BEFORE THE

Oil Conservation Commission

SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 908, 944 & 955

TRANSCRIPT OF PROCEEDINGS

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ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
October 13, 1955

IN THE MATTER OF:

Case 908
(Rehearing) By provisions of Order R-672-A the Commission granted rehearing in Case 908 upon application of Skelly Oil Company. The Oil Conservation Commission seeks an order amending, clarifying and revising the presently established horizontal limits of the Ballard-Pictured Cliffs, the Fulcher Kutz-Pictured Cliffs and the South Blanco-Pictured Cliffs Gas Pools in San Juan and Rio Arriba Counties, New Mexico. Operators in these four gas pools are advised that the Commission will consider testimony relating to redelineation or consolidation of the presently defined areas, as evidence may indicate.

Case 944
Northwestern New Mexico nomenclature case calling for the extension of a pool:
(e) Extension of the Ballard-Pictured Cliffs Pool Boundary in San Juan County, New Mexico, to include:
TOWNSHIP 26 NORTH, RANGE 9 WEST
Section 1: SW/4
(d) Extension of the South Blanco-Pictured Cliffs Pool in San Juan and Rio Arriba Counties, New Mexico, to include:
TOWNSHIP 27 NORTH, RANGE 9 WEST
Section 36: NE/4

Case 955
Northwestern New Mexico nomenclature case calling for the following extension of a pool:
(c) Extension of the Ballard-Pictured Cliffs Pool Boundary in San Juan County, New Mexico, to include:
TOWNSHIP 26 NORTH, RANGE 9 WEST
Section 2: All
Section 3: N/2
Section 4: SE/4

BEFORE: Honorable John F. Simms
Mr. E. S. (Johnny) Walker
Mr. William B. Macey

TRANSCRIPT OF HEARING

MR. SELINGER: George W. Selinger, representing Skelly Oil Company. Also, George W. Morrow.

MR. MACEY: Mr. Selinger, I believe it will be proper for you to go ahead and present your case.

MR. SELINGER: We have two witnesses. We would like to have them sworn.

MR. MACEY: They have been sworn in this case before.

MR. SELINGER: Yes, but, this is a rehearing, new advertisement.

(Witnesses sworn.)

MR. SELINGER: I might very briefly state for the record that as a result of innumerable hearings, our testimony here will be based on not only the past performance of the production, but also subsequent development since the May eighteen hearing. In order to give a preview to anyone concerned, we are recommending that the north area which we had heretofore designated as area "A" be deleted from the south Blanco field and be made part of the Ballard - Pictured Cliffs Field

MR. MACEY: Mr. Selinger, before we go any further, wouldn't it be proper to consolidate this case with the other two cases?

MR. SELINGER: If you recall, Mr. Macey, at the last hearing in which we asked postponement of 944, and 955, we asked that they be consolidated with 908 and all three be continued. It was so ordered at the time of continuance last month.

MR. MACEY; All right. Let the record show that we are considering cases 908, 944, and 955.

JULIAN CLAUSEN

called as a Witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. SELINGER:

Q State your name, please. A Julian Clausen.

Q And you are with the Skelly Oil Company?

A Yes, sir, I am.

Q What capacity? A Geologist.

Q Have you heretofore testified in the original case 908?

A Yes, I have.

Q Did you, at that previous hearing May 18, present a map which was made part of the record of the original case 908?

A Yes.

Q What has been designated as Skelly's Rehearing Exhibit Number 1, which is placed on the board, have you taken the previous exhibit and merely supplemented it by the additional development since the hearing? A Yes, I have.

Q How have you indicated tho original development or subsequent wells from the original hearing on this Exhibit?

A The subsequent development is shown on this Exhibit as the wells with the large circles around them.

Q For the purpose of correction, there is one large circle around a cross section; is that circle in error?

A The -- well, the circle around the well in S26, I believe, is an error.

Q And that should not be a circle? A No.

Q But the other circles indicated on that Exhibit are completed, producing drilling, or wells for which permits have been secured since the last hearing? A Yes, sir.

Q Are they quite numerous, or very scarce?

A There are quite a few in the area in question.

Q And also on this Exhibit, I have noticed that you indicate a line of cross sections in red. Is that correct?

A Yes, the red line indicates the cross section marking Exhibit 2, I believe.

Q The previous lines of cross sections, numbering A, A Prime, B, B Prime and C, C Prime, were indicated and filed at the original hearing, is that correct? A That is correct.

Q Now, referring to Skelly's rehearing Exhibit 2, is that cross section that you refer to --

A That is the cross section indicated in red on Exhibit 1.

Q Are all the wells on that cross section producing wells from the Pictured Cliffs?

A They are all producing wells, yes.

Q Now, on the Exhibit you have indicated some check marks. What does that indicate on top?

A The check marks are wells which had not previously been used in cross sections previously filed with the Commission on this case.

Q And the wells between what we have designated heretofore as area "A" and "B" have now approached each other to the extent of being part of one proration unit, is that correct? A That is correct.

Q How is that indicated on your Exhibit 2?

A The black space shown with a green cross mark is the one location unit not yet drilled and it is shown on the small sketch also on that sketch by a small green cross mark.

Q Now, the wells to the left -- as to that cross section, some of the wells are indicated by Schlumberger logs and some by Gamma Ray logs, is that correct? A That is correct.

Q Why did you use the Gamma Ray logs?

A Gamma Ray logs were used because no Schlumberger logs were available on those wells in question.

Q In order to ascertain the tops or the bottoms of the Pictured Cliffs, can you reasonably use the Gamma Ray logs as well as the Schlumberger logs?

A The Gamma Ray log is not as easy to use. However, it is satisfactory as a correlation unit in picking the top of the Pictured Cliffs.

Q So, that, in your opinion, it can satisfactorily at least pick the top of the Pictured Cliffs? A Yes, sir.

MR. SELINGER: We offer in evidence Skelly Rehearing Exhibits 1 and 2.

MR. MACEY: Without objection, it will be received.

MR. SELINGER: That is all of this Witness.

MR. MACEY: Any questions of this Witness? No questions of the Witness, the Witness may be excused.

BARTON W. RATLIFF,

called as a Witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. SELINGER;

Q State your name, please. A Barton W. Ratliff.

Q Are you the same Mr. Ratliff that heretofore testified as an engineer in the original case 908? A I am.

Q Now, Mr. Ratliff, I hand you what has been marked as Skelly's Rehearing Exhibit 3 and ask you to state generally what that map proports to show.

A This is a map showing all Pictured Cliffs wells and showing the

initial pressures taken upon completion, also showing the number of days shut-in when these original pressures were taken, also in some cases, showing the date when these wells were completed.

Q Now, at the original hearing of 908, so much was said about initial pressures of the wells in this particular area and the surrounding area that you have prepared this Exhibit on this basis of utilization of initial pressures, is that correct? A That is correct.

Q Now, will you, by check mark, if you desire to refer to the Rehearing Exhibit 1, will you check mark those wells for which you had no pressures at the original hearing for which you have now initial pressures?

A In this general area, here, Mr. Selinger?

Q Just within that Huerfanito unit area, specifically.

A How about by circling them?

Q Circling will be all right. Have you done that, Mr. Ratliff?

A Yes, sir.

Q Now, at the previous hearing there was some several miles separation between the -- what is designated as the unit area A, and unit area B, at the original hearing, is that correct?

A That's correct.

Q Now, has subsequent development taken place to decrease the separation between the two areas?

A Yes. There has been three wells in particular completed. These three right here in Section 1, T 26 N R 9 W. There has been a well completed in the N W 1/4 and one well in the S W 1/4, S 36, T 27 N R 9 W. There has been one well completed in the N E 1/4.

Q Is it true or is it not true that the drilling has now brought these two areas together with the exception of one proration unit?

A That is correct, and that unit will be in the SW/4 of Section 36, T27N, R9W, right here.

Q Is there a well for which a permit has been given or probably in the process of being drilled in the S E of 35? A Yes.

Q Which is a direct west offset to this unit that you refer to as being the only unit not drilled between the two areas?

A That is correct.

Q Now, what is the initial pressure in the well of the NE 1/4 of Section 36, initial pressure?

A Initial pressure after eleven days shut-in is 642 pounds.

Q What is the initial pressure of the well immediately to the south or southwest, nearest well to it?

A The well in the NW 1/4 of Section 1, R 9 W, T 26 N, after eight day shut-in, was 666 pounds.

Q What is the pressure of the well in the southwest of 1?

A After seven days shut-in, 623 PSI.

Q What is the initial pressure shut-in of the well in the NE of Section 2?

A After seven days shut-in, 656 PSI.

Q What is the initial pressure of the well in the NW of 2?

A After seven days shut-in, 632 PSI.

Q And the initial pressure of the well in the SE of Section 2?

A After twenty-eight days, 648 pounds PSI.

Q Immediately to the west?

A After twenty-three days shut-in, 673 PSI.

Q Then, from the pressures of all these wells which you did not have at the original hearing, on May eighteen, could you say as an engineer that there is any basis for a separation on the part of anyone

between these two areas because of pressures?

A I would not think so.

Q As a matter of fact, the well in the NE/36 which was proposed to be placed in the South Blanco Pool is less than some of the pressures in the wells to the SW which are being proposed being placed in the Ballard-Pictured Cliffs?

A The original shut-in on this well is less.

MR. SELINGER: I believe that is all. We would like to offer Skelly's Rehearing Exhibit 3, and that is all we have of him.

MR. MACEY: Without objection, the exhibit will be received.

Are there any questions of the witness?

MR. CRENIER: A. S. Crenier, Southern Union Gas Company.

CROSS EXAMINATION

BY MR. CRENIER:

Q Just to refresh my recollection, Mr. Ratliff, in the last hearing you were also proposing then what you are now, that Area "A," the one to the NE, be put into the Ballard-Pictured Cliffs Pool, or were you then proposing that Area "B" be put into the South Blanco?

A At the last hearing?

MR. SELINGER: Just a minute. I don't think that is an engineering question, but I will be glad to answer it for this reason, that as the result of the hearing, particularly the testimony of Mr. Woodruff, of El Paso, we have come to the conclusion that he was right that this Area "A" is not part of the South Blanco-Pictured Cliffs and therefore we have adopted his recommendation as of delineating the Area "A" from the South Blanco-Pictured Cliffs and placing it with the Ballard-Pictured Cliffs.

MR. CRENIER: Thank you. I thought I understood it correctly

but I wanted to be sure. Now, can this Witness, or you, perhaps, Mr. Selinger, tell me this: Does your proposal to move areas out of the South Blanco Pool into the Ballard Pool embrace only the acreage within the Huerfanito unit area or does it also embrace those other lands immediately adjacent to it?

MR. SELINGER: Our proposal intends to take in all of area "A" which is all of the producing wells in this.

MR. CRENIER: I thought that area "A" previously had been limited solely to stuff in the unit area and didn't go outside, --

MR. SELINGER: No. We use the Southern Union wells to the east there outside of the Unit. We are recommending that all of the producing wells in this area here be made part of the Ballard Unit.

MR. CRENIER: Thank you. I just wanted to clarify what we were doing.

MR. SELINGER: I am glad you did. There was a lot of confusion about it.

MR. HOWELL: Ben Howell, representing El Paso Natural Gas Company.

CROSS EXAMINATION

BY MR. HOWELL:

Q Referring to Skelly's Rehearing Exhibit 3, will you tell me what are the pressures of the other wells that you now propose to withdraw from the South Blanco Pool and put into Ballard-Pictured Cliffs Pool, what are the initial pressures of the other wells?

A Well, the Turner General Well, I don't know the number, it is in that -- it would be Section 25 R 9 W, T27 N, SE 1/4, original pressur after eight days shut-in 715 pounds. In the NW 1/4 of that same Section 25, the original shut-in pressure after seven days was 688 pounds PSI.

In Section 26, R9 W, T27 N, in the NE 1/4, the original shut-in pressure was 719 pounds after after fifteen days shut-in; and Section 24, the same range, 9W, T27 N, SE 1/4, after three days shut-in, initial pressure was 599 pounds; in the NW 1/4 of Section 24, R9 W, T27 N, after one day shut-in, pressure was 700 PSI; in Section 14, SW 1/4, after three days shut-in, pressure was 710 PSI. I don't believe we had this well here -- let's see --

MR. SELINGER: Section 30 -- 18?

A Section 18, R9 W, T27 N, SW 1/4, after three days shut-in, 775 pounds; this well was completed in May, of 1953. I think those are the wells we proposed.

MR. SELINGER: Now, you left out the NE of 36, you might read that pressure, NE of 36.

A The well on the NE 1/4 of 36, R9 W, T27 N, after eleven days was 642 pounds. This well was completed -- I don't know the exact day, but sometime in 1955, within the last three or four months.

