BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
May 14, 1958

IN THE MATTER OF:

CASE NO. 1439

TRANSCRIPT OF PROCEEDINGS

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In the matter of the hearing called by the Oil Conservation Commission of New Mexico on its own motion to consider the institution of gas prorationing in the Tapacito-Pictured Cliffs Gas Pool in Rio Arriba County, New Mexico.	CASE NO. 1439

BEFORE:

A. L. Porter
Murray Morgan

TRANSCRIPT OF PROCEEDINGS

MR. PORTER: The meeting will come to order, please. If the cases on the docket aren't concluded this afternoon, we will reconvene in the morning at the Highway Commission Office at nine o'clock. This hall will not be available, and there is no available space for the hearing in the Capitol.

At the conclusion of Case 1439 we are going to take up the Southeast nomenclature case which shouldn't require more than ten minutes.

We will consider now Case 1439.

MR. PAYNE: Case 1439. In the matter of the hearing called by the Oil Conservation Commission of New Mexico on its own motion to consider the institution of gas prorationing in the

Tapacito-Pictured Cliffs Gas Pool in Rio Arriba County, New Mexico.

(Witness sworn.)

MR. COOLEY: Mr. Chairman, the Commission has called this case to show the various factors which come to bear in the Tapacito-Pictured Cliffs Gas Pool, which indicate that prorationing in that pool is immediately necessary

Our first and only witness will be Mr. Utz.

ELVIS A. UTZ

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

DIRECT EXAMINATION

BY: MR. COOLEY:

Q Will you state your name and position, please?

A Elvis A. Utz, engineer with the Oil Conservation Commission.

Q Mr. Utz, as engineer for the New Mexico Oil Conservation Commission, have you had an opportunity to make a study of conditions in the Tapacito-Pictured Cliffs Gas Pool?

A Yes, I have.

Q Would you tell me what the purpose of that study was, please?

A The purpose of the study was to inspect the production history and compare this with estimated allowables in order to determine how ratable the take had been comparing the production with a proration formula.

Q Can you briefly explain the manner in which this study was made?

A The study was made briefly as follows: The production was taken over a period of six months, from October through March, October '57 through March '58. The monthly production for the six month period was determined for each well in the pool for the period that that well was connected to a pipeline system. The allowable for each well for each month in which it was connected to a pipeline system was calculated on the basis of the 25/75 formula. This was based on each months production and the individual well deliverability and a hundred and sixty acres dedicated to each well. Actually, if I had used three hundred twenty acres, it would have made no difference in the results of the graph. This anaylsis was broken down by purchasers in the pool, of which there are three.

Q Mr. Utz, I now call your attention to a map which is posted on the bulletin board and which has been identified as Exhibit 1 in this case. Would you please explain the import of that map.

A Well, actually, it isn't very important. I think by now we all know where the Tapacito-Pictured Cliffs Gas Pool is and what the shape is, and that is the one thing it portrays. However, the other thing that I intended to portray with this exhibit is to show the locale in which the three different purchasers are purchasing. The red tinge is El Paso, which is here and here. The blue is Pacific Northwest, which is pretty well distributed,

the brown or orange tinge is the area in which Southern Union Gas is a purchaser. This is all I intended to show with this map, to show the distribution of the purchasers.

Q Mr. Utz, in making this study, did your findings reveal that had allowables been assigned in the Tapacito-Pictured Cliffs Gas Pool, that the takes would have been ratable during the past six month period?

A In a very few instances it showed that allowables were comparable to what the production was, but in the majority of the cases, it showed an unratable take, comparing it with the formula.

Q Have you prepared a graph to further exhibit this fact?

A Yes, I have.

Q I call your attention to what has been marked as Exhibit 2 and ask you to explain that, please.

A Exhibit two is the long graph which is on the wall here. As previously explained, this study was broken down by purchasers in the pool to determine how ratable the takes were as between purchasers and also how ratable the takes were between wells on each purchasers system. The first purchaser is El Paso, the second is Southern Union, and the third one on the end is Pacific Northwest. The orange dots which you see scattered along the graph are -- First, I better explain that the vertical axis is in volume of million cubic feet per day, the horizontal graph under each purchaser -- is deliverability and MCF per day, so this is a comparison between volume and deliverability.

