

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
DECEMBER 12, 1960

----- :
IN THE MATTER OF: :
 :
CASE 2139 Application of Cosden Petroleum Corporation for: :
the promulgation of special rules and regula- :
tions governing the South Prairie-Pennsylvanian: :
Pool, Roosevelt County, New Mexico, including a :
provision for 80-acre oil proration units. :
----- :

BEFORE:

Elvis A. Utz, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. UTZ: Case 2139.

MR. MORRIS: Case 2139. Application of Cosden Petroleum Corporation for the promulgation of special rules and regulations governing the South Prairie-Pennsylvanian Pool, Roosevelt County, New Mexico, including a provision for 80-acre oil proration units.

MR. BRATTON: Howard Bratton, appearing on behalf of Cosden. We will have two witnesses.

(Witnesses sworn)

MR. UTZ: Any other appearances in this case?

MR. CAMPBELL: Mr. Examiner, Jack Campbell of Campbell & Russell, Roswell, appearing on behalf of Lone Star Producing Company.

MR. UTZ: Any others? You may proceed (off the record)

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ROBERT WARFIELD,

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

DIRECT EXAMINATION

BY MR. BRATTON:

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

A My name is Robert Warfield. I am employed by Cosden Petroleum Corporation as an exploration geologist.

Q Have you previously testified before this Commission, Mr. Warfield?

A No, I have not.

Q Will you exploit briefly as to your educational and professional background?

A Bachelor's and Master of Science Degree from the University of Iowa, and have been employed by -- in Midland, Texas for six and a half years. Five and a half of that was with Texaco and approximately the last year with Cosden Petroleum. Four years of that time has been work concerned with New Mexico geology.

Q Have you studied the area in question in this hearing?

A Yes, sir, I have.

Q You are familiar with the application in this case?

A Yes.

MR. BRATTON: Are the witness' qualifications acceptable?



MR. UTZ: Yes, sir, they are.

Q (By Mr. Bratton) Mr. Warfield, in this case Cosden is asking for promulgation of special rules and regulations for the South Prairie-Pennsylvanian in Roosevelt County, New Mexico, is that what we are asking --

A Yes.

Q -- including a provision for 80-acre proration units?

A That is correct.

(Whereupon, Applicant's Exhibit No. 1 marked for identification)

Q Will you refer to your Exhibit No. 1 on the board, Mr. Warfield, and explain what it is, and what it shows?

A Exhibit No. 1 here is an ownership plat from our company files which shows ownership of the land in the area of the South Prairie-Pennsylvanian Field. This is the discovery well, the Cosden No. 1 "C" Federal.

Q Where is that located?

A It is located 1980 from the North and East lines of Section 20, Township 8 South, Range 36 East, Roosevelt County, New Mexico.

Q All right, sir.

A The area outlined in green comprises the northeast quarter of Section 20, and is the area designated by the Commission as the present pool limits of the South Prairie-Pennsylvanian Pool.

Q That is the area that was on the nomenclature for the des-



ignation as South Prairie-Pennsylvanian Pool, is that correct?

A Correct.

Q Is there anything else reflected on that Exhibit that you care to point out, Mr. Warfield?

A I believe not, unless someone has a question of the ownership of any particular area.

(Whereupon, Applicant's Exhibit No. 2 marked for identification)

Q All right, then, refer to Exhibit No. 2.

A Exhibit No. 2 is a structural contour map of the South Prairie-Pennsylvanian, based on the subsurface control afforded by the three wells that are presently producing in the field.

Q Those are the three wells. Do you have red colors around them?

A Yes, it is the three wells circled in red.

Q All right, sir.

A This plat also shows the locations of wells presently drilling and wells that we believe have been, will be drilled, or have been announced.

Q There are three producing wells in the pool, three completed wells?

A Yes, that is correct.

Q How many drilling wells or announced locations are there?

A There are presently three drilling wells and possibly four. There are two wells in Section 21 presently being drilled

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by Lone Star Producing Company. There is a well in the northwest offset of the discovery well presently being drilled by Ohio Drilling Company which at this time is very close to the expected pay and Cosden Petroleum is preparing to spot, or possibly has spotted a southwest offset this morning.

Q Mr. Warfield, when you refer to those particular wells, for the purpose of the record, will you identify them by name and location in quarter-quarter sections?

A You mean go through them all now?

Q No, whenever you refer to additional wells, for the purpose of the record, if you would, please.

Q What else is reflected on that contour map, Mr. Warfield?

A We have colored acreage owned in full or in part by Cosden Petroleum Corporation. In yellow we have designated the ownership, both working interest and royalty interest, on this map, and we have designated an outline which we believe from the geological information available at this time would represent the probable limits of the field with the information we have right now.

Q That, of course, is very tentative, Mr. Warfield?

A Yes, that could be larger or smaller.

Q All right, sir. Do you have designated on there a cross-section AA Prime, is that correct?

Q That is right. Cross-section AA Prime is a subsequent exhibit, which is a structural cross-section extending through the



three presently producing wells.

Q From north to south through the three completed wells?

A North to south.

Q All right, sir. Is there anything else you care to point out about that Exhibit?

A I believe not except I might mention that the three wells indicate a possible area of closure in which we know there is porosity and productive oil pay.

(Whereupon, Applicant's Exhibit No. 3 marked for identification)

Q Will you refer to your Exhibit 3, which is your cross-section AA Prime?

A Exhibit 3 is a structural cross-section which has been designated in Exhibit 2, extending from the discovery well, the Cosden No. 1 "C" Federal, through the Lone Star No. 1 Federal N M to the Cosden Petroleum No. 1 Federal "D". This is a north to south cross-section. The vertical scale on this upper section is one inch to one hundred feet. Vertical scale on the lower section is one inch to forty feet. The log at the top is the starred lateral log. The one at the bottom is on the same well and it is the microlateral log, a more detailed log. The purpose of this section was to show both the correlation and continuity of the producing bed and another prominent marker bed which we call the three Brothers sone. The detailed section also shows the continuity and correlation of the productive bed and the continuity of the porous zones



which are responsible for the oil production. We have also put on both sections the intervals which have been perforated.

Q Mr. Warfield, the zone to which you are referring is the Bough C line which is the formation in question and the productive formation in the South Prairie Pennsylvanian Pool?

A That is right.

