BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 6, 1963

IN THE MATTER OF:

Application of Ralph Lowe to create a new pool for Upper Pennsylvanian gas production, and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Upper Pennsylvanian gas production in Sections 22 and 23, Township 21 South, Range 23 East, and the establishment of temporary pool rules therefor, including a provision for 640-acre spacing units. CASE 2749

IN THE MATTER OF:

Application of Ralph Lowe to create a new pool for Morrow gas production, and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Morrow production in Sections 22 and 23, Township 21 South, Range 23 East, and the establishment of temporary pool rules therefor, including a provision for 640-acre spacing units. CASE 2750

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call next Case 2749.

MR. DURRETT: Application of Ralph Lowe to create a new pool for Upper Pennsylvanian gas production, and for special pool rules, Eddy County, New Mexico.

MR. BRATTON: Howard Bratton, appearing on behalf of the Applicant. If we could, we would like to present this case and 2750 together.

MR. NUTTER: We'll call next Case 2750.

MR. DURRETT: Application of Ralph Lowe to create a new pool for Morrow gas production, and for special pool rules, Eddy County, New Mexico.

MR. NUTTER: Is there objection to the consolidation of Cases 2749 and 2750 for the purpose of taking the testimony? The cases will be consolidated.

MR. BRATTON: If the Commission please, I am a little embarrassed, Mr. Stamets asked me if I had an extra copy of the exhibits that he could take back with him. Unfortunately, we came with only one copy of the exhibits, and I am going to ask if the witness and the Examiner can sit in close proximity so we can see what we're talking about. We will furnish extra copies, including one for Mr. Stamets.

(Witness sworn.)

(Whereupon, Applicant's Exhibits Nos. 1 through 10 marked for identification.)

HARVIN L. LANDUA

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name and by whom you are employed and in what capacity?

A Harvin L. Lanua, employed by Ralph Lowe as a Technical

Administrator.

Q Have you previously testified before this Commission as an expert witness, Mr. Landua?

A Yes, I have.

Q Are you familiar with the area in question in these two cases?

A Yes, sir.

MR. BRATTON: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

Q (By Mr. Bratton) Mr. Landua, as I understand, these two cases involve the same area and they involve two pools overlying each other, is that correct?

A That's correct.

Q And you will present the evidence relating to each of the two pools, the designation of them and the proposed field rules?

A Yes, sir.

Q Will you refer to your Exhibit No. 1, Mr. Landua, and explain what that is and what it shows?

A Exhibit No. 1 is a plat showing the location of the two completed wells and the current drilling well in this area, which has been designated the Indian Basin Area. It's located in 21 South, 23 East, of Eddy County, New Mexico.

Q What two sections are we talking about, Mr. Landua?

A We have asked that Sections 22 and 23 be included in

the current designation of this pool.

Q Now the first well drilled was located in Section 23?

A 23.

Q And the second well drilled was located in Section 22?

A Correct.

Q And both wells encountered both pools, is that correct?

A That's correct.

Q Now there's a third well drilling at the moment where, Mr. Landua?

A In Section 14, being located 1650 from the south and east lines of Section 14, and this morning the well is drilling at 8460.

Q But for the moment we're just talking about the two sections in which the two completed wells are located?

A Yes, sir.

Q Now, Mr. Landua, do you have a geological structure map or any such of this area?

A No, sir.

Q Would you explain very briefly to the Commission why not?

A We have not prepared our geological structure map because we cannot explain this accumulation of gas. The original well was drilled on geophysics and the geophysics indicated that we had a Devonian structure. The Devonian proved water-bearing, and the Pennsylvanian gas shows were encountered up the hole. We

do not know whether they will be related to structure or stratigraphic condition at this time.

Q It's just too early and incomplete information upon which you could hazard a guess that you would want the Commission to rely upon?

A That's correct. We have no idea which way the pool will tend to go.

Q Do you have anything further in connection with your Exhibit No. 1?

A I think the Exhibit would be self-explanatory. It shows the operators and the wells.

Q The first two wells are both operated by Ralph Lowe?

A That's correct.

Q Let's turn then to your Exhibit No. 2, Mr. Landua.

A Exhibit 2 is a Schlumberger electrical well log that was taken in the first well, and the log has been marked as to top of the various formations encountered. It further shows the interval open to production in each of these two intervals and is defined as a dual induction lateral log.