Q Then there is a difference of fifty or more pounds pressure between this well which was recently completed in the NE 1/4 of Section 36, and all of the other wells that you seek to change except one which is somewhat of an anomaly, having about 500 pounds, is that not true?

A Based on the pressures listed here, that is true. With the exception of one well -- just a minute, now I think that would be true.

Q And the pressure of all of the other wells, with the exception of the two we have mentioned, one completed in Section 36, and one that has a very low pressure of 500 pounds, is more nearly that of the South Blanco Pool than the initial pressures of the Ballard Pool, is that not correct?

A Well, of course, it is hard to compare since they were taken

on different dates. You are talking about two years difference and the pressure we are comparing, that was taken roughly two years after the pressure which reflect that great difference you speak of.

Q That wasn't my question. I asked you, the initial pressures of all the wells, the other wells except the two that we have mentioned, taken at approximately the same time as pressures in the Ballard-Pictured Cliffs Pool, have a differential of about 50 pounds, haven't they?

A You are speaking of these two?

Q I am excluding those two, the other wells with the exception of these two which you now speak of.

A That is -- these weren't taken at the time the wells in the Ballard-Pictured Cliffs Pool was taken.

Q They all represent initial pressures?

A They all represent initial pressures.

Q And there is a difference, is there not, of more than fifty pounds between the average pressures of that group than those of Ballard-Pictured Cliffs Pool?

A I will have to calculate all the wells in the Ballard-Pictured Cliffs Pool to see if that is correct.

Q Can you look at those and pick a rough estimate, I am not asking for an exact estimate?

A I don't -- if you take all pressures up here, the 599, 775, 710, -- I have forgotten what that figure was, as I recall, it was not 50 pounds difference. At the time of the last hearing we used the average pressure here and everything here.

Q The average of the wells, excluding these two, is probably over 700 pounds, isn't it?

A Oh, of course we can exclude the two low ones and come up with a higher average. That is simple arithmetic, but that doesn't convince me that that is the average pressure in this area.

Q But all the wells except those two the pressures compare with pressures in the South Blanco Pool, do they not?

A Well, the pressures in the South Blanco Pool, here is some 875, 962, 855, look to be in excess of 150 pounds greater than the wells you are speaking of in this north --

Q What about the wells directly to the north of those, what are the pressures there in the South Blanco Pool?

A Oh, they range from 750, 780, 850, which is still pushing a hundred pounds difference.

Q The number of them there that have 700 pounds pressure, there is a number of them, is there not?

A Yes, but we can compare those with the ones down here with 500 and 600 pressure, though.

Q Now, why would you say that the well in Section 36 which has an initial pressure of some 642 pounds, would be in the same reservoir as the wells immediately to the north, most of which have a pressure, an initial pressure, in excess of 700 pounds?

MR. SELINGER: We are not recommending that, the Commission in its original application asked that the well in the northeast of 36 be made part of the South Blanco-Pictured Cliffs. That wasn't our recommendation. That was the Commission's recommendation.

Q Mr. Ratliff, I understand today that you were recommending that your application was that the entire group be included?

MR. SELINGER: That is right, but that wasn't your question. Your question was, why did we put this in the NE of 36, we haven't

done that. The Commission did that in its case 944 in asking that the well in the northwest of 36 be made part of the South Blanco-Pictured Cliffs.

MR. HOWELL: Are you objecting to the question?

MR. SELINGER: In its present form, yes.

Q All right, in your opinion, does this well in Section 36 belong in the same reservoir as these wells immediately to the north?

A Oh, I think off-setting that by only a direct offset that they probably would be producing from the same formation.

Q Would you be -- would you express that as being your considred opinion that they produce from the same formation, or not?

A I think that is my opinion, based on what we have, based on the cross sections as has been presented. Until you had the -- until -- the pressure on the well directly offsetting this to the north, 715 pounds after 8 days, in October, 53, if wells south of that -- just a minute, if we took a pressure on this well in the southeast quarter of Section 25, we took a pressure on that well now, I think you would find it would be very close to the well on the northeast quarter of Section 36, and, of course, if you had that information, if you could take a long enough shut-in period, I think that you would probably find the pressures to be approximately the same, which would indicate communication and that they were producing from the same reservoir.

MR. HOWELL: That is all.

CROSS EXAMINATION

BY MR. WEBB:

William G. Webb, representing Jack Linn Turner.

Q Mr. Ratliff, would you tell me how many days these three wells had been shut-in when you gave us these pressures?

A The one in NE 1/4 of section 36 was shut-in 11 days; the one on the NW 1/4 of Section 1,8 days; on the SW 1/4 of Section 1, 7 days.

Q In your opinion, as an Engineer, does that short period of shut-in time truly establish the true pressure of reservoir from which those wells are producing?

A I would not think so, because even what was presented at the last hearing, we found that it takes months for these pressures to stabilize.

Q And those pressures you read into the record are not the true reservoir pressures, are they?

A No, I think they are the ones you used to compare the last hearing.

Q I believe you testified that in your opinion, these two wells shut-in long enough are producing from the same formation, Mr.Ratliff?

A I said they could possibly be.

Q Are they producing from the same reservoir or pool?

A That is hard to tell. If you left the wells shut-in long enough, and the pressures were approximately the same, I would say definitely that they were.

Q Do you believe this well will build up to any greater pressure than what you have shown here if it was shut-in longer?

MR. SELINGER: Who is the operator of that? You, you ought to know.

A I think that any well in this field would build up if shut-in longer.

Q How much do you think that will build up to?

A I have no way of knowing.

Q Do you think it would build up to 700 pounds?

MR. SELINGER: We object to the question. He has already said he didn't know. It is merely argumentative.

MR. WEBB: He did testify, however, that it would be his opinion that the wells would build up to some extent, exact extent, he is not willing to state. Is that right?

A Well, it is not that I am not willing to state, it is just that I don't know without having them shut-in over a long period of time, there is no way of knowing how they are going to act.

Q I didn't get your answer to Mr. Howell's question on the initial shut-in pressure on these wells up here. What was that?

A What was the question?

Q What is the initial shut-in pressure of these wells over here?

MR. SELINGER: Let's identify them by sections so we will know.

A In Section 12, NW 1/4, original shut-in pressure was 780 pounds; NE 1/4 of the same Section, Section 12, original shut-in pressure was 850 pounds. In Section 1, this -- these sections are in Range 9W, T27 N, in the SE 1/4, the original was 770 pounds, SW 1/4 770 pounds. You wish only these?

Q What is the initial pressure of this well?

MR. SELINGER: Identify it by location.

A In Section 24, NW 1/4, original shut-in pressure 700 pounds.

Q What is the distance between this well -- what is that?

A Section 24.

Q NW 1/4 of Section 24 and the NW 1/4 of Section 12?

A Mile and three quarters.

Q That would be three spacing units, would it not?

A That would be three spacing units separating the two wells, correct.

Q Down here there are two of the -- identifying the well in the NW 1/4 of Section1, and the well in the NE 1/4 of Section 36, there are two spacing units separating those two wells?

A Well, I wouldn't say so. You are talking about diagnal distance; I don't think you would consider it exactly 2, if you get down to brass tacks it will probably be 1½. If you are going to figure it that close, in other words, if it were 2, it would be a mile separating the two, however, here, I think it is only approximately a mile and a quarter.

Q Very well. it is my understanding that you're proposing that these wells were there is a mile and a half approximately, or two miles, should be separated, but where you have a mile and a quarter they should be thrown together; the pressure differential not being substantial?

A I meant the pressure differential here is not substantial, but I think it is up here; we are talking only about a mile and a quarter here and you are talking about a mile and three quarters here.

Q Half a mile difference, in other words?

A Another thing, you have a dry hole in here sitting between these two areas.

Q Very well. Are there any dry holes drilled in the intervening space between the area which you intended to incorporate in the north part of the Huerfanito Unit and the south part?

A There is no dry holes in between the two areas, there are two dry holes in the west portion of the area in the north, the north area; however, there is no dry holes or anything that would indicate we wouldn't get production between these two wells.

Q Haven't been any wells drilled? A That is correct.

Q But there are wells segregating the two, dry holes?

A No, I wouldn't say they would segregate the two at all; I don't

think you would refer to those dry holes as segregating in this area here.

Q As long as we are going in perpendicular lines, then, there is a well in the NE/4 of Section 26, 27-9, and a well in the NE/4 of Section 2, 26-9; is there a dry hole between those two wells?

A I wasn't going in perpendicular lines; the straight lines you speak of, if you want to look at it from a straight line, that is a dry hole in between the two. However, there is no dry holes between any of the producing wells going across that would tend to disprove that these two weren't or couldn't possibly be connected here, across these two wells here.

Q But there is --

A There is no dry holes separating this well directly norhteast of this well in Section 1.

Q My question, again, there has been no well drilled there, has there? A There has not.

MR. WEBB: That is all.

MR. MACEY: Does anyone else have any questions of Mr. Webb -- I mean Mr. Ratliff?

CROSS EXAMINATION

BY MR. ELDERS:

Q I will ask a question here, Mr. Ratliff; in referring to Section34, 27N 9W, we have two Pictured Cliffs Wells located in the S/2 of that section? A Correct.

Q It is my understanding that these wells are -- not testifying, but it is my understanding that those wells are drilled at the top of the Pictured Cliffs.

A It is my understanding that they are only authorized locations,

they may be drilling now, I don't know.

Q I believe those wells are drilling now.

A Are they?

Q I think I should take this at a little different angle; let's refer to Section 3, 26N, 9W, where we have 2 producing Pictured Cliffs wells in that Section, up in Section 28, and 29, we have some producing Pictured Cliffs wells which are in the SE extremity of Fulcher Kutz-Pictured Cliffs Pool? A That is correct.

Q Are there any dry holes in between those two locations?

A There is no dry holes at the present time between those two, those wells.

Q If drilling should prove that production is across that area, is continuous, what would be your recommendation there?

A Well, I don't think I could make a recommendation now as to -- well, if -- we will have to wait and see just what kind of wells they were, and have to give a little study to it. I don't think I could make a recommendation.

Q Assuming that there were wells capable of production?

A In other words, if they are developed, all across here, and the two areas connect, what would be my recommendation?

Q As to pool delineation?

A Well, I think they should be placed together, if it is proved beyond any doubt that they are connected, why, the same field throughout here.

Q Mr. Ratliff, that was your recommendation insofar as your area "A" in the present boundaries of Ballard-Pictured Cliffs Pool, is that correct?

A It was my recommendation that this be included in this, is that

what you mean?

Q That is correct.

A I don't think I recommended that they be placed in the same pool at the last hearing, Mr. Elders, I think that I confined my testimony attempting to show that they were probably producing from the same reservoir in communication; I don't recall having made any recommendation as including them in this Pool at that time. I may have, but I don't recall it.

Q Well, what are you now recommending, as far as area "A" in Ballard-Pictured Cliffs Pool is concerned?

A We are recommending nothing that they be included.

Q That will be on the basis of wells capable of producing, is that correct?

A The wells producing.

Q On the basis of wells presently capable of producing?

A That is correct. That is all we can base it on, is producing wells.

Q Now, referring to the other situation, the connection was made between the present Fulcher Kutz and Ballard-Pictured Cliffs that if wells were drilled in there, wouldn't it be reasonable that Ballard-Pictured Cliffs and Fulcher Kutz would be connected?

A There is other things to be considered when you are talking about pool delineation, which, without a little study, I couldn't say, as far as -- offhand, I would say that they should be in the same pool, and classified as the same pool, but there is other factors running in to it that I can't speak of right now.

Q What other factors are you referring to?

A Well, the only thing I think that might enter into it might be from the marketing standpoint.

Q Marketing.

A I don't know. I just don't know in that respect.

MR. SELINGER: Mr. Elders, would you care to ask our geologist that question, rather than the engineer?

MR. ELDERS: If he has an opinion on it.

MR. SELINGER: I think you are asking geological questions from an engineer; the geologist would be more able to answer geological questions, I presume.

MR. ELDERS: If he can answer the question, I would as soon he did.

MR. MACEY: If he can answer the question, I would appreciate having an expression of opinion from him.

A What you would like, then, is a recommendation as to what we would do when something happens in the future with respect to this area here?

Q That is correct.

A I think we are being a little premature.

MR. SELINGER: Why don't you ask Mr. Clausen that question? Would you care to answer that question?

MR. MACEY: Go ahead, Mr. Clausen.

WITNESS CLAUSEN: On the basis of our present geological knowledge, there would be no basis to separate the two areas when they were drilled up and producing.

Q In other words, you feel that there would be just as much reason to connect both the Kutz and Ballard as there is Ballard and your area "A" now?

WITNESS CLAUSEN: That is correct.

MR. ELDERS: That answers my question.