Q And your cross-section does reflect the continuity of that pay through the three wells with a north-south dip in the formation?

A Yes, it does. The correlation of the Bough "C" zone and of the other beds in the areas is very clear and very definite.

Q Exhibit 3 reflects continuity and structure?

A Yes, it does.

Q All right, sir. Is there anything else you would care to point out with relation to this Exhibit?

A No, I believe not.

(Whereupon, Applicant's Exhibit No. 4 marked for identification)

Q All right. Refer to your Exhibit No. 4, if you would, Mr. Warfield.

A Exhibit No. 4 is a structural contour map which covers a larger area of Roosevelt and Lea Counties. It is intended to show the geographic relationship of the discovery area to other productive fields in the area. The map is contoured on the top of the Bough "C" lime which is the productive zone in the South Prairie zone,



and also is Bluitt Field and the North Allison Field, the same zone producer in the Bough Field and Milne Sand Field.

Q Does that reflect the blanket -- a blanket formation in the Bough "C" lime throughout this area?

A It does. The Bough "C" lime can be clearly correlated as a single bed throughout the entire area of this map with the exception of possibly the very north part where we come up on a granite feature which is a feature of it. The entire area is a blanket lime deposit known as Bough "C" lime which is productive pay in all of those fields.

Q Does your map indicate that in your opinion the South Prairie-Pennsylvanian is a substantially identical pool to the Bluitt and the Allison Pools?

A Yes, it does.

Q You have reflected on that map a cross-section, is that correct?

A That is correct.

Q And you also have reflected another correlation, I believe, in yellow or green?

A Yes. The cross-section we have designated A.B., and extends from South Prairie to Bluitt Field to the Allison Field. We have also designated in green four wells, the Cosden 1 "C" Federal, the well in the Allison Field and two wells in Bluitt Field and these four wells will be a later exhibit.



Q Is there anything else you would care to point out in connection with that Exhibit?

A No, I don't believe so.

Q I might ask, I think it's the Bough Field down in the lower portion of that Exhibit, that is an old field, is it not?

A Yes, it is.

Q One that was discovered and substantially drilled in the late 1940's, I believe?

A Yes.

Q All right, sir, and in the Milne Sand Field is the Bough "C" the principally producing formation, or does it produce from the other zones, for instance?

A It also produces from other zones, the "C" zone is one of the productive zones.

Q The South Prairie-Pennsylvanian, then, in time of discovery and drilling and in productive formation would be substantially similar to the Bluitt and Allison Fields?

A Yes, it would, particularly the Bluitt Field.

Q Is there anything else you would care to point out in connection with that Exhibit?

A No, sir.

(Whereupon, Applicant's Exhibit No. 5
marked for identification)

Q If you will refer to your Exhibit No. 5, please.

A Exhibit No. 5 is a cross-section designated in Exhibit 4

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as A B. This section is on the minus 55 datum. It is not a true structural cross-section, but the horizontal distance between wells has been approximated in order to facilitate laying out of wells because of the great distance between the Cosden 1 "C" Federal and the French No. 1 Well. The purpose of this section is to show again the good correlation of the Bough "C" lime throughout the area and to show the correlation again of the Three Brothers zone which lies immediately above. This cross-section also shows the perforations in the Bough "C" lime in the wells in all three fields.

Q All right, sir. Do you further substantiate that correlation, I believe your Exhibit No. 6 is also shown on your contour map, is it not?

(Whereupon, Applicant's Exhibit No. 6 marked for identification)

A Yes, Exhibit No. 6 includes that Cosden No. 1 "C" Federal discovery well of the Prarie Field; Shell No. 1 Mattus and Ohio No. 1 D in the Davis Field are the two wells in the Bluit Field and the Cactus 2 "A" Sunray State are the wells in the Allison Field.

Q This is not a structural section, it is a section on which the top of the Bough "C" lime is the correlative point. It shows the perforations in three of the wells from the open hole interval in which the third well is completed. The main purpose of this section is to show the continuity of the porous zones throughout these three fields, which we believe it does very clearly.

Q Those logs were selected because you could obtain excel-



lent logs in those wells?

A They were, we believe, the microlateral logs show the porosity and the correlation well and they were selected because there are microlateral logs available on these wells.

Q Is there anything else you would care to point out in connection with that Exhibit?

A No, I don't believe so.

Q Would you care to state anything, Mr. Warfield, about the lithology of the Bough "C" discovered in the South Prairie-Pennsylvanian Pool?

A We did not core the Bough "C" zone. We drilled it, and the samples were examined and the Bough "C" lime is a white to tan crystal limestone which has vuggy, v-u-g-g-y, the geologic term for a large cavernous type porosity. We believe the porosity in the pay is a result of solution along fraced lines. Then there is also inter crystal line porosity. For the information of the Commission there is a sample of another well in the area.

A I believe this is a part of the core from the Lone Star No. 1 Federal N M which the Lone Star geologist provided us.

Q We will hand that to the Commission, not as an exhibit, but just for information. Were Exhibits 1 through 6 prepared by you or under your supervision?

A They were prepared under my supervision, yes.

Q All right, sir. Is there anything else you would care to



state in connection with this case, Mr. Warfield?

A No, sir.

MR. BRATTON: We would offer in evidence Exhibits 1 through 6, and we have no further questions of Mr. Warfield.

MR. UTZ: Exhibits 1 through 6 will be accepted into the record.

(Whereupon, Applicant's Exhibits
1 through 6 received in evidence)

MR. UTZ: Any questions of the witness?

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Warfield, what is the depth of the discovery in the South Prairie-Pennsylvanian?

A The total depth or the actual depth of the Bough "C" lime?

Q No, the total depth of that well.

A The total depth of the Cosden No. 1 Federal "C" is 9899.

Q And what disposition is being made of the oil that is being produced in this area?

A The Cosden No. 1 Federal "C" is a flowing well. It's been on production about two months, I am not sure who is taking the oil.

Q It appears that two of these wells are not in the pool as yet, is that right, the pool as designated?

A Yes, as designated. No, they are not.

Q Your exhibits are designed to show the continuity of the



sand are they not?

A Of the Bough "C" limit it is limestone, but that is one of their primary purposes.

Q They don't actually reflect the area that one well can drain, do they?

A No, they do not. We will have reservoir data to support that later.

Q How far, Mr. Warfield, from the South Prairie to the Buitt?

