BEFORE THE

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

Santa Fe, New Mexico

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TRANSCRIPT OF PROCEEDINGS

CASE NO. 608

Regular Hearing

March 17, 1954

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
March 17, 1954

IN THE MATTER OF:

Application of Commission on its own motion for an order revising Rule 505, Paragraph 'b', of the Rules and Regulations pertaining to proportional factors used in allocating oil allowables.) Case No. 608

BEFORE:

Honorable Edwin L. Mechem
Mr. E. S. (Johnny) Walker
Mr. R. R. Spurrier

TRANSCRIPT OF HEARING

MR. YOST: If the Commission please, we have witnesses to put on in that matter. Case 608 is the application of the Commission on its own motion for an order revising Rule 505, Paragraph 'b', of the Rules and Regulations pertaining to proportional factors used in allocating oil allowables, and we have two witnesses, Mr. Rhodes and Mr. Macey.

(Witnesses sworn.)

W I L L I A M B. M A C E Y,

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

DIRECT EXAMINATION

By MR. YOST:

Q Will you state your name, please?

A William B. Macey.

Q You are employed by the Oil Conservation Commission?

A Yes, sir.

Q In what capacity?

A Chief Engineer.

Q Mr. Macey, in connection with Case 608 at the December hearing you made reference to a list of wells of various depth ranges, compiled by the Commission staff. That list was never introduced in evidence in this case, nor was it given an exhibit number. Do you have the list to which you had reference?

A Yes, I do.

Q I would like to have that Exhibit marked as Exhibit 1.

(Marked Exhibit 1, for identification.)

Q Now, in connection with this list of wells contained in Exhibit 1, you wrote a form letter to all of the operators requesting information on well costs. Do you have a copy of that letter with you?

A Yes, I do.

MR. YOST: I would like to have this letter marked as Exhibit 2.

(Marked Exhibit No. 2, for identification.)

Q Would you care to read the letter?

A The letter is dated January 6, 1954, and it has the blank space provided for each operator. The letter reads as follows: (Reading) "Case 608 - Well Data. Gentlemen: With respect to the above captioned case the Oil Conservation Commission has directed me to assemble certain cost data on a number of wells drilled in 1953.

It is therefore requested that you furnish this office with the cost data on the wells listed below. Cost data should be limited solely to cost of drilling, equipping and completing wells and should not contain any amount for overhead or supervision. If possible please break the total cost down into three brackets: i, e., drilling cost, material cost and special services.

We would appreciate receiving this information by February 5, 1954 so that the data can be tabulated for presentation at the February 1954 hearing." Signed by W. B. Macey.

Q Now, at the January hearing of the Commission it was stated that a tabulation of these well costs was to be submitted to all of the operators. Do you have a copy of that tabulation with you?

A I think it was at the February hearing, wasn't it?

Q February hearing.

A Yes, I do.

Q Do you have a copy of that tabulation?

A Yes, sir.

MR. YOST: I would like this tabulation marked as Exhibit 3.

(Marked Exhibit No. 3, for identification.)

Q Now, Mr. Macey, is this tabulation exactly correct?

A No, sir, there are a few minor mistakes in it.

Q Would you mind, for the benefit of the Commission and individuals present at this hearing, to correcting those mistakes so everyone will have the correct figures?

A On the first page, in 0 to 5,000 range, Well Number 7, the total should read : 35,578.93. That is $35,578.93. Well

Number 10, the total should read $53,402.00. Well Number 29 the total is 49,004.00; Well Number 30 the total is 45,362.00. In the 6,000 to 7,000 range, Well Number 50, under material cost, the cost is corrected to $31,698.20. The total is correct. Well Number 78, the total is $124,582.00. In the 11,000 to 12,000 range, Well Number 121 the total is $271,108.08; and in the 12,000 to 13,000 bracket, Well Number 136, the material cost is $62,729.00. The total is correct.

Q Is that the total of the corrections?

A Yes, sir.

MR. YOST: At this time, if the Commission please, I would like Mr. Macey to be temporarily excused and Mr. Rhodes take the stand, and thereafter recall Mr. Macey and they can cross examine him.

MR. SPURRIER: Very well. (Witness excused.)

H. N. R H O D E S ,

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

DIRECT EXAMINATION

By MR. YOST:

Q State your name, please.

A H. N. Rhodes.

Q You are employed by the Oil Conservation Commission?

A Yes, sir.

Q In what capacity are you employed, Mr. Rhodes?

A As an engineer.

Q Mr. Rhodes, in connection with the tabulation, which has

been marked Exhibit 3, have you prepared a graph showing these various well costs and depths?

A Yes, I have.

Q Do you have that graph with you?

A Yes, sir, I certainly do.

MR. YOST: I would like the graph marked Exhibit 4.

(Marked Exhibit No. 4, for identification.)

Q Mr. Rhodes, will you explain what the black circles on that graph represent?

A The graph is plotted with the depth in thousand foot intervals horizontally. It would be one inch to 250 feet on the horizontal scale. The well cost is in hundred thousand dollar increments vertically, making the vertical scale one inch to $20,000.00. The cost and depth of each well was plotted on the graph in accordance with the information which we received from the operators, and each of those black circles then represents the well cost at the well depth. That is, a total cost of the well in drilling to the total depth of the well.

Q Now, adjacent to each black circle is a number in pencil. Please state what that number represents.

A That number corresponds to the well number in the tabulation, which was entered as Exhibit 3.

Q And also, I noticed that you have some black circles with red centers in each depth bracket. What does that indicate?

A The black circle with the red center is the average in each depth bracket of the wells drilled in that bracket. For example, we totalled the cost of all the wells drilled in the

six to seven thousand bracket. We also totalled the total depths of all the wells drilled in this bracket and obtained an average cost at an average depth in each bracket. The black circle with the red center is this average point.

Q Now, I notice that in the five to six thousand foot bracket you have three wells which have red circles around them. What do those indicate?

A Those wells were eliminated from the average for that depth bracket, because it was found, upon examination, that the cost of drilling these wells was very excessive due to mechanical difficulties and blowouts. It was not our intention to include in the tabulation wells that encountered difficulty, but rather to use an average well in each case.

Q Will you tell the Commission and the people here what the red line on the graph indicates?

A The heavy red line is an average of all the points and is a curve drawn as uniformly as possible through each one of the points or as near as possible to the points.

Q In some instances the curve misses some of the points and in other places it goes exactly through the point, is that correct?

A That is correct.

Q Now, in connection with this exhibit, did you determine what the average payout for an average well in each depth bracket was?

A We determined the payout of an average well in each bracket below 5,000 feet.

Q And how did you go about this calculation?

A In determining the average payout in each bracket we made a number of assumptions. First of all we assumed that the average well in the five to six thousand foot bracket would be drilled to the midpoint of the bracket; for example, in the five to six thousand foot bracket the average depth used was 5,500 feet. We determined the cost of an average well drilled to the midpoint of each depth bracket, and came up with the following costs at the following depths:

At 5500 feet the average cost was $82,650.00. In the 6 to 7,000 foot bracket, that would be at a depth of 6500 feet, the well cost was $104,250.00. At 7,500 feet the average cost was $126,100.00. At 8,500 feet the average well cost was $148,100.00. At 9,500 feet the average well cost was $169,900.00. At 10,500 feet the average cost was $194,000.00 even. At 11,500 feet the average cost was $230,750.00. At 12,500 feet the average cost was $280,000.00 even; and at 13,500 feet the average well cost was $344,650.00.

Q Now, from these costs you determined a payout, is that correct?

A That is correct.

Q And how did you go about that calculation?

A We assumed that the well was producing under the present allowable system with the proportional factors as they are at present. We also assumed that crude was valued at $2.69 per barrel and that the operator had a 7/8 interest in that oil. By dividing the cost of the well by the net yearly income, we determined the payout in each depth bracket in terms of years.

Q Now, will you read the payouts which you calculated in each depth bracket, starting at the five to six thousand foot bracket?