Q Mr. Utz, let me interrupt. You said the vertical scale was a million cubic feet per day?

A A million cubic feet for the six months. That's the total gas produced for each well whether it was on the line for one month or six months. The orange dots show the total production for six months on each individual well. The green dots show the calculated allowable which was calculated by months for each individual well on the basis of the 25/75 formula.

Q At this time, Mr. Utz, let me interrupt you. Is the 25/75 formula the gas proration formula which is applicable to all prorated gas pools in Northwestern New Mexico?

A All six prorated gas pools use that formula.

Q And you, therefore, have compiled what would have been the allowable on the past six months based on the well's deliverability and the acreage dedicated thereto, had the pool been prorated during that period?

A That is exactly right, for the period that the well was connected to the pipeline. Now, the test of whether or not the take was rateable is simply by comparing the distance -- the vertical distance between the red and the orange marks or dots on this scale.

Q Green and the orange, isn't it, Mr. Utz?

A The green and the orange, yes.

Q Now, is there both a green and orange dot for each well, the orange representing the actual production and the green the

allowable it would have been assigned had the area been prorated?

A That's right, indicates the total production for the time the well was on the line. It is plotted at about fifteen hundred MCF, which would indicate the well's deliverability by test, test in conformance with Order 333 C and D. The green dot you will notice directly above the orange dot, which indicates what that well's allowable would have been had the pool been prorated for that six months.

Q Then it would appear that the operator would have been discriminated against for not having been allowed to produce the amount of gas?

A Yes, this particular well, which has fifteen hundred deliverability, would have received an allowable of something over a hundred million, just slightly over a hundred million whereas he actually only produced about forty-seven million for the month -- for the period, which indicates that it underproduced substantially. Wherever the orange dot is over the green dot, it indicates that the well overproduced from what it should have produced in order to be rateable, according to the formula.

Q Mr. Utz, do all the wells prorated on Exhibit No. 2 have the capacity to produce the allowables which you have plotted thereon?

A There is a possibility that some of the wells in the lower category here -- I made no attempt to determine what the marginal wells would have been. There is a possibility that some of the wells

in the extreme lower scale here might be marginal wells, had I gone to the trouble to determine whether or not they could produce.

Q In your opinion, for the most part, the majority of the wells would have been capable of producing the allowable assigned thereto?

A Taking the pool as a total, the wells in the pool are capable of producing more gas by far than they did. By far, the majority of the wells in the pool are capable of producing more gas than they actually produced for the period.

Q Then the major limitation on the amount of gas which is produced from each well was not capacity of the well, but the amount of gas which the purchaser deemed to purchase therefrom during that period?

A I presume it was determined to purchase that much gas. I don't know whether or not the well was shut in or whether the lines froze up, or what the reason was, but whatever the reason was, this shows whether or not it produced its allowable. The test, as I started to explain a while ago, is the distance -- vertical distance between the red and orange dots for each well would indicate whether or not the well had been produced rateably, according to the formula. Wherever there are dots, such as this one on the left-hand side of the graph, which has deliverability of four hundred, it actually produced about twenty-five million, and its allowable was slightly over twenty-five million, which indicates it is very nearly rateable, according to the formula. Wherever there

is vertical spread between points would indicate to me that the wells had not been produced rateably.

Q This Exhibit 2 shows that it is more common for there to be a considerable vertical spread than there is -- what they allow if it had been produced, what their allowable would have been?

A Yes, either less or more. In most cases it was more.

Q Does Exhibit 2 also show graphically the production take by each of the three purchasers in that pool during the last six months?

A Yes, it does.

Q Would you explain that, please.

A Over on the right-hand side we have plotted what I call load factors. It is simply the amount of production that the well produced during each month as compared to what the well could have produced, according to its deliverability test.

Q Well, are all of the wells connected?

A All wells are connected to each system for that month. The upper system is El Paso, the green is Southern Union, and the bottom, or red bars, are Pacific Northwest. That simply shows a relationship between what the well could have produced, according to this test, and what it actually did produce, and as you can see, for the month of January there was quite a bit of spread between the load factors in the -- or the month of October, rather -- between the load factors for that month as between pipelines.