A To the edge of the Buitt Field is approximately four and a half miles.

Q How far is it from the Buitt to the Allison?

A To the Allison Field is also about four miles. It would be about two and a half to the presently designated North Allison.

Q That actually doesn't give you the type of controls as a geologist would like to have, does it?

A Well, I think the controls is adequate. In fact, considering the distance involved from the South Prairie well to these other wells, the correlation on the logs is excellent. I don't feel any more control would be needed.

MR. PAYNE: Thank you.

MR. UTZ: Any other questions?

MR. CAMPBELL: Mr. Examiner, I have a few questions I would like to ask.



MR. BRATTON: Mr. Campbell, before you ask that, the Commission was asking, or the Examiner was asking a question about the completion of the Cosden Well, and in order not to throw our exhibits out of order, we have designated one as Exhibit 6-A, which is the completion data on that well. I will ask Mr. Warfield is that the, that completion on the discovery well in the pool, actually it covers both the Federal "C" and Federal "D", doesn't it?

A To my knowledge, this is correct.

BY MR. CAMPBELL:

Q Mr. Warfield, in your capacity as geologist for Cosden, are you called upon to evaluate and make recommendations as to well locations?

A Yes, I am.

Q As I understand it, you are suggesting here that the rules adopted in this pool if they are adopted by the Commission be essentially the same as rules in the Bluit-Pennsylvanian Pool, is that correct?

A Yes.

Q And that would involve locations of the wells either in the southwest or the northeast quarter of each quarter section with a zone area around the center of that 40-acre tract, in other words, fixed pattern spacing is what you are suggesting here, is that right?

A I think that would be brought up later by Mr. Summers,

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the actual spacing.

Q Well, assuming that is the case, I would like to ask you a few questions with regard to well locations in the event the Commission did adopt a fixed pattern spacing. The wells being situated in the northeast quarter and the southwest quarter of quarter section and refer you to your Exhibit No. 2.

A Yes.

Q You have completed your Federal Well in the northeast quarter of the northeast quarter of Section 29. If the order entered by the Commission were to require the drilling of the second well in that quarter section in the southwest quarter of the northeast quarter of Section 29, as distinguished have the possibility of permission to drill the second well as allocated, selected by the operator, would you have more hesitancy on the basis of your present recommendation, your present understanding of the geology here representing a well to be drilled as diagonal offset or direct offset to your Federal "D" Well?

A With present information, it would be my opinion that a direct south offset to this well would be safer at this time. However, there are other wells being drilled on standard pattern which, with their control, would help make that decision for us.

Q It could help make the decision in either way, I presume it would make your diagonal offset even a greater risk than less risk, depending on what you discover as to how the field is developed?

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A That is right.

Q In regard to the northwest area of this Exhibit No. 2, I will refer you to the southwest quarter of Section 17, which is not within your suggested pool limits, but is within a mile area and would be covered by pool rules. The Ohio Well No. 1 in Section 20, you say, is about to be completed, is that correct?

A Yes, it was drilling about 9200 feet last week-end, I believe.

Q The information from that well would have, would it not, bearing upon a determination by Lone Star as to the best possible location for a well in the southwest quarter of Section 17, is that not correct?

A Yes, it certainly would.

Q And if it were necessary under pool rules to drill that well either in the northeast of the southwest or the southwest of the southwest, those on your present information, at least, would be moving toward the outer boundaries of the possible pool limits, would they not?

A That is right.

Q Would you feel, as a geologist, that you would proceed with more confidence in recommending well locations on the exterior boundaries of this pool if you had some leaway with regard to the location of the wells rather than being required to locate them at specific locations?

A I believe the Field certainly will come to that point.

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Whether it's at that point is debatable.

MR. CAMPBELL: That is all.

MR. UTZ: Any other questions? (No response)

Q (By Mr. Utz) Mr. Warfield, do you have the top of the Bough zone for discovery well Federal "C" No. 1?

A The minus datum on that well?

Q Yes, sir.

A It's minus 5528.

Q What is the elevation?

A The elevation is 4124.

Q Do you have the ground elevation?

A No, sir, I do not.

Q Would it be about ten feet?

A According to the Schlumberger, I believe it's 12.4 feet above ground level.

Q Would you, as a geologist, recommend the designation of any dry acreage to any well in this pool?

A No, I would not.

MR. UTZ: Any other questions of the witness? (no response)

Q (By Mr. Utz) Do you have any information as to the type of drive the pool has, at this time?

A Mr. Summers will present data, considerable data on that score, I believe. I do not, myself, except by comparison with the other fields.

Q Is Mr. Summers going to recommend the spacing pattern

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also?

A Yes, he is.

Q MR. UTZ: Any other questions of the witness? You may be excused.

(Witness excused)

MR. UTZ: Call your next witness.

HAROLD V. SUMMERS

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name, address and occupation?

A My name, Harold V. Summers. I am petroleum engineer for Cosden Petroleum Corporation at Big Springs, Texas.

Q Have you previously testified before this Commission?

A No, sir.

Q Will you state briefly your educational and professional background?

A I graduated from Texas A & M College in 1952. Have worked for Cosden Petroleum Corporation approximately four years as reservoir engineer.

Q Have you studied the area in question in the present application?

A Yes.

Q And you are in charge of this area for Cosden Petroleum



Corporation?

A The reservoir end of it, yes.

Q Then, you are familiar with the application and the subject case?

A Yes, sir.

MR. BRATTON: Are the witness' qualifications acceptable?

MR. UTZ: He is qualified, yes, sir.

Q (By Mr. Bratton) Mr. Summers, taking things out of order and going back to Exhibit 6-A, can you identify that as the datum on the two wells reflected thereon?

A Exhibit 6-A is the completion information with respect to Cosden Federal "C" No. 1 and Cosden "D" No. 1. We give the completion treatment as far as acidizing and the pressures that we used to acidize and complete the well. We also give potential. Potential on Federal "C" No. 1 was on 9/19/60, flowed 282 barrels and no water in 6 hours, 28/64 inch choke with tubing pressure of 750 pounds the casing packer GOR 1650 cubic feet per barrel. You will note on the Exhibit we acidized our "C" No. 1 with a thousand gallons of MCA acid. The Federal "D" No. 1 is 11/13/60 flowed 190 barrels of oil in 12 hours with no water. Choke was 24/64 choke with tubing pressure of 750 PSI, and we also have a packer in the hole there. Our GOR in this particular well was 1190 cubic feet per barrel. I would like to point out that on this particular well here we show this particular well was acidized with 200 barrels of MCA acid. We have reason to believe that the acid in this com-



pletion never reached the actual pay zone because the completion was swabbed with raw acid. We believe that the No. 1 was a completion without any assistance as far as acid is concerned.