A The payout in the 5 to 6,000 foot bracket was 1.782 years. In the 6 to 7,000 foot bracket - 1.709 years; in the 7 to 8,000 foot bracket - 1.562 years; in the 8 to 9,000 foot bracket - 1.437 years; in the 9 to 10,000 foot bracket - 1.301 years; in the 10 to 11,000 foot bracket - 1.208 years; in the 11 to 12,000 foot bracket - 1.183 years; in the 12 to 13,000 foot bracket - 1.209 years; and in the 13 to 14,000 foot bracket 1.254 years.

Q Then did you average those payouts?

A Yes, we averaged the payouts, and the average payout of the wells drilled from 5,000 to 14,000 feet was 1.406 years.

Q And in connection with these payouts you used the proportional factors which are presently in effect, is that correct?

A That is correct.

Q In connection with this graph have you prepared new proportional factors?

A Yes, we have.

Q Please state the manner in which you arrived at new proportional factors.

A In arriving at the new proportional factors we reversed the simple mathematical calculation used to determine the original payouts, using an average payout of 1.406 years which we found to be the average under the present allocation system. We calculated the number of barrels of oil which each well would have to produce each day in order to return enough money to the operator to

pay out his well in 1.406 years. We then assumed the present normal unit allowable of 40 barrels and from that we determined what the factor should be.

Q Now, you used the same basic assumptions in determining the new factors as you did in arriving at the payouts under the present system?

A Yes, we used 365 days per year - oil at $2.69 per barrel with a 7/8 interest.

Q Will you state what the new factors you arrived at are?

A They are as follows: In the 5 to 6,000 foot bracket - 1.70 years; -- I beg your pardon, not years, that is the proportional factor. For 5 to 6,000 feet, 1.70; for 6 to 7,000 feet, 2.15; 7 to 8,000 feet, 2.60; 8 to 9,000 feet, 3.05; 9 to 10,000 feet, 3.50; 10 to 11,000 feet, 4.00; 11 to 12,000 feet, 4.75; 12 to 13,000 feet, 5.80 and 13 to 14,000 feet, 7.15

Q Now, do you have a graph comparing the proposed factors with the present factors?

A Yes, I do.

MR. YOST: I would like that graph marked Exhibit 5.

(Marked Exhibit No. 5, for identification.)

A I might explain this graph just a little bit, Mr. Yost. On this graph the red curve is the proposed allowable. That is, it is the normal unit allowable of 40 barrels multiplied by the proportional factor as we have calculated it in our recent survey. The blue line if the present allocation. That is 40 barrels per day multiplied by the present proportional factor. It will be seen that the new allowables will be slightly higher in smaller

brackets, up to about 8,600 feet, at which time they drop below the present allowable in those depth brackets.

Q Now, in connection with the zero to 5,000 bracket, did you determine what the payout was on wells in this bracket?

A We determined an average point at a depth of 3,601 feet the cost of a well drilled to that depth to average $41,800.00.

Q And you obtained that point by averaging all of the wells in the zero to 5,000 bracket as to cost and depth, is that correct?

A That is correct.

Q Now, what point did you use in determing the payout of wells in that depth bracket?

A We examined the production records and the allowables assigned the wells upon which we requested cost information and found that only one well drilled to a depth less than 3,000 feet was capable of producing the present top unit allowable of 40 barrels per day. Therefore, we decided to average the cost of the wells in the 3 to 4,000 foot bracket and average the cost and depth of the wells in the 4 to 5,000 foot bracket.

Q Now, what were these averages for these brackets?

A The average cost of the 15 wells in the 3 to 4,000 bracket was $44,091.00 at an average depth of 3,612 feet. The average wells in the 4 to 5,000 foot bracket was $50,252.00 at an average depth of 4,420 feet. I might add, those two points are represented here by the green circles. We then assumed that the average well drilled in the 3,000 to 5,000 bracket, all of which have a standard unit allowable of 40 barrels, would be drilled to 4,000 feet and then we determined what that well cost would be. That green line connecting the two green circles is the line upon which we base

this determination.

Q And what was the cost of the well drilled at 4,000 feet?

A The cost is $47,500.00.

Q What is the payout under the present allocation system assuming the same factors that you assumed onthe other depth brackets?

A The payout on this well costing $47,500.00 at 4,000 feet is 1.382 years.

MR. YOST: I would like to offer Exhibits 1 to 5, inclusive, in evidence.

MR. SPURRIER: Is there any objection? If no objection they will be admitted.

(Whereupon, Exhibits No. 1 to 5, inclusive, were received in evidence.)

MR. YOST: They may cross examine this witness and I will call for Mr. Macey.

MR. SPURRIER: Does anyone have a question of this witness on cross examination? You may proceed, Mr. Gray.

MR. GRAY: May I ask a question of this witness? Ralph L. Gray.

CROSS EXAMINATION

By MR. GRAY:

Q In figuring the payouts, did you take into consideration the operating cost or taxes?

A In making these calculations shown here, taxes and operating cost were not considered. However, Mr. Macey made a little off the cuff calculation in which he considered just such elements, and we found that in the long run it didn't make a whole lot of difference as far as the relativity of the thing is concerned, let's put it that way.

By MR. HOWARD:

MR. HOWARD: May I ask the witness a question? Mr. Howard with Shell.

Q Mr. Rhodes, you gave a breakdown taking the midpoint on 5,500, 6,500 and on down with the average cost. Now, do you have a similar breakdown for the depths, 4,500, 3,500, 2,500 and 1,500?

A Now, we have one in at thirty-five and one at forty-five.

Q You did not make a breakdown of the average cost below thirty-five?

A No, sir, we didn't. We first considered the brackets zero to 5,000 feet as a single bracket. It came out with this average point at 3,600 feet and costing approximately $42,000.00 We considered that point in drawing the curve. We came back then, and more for our own information than anything else, we calculated the three to four thousand foot bracket and four to five thousand foot bracket and then picked average cost at average depth and then in considering the entire bracket, in computing the proportional factor, we went back and considered a well drilled to exactly 4,000 feet. Now, the reason for that was our survey showed only one well in the entire State which was considered in this summary which was drilled to a depth less than 3,000 feet that was capable of producing its top unit allowable of 40 barrels.

Q Don't you think it would be proper, in order to get the complete picture, that you would extend that information to the depths that I have suggested, so that you may determine the equity, we will say, of the present formula as regards those wells of 3,500 feet or less?

A Well, sir, I would wonder if, actually, that equity would mean anything, inasmuch as there is only one well in that bracket which would produce its top unit allowable.

Q You don't mean, do you, all the wells in the other allowables produce their top unit allowable?

A No, I believe the wells in the summary do produce their top unit allowable.

Q Well, but my point is, if the fact a well cannot produce its top allowable is a justification for not extending your curve to less than 3,500 feet, then it also throws some question, doesn't it, on the validity of the curve in the other brackets? What I am getting at, if it is proper to consider one place, it ought to be considered everyplace.

A Then, would you advocate taking the average cost and average depths of those wells below or above, rather, 3,000 feet, that is the wells drilled in the intervals of 3,000 feet, would you consider then that we should take the allowable as it is assigned on those wells and try to calculate a payout period?

Q Well, that is what was done on the others, isn't it?

A Well, sir, the allowables on the wells in the deeper brackets are all assumed to be 40 barrels, all the wells are assumed to be able to make their top allowable, whereas, in the lower brackets, we have to consider a number of wells may make 10 barrels a day, or 15 --

Q But, can make the 40, if they can make it -- will be allowed the 40 if they can make it?

A If they can make it.

Q What I am driving at, if the Commission is going to take a look at this time of the allowable factor based on depths, it would be proper to have the picture carried down through its entire range. In other words, your lump there, zero to 5,000 in effect now, I think if you are going to review this thing it would be proper to see whether or not that is a proper lumping, or whether we should review -- the Commission should review the factors that are permitted, say, for 3,500, 2,500, 1,500. I mean, just to get the complete picture. That is made just as a suggestion, so that this information will be available. Just one other question in connection with your cost on the deep wells there, did you take into consideration at all any geophysical or costs of that type?

A No, sir, we did not consider anything of that nature, just straight material services and drilling factors.

Q I see. Do you have any idea at all as to what those geophysical costs might run on that deeper stuff?

A No, sir, I would not feel qualified to make an estimate.

Q Is it your opinion they probably would run greater though than on the five or six thousand foot stuff?

A I would rather not express an opinion on that, sir, I am not familiar with it.