Q Would that indicate -- excuse me, proceed.

A I wouldn't deem that as significant for that particular month. I think the thing that is shown is simply a point of information to show how the purchasers were purchasing, according to other purchasers in the field, and the load factors for the six months, I would say, is the thing that really counts. The upper pipeline produced an average load factor for the six months, and this is breaking it down by months, that is, the deliverability for each month and the production for each month of 48 percent load factor, and the other two were pretty close. Southern Union people produced a load factor of 37, and Pacific Northwest 35, which is closer than I expected to see. I would say that that is another indication of unrateable take between purchasers.

Q It could indicate, then, that a well connected to El Paso Natural Gas system would receive some 10 percent -- some 25 percent more production than would a well connected to either of the two systems?

A Well, its load factor was about 11 percent higher than the other two pipelines.

Q How would an average El Paso connection compare with the production from the average Southern Union or Pacific Northwest connection?

A I don't believe I follow your question.

Q It would be some 20 percent higher, would it not?

A Yes, it would be about 20 percent higher in comparison.

Q Mr. Utz, has your study also determined that the capacities

of the wells in the Tapacito-Pictured Gas Pools are, for the most part, in excess of the market demand for those wells?

A Yes. The calculated deliverability for the pool as of the end of March was 70,000,000,098, while the highest production for any month during the period was twenty-five million, which is quite a spread between the wells' ability to produce and what they actually did produce.

Q Now, Mr. Utz, do you feel that the variation of rateable take or the variation from rateable take in the pool combined with the fact that the capacity of the wells are in excess of market demand warrants the immediate proration of that pool?

A Yes, I think it does. One reason I think it does is simply because, as we can see, the wells have not been produced in accordance with any plan or formula, and there is no -- therefore, each well as of the end of the six months' period is, so to speak, out of balance, and there is no way that I know of of getting those wells back in balance except by prorationing. There is no proration at this time, and since there is no proration at a --

Q Assuming that proration is to be established in the Pictured Cliffs Gas Pool, what proration formula would you recommend?

A Well, I would recommend the same proration formula that we use in the six other prorated gas pools in the San Juan Basin. The reason for recommending that is simply because I see no great difference in the Tapacito Gas Pool and the other Pictured Cliffs Pools up there, and I think if it is a reasonable formula for the

other Pictured Cliffs Pools, it is certainly a reasonable formula for this pool.

Q Would you go into the breakdown of that formula in more detail, please?

A Well, it is 25 percent acreage plus 75 percent deliverability times acreage. The actual breakdown and explanation of the formula is quite a bit detailed. I think most people here are pretty familiar with it.

Q How long has prorationing on that basis been in operation in Northwestern New Mexico on the other pools?

A Since March the 1st, 1955 on all except the Ballard Pictured Cliffs, and I believe it was August the 1st or October the 1st, '56.

Q Then you have had an opportunity to observe prorationing in Northwestern New Mexico, under that plan for some three years?

A That's true.

Q And have you closely observed the operation of this system?

A Yes, I have.

Q Has it been your personal responsibility to supervise most of this prorationing of gas in Northwestern New Mexico?

A Yes, in the main. Yes, it has.

Q Can you give me an opinion as to what you feel the success of this system has been and the equitable nature of the system or formula during this three year period?

A Well, of course, after you decide on the formula -- the formula is going to do what you think it ought to do, the only comparison you can make from then on is what the wells in the pool have done in accordance with the formula.

Q In your opinion, has this formula afforded each operator in those six prorated gas pools an opportunity to recovery his just and equitable share of the gas in place in those pools?

A I think it has, as near as it is possible to do so.

MR. COOLEY: That concludes our case, Mr. Examiner.

A I have some further recommendations I wish to make. In addition to the recommendation for a formula, I would also recommend that an order be written to instigate proration as of August the 1st, 1958 identical to the pool rules and orders of all other Pictured Cliffs Gas Pools, with the exception of spacing. I leave spacing out of this simply because as everyone knows, at this point the spacing has not been determined, and I don't think I am the one who should sit here and determine it.