Q Refer to your Exhibit No. 7.

(Whereupon, Applicant's Exhibit No. 7 marked for identification)

Q Refer to your Exhibit No. 7, Mr. Summers, which is a table of the reservoir data in the pool.

A Table No. 1 shows the average rock properties of the Bough "C" zone, and you will notice I show the average porosity as being 6.9 %, that is taken from calculations from the logs and one core analysis. The average permeability shows 131 millidarcies, ranges from 0.1 to 1035 taking from this one canal we will present this evidence later. The average interstitial water saturation 26 percent average net thickness, 12 feet. This is depicted from the logs from three completed wells in the area. I believe Mr. Warfield gave the declines of the lithology of it as shown here. Structural features are Exhibit 2 of Mr. Warfield's. The fourth part of this particular Exhibit shows the characteristics of the fluids. I would like to mention here these characteristics are similar to the fluids in the Bough, the Allison and the Bluit Pools. Item 5 of this Exhibit shows a reservoir pressure of the Cosden Federal "C" No. 1 at minus 5540. That datum was picked because it was approximately the center of the perforation of that particular well. We ran, conducted a productivity in this par -

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ticular well which is shown at 7.22.

Q Mr. Summers, you show on that Exhibit No. 7 your reservoir pressure at 3159. That is the original reservoir pressure in the discovery well?

A That is a pressure measured after that particular well had produced 1673 barrels of oil.

Q All right, sir, and that was before any other wells were completed or producing?

A Yes, sir.

Q All right, sir. Now, subsequent to the time you gathered this data, have you obtained information as to pressures in the other two wells which are now completed and which are shown on Exhibit No. 2?

A Yes, sir. We have two more pressures. One is on the Cosden Federal "D" No. 1.

Q Which is that well?

A That particular well is the well located in the northeast quarter of the northeast quarter of Section 29.

Q All right, sir.

A That particular pressure, after forty-eight hour build-up on 12/1/60 was 3140 pounds and minus 5540

Q Now, had there been any production out of that well?

A Yes, sir. There had been approximately 1600 barrels.

Q So that's the same amount of production as there was out of the discovery well before that pressure of 3159 was taken?



A Yes, sir.

Q This well that you are referring to now is the southernmost well in the pool?

A Yes, sir. It's approximately 40, 4500 feet southeast of our discovery well, Cosden "C" No. 1.

MR. UTZ: What was that pressure again?

A 3141

Q (By Mr. Bratton) Do you have a pressure on the Lone Star Well, the middle well of the three wells?

A Yes, sir. I would like to add here, these two pressures were after forty-eight hour build-up to Cosden wells. I have a pressure on the Lone Star Federal No. 1 measuring less than 2560 at 52 hour build-up of corrected to minus data of 5440 this pressure is 3,029.

Q And that well is located where with reference to the discovery well?

A That is located approximately 1900 feet southeast of the Cosden Federal "C" No. 1.

Q So it is the closer of the two wells?

A Yes, sir.

Q And the drawdown pressure to it was accordingly larger?

A Yes, sir.

Q Nonetheless, it apparently had pressure drawdown clear down to the southern well in two months' time?

A Yes, sir.



MR. UTZ: Had that well produced any?

A It had produced, I would say, about, not over 200 barrels. This particular pressure was taken right after the well was completed. It produced some before that.

Q (By Mr. Bratton) This is Lone Star we are talking about?

A Yes.

Q But the Cosden produced about 1600 barrels?

A Yes.

Q Is there anything else you would care to point out in connection with your reservoir data?

A I would like to point out with respect to pressuring here, I believe the pressure show there is common or relatively so for good distance in the area. As I mentioned the Cosden "D" No. 1 is approximately 4500 feet from the discovery well which is "C" No. 1. And that shows a pressure of 18.5 pounds difference. The Lone Star Well which is closer was approximately 1900 feet and has approximately 130 pounds of pressure drop. So that would show that the well would be over good distances. Shows excellent communication for the reservoir.

Q Your average permeability, Mr. Summers, that a weighted average, that 131 millidarcies?

A This average weighted average permeability in excess of one-tenth millidarcies was taken from the core analysis that we will be presenting as Exhibit No. 8.

(Whereupon, Applicant's Exhibit No.

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8 marked for identification)

Q Sir, I refer to your Exhibit No. 8, Mr. Summers.

A Exhibit No. 8 is the core graph of the Lone Star Federal No. 1 well and shows the analysis of Core Laboratories as far as the porosity and water saturation and the permeability are concerned. It also shows their calculated original oil in place, using some estimated values on that part.

Q Now, I notice the difference, Mr. Summers, in the both the permeability and the porosity of this one core analysis with this reservoir data that you have shown on Exhibit No. 7. Will you explain those differences?

A Like I said concerning the permeability, that weighted average of permeability is in excess of one-tenth millilarcy, and how Core Laboratory arrived at 83 as maximum I have been unable to determine. Their porosity is average the porosity I present is Gore plus calculation taken from logs run on the three completed wells. I feel that this particular core analysis is not necessarily a true representation of the rock properties. I feel like it's somewhat pessimistic as far as the average properties are concerned based on the logs that have been run in the three wells on the three operators.

Q Actually, if you go on the porosity shown in the Core Laboratories report, you need considerably more than 80-acre spacing?

A Yes, sir. We would probably need one well for the whole

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area they have noted some figures in there which are timed estimated. We have some that measure.

Q Is there anything else you would care to state in connection with Core Laboratories analysis?

A No, sir.

(Whereupon, Applicant's Exhibit marked for identification)

Q All right, sir. Refer, then, to your Exhibit No. 9.

A Exhibit No. 9 is a comparison of the rock and fluid properties of Allison, Bluit, South Prairie-Pennsylvanian Pool. The information for the Allison Bluit were obtained from the hearings on those pools for spacing previously. The information it has for the South Prairie-Pennsylvanian has been presented earlier. As far as the fluid properties on the South Prairie-Pennsylvanian, they are obtained from the reservoir subsurface sample analysis on Cosden Federal "C" No. 1. This is to show the similarity of the three pools. You will notice that the porosity and the permeability are, even though they are not exactly equal, they were within range of each other.

