

BEFORE THE
OIL CONSERVATION COMMISSION
AZTEC, NEW MEXICO

IN THE MATTER OF:

Case No. 1200

TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

January 24, 1957

BEFORE THE
OIL CONSERVATION COMMISSION
Aztec, New Mexico
January 24, 1957

IN THE MATTER OF:

THE APPLICATION OF PACIFIC NORTHWEST PIPELINE CORPORATION FOR AN ORDER AUTHORIZING SEVERAL UNORTHODOX LOCATIONS AND NON-STANDARD GAS PRORATION UNITS IN THE BLANCO-MESAVERDE GAS POOL. APPLICANT, IN THE ABOVE-STYLED CAUSE, SEEKS AUTHORIZATION FOR A NUMBER OF NON-STANDARD GAS PRORATION UNITS IN THE ROSA UNIT ALONG THE WEST SIDE OF TOWNSHIP 31 NORTH, RANGE 5 WEST, AND ALONG THE EAST SIDE OF TOWNSHIP 31 NORTH, RANGE 6 WEST, RIO ARRIBA COUNTY, NEW MEXICO. SAID NON-STANDARD UNITS ARE NECESSITATED BY THE VARIATIONS OF LEGAL SUB-DIVISIONS IN THAT AREA. APPLICANT FURTHER SEEKS AUTHORIZATION FOR SEVERAL UNORTHODOX LOCATIONS ON THE SAID UNITS SHOULD THE SAME BE APPROVED.

CASE No. 1200

TRANSCRIPT OF EXAMINER HEARING

MR. MANKIN: The hearing will come to order, the first case on the Docket is Case Number 1200. Application of Pacific Northwest Pipeline Corporation for an order authorizing several unorthodox locations and non-standard gas proration units in the Blanco-Mesaverde Gas Pool. What witnesses do we have today? Will you stand and be sworn?

THOMAS A. DUGAN

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

By Mr. Mankin:

Q Will you state your name into the record please.

A Thomas A. Dugan, I am an engineer with Pacific Northwest Pipeline Corporation.

Q Proceed.

A Pacific Northwest pipeline Corporation is the operator of the Rosa Unit which covers lands in Township 31 North, Ranges 4, 5 and 6 West, in Rio Arriba

County, New Mexico. And the possible variation of the legal sub-division, a row of sections along the West side of Township 31 North, Range 5 West and along the East side of Township 31 North, Range 6 West, and contained less than the prescribed 640 acres. Pacific Northwest Pipeline Corporation has devised a plan to establish non-standard gas proration units covering the eleven sections involved, so that the proposed Mesaverde wells will be more equally spaced from the established section, range and township lines and their sub-division. Pacific requests that New Mexico Oil Conservation Commission grants an exception to Order R-128 D, Rule 1, to establish 13 Mesaverde non-standard gas proration units as outlined in Exhibit 1, and I would like to offer this as Exhibit 1.

Q Mark this as Exhibit 1.

A Pacific has also requested that Sections 1, 2, 3, 12 and the E/2 of 11 in Township 31 North, Range 6 West, and Section 6, 7, 18, 19, 30 in Township 31 North, Range 5 West, be added to the Blanco-Mesaverde Pool. If the proration units as outlined on Exhibit 1 or Plan A, are approved, Pacific would also like to request that two unorthodox locations be approved, they are the Rosa 10-13 which is 890 from the South line and 990 from the West line of Section 13, Township 31 North, Range 6 West, and the other is Rosa 13-31 which is 1650 from the North line and 1850 from the East line, Section 31, Township 31 North, Range 5 West. We believe the gas proration units as set forth in Exhibit 1, of Plan A, will adequately drain the area covered by those proration units.

Q Is that all you have in this particular case? or are you going to have an alternative suggestion?

A We have an alternative suggestion -

Q First, before we go to those alternative suggestions, lets go over it again if we may, your proposal for the 13 units which you are suggesting in Plan A, of Exhibit 1, the unorthodox locations again, please, what were the unorthodox locations?

A The unorthodox locations are the Rosa 10-13.

Q Will you first identify the sections, township and range and then give the location and well number?