Q (By Mr. Cooley) Mr. Utz, it would be your recommendation, would it not, that a proration unit be established in the Pictured Cliffs Gas Pool the same size as the spacing unit which is to be determined by the Commission as the result of the hearing just concluded in Case 977?

A Yes, it certainly would. Further, I recommend that the Commission call for preliminary nominations for the June 18th hearing, 1958.

Q When would those have to be in to the Commission?

A They should be in to the Commission by at least the 15th of June.

Q Do you have any further recommendations in this case, Mr. Utz?

A No, I don't believe I do.

MR. COOLEY: That is all.

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Utz, do you have sufficient deliverability tests at the present time to institute prorationing on those wells?

A Yes, sir. Incidently, that brings out the point which I probably should have mentioned. In the 51 wells shown on the map, there are three estimated deliverabilities, and that is all. Those are estimated on the basis of initial potentials.

Q You have the deliverability for 48?

A That's right.

MR. PORTER: Anyone have any questions of Mr. Utz?

MR. GRENIER: Yes, sir, we have a few.

QUESTIONS BY MR. GRENIER:

Q You wouldn't be proposing to make any correction in the future for any past inequalities that might have occurred prior to the institution of this prorationing, would you, Mr. Utz?

A No, I don't think it would be possible to do that. That's why I say we should have prorationing now, because we have no assurance that this well will be brought back in balance.

Q I was quite sure that is what you intended to imply. You

stated that you saw no difference between the Tapacito and the other Pictured Cliffs Pools. Is that with respect to any of the aspects of the pool or merely with respect to those features of pools which, in your opinion, has some bearing upon what the proration formula should be that is prescribed for the pool?

A Well, what I indicated and what I meant to indicate was that from a geological standpoint, there is not too much difference between this pool and any other Pictured Cliffs pool. It has certain irregularities, it has certain reserve ratios as between tracts in the pool, the same as the Ballard,Fultcher-Kutz, West Fultcher-Kutz, or any of the others. As far as the permeability and the spacing question is concerned, I don't know.

Q You are not by indirection --

A Indicating how much acreage one well will drain?

Q Yes.

A No, sir.

Q Now, you said that you suggested that the proration unit should be the same as the spacing unit established in 977. Would that recommendation also go to the spacing unit established in 977, that it should be the same as the proration unit established here, does that work both ways?

A As I visualize it, it should work both ways. Your spacing unit is your proration unit.

Q Would you see any objection to doing substantially what has been done in Lea County and which was to some extent touched on

this morning in a statement by Skelly and one on behalf of El Paso Natural, where they were suggesting that if a hundred and sixty-acre spacing were adopted, that anyone who wanted to drill on 320 might, on optional basis, dedicate, in effect, double acreage to the well and thus get a double allowable, or if it were spaced on 320 acres as the proration unit, that anyone who wished to develop on 160 could do so and take a half allowable as to such a well?

A Personally, my opinion ~~is that~~ that is the way to handle the matter. I don't see any objection to multiple spacing in a gas pool or any other pool, for that matter.

MR. GRENIER: Thank you. That concludes our questions.

QUESTIONS BY MR. HINKLE:

Q Mr. Utz, have you made a study of this particular pool to see whether any other proration formula other than this 25/75 formula would be better applicable to the conditions in this pool?

A I have only made a study in a general way, and the only study I have made on this pool is what you see here on this graph, Mr. Hinkle. Here is a horizontal line indicating ninety-five million a hundred twenty-six MCF for the six months, and that is the straight acreage allocation curve, if I had calculated the allowable on stright acreage. Now, it is not very difficult to see that if you used straight acreage on this pool, that you would have, by counting these dots underneath this line, you would have 37 marginal wells out of 51 to start with, and actually you would have a few more than that, because this line, when you made marginal

wells out of these, which they would be marginal wells by virtue of the fact they would receive more allowable than they could produce on a straight acreage formula. You would have to take that amount of gas and give it to the wells below this line, which, of course, would raise this line somewhat and cause a few more wells on the top of the line to become marginal. You would have to increase their allowable or else lower the demand for the pool, so I don't think that any formula which would make 37 out of 51 wells marginal at the beginning of prorationing would be a very good formula to use in a pool.