Q Refer to that permeability shown for the Bluit. Can you explain why it is considerably higher than shown for the Allison and Prairie-Pennsylvanian?

A I believe the average permeability as shown in the Bluit was brought out in the hearing of that particular pool. It was brought out that one streaked a permeability up in the range of

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6,620 millidarcies. That would raise the average permeability considerably. You move that the average would be down in the neighborhood of what it is presented for the other two pools.

Q You show a somewhat higher porosity in the South Prairie-Pennsylvanian above the Allison and Bluitt if you took the Core Laboratory average you would show a somewhat lower porosity?

A Yes, sir, according to the core averages it would be 14.5 percent porosity.

Q So that your porosity could be roughly in the same range as the Allison?

A Yes, sir, it could. We recognize that the log calculations are not exact, and one other thing I would like to point out concerning the porosity here. Mr. Warfield mentioned the vuggy porosity in the particular rock, and in determining porosity from the rock it has vuggy porosity, and it's difficult to get the true values. The large porosity is due to the vugs.

Q Is there anything else you would care to point out in this comparative table, Mr. Summers?

A I would like to point out the similarity of the fluid properties that are presented here, they are very, very close. You will notice that the gravity of the stock tank oil for the three properties range from 48 to 46 or 47 degrees. Formation volume factor 1.821, 1.762 and 1.841. Dissolved gas-oil ratios are very close. 1517 to 1409.

(Whereupon, Applicant's Exhibit



No 10 marked for identification)

Q Refer to your Exhibit No. 10, now, please, Mr. Summers.

A Exhibit No. 10 shows a net pay for the three wells in the pool. These figures were obtained from the microlaterologs that were run on the wells in the pool. And I have picked 11 feet for the Cosden "C" No. 1, 1 feet for the Federal "D" No. 1; and 7 feet for the Lone Star N M No. 1, which gives a mathametic average of 12 feet.

Q Would you explain that 7 feet in the Lone Star Well. That Well is located between the two Cosden wells, isn't it?

A Yes, sir.

Q Would you refer to the log and explain that?

A Referring to Exhibit 3, the microlaterolog section of the Exhibit 3, you will notice that we have permeability streaks in the porosity in the lower part of the Cosden Federal "C" No. 1 Well, and also have that in the "D" No.1. The Lone Star Well here shows porosity streaks through the entire gross section of the pay, and I took these streaks and added them, and I arrived at 7 feet. You can see from this particular cross-section that this one appears to be more streaked, as far as the porosity is concerned, of the three wells.

(Whereupon, Applicant's Exhibit No. 11 & 12 marked for identification)

Q All right, sir. Refer, then, to your Exhibit No. 11, Mr. Summers, and I might ask. Exhibit No. 11 is an economic calculation



of a solution gas drive and Exhibit No. 12 is an economic calculation of a water drive, is that correct?

A Yes, sir.

Q So that you cover both aspects and just refer to one and then the other if you would, please.

A Exhibit No. 11 is a recovery calculation and economic calculation of solution gas drive field. The Summary Sheet shows recovery for 40 acres and 80 acres. And for 40 acres it shows approximately 29,000 barrels of gross oil; for 80 acres, 58,000 barrels. For gross gas, 40 acres approximately 132,000 MCF, and for 80 acres, approximately 264,000 MCF. The gross revenue less severance taxes for 40 acres is eighty-four thousand, one hundred thirty dollars and for 80, one hundred sixty-eight thousand, two hundred fifty-six dollars. Total cost taken for 40 acres, two hundred four thousand three twenty-two dollars, and 80 acres two hundred six thousand, six forty-four. So, for either 40 or 80 acres, we show a net loss for either well of its solution gas drive field. We have pages which will back up these summary sheets for recovery for a 40-acre tract and for an 80-acre tract, using an average thickness of 12 feet; porosity of 6.9 percent; water saturation of 26 percent; and proration of the original volume factor 1.834. This gives 40 acres of gross one hundred three thousand six hundred sixty-eight barrels of stock oil in place. For solution of gas recovery we assume that recovery as 28 percent, which I figure is reasonable for this pool, which will result in 40 acres of re-

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coverable oil, twenty-nine twenty seven barrels. The next page will show the volumetric calculations of a 40-acre well. The gross oil revenue less taxes will be seventy-two thousand nine hundred and three dollars. Gas revenue would be eighty-four thousand one hundred thirty dollars.

Q You mean total revenue?

A Total revenue, eighty-four thousand one hundred thirty dollars total. The gas would be eleven thousand two hundred twenty-seven. I have included the drilling and completion costs for tank battery which would be prorated to each well, \$172,000; and possible pumping equipment of thirty thousand dollars, which is total development cost of two hundred and two thousand dollars. The operating cost at eight cents a barrel would be two thousand and three twenty-two dollars this is considered operating cost and does not include any direct. The total cost of two hundred and four thousand three twenty-two dollars shows a loss of one hundred twenty-two and ninety-two dollars, per 40-acre well. The next page shows recovery on 80 acres, using the same rock properties, the same recovery factor, 28 percent, which results in recovery fifty-eight thousand five four gross barrels. The economic calculation for 80 acres is calculated similar as the 40 acres, and would show a net loss of thirty-eight thousand three hundred and eighty-eight dollars on 80 acres.

Q Now, you also calculated on Exhibit No. 12 the same computation based on water drive, Mr. Summers?



A Yes, sir.

Q Would you explain what that shows?

A Exhibit 12 shows recovery from 40 acres and 80 acres in the pool area. On this a recovery factor of 50 percent for water drive and shows gross oil recovery for 40 acres, fifty one thousand eight hundred forty barrels. 80 acres, one hundred three thousand six hundred eighty barrels. These are all gross figures, gross gas recovery of seventy-seven thousand seven hundred sixty MCF for 40 acres. For 80 acres, one hundred fifty-five thousand, five hundred twenty MCF. Total gross revenues less severance taxes, thousand eight hundred twenty dollars on 40 acres. For the 80 acres two hundred seventy-three six hundred and forty-two dollars. Total cost for 40 acres would be two hundred and six thousand, one forty-seven dollars. The 80, two ten thousand, two ninety-four dollars. For 40 acres, you show a net loss of sixty-nine thousand three hundred twenty-seven dollars, and for 80, show net profit of sixty-three thousand, three hundred forty-eight dollars. These figures are backed up by calculations similar to those for solution gas drive. Use the same recovery for water drive.