Q Let's get down to the two formations we're talking about now, Mr. Landua. The first pool, the first formation is the Upper Pennsylvanian, is that correct?

A That's correct. We have designated it as the Upper Pennsylvanian section and the section extends roughly from 7354 to 8,054 in this well, as depicted on this log.

Q Now you have the tops and bottoms of the various formations drawn on that exhibit, is that correct?

A That's correct.

Q And also the interval open in this well, is that correct?

A To production, that's correct.

Q Now go on down the log to the Morrow formation.

A In this particular well, the Morrow formation was encountered from 8945 to 9442.

Q And you have the top and bottom marked on there, as well as the interval open in the well, is that correct?

A That's correct.

Q Do you have these two formations dualled in this well, is that correct?

A Yes, sir, they're dualled with two strings of tubing.

Q Is there anything else you care to bring out in connection with the log of that well?

A Nothing other than that our gas was encountered within the Pennsylvanian section.

Q Turn to your next exhibit, is that a log of the second well in Section 22?

A Yes, Exhibit 3 is an identical log that was run in the second well, and the formation tops were marked and designated just as in the other exhibit; and the interval open to production was indicated in the same manner.

Q Now the two formations encountered there, can you

correspond them to the formations encountered in Well No. 1?

A Yes.

Q You picked up the same two formations and you can correlate them from one log to the other?

A Yes, sir.

Q And you have, and those are marked on the log?

A Yes, sir.

Q What are the intervals on those as to the two formations on that log?

A In the second well, the Upper Pennsylvanian was encountered from 7353 to 8,034. The Morrow was encountered from 8954 to 9418. The second well, incidentally, was not taken to the Devonian.

Q From those logs or from your other information, is there communication between these two pools, these two accumulations?

A Horizontal communication.

Q Yes.

A They are separated by shales, sands, limestones, definite separation.

Q Turn then to your next Exhibit 4, and they are identical, Mr. Landua, only as to the different formations in the wells?

A Yes. They are a Form C-122, New Mexico Oil Conservation Commission, Multi-point Back Pressure Test for Gas Wells. These forms indicate the results of the absolute open flow test taken

on both wells in each zone. They were taken in the presence of the Commission's engineers by consulting engineers, and were taken under the recommended procedures of good production practices of testing.

Q What do they reflect as to the potential of each pool in the two wells?

A In the first well, the Upper Penn section had a calculated absolute open flow potential of 16,100,000 cubic feet of gas per day, along with approximately 13 barrels per million of 61 gravity condensate.

Q Then as to the others, Mr. Landua?

A The Morrow formation -- incidentally, this is Exhibit 4. Exhibit 5 is an absolute open flow test of the Morrow formation in the No. 1 well, and that absolute open flow potential was 12,100,000 cubic feet per day along with approximately three barrels per million of 53 gravity condensate.

We have also indicated on these forms exact productive interval open, which is shown on the logs. I present this as Exhibit 5.

Exhibit 6 is the absolute open flow test for the Upper Pennsylvanian in the second well, and it reflects an absolute open flow potential of 14,250,000 cubic feet of gas per day along with condensate in approximately the same ratio.

MR. NUTTER: As the No. 1?

A As the No. 1 Upper. Exhibit 7 is a test of the Morrow

in the second well, and this test resulted in obtaining 20 million cubic feet of gas per day along with condensate in approximately the same ratio as in the first well.

MR. NUTTER: In the lower?

A In the lower. That's Exhibit 7.

Q (By Mr. Bratton) Now turn to your Exhibit No. 8, Mr. Landua.

A Exhibit 8 is a tabulation of core data of the cores that were taken in the first well. In this well, short intervals were cored primarily to get a look at the formation.

Q Actually, Mr. Landua, you cored extensively in the No. 2 Well, didn't you?

A Yes.

Q In this first well, how much did you core?

A In the first well, in the Upper Pennsylvanian we cored 25 feet and had 14.4 analyzed.

Q And in the lower you cored --

A In the lower?

Q No, in the first well.

A In the lower we cored 4.5 feet and had 4.5 feet analyzed.

Q Now the results of that analysis are shown in that exhibit?

A Yes.

Q And they reflect a lower range of permeability than in

your No. 2 where you cored great portions of the intervals, is that correct?

A That's correct.

Q Let's turn to your Exhibit Number -- your next exhibit on the Well No. 2.