Q Now, the only other suggestion, if I may make, and ask you if you don't think it would be proper in line with my suggestion, on your first exhibit there, or your first tabulation would be that you figure the payout period on wells below 5,000, that is, four to five, three to four, two to three, or one to two, just so

the complete picture may be available?

A You are offering that as a suggestion?

Q I am making that as a suggestion, asking you if you don't think it would be proper?

A Well, sir, I would like to study that a little bit before I commit myself on it. I am not satisfied that it would be, nor am I satisfied it is proper to leave it out, but --

MR. SPURRIER: Anyone else have a question of the witness?

MR. FOSTER: Mr. Chairman, I would like to ask a question or two.

MR. SPURRIER: Mr. Foster.

By MR. FOSTER:

Q I notice here in the five to six thousand bracket you have some wells there at seven thousand and over. How does that happen?

A Would you repeat that, please, Judge?

Q Turn over to Well 48 there.

MR. SPURRIER: Judge, come to the front, please.

MR. FOSTER: Can't you hear me?

Q Well, Number 48 there in the five to six thousand feet bracket, I notice you got a depth there of 7,020 feet on that well. Do you think that well belongs in that bracket?

A Well, sir, that is in the six to seven thousand foot bracket, isn't it?

Q No, that is the five to six.

A Did you not say Well 48?

Q Yes, sir.

A That is the six to seven thousand foot bracket.

Q Pardon. Mine shows five to six, I don't know.

A You probably didn't see the range changes at the top of the page there.

Q Oh, I see. So you don't have any in the brackets that are over the depth ranges?

A Yes, we do, Judge, we have two or three which are just over the line, you might say, and those wells were included in the lowere brackets for the reason that normal wells in that particular bracket, which were drilled in the last year, were rather few and far between. In other words, by considering these wells which just barely were over the line, we were only considering normal wells. We, however, applied those costs to the lower brackets.

Q Well, along the line Mr. Howard was asking you about there, considering these lesser depth ranges there. I made a computation here showing that starting with 3,000 to 4,000. You have a well cost factor based on an average of 3,500 feet of one and 4,000 to 5,000 it would be 1.21. As compared to the present depth bracket there, the factor would be, the five to six would be 2.53 as compared to the present 1.33. 6,000 to 7,000 would be 2.39 as compared with the factor of 1.77. 7,000 to 8,000 would be 2.48 as compared to the present factor of 2.33; and 8,000 to 9,000 would be 3.35 as compared to the present factor of 3. And nine to ten would be 4.16 compared to the present of 3.77 and 10,000 through 11,000 would be 4.78 as compared to the present 4.67, and 11,000 to 12,000 would be 5.19 as compared to the present 5.67;

12,000 to 13,000 would be 6.76 as compared to the present 6.75; and the 13,000 to 14,000 depth range, the well cost factor based on the starting at 13,000 to 14,000 would be 8.02 as compared to the present 8. Now, I suppose you can start it at whatever point you want to start, and sort of get whatever answer you would want to come out with. Isn't that true?

A Well, sir, Judge, in computing this the proposed changes here we followed very much the same pattern as was used by the Committee which recommended procedures for setting up depth allowables, in 1945, I believe it was. And, they lumped the zero to 5,000 foot bracket together and considered it as 1.00 and went from that.

Q That doesn't mean it is correct, does it?

A It doesn't mean it is correct, but the procedure followed by that organization was followed here in that respect.

Q As I understand, your only excuse for not starting with a lesser depth range than you started with is you don't have any wells that are making their allowable in that bracket, is that right?

A Well, sir, I don't know exactly what the percentage would be in that bracket. Mr. Macey, do you have any idea?

MR. MACEY: I will tell him later.

Q Well, whether you have any in that range or not, you do have a good many wells that have been drilled in that bracket?

A Yes, a very great number.

Q I notice here, taking your own figures, 15 wells in this 3,000 to 4,000 range, listed on your sheet, which would mean, of course, that is not all the wells that are in that depth range?

A No, sir.

Q There are many others?

A Yes.

Q Well, would you say that if you got 15 wells that were producing within that range these figures ought to be changed?

A Well, sir, there again, Judge, I would like to refer you to Mr. Macey on that particular point, inasmuch as it is purely a matter of policy.

Q What would be your idea about it?

A Well, sir, my idea about it is that the way it is now it is just all right.

Q Well, I understand, but that doesn't answer my question. The production in this range that I am talking about, would you then revise your figures, in your opinion, should they be revised?

A No, sir, I believe the whole thing is more or less of a relative situation and I believe that it would be within reason to start anyplace you chose.

Q Well, then that is just saying that you just start wherever you want to start, to get whatever answer you want to get, isn't that it?

A Well, sir, are you referring to the -- indirectly, in this case are you referring to the payout periods?

Q Yes, I am referring here to the fact that you started where you started, because you said that in this 3 to 4,000 range you didn't have any wells that would make their allowable in that range anyway.

MR. MACEY: You didn't say that.

A Well, they say I didn't say that.

Q Well, what do you say?

A Would you repeat that once more?

Q Well, you said that you started there at the average depth, you took the average depth, a starting point you took, because in the lesser depth ranges there you found no wells that were producing their allowable, or have any of them produced their allowable?

A From zero to 3,000 feet?

Q Yes, you didn't have any there that would produce their allowable?

A Only one.

Q Only one well, so, what I am saying is, what I am trying to find out is, suppose you had some wells in that range that were making their allowables, where would you have started then?

A Well, Judge, I believe that would be a matter which would require a little consideration before I could stick my --

Q You can give me an answer.

A I frankly don't know, Judge.

Q You don't know where you would start?

A No, like I say, I would have to consider it. By the way, Judge, might I say in considering your statement in which you mentioned that we could start any place to come out with any answer we wanted, I was wondering if you might not be referring indirectly to the pay out period of 1.4 years. That is an arbitrary figure, and choosing a payout of 1.4 years, I want it clear the Commission does not condone that payout period. That is merely an average of the calculated payout periods as they now

exist, and as far as the Commission is concerned, or as far as we who calculated the thing are concerned, we don't care whether it is 1.4 or 14 years.

Q But the net result of this whole thing is the allowables come of the deeper wells, isn't that true?

A In the adjustment --

Q Production and allowables will be taken of the deeper wells?

A Yes, sir, as the curve demonstrates, such will be the case.

Q Now, why should the deeper wells paying, should the deeper wells stand all of the cut in the allowables, in your opinion?

A Well, according to our simple mathematical calculation here it shows that the deep wells under the present allowable system are receiving a much faster payout, well, not necessarily a much faster payout, but a faster payout than the wells at the shallower depth ranges.

Q By reason of that fact, you want to extend the period of their payout?

A I would like to not necessarily extend their period payout, but also cut back the period of payout in any depth ranges which now has a very quick payout period.

Q Is it your opinion there is some inequity here between the payout of the wells and the different depth brackets?

A Yes, sir, I believe that was demonstrated in our calculation.

Q Well, that was the purpose of the calculation. Now, if

you started at 3,500 feet you would wind up about where you are now, wouldn't you, according to these figures I read, if they are good or not?

A Well, sir, asyou read the figures it seemed to me they were all pretty much relative to the figures which we have presented here, the only change being the difference between them so to speak.

Q Well, they are relative only to the extent you use the ones I give you, you stay where you are, if you take the ones you are using you move the deeper wells into a long period of payout, now, if that is relative, well, all right.

MR. FOSTER: That is all.

MR. SPURRIER: Anyone else?

By MR. HOWARD:

Q The net result of your suggestion as I see then, is that you would keep the factor from zero to 5,000 as it is?

A That is correct.

Q You would increase the factor from 5,000 to about 8,500, or 9,000.

A Yes, sir, that is correct.

Q And you reduce the factor for the drilling from 9,000 on to deeper formations?

A That is correct, sir.

Q Now, that recommendation is based solely, is it not, on a comparison of the cost figures that you have received as regards those various depths?

A Yes, sir.

Q Have you taken into consideration at all, in making your recommendation, the possibilities that from the standpoint of encouraging development in the State of New Mexico, the person who drills a deep well at the big expense and at the big risk might be entitled to a proportionate return on his money and his risk.