JULIAN CLAUSEN,

a witness, having previously testified herein, resumed the stand and testified further as follows:

CROSS EXAMINATION

BY MR. WEBB:

Q Mr. Clausen, now, assuming, then, that wells were drilled in here --

MR. SELINGER: Let's designate the area.

MR. WEBB: He can see it.

MR. SELINGER: We want the record to show it.

Q T27N, R9W -- they don't have the sections marked.

A 12, 13, -- 11, 12, 13.

Q Assuming wells were drilled here in 12, 13, 14 and 15, would there be any reason then for separating this production from this production?

A Geologically, as far as we know, there is no separation between the two.

Q Then, it would all be one great big Pictured Cliffs Pool?

A That is correct.

Q You would treat it as such?

A Yes, from the geological basis.

Q And this pool continues right down -- wells produce a thousand pounds pressure or better? A Geologically, yes.

Q Is the line gathering gas from those wells the same --

MR. SELINGER: We object to that question as going outside the province of geology.

MR. MACEY: Agreed.

MR. WEBB: Was that an engineering question, Mr. Selinger?

MR. SELINGER: You want me to answer that question argumentatively

We say it is all one field. The whole Pictured Cliffs whether you are talking about the well in the northeast of Section 36 or southeast of that, it is all one Pictured Cliffs Pool. That is the only production you have of that field.

MR. WEBB: That answers my question perfectly.

MR. SELINGER: Thank you. I am not under oath.

BARTON W. RATLIFF:

a Witness having previously testified herein, resumed the stand and testified as follows:

DIRECT EXAMINATION

BY MR. SELINGER:

Q Now, Mr. Ratliff, you were asked about the well in the northeast of 36 in the north offset; are either one of those wells producing from other than Pictured Cliffs production?

A Not that I know of.

Q Are those wells relatively the same depth?

A Yes.

Q Can you, therefore, assume that it is producing from any other reservoir except Pictured Cliffs Reservoir? A No.

Q Now, with respect to the pressures that Mr. Howell was asking you about, is not the average pressure as depicted by the exhibits heretofore filed indicate that the average pressure in the South Blanco range in the neighborhood of eight to nine hundred pounds as compared to the pressures in area "A" being a hundred to a hundred and fifty pounds less?

A That is my observation and in calculating the average I think that is true.

Q Have you heard both previous witnesses, other than yourself,

as engineers testify that generally from the northeast southwesterly, the pressures deteriorate or decrease?

A Correct.

Q Is that anything unusual for Pictured Cliffs production in this entire San Juan Basin?

A What I have observed on the map, I think that is true.

Q Now, Mr. Webb has gone several miles to the northwest of what I term the critical area between "A" and "B" for the finding of dry holes; can you find any dry holes in the space of several miles in production here in T27 N, R9 W or T26 N R9 W?

A What are you talking about, George, in here?

Q Yes, where is the closest dry hole, if you know?

A To this?

Q To the critical area, Section 26.

A I assume the critical area we are speaking of here is in Section 36, Range 9 W, and 27 N, Section 1 and Range 9 W, T26 N, the two closest wells together there is about a mile and a quarter. The nearest dry hole to either of those two wells is approximately a mile and a quarter to a mile and a half.

Q Which direction? A A northwest direction.

Q Are there any dry holes in the Section 1,2,3, or 4, in T26 N, R9 W? A No, there isn't.

Q Are there any dry holes in sections 36, 35, 34, or 33, in T27 N, R9 W? A No.

Q Do you know of your own knowledge whether or not Turner has recommended an additional development program for wells in the Huerfanito Unit?

A As I understand, he has.

Q Now, take that off, look on Skelly Rehearing Exhibit number one, and indicate the wells that Mr. Turner has now proposed through the other operators for additional development there.

AThe wells indicated by the green circle are the wells that have been proposed by the Unit operator. There is one, too, three, four, five-- fifteen wells.

Q Is there a well proposed in the northwest quarter of 35?

A There is.

Q Does that lie between the dry hole and the well in the southwest of Section 35?

A Yes, approximately between the two.

Q Now, are there any dry holes east of that proposed location clear to the northeast of 36?

A No.

Q Do you have any indication of any dry holes in that area in the absence of an actual dry well? A No.

Q Are all the wells immediately adjacent to the northwest, southwest, and south all producing wells from the Pictured Cliffs, adjacent to 36? A Yes.

MR. SELINGER: I believe that is all.

MR. MACEY: Are there any more questions of the witnesses?

MR. ARNOLD: E. C. Arnold, Oil Conservation Commission.

JULIAN CLAUSEN,

a Witness having previously testified herein, resumed the stand and testified as follows:

CROSS EXAMINATION

BY MR. ARNOLD:

Q Would you say that general trend of the San Juan Basin extends

in a northwest southeast direction?

A There has been advance of permeability and porosity trend in a northwest direction, yes, sir.

Q Also, the area is a general run, also, extending northwest and southeast? A That is correct.

Q Now, wouldn't it then, if you were going to project permeability trend on the basis of future development, wouldn't you think it would be more reasonable to think that the connection was probably within the south end of the Fulcher Kutz and the north end of Ballard Field than it would to project it across from southwest northeast across an undeveloped area?

MR. SELINGER: Well, now, Mr. Arnold, are you asking that we recommend we follow permeability barriers? We are not making such recommendation, you may follow that, but we haven't recommended that.

Q Well, Mr. Clausen, didn't you testify that that is a fact?

MR. SELINGER: He was answering your question. He didn't say he was recommending that. You might ask him if he makes those, but --

MR. MACEY: He can answer the question. I think it is pertinent. Go ahead, Mr. Clausen, if you want him to repeat the question we will have him repeat it.

A No, I understand. In it, I think probably your basis for your northwest trend is more a matter of economics than quantity of productio perhaps, it is certainly true that there seems to be a northwest trend of better producing wells along with a northwest trend of not so good producing wells. However, they still are producing. Over the whole area, though, they are -- probably there is a difference in quantity that we would produce.

Q You wouldn't dispute the fact that there are areas within all

the Pictured Cliffs Pools where the dry holes have been drilled?

A There are quite a number of dry holes. However, many of them were drilled prior to the sand fracking process and many of them today might be made producing with technical knowledge developments.

Q But it is entirely possible that there are areas which have such a low reflective permeability that you couldn't make a well out of them?

A There would be -- well, there will be small areas which would not produce under any circumstances, that is correct, but they in turn could be entirely surrounded by producing areas.

MR. MACEY: Do you have any further questions?

MR. ARNOLD: I am through.

REDIRECT EXAMINATION

BY MR. SELINGER:

Q Along that line, I might ask you a few questions, Mr. Clausen. Let's get back closer to Section 36. Whether or not that, in your opinion, is an area of low permeability and impossible of production from the Pictured Cliffs.

A I don't think you can state that any individual area is an impossible area to produce until it has been drilled with the intention of producing.

MR. MACEY: Anybody else have a question of the witnesses?

MR. CRENIER: I would like to ask Mr. Clausen two or three more questions.

CROSS EXAMINATION

BY MR. CRENIER:

Q In the Pictured Cliffs area, now, which I understand that you are saying is all pretty much interconnected, what is the range in

initial pressures there which have been encountered in the Field today and I don't just mean individual isolated wells, but what would be the average I.P. of the lowest area of which you are familiar and what would be the I.P. in the highest area in which you are familiar?

MR. SELINGER: Potential or primary?

Q Initial pressure, I beg your pardon.

A I personally have not studied the detailed pressures of the areas.

Q Well, perhaps then, Mr. Ratliff could help us on that. Are you sufficiently familiar with the area, Mr. Ratliff, to know whether there are any Pictured Cliffs producing areas which have initial pressures of ranges from about four hundred to four hundred and fifty pounds? I am not talking about where we are now, I am talking about in the Fulcher Kutz Field or the South Blanco, Aztec or any of them that are in this same general San Juan-Rio Arriba area.

WITNESS RATLIFF: I haven't studied the pressure on all those wells. I was thinking that there was a four hundred pound pressure in here somewhere, but I don't have the list, or one two hundred pound pressure in there.

Q In the South Blanco Field, have you made a sufficient study of that to know whether there are any areas in that as now defined which would average up pretty close to a thousand pound initial pressure?

WITNESS RATLIFF: No, I haven't averaged any pressures out in South Blanco; I haven't even averaged these. They are listed here but I haven't averaged them out.

Q Now, let me go back to Mr. Clausen. Mr. Clausen, what is the approximate age of the Pictured Cliffs formation? That is, to say, how long has it been since it was deposited initially?

A Well, it is a great age, and that is pretty old, quite a bit before my time.

Q A couple of hundred years, maybe, or something longer than that?

A It is in the neighborhood of several million years.

Q Now, are you sufficiently familiar with this area to recognize that there have been some pressure differentials within this Pictured Cliffs area, not the immediately localized one we are talking about here, but the general Pictured Cliffs production in the San Juan Basin?

MR. SELINGER: We object to that question as asking the geologist pressure, he can ask Mr. Ratliff, but we would like him to confine his questions to geology for the geologist.

Q I don't know but I hadn't thought there was any professional rule which required geologists to be ignorant of pressures.

MR. SELINGER: You heard the man say he wasn't familiar with pressure generally and you keep asking the question over and over again.

MR. CRENIER: I try to ask it a little differently.

MR. SELINGER: Well, you are saying the same question differently.

Q Let me go at it a little different way. If there were communication between all of these Pictured Cliffs producing areas that we have been discussing here, an effective communication, would you expect there to have been in a formation as old as this formation a fair degree of pressure equalization since they were laid down or isn't that a fair question to ask a geologist?

MR. MACEY: Mr. Clausen, if you can answer it all well and good, if you can't, all well and good. Just indicate what you can.

A If there were perfectly free communication throughout the whole area, with no undue influences on communication, they would. In the process of many many years, they would equalize.

Q Well, would you think there had been long enough since they have been laid down to have equalized or would it require yet further millions of years?

A Let's say that since gas has been discovered in this basin, there has been a good many disrupting influences to alter the pressures of the field.

Q Manmade, you mean?

A In generally, manmade.

Q And you feel that it is the manmade influences, rather than anything in nature, pre-man, that have caused these pressure differential or whatever pressure differential there might be in the field?

A No, sir, you can have your pressure differential partly due to the depth of the production itself, due to the hydrostatic pressure, difference of the depth of formation.

Q And that would not carry over from one end of the field to the other, if you had, say, a formation with continuous communication, good communication, part of which was, we will say, five hundred feet underground and because of an uplift in the surface, part of a ten feet in the front, the pressure would be greater in the part of the pool under the ten than the five, is that correct?

A That is correct.

MR. MACEY: Does anybody else have a question of the witnesses? Nothing further, the witnesses may be excused.

MR. SELINGER: That is all we have. We would like to offer in evidence the Skelly Rehearing exhibits one and three.

MR. MACEY: I am not sure whether or not you have offered them, but in any event, let the record show that the exhibits are received. Do you have any testimony, Mr. Crenier? We will recess until 1:15.

(Whereupon the hearing was recessed until 1:15 p.m. the same day.)

MR. MACEY: Mr. Webb, you have some testimony? Mr. Greer, will you stand and be sworn, please. Mr. Howell, do you have a Witness?

MR. HOWELL: Yes.

MR. MACEY: We will prefer to swear everybody at once.

(Witnesses sworn.)

ALBERT R. GREER,

called as a Witness, have been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. WEBB:

Q Would you state your name, please, sir?

A Albert R. Greer.

Q You are the same Mr. Greer that testified in the original hearing on this case?

A I am.

Q The original hearing of this case, you introduced Exhibit F, which is now placed on the board behind you. Would you explain to the Commission briefly, in order that that they will be refamiliarized with what is shown in there, what you show on that Exhibit?

A Exhibit F is the cross section of the Pictured Cliffs Formation on which I have shown in yellow nonproductive Pictured Cliffs Sand and red I have shown productive Pictured Cliffs Sand; the cross section goes from the approximate south center of the Ballard Field, in Section 30, 26-8, southeast to Section 3, T25, 8, and north to Section 1 in 26-8.

MR. SELINGER: Mr. Greer, would you mind designating that on that exhibit so we will have a relative idea of what you are talking about?

A May I mark on your map?

MR. SELINGER: Yes, just take a pencil and mark it on that map, just draw a pencil line right through it. Thank you. Now, let me have my pencil back.

A For the purpose of this cross section is to show the relation of productive sands in one Pictured Cliffs Pool as compared to adjoining pools, and to show how the sand deteriorate from one area to the other and how production occurs in one part of the Pictured Cliffs Formation in one pool and another part of the other, starting with this here in the central part of the Ballard Field, you have three separate productive sands which compromise a large part of the Pictured Cliffs Formation; as we progress southeast and east the sands deteriorate until we reach Union 1 Nixon at which point the first productive sand interval is about sixty or seventy feet below the top of the Pictured Cliffs Formation; then progressing farther north we have another non-productive and Pictured Cliffs which is productive picks up in the top of the Formation in the South Blanco Field, as well as in this area; in the Ballard Field which show relatively continuous productive sands have an equally localized initial reservoir pressure as measured in wells which have had time to stabilize, pressures which are in two or three pounds of each other. In this entire area which is four or five miles wide has the same initial pressure, then as we move to the South Blanco Field and production is from an entirely different productive sand within the Pictured Cliffs we have additional formation pressure as measured by shut-in pressures of wells.