A Alright, the well is located in the SW/4 of Section 13, Township 31 North, Range 6 West, and is known as the Rosa 10-13.

Q That is a presently completed well?

A That is a presently completed well. And the second completed well in the area in question, is in the NE/4 of Section 31, Township 31 North, Range 5 West, and is known as the Rosa 13-31.

Q I would like to ask if there would be any other unorthodox locations in this proposed plan other than the two present completed wells?

A No, there is none.

Q All the wells could be drilled at orthodox locations?

A Right.

Q The remaining 11 wells?

A Yes. As orthodox locations located 790 to 1850 from the proration unit boundary.

Q So they would be orthodox locations?

A Yes, and we would like to propose that the wells be located in the SW/4 of the gas proration units for the entire remaining 11 wells.

MR. UTZ: To clarify your last statement, Mr. Dugan, you mean the SW/4 of the proration units or the Section?

A Well, of the proration units.

Q In some cases that well location would be not entirely in the SW/4 of the Section, is that true?

A That is right.

Q In fact, in many cases -

A That is right.

MR. UTZ: Well, in effect that would make all of your locations which were in the NW/4 of the Section, an unorthodox location, wouldn't it?

A From the Section line?

MR. UTZ: Yes sir, the spacing in the Blanco Mesaverde -

A Well, I thought that ruling read from the unit line.

Q It anticipates I believe that the unit line shall be -

MR. UTZ: From the section line.

A From the section line. Yes.

Q So, on that basis of the unit line, the section line would be the same as far as the rules - would not - all of the wells be unorthodox locations?

A Well, assuming that the covering - if you assumed that they mean section line in that rule, why they would. Yes. Well, not all of them but a good many. But I assumed that they ment proration unit boundaries.

Q But in most cases, the proposed location would be 790 from one section line, or one unit line, and what was the other location? 18?

A Well, 790 to 1850.

Q In other words they would vary?

A Yes sir.

Q In other words it is not definite yet where those locations would be?

A No.

MR. ARNOLD: Mr. Dugan, don't you think it would be a good idea to write a stipulation in the order that each location be a fixed distance from the Unit line as approved of?

A No, I do not, unless it is required.

Q You don't have a survey which would indicate the topography conditions as yet?

A No sir, we sure don't, and we would prefer that it not be included in the order unless it is absolutely necessary.

MR. ARNOLD: Well, you would still end up with an unorthodox location which you would have to get approval on some way other than this hearing.

A Well, if it is the interpretation of that rule, that the unorthodox location is located so many feet from the section line or from a gas proration unit line?

MR. ARNOLD: It is from a section line.

A From a section line, well then we would.

Q Would it be possible that under this proposed plan to come up with a definite location for each proposed proration unit, of all 13 units? Or the additional 11 wells?

A Well -

Q Or would that require some additional survey to be able to determine that?

A No, I believe we could. If necessary, I believe we could within the present limits come up with variation in footage.

Q And to determine where the location would be, and determine if the location would be orthodox or unorthodox -

A Yes -

Q Within a period of time - how long would it take for that? To determine that, a week?

A Well, you mean -

Q For a definite location for each unit. To determine whether it is orthodox or unorthodox.

A Well, it would take, - you go out and survey these locations in to the exact footage it would take about a week but -

Q Could it be done at this time of the year or not?

A Well, it can be done at this time of the year.

Q Without undue hardship?

A This is a bad time of year to survey.

Q I think our point is, that locations if they are unorthodox, should be approved under this order rather than separate hearing and additional cost to the applicant or the Commission.

A Well,

Q And if there was a reasonable time, could that be done? So that the order would not be held up -

A We could locate our wells on a plat with a variation of say between 790 and 1850 of certain quarter section lines right now.

MR. ARNOLD: Mr. Dugan, due to the fact that these units do not fall on quarter section or section lines don't you think it might be a good idea to write a stipulation in the order that each location shall be located not closer than so many feet to a unit boundary line, then if you find at the time that you stake the location, that the locations did not meet the requirements of the order you could get an exception in that particular case, seems to me that with no location staked that that would be the simplest way to handle it.

A Sounds like a good idea.

MR. ARNOLD: In other words you could use 790 feet from a unit boundary line rather than a sub-division line?