Q Would it make any difference as far as the low deliverabilities were concerned, whether or not they be permitted to produce more gas?

A They would be on a 100 percent deliverability and what all of these 37 would be, they wouldn't be straight acreage, they would have 100 percent deliverability, all they could produce.

Q The straight acreage, then, would take in some of the deliverability factors?

A I think you take deliverability in a straight acreage formula because you recognize the fact that some wells can't make the allowable, so you put them on 100 percent deliverability, and you recognize the fact that because these wells can't produce it, that you have to give it to wells that can produce it, so you give it to wells that can produce it.

Q Then, you did, to some extent, take that into consideration in recommending 25/75?

A Yes, I did, but I used the 25/75 for the purpose of making this graph simply because it was used up there, and I figured it would be used in this pool and it looks as good as any to me.

MR. HINKLE: That's all.

MR. PORTER: Anyone else have a question of Mr. Utz? Mr. Mankin.

QUESTIONS BY MR. MANKIN:

Q Warren Mankin with Aztec. Mr. Utz, I notice you mentioned something about the marginal nature aspects. To begin with, would it make any difference what line pressure is carried by the pipelines, whether it has greater capacity in the marginal well?

A It sure would.

Q It is true that one company carries a lower pressure than the other two?

A It is my understanding that the El Paso line pressure out there is in the neighborhood of 250, while the other two are around 500 pounds.

Q Would that have some significance on El Paso having less marginal wells producing to begin with, than the others?

A Certainly would.

MR. PORTER: Anyone else have a question? If not, the

witness may be excused.

(Witness excused)

MR. COOLEY: Mr. Examiner, at this time I would like to move that all testimony which has been offered in Case 977 in regard to the proper size of the drilling unit in the Tapacito Pictured Cliffs Pool be incorporated by reference in this case for purposes of determining the proper size of the proration unit since, as a matter of necessity, it must follow that that proration unit must be the same size as the spacing unit.

MR. PORTER: Is there objection to Mr. Cooley's motion? It will be done.

Mr. Cooley, I don't believe you offered your exhibits.

MR. COOLEY: We would like now to offer formal Exhibits 1 and 2 in this case.

MR. PORTER: Were they prepared by Mr. Utz?

MR. COOLEY: He testified they were.

MR. PORTER: Without objection, they will be admitted. Does anyone have testimony to present in the case?

MR. GRENIER: We do. Mr. Wiedekehr will be our only witness.

E. WIEDEKEHR,

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

DIRECT EXAMINATION

BY MR. GRENIER:

Q Mr. Wiedekehr, you've heard the testimony of Mr. Utz

just now, and he indicated that one of the reasons he thought prorationing in the field was necessary at this time was because the three pipeline companies are taking gas at varying line pressures. Does that indicate to you a situation, such as Mr. Utz interpreted it to be, one that calls for prorationing at this time?

A Yes, it does.

Q How about these varying load factors? Do you agree with his conclusions there also?

A I think there is no doubt that when you have varying load factors among pipeline companies, that to take equitably from the wells within the field, some prorationing would be necessary.

Q It might be possible, of course, for the companies themselves simply to get together and agree to take on a rateable basis, wouldn't it?

A That is possible, but not practical.

Q Do you think it would work better if the Commission were administering the program than if it were purely a voluntary one?

A I sure do.

Q Do you see any indications here that there is a greater market -- I mean a lesser market demand in the Tapacito Pictured Cliffs Pool than the deliverability capacity of these wells?

A Yes, there is definitely less demand than capacity.

Q Now, turning to the matter of the prorationing formula, do you

have any recommendations to make to the Commission in this regard, Mr. Wiedekehr?

A Well actually, as in the past, cases that have been heard on northwest New Mexico and southeast New Mexico proration hearings, it is Southern Union's opinion that the 75 percent factor for deliverability is a little bit on the high side. We don't feel like there is quite that much relationship between deliverability and reserves, but in view of the fact that this is a better than average field insofar as capacity of the wells is concerned, and because the deliverability seems to follow pretty well the trend of thicker sand sections, which is actually a criteria for reserves, we would not object to the formula that has been used in the past. We are not necessarily saying that we are agreeing with it, but we can't find any great fault with it and would not object to the continuance of this same formula in the Tapacito Field.