Q Your essential difference is in your recovery percentage?

A Yes, sir.

Q Now, one thing about these computations, Mr. Summers, they are, of course, computed on the basis that the pools are all drilled simultaneously and a well is drilled on every 80-acre tract in the pool, is that correct, or every 40 or 80 acre tract depending



on the computations?

A Yes, sir.

Q And, of course, it is realized that these are not the facts and that earlier wells will undoubtedly recover somewhat more than later wells?

A Yes.

Q And that the pool probably will not be drilled to one well to every tract?

A Yes, sir.

Q This would be similar to the situation in the Allison and Bluitt Pools, would it not?

A Yes, sir.

Q And you have made a comparison of the economic comparison with the Bluitt Pool, is that correct?

A Yes, sir, that is Exhibit No. 13. I might add that the reason for the two different recovery calculations is the fact that we feel that there is a possibility that it will be a water drive field because of the early estimates of development. We are not definitely sure of it.

(Whereupon, Applicant's Exhibit No. 13 marked for identification)

Q Will you refer to Exhibit 13 Mr. Summers?

A Referring to Exhibit No. 13 it shows a comparison of the economics of the Bluitt and South Prairie-Pennsylvanian Pools. The information from the Bluitt Pool is obtained from the hearing on



that particular pool and as you can see from 40 acres we show a net loss of forty-nine thousand five hundred and eighteen dollars. On 80 acres, ninety thousand nine hundred and sixty-three dollars net profit. For our South Prairie-Pennsylvanian Pool, you see we show a loss of sixty-nine thousand, three hundred twenty-seven dollars for 40 acres, and net profit of sixty-three thousand three hundred forty-eight dollars for the 80 acres. These are based on recovery of 50 percent. I might add that the cost figures for the Bluit Pool do not include cost of development for pumping equipment. Cost figures for the South Prairie-Pennsylvanian do.

Q So if you had the pumping equipment out of your figures, they would be substantially identical to the Bluit computation?

A Yes, sir.

Q And also in these computations you have used a water drive computation?

A Yes, sir.

Q That was what, in the making of the Bluit calculation?

A Yes, sir.

Q Is there anything else you care to point out in connection with that Exhibit?

A No, sir.

(Whereupon, Applicant's Exhibit No. 14 marked for identification)

Q I refer to your Exhibit No. 14, Mr. Summers. Those are proposed special rules and regulations for the South Prairie-Pen-



nsylvanian Pool?

A Yes, sir, they are rules that were submitted that are very similar to the rules for the Bluit Pool with the exception of Rule 3, which locates the wells in different quarter sections because of the development in the South Prairie-Pennsylvanian Pool. I would like to point out that Rule 3 there, even though we have shown that we are requesting location for the wells, that doesn't necessarily mean that we would object to the Commission changing that.

Q You have just taken the Bluit rules and changed them only as to the location, but otherwise you have submitted the identical rules?

A Yes, sir.

Q Actually, you have no preference, Mr. Summers, as to whether the Commission takes a fixed location or whether it leaves the location flexible, is that correct?

A That is correct.

Q All right, sir. Now, Mr. Summers, in summary, would you state that the reservoir information on which you have shown here reflects excellent communication in this pool?

A Yes, sir, as shown by the pressures here. For one, that we do have excellent communication across the area that the three wells that are not completed cover; and that we feel that the well will produce efficiently on 80-acre spacing and there is a chance they will recover on a larger spacing than 80-acres. We at this



time are only asking for 80-acre spacing and 80-acre proration units.

Q As a matter of fact, your request for 80-acre proration units in view of the economic calculations you have submitted is a very modest request, is it not, Mr. Summers?

A Yes, sir, that is the way we feel.

Q Were Exhibits 6-A through 14 prepared by you or under your supervision?

A Yes, sir.

MR. BRATTON: We will submit Exhibits 6-A through 14. We have no further questions of the witness at this time.

MR. UTZ: Exhibits 6-A through 14 will be accepted in the record.

(Whereupon, Applicant's Exhibits Nos. 6-A through 14 received in evidence)

MR. BRATTON: Mr. Summers, your request is in the nature of permanent rules. If the Commission would feel better about a temporary one year order, would you have any objection to that?

A No, sir, we would not because of the early life of the pool we feel that if the Commission sees fit to give us temporary rules we have no objection to it.

Q However, based on every indication, this pool is substantially identical to the Bluit and Allison Pools, is that correct?

A Yes, sir.

MR. BRATTON: We have no further questions of this witness.



MR. UTZ: Are there any questions of the witness?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Summers, referring to Core Laboratories report, which differs somewhat from the permeability that you have obtained by using both this report and the logs, isn't it true that the core summary is usually the best information?

A I would like to state that on log calculations its impossible to determine permeability, and I think I brought out that I was unable to determine how they arrived there at maximum average of 83.

Q Assuming they were correct, in answer to the question by Mr. Bratton, you stated if they are correct you probably need more 80 prorations units? That is based on the porosity and water saturation and would also be based on economics rather than drainability, wouldn't it?

A It would be on economics, yes, sir.

Q Now, referring to your Exhibit No. 11, which is your economic calculation, assuming the solution gas drive pool, could you tell me what the drive mechanism is in the Blufft and Allison?

A At this time it is difficult to say for sure what it is. You can produce these wells if it's a water drive field, you can produce a solution gas drive field at a high enough rate. I would like to mention the Ball-Penn in Lea County was pretty well sub-



stantiated as being a water drive field, and the 4-Peales, excluding the South Prairie-Pennsylvanian are producing with a same aquifer so that I have reason to believe that if the Ball-Penn has water drive, there is a possibility of water drive in South Prairie-Pennsylvanian plus the fact of water drive definitely in the Allison and Bluit.

Q As a matter of fact you'd better be correct or going to lose money on 80 acres?

A That is correct.

Q Have any of the wells in the South Prairie-Pennsylvanian Pool made any water as yet?

A On our "D" No. 1 we ran a drill stem test, it tested more than the Bough "C" zone. We did recover some water. We feel that its either from water from a lower zone or it could be filtering water.