A Yes, sir, that has been considered, but not included in the calculation.

Q In other words, this calculation does not give any weight to that at all.

A No, sir, it does not.

Q Is it -- In your opinion will the major reserves of the State of New Mexico be recovered above or below a depth of 9,000 feet or do you have an opinion?

A In my opinion it would be recovered at a depth in excess of 9,000.

Q In excess of 9,000?

A Yes.

Q So, that according to the strict mathematical curve you have made then you are going to reduce the encouragement factor, shall we call it, to those who might seek to find what you think will be the big major reserve of the State in the future?

A Well, the encouragement factor, or lack of it, would be balanced by other factors which could be construed to work favorably for the deep well operator. In other words, were we to begin to consider things as risk factors, geophysical cost, we would be asked to include interest on the money and one thing and another, all of which would work not only in favor, but would be detrimental

to deep operation.

Q At arriving, however, at a practical and workable and fair formula, is it, or is it not, your opinion that some consideration should be given to that risk factor?

A Well, sir, if you could evaluate that risk factor in dollars and cents it may have.

Q Wouldn't that evaluation be just the difference between $8,000.00 and $350,000.00?

A I don't believe I follow that.

Q Well, okay. Now, let me ask you another thing. You said you did not include in the deep well cost or any cost, the geophysical expenses?

A No, sir, we did not.

Q Now, if testimony at this hearing should show that in connection with the exploration below 9,000 feet the geophysical expenses were considerably greater than at a lesser depth than 9,000 feet --

A Yes, sir.

Q Would, or would you not consider that that was a factor to be considered in making your recommendation?

A Well, sir, there again that could be an intangible figure which would require an entirely different survey, an entirely separate survey from this.

Q But wouldn't that be a proper element of cost to arrive -- to use in arriving at a proportional factor?

A Well, sir, there again I would say that such a factor would be rather difficult to evaluate the dollars and cents.

Q Well, if the evidence could establish what the relative costs were you would consider it proper to consider it in your recommendation, would you not?

A If it could be pin-pointed to where there were no doubts in our minds as to the geophysical costs I would seriously consider it, yes, sir.

Q Then that would be a factor which might or might not change your recommendation?

A Yes, sir, it might, providing, of course, you can put it in an accurate dollar and cents.

Q Right. I think that is all.

MR. SPURRIER: Anyone else? Mr. Gray?

MR. GRAY: I would like to ask the witness about the depth classification from 13,000 to 14,000 feet. There are two wells listed. I would like to ask if both these wells are in the same pool?

A Yes, I believe they are, Mr. Gray.

Q Then, this represents then information from one pool in that depth range?

A Mr. Gray, in requesting information on these wells we requested information only from the wells which had been drilled within the last year, or completed within the last year, and we were just a little bit restricted in that bracket, as to what wells we could request information on. The Anderson Ranch field would be a -- well, virtually the only field in the State producing at that depth.

Q Do you know if there are any other pools that are in that depth range, other than the Anderson Ranch?

A No, sir, I don't.

MR. GRAY: I will assure you there are pools. We would like to request the Commission to get additional data on this depth range, because the figures on the information that we have, seems to be awfully low for that particular depth range, and, inasmuch as these govern this one pool, we would like to ask that additional information be secured from other pools in this depth range.

MR. SPURRIER: You have information, Mr. Gray on these two wells that your company has drilled?

MR. GRAY: Yes, sir, we do have.

MR. SPURRIER: Will you give that to the Commission then for the hearing?

MR. GRAY: Well, I will have to have that mailed. I don't have it with me.

MR. SPURRIER: Anyone else?

MR. TOWNSEND: Jim Townsend, Stanolind.

By MR. TOWNSEND:

Q I notice your wells are only for the year, that you requested information only for the year 1953. Would you tell us why that year was selected?

A Well, sir, the economic cycle, as you are undoubtedly aware, makes a good many swings, from time to time. We felt if we went back any further than that, one year prior to the date of the survey, we would be including, let's say, the economic factor; and, whereas, there are many indexes available by which you can bring an economic factor up to date, we felt it would be a margin

of error. We wanted to keep the survey as current as possible.

Q Considering the economic factor for just a minute, wouldn't you say the cost of the wells drilled in 1952 and 1951 averaged somewhat higher than the wells drilled in 1953?

A In view of the technological advances made in the drilling business in the last couple of years, I would say, yes, that they had, and if the economic cycle should ever change in the future, to an extent where a new survey of the proportional factor would be required, it would be a simple matter to make such a survey.

Q Isn't it true, just for the moment forgetting the economic factor, that the cost of development, wells drilled in a later stage of development is generally less than cost of development of wells drilled in an earlier stage of development?

A That is generally true.

MR. SPURRIER: Anyone else? Mr. Lamb.

By MR. LAMB:

Q Mr. Rhodes, along that line, a well drilled in 1951, with the present factor as we have in mind, what would be the payout status of that well, as of this date?

A As of this date? A well drilled in 1951?

Q 1951.

A Mr. Lamb, I am not sure I follow you.

Q Would it not have been paid out as of this date?

A Yes, sir, it certainly would.

MR. SPURRIER: Anyone else? If not the witness may be excused.

(Witness excused.)

W I L L I A M B. M A C E Y ,

recalled as a witness, having been previously duly sworn, testified further as follows:

DIRECT EXAMINATION (Cont'd.)

By MR. YOST:

Q State your name, please.

A William B. Macey.

Q And you previously testified in this matter?

A Yes, sir.

Q And you have heard the testimony of Mr. Rhodes?

A Yes, sir.

Q And you have heard the questions that have been asked him?

A Yes, sir.

Q And you are fully familiar with all Exhibits that have been prepared by the Commission staff?

A Yes, sir, I am.

Q And you are fully familiar with the new factors that resulted from those calculations?

A Yes, sir.

Q In your opinion, based on the information that you had at your disposal, are they more fair and equitable than the old factors?

A Based on the information which we requested and we received, this is the answer that we came up with. Now, we are not saying that this is the absolute final answer, by any means, that we realize that everybody might have a different approach to this matter. But, I might say, and might assure Judge Foster we didn't

try to arrive at any answer before we started. The reason that we did not consider any well drilled below 3,000 feet in the zero to 3,000 foot bracket was for the simple reason that calculating a payout or a theoretical payout on a well that couldn't possibly produce the present allowable is foolish and fantastic. There are about 1,700 wells in Eddy County completed at a depth of less than 3,000 feet, and all but about 22 of those wells are marginal wells, most of them in the seven and eight barrel class. If a man spends $20,000.00 drilling a 2,000 foot hole and he gets it back at the rate of six barrels a day and not 40 barrels a day, there is no sense in considering the payout under a 40 barrel allow - able.

Q And now, I think it was stated that you consider only wells drilled in 1953, is that correct?

A That is correct.

Q Why did you consider only those wells?

A Well, in 1953 when the State top allowable was 53 barrels which is approximately 33 percent higher than it is right now, oil was $2.45 a barrel, which is about 10 percent less than what it is now. But that 33 percent far out weighs the 10 percent increase in price of oil and wells paid out even quicker then than they do now.

Q Is it your opinion practically all the wells drilled prior to that time will be paid out?

A Yes, if they are capable of producing top allowable.

Q Do you have any comments to make on the wells in the three to five thousand depth bracket?

A No, other than the fact that we made a tabulation using a per month lifting cost of wells in the three to five thousand and every other bracket. And we came out with a -- We made three tabulations as a matter of fact, one calculating a monthly operating cost of $100.00 a month and $150.00 a month and $200.00 a month. And the lifting in the payout period was so close for each depth range under the new factors that it was within a week of each other on an overall payout period.

Q How many examples, Mr. Macey, did you have, how many wells?

A We had a total of 140 wells.

Q And the information was requested from numerous companies, is that correct?

A 32 separate companies, majors and independents both.

Q Did you get a pretty good response?

A We got all but about five or six, I believe.

MR. YOST: I think that is all.

MR. SPURRIER: Does anyone have a question of the witness?

CROSS EXAMINATION

By MR. HOWARD:

Q Mr. Macey, in connection with these wells at less than 3,500 feet, which you have not tabulated by reason of the fact you say there is not many of them, if any, has had wells at 3,500 or less that could make 40 barrels, They have, haven't they?