Q Now, supposing we come up with a 320-acre prorationing and building unit for this pool; you would think that the two units should be the same, I assume, Mr. Wiedekehr?

A I think think they should, although I can see where it could be worked where the two units were different because that so happens in southeast New Mexico.

Q Well, supposing that we had a 320-acre unit for prorationing, what would you recommend should be embodied in the order with respect to a person who wanted to drill two wells on a 320-acre tract, if there were any such persons?

A We would recommend, of course, that each well that was drilled be drilled on the 160 acres and that each well be given an allowable on a half acreage unit, or as the reserves might be, two to one. In other words, a 160-acre well would get half the allowable of a well on 320, providing the deliverability were identical.

Q Now, if it came out that the prorationing unit established by the Commission were a hundred and sixty acres, would you recommend that a multiple acreage factor be permitted to be assigned to a well as suggested by Mr. Utz?

A Yes. I feel that that would partially solve the problem that exists, and that if an operator so desired, he should be allowed to assign to two units or 320 acres to a well.

Q You are not suggesting that they should be permitted here, as in southeastern New Mexico, that 640-acre be assigned?

A I doubt that that would be wise. Wouldn't recommend it.

Q Now, assuming again 320-acre spacing, what would you recommend the unit to be with respect to the standard sections which we have here through this area?

A Don't think it would make any difference, either north half or east half; south half or west half.

Q Again assuming 320-acre spacing, what would your recommendation be with respect to the location of wells within the proration units themselves?

A Would recommend that they be in the southwest and north-

east quarters respectively of the sections, located 990 feet at least from the boundary line with the tolerance due to terrain, and that exceptions be granted for the wells that have previously been drilled in unorthodox locations, that is, locations not confirming to this pattern, and that any future requests for unorthodox locations outside of terrain reasons should be handled by hearing.

Q What would your recommendation be as to the balancing period? Do you feel that it should be the same as for the remainder of the San Juan Basin with six months' period starting February 1 and August 1?

A Yes. It would make it easy on our company as a pipeline company to operate if we had the same balancing period.

MR. GRENIER: That concludes our testimony unless you have something further to add.

A No, I don't think so.

MR. PORTER: Any questions of Mr. Wiederkehr? Mr. Hinkle.

QUESTIONS BY MR. HINKLE:

Q Mr. Wiederkehr, I wish you would refer to Southern Union's Exhibit No. 9 which was introduced in connection with Case 977. I understand, Mr. Wiederkehr, that this is a tabulation of reserves on producing wells connected to Southern Union Gas Company's system in the Tapacito Pictured Cliffs Field, and that these were based upon pressure decline curves which were also introduced in evidence.

A No, sir, Mr. Hinkle, these were based on microlog sand.

Q Your own?

A Microlog sand and on a recovery factor based on what I assumed the reservoir conditions to be.

Q Now, this tabulation shows that the Jicarella No. 3 of Honolulu produced, during the 365 period, 77.72 percent of the estimated reserves under 320, is that right?

A Yes, sir.

Q And in connection with Jicarella's "I" E of Southern Union, during the same period of time it produced almost a third of the reserve, 29.04?

A Yes, sir.

Q And the Jicarella "5" E produced 36.71 which is a little more than a third of the reserves?

A That's correct.

Q Now, do you anticipate that those wells will cease to produce when they have produced under this tabulation a hundred percent of their reserves?

A No, sir, I do not.

Q Now, if that is the case, where is the gas going to come from after they have reached a hundred percent, if this estimate is correct?

A Actually, the estimated reserves may be off due to the fact that some gas in it that, some amount of gas is coming out, No. 1 and No. 2, of course, is the fact that there will probably

be drainage between tracts as it always occurs.

Q Isn't that inherent in connection with the deliverability formula?

A It is inherent with any formula, but maybe a little worse with deliverability formulas.

Q To a greater extent in connection with deliverability --

A Yes, sir.

Q And this would tend to show it?