Q The Bough "C" was developed on a 40-acre pattern?

A It was developed on 40-acre spacing, yes, sir.

Q Do you know if those wells ever paid out?

A The Bough Pool?

Q Yes, sir.

A I should think they would. One well produced over four hundred thousand. I couldn't say every one paid out.

Q With the comparison you made with the South Prairie with the Bough Pool, why would you expect wells in that pool to pay out and not pay out in the South Prairie Pool?



A I believe it was brought out in the testimony of the Bough Pool that for the Bluit Pool -- I should correct myself -- in comparison with the Bluit with Bough Pool drained at least in the neighborhood of the 30 acres.

Q Because the wells were drilled at different times?

A Well, it could, I believe that particular pool was developed reasonably the same time, with the exception of some of the southwest edge of the pool which was developed recently, and those wells produced over one hundred thousand dollars.

Q But it actually was developed on 40. How could it drain 30?

A The wells do not effect the acre drainage.

Q Each well got the reserves from the units 130 acres, even though there was one well on each 40 acres?

A That was the time that was presented.

Q I see. I notice that in your reserve calculation you double the 40-acre figure for the 80-acre figure in your recoverable reserves, is that right?

A Yes, sir.

Q So I take it you feel, then, that substantially the same amount of oil was recoverable with one well on the 80 as with two wells on the 80?

A Approximately the same.

Q You have made them identical for the purposes of your economic calculation?



A Yes, sir.

Q Mr. Summers, what is done with the gas flared from these wells?

A At the moment the gas is being flared we have no connections, but are talking with several different people to sell the gas.

Q But if your request is granted, there will be no casing-head gas flared since your allowable will be higher?

A Yes, sir.

Q Now, your economic calculation, assuming solution gas drive, I take it that is based solely on primary?

A Yes, sir.

Q What is the possibility of a secondary discovery program if it is a solution gas drive reservoir?

A I hadn't made a study of that. I couldn't answer that right at this moment.

Q That might change your economics if it were economic to substitute a secondary discovery program?

A It would change the economics, it would be down the line which is not expected as to immediately.

Q I notice you have casinghead gas price here of ten cents per MCF. That is based on the standard in the area even though you do not have contracts yet?

A That is correct. We feel we may get that for casinghead gas. It's not a set figure, just a figure we feel we might obtain.

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Q Now, Mr. Summers, would you give me the cost of the discovery well on this pool?

A I cannot give the exact figures, it's approximately one hundred sixty-five thousand dollars.

Q That is about the figures you used?

A Yes, sir. I added seven thousand for tank batteries.

Q Now, as I understand it, the oil is presently being trucked?

A Yes, sir.

Q What are you paying for trucking charges?

A Fifteen cents a barrel.

Q Now, referring to the exception you have proposed here, for Rule 3, would any exceptions be necessary at the present time or have all the wells been drilled in accordance with the pattern you have proposed?

A All the wells have been drilled according to that Rule and those that are established or been announced are drilling also on that or will be drilled on that pattern.

Q Do you feel requiring a well to be drilled in a certain quarter quarter section of the 80-acre unit as opposed to allowing the drilling of the well in either 40 of the 80 results in greater recovery, the same recovery, or less recovery?

A I think that the area developed on quarterly spacing would be a more efficient type of recovery, in other words, if you are going to base it on whether to drill on economics, that would have



to enter on where you would like to locate.

Q Economics are important factors in this particular pool, are they not?

A They surely are.

MR. PAYNE: Thank you.

MR. CAMPBELL: May I ask a question?

MR. UTZ: Go ahead.

BY MR. CAMPBELL:

A Mr. Summers, in the event this pool should turn out to be edge water drive as distinguished from a solution gas reservoir, do you believe that it is essential to the owners of properties on the outer edges of the pool that their properties be developed as early as possible in order they may recover their fair share of the oil in the reservoir?

A They will have to in order to.

Q And do you believe that the requirement for the drilling of wells at particular locations may have a bearing on the rapidity with which the exterior boundaries of the pool are determined?

A As stated, we have not necessarily not adhered to that particular rule there. We feel that 80-acre spacing will guide the development of the pool itself. As you approach the edge of the pool then the location of the pool will be critical.

Q And at that time, as you have indicated, all of the wells which have been drilled or which have been announced or are drill-



ing, are on the approaches to the top of the structure, are they not?

A As shown on the structure map, they are with exception of our Cosden "D" No. 1, they are right close to the top.

Q So far as to what presently appears to be the best producing area, it will be developed upon a uniform spacing pattern, will it not?

A Yes, sir.

MR. CAMPBELL: I believe that is all.

BY MR. UTZ Mr. Summers, in the event this pool should turn out to be a solution drive reservoir, how do you propose to protect yourselves against your calculated loss?

A Not drill, we couldn't. We feel that chances of it being non-solution gas recovery they are there and if it is, we will have to discontinue drilling.

Q How many wells have you drilled at this time?

A Two completed wells.

Q How many do you hope to drill?

A That will depend on the limits. We have one that Mr. Warfield brought out that they are moving our equipment.

Q You are drilling, you are preparing to drill one more, then?

A Preparing to spud, yes, sir.

Q In other words, if you feel it's a solution drive reservoir?



A I wouldn't drive every 80-acre tract. We drill those that we feel are profitable.

Q In other words, you will drill those that you feel have better reservoir characteristics than your calculation is here?

A We wouldn't be able to tell whether it would be better reservoir characteristics. The only thing, if we were to complete a well, drill into water, then we would surely consider strongly our next step.

MR. UTZ: Any other questions?

MR. BRATTON: Yes, sir, I have one or two questions.

REDIRECT EXAMINATION

BY MR. BRATTON:

Q Mr. Summers, referring to the permeability in the reservoir, even assuming the Core Laboratory figure of eighty-three million dollars as being correct, in your opinion, is that enough permeability to provide an average on every an 80 tract?

A Yes, sir.

Q At least over the 80 tract?

A I might point out that even though we do not have a core analysis on your "C" No. 1, we did run a PI. It showed a PI of 7.22. And initially, as far as the logs are concerned, and as far as the porosity is concerned, it does show it does have good permeability characteristics, which would indicate good drainage radius.

Q And the information you have obtained as to the pressure drawdown was just a very limited amount of production as that is



the most significant information you have as to the drainage areas, is it not?