A That's Exhibit 9, which has the core data put up in similar fashion.

Q How much did you core in the Upper Penn in that No. 2 Well?

A In the Upper Penn in the second well we cored 273.9 feet.

Q What are the indicated results of that as to permeability and porosity and the other information reflected there?

A The permeability and porosity is much higher as an over-all average where we got more of the formation to look at. Out of the 273.9 feet, we had 181.4 analyzed.

Q What were the results of that, Mr. Landua?

A These results indicate that the average permeability for the 181.4 feet analyzed was 44 millidarcys, and the average porosity was 3.7 percent.

Q What else is reflected there? Is water reflected there?

A Yes, residual water saturations and the residual oil saturations are also reflected.

Q What are those?

A The connate water was 35.4 percent of the pore space,

and the oil saturation was 4.8 percent of the pore space.

Q Go then to the Morrow formation, and what did you core of it and what were the results of that?

A In the Morrow formation, 187.9 feet were cored, and 18.0 feet were analyzed.

Q What were your results?

A The permeability is reflected here as 12 millidarcys for this 18 feet. The average porosity is 10.8 percent. The residual oil saturation is 3.9 percent, average connate water saturation, 48.5 percent.

Q These wells are shut-in, of course?

A Yes.

Q Is there any pipeline anywhere within the general area?

A Yes.

Q How close?

A We understand approximately 40 miles.

Q Is it liable to be quite a while before there is any production from this area?

A Yes.

Q In the terms of months or years?

A Personally, we think years.

Q Actually, you are a good long way removed at the moment?

A Yes, sir.

Q Do you have any other information upon which at this time effectiveness of drainage could be estimated, other than the

productivity and the data from the cores?

A None.

Q Based on those data, what is your estimate, Mr. Landua, as to the drainage area of one well in each of these two pools?

A I would say, based on the material encountered in the well bore in these two wells in each of these formations, they would be capable of a drainage area in excess of 640 acres.

Q Until such time as you have some production history and the possibility of interference tests, would it be possible to make any other or different estimate of the area, Mr. Landua?

A No, sir.

Q So that at the present time, and based on the present information available, you think a well in each of these pools will drain in excess of 640 acres?

A Yes, sir.

Q Turn to your next exhibit, then, Mr. Landua.

A The tenth exhibit is a tabulation of the cost of the first well and the cost of the second well.

Q What do those reflect as to cost, Mr. Landua?

A The first well, which was taken to the Devonian at approximately 10,100 feet, cost $431,419.83.

Q And the second well?

A The second well, which was taken just to the Barnett shale at approximately 9500, cost $296,122.04.

Q Now that second well, Mr. Landua, would that be more

approximately the cost of future wells in these two pools?

A Future dually completed wells, yes.

Q The first well went to the Devonian and also had considerably more testing?

A Yes.

Q Mr. Landua, do you or any of the operators in this area have any estimate as to possible recovery, based on the limited data that you have at this time?

A Yes.

Q What is that, Mr. Landua?

A One operator has estimated that the two zones together in the first well could have between ten and fourteen billion cubic feet of gas reserves to the gross well.

Q Computing gas and liquids, what would be the approximate recovery, dollar-wise, on a 640-acre spacing in this area, Mr. Landua?

A This same operator has estimated that his return on money would be somewhere between three and five to one on 640-acre spacing.

Q I hate to inject an unhappy note into the proceedings, Mr. Landua, but that is based on a gas price considerably in excess of what the F.P.C. or Examiners seem to be talking about at this point, isn't that correct?

A Yes, sir. If we used a nine cent price in our economic work, it would cut this return approximately by three-eighths, I

guess.

Q It would be somewhere down between one and two to one?

A One and three to one, yes.

Q That's the price that apparently the F.P.C. is talking about at the moment?

A That's what I understand, yes, sir.

Q Mr. Landua, is there anything else you care to say in connection with any of these exhibits before we discuss the rules that you would propose to the Commission?

A Mr. Bratton, I believe I would like to point out that the Upper Pennsylvanian in these wells is an intercrystalline dolomite, has large vugs and large fractures; and as we said previously, would have considerable drainage area. We don't believe that our core information would reflect the best part of our formation characteristics.

Q In your opinion, based on the present information, one well will drain in excess of 640 acres in each of these two pools?

A Yes, sir.

Q And the two pools are two separate accumulations, two separate reservoirs, in your estimation?

