and a half million barrels out of the field up through 1967; and in the early thirty's in the north part of the field, they took and pulled on the wells pretty heavy, and it coned some of the water

in. The gravity of the oil in relationship to water, once this pulls in, is gone. So at the time Eastern took over, it is my contention that Continental probably got the field in 1930 to 1940 in the north part of the field, it was my contention that during those twenty years time, that due to the good relationship of the oil to water, viscositywise, that the oil was seeking the higher portions of the field again.

Q Now, has this been proven out by drilling that's been done?

A Yes. A lot of the drilling has established what is the present water level in the area, then to go ahead and find the cleaner portions of the sand, so that it was what we were trying to do at the time was go ahead and cap the cleanest portion of the sand in each particular bench.

Q How many producing wells are in the field at the present time?

A There are eight producing wells.

Q What is the daily production?

A 53 barrels.

Q For the total eight?

A For the total eight.

Two of them are in various stages.

Q I call your attention to what has been marked as Exhibit No. 1, or entitled "Rattlesnake Field Map No. 1," a structure map, and I wonder if you would explain this to the Examiner?

A Map No. 1, this is a structure map. The solid curved lines on top of the first bench of the Dakota; the dotted lines with the yellow color are termed main distributing channels and inter-distributor channels which in essence is just a marine channel in a marine type environment and the intervening mud flats.

Q Would you explain what has been marked as Exhibit No. 2?

A This is the same thing as the first, except it is on the second bench of the Dakota, and shows the same thing.

Q And Exhibit No. 3, which is Map No. 3?

A Map No. 3 shows the same thing on the third bench of the Dakota. The Dakota is divided into three benches about sixty-five feet think, and there is a little fault through there about thirty feet in displacement. There is no third bench production south of that fault.

Q Does Eastern Petroleum Company own the rights down to the third bench?

A Yes.

Q Is that where all the production is from, from these three benches?

A At the present time, yes.

Q In the application, Eastern Petroleum seeks two-and-a-half acre spacing. Would you explain to the Examiner the purpose and the necessity for this type of spacing in this area?

A It is more or less to locate on structure, and the structures are a series of little highs, and in conjunction with the sand channel, the highest structural position to go ahead and produce that well. We found out if you produce the wells very heavy at all, you will cone the water in. So Eastern has been holding the production down to between ten and fifteen barrels a day, and trying to pop into the high structural position in each little channel.

Q Would the application as stated, whereby no well would be located nearer than 50 feet to the outer boundary of the quarter quarter section and no nearer than 160 feet to another well producing from the same pool, produce the results that you are asking for here?

A Yes. The way the rule reads is now 330 feet from each legal subdivision line, and with these little channels as narrow as they are, even on the maps in there, they show the main distributary channels, within those distributary channels there is much variation, and if you stay 330, you leave a big gap and you can miss a channel completely.

What Eastern would like to do is drill 50 feet, no closer than 50 feet from each legal subdivision boundary in there within the limits of the acreage in the inside portion of their acreage, not on the outside portion.

Q Calling your attention to Exhibit No. 4, lease information, does Continental own any rights in the boundary which you have here colored in?

A It is orange. They have all the deep rights in there. But Eastern has an operating agreement with them for the rights down to the base of the Dakota or 1,200 feet, in case the Dakota is not there. The reason there are two colors on that lease information map is the first original agreement with Continental Oil Company covered the acreage that is outlined in orange, and accepted the 560 acres as outlined in green, and then a subsequent deal with Eastern took over the entire portion

so they have all within the limits of the orange at the present time. It is 2,400 plus 560 acres.

Q Do you feel that this type of spacing is necessary for the further production in this field?

A Very definitely.

Q Do you feel that it will serve conservation purposes by having this kind of an exception allowed?

A I do. I think it is just all attic oil. It has been in the stripper stage for many years now.

Q Will any correlative rights of other parties be damaged?

A No.

Q Did you have these Exhibits prepared by yourself or did you supervise these?

A Yes, I did.

MR. McDERMOTT: At this time, I would like to move for the admission of the exhibits.

MR. UTZ: Without objection, Exhibits 1, 2, 3 and 4 will be entered into the records of this Case.

(Thereupon, Applicant's Exhibits 1, 2, 3 and 4 were admitted in evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Lauth, are you familiar with the pool rules over in the little two-and-a-half acre spaced pools to the east of this area, in Shiprock, and some others?

A Yes.

Q Are the rules that you are questioning here the same as those rules?

A Yes, with one exception, that is the 50 foot from your legal subdivision boundary.

Q You mean 40-acre legal subdivision down there?

A Yes. Rattlesnake is a lot different as far as the sands are concerned, than at Shiprock. In the first bench, there is much more variation due to your extreme channels. It is closer to your source of deposition, so the environment is a lot different.

Q There is no offsetting production to this anticline at all, is there?

A No, sir. Shiprock, the little Shiprock is over to the east, and it is off the acreage, way of the map here.

Q And do you control the entire structure?

A Yes, sir.

Q Are there any Pennsylvanian wells producing there?

A I think there are probably six or seven wells.

They are in about the last stages of production on that, too. I think they are down to about 40 barrels a day for the six or seven wells.

Q Now, how do you intend to complete these little wells?

A Set surface casing probably about one joint of 7 inch, drill on down to the top of the pay, and set 4 1/2 inch casing on a production packer, and core into it. If it is in the sand, if we get a well in there, we will go ahead and cement the casing, say, from the outside, or probably run a string of tubing on the outside. But we found in there that cement next to the sand damages it, so that once you cement it, you never get it back. The wells are low productivity; they are about 10 barrels a day average.

Q Where are you going to set the 4 1/2?

A On top of the pay, and just drill into the pay. If, say, the first bench is not productive, then unloosen the packer, pull the casing out, and drill on down and check the second bench, and set the packer again, and then for the third.

Q Are you going to leave the 4 1/2 in?

A Yes.

Q Just landed, or going to cement?

A Going to cement it from the outside.

Q With tubing down the outside?

A With tubing down the outside, yes.

Q Do you have any idea about the pressures in this?

A Yes, the original pressure from all the literature I can read is about between 270 and 300 pounds, and that was one of the interesting things about it. There is a water encroachment in the area, and the pressure now has built up to about 291 pounds. We are going to have the original pressure and everything else, just like it was a new field, of much smaller size.

MR. UTZ: Any other questions of the witness? You may be excused. Any statements? The case will be taken under advisement.

I N D E X

STATE OF NEW MEXICO)
) SS,
COUNTY OF BERNALILLO)

I, SAMUEL MORTELETTE, Court Reporter 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.

Samuel R. Mortelette

My Commission expires:

December 6, 1972.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4117, heard by me on May 7, 1969.

Examiner
New Mexico Oil Conservation Commission

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 23, 1969

EXAMINER HEARING

IN THE MATTER OF: Application of Eastern Petroleum Company for special pool rules, San Juan County, New Mexico.	Case No. 4117

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 4117.

MR. HATCH: Case 4117. Application of Eastern Petroleum Company for special pool rules, San Juan County, New Mexico.

The Commission has received a request from the applicant that it be continued to May seventh.

MR. UTZ: Case 4117 will be continued to May seventh.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, GLENDA BURKS, 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 30th day of April, 1969.

Glenda Burks
NOTARY PUBLIC

My Commission Expires:

March 12, 1973.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4467 heard by me on May 1, 1973, 19 69

Examiner
New Mexico Oil Conservation Commission