A Now, Mr. Howard, you may have misunderstood us. We didn't stop at the 3,500 point, we stopped at the 3,000 point.

Q Well, 3,000 then.

A All right. We very very definitely have had wells that could produce top allowable completed at a depth less than 3,000

feet.

Q And it is possible that there may be more, is it not?

A That is very true.

Q Have you computed the payout period on a 2,900 foot well with a 40 barrel per day allowable?

A No, sir, I haven't.

Q It might be interesting to know.

A I have an idea it would be 9/10 per year.

Q Wouldn't it be proper in making your recommendation to carry it on down to cover all of these possibilities of different depth range?

A Mr. Howard, it might be if certain sections weren't in existence right now. Insofar as the present pools in the State, we have a number of pools, if we were to start from scratch with this thing we ought to probably start at 1,000 and 2,000 and 3,000 and so forth. But, you tell me how you are going to break -- what bracket you are going to put the Eunice Monument Pool in, or what bracket to put the Hobbs Pool in and I will go along with you.

Q Well, you have depth brackets at the present time, do you not?

A No, we don't, they are in a separate bracket, 3 to 5,000 feet.

Q You broke this down on your schedule by depth brackets?

A Sure, that is right.

Q Well, all I am driving at is that we get a complete picture of this thing.

MR. HOWARD: If the Commission please, you may tomorrow

get two fields in the State at 3,000 or less that will make 40 barrels a day.

MR. SPURRIER: Is there any reason why we can't calculate them tomorrow?

MR. HOWARD: Well, if you are making a rule at this time to govern the entire productive picture, it seems to me it should be in this picture that you arrive at.

MR. SPURRIER: Is your company on that committee that in 1945 recommended these factors?

MR. HOWARD: I don't know, sir.

MR. SPURRIER: Was yours, Judge Foster?

MR. FOSTER: Well, I don't know, but I will find out and tell you.

MR. LAMB: Mr. Roy of Shell was on the Committee, Phillips was not represented.

A Mr. Howard, in connection with your point, we thought about the possibility of breaking the zero to 5,000 bracket into a 1,000 foot increment, but we just don't see how you are going to determine what the producing, the top of the pay of the first well in that or any pool that was drilled some 20 years ago and say that that is the depth bracket.

Q Well, you can catch from here on, can't you?

A Well, we are.

Q Not if you lump them.

A It is not relative though.

Q You can't do one to one thing and not the other, not if you lump them all at 5,000 feet.

A Well, I -- In connection with what you say, I agree with you that if we were going to start right now that is the way to do it, but you have got a pool -- Well, I will give you an example. You have got some pools that have 1,000 feet difference, the shallow pools from the producing interval of the highest well to the producing intervals of the lowest well. What bracket are you going to put that in?

Q Your engineers will have to figure that out.

A That is the reason we didn't do it because we don't believe it feasible in any circumstances. The same thing applies to the Langley-Mattix Pool. The pool straddles the three to 4,000 line. On pools which have been discovered in the last year or so, I guess we do do it, but you got to remember, when you do it to these old ones you have to make everything relative to that point. I might point out another thing, if you establish a factor of 1.00 as the Judge did in getting those factors of his, when you put a 1.00 factor in a three to four thousand foot well and then increase the factor from the four to five thousand foot well, you are going to be producing a lot more in that bracket than you are right today, and you are going to cut the State top allowable down. Under the proposed factors which we have here, the 40 barrel allowable, in order to keep the present allocation could go to 42 barrels.

Q Isn't there a possibility those shallower wells might operate on a part of a fraction, that is, instead of one that you had?

A Sure.

Q You would reduce and have it a part of one for these shallow depths?

A That is perfectly possible. As I said, we are not completely sold on this. This was our approach, but, still, I can not see in anyway whatsoever how we could go back and assign a depth bracket to some of the shallow pools.

Q You do agree with Mr. Rhodes statement that this recommendation is based entirely upon these cost factors which you received then?

A That is right.

Q And that you have not taken into consideration anything whatsoever as regards risk element, geophysical costs or anything of that type?

A No, sir, we haven't. The original committee that set up the present factors didn't take --

MR. SPURRIER: Let me interrupt -- (Off the record.)

A The original committee -- We read the original committees report before we ever did one thing on this, and we patterned our ideas after that committee's system, with two exceptions. They used a lifting cost figure and how they arrived at the lifting cost I don't know. There wasn't anything in there to tell us, but they did use it and they also used wildcat wells. In fact, they used most of their wells out of the State of Texas, they didn't even use New Mexico.

MR. YOST: There weren't any?

A There were not any wells at that time, that is right.

Q Well, in your opinion, do you, or do you not feel that this strike cost figure graph which you havedrawn should be temporary, or considered, or should be considered, these geophysical costs, the rish element and the questions of development of future reserves?

A Mr. Howard, if you start bringing in the geophysical cost you are going to have all the geologists from your Midland Office in before you are through.

Q Do you feel then the risk element should be considered?

A I don't think it should be considered.

Q You do not?

A No, I qualify that. I have never had anybody really show me where it was, where it should be considered, and I will -- I can always change my mind because nobody has ever given me a convincing argument. In fact, I have never heard any real argument.

Q Then your recommendation is based on a lack of consideration of geophysical costs, because you don't think it should be done and you are not sold that the risk factor should be considered?

A I didn't say I didn't think it could be done. I said I don't think it should be brought into this anymore than the tank battery should be brought in. You can't pin it down. Your company may have a different set-up on geophysical costs from any other company, if you bring in the geophysical cost you are going to start buying the cost of leases, taking ability, everything. You can start and stop at some point, and this is where we figured was the best place to start and stop.

MR. HOWARD: That is all I have.

MR. SPURRIER: Anyone else?

By MR. LAMB:

Q Mr. Macey, on considering exploratory cost, geophysical drilling, would that not apply to every bracket?

A It surely could.

Q It would apply to everybody?

A I think you got to have as much geology, maybe not to that extent, in 4,000 foot wells as you do in 14,000 foot wells.

Q It would apply to every bracket and would be a constant figure throughout?

A That is right.

Q That was the original decision of the Committee that set these figures up. One other point, your payout is calculated on 1.406?

A That is right.

Q The figure I have of payout on four to five thousand foot wells is greater than that amount, is it not?

A That is right, very definitely.

Q In other words, you break below 4,000, somewhere in the neighborhood of 3,500 or 3,600, you get back to the 1.406 which the deeper wells have?

A I don't follow you, Mr. Lamb.

Q Well, your payout for the four to five thousand foot well is 1.553 years, which is a greater amount than the paycut from 13 to 14,000 foot payout, which is 1.406.

MR. SELINGER: Where did you get that figure?

A The payout on a four to five thousand foot well was 1.553. The payout on a three to four thousand foot well was .955.

Q In other words, the point breaks somewhere between 3,000 and 4,000 to get equal with the 13 to 14,000 foot payout?

A Somewhere between 3,500 and 4,500.

Q So what Mr. Howard is talking about we actually have, if you started at 3,500?

A Well, I won't agree with you entirely, but we are approaching --

Q I mean within a reasonable figure.

A Yes, I agree with you there.

Q In other words, somewhere between 3,000 and 4,000 you come to a 1.406 payout?

A I would take a guess and say it was 4,100 feet is where you get the 1.406

Q In other words, you break it about 4,100?

A That is right.

MR. SPURRIER: Anyone else? Mr. Yost.

RE-DIRECT EXAMINATION

By MR. YOST:

Q Do you have any recommendation regarding reviewing these proportional factors from time to time?

A Mr. Yost, I believe that this matter should be something that should be constantly under surveillance by the Commission. I don't think that it is fair at all to go on the factors that we have got right in effect, right today, for the simple reason that those factors were based on a lot of information which

didn't apply to New Mexico then and doesn't apply to New Mexico today. I am not criticizing the Committee, it was the only thing they had at the time and then they had to draft something up, and at the time it was fine, but I think the circumstances have changed considerably in the past eight or nine years. I also think that we should definitely establish a minimum allowable for wells in the zero to 5,000 bracket. Now, if we go to breaking the zero to 5,000 down into separate brackets, why that might not necessarily apply. I don't know what effect it would have on the State over-all allowable, but I do know that if we were to be curtailed in our production to 150,000 barrels per day, our normal unit allowable would be down approximately 25 barrels and the shallow pool operators would suffer.