A Yes.

Q Can you pin-point that to a definite location as regards to section lines?

A Yes.

Q Is there any other particular question on this proposed plan before we proceed with the alternative plans?

MR. UTZ: Yes, I have some questions. Mr. Dugan, is all of this area inside a unitized area?

A Yes it is.

MR. UTZ: How far west is the unitized area extend?

A West?

MR. UTZ: Yes.

A From approximately 6 miles, 5 miles west of the west boundary.

MR. UTZ: Since it is in a unitized area, do you think the location of the wells as to the proration unit boundaries is important, as far as protecting correlative rights are concerned?

A Not particularly, although, it is important as to the spacing in that area.

MR. UTZ: The spacing pattern in the area?

A Yes sir.

MR. UTZ: Or drainage pattern?

A Yes sir.

MR. UTZ: Are there wells on either side of the area in question here, are there wells drilled on either side of the area in question here?

A The wells drilled are shown on Plan A, which, on either side, which is the Rosa 9-11 in the SW/4 of Section 11, 31, 6 and the Rosa 8-26 in the SW/4 of Section 26, Township 31 North, Range 6 West and there is the Unit 31-6 Well No. 1-35 in the SW/4 of Section 35, Township 31 North, Range 6 West, and the Rosa 15-29 is in the NE/4 of Section 29, Township 31 North, Range 5 West, and we have completed the Rosa 17-20 in the SW/4 of Section 20, Township 31 North, Range 5 West. It looks as if we have skipped the Rosa 14-23 in the NE/4 of Section 23, Township 31 North, Range 6 West. These wells have been completed. There is a Pictured Cliffs Well Rosa No. 5.

MR. UTZ: In view of the fact that spacing a pattern has been followed on either side of the area in question here, would it be your belief that the more important thing in spacing these wells would be to effect a uniform spacing pattern rather than paying too much attention to their relation to unit boundaries?

A I believe that would be our prime requisite, however we have drawn up our gas proration units with that in mind.

MR. UTZ: In order to conform to a more uniform spacing pattern, wouldn't it be more effective to locate the wells in the NE and SW/4 of the sections? Where Possible?

A Well, because of the survey, it would be impossible to locate a well in both the NE and SW/4, however, we do not object to locate it in either place.

MR. UTZ: Well, the point I am making is that all of these units have common ownership, is that correct?

A Yes.

MR. UTZ: Therefore, it would seem to me that the important thing would be to space your wells so that you have uniform drainage?

A Yes, I agree with that.

MR. UTZ: Mr. Dugan, can you tell me how much acreage is involved in all of these units?

A Yes I can. There are 5,065.92 acres in all.

MR. UTZ: Could you tell me how much acreage that would be? Per well, for your 13 Well plan?

A Approximately, 390 acres.

Q Along that same connection Mr. Dugan, before he continues, these 13 units, do they not vary from 348 acres to 496 acres each?

A 439.44 to 349.45 acres - to correct it would vary to 348.96.

Q So there is wide variance on the size of these 13 units?

A Yes sir.

Q While he is making further calculations, I would like to also, indicate that in regard to this inclusion in the Blanco Mesaverde Gas Pool, did you not indicate at the beginning that you would desire that these would be put into the Blanco Mesaverde Gas Pool?

A Yes.

Q Is not essentially all of these 13 units which you are requesting within either the present delineation of the Blanco Mesaverde Gas Pool or approximately not over a mile from the pool, is that correct?

A = The wells, or the -

Q The units.

A The units, well, no, the northern part of Township 31 North, Range 5 West, will be over a mile. The present Blanco Mesaverde Pool line runs along the west edge of the proposed gas proration unit.

Q There were going to be about either 2 or 3 of these units that would be more than a mile from the pool, is that correct?

A Yes, that is correct.

MR. UTZ: Mr. Dugan, you are aware of the fact, I am sure that the spacing pattern in the Blanco Mesaverde is 320 acres? Is it not?

A Yes sir.

MR. UTZ: Do you have any evidence of the effect that one well in this area, will drain 391 acres?