Q A great deal has been said here this morning about a well known as the Huerfanito Unit 10 dash 36, located in the NE 1/4 of Section 36,

T27N 9W, would you tell the Commission from which segment of the Pictured Cliffs Formation that well is producing and how you determine that?

A The 10 dash 36 is this well I point to, is producing from the upper part of the Pictured Cliffs Formation, comparable to the upper part of the Formation as is shown in Davis 2 on cross section F, as well as to the southeast of 10 dash 36 -- I mean to the southwest, which are Huerfanito Unit 12-1 and 15-2, are producing from a productive sand which is lower in the Pictured Cliffs Formation. I would like to read those productive intervals into the record. Now, each of these three wells to which I refer were drilled by setting casing on top of the Pictured Cliffs sands and then drilling with cable tools, and, as we drilled five feet, we stopped and measured the gas and recorded it; from this information, we could tell where the productive sand intervals were: on Martin 10-36, the casing was set at 2,020 feet; at 2,033, which is 13 feet under the casing, we had eighty per cent of gas which we finally recovered; at 2,050 feet, we had all the gas; 2,050 feet. Now, this is 30 feet below the casing, and, from there down to the bottom of the formation, we found absolutely no more gas. Now, the Huerfanito 12-1 --

MR. SELINGER: How deep did you go in that well?

A 2,086 feet, 12-1; casing was set at 1,993 feet; this well was in the northwest quarter of Section 1, T26N R9W. The first show of gas in this well was at 2,030 feet, which is 37 feet below the casing point and 42 feet below the top of the Pictured Cliffs Formation; at 2,050 feet, we had all the gas in that well. In Huerfanito 13-1, which is south offset, to the 12-1, in the southwest quarter of Section 1, 26N, R9W, the casing was set at 1,889 feet, and the first Pictured --

first gas was found at 1,945 feet. That is 56 feet below the casing and 61 feet below the top of the Pictured Cliffs Formation. The well was drilled a total depth of 1,978 feet and last gas found at 1,960 feet. The 15-12 Huerfanito Unit, in the NE of Section 2, T26N, 9W, was similar to the 12-1 in that it was 42 feet below the top of the Pictured Cliffs Formation to the first productive sand interval.

Q Now, by way of explanation, although this eminent Commission is well familiar with the matters of this nature, if you would just briefly explain manner in which the Pictured Cliffs sands were laid down in pre-historic times in order that we can correlate the information you have given us with the separation of pools, and deposits --

A Well, it is quite likely, that you see the -- the sea perhaps covered one third of this area here when deposition occurred in the bottom part of the Pictured Cliffs; this perhaps was along the coastal shore and coarser sands were deposited; farther out to sea we had the finer sands, there is no permeability, and perhaps the sea receded and a later date it came in and laid down additional sands and the shore line approximately the same. We had approximately the same deposition, when this occurred, perhaps when these sands were laid it is entirely possible that this part of the Formation which is represented by the west side of the cross section could have been above the sea level and at that time we had a new shore line and a new deposition. That is one theory, and it is probably about right.

Q In your opinion, the deposition, the different depths at which the productive portion of the Pictured Cliffs sand is encountered, illustrates to your mind that the reservoir is not interconnected, but constitutes different deposits due to this different time lag in the deposition?

A The only way we can tell that for sure is difference in initial stabilized reservoir pressure which we have found in the two areas, Ballard and South Blanco. The pressure as different and distinct reservoirs.

Q Just one more moment before we leave Exhibit F. If the 10-36 well placed on Exhibit F were -- if it were, where would the red line fall?

A It would fall in the upper part of the Pictured Cliffs Formation and it would look on a cross section such as this, it would look similar to the Ralph E. Davis 2 as shown in our Exhibit F. The other wells in the southeast part of Huerfanito Unit would have cross sections similar to the ones as shown on the left side of our Exhibit F. Now, the reason, I should point out, why we do not have a cross section of this nature in this area, the wells in the Huerfanito Unit were not drilled in the same manner as the wells shown in our Exhibit F, and it was impossible for us to make Schlumberger Electric logs such as this Exhibit represents. Had the well been drilled through,with the right tools and Schlumberger logs run, the cross sections across the Huerfanito Unit from southwest to southeast would have shown a pattern almost identical to this one which is about four or five miles southeast of the Unit.

Q Do you have anything else to add?

A About this Exhibit, no.

Q This morning there was considerable testimony and discussion about the various pressures of the wells in Skelly's area to the north and the pressures of the new and old wells to the south. It was brought out, I believe, on Cross Examination that most of the pressures as shown on Skelly's Exhibits are not stabilized shut-in pressures, but

rather constituted pressures of some seven or eight day shut-in. Do you have data which more nearly shows the stabilized reservoir pressure of the wells in the southern portion of the Huerfanito Unit?

A Yes, I do.

Q Would you give those to us, please?

A The pressure which Mr. Ratliff, with Skelly, referred to for the 10-36 Huerfanito Unit, 642 pounds as shut-in eleven days, this is a well in the northeast part of the Huerfanito, northeast quarter of Section 36, 27N 9W; he compared that to pressure on the 12-1 Huerfanito Unit southeast, and the 13-1 which is an offset to the 12-1 and perhaps one or two other wells; the 12-1 had an eight day shut-in pressure of 666 pounds. The 13-1 623 pounds. From this information, the fact that the 12-1 had a higher pressure than the 10-36, Mr. Ratliff assumed that the pressure in this area was higher, that the pressure in the southeast part around 12-1 was higher than the 10-36, and actually, the exact opposite is true. A hundred thirteen day shut-in pressure on the 10-36 shows six hundred and seventy-nine point one pounds.

MR. SELINGER: Will you repeat that?

A 113 days shut-in, 679.1 pounds. The thirty-two days shut-in pressure on 12-1 Huerfanito, 70.23 pounds, approximately ten pounds difference; with the 10-36 having higher pressure and the 12-1 having pressure within about about one pound of the maximum pressure in any of the wells in the Ballard Field. We have tried to point out before that it is absolutely necessary to deal with initial stabilized shut-in pressures in comparing reservoir pressures in one pool with another. I think it is elementary to see that we can obtain almost any pressure we would like to have by shutting the well in for the prescribed length of time. In other words, we can measure a one hundred pound pressure

in two or three hours, or a three hundred pound pressure in four or five hours, or five hundred pounds in a day, and these pressures as well as a seven-day shut in pressure, are not absolutely -- they are meaningless when comparing one reservoir pressure with another as to whether they are producing from the same reservoir. We have tried very conscientiously and made a lot of effort to determine true reservoir pressures in this area. We think we have pretty well worked out the pressure performance of the wells which we have drilled to date. We have followed their pressure history and their increase on build-up after completion and commence tracing their pressure decline as off-set wells have partially depleted their traps. We feel that we have a very clear understanding of the pressure performance and we can demonstrate that by difference in reservoir pressure that the wells are producing from sands which are not connected. When I say sands not connected, I refer to the wells in the northeast part of the Huerfanito Unit as compared to the wells in the southeast part of the Huerfanito Unit.

Q Then, in your opinion, Mr. Greer, the closest proximity of production in Huerfanito Unit 10-36, comparatively close proximity to the wells in the southern portion of the unit does not necessarily, and, based upon your studies, in fact show the opposite, the wells are not only not connected, but are producing from an entirely different reservoir?

A That is correct; we can have off-set wells producing from two separate reservoirs, and we hope we will have that situation in this idea. We hope that the well in the northeast of Section 1 will be productive. Frankly, we are quite worried about whether it will be. Nevertheless, whether they are half a mile or a quarter, it is entirely

possible to have two Pictured Cliffs wells that close together producing entirely from different reservoirs and such that during the entire producing life of the wells, one may not affect the other.

Q You believe you have obtained, in the wells drilled, the 12-1 and 15-2 and 13-1, those wells have been shut in long enough to reach their stabilized shut-in pressure and those correspond almost identically with the wells, the balance of the wells in the Ballard-Pictured Cliffs Pools?

A They very closely approach the initial pressures. That is the wells that have not yet been influenced by production from other wells to the south.

Q And those wells that have been influenced by production, there is a small pressure drop?

A They show a slightly lower pressure, yes.

MR. WEBB: That is all.

MR. MACEY: Any questions of the witness?

MR. SELINGER: I have a few.

CROSS EXAMINATION

BY MR. SELINGER:

Q Mr. Greer, that Exhibit F you are referring to is the same you filed May 18? A That is correct.

Q What have you added to that Exhibit since that time?

A Nothing. We wanted to review --

Q But you haven't -- excuse me, go ahead.

A We wanted to review the principle of how the reservoirs can be separated though they are producing from the same formation.

Q That is the same Exhibit you entered May 18th?

A That is correct.

Q How many wells have you drilled, you and your associates, how many additional wells have you drilled in the Unit lying between the north part which we designate as the area "A" and the south part, which we designate as "B," how many wells have you drilled in the interim?

A Approximately fifteen or twenty. I believe we had a pipe set on about 18, and completed those.

Q Why haven't you considered any of the information disclosed by those fifteen or eighteen wells on any cross section?

A We definitely have considered the information as I read it a while ago into the record, and --

Q You mean the pressures that you read into the record?

A Not only the pressures, but the depth of occurrence of the productive sand stringers below the top of the Pictured Cliffs Formation.

Q Now, Mr. Greer, you are an engineer, are you not?

A Yes, sir.

Q You are not a geologist?

A I have had --

MR. WEBB: If Mr. Selinger wants us to qualify Mr. Greer as a geologist, we will be happy to do so.

Q Are you a geologist, Mr. Greer?

A I believe I had enough hours to obtain it when I was graduated from New Mexico School of Mines. I chose instead the Engineering degree.

Q When you graduated from the School of Mines, did you go into engineering work or strictly geology? A Both.

Q You have used a combination of both?

A Yes, sir.

Q It is your testimony that there is no connection between any of the producing intervals anywhere in the Pictured Cliffs Formation from top to bottom, that is your testimony?

A No.

Q Is that your testimony with respect to your Exhibit F of the well in the extreme right and the wells on the left of your cross section?

A Yes, sir, the Ralph E. Davis 2 Luthy is producing from a reservoi entirely separate and distinct from the wells in the Ballard Field; there is no doubt whatever of that.

Q And there is no connection between the Pictured Cliffs producing interval lying close to the top of the Pictured Cliffs and any of the wells, is that your testimony also?

A No, sir, in some wells it is connected across the Ballard Field.

Q And this cross section covers the area that you have designated on Skelly's Rehearing Exhibit 1 by penciled mark, is that correct?

A That is correct.

Q How far is the south, northeast-southwest line from the area under consideration? A Approximately six miles.

Q Now, is it your testimony also that the pressures in this area which is the -- A Ballard Field.

Q Which is in Township 26 north, Range 6 west, that the pressures there are within a pound or two of each other in the Ballard Pool, is that your testimony?

A The initial stabilized pressures are within one or two pounds, that is right.

Q Now, at the first hearing, were you the one that put into evidence as illustrative of the pool separation, the matter of importance on initial pressures?

A We stressed that highly, yes, sir.

Q Then, you differ with Mr. Webb this morning that there is a

high regularity in considering initial pressures as to whether they are accurate or not?

A I don't recall Mr. Webb testifying as to accuracy.

Q You heard him testify when he was asking Mr. Ratliff on Cross Examination questions about the unreliability of using initial pressures, were you here when he was asking --

MR. WEBB: That was unsworn to, Mr. Selinger.

MR. SELINGER: Here is a man under oath. That is why we are going to get at that.

A Yes, sir, I was here.

Q All right, now do you agree with him as to the reliability or unreliability of using initial pressures?

A I would like to talk --

Q You can make all the explanations you wish, just answer the question. Go ahead.

A Initial shut-in pressures as taken on our potential tests, ordinarily reflect shut-in times of seven days on up to as much as a hundred days; ordinarily they are not true stabilized shut-in pressures.

Q Are they accuarate pressures, for studies as engineer or geologist?

A For the purpose of separating pools, and determining pool delineation, only stabilized pressures can be relied on.

Q Why did you use, at the May 18 hearing, then, prolific exhibits and a considerable amount of testimony as to the initial pressures of these wells, then?