A Yes, sir.

Q There's no interconnection vertically between them?

A That's correct.

Q What rules would you suggest to the Commission for each of these two pools?

A We would suggest the following rules: First, temporary field rules be granted for a period of twelve months from the date issued.

Q That would be with the firm understanding that very possibly in twelve months we may not have very much more information than we have now because we may, probably, not have a pipeline in there?

A That's correct.

Q But we may have additional information from additional wells drilled?

A Yes, sir.

Q What would your second rule be?

A The second request that we have is that spacing units of 640 acres be set up, and all these acres be within a legal section.

Q Your third rule?

A The third rule, future wells should be placed at least 1650 feet from spacing unit lines.

Q I believe two of these wells are a little closer to the section line than that, is that correct?

A That's correct.

Q And the third well is within that limitation?

A Yes.

Q And you would suggest for some reasonable uniformity of pattern that 1650 be established for future wells?

A Yes, sir.

Q What is your fourth rule?

A The fourth rule then is that the two currently completed wells and the one now drilling be excluded from the spacing requirements of our third rule. Actually, the second well is spaced all right, and the third well, the one currently drilling, is all right. The discovery well was 660 from the section line.

Q But the other two wells would meet the 1650?

A They would meet the pattern, but for the sake of uniformity --

Q Then otherwise you would suggest the Statewide rules, is that correct?

A The component that we would like to request is that all other rules be as the current Statewide rules.

Q Is there anything further you care to state in connection with this application, Mr. Landua?

A No, sir, I have nothing further.

Q Let's go back to one thing. What would you suggest by way of vertical delineations of the two pools?

A I would suggest a depth delineation to cover the interval as marked on electric log of the first well.

Q And those corresponding intervals, whatever depth found in future wells?

A Yes, sir.

Q And I believe you've testified as to those two intervals

in connection with the first well?

A Yes, sir.

Q Were Exhibits 1 through 10 prepared by you or under your supervision?

A Yes, sir.

Q And can we, within a few days, supply to the Commission additional copies of all of these exhibits?

A Yes, sir.

MR. BRATTON: We would offer in evidence Exhibits 1 through 10.

MR. NUTTER: Ralph Lowe's Exhibits 1 through 10 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 10 admitted in evidence.)

MR. BRATTON: I have nothing further at this time.

MR. NUTTER: Does anyone have any questions of Mr. Landua?

CROSS EXAMINATION

BY MR. NUTTER:

Q What is the name designation commonly used by the geologist for the upper section in these wells?

A Cisco.

Q That's the Cisco. You gave the gross interval of the Cisco and the Morrow in each of those wells. What is the actual perforated interval?

A In the first well, the actual perforated interval open to production in the upper is 7376 to 7538, and 7560 to 7588. The lower, the Morrow, in the first well, 9,039 to 9,049, 9,199 - 9,207, 9,227 - 9,235, 9,238 - 9,246, 9,251 - 9,263. Would you like to have the second well?

Q Yes, sir, please.

A In the upper in the second well, 7505 - 7517, 7524 - 7533, 7539 - 7572. In the Morrow, the lower, 9,118 - 9,130, 9,252 - 9,266.

Q In the No. 1 upper, we have two perforated sections in the gross interval, and in the No. 1-A upper we have three perforated sections. Is one zone of porosity non-correlative from one well to the other?

A No, sir. I would say that they are correlative.

Q And that one of these that was perforated is, the third section in the No. 1-A, is included in the gross perforated interval of the No. 1?

A That's correct.

Q Well, then, you have five perforated sections in the Morrow in the No. 1 and only two in the No. 1-A. What's the reason for that?

A The reason for that would be that in the 1-A, we had one sand section that looked real good and in the first well we had a sand section but it was over an interval, over a wider interval.

Q The pay is actually thinning out as you go from the No. 1 to the No. 1-A in the Morrow, isn't it? You have a gross perforated interval in the No. 1 from 9,039 to 9,263, which would be approximately 220 feet; and the other well, you have about 150 feet of pay?

A Yes, we do. We chose not to perforate all the sand intervals in the second well because the one sand we had looked so good that we thought it would provide adequate drainage.

Q But there was additional pay there that was not perforated?

A That's correct.

Q You gave us the average permeability and porosity in the No. 1-A. I realize you had a much greater core there. What was the indicated porosity and permeability in the core of the No. 1?