A Well, at the present time, we have very small amount of production data for these wells. But the only well that is located in these proposed gas proration units is, that is on production, is the Rosa 13-31 and it would have an acreage factor of 1.09 under our proposed gas proration unit break downs here. And its production to date, using an acreage factor of one, that well is 41 per day overproduced, and using an acreage factor of 1.09, it would still be 35 days overproduced. Using an acreage factor of 1.21 it will be 26 days overproduced. However, its acreage factor would be 1.09.

MR. UTZ: What is the deliverability on that well? Your Rosa 13-31?

A 388.

MR. UTZ: Did you use in your calculation of determining days overproduced, you used the Commission proration schedule A and AD Factors? Did You? What is the deliverability of your Rosa 10-13?

A I do not believe that well is - yes - it is 317.

MR. UTZ: And what would be the acreage factor on that well?

A 1.27

MR. UTZ: Did you make a similar calculation for that well?

A No sir, I don't believe so.

MR. UTZ: Do you have any idea, if it has produced its allowable or not?

A Yes, I sure do, it is underproduced its acreage factor of 1.

MR. UTZ: It is under produced.

A Yes. 875 MCF. Of the seven wells in the Rosa Unit that are producing, there are two that are under produced and five overproduced.

mr

MR. UTZ: Well, then you have one well that has a 317 deliverability and a 1.27 acreage factor which is under produced and another well with a 388 deliverability and an acreage factor 1.09 which is overproduced. Now, would it not be reasonable to assume that the wells drilled in this area in question would have a deliverability similar to these two wells?

A I believe that is correct.

MR. UTZ: And the acreage factor for your largest unit in this area which would be up in Section 1 in the North part of Section 12, 439 acres, would be -

A 1.37

MR. UTZ: 1.37, and it will be highly questionable whether that well drilled which is in question, would be 350 or 400 MCF Deliverability would make its allowable, would it not?

A I don't know whether it would be highly questionable or not.

MR. UTZ: Well, if we have a well of 317 deliverability and an acreage 1.27 which is underproduced, we can reasonably assume that if you have a like well of an acreage factor of 1.37 it would not produce its allowable would it?

A Well, I have a suspicion that of the seven wells producing over in the units there are 2 under produced, 5 overproduced at the present time.

Q Mr. Dugan, relating to this same question that Mr. Utz is asking, is it not true that all of these wells have been producing predominantly with an acreage factor of 1 at the present time?

A Yes sir. This calculation is that when I say 5 overproduced, I am using an acreage factor of 1.

Q And it would be further aggravated if a larger acreage factor was used, as far as under production.

A Yes, it would be more equally - more nearer the zero mark.

MR. UTZ: Mr. Dugan, then in the calculations that you gave me regarding 13-31, did you use an acreage factor of 1 or 1.09?

A 13-31?

MR. UTZ: Yes.

A Acreage factor of 1, the well is 41 days overproduced, acreage factor of 1.09 the well is 35 days.

MR. UTZ: 35 days. Mr. Dugan, do you know of any other units in Blanco Mesaverde that have an acreage of 339 or over, or 439 or over?

A In Blanco Mesaverde?

MR. UTZ: Yes.

A No sir. 439 you said?

MR. UTZ: That is correct. The largest unit in Plan 1 proposal.

A Yes.

MR. UTZ: I think that is all I have.

MR. ARNOLD: Mr. Dugan, this discussion that you - that we have been having as regard whether a well would be over or under produced, actually has nothing to do with how much acreage a well will drain, has it? Which is really the problem - we are faced with.

A Well, it has a lot to do with the production the well will make. I mean the production that can be sold from the well, but no, I assume that it doesn't have - it has very little to do with the actual reservoir drainage.

MR. UTZ: Generally speaking however, a small well as is in an area of low permeability, is it not? Permeability is what makes your deliverability.

A Well, that is one factor that would make up a well's small deliverability.

MR. UTZ: It is the main factor, too, isn't it? Granting that pay section is another factor and pressure another.

A Granting that pay section and pressure and condition of the well bore is the same, I would say yes.

MR. ARNOLD: Well that was the point I was wondering about, was whether or not you were trying to decide whether or not a unit this big could be drained on the basis of the size of a well.

A No sir, I had not brought that up but we feel that it will relatively drain the acreage satisfactorily.