A Yes, sir.

MR. HINKLE: That's all.

QUESTIONS BY MR. MANKIN:

Q Mr. Wiederkehr, it was your recommendation a while ago that if this were alternate type spacing and 320 were approved and 120 were granted as alternate wells, that they be given a proper allowable according to their acreage. Would you likewise tie that particular allowable of those developed on 160 to the deliverability of the individual wells on that tract, rather than for either well?

A Yes, to either well.

MR. MANKIN: Thank you. That's all.

QUESTIONS BY MR. HINKLE:

Q Could you suggest any other formula other than that which has been suggested to the Commission by Mr. Utz that would come more nearly to protecting correlative rights so that the -- it would take the direct relationship to reserves in place?

A I have not studied this particular field in that light, but on other fields which I have looked at and have done considerable work on, I feel that probably a deliverability allocation of some actually 35 to 50 percent would be the maximum that should be used. Of course, there is another formula that is very good. It might be a little better than that if we had a very homogenous sand, and that would be just acreage times bottom hole pressure.

Q Would you recommend that to the Commission at this time?

A No, sir, not in this area because of the fact that you do not get a true pressure in this field for a long period of time, as was discussed in the previous case. The five wells that we took shut-in pressures on were shut in some twenty-six days and actually, the last week of this twenty-six-day period, they still built up six or seven pounds during that time, and to get a true pressure, then, we would have to keep the field shut half the time, so that is not a very good formula for a field of this nature.

MR. HINKLE: That's all.

MR. PORTER: Anyone else have a question?

QUESTIONS BY MR. COOLEY:

Q Mr. Wiederkehr, do you feel that the proration formula that has been proposed by Mr. Utz will allocate the allowables to the various wells in the Tapacito Pictured Cliffs Gas Pool more in proportion to the actual gas in place under those tracts than would a straight acreage formula?

A Yes, sir, I do. I don't feel that straight acreage is

a good allocation for gas production due to the fact that you do have such variation in thickness throughout the field. I have never believed in straight acreage for a gas field.

MR. COOLEY: That's all.

MR. PORTER: Anyone else have a question?

REDIRECT EXAMINATION

BY MR. GRENIER:

Q In response to Mr. Hinkle's question about how these wells that he mentioned come to produce such a large percentage of their reserve, would any portion of that apparentive production be possibly attributable to the fact that these wells were draining more than 320 acres? It could be that along with other factors?

A Yes, along with the other factors that I have mentioned.

RECROSS EXAMINATION

BY MR. MORRELL:

Q You stated in your recommendation, Mr. Wiederkehr, the spacing of northwest and southeast --

A Northeast and southwest, I believe.

Q Northeast and southwest?

A Same as the Mesa Verde Field.

Q Not following the northwest --

A I think the old one was northeast, southwest with some changes made due to wells that were previously drilled, but the correct location as the original Tapacito temporary order was based on was northeast, southwest, and we would recommend the continuation

of that.

MR. PORTER: Does anyone else have a question?

The witness may be excused.

(Witness excused)

MR. PORTER: Anyone else have testimony to present in the case? Any statements?

MR. DAVIS: I would like to make a statement for the record. Quentin Davis, Aztec Oil and Gas Company; Aztec concurs in the testimony put on by Mr. Utz and Southern Union and would recommend prorationing commencing August 1st in the Tapacito Pool and that the proration formula be as recommended by Mr. Utz, and that proration units be 320 acres.

MR. KELLAHIN: Jason Kellahin, for Gunsight Butte Uranium Corporation. In connection with the testimony of the size of the proration unit, it was suggested, I believe, as I understood the testimony, at least two alternatives; either to have a 320-acre spacing with the permission to drill two wells, or in the alternative, to have a 160-acre proration unit, with the opportunity to dedicate two units to the well. I think that under our statute the latter alternative would not be possible in that the statute requires the proration unit to be of such size and shape as may be efficiently and economically drained by the one well. There is no use, of course, in my going any further into the question of size of these units. In this case we do earnestly urge the Commission to adopt a proration unit consisting of 160 acres.