MR. YOST: That is all.

MR. SPURRIER: Does anyone else have a question of Mr. Macey?

MR. WOODWARD: Mr. Spurrier, Mr. Woodward, representing Amerada.

RE-CROSS EXAMINATION

By MR. WOODWARD:

Q Mr. Macey, both the red and blue lines shown on that lower exhibit represent the minimum payout period possible under present unit allowables, do they not?

A Yes, sir, they do.

Q That is theoretically the shortest possible time that these wells, given this average cost at this average depth, could pay out?

A I will say that the curves are based on those calculations. That curve doesn't show that -- I mean the curve is based on a minimum payout.

Q They don't show anything about the actual or the average payout period that, in which these wells actually do pay out?

A That is right.

Q That is a different depth?

A That is right.

Q So that these theoretical figures then, nevertheless, do show under the present factor -- That is, your figures do show that under the present factors the deeper wells are paying out sooner than the shallower wells, is that correct?

A Yes, sir.

Q And it is your opinion that this situation is prejudicial to the operator of a shallower well?

A I think it is.

Q Now, your figures then theoretically show the present factors are unfair to these operators, that is a kind of paper prejudice shown on the basis of these minimum payout periods?

A Well, inasmuch as all the payout periods under the present factors, as compared with the proposed factors, show the discrepancy, I don't think it is strictly a paper calculation.

Q Well, if we assume there is such a thing as an average actual payout for these wells in different classes, which varies in some respect from the lines that you have drawn there, and I think we can assume that it does, inasmuch as we do know not all those wells are making their allowables, you are -- the prejudice

on which you are placing your judgment is, it is a prejudice which is shown by theoretical calculations, as to the minimum payout period?

A That is right.

Q Inasmuch as you haven't considered the actual figures it must be based on that?

A That is true.

Q Doesn't a person that is usually hurt complain about it, if he is really hurt as -- doesn't a person that is really hurt voice what he feels is a real prejudice as distinguished from a paper prejudice?

A I don't think it is the Commission's position, or staff's position to worry about who is going to squawk the loudest.

Q Isn't it their concern to worry about who is complaining that they are suffering a real prejudice under the present set-up and what operator has complained of being hurt by the present factor, right now. Now, we have got this thing, it is true we are going to have to deal with it somewhat on a theoretical basis, but these factors have been in existence some time, and we are interested in knowing about the real prejudice list and who has voiced any -- who has been hurt by what we have now. Your figures would indicate on paper that that may be true, well, without contesting those figures at this time, in any way, who is actually being hurt?

A Well, Don, I will tell you, the Commission/the statute says something about reasonable and proper as far as allocating production, and I will say that I don't think the present factors,

that this information shows that the present factors are reasonable and proper. That is all I can say. There has nobody come to me and sat down and said, "We are getting gypped".

Q Nobody actually complained about what is going on right now?

A Well, I can't really remember whether they have or not. Everybody's got a few gripes down the line, but I do know that some of the operators are greatly concerned with the reduction in the allowable in the shallow well allowable. For instance, you know that we have gone from 53 barrels for zero to 5,000 foot wells down to 40 and we are constantly being pressed to even cut that more as more deep wells are completed. Now, the more deep wells that are completed cuts into that shallow allowable every day. Now, that is the way I look at it. I do know that there are -- I think that the evidence here clearly shows there are some very serious inequities. It all depends on which bracket you have your well in whether you like what we say or not.

Q Well, that may be true in the case of individual operators, but I am wondering about this group that has their wells in such a bracket that they are moved to complain about what we have now?

A You mean you are worrying about their motives, or what?

Q The situation as presented here is a theoretical prejudice as shown by figures which make a great number of assumptions. Now, I am not questioning, at all, those figures are valuable as an indication , but there is a practical test as to whether or not prejudice exists, in fact, and I think probably the obvious

practical test is whether or not other people are complaining about it, now, regardless of what your figures show theoretically. Do you have the evidence of a practical -- that is, the practical evidence of any real injury? That, it seems to me is a cross check against --

MR. SPURRIER: Mr. Woodward, let me clear the record for you. Mr. Macey made this study at the direction of the Commission.

MR. WOODWARD: Well, we are not questioning his reason, at all, of making the study. We are just wondering if the Commission has available any information as to cross checking what his figures seem to show about an injury to any operator today. If there is no such information, of course, our line of questioning is concluded.

A I might say, Mr. Woodward, maybe we will hear a little injury in a little while, I don't know whether we will or not. As I said, there has never anybody come in the office and said to me, "I lost $40,000.00 today because you did such and such, or because of these factors". I have never had anybody do that. I think that the evidence speaks for itself. Now, as I said before, I am not -- I don't say that we have got everything in this survey, we may not have it all. But, this is what we have arrived at, based on the information that we have got, and until somebody can come in here and show us some tangible concrete facts, which we really want to hear -- I understand there is a lot of the industry that wants to put on some testimony -- until then we will stick with it.

MR. LAMB: Mr. Macey, is it not true that the using of

the new factors you proposed will change the overall top allowable allocation less than 10 percent? Is that not true?

A It will change it 6,500 barrels out of one hundred forty, I believe, whatever that percentage is, it will decrease it.

Q That amount of oil which will be re-calculated to every range depth, is that right?

A That is right.

Q In other words, it is an equalization?

A It very definitely is.

Q For all range depths and there really is not a great deal of oil to be changed, except in the various depths. In other words, there is only about 14,000 barrels out of the entire State allocation that will be effected at all?

A That is right.

Q In other words, there is no effect except the equalization you stated?

A That is right.

By MR. FOSTER:

Q If there is only some 14,000 barrels of oil going to be effected, why make a change at all?

A You notice where those 14,000 barrels lay, Judge?

Q No, sir, I don't know where they are, but if it is that close, why don't you leave it like it is?

MR. LAMB: I think, Judge, the figure which I have given him now, a 12,000 foot well will pay out in 14 months; a 6,000 foot well will pay out in 22 months, or 50 percent greater. There is what the inequity is.

MR. HOWARD: If the Commission please, I was going to suggest, if there is going to be testimony I would like to have the witness on the stand so we can cross examine him.

MR. SPURRIER: Mr. Lamb, would you consent to being sworn and go on the witness stand?

MR. LAMB: That is right.

MR. SPURRIER: Let's take a break for lunch.

(Noon Recess.)

A F T E R N O O N S E S S I O N

MR. SPURRIER: The meeting will come to order, please. Any further questions of Mr. Macey? If not the witness may be excused. Mr. Lamb.

R A Y M O N D L A M B ,

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

DIRECT EXAMINATION

By MR. YOST:

Q State your name.

A Raymond Lamb, with Wilson Oil Company. I have a statement I wish to make. We have made a thorough study of the proportional factor well cost and payouts. In checking the records you will find the original figures were calculated, using cost figures from the few, then existing, deep wildcat wells. In fact, some of the wells used were not even located in the State. In using only a few deep wildcat cost figures there was certainly room for inequities. Now, using development cost figures throughout we can see these inequities. We have compared our factors

with the proportional factors proposed by the Commission engineers and have found them relatively close. The difference in interpretation was in the eight, nine thousand, nine, ten thousand brackets. Since the factors are essentially the same for all other brackets we would recommend that the proportional factors proposed by the Commission be adopted. In 1945 the advisory committee recommending the proportional factors made another recommendation equally important to the industry. Their recommendation was a minimum production rate. It was presented to the Commission, with not one member of the Advisory Committee dissenting. The clause was then, and still is, an important associated part of the proportional factor rule. This minimum rate rule was in effect to January, 1952.