MR. UTZ: But you have no evidence to that effect?

A No sir.

Q Any further question of the witness on this particular plan at hand?

MR. RAINEY: Is there another plan to be submitted?

MR. MANKIN: We understand there is to be one or two more.

MR. RAINEY: I would like to reserve some questions for the other plans.

MR. MANKIN: I have one other question Mr. Dugan. In this immediate area, is there any units in the Blanco Mesaverde Pool which is greater than 320 acres at the present time?

A In that immediate area?

Q Yes.

A I do not know of any in the immediate area however there are - I do not know of any in the immediate area, although I would need a study to see whether there are or are not.

Q I have one other question, Mr. Dugan, in the entire Blanco Mesaverde Gas Pool, do you have - do you know what the largest gas proration unit that has been approved up to this time?

A According to my information, in the Blanco Mesaverde Pool, the largest that has an acreage factor of 1.09.

Q Which would be approximately, how many acres?

A Approximately 350.

Q So what you are asking here is for acreage in some units which are approximately about a hundred acres more, than the largest unit?

A Roughly 90 or 89.

Q 89 or 90 acres? Greater than the largest units previously to the largest ever approved?

A Well in the Blanco Mesaverde?

Q Yes.

A There has been larger acreage factor in other pools.

Q Percentage wise but not as far as total acreage?

A No. The largest I know of is in the Aztec Pictured Cliffs Pool, it has an acreage factor of 1.27.

Q If there is no further question, in regard to this present proposed plan, we will proceed with your additional plans.

A I would like to offer Plan B as Exhibit 2. We would like to offer Plan B or Exhibit 2, as an alternative to Plan A or Exhibit 1. Considering the sections and subdivisions involved in Plan B and it is drawn up on a 14 Well development program and we are offering it as alternative to Plan A or Exhibit 1 and the Rosa if this plan is accepted, the Rosa, 13-31 will still be an unorthodox location, however, the Rosa 10-13 will not be. On both Plan A and Plan B in drawing up the gas proration units we have attempted to follow the regular survey and subdivision lines and not divide any regular subdivisions.

MR. UTZ: By regular sub-divisions, you mean quarter, quarter section lines?

A Yes.

Q Do you have anything further on this plan to be at the present time Mr. Dugan?

A No, the only thing is that I mentioned, that the Rosa 10-13 will not be an unorthodox, will be an orthodox location and that 13-31 will still be unorthodox and will be approved as an unorthodox location should our alternative Plan B or Exhibit 2 be accepted.

Q Mr. Dugan, in Exhibit 1, which was Plan A, the units for 13 units varies from 349 to 439 acres approximately in the Plan B of Exhibit 2 the units vary from 327 acres to 380 acres approximately.

A 387 or 387.84? 387 or 387.84.

Q Approximately 388 acres is the largest unit?

A Yes.

Q Which the average of the units would be considerably less than 391 acres previously under the 13 Well Plan?

A Yes. The average would be approximately 361.

Q Which would give you an average acreage factor of approximately 1.1?

A Yes, roughly.

Q Whereas the average acreage factor under the previous plan of 13 wells be approximately 1.2? Is that correct?

A 1.22 yes sir.

Q Is there any other question? Any further question of the witness on this particular Plan B? Might I ask before we go ahead with any additional questions, Mr. Dugan, do you propose to submit a third plan or is this all you propose to submit?

A The Plan A and Plan B has been approved by Pacific Management, we are not in position at the present time to submit any further plans.

Q The third plan would have been one that was possibly suggested by the Commission which would be for 15 wells, is that the one you had in mind that was not approved by Pacific Management?

A Yes sir.

Q Let us continue with the questions if we may, on Plan B.

MR. UTZ: Mr. Dugan, which of these two plans submitted do you think will effect a better drainage pattern?

A Well, Plan A the gas proration units are the more uniform size and the more in the form of a rectangle or square which is accepted pattern, or accepted proration unit size in the Blanco Mesaverde Pool to Plan B, we are still of the opinion that the 13 Well Plan, Plan A, will adequately drain the acreage as well.

MR. UTZ: Well, the question sums down to the proposition that of draining 5,065 acres approximately with 13 wells or 14 wells?