A Because the wells to the north, even on their short time initial potential test shut-ins, showed pressures on the order of fifty pounds higher than the wells in the Ballard Field. Now, if we had allowed

those wells to stay shut-in until they had reached their maximum pressure, we know that their pressures would have been, would have had to have been at least fifty pounds higher. Chances are they would have been more. That is all we are concerned with, is reaching maximum stabilized pressures in our areas which is longer than even the short time pressures in the other areas.

Q Would you say then that your average initial pressure in area "A" was fifty pounds higher than area "B"?

A It was at least fifty pounds, because the wells in the northeast part were not allowed to stay shut-in long enough to stabilize.

Q Now, you and I, let's get this map over here and collectively put this up. A Okay.

Q Now, I am going to ask you about the pressures which you said in the Ballard varied one or two pounds or a few pounds -- I believe you said in this area which I asked you before in 26 North, Range 8 West, will you read the maximum pressure differential in this township here where your cross section starts? I am talking about initial pressure that you used at the May 18 hearing. Why don't you use this map and you can correct it with your Exhibit.

A Your maps don't show stabilized pressures.

Q I am talking about initial pressures. That is what you stated May 18 and that is what we are going to continue. Look in here and see what they are in this map.

A Mr. Selinger, we cannot tell from your map what the difference in the initial stabilized pressures are because your map does not show the initial stabilized pressure.

Q Now, you are going on initial stabilized pressures; did you use that in your May 18 hearing? A Certainly did.

Q How did you account for the difference in shut-in pressures in a well that was shut-in two hundred and seventy days and a well shut-in seven days, how was that?

A We told the pressures history through and I believe we filed with the Commission our pressure data. I will read into the record again some of them.

Q Mr. Greer, will you please step to the --

MR. WEBB: If Mr. Selinger wants somebody to testify as to his Exhibit, he can have his own Witness do so.

MR. SELINGER: He can say if they are not the initial pressures. These were checked with the Commission and as far as I know, Mr. Utz can recheck them, and they are the pressures we got from the Commission.

Q Will you again step to this map in Township 26 North, Range 8 West, and indicate the maximum initial pressures in the Ballard-Pictured Cliffs in that Township?

A Mr. Selinger, we are --

Q Mr. Greer, will you do it or won't you do it?

A Your map does not reflect the initial stabilized pressures.

MR. WEBB: I believe that that is improper Cross Examination.

MR. SELINGER: I won't press the point if he can't testify.

A I would like to say this --

Q Well, go on to another problem, Mr. Greer.

A No, this is very important to the determination of this case. Skelly's engineers throughout this entire case have used the first pressures which they could put their hands on, --

Q We did not use initial --

A -- and not made one effort to determine stabilized pressures. They have not tried to determine how the pressure performance of this

field occurred. They have taken unreliable information and tried to deduce conclusions, bring up conclusions and present them to this Commission on information which on its face has no value. We have tried very conscientiously and sincerely to determine these true pressures and we want to talk about true stabilized pressures. You, on the other hand, want to talk about whatever pressure you can grab out of the air and compare it against another field. We are talking about two different things.

Q You are talking about stabilized pressure?

A That is correct.

Q Now, I believe you said that the well in the NE 1/4 of Section 36, in 113 days had 679.1 pounds pressure?

A That's right.

Q Well, in the northwest quarter of Section 1, it had 670 pounds in 32 days shut-in, is that right? A That's right.

Q What is the stabilized pressure between the two?

A We think the well in the 10-36 is approaching very nearly its stabilized reservoir pressure. I would like to point out --

Q That is the one shut-in 113 days? A That is correct.

Q All right.

A I would like to point out at this time that that well was drilled as close to this north line as the Commission rules allow, 990 feet, we drilled it that close because we were afraid the interminable barrier in that Section --

Q What is the maximum pressure on the well in the northeast of Section 1 which reads 670 pounds in 32 days, what would it have been in 113 days?

A I would like to talk about this --

Q Very well, but you are going to get around to this sometime?

A This 113 days represents to us very nearly the present reservoir pressure in that area; it is probably not the initial reservoir pressure of that area.

Q What is it?

A There was a well drilled to the north of that which has been producing, I think, a couple of years, and the sand in that area is thin; there is no doubt in my mind that what gas is being drawn out under the tract of the 10-36 and its pressure is now less than it was when the offset was drilled. Nevertheless, it is still ten pounds higher than any of the wells in the Ballard Field and had it been drilled two years ago, I feel certain it would have been some thirty or forty pounds higher.

Q Are you ready to go to the well in the northwest --

A Yes, Sir.

Q What was the pressure? A 670.3.

Q How many shut-in days? A 32.

Q What would have the pressure been at 113 days?

A I would judge it would build up probably not more than two or three tenths of a pound, because the build-up to 668 pounds in eight days, and in 32 additional days, it built up four pounds. Now, the 10-36 built up in eleven days to 642 pounds and in 78 days to 678 pounds; that is a thirty pound build-up in sixty additional days, whereas this built up four pounds in about a month.

Q What is the pressure difference between a well shut-in 113 days and 113 days, what is the exact difference?

A At this time the difference is --

Q Let's see, it is less than nine pounds. Let's get a little more

specific.

A You realize now we are talking about instruments?

Q Everything you can talk about, but we are going to talk about those figures there. What is the difference there, in them?

A I would still like to say we are talking about instruments.

Q What is the difference between the two pressures, Mr. Greer?

A There --

Q Make whatever explanation you want after you give me the answer.

A Eight and eight tenths pound.

Q Now, you are the operator of both wells?

A As measured with instruments which we think are accurate within approximately a pound.

Q You are operator of both of your wells, are you not?

A Yes, sir, -- no, Mr. Turner.

Q Well, you and your associates, then?

A Yes, sir.

Q Why didn't you take the same stabilized pressure for both wells for the same shut-in period?

A Well, the two pressures we were talking about were measured and the well in 12-1 is only that old.

Q Now, wouldn't it be, for comparison purposes, the best way of indicating stabilized condition to shut both wells in the same period of time?

A No, sir, we found some of the wells to take over a year to build up, some of them will build up to their pressure in just a few days.

Q Do you know what the pressure was of the well shut-in 113 days, what it was at 32 days?

A No, but we can approximate it. It would be approximately 670

pounds.

Q Would it be more or less than the other well in 1?

A It would be approximately the same.

Q Now, if they both have a hundred and seventy pound pressure then, there wouldn't be any difference in pressures, would there?

A Yes, sir. I would like to point out again, the same statement I made a while ago, the 10-36 in that thirty days would have built up approximately 28 pounds. That indicates approximately one pound per day increase in pressure; the well was building up comparatively fast. On the other hand, the 12-1 built up 34 pounds.

Q In more or less, with all your explanation, a 32 day shut-in, they both reached 670 pounds, is that right?

A Approximately.

MR. SELINGER: That is all, thank you.

MR. MACEY: Anybody else have any questions of the Witness?

MR. ARNOLD: I have a question about the cross section.

CROSS EXAMINATION

BY MR. ARNOLD:

Q Mr. Greer, I believe you testified that the permeability along the left side was probably due to a shore line condition at the time the sand was deposited?

A That would be one theory which could very easily explain it.

Q What would you say was the direction of the shore line at the time this was done?

A It could have been either direction.

Q It could have been either direction, but don't you believe that looking at the basin as a whole that it probably was one particular direction? A I think so.

Q What do you think that direction was?

A Of course, we are getting into a geological controversy which I don't believe is pertinent to this separation of the reservoir.

Q Well, I believe it is a problem that will have to be resolved sooner or later, and --

A Well, perhaps. I think I showed how it could happen that the reservoirs can be separated and it could, I say, be either direction.

Q Well, if the direction of that shore line was northwest ?

A Okay, northwest, southeast.

Q You would expect that the condition which existed to make this sand a permeable sand here would have also existed along that shore line?

A Yes, sir, for the same elevation, it could.

Q It could?

A Yes, depends part on your currents, of course.

Q If that direction was northwest and southeast, it would indicate the probability of permeability between Fulcher Kutz and Ballard Pictured Cliffs?

A Yes, it could, a reasonable possibility.

MR. SELINGER: That is all.

MR. MACEY: Anybody else?

MR. UTZ: I have a few questions.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Greer, in taking your stabilized pressures on your 10-36 and 12-1, at what intervals did you read your pressures?

A At whatever interval we could work an engineer loose to get out and take a pressure. We have been pretty busy, and whenever we could

get time we would send a man out and we would try to send the same man and the same instrument.

Q How many pressure readings did you take on each of those wells, do you have a record of that?

A Yes, sir, I have. Would you like me to read them?

Q Well, what I am interested in, mainly, is if you have information there to plot a build-up curve on each of these wells.

A Yes.

Q Would that information be available to the Commission?

A Yes, it would. I would like to read this on the 10-36 to you.

Q You are welcome.

A In eleven days, the pressure was 642 pounds, 78 days, 678.4; 91 days, 679.4 pounds, 113 days 679.1 pounds. Now, that shows between the last two pressures a pressure drop of 3/10 of a pound. That is pretty close, and perhaps the pressures are about the same and the man just didn't read them any closer than three tenths of a pound. It is pretty hard to do. On the other hand, it is possible that we have reached the maximum pressure and the well is now starting to show a decline in pressure as its offset well is producing gas from the reservoir. Either one of those possibilities could exist. At this time we don't know, can't tell from the pressure because that is a pretty small pressure drop. It does indicate the well is pretty well stabilized.

Q And in the Huerfanito -

A We have an eight day shut-in pressure of 666 pounds. The well was in potential, opened up for three hours and tested and then its ten day pressure test showed only 660 pounds. Thirty-two day shut-in pressure was 670.3 pounds. From the initial eight day shut-in pressure,

at 666 pounds, to the thirty-two day 670.3 the build-up was four pounds.

Q Is that well still shut-in?

A I think it goes on the line this week.

Q You measured pressure on this well yesterday?

A Yes, sir.

Q I wonder if it would be possible for you to furnish us another pressure on that well before she goes on the line?

A Yes, sir, if it hasn't been turned on today, we will do it.

Q The pressure I see here doesn't prove to me that that well is stabilized.

A No, however, it only built up one seventh as much in thirty days as the 10-36. It is a reasonable conclusion to say that it is getting pretty close to its maximum pressure.

Q I am not questioning as to whether it is.

A No, it is not definite.

Q We are talking about stabilized, we ought to have two close together.

A I agree with you. We attempted, tried to get some stabilized pressures on some of the wells we have, and as you know, they were shut-in about a year.

Q You will furnish us another shut-in?

A Yes.

MR. UTZ: That is all.

MR. MACEY: Anyone else have a question of the Witness? Mr. Greer, on your well in Section 36, in the northeast quarter of Section 36, 27, 9, you gave some figures as to the -- where the casing was set?

A Yes.

MR. MACEY: Was the casing set at the top of the Pictured Cliffs?

A About five feet into it.

MR. MACEY: Now, you also testified, made a statement, rather, as to the possibility as to what the pressure would have been on that well had it been drilled and not been influenced by outside production. Would you say that that 679 would have been a true reflection or higher?

A I think it more than likely would have been higher, since the sands are thin and it wouldn't take much production from an offset well to reduce the pressure.

MR. MACEY: The well to the north of that well in Section 36?

A Yes.

MR. MACEY: What is that well?

A That is a Turner-Glenline. I don't see the well number.

MR. MACEY: I think it is number one, operated by El Paso. Now, is it not?

A Yes, drilled by Turner, I believe, and El Paso purchased it.

MR. MACEY: Do you know how much that well has produced?

A I don't have that information.

MR. MACEY: I think you will find that that well hasn't produced more than seventy million feet since it was completed.

A That would be adequate. I think in that thin sand, depending, of course, on how big an area that little permeability streak runs to reduce the pressure from 40 or 50 pounds or 10 or 15, whatever it was.

MR. MACEY: Does anybody else have a question of the Witness?

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Greer, in your 10-36 in the northeast of Section 36, is that well still shut-in?

A I think it goes on the line the same as the other, they are scheduled to go on the line this week.

Q When was the last shut-in pressure you took on that?

A Yesterday.

Q I wonder if it would be possible for you to get a shut-in on that well, too?

A Yes, sir, we will certainly do it.

Q The well that Mr. Macey just referred to, the north offset of that, is that well in production?

A I think so. Yes.

Q It is now producing? A Yes.

MR. UTZ: That is all I have.

MR. MACEY: I have got one more question. Have you cored any of the wells in that particular area?

A In the Ballard Field we have cored two or three wells.

MR. MACEY: Have you cored the entire Section of the Picture?

A Yes, we have cored the entire Section.

MR. MACEY: Did you get pretty good recoveries?

A Yes, sir, about one hundred per cent.

MR. MACEY: Any evidence of a vertical fracture?

A No, sir.

MR. MACEY: Your answer is, none?

A No evidence of vertical fracture.

MR. MACEY: Does anybody else have anything further ? The Witness may be excused.