A At the moment, yes.

Q It indicates communication over what, approximately three-quarters of a mile?

A I had it about 4500 feet.

Q Referring to the Bough Pool, I believe the wells in that pool are shown on Exhibit No. 4, are they not?

A Yes, sir.

Q And doesn't that reflect that actually although the pool may have been spaced on 40's, it certainly wasn't drilled on 40's?

A No, sir. The way it appears, there was drilled on long 80's and they drill along the lease line offsetting.

Q And based on what information you have on it, is it not probably the same situation as in the Allison Pool while some wells were drilled early and may have recovered tremendous amounts of oil, they couldn't have oil come from under the tract dedicated to them?

A That was brought out in one of the rehearings of the Allison. I think they showed some calculations to physically take all of the oil on the 40-acre tract.

Q With this thin pay section and the permeability you do have average over considerable area?

A Yes, sir.

MR. BRATTON: All right, sir. I believe that is all I have.



REXCROSS EXAMINATION

BY MR. PAYNE:

Q Is the ownership of the entire yellow area identical, is that one lease to Cosden, or is that a number of leases?

MR. WARFIELD: That is a number of leases.

MR. SUMMERS: We have some leases with one percent owned and some of which we own part, a fraction of the working interest.

Q Is the ownership of the tract on which your No. 1 is located the same as the ownership of the tract on which your No. 2 Well is located?

A Well No. 1 was acreage with which we obtained our drilling cost and the other operator has the option of coming into operate with us, They have tracts of their working interest, but on the "S" which is in Section 29, they have their option of coming in as going in from the very beginning.

Q It is a party?

A It is a party.

Q Perhaps you might take a transfer as within your 1 and 2 shutting in 1 and transferring the allowable to the other?

A Yes, sir.

Q Do you have any present plans in the interest of gaining additional data?

A We do plan within six months to measure the pressure on our No. 1 and that if we see that the interference tests warrant, we will run it.



Q I see. Thank you.

MR. BRATTON: Actually, Mr. Summers, with the additional wells that are being drilled in the area, wouldn't you obtain considerable pressure information as those wells come in --

A Yes, sir, you should.

Q -- which would be in the nature of better interference?

A It would be but at a later time if we still think it will be necessary. We would go ahead and run our interference tests. We feel that right now that the way it is with the communication in that pool itself that subsequent drilling will show interference or communication with respect to locations.

Q Actually, Mr. Summers with that thin section, if you were to produce a double allowable out of one well, might you not be getting into some question of correlative rights?

A Well, that would depend, I imagine, on the royalty interest up there. However, I might mention that unless we obtain our costs and in our No. 1, the interest in our "C" No. 1 is different than our "D" No. 1, so therefore, that would have to be taken under consideration before we could run any tests.

Q You do have a well in between, the Lone Star, the Lone Star is in between the two wells?

A That is right.

Q So that under the circumstances in this pool it would probably be better, would it not, to depend on the information developed by the subsequent wells rather than try to work out an



interference test?

A At the moment that would be the best way to do.

MR. PAYNE: It is possible, Mr. Summers, to shut in a well and take an interference as between it and another well without transferring any allowable?

A Yes, you could.

MR. PAYNE: Thank you.

MR. UTZ: Any other questions? The witness may be excused.

(Witness excused)

MR. UTZ: Are there statements in this case?

MR. CAMPBELL: I have a statement, Mr. Examiner. Lone Star Producing Company concurs with the Cosden Petroleum Corporation in their request for 80-acre spacing in this field, in that we feel it is necessary for economical development of the Bough "C" zone reservoir and for the greatest ultimate recovery of oil and gas from the reservoir. We do not favor the rigid spacing pattern which has been proposed by Cosden. They have also stated they have no objection to departing from it and we are in favor of a flexible spacing pattern in that we feel it will encourage a more rapid development of the reservoir and more adequate protection of correlative rights as to the acreage we own on what appears to be the edge of this reservoir. Lone Star Producing Company presently has one completed well and two drilling wells in the field and additional locations ready for drilling im-

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mediately upon obtaining the necessary State and Federal approval of those wells are on the pattern which has been discussed here. The relatively rapid development of the Lone Star Company will be considerably different if the rigid spacing pattern is adopted. Since several of the remaining undrilled Lone Star locations would require a more lengthy and detailed study prior to taking the risk of drilling and in this case prior to deciding at what point we intend to drill wells to lose money. It is simply a matter of not only economics, but the protection of our correlative rights and particularly in the event this turns out to be edge water drive reservoir.

MR. UTZ: Any other statements?

MR. BRATTON: I would like to make a closing statement to more or less summarize our position, Mr. Examiner. We have requested permanent 80-acre spacing proration rules identical with those in the Bluit and Allison Pools. Actually, we believe on the basis of the information available at this time that permanent rules are justified. We believe that we do have enough information here to justify placing this onpermanent 80 acres at this point. We feel as demonstrated by our economic calculations and those which have been made in the Allison and Bluit that you can really run into an economic disaster if you did get this pool drilled on or anywhere near substantially drilled on 40-acre pattern. Actually, as pointed out, 80 acres is something of a calculated risk being, I might add, that a question be seriously raised and deter-



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mined, requesting 160-acre spacing its been mentioned and we come to the Commission on the basis, we feel we have demonstrated that you have a practically identical pool to the Allison and Bluit wells and we suggested the rules that were obtained there. Now, we realize that the Commission may at any time have reservations about pools in relatively early stages of development, and for that reason we say that if the Commission would feel we should have a temporary one-year rule, we would have no objection to that. I would like to urge the Commission that it not go into or consider the question of interference tests at this time, although I certainly agree with Mr. Payne under normal circumstances in many pools that is an ideal proof of it. I think we have already enough demonstrated in that line to show the Commission that you are going to have drainage over a wide area in this thin section. I believe that the additional wells as they come in and the pressure is obtainable from them they will furnish any information that might answer any questions in the Commission's mind. We believe that the things reflected we do have a practically identical situation to the Bluit and Allison, and that the Commission should enter either a permanent or temporary 80-acre order on the fixed location. We merely copied the Bluit rules and placed those as it was in there. We placed it near so we have no preference one way or the other. We thank you.

MR. UTZ: Any other statements? The case will be taken under advisement, and the hearing will be adjourned until one-thirty .