The reinstating of this clause will serve to assure each and every operator, shallow or deep, a reasonable rate of production for continued operations, and would be in the interest of conservation by preventing premature abandonment of wells and even leases. It is, therefore, proposed that a paragraph be included with the order of this case to reinstate this important factor. The proposed addition to Rule 505 is as follows:

'In the event the normal unit allowable, as compared by the Commission, is less than 30 barrels a day for any month, the actual unit allowable of any particular well, except marginal wells, shall not be set below 30 barrels per day. The proportional factor for depth shall be applied to the computed normal unit allowable, although this may be less than 30 barrels per day. And, if after applying the proportional factor, the result is

less than 30 barrels, such wells shall, nevertheless, receive a minimum of 30 barrels per day, and if the result of such application of the proportional factor is more than 30 barrels, the well shall receive such greater amount."

The above is essentially the same as was originally in effect in 1945 to 1952. I have an example for applying, which I will give later. That is the statement that we have to make and I am prepared to answer any questions which you might have.

MR. SPURRIER: Mr. Howard?

MR. HOWARD: I thought he stated he had further testimony.

A No, I have an example. Supposing the normal unit allowable is set at 40 barrels . The allowable for zero to 5,000 would be 40 Barrels. Using the factors proposed by the Commission here your allowables would be set accordingly. If your normal unit allowable were 30 barrels, all wells from zero to 5,000 feet shall receive 30 barrels, and those below 30 barrels multiplied by the proportional factors, in the case of 12 to 13,000 foot well, 174 barrels. The normal unit allowable at 20 barrels, zero to 5,000 foot wells would receive 30 barrels, and the wells in the depth factors below would receive 20 times their proportional factor, or a well from 12 to 13,000 feet shall receive 116 barrels.

MR. HOWARD: May I ask you a question? Were you a member of that Committee in 1945?

A That is right. I have an apology to make to Judge Foster. I checked an attendance record when I stated that Phillips did not have a representative. In checking the full Committee I find that Mr. Charles Daniels, General Manager of Phillips Petroleum

Company in Oklahoma City was a member of that Committee. I am sorry.

MR. FOSTER: You don't have to apologize for that.

Q (By MR. HOWARD) To the best of your knowledge, are there any records or reports of that Committee that could be made a part of this record?

A Well, there are a few minutes. I have checked for the official record of the Committee. The few notes which I kept myself are all that I have found available. I can give you some comparison figures if they will be of any help.

Q I was particularly interested if there was any official report that that Committee filed?

A Nothing but the recommendations that they made to the Oil Conservation Commission.

Q At that time in 1945, was it, or was it not true that most of the production in the State was from Zero to 5,000 feet?

A That is correct.

Q So, that the lumping together of all the wells from zero to 5,000 was actually taking in most of the wells in the State, and the additional factors covered wells that maybe it was hoped would be in the State, is that correct?

A Well, actually here is what happened, Mr. Howard. A survey was made of cost figures of these wells from zero to 5,000 feet. We found one factor which radically influenced the cost of drilling. For example, in Lea County you have some thousand feet of salt section and about 1,500 feet of red-bed section, which as we know is easily drilled. The figures in that area for drilling

cost were relatively low compared to the west area drilling cost, which drilled solid lime from the entire section. That was the situation then, and as I know, it is still the situation now, because the section has not changed.

Q But, the overall picture as to where the majority of wells were located has definitely changed since 1945, has it not?

A I don't know about -- You mean the number of wells in Lea County, and the number in Eddy County and so forth?

Q Well, the break between zero and five, and above five?

A That is right.

Q That picture has changed?

A That is right, actually there were few wells below 5,000 producing at that time. Actually the figures that we used to calculate our factors in 1945 were based on wildcat exploratory wells. Actually seven of the wells were Shell wells out of the 23 that we used. A lot of those were in Texas, as far away as Crockett County, because that was all the information we had. The tabulation here now, which the Commission has presented, takes in 140 wells all located in New Mexico.

Q You heard the questions that I asked of the other witnesses as regards whether or not the complete picture wouldn't require the carrying on down of this curve below 5,000 feet?

A Well, as I stated a minute ago, I have made a survey, rechecking what we had in mind in 1945. I don't find the conditions have changed below that 5,000 foot level.

Q To take a hypothetical case production well, say, at a depth of 3,600 feet, using the cost figures shown on the Commission's example, and a top allowable, have you figured out what the payout

would be on a 3,600 foot well?

A Mr. Macey and I were talking about that at the hearing this morning. It will be slightly less than 1.406 years. It will be slightly less -- The period will be slightly less than, what is it, 17 months. That is an average. That does not include the high cost drilling in the lime area. That is an average of all of it.

Q Just taking the average cost figures that are shown here on the board, the 3,600 foot well, if permitted, will make its top allowable, will pay out in 1.40--

A (Interrupting) Something less than that.

Q Something less than that?

A Something less.

Q What is the approximate cost of such a well?

A You will find a wide range. That is the point I have been talking about. You will find a wide range here is 126,000, 152,000, 155,000 and you can go on down the other way. Here is 35,000. In other words, I am reading from the Commission record which you have. You will find a wide variation in that range even more than you do in the other brackets, percentagewise.

Q On the basis of the testimony that was put on by Mr. Rhodes, today, showing the payout periods from 5,000 to 6,000, 6 to 7, 7 to 8 and 8 to 9, as I took them down, 8 to 9,000 foot well has a payout period of 1.437. That was the figure that I understood Mr. Rhodes to give.

A That is the way I have it.

Q Under the present formula a 3,500 foot well will payout in less time than a 9,000 foot well?

A Going along that same line, Mr. Howard, you will find an 11 to 12,000 foot well paying out in 1.183 years.

Q What I am trying to direct attention to is, if there is any correction that is needed to be made in the present formula, shouldn't the Commission consider a correction below 5,000?

A My point is this, in attempting to approach at a proportional factor below that point you will cause more inequities than you will ~~incur~~ cure.

Q Is your opinion that it is proper proration for a 3,600 foot well to pay out in less time than a 9,000 foot well?

A Well, I would say it was just as proper under the present conditions for a 3,600 foot well to pay out in a less time if a 12,000 foot well can.

Q Well, now, on the same table that was given six to seven, takes 1.7 years to pay out?

A That is right.

Q There is considerable more investment made in that than a 3,600 foot well, is there not?

A Along the same comparison there is considerably more money in a 12,000 foot well.

Q That is right.

A Actually we are saying here that a 3,600 foot well will pay out in 1.64 years, slightly less than that. On the figures that were given this morning by Mr. Rhodes, 11 to 12,000 will pay out in 1.83 years.

Q What did you say was the average cost on the 3,600?

A I didn't say.

Q ~~You didn't? I thought you did.~~

A I said there was a wide range of variation in them. An average would be misleading.

Q According to the averages, what they will use on arriving at the recommendation?

A I think Mr. Rhodes said his figure was $44,000.00.

Q $44,000.00 --

A That is what I think.

Q For thirty-six hundred?

A 3,612 feet, is that right, Mr. Rhodes?

MR. RHODES: 3,601.

Q Take the figures just shown on the chart there for the 3,600 foot well, what is the figure there? I can't see it from here.

A His cost?

Q Yes.

A I wrote it down as something slightly over $44,000.00.

MR. RHODES: I think that is the average of the 4,000 foot bracket.

Q What is the curve, can you see that? I can't see it.

A I don't see a figure written up there. It would be at the green point, I don't know what the range is.

MR. RHODES: That is about 44,000.

A About 44,000.

Q The cost is also shown on that chart for, from 13 to 14,000 feet is in the bracket from three hundred to three hundred eighty thousand, is that correct?

A The average figure Mr. Rhodes gave this morning is

13,500 is at 344,000. You can drill a 13,500 at the present date, compared to a 5,000 in 1945 and have $52,000.00 left in your pocket.

Q Is it, or is it not, your opinion that the party who risks, we will say, $380,000.00 might be entitled to some consideration on a payout standpoint, over the party who risks $44,000.00?

A I think we are pretty close, we are 1.406.

Q Do you think some consideration whould be given to that additional risk?

A It was not the opinion of the Committee in 1945 and it was their intent in recommending the figures we should have an equal payout. At that time the payout on a 13,000 foot well was better than 30 years and it was a matter of equalizing that figure to four years even for all brackets.

Q Well, at the present time --

A (Interrupting) You are down to 1.406 years.

Q At the present time isn't it your opinion that that risk is probably to be considered?

A In proportion to your return on your money I would say no.

Q That the person who risks the three hundred eighty is not entitled to any consideration for that?