A Yes sir.

MR. UTZ: And, as I gather from your testimony, you would rather drain that amount of acreage with 13 wells and save the cost of drilling one well.

A Well, yes, and because of the gas proration units are more equally divided through the present survey, bearing in mind that the present survey is where the original survey was erroneous which leaves the, except the East West basing, would not be applicable in this particular area.

MR. UTZ: The larger the acreage factor in a proration unit in an area of limited deliverability and low permeability, as this area must be, is it not true that it takes much longer to drain the larger unit than it would the smaller unit?

A That would probably be the accepted theory, although I would not be in the position to say at the present time.

MR. UTZ: In low permeability areas like this, for the larger spacing, do you think there is a possibility of leaving gas in the ground depletion of the reservoir?

A Well, I have not made a thorough study of that problem, although, it is questionable and in many peoples mind as to what its proper spacing should be, or what the proper acreage should be, there is more of a chance of leaving the gas in place of the larger spacing than it would say, on a 40 acre spacing.

MR. UTZ: That is all I have.

Q Any other question? Mr. Rainey?

MR. RAINEY: David Rainey with El Paso Natural Gas Company. Mr. Dugan, since this is a common ownership unit here in effect, is there any reason that you know of why township lines should not be crossed in setting up a non-standard unit?

A There are several reasons why it is desirable not to cross a township line, namely the effect on the accounting system, and filing system and the descriptions of the acreage involved and other reasons, although these reasons are not insurmountable objects, it is just preferable.

MR. RAINEY: My reason for that question is that I have been looking at this thing and I was wondering if there had been any thought of the feasibility of setting up standard units along the west edges of these sections, 12, 13, 24 and 25 of 31 and 6 and along the East edges of Section 7, 18, 19, 30 and 30 of 31 and 5, setting non-standard units over-lapping that township right down the middle,

that way from my count you would only have about seven unorthodox units, rather than some 15.

A Well, we worked out a plan similar to that although we did not consider it acceptable for several reasons and one reason being, that down in Section 31, you ended up in that area with a rather long gas proration unit which is undesirable and as I said, we are opposed to crossing the township line for several reasons.

MR. RAINEY: Well, I can understand your accounting problem that by trying to control things across township lines which seems to me it would give it much more equitable distribution of acreage in those units, and your maximum unit, as I see it would then be just about 360 acres?

A Well, there are probably thousands of ways that we could break up this acreage.

MR. RAINEY: Well, that still holds it pretty well on section lines clear across township and range.

A Yes.

MR. RAINEY: Well, that was just a thought for what it was worth.

A Yes. Well, we have drawn up Plan A and Plan B to more equally divide the acreage in covering the whole area rather than spreading out the gas proration units as they would be if they were divided up the center there, although you would come out with less unorthodox proration units.

Q Mr. Dugan, who operates the 31-6 Unit?

A Pacific Northwest.

Q Then who operates 32-5 Unit?

A Pacific Northwest and Pacific Northwest also operates 30-6.

Q So Pacific operates all three units surrounding this Rosa Unit as shown on this Plat?

A Yes sir.

Q But the owner-ship in each of these units is entirely separate, is that correct?

A Yes sir.

Q Will not Plan A or Plan B occasion other unorthodox locations and non-standard locations in these three surrounding units, because of the starting of these larger units otherwise there would be drainage?

A I do not believe that we have the same situation in the other units that we do here and because of the survey, there will be non-standard gas proration units, but I believe they will all come so that they will fall under the rule so that the Commission can administratively approve these additional units or these units in the other units, the gas proration units in the other units.

Q Is it not true that in 31-6 Unit that this would occasion a unit of approximately 215 acres per well in the E/2 of Section 36, 31 North, 6 West?

A I did not add that up but I can see that that will be -

Q In other words they had no - you would have no relief in the E/2 of 36 for forming such units, is that correct?

A Yes it is.

Q If you formed a standard unit on the W/2 of Section 36?

A Yes, we have no relief on that, but of course that was across the unit line, that would greatly add to the accounting and filing problem if you are suggesting forming a gas proration unit across, between Section 31 and Section 36, is that what you are meaning?

