Case No.

1204

Application, Transcript,
Small Exhibits, Etc.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

CASE NO. 861
TRANSCRIPT OF PROCEEDINGS

NOVEMBER 13, 1956

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE - SANTE FE
3-6691 2-2211

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
NOVEMBER 13, 1956

IN THE MATTER OF: Case No. 861

Application of El Paso Natural Gas Company for an order amending the well spacing and drilling unit provisions of Commission Order R-639 and establishment of gas proration units and allocation of gas production in the Crosby-Devonian Gas Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order amending the Special Rules and Regulations for the Crosby-Devonian Gas Pool as set forth in Order R-639 insofar as well spacing and drilling unit provisions and the wells to be excepted thereto. Applicant further seeks to establish standard gas proration units consisting of not less than 632 acres nor more than 648 acres and further seeks to establish the allocation of gas production in the proportion that the acreage assigned to each well multiplied by its well-head pressure after 72 hours shut-in bears to the sum of said product for all wells and proration units in the Crosby-Devonian Gas Pool or in accordance with such other method for allocating production as the Commission shall deem necessary and proper.

BEFORE:

Mr. A. L. Porter
Mr. E. S. (Johnny) Walker

TRANSCRIPT OF PROCEEDINGS

MR. PORTER: The hearing will come to order, please.

I want to announce at this time that the Commission has established a 47-barrel normal unit allowable for the month of December.

The case to be heard at this time is 861.

MR. GURLEY: Application of El Paso Natural Gas Company

for an order amending the well spacing and drilling unit provisions of Commission Order R-631 and establishment of gas proration units and allocation of gas production in the Crosby-Devonian Gas Pool, Lea County, New Mexico."

MR. PORTER: Will you, all the people who are to present testimony in this case, come forward and be sworn.

(Witnesses sworn.)

MR. PORTER: Mr. Woodward, you may proceed with the first witness.

MR. WOODWARD: Woodward, representing El Paso Natural Gas Company. El Paso's first witness for the purpose of testifying to the geologic features of this case will be Mr. E. L. Ludwig. Mr. Ludwig, will you take the stand, please?

E. L. LUDWIG

a witness, of lawful age, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

By MR. WOODWARD:

Q Mr. Ludwig, would you state your name?

A E. L. Ludwig.

Q Where do you live?

A Houston, Texas.

Q By whom are you employed and in what capacity?

A I am employed by El Paso Natural Gas as a Petroleum Geologist in the Reservoir Section at Houston.

Q Will you state what education and experience you have had as a Petroleum Geologist?

A I was graduated from the University of Texas with a B. S. degree in geology, and have had approximately five and a half years of practical experience. Three years as a development geologist for Standard Oil Company of Texas, two and a half years with El Paso.

Q What work have you done in the Crosby-Devonian field pool as a petroleum geologist?

A I have followed this field closely since its discovery in 1955 by keeping an up-to-date structure picture and by examining all the electric logs plus other available data.

MR. WOODWARD: Will Mr. Ludwig's qualification as an expert witness and Petroleum Geologist be accepted by the Commission?

MR. PORTER: They are.

Q Mr. Ludwig, a map which has been marked El Paso's Exhibit A has been placed on the board. Are you familiar with this exhibit?

A Yes, sir, I am.

Q Was it prepared under your direction and supervision?

A It was.

Q Will you tell what this exhibit shows?

A This map shows the northwest-southeast trending [illegible] which has been faulted [illegible], I mean down toward the

east. This also shows by standard symbols the gas wells and by double circle, the connecting standard symbols, it shows dry holes here in Section 29, Northwest Quarter, it shows a dry hole here in the Northeast Quarter of 28, and it shows an oil well in the Northwest Quarter of 21. This map also shows the ownership for this area.

Q You stated that oil well was in the Northwest of 21, is that correct?

A I am very sorry, it is in the Southwest Quarter of 21.

Q You say this map is contoured on top of the Devonian?

A That is right, it is contoured on top of the Devonian on one hundred foot intervals. These points were taken from the electric log.

Q Now, the double connected circles represent what type of well?

A Those are the gas wells.

Q Those producing gas wells?

A That is right. This double circled well here is a drilling well.

Q That is an unconnected double circle?

A Right.

Q Your oil well is shown how?

A It is a double circle well with a solid circle.

Q Does this map also show the ownership of tracts in the pool?

A Yes, it does. It shows the deep rights for the pool.

Q Mr. Ludwig, the cross section marked El Paso Exhibit B has been placed on the board. Are you familiar with this exhibit?

A Yes, sir.

Q Was it prepared under your direction and supervision?

A Yes, it was.

Q Will you tell what this exhibit shows, please?

A This cross section follows this red line on Exhibit A. It runs north from El Paso's Gregory 2-x Federal in the Northwest Quarter of Section 33 to Anderson-Prichard No. 1, American Republics-Federal Well in Southwest Quarter of 28, and thence diagonally or northeast across this fault to the Anderson-Prichard Lanehart Well in the Northeast Quarter of Section 28.

This cross section shows the Devonian formation along this line, the top and the base of that formation.

Q What geologic features in your opinion shown on El Paso Exhibits A and B define the aerial limits of the pool?

A Well, I believe that the pool limits will be defined by this dashed contour line at minus 5[illegible] feet. Anything within this area would be productive over to this fault. The fault would form the eastern boundary.

Q What does that dash contour line represent?

A That is the approximate gas-water contact.

Q On what basis was that gas-water contact determined?

A Well, that was determined by Humble's dry hole which was drilled in the Northwest Quarter of Section 29. That is actually a little leaway. It could actually be drawn a little deeper than that.