MR. HINKLE: If the Commission please, Humble would like to go on record as being in favor, of course, of the adoption of a 320-acre proration unit in this particular case, and believes that a straight acreage formula would be better than the deliverability formula which has been proposed of 25/75 and which is in effect in the other field in the northwest. It is very evident that a study has not been made, that is, a detailed study to see if there couldn't be a better formula derived than the one which is in force in the other pool, in the northwest, that would better protect correlative rights, and I think that is one of the duties of this Commission, to get a formula which will protect correlative rights, and due to the characteristics of this particular field, I think that some consideration ought to be given by the Commission to a change in that formula, if it is adopted, to give more consideration to the acreage factor.

MR. GRENIER: I won't attempt to elucidate the obvious. We feel that one well will efficiently and economically drain 320 acres. We feel that either of the alternatives that have been suggested here are appropriate in that regard, but our preference and recommendations, of course, is that a 320-acre unit be established for both spacing and prorationing purposes with half allowables to be given to wells drilled on 160 acres.

MR. PORTER: Anyone else have anything further?

MR. PAYNE: Mr. Commissioner, I have here a statement to read for El Paso Natural Gas Company. Because of the need for

Austin prior to the termination of this hearing, it is requested that the following statement be entered on El Paso's behalf in Case 1439. El Paso Natural Gas recommends the adoption of 320-acre proration unit for the Tapacito Pictured Cliffs Gas Pool with proration formula identical to that utilized in other prorated picture cliffs pools in the San Juan Basin providing for allocation 75 percent times deliverability and 25 percent acreage. Signed, F. Norman Woodruff.

MR. UTZ: 75 percent.

MR. PAYNE: 75 acres times deliverability and 25 percent acreage.

MR. PORTER: Do you know what he meant, Mr. Utz?

MR. UTZ: Yes, sir.

MR. PORTER: Anyone have anything further?

MR. COOLEY: I have a few closing remarks. I, at the outset, would have to concur on this proration unit with Mr. Kellahin, but I do not believe the statute in the State of New Mexico would permit the creation of a proration unit and spacing unit of 160 acres and then permit the dedication of two 160-acre units to one well. I believe inherently in the finding that 160 acres is the area that one well will efficiently and economically drain, and there must be a finding that it will not drain substantially in excess of that acreage efficiently and economically. Consequently, I feel that the statute would prohibit dedication of more than 160 acres to a well in the event the Commission finds that 160

acres is the area which one well will efficiently and economically drain in the Tapacito Pictured Cliffs Gas Pool.

Secondly, I would like to take issue with Mr. Hinkle's remarks that obviously no study has been made as to the accuracy of the proration formula based on 75 percent times acreage in northwestern New Mexico. Mr. Utz' uncontroverted testimony was that he had personally supervised proration in northwestern New Mexico for a period of three years under that formula, and that in his expert opinion -- he has been more closely associated probably than any other official in this state -- feels that that formula has afforded to each owner in northwestern New Mexico in those six prorated gas pools the opportunity to recover his just and equitable share of the gas in place in those pools. Consequently, I would recommend that the Commission adopt the 75 percent deliverability times acreage plus 25 percent acreage proration formula in the Tapacito Pictured Cliffs Gas Pool.

MR. GRENIER: I don't understand, Mr. Cooley. Did I understand Mr. Cooley to be making a recommendation at this time whether one well will efficiently and economically drain --

MR. COOLEY: There is no comment whatsoever.

MR. GRENIER: This is just if --

MR. COOLEY: My point is that in the event they do determine that the area which one well will efficiently and economically drain is 160 rather than 320, the statute would prohibit the dedication of any acreage substantially in excess of 160, in

excess of 320.

MR. WIEDERKEHR: How did you get by in Lea County?

MR. COOLEY: I don't choose to argue that. I assume you are referring to the Jalmat and Eumont Pools. In both instances, the Commission has determined one well will efficiently and economically drain 640 acres.

MR. PORTER: Anything further? We will take the case under advisement.

C E R T I F I C A T E

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

I, J. A. TRUJILLO, 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 in stenotype and reduced to typewritten transcript by me and/or under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal, this, the 28th day of May, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
Notary Public

My Commission Expires:

October 5, 1960.