A In the upper, the 14.4 feet that was analyzed, the permeability was six-tenths of a millidarcy. The porosity was 5.0 percent. The residual oil saturation was 1.4 percent and the water saturation is 48.7 percent; and the interval cored was 7610 to 7635, which is well down in the dolomite section relatively near the gas-water contact.

Q That's low down in the upper pay, then?

A Yes, sir. In the Morrow, the interval cored was from 9200 to 9204.5. The average reported permeability, 2.5 millidarcys; average porosity, 6.6 percent; residual oil saturation,

2.2 percent; water saturation, 19.3 percent.

Q Now referring back to the Upper Pennsylvanian in this No. 1 core, you got a permeability of six-tenths millidarcys. You said this was in the lower section of the Upper Penn?

A Correct.

Q Now the Upper Penn in the other well reflected an average permeability of 44 millidarcys, that was for the entire 181 feet that was analyzed. Was the permeability low in the section that corresponds to the section that was cored in the No. 1-A well?

A We have not studied that, but I think maybe we can read off here. I don't have the exact correlation.

Q Well, at approximately 7600 feet in the No. 1-A well, what was the permeability?

A Well, I have it from 7600 to 7610; at approximately 7600 here is a permeability reading, 7600.2 to 7601.8, permeability is 13 millidarcys and the porosity is 3.8 percent.

Q Then say at about 7620, what would it be?

A Here is one from 7620.4 to 7621.5. It's .5 of a millidarcy, and the porosity is 3.9 percent.

Q So that's getting down in the same range that you obtained in the core of the No. 1 well?

A Yes, sir.

Q What about pressures, Mr. Landua?

A The pressure in the dolomite section is approximately

2900 pounds.

Q Is that the same in both wells?

A Yes, sir, which we assume would be normal for that depth. I don't have the exact figures, but that's the range. In the Morrow it's approximately 3600 pounds.

Q Is it the same in both wells, approximately?

A Approximately, yes; the pressures seem normal for depth.

Q You said that one of the pipelines was about 40 miles from here. What pipeline would that be?

A I understand that Transwestern and Southern Union have pipelines in the area within approximately the same distance.

Q They are both about the same distance?

A Yes, sir. We have not made a map study to determine the location of those lines.

Q Have you commenced any negotiations with either purchaser of gas at the present time?

A No, sir. Our intention is to see what sort of an area we have so that we can indicate to people approximately the magnitude of the reserves that we might have for them.

Q What's the distance to the nearest El Paso line?

A I don't know.

Q What's the estimated cost of the No. 3 Well?

A $295,000.00.

Q Now the No. 3 Well, you said, was drilling at 8460;

that would be sufficient depth to penetrate the Upper Pennsylvanian. Was a drillstem test taken in the Upper Pennsylvanian?

A We got approximately 800,000 cubic feet of gas per day from the top 79 feet. We think we have roughly 400 feet of dolomite in this well, and it was encountered approximately 90 feet low to the second well in the area.

Q Now the dolomite was encountered at approximately the same depth in the No. 1 and the 1-A, so it would be about 90 feet low to the one, also?

A Actually, the dolomite was about 30 feet higher in the 1-A than in the first well.

Q So this would make the No. 1-B run about 60 feet lower than the No. 1, then?

A That's correct. We don't know if those are structural markers, but that was the exact location of the dolomite as we can identify in all three wells.

Q And the well isn't deep enough to have encountered the Morrow, is it?

A No, sir.

MR. NUTTER: Are there any other questions of Mr. Landua?

MR. DURRETT: Yes, I have a question.

MR. NUTTER: Mr. Durrett.

BY MR. DURRETT:

Q Mr. Landua, I'm referring to your proposed rules. If the Commission should determine that a more rigid spacing requirement

in this pool or these pools might be desirable, would you have any objection to this, as long as wells that are presently completed or drilling are granted an exception?

A No, sir, I have none.

Q You think that this might possibly be reasonable, to require more rigid spacing of wells in order to protect correlative rights?

A What do you mean by "rigid"? You mean greater distance from lease lines?

Q Greater distance from lease lines or located in a specific quarter section.

A We have it located in the specific quarter section now.

Q I mean all wells drilled would be located in, for example, the Northwest Quarter or the Southeast Quarter of a governmental section?

A Yes.

Q Was that your proposal?