A Could I say one thing?

MR. MACEY: Yes.

A I would just like to make this point, point out this one fact

which I think may be pertinent, Skelly's Geological Department has prepared a cross section which is shown as their Exhibit 2 today, showing the Pictured Cliffs Formation. This cross section to which I now point to, we have prepared a cross section of the Pictured Cliffs Formation which is shown just above it, and is our Exhibit F, was, at the first hearing. I think it is pretty evident as to the amount of detail and time we spent in trying to analyze the Formation as prepared compared to Skelly's geologists. From their cross section, they say they cannot determine more than one reservoir in the Pictured Cliffs and I can agree with them. It would take more imagination than anything else to look at this cross section and try to determine productive sands and one reservoir compared to the other; perhaps that is adequate for Skelly's geological work in this area; for us, it is not. We are a small independent, most of our production comes from the Pictured Cliffs Formation in the San Juan Basin and we have to know what we are doing; we have to understand the formation. We can't go draw a cross section like this and say, "it is all the same, let's drill here." We have to study it, and choose our locations carefully.

MR. SELINGER: Keep your seat, Mr. Greer. I would like to ask permission for Mr. Gisburn, our geologist, to ask him some geological questions which obviously Mr. Greer has not made a complete study of and I would like to have permission to have Mr. John Gisburn of Skelly to ask him some questions.

MR. MACEY: All right.

CROSS EXAMINATION

BY MR. GISBURN:

Q Mr. Greer, with your experience in the Basin and knowing the eccentricities and depositions of the Pictured Cliffs sands, are you

saying that that cross section that you have displayed there represents the conditions that exist within the Huerfanito Unit, say, across Section 36?

A Yes, sir, I mean to represent that that is quite likely a similar picture of what would occur, what actually has occurred across the Huerfanito Unit.

Q In other words, that is simply an opinion; but you, Mr. Greer, you have obviously worked in this Basin a long time, and you must admit that this Pictured Cliffs sand is not deposited in a homogeneous way, it has tremendous variability as to thickness, as to area covered, as to permeability conditions, amount of silt, et cetera, you do admit that?

A Yes, sir, and we have tried to determine just the difference in productive sand and sand not productive insofar as it affects our drilling and production of the well.

Q Going back to your cross section, can you see any way in which you can connect all of the sands which you have displayed there in red in one area or the other? Q Connect them?

Q Yes, can you?

A Yes, sir. For instance --

Q Wait a minute. You said you could connect them?

A Well, I say all of them, I am just going on a conclusion. I might explain what --

Q If they can be --

A First, do you mean to say, is perhaps this sand the top sand in the McBlanus No. 1 not connected with the second sand?

Q No, let me get up here. What I am saying is this, if we drill a well here, you might find this sand came out here and gradually work

in to this; you might find here as you came across this area around this well, remember this isn't a straight cross section infinite thickness, it is as you come around this sand connect to this, this comes up and connects with this, you might find that true if you drill here?

A That is entirely true, and I believe I pointed out in my earlier testimony that the determining factor in knowing whether or not those sands did connect or did not connect are the pressures; here we have pressure equalization; then we can go a couple of miles from the number one Nixon to the number one Lupe.

Q I am not talking about pressure; I am talking about geology, about sand.

A Yes, it can be and that points out, of course, the inadequacy of using geology as a loop to try to determine separation of sands.

Q Well, let me ask you this, then, if pressure not stabilized over a long period of time, if you could take a pressure in two days different than in three and four, this morning, somebody here asked how they could explain the difference in pressures over the whole field, from the center to the northeast toward the outcrop of the southwest and it might be that is due to the difficulties or poorer quality of sand between, say, this well and that well. That it might take a very long time for pressures to stabilize between here and there. So I say how long would it take, two hundred years or two million, do you think it is possible that there is not enough time elapsed to have allowed the pressure to stabilize over the whole thing?

A Oh, yes, sir. That is entirely possible. I think --

Q Whether it be two years or two million years that will approach a --

A Yes, I would like to point out the practical nature of this

pressure --

Q Wait a minute, if you agree that that could happen, two areas belong in a common reservoir.

A That is a point where we have gone a step too far.

Q I haven't.

A I think it is entirely possible over some millions and millions of years, that if gas could be prevented from escaping from the Pictured Cliffs outcrop that all of the fields might equalize; there is that possibility, the important matter is this, over the some two or three million years that they have been trying to equalize in the past, the communication is so poor that the two pools have not equalized. I think it is, therefore, elementary in the next twenty or thirty years in which we produce the pools, the communication will still be so poor that one reservoir will not equalize the other.

MR. GISBURN: I submit Mr. Greer's testimony as pointed out, in answer to my questions, have pointed out that he agrees the sand can be connected with it logically and possibly the pressures would stabilize because they are connected with that sand all through the reservoir. Whether they stabilized in any given specified period it is a little long --

A You are speaking like a true geologist.

Q Thank you, sir.

CROSS EXAMINATION

BY MR. ARNOLD:

Q The Pictured Cliffs outcrop all around the basin; isn't it possible that the gas from these fields is being dissapated at the outcrop which would give you a pressure variant?

A Yes, sir, I think it is possible that there is that.

Q In that case, you probably wouldn't get pressure equalization?

A I think I qualified my answer to Mr. Gisburn's question.

Q Excuse me, Mr. Gisburn.

A Gisburn --

Q Just for the record --

A I believe I said that if no gas could escape from the outcrop, then it might be possible that they would equalize.

Q It probably is, don't you think?

A I think it is probably escaping.

MR. MACEY: Does anyone else have a question of Mr. Greer? Nothing further, Mr. Greer may be excused. Do you have any further witnesses, Mr. Webb?

MR. WEBB: No.

F. NORMAN WOODRUFF,

called as a Witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. HOWELL:

Q State your name for the record? A F. Norman Woodruff.

Q Are you the same Norman Woodruff who testified in this case on May 18? A Yes, sir, I am.

Q At that time, I believe your testimony was that El Paso Natural Gas Company has conducted reservoir studies of various gas pools in the in the San Juan Basin area and particularly of the South Blanco-Pictured Cliffs Pools, Ballard-Pictured Cliffs Pool, and Fulcher Kutz-Pictured Cliffs Pool, is that correct?

A That is correct.

Q Will you, please, state to the Commission what additional

information has been accumulated since the last time you testified, a number of wells have been completed?

A A number of wells have been completed since the last time we testified and we have brought up to date as of October 7, 1955, the development and pressure history in the area which is under consideration in this Hearing. I might add that the Exhibit which we have placed on the board, we haven't offered anything yet --

Q We will refer to it as our Exhibit 1.

A It covers only a portion of the area which my previous Exhibit covered. I have limited this Exhibit just to the area which is under discussion here today involving the Huerfanito Unit, and it consists of ranges 7 through 10 and townships 25 through 27, with portions of township 24 and portions of 28 on this Exhibit.

Q Now, referring to the Exhibit 1 which has been placed on the board, will you generally state to the Commission what is contained on that Exhibit?

A Contained in this Exhibit in solid lines are the present pool outlines as defined by the Commission; the solid blue line is the Fulcher Kutz; the solid brown is Aztec, the solid red is South Blanco and solid green is the Ballard Pool. Also in the map on dotted lines of the same colors are areas which we will recommend to be included in the various pools presently designated.

Q Does the Exhibit also show the wells which have been completed in this area up to the present time? A Yes, sir, it does.

Q And does the Exhibit show the initial pressures as it was available to you? A It does.

Q Now, I call your attention to the southeast quarter of Section 26, Township 27 North Range 9 West, which is marked the Gantle Well,

and ask you if you are familiar with that well?

A I am familiar with various features of that well, yes, sir.

Q Was that well drilled by El Paso Natural Gas Company?

A No, sir.

Q Was it contracted by El Paso Natural Gas Company in connection with purchase and re-work? A That is right.

Q Was that well sandfracked? A It was.

18 Q Was any productive sand found in that well at all?

A So far as production is concerned, no. There was no log on the well to be able to attempt to prove that statement.

Q Has that well been plugged and abandoned as a dry hole after reworking? A It has.

Q Then, I believe, in the diagonal offset in the northwest quarter of the same Section, is another dry hole? A That is correct.

Q And in Section 23, directly to the north, appears another well, are you familiar with it?

A In general terms, yes.

Q And was it a producing well or dry hole?

A Dry hole.

Q Now, what conclusion did you reach concerning the additions to the presently designated Pictured Cliffs Pools from the studies which the Company has made?

A Would you like for me to, at this time, point out the additions that are covered on this map?

Q I would like for you to do so and state to the Commission the data upon which you base those conclusions.

A All right, sir. In Township 26, North, Range 9 West, we are recommending for inclusion in the Ballard-Pictured Cliffs Pool, the

east half of Section -- I will start over, it is the west half of Section 1, all of Section 2, north half of Section 3, and west half of Section 4.

MR. MACEY: East half?

A East half of Section 4. The west half of Section 16, 26N 8W, SW 1/4 of Section 17, S one half of Section 16, S one half of Section 15; all of 21, 22, and the S one half of 23, and the NE 1/4 of Section 14, which is in 25 N 8W. For the Fulcher Kutz Pool, in 27N 9W, we are recommending the addition of Section 21; for the Aztec Pool, 28N 10W, we are recommending the addition of the SW 1/4 of Section 13; for the South Blanco Pool, we are recommending the addition and 26N 7W of the NE 1/4 of 25; in 26 and 8, N 1/2 of Section 2, and 27 and 7, NE 1/4 of Section 14.

Q Now, upon what data do you base those recommendations?

A That data is based on pressure history of those wells, on our studies of sand characteristics in such wells as we had logs on and in relationship of the other wells in the area.

Q What would be -- what conclusion have you reached in reference to this, to there being communication -- state whether or not the wells located in area "A" as shown on the Skelly Exhibit, and the Turner well which I believe has been referred to as the 10-36, the Unit 10-36 well located in Section 36 of T27 N R9 W, on one hand with the Ballard Pool on the other?

A I was unable to determine from the data available to me definitely where that well should be placed; we had no log on the well available to us, and I have not shown that on my Exhibit to be recommended for any pool, based on previous development.

Q Do you have information sufficient to enable you to believe

that that well is connected with the wells in the Ballard Pool?

A No, sir, I do not.

Q What leads you to believe that it is not connected?

A Actually, as I state, from the pressure standpoint; it cannot be definitely established and we have no logs on that well; had none at the time. I might go on to say that from the evidence presented here today, on pressure history which I do not have available to me, I think it does indicate that the well has pressure characteristics of those pressures excepting in, I believe, area "A" of Skelly's Exhibit, or the wells to the north of that well in 36.

Q In your opinion, should that well be classified as a part of the same pool as the wells lying immediately to the north?

A Based on the evidence I have available to me now, I do believe that it should.

Q And had you had that evidence, would you have included that well in the recommendation to be included in the area to the north?

A Yes, I would have.

MR. HOWELL: That is all.

MR. MACEY: Any questions of the Witness?

MR. SELINGER: Yes, sir, a few.

CROSS EXAMINATION

BY MR. SELINGER:

Q Mr. Woodruff, your Exhibit 1, what is the pressure that you show in that Exhibit for the well, the Turner well in northeast of Section 36, Township 9?

A 642 pounds.

Q What is the pressure you show in your Unit for the Southern Union Newsom Well, Section 6, 26 8? A 692 pounds.

Q Where do you place your Southern Union Newsom well in that pool?

A I place that in no presently designated gas pool.

Q Where do you place the Southern Union Newsom 2 A in Section 4, 26 8?

A I place that in no designated pool.

Q What is the initial pressure on that?

A 700 pounds.

Q As between those three wells, Turner in 36, Southern Union in 6, and Southern Union Newsom in 4, which have the lowest initial pressure?

A The Turner well in 36.

Q Now, would you say then, that because of that pressure that the two Southern Union wells should be thrown in with the South Blanco Pool? A No, sir.

Q Should they be thrown in with the Ballard Pool?

A No, sir.

Q Those three wells, then, you recommend so far as the Turner well in northeast 36, it be thrown in the South Blanco and the other wells be left alone?

A That is correct. May I ask a question?

Q Are they in a strike, northeast southwest?

MR. HOWELL: Mr. Selinger, would you let him answer, he wants to comment on his last statement.

A In regard to the previous question I answered, did you include all three wells in your question or just the two Newsom wells of Southern Union?

Q I said, based on the Turner well in NE 36, with the 642 pounds

thrown into the South Blanco, where would you put the other two wells, and you said you would put them in no field?

A That is correct.

Q That was my question.

Q Mr. Woodruff, I believe you stated that pressure was one of your most important methods or basis for determining pool nomenclature here.

A Yes, sir.

Q Do you use initial pressures or initial stabilized pressure or seven day shut-in pressure, what do you use as a basis?