Q Either it will not be possible to form one in this Section 36 of the 31-6 Unit or we would have to go across the township line in Section 1, is that correct?

A Yes.

Q So there would be a further aggravation of this problem?

A Yes.

MR. RAINEY: I might point out that the same thing would be true in 32 and 5 Unit up there in that very narrow Section 31.

Q Mr. Dugan, you indicated that Pacific Management was not agreeable to a 15 unit proposal here, would not a 15 unit proposal be an average of approximately

339 acres for each unit under a 15 well proposal?

A I do not know, I would have to figure it out - 15 wells would be approximately 339.

Q We had some questions a while ago regarding as to proper drainage pattern, do you have any feelings as to whether the 320 acres spacing of the Blanco Mesa-verde Gas Pool is the proper spacing program for the proper drainage pattern or would you have a feeling that possibly in areas that would fluctuate?

A Well I have no doubt that in certain areas it would fluctuate although it is the accepted practice that it would not.

Q In this area where there is a possibility of low permeabilities and maybe poor development of the pay section do you feel that any great amount over 320 acres such as you are proposing for 439 acres would properly drain the units?

A I think it would have very little effect on the drainage, as the difference in acreage.

Q By that, do you mean that -

A I think the shape of the gas proration unit would have more effect which is the acreage - which we anticipate draining from any one single well, has more effect than the actual acreage in the unit.

Q In other words when you say - you mean that the well location, on the units, as to its location would have more to do with the drainage?

A Yes sir. As to the outlines of the unit.

Q But you are not proposing are you, that the spacing should be greater than 320 acres normally, are you? For the Blanco Mesaverde Gas Pool?

A No sir.

Q This is an area of fairly low deliverability, is it not?

A As compared with the other -

Q As compared with the average - with the Blanco Mesaverde Gas Pool.

A With the average?

Q Yes.

A Yes, well, I assume that it is with the average of the Blanco - of the entire

Blanco Mesaverde Gas Pool, although, with the average of the surrounding units I would say that it was above average.

Q Above average for the surrounding units?

A For the surrounding units.

Q But not above average for the entire Blanco Mesaverde Gas Pool?

A No sir.

Q Are there any other questions of the witness?

MR. UTZ: Yes, I have one. Mr. Dugan, if these two rows or tiers of Sections had been regular 640 acre sections, would you have questioned the feasibility of using 320 acre units?

A No sir, we would never have requested that.

MR. UTZ: Then if it is possible, to break these units up and these uneven sections into something near 320 acres, why would you object to that?

A Well, as I have stated before, we feel that the shape of the individual gas proration units, for each individual well we propose to drain that acreage with that well has more effect on the actual drainage pattern than the actual number of acreage in that gas proration unit up to a certain point of course.

MR. UTZ: If both of these plans should not be approved, by the Commission, would you be - would you accept smaller units than proposed on either of these two plans?

A Well, that is a Management problem and I am not in position to answer this at the present time.

MR. UTZ: I take it then if neither of these plans is approved that your management would desire to come in for another hearing?

A Yes sir.

Q Any further question of the witness? Mr. Dugan, I would like the record to show that in your original opening statement that you desired this to be put in the Blanco Mesaverde Gas Pool, this hearing would not have anything to do with putting in the Blanco Mesaverde Gas Pool but it would be taken care of by normal nomenclature extensions as wells were completed and at present there is only about

one well in the immediate area that is outside of the pool and I am not sure that has been officially completed, which would be in 15-29?

A The 17-20 has been completed.

Q But 15-29 has not? Well regardless of whether it has been completed or not completed I want the record to show that we will not consider the extension of the pool.

A Yes sir, that was just a suggestion.

Q That that would be the subject of further nomenclature hearings month to month as wells are completed and as pools are extended properly.

A Yes, the 15-29 has been completed and tested on last August.

Q Is there anything further in this case? I believe that you indicated that you desired Exhibits 1 and 2 to be - did you desire those to be entered as evidence?

A Yes sir.

Q Is there objection in entering Exhibit 1 and 2 as evidence in this case?

If not they will be so entered. If there is no further question of the witness the witness may be excused - are there any statements to be made in this case?

If there are no statements or nothing further, we will take the case under advisement.