A He expects a similar return on his money as the man who invests $44,000.00 for a 3,600 foot well.

Q Do you have any idea as to the comparative outlay that the operator makes who is drilling for 3,600 foot stuff and for 13,000 foot stuff, as regards a geophysical or exploratory expense?

A That is a misleading idea. I have some figures on that. Since geophysical operations for the shallower zones are not practical, naturally you can not do geophysical work. But, in turn you do exploratory drilling and the ratio of exploratory drilling cost to your seismograph cost for your other investment should be approximately the same.

Q If the evidence in this case should show that the geophysical and other exploratory costs on the deeper production are greatly in excess of that on the shallower brackets, we will say, 5,000 down, would you consider that that was proper to be considered by the Commission in arriving at this recommendation of theirs?

A There is no Committee, we attempted -- the original Committee attempted to work on the geophysical figure. If we had worked on it and waited for an answer we wouldn't have had the proportional factors to this date. In other words, there is such a radical change or variation in the amount of seismograph cost and this, that and the other involved that I don't think you would ever arrive at any figures.

Q I am assuming, by testimony in the case, those geophysical costs could be fairly well established. If that could be done, would you think that is proper to consider?

A No.

Q You do not?

A I would not.

Q Well, --

A (Interrupting) We are talking of a payout of a develop-

ment well, that was the intent, the original intent as I understand that is the intent now.

Q Do you think there is any merit to the proposition of encouraging deep wildcats to give an allowable factor which might be favorable to encourage deep wildcats?

A I think they have a fair incentive at the present time, with a 14 month payout.

Q Do you think that should encourage deeper drilling?

A Don't you think it would encourage it?

Q I don't know. I am asking it.

A I don't think it will affect it.

Q In affect, what the proposal that you are supporting here, I believe the mention was 6,500 hundred barrels, is that what it was that would be a factor?

A Approximately that.

Q Approximately?

A It is less than 10 percent.

Q Yes. This proposal actually amounts to taking about 6,500 barrels away from the deep well, over 9,000 feet, and giving it to the wells between the five and nine bracket, is that correct?

A That is correct. Actually I think what your figures are doing, I mean the figures proposed by the Commission here are clearing inequities which we knew existed at the time we put the proportional factors in. What you are doing, you are equalizing the inequities which existed. As you say, all you are doing is creating barrels from one zone to another.

Q If, at the present time, under the present factors, a

3,600 foot well has the advantage that we pointed out. Over a 5 to 9,000 foot well, don't you think possibly there is an inequity that might be corrected?

A If we set them all on 1.406 we have no inequities, do we?

Q You are changing the rates on the well above 5,000. Wouldn't it be fair to look at those rates on the wells below 5,000 to get the complete picture, I mean?

A Don't you think the figures that the Commission has here, that you can see that the conditions have not changed from 1945?

Q No, I don't know that. I don't know that there is anything here which doesn't show that the Commission might not, at this time, if it is going to re-open this matter, might not reopen and look at the whole picture?

MR. SPURRIER: Do you have testimony below 5,000 feet to present?

A Do you have testimony to present on the wells below 5,000 feet?

MR. HOWARD: At less than 5,000 feet. If the Commission please, if it would be proper to make a statement at this time, or would it be out of turn? I have no further questions.

MR. SPURRIER: Let's wait until we get through with this witness. Does anyone else have a question of Mr. Lamb? If not the witness may be excused.

(Witness excused.)

MR. HOWARD: May I make a statement?

MR. SPURRIER: Surely.

MR. HOWARD: I might state that Shell's position in this

matter is this. We have felt for sometime that there are certain inequities in the present factors; that those inequities consist of too big a factor below the 5,000 foot, particularly below the 3,600, and that the factors on the extremely deep stuff are too small, just what we have indicated in our cross examination here today. We are not asking that any change be made. We feel that, like it has been shown in the testimony of a 3,600 foot well paying out in a lesser time than a 9,000, in itself shows the inequity of the present picture. We are not asking for any change. We feel this thing has operated satisfactorily and that it should continue. We do have this feeling that if the Commission feels that it should review this thing at this time and make changes with the end of looking to see if changes should be made; that the entire picture should be looked at; the Commission should test the validity of this zero to 5,000 breaking point. We have some testimony prepared which will take probably an hour or hour and a half to present. I do not have it in the shape I would like to have it because of the time limit. I want to have it charted out on pictures such as this, so that it may be put up. What I am asking is this, that the recommendation to the Commission has been made. I am asking that this matter be received until your next statewide hearing or at some special hearing, with the idea that it will probably take a considerable amount of time.

I think there are others who have testimony also to introduce and that at that time that the operators be advised to come in and give the Commission the benefit of any testimony or opinions they have on what the recommendation has been. That is the request that I make. Might I add that at that time, we explore

also the inequities that exist from 5,000 to the surface.

MR. SPURRIER: Anyone else? Is there any objection to Mr. Howard's motion to continue the case to April 15th?

MR. HOWARD: You need a separate day, Mr. Spurrier.

MR. SPURRIER: Actually then you amend your motion to April 16th?

MR. HOWARD: I didn't realize what the meeting was. I think you should have a special day on this, because it is going to crowd your docket if you don't.

MR. LAMB: If the Commission please?

MR. SPURRIER: Mr. Lamb?

MR. LAMB: May I ask how many other operators have other testimony to give?

MR. SPURRIER: Does anyone else have testimony which they plan to present on April 16th?

MR. MALONE: May it please the Commission, Ross Malone representing Gulf Oil Corporation. Gulf would like to support the recommendation to the Commission that the hearing be recessed to a later date for the reason that the presentation that has been made to the Commission this morning, there has not been an opportunity to analyze it and test it against figures which we have available, and which we are in the process of assemblying for that purpose. I am not in a position to say, at this time, that we would be prepared to present testimony when the hearing is resumed. It is the feeling of Gulf , until the operators have an opportunity to analyze the presentation against the figures they have available, the Commission will not have had the benefit

of all the information which it might need in reaching its decision.

MR. SPURRIER: Mr. Lamb?

MR. LAMB: Is that all?

MR. SPURRIER: Mr. Woodward?

MR. WOODWARD: We do believe we will have testimony next time. We have analyzed the data presented by the Commission and made an independent study of this problem. It is our conclusion that whatever advantage may exist in any particular -- in favor of any particular class of well, that advantage under the present set up is relatively small and does not require a change of the present depth factor. As a matter of fact, we feel that no system of allocation is perfect and any change in the present system will result in some disparate between classes of well. Our study has not convinced us, up to this point, that the disparaties that will be eliminated by the change, will out-weigh the disparities caused by change.

If further consideration is to be given this matter, and further consideration of a prospective change is to be given, we ask that the matter be continued so that we can evaluate the full effects of such proposed change.

MR. SPURRIER: Mr. Gray, could you submit your testimony at this time?

MR. GRAY: You mean at the April meeting?

MR. SPURRIER: Yes.

MR. GRAY, Yes, we will be ready and we think, too, that we would like to have a little time to study the recommendations that the Commission has prepared, and we will be ready to present any

testimony that we might have to offer at the April meeting.

MR. HILTZ: Stanolind will also have some evidence to prssent at the April meeting. We want to join in that recommendation.

MR. SPURRIER: We will continue the case to April 16th, providing that all the testimony yet to be presented will be presented on that day or subsequent consecutive days, depending on how long the hearing will last. The reason I say that is in the interest of time. We don't intend to have this hearing continued for the rest of the year.

MR. SELINGER: April 16th is a Friday. Would you rather have it prior to the April 15th hearing, earlier in the week?

MR. SPURRIER: Would you make a motion to that, and do you withdraw yours?

MR. HOWARD: I withdraw.

MR. SPURRIER: Do you also understand the motion as Mr. Selinger made it, to continue the case to April 14th. Is there objection to Mr. Selinger's motion? If not we will continue the Case to April 14th.

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

I, Ada Dearnley / Marianna Meier, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of ~~my~~ our knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 24th day of March, 1954.

Ada Dearnley
Notary Public, Court Reporter

Marianna Meier
Notary Public, Court Reporter

My Commission Expires:

June 19, 1955

April 8, 1956