A Most desirable pressure would be the initial stabilized pressure.

Q What did you use on your Exhibit?

A I used initial stabilized pressure where they were available, I used the initial reported pressure.

Q Did you attempt to use stabilized pressure like seven day shut-in pressure or some common shut-in day for your pressure determination?

A No, sir.

Q How do you recognize or determine a stabilized pressure?

A By evidence of stabilization.

Q If you had a well like the Turner well in the NE of 36, with a 670 pound pressure in 32 days, and you had the Turner well in the northwest of 1, with a 670 pound pressure in the same number of days, would you say that those pressures are comparable?

A The first pressure you mentioned was 670?

A Both the same.

A I think they would be very comparable.

Q Now, you heard Mr. Greer's testimony that the pressures of those two wells were 670 pounds; would you say those were comparable as to those two wells?

A Now, isn't it the same question you asked me?

Q Yes, I am repeating for emphasis.

A You are asking me whether I think the pressures are comparable?

Q Yes, on those two wells.

A At that stage, they were both equal.

Q All right. Then, why didn't you put those in the same reservoir or the same pool for nomenclature purposes if they have the same pressure; I understood you to say that that is what you use for a basis of determining nomenclature and if the pressures are equalized, or the same between those two wells, why don't you put them in the same pool?

A As I said, previously, I had no additional pressure history on that Turner well in 36.

Q You have it now?

A I do have it now, yes, sir.

Q But not before the testimony. Now, what is your opinion?

A Based on the testimony I have heard, I do not think that well in 36 belongs with this other well that had the 670 pounds in Ballard; the characteristics described by that well and testified to by Mr. Greer are not comparable between those two wells.

Q The pressure, as I understood you to say, is what you use for the basis of -- for nomenclature?

A That is one of the basis.

Q What other basis do you use? A Logs.

Q Now, if you have no logs available, do you have the logs available for those two wells?

A I do not have a log available on the one in 36.

Q Now, if your pressures are the same for the well in the northeast

of 36 and the well in the northwest of 1, they are exactly the same, 670 in 32 days, why do you say that they are not in the same field if you only use pressure as your determining factor?

MR. HOWELL: If the Commission please, the Witness just testified that he uses other things besides pressure, and the question is addressed "if he only uses pressure," it is assuming a fact that isn't in evidence.

MR. SELINGER: We will get that in evidence.

Q What other factors do you use other than pressure, then, if you had no logs which you say you had none available?

A I did have additional information available, if I might include the testimony that has been given here today as evidence.

Q Now, you compared these exhibits prior to the hearing today?

A That is right, at the time I prepared this Exhibit I was not prepared to make any recommendation to the Commission on the Turner well in 36.

Q But you do put the Turner well in northwest 1 in Ballard?

A That is correct.

Q And you don't put the Turner well in the northeast of 36 in any pool, do you?

A No, sir, I haven't. In my Exhibit, I have now recommended that it be in the same area as the north one.

Q Despite the fact that its pressure is lower than the two Southern Union wells on a strike to the southeast well in Section 6 and the well in 4?

A Yes, I do. I might point out that there has been additional evidence presented on this well in 36 today other than the pressure; there has also been the record of the experience gained during the

running of that well, which shows the occurrence of gas in the Pictured Cliffs Formation which is an additional factor to be concerned in and that is the data which was presented in today's Hearing concerning the information made available during the completion of this well, and the areas in which the entrance of gas into the well is found.

Q Now, the pressure that you have put on your Exhibit which you placed on prior to today's Hearing, indicates 642 pounds on the northeast of 36; what is the pressure of the well in NW of 1?

A Indicated on my Exhibit is 666.

Q Are there any other pressures of wells in the area that you have indicated in Sections 1, 2, 3, 4, in T26, R9, which have higher pressures than the Turner well in the NE of 36?

A You don't mean 26 and 9, do you now?

Q Yes, 26 9.

A There is a well in the SW of Section 2 which has a pressure of 672 pounds.

Q What is the pressure of the well immediately north of that?

A Six hundred and thirty-two pounds.

Q There is a 40 pounds difference there between those two wells in the pool, is that right? A That is right.

Q And what about the two wells in the north half of 3?

A One showed a pressure of 659 pounds; that being the well in the northwest, and one showed a pressure of 654, that being in the northeast.

Q Are both of those wells higher than the Turner well in north of 36?

A No, sir, they are both lower.

Q Six hundred forty-two as compared to six hundred fifty-nine?

A I am sorry, you are correct. I was thinking you meant Sectior 1.

Q No, the northeast of Section 36, Turner well.

A They are both higher than the Turner well.

Q How much higher is the well in the northwest of 3 in pressure as compared to the Turner well in the northeast of 36?

A Seventeen pounds, isn't it?

Q That is correct. Now, you find other evidence of greater pressures in the BallardPictured Cliffs Pool comparing it with the Turner well in the north of -- in the northeast of 36, do you not?

A May I hear that question again, please?

Q I said you find evidence of higher pressures of wells in the Ballard-Pictured Cliffs than you do in the comparison of Turner well, 642 pounds, in the northeast of Section 36?

A Yes, we do.

Q With the exception of one well which your Counsel, Mr. Howell, said in Cross Examination of Mr. Ratliff, in the area "A" all the other pressures of those wells in area "A" are much higher than the Turner well in the northeast of 36, are they not?

A Yes, sir.

Q What is the maximum differential in pressure between the well in the northeast of 36 and any well in area "A"?

A I believe 75 pounds.

Q Do you have that much discrepancy in pressures within wells within the Ballard Pool? A Yes, sir, you do.

Q Where?

A Between the initial reported pressure for the Southern Union Newsome Well in the SW of 20.

Q What township?

A Twenty-six and eight, and the previously mentioned well in the

southwest of Section 20of 26 and 8, you have a pressure differential of 78 pounds.

Q You are talking about the 594 pound well?

A Yes, sir, this is related to that.

Q Now, I will take the same privilege that your Counsel, Mr. Howell took; let's eliminate that unusual 594 pound well, let's take another well. Can you find a 70 pound differential in the Ballard Pool?

A Have you found one?

Q We haven't, to tell you the truth.

A I don't see one, Mr. Selinger.

Q All right now, I asked Mr. Greer with respect to Township 26, Range 8 -- you see that, 26 8 -- when he started his cross section "F" and asked him to give me the differential of pressures which he stated was in the neighborhood of pretty uniform, in the neighborhood of one or two pounds differential; could you find more than a few pounds differential in this Township in the Ballard Pool?

A Yes, sir, I do.

Q You have some substantial differences, do you not?

A Yes, sir.

Q They do not anywhere near the differences in pressures between the Turner well in the northeast of 36 and the wells immediately to the north, as much as 70 pounds, do they, in this Township 26 8?

A Was your question, do they vary as much as that?

Q Yes, in 26-8, in the Ballard Pool, is there as much variation as there is in the 642 pound pressure in the well in the northeast of Section 36 in the so-called area "A" to the north?

A Yes, sir, I believe so.

Q With the exception of this 594 pound, there isn't any wells

that have pressure differentils as much as 70 pounds?

A No.

Q But they do vary in the neighborhood of 20 and 25 pounds?

A Yes, sir.

MR. SELINGER: I believe that is all -- just one more. I believe that the last Hearing your testimony was that this area "A" did not properly belong in the South Blanco-Pictured Cliffs; do you recall your testimony in that regard?

A Yes, sir, I do. I believe that I said that it very well may not be.

Q Well, --

A May not be quite as exact as you want.

Q Well, I believe -- but the record will speak for itself -- you used the words properly, not properly placed in the South Blanco Pool, but regardless of that, have you changed your mind as to the conditions surrounding area "A" and the South Blanco to the east there?

A No, sir.

Q Just by way of representation, in conclusion, what I believe you stated that there was as much as 150 or 200 pounds differences in pressures between area "A" and the South Blanco to the east, is that correct?

A There is at least that much.

Q And the pressures is what you used in determining nomenclature of the pools, is that correct?

A That is one of the basis.

Q Thank you, sir.

A I might point out, Mr. Selinger, that I think this pressure differential which you pointed out, have clearly shown what Mr. Greer

also testified to; you can't always rely on these initially reported pressures, of course.

Q I don't want to argue with you, Mr. Woodruff, but maybe that is your conclusion and statement, but the fact remains that you do have these pressure differentials and you have very well stated that that was the basis of nomenclature and I am satisfied with your answer.

MR. MACEY; Does anybody else have any questions of Mr. Woorruff?

MR. UTZ: I have a few questions.

CROSS EXAMINATION

BY MR. UTZ:

Q Referring to your Exhibit 1 --

A Excuse me, I didn't catch the first part of that.

Q Referring to your Exhibit 1, T27 N 9W, in the area of Section 33, 34 and the east one half of 28, what would be your recommendation as to how we handle that insofar as nomenclature is concerned as it is drilled?

A I think that we must wait, Mr. Utz, until the wells are drilled to make our decision.

Q Well, what would be your recommendation as to how we analyze the wells after the hearing, if they are dry holes, of course, we know, but if they are not dry holes, then what?

A I think that we should analyze it on basis of all information available, pressures, any logs, and I trust when we drill, logs in there, we might be a little more prudent in getting some logs, so we will have some basis of determination other than pressure. Those will be the two major basis that I would use.

Q It is my understanding that Mr. Turner is completing these wells with cable tools; do you know that? A That is my understanding.

Q Then, the only logs that he can run, and correct me if I am wrong, is a Gamma-Nutron log.

A I am not positive on that, whether there be any other logs that he could run at this time.

Q Do you know of any cores in this area that have been taken that you could correlate the core data with the Gamma-nutron log?

A I do not recall any, do not have that information available to me now.

Q If Gamma-nutron logs are the only logs available in this area, do you think we can correlate from Ballard to Fulcher Kutz by using those logs, the geological information?

A Those logs are valuable for certain factors, certain information. Now, whether we can correlate definitely in one portion of the Pictured Cliffs Formation with another portion, I doubt it. It is very difficult to correlate with that type of log; you can pick the top of the pay very adequately and also from it with reasonable accuracy, the pay, but attempting to correlate whether or not one and another is very difficult to do.

Q I must say up to now I agree with you one hundred per cent, and my question to you is to try to determine to get a recommendation into the record as to how we -- on what to base our nomenclature in these questionable areas which undoubtedly, due to the fact that Mr. Turner gave us the plat on it which indicates that he intended to drill wells in that area, I would just like to know how to handle it.

A I believe, Mr. Utz, that I could tell you now, but I think that I can promise a definite, as development takes place in this area, we will be prepared to the best of our ability to aid in determination at that time.

Q Did you think it would be well to request a core in the area so that we can do some correlation between the Gamma-nutrons and the actual core?

A I am not sure, Mr. Utz, whether the taking of one core would enable you to relate over a wide distance; I think you would have to have more than one core, probably a core in Fulcher, a core in between, and one in Ballard or at least one in Fulcher and Ballard; I could be wrong, but I doubt that one core would suffice.

Q It boils down tothe fact that the Gamma-nutron logs are not of any value to determine pool?

A They are the poorest of the logs that we now have available to us.

MR. UTZ: That is all I have.

MR. MACEY; Does anybody else have a question of the Witness? If not, the Witness may be excused.

MR. HOWELL: We would like to offer in evidence the El Paso Natural Gas Re-hearing Exhibit 1.

MR. MACEY: Without objection it will be received. Does anybody else have any statement they wish to make in this case? We will take the case under advisement. We will take a short recess.

STATE OF NEW MEXICO)
ss
COUNTY OF BERNALILLO)

I, THURMAN J. MOODY, Court Reporter, do hereby certify that the foregoing and attached transcript of Proceedings was taken before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, and is a true and correct record to the best of my knowledge, skill and ability

In Witness whereof I have fixed my hand, this, the _____ day of _____, 1955.

_____
Court Reporter

BEFORE THE

Oil Conservation Commission

SANTA FE, NEW MEXICO

September 15, 1955

IN THE MATTER OF:

CASE NO. 944

TRANSCRIPT OF PROCEEDINGS

ADA DEARNLEY AND ASSOCIATES

COURT REPORTERS

605 SIMMS BUILDING

TELEPHONE 3-6691

ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 15, 1955

IN THE MATTER OF:

(Readvertisement) Northwestern New Mexico nomenclature case calling for the extension of a pool:

(e) Extension of the Ballard-Pictured Cliffs Pool boundary in San Juan County, New Mexico, to include:

Township 26 North, Range 9 West
Section 1: SW/4

(d) Extension of the South Blanco-Pictured Cliffs Pool in San Juan and Rio Arriba Counties, New Mexico, to include:

Township 27 North, Range 9 West
Section 36: NE/4

Case No. 944
Continued

BEFORE:

Honorable John F. Simms
Mr. E. S. (Johnny) Walker
Mr. William B. Macey

TRANSCRIPT OF HEARING

MR. MACEY: The next case on the docket is Case 944, and at the request of Skelly, the case will be continued until the October 13th hearing.