A No, my proposal was 1650 from lease lines and leave it at the discretion of the operator as to what quarter section he located his well in.

Q You wouldn't feel it would be unnecessarily unreasonable if the Commission required that they be drilled in specific quarter sections, as long as all the wells that are presently completed are granted an exception?

A In this type of reservoir, where we have no idea, the

reason for the accumulation, if it would be related to structure then we might be able to say that we wouldn't mind having wells in the specific quarter section. I think perhaps we should have a little more leeway here in the choosing of the location of these wells.

Q Well, according to, or going along with you on that line, would it be objectionable then to have them located in the specific half section or alternative half sections?

A No, sir, I don't think it would be.

MR. NUTTER: What you have proposed here, Mr. Landua, is by using the 1650 feet from the outer boundary of the section --

A Yes, sir.

MR. NUTTER: You have proposed in effect that the well must be located within the interior 4-- 40-acre tracts?

A Yes. We don't mind getting 1980; we want to say at least 1650.

MR. PORTER: This would be a minimum?

A Minimum, yes, sir.

MR. DURRETT: That will do it, yes, sir.

MR. NUTTER: Any other questions of Mr. Landua? Do you have anything further, Mr. Bratton?

MR. BRATTON: No, sir.

MR. NUTTER: Does anyone have anything further to offer in Cases 2749, 2750 consolidated?

MR. DURRETT: Yes, sir. The Commission has received

correspondence concerning this matter. I would like to read it into the record at this time. The first is a letter from Union Oil Company of California and reads as follows:

"Re Cases No. 2749 and 2750. Gentlemen: In the above-numbered cases set for hearing February 6, 1963, Ralph Lowe seeks special pool rules and new pool designations for Upper Pennsylvanian and Morrow gas production in Sections 22, 23, Township 21 South, Range 23 East, Eddy County, New Mexico. Union Oil Company of California, as leaseholder of neighboring acreage, strongly supports the proposed temporary field rules. We feel that the proposed provision for 640-acre spacing units is in the interest of conservation, and respectfully urge the Commission's favorable consideration of this provision." Signed, R. S. Cook, Division Engineer.

The Commission has received a telegram from B. G. Taylor, Kerr-McGee Oil Company. I would like to read it at this time. It reads: "Re Cases 2749, 2750, scheduled for hearing on February 6, 1963. As a working interest owner in Sections 22 and 23, Township 21 South, Range 24 East, Eddy County, New Mexico, Kerr-McGee Oil Industries, Inc. concurs in applications by Ralph Lowe for the creation of new pools and establishment of temporary pool rules including 640-acre spacing units for Upper Pennsylvanian and Morrow gas production, and that future wells not be drilled nearer than 1650 feet from the outer boundary of 640-acres spaced unit." That is designated as signed by B. G. Taylor for Kerr-

McGee Oil Industries.

We have a final communication in the form of a telegram from Marathon Oil Company, and it reads as follows: "Re Cases 2749 and 2750, Marathon Oil Company joins in the request of Ralph Lowe that temporary rules be adopted for the Upper Pennsylvanian and Lower Pennsylvanian gas pools encountered in Ralph Lowe's Federal Well No. 1 in Section 22, Township 21 South, Range 23 East, Eddy County, New Mexico. However, Marathon recommends the following variations. Number One, the 640-acre proration unit should be substantially in the form of a square comprised of any contiguous governmental quarter sections or lots, not necessarily within the same governmental section but with the usual acreage tolerance; and two, the well for each proration unit should be located at least 1650 feet from the nearest boundary of the proration unit with exception to the 1650-foot requirement for wells completed or currently being drilled, and such other exceptions after hearing as are necessary to protect correlative rights." Marathon Oil Company, by J. O. Terrell Couch.

MR. NUTTER: Does anyone have anything further they wish to offer in this case?

MR. BRATTON: I would like to say we appreciate your share and share alike policy with our exhibits.

MR. NUTTER: I understand the proposal is to name them Indian Basin-Upper Pennsylvanian and Indian Basin-Morrow, is that correct?

MR. BRATTON: Yes.

MR. NUTTER: If there's nothing further in Cases 2749 and 2750, we will take the cases under advisement and take a fifteen-minute recess.

(Whereupon, a short recess was taken.)

* * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings 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 8th day of February, 1963.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2749-2750 heard by me on 2/6, 1963.

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

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