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

I, ADA DEARNLEY, 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 knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed ny hand and notarial seal this 12th day of October, 1955.

Ada Dearnley
Notary Public, Court Reporter

My Commission Expires:
June 19, 1959

BEFORE THE

Oil Conservation Commission

SANTA FE, NEW MEXICO

August 17, 1955

IN THE MATTER OF:

CASE NO. 944

TRANSCRIPT OF PROCEEDINGS

ADA DEARNLEY AND ASSOCIATES

COURT REPORTERS

605 SIMMS BUILDING

TELEPHONE 3-6691

ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 17, 1955

IN THE MATTER OF:

Northwestern New Mexico nomenclature case calling for the following extensions and redesignations of pools:

(a) Extension of the Aztec-Pictured Cliffs Pool in San Juan County, New Mexico, to include:

TOWNSHIP 28 NORTH, RANGE 10 WEST
E/2 Partial Section 10
W/ 2 W/2 Partial Section 11

TOWNSHIP 29 NORTH, RANGE 11 WEST
Section 13: SE/4

(b) Extension of the Canyon Largo-Pictured Cliffs Pool in Rio Arriba County, New Mexico, to include:

TOWNSHIP 25 NORTH, RANGE 7 WEST
Section 25: All
Section 36: E/2

(c) Extension of the Fulcher-Kutz-Pictured Cliffs Pool in San Juan County, New Mexico to include:

TOWNSHIP 27 NORTH, RANGE 9 WEST
Section 17: NE/4

TOWNSHIP 29 NORTH, RANGE 12 WEST
Section 14: W/2

(d) Extension of the South Blanco-Pictured Cliffs Pool in San Juan and Rio Arriba Counties, New Mexico, to include:

TOWNSHIP 27 NORTH, RANGE 7 WEST
Section 6: NW/4

TOWNSHIP 28 NORTH, RANGE 7 WEST
Section 31: SW/4

TOWNSHIP 27 NORTH, RANGE 8 WEST
Section 1: E/2

Case No. 944

TOWNSHIP 28 NORTH, RANGE 8 WEST
Section 36: SE/4

TOWNSHIP 27 NORTH, RANGE 9 WEST
Section 36: NE/4

TOWNSHIP 25 NORTH, RANGE 5 WEST
Section 3: SW/4
Section 4: All
Section 5: NE/4
Section 9: NE/4
Section 10: NW/4

TOWNSHIP 26 NORTH, RANGE 5 WEST
Section 33: SW/4

(e) Extension of the Ballard-Pictured Cliffs Pool in San Juan County, New Mexico to include:

TOWNSHIP 25 NORTH, RANGE 8 WEST
Section 3: SW/4
Section 10: N/2

TOWNSHIP 26 NORTH, RANGE 8 WEST
Section 20: E/2

TOWNSHIP 26 NORTH, RANGE 9 WEST
Section 1: SE/4

(f) Redesignate the Hogback-Pennsylvanian Pool as a gas pool in San Juan County New Mexico, and described as follows:

TOWNSHIP 29 NORTH, RANGE 16 WEST
Section 17: SW/4
Section 18: S/2
Section 19: All
Section 20: W/2

- -

BEFORE:
Honorable John F. Simms
Mr. E. S. (Johnny) Walker
Mr. William B. Macey

TRANSCRIPT OF HEARING

MR. MACEY: The next case on the docket is Case 944.

E L V I S A. U T Z ,

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

DIRECT EXAMINATION

By MR. GURLEY:

Q State your name, please.

A Elvis A. Utz.

Q What is your position?

A Engineer for the Oil Conservation Commission.

Q Have you, in your official capacity, made a study of the proposed extension of the Aztec-Pictured Cliffs Pool in San Juan County, New Mexico?

A Yes, I have.

Q What are your recommendations and the basis for such recommendations in this case?

A I recommend that the Aztec Pictured Cliffs Pool be extended as follows: Township 28 North, Range 10 West, the east half of partial Section of 10, and the west half of the west half, partial Section 11. This extension is based on the Southern Union Gas No. 6 Zackry in the northeast quarter of Section 10, Township 28 North, Range 10 West, with an initial potential of 3319 MCFD, shut-in pressure of 595 in nine days.

In Township 29 North, Range 11 West, Section 13, the southeast quarter extension is based on the Marshall Drilling Company No. 1 Ransom in the southeast quarter of Section 13, Township 29 North, Range 11 West, with initial potential of 708, shut-in pressure of 602.

That is all of the recommended extensions for the Aztec-Pictured Cliffs.

Q Have you had an opportunity to study the proposed extension of the Canyon Largo-Pictured Cliffs Pool in Rio Arriba County, New Mexico?

A Yes, I have.

Q Would you state your recommendations thereon, and the basis for those recommendations?

A I recommend that the Canyon Largo-Pictured Cliffs Pool in Rio Arriba County be extended to include the following: In Township 25 North, Range 7 West, all of Section 25 and Section 36, the east half. This recommendation is based on the Superior Oil Company, Sadler No. 1-25 in the southeast quarter of Section 25, Township 25 North, Range 7 West, with an initial potential of 500 MCFD, shut-in pressure of 912 in seven days; and Superior Oil Company, Albuquerque State No. 1-36 in the southeast quarter of Section 36, Township 25 North, Range 7 West, which has an initial potential of 196, with shut-in pressure of 630 pounds in seven days.

Q Have you, Mr. Utz, in your official capacity, had the opportunity to study the proposed extension of the Fulcher Kutz-Pictured Cliffs Pool in San Juan County, New Mexico?

A Yes, I have.

Q Would you state to the Commission your recommendations thereon and the basis for said recommendations?

A I recommend that the Fulcher Kutz-Pictured Cliffs Pool be extended as advertised in Section (c) of the advertisement, and this is based on the following wells: J. Glenn Turner Cleveland No. 1-17, northeast quarter of Section 17, Township 27 North, Range 9 West,

which has an initial potential of 1318 MCF per day, shut-in pressure of 617 in 24 days. The R & G Drilling Company, R & G No. 2, in the southwest quarter of Section 14, Township 29 North, Range 12 West, which has an initial potential of 1,000 MCF per day, shut-in pressure 420 in seven days.

Q Have you, Mr. Utz, in your official capacity, had an opportunity to study the proposed extension of the South Blanco-Pictured Cliffs Pool in San Juan and Rio Arriba Counties, New Mexico?

A Yes, I have.

Q State to the Commission your recommendation thereon and the basis for your recommendation.

A I recommend that the South Blanco-Pictured Cliffs Pool be extended as advertised. These extensions are on the basis of the following wells: The El Paso Natural Gas Company No. 36, San Juan Unit 28-7, the southwest quarter of Section 31, Township 28 North, Range 7 West, which has an initial potential of 3400 MCF per day, with shut-in pressure of 1008 pounds in eight days. The El Paso Natural Gas Company No. 2 Blanco Gas Unit, the northeast quarter of Section 1, Township 27 North, Range 8 West, initial potential of 2148 MCF per day, shut-in pressure 984 pounds in 17 days.

The J. Glenn Turner, Huerfano No. 10-36, northeast quarter of Section 36, Township 27 North, Range 9 West, with an initial potential of 2148 MCF per day, shut-in pressure of 642 in eleven days.

Stanolind-Jicarilla Contract No. 146, Well No. 2, the southeast quarter of Section 4, Township 25 North, Range 5 West, initial potential of 12,000 MCF per day, shut-in pressure of 1011 in seven days.

Stanolind-Jicarilla Contract 146 No. 3, the northwest quarter of Section 10, Township 25 North, Range 5 West, initial potential of

12707 MCF per day, shut-in pressure of 1039 in seven days; and Stanolind-Jicarilla Contract 146 No. 1, the northwest quarter of Section 4, Township 25 North, Range 5 West, initial potential of 22,500 MCF per day, shut-in pressure of 1022 in seven days.

Q Have you, Mr. Utz, had an opportunity to study the proposed extension of the Ballard-Pictured Cliffs Pool in San Juan County, New Mexico?

A Yes, I have.

Q Would you state to the Commission your recommendations thereon and the basis for said recommendations?

A I recommend that the Ballard-Pictured Cliffs Pool be extended as advertised with this particular exception. In Township 26 North, Range 9 West, Section 1 should be the southwest quarter instead of the southeast quarter. The recommendations in the Section (e), as advertised, are based on the following wells: The Benson Montin-Quitzau No. 5, the southwest quarter of Section 3, Township 25 North, RAnge 8 West, initial potential of 9865 MCF per day, shut-in pressure 656 in 12 days; the Benson Montin-Quitzau No. 7, the northwest quarter of Section 10, Township 25 North, Range 8 West, with an initial potential of 1346 MCF per day and shut-in pressure of 664 in 17 days. The Southern Union Gas Company Newsom No. 6, the northeast quarter of Section 20, Township 26 North, Range 8 West, with initial potential of 708 MCF per day, shut-in pressure of 649 in eight days. Glenn Turner-Huerfanito Unit No. 13-1, the southwest quarter of Section 1, Township 26 North, Range 9 West, with an initial potential of 2237 MCF per day, shut-in pressure of 623 in seven days.

Q Is that the southeast or the southwest?

A It should be the southwest. It is the southwest quarter. I made that correction before I started.

Q Mr. Utz, have you made a study of the proposal to redesignate the Hogback-Pennsylvanian Pool as a gas pool in San Juan County, New Mexico?

A Yes, I have.

Q Would you state to the Commission your recommendations thereon and the reasons for those recommendations?

A I recommend that the Hogback Pennsylvanian previously designated oil pool be reclassified, or redesignated as a gas pool, this pool being in Township 29 North, Range 16 West, and consisting of the following: Section 17, southwest quarter; Section 18, the south half; Section 19, all; Section 20, the west half. I recommend that this be redesignated for the following reasons. This pool was previously designated as an oil pool by Order No. R-542-A.

I recommend that it be redesignated since there has been a market developed for the non-combustible gas produced from this one oil well; and two, that the G. O. R. of this well is 45,862 to 1, and has an initial potential of 6,650 MCF per day, which could easily make it a gas well providing there is a market for the gas.

The operator has agreed to produce only the amount of gas for which the market is available, and the quantity of oil produced incidentally with this volume of gas will be utilized. Consequently, there will be no waste.

MR. GURLEY: That is all.

MR. MACEY: Anyone have a question of the witness?

CROSS EXAMINATION

By MR. KITTS:

Q I have a question. Going back to the recommendation of the extension of the Ballard-Pictured Cliffs, it is the southwest quarter of Section 1 in Township 26 North, Range 9 West, is that contiguous to acreage now within the pool?

A It is contiguous with acreage Order -- in Case 908, whatever the order is on that, which I understand has been signed, hasn't it?

MR. KITTS: That is all.

MR. MACEY: For the purpose of the record, we received a protest on a portion of the case from the Skelly Oil Company. Mr. Rieder, what are Mr. Selinger's objections?

MR. RIEDER: He desired to have the portion of the case that pertains to the Ballard-Pictured Cliffs postponed until the September hearing so that they might be present.

MR. MACEY: Just the Ballard Pictured Cliffs?

MR. RIEDER: Yes, sir.

MR. MACEY: You are sure it wasn't South Blanco?

MR. RIEDER: I will have to look at the wire. I believe it was just the Ballard-Pictured Cliffs that he was objecting to.

MR. MACEY: The wire says both. He only refers to a specific portion of each pool. He namely refers to that in Section 36 in Township 27 North, Range 9 West in the South Blanco, and Section 1 in Township 26 North, Range 9 West in the Ballard.

We will continue the portion of the case in Section (d) in the northeast quarter of Section 36, Township 27 North, Range 9 West pertaining to South Blanco, we will continue that portion of the case and also in paragraph (e), that portion of the case pertaining to Section 1 in Township 26 North, Range 9 West in the Ballard-Pictured Cliffs. We will continue those portions and take the other matters

under advisement.

MR. RIEDER: Continue them until next month?

MR. MACEY: Yes, sir, until September. We ought to re-advertise that portion that was misadvertised.

MR. GURLEY: Is he basing his protest on the portion that was misadvertised?

GOVERNOR SIMMS: No.

MR. MACEY: Does anyone have anything further in this case? If not we will take the portion of the case under advisement and continue the remainder of the case until the September hearing.

MR. GURLEY: I would like to offer it as an exhibit.

MR. MACEY: Let the record show that Exhibit No. 1 is received in evidence. The hearing is adjourned.

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

I, ADA DEARNLEY, 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 knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 26th day of August, 1955.

Ada Dearnley
Notary Public, Court Reporter

My Commission Expires:
June 19, 1959