Q Mr. Ludwig, returning to Exhibit B for a moment, on what basis do you draw this fault line running northwest to southeast as shown on your cross section marked Exhibit B and the contour marked Exhibit A?

A Well, that fault is drawn in there on the basis of subsurface geology determined from the wells drilled to date, and that has been substantiated by El Paso's seismic survey.

Q Does Exhibit B show the top of the Devonian in the Anderson-Prichard No. 1 American Republic Well?

A Yes, it does. This is shown at 8230, a minus 5207 subsea.

Q What depth is the bottom of the Devonian pay found in the well?

A The bottom of the Devonian, I will have to check my notes to be accurate, but it is at the point where the line is drawn. It is approximately 180 feet thick on its base, 8410.

Q What depth is the top of the Devonian pay shown in the

Anderson-Prichard No. 1, Lanehart Well in the Northeast Quarter of Section 28, Township 25, 37?

A 9112 feet minus 6086.

Q That is the vertical displacement then running from a minus 5200 to approximately a minus 6000, is that correct?

A That would be correct except that there is some dip shown here.

Q There is some dip here? This is not a true measure of displacement?

A The displacement would be from here to here.

Q That would be from 5350 to minus 6000, is that right?

A That is correct.

Q Is that displacement in excess of or in line with the regional dip between the Anderson-Prichard No. 1 American Republics Well and the Lanehart Well?

A Would you state that again?

Q Is the extent of the displacement between the Anderson-Prichard No. 1 American Republics Well and the Anderson-Prichard No. 1 Lanehart Well in excess of or in line with the regional dip?

A Well, that is greatly in excess of that.

Q Mr. Ludwig, are there any structural irregularities within the aerial limits of the Drinkard-Devonian pool as you have outlined them which would prevent the communication of gas thru [illegible]

Devonian pay?

A No, sir. In my opinionthere are none. The electric logs show continuous pay and large potential, Exhibit D by these wells seems to indicate there would be no irregularities.

Q That is between the fault line and the dash gas-water content?

A That is correct.

Q Will you state briefly the physical characteristics of the Devonian pay in this pool?

A This pay is a medium crystaline, churty dolomitic limestone that exhibits some intercrystaline as well as vugular and fracking porosity.

Q Mr. Ludwig, are you recommending any limits, any change in the limits of the pool as delineated by the Commission in this application?

A No, sir. We're not recommending any changes at this time. We don't feel, however, that any acreage which is found at this time, or should be found at a later date to be unproductive or not productive of the Crosby-Devonian pay, should be excluded from these limits at subsequent delineation hearings, and by the same token we would recommend adding acreage that is found to be productive at the present time or which would be found to be productive in future development to be added at such future hearing.

Q Would you recommend exclusion of any future production found in a separate common source of supply as determined by additional development and review it at an appropriate delineation hearing?

A Yes, sir.

MR. WOODWARD: Those are all the questions we have of the witness on direct examination.

MR. PORTER: Does anyone have a question of Mr. Ludwig? Mr. Abbott.

CROSS EXAMINATION

By MR. ABBOTT:

Q What was the gas-water contact?

A Estimated that at approximately 5950 subsea.

MR. PORTER: Mr. Martin.

MR. MARTIN: Yes, sir, I would like to ask one or two questions.

By MR. MARTIN:

Q Mr. Ludwig, I can't see those contour lines very well on Exhibit A. Is it the top of the Devonian?

A Yes, sir, it is.

Q What are those, 25 foot contours or 50 or one?

A No, they are 100 foot intervals.

Q One hundred? A Yes, sir.

Q I believe you stated that the dashed line in your opinion defines the producing limits of the field?

A Yes, sir. The dashed line --

Q (Interrupting) Or the pool rather.

A At a minus 5950 over to this fault.

Q Now, there are two dry holes on the north, is that right?

A There's one dry hole here on the other side or on the down side of this fault.

Q Is that outside of the dashed line or on the inside?

A That is outside my limits as I define them.

Q There is a dry hole on the west, isn't that there?

A Yes.

Q Will you point that out?

A Yes, it is in the Northwest Quarter of Section 29.

Q The producing limits of the pool is rather narrow so far as has at this time been defined, isn't it?

A Rather narrow --

Q East and west?

A Yes, it is. It is rather elongated.

Q Do you think that the line which you have prepared there on the northeast part there, I believe you said that in your opinion that is a fault line?

A Yes, sir.

Q Do you think that could possibly be a steep dip rather than a fault line?

A Well, I don't think so. Of course, there is that possibility, but I don't believe so; to the best of my knowledge I believe it is a fault.

Q Upon what do you base the fault line on, is that from seismigraph work or from drilling in the area?

A Well, both, both methods outside of the picture does show, this seismigraph shows this fault as I have shown it here.

Q Will you point out so we can see it the most southerly producing wells or the most southerly wells which have been drilled?

A Yes, that would be our El Paso No. 2-x Gregory Federal in the Northwest Quarter of 33 and the Gulf Well, although it is not shown as completed, will be a good well, or has indications.

Q You really have no controls south of that do you?

A That is right.

Q In other words, so far as you know from accurate information, why there may be a steep dip to the south?

A There could be, yes, but we do not think there will be.

Q You think it will exhibit moderate dip in this direction?

A Yes.

Q Would you point out El Paso's acreage, please?

A El Paso in Section 33 owns, well, they drilled a well in the

Northeast Quarter of the Northwest Quarter of that section. That is communitized.

Q Now is that 40 acres?

A That is 160 in the Northwest Quarter plus the south half of Section 33 which is 320 acres.

Q Now, El Paso does not have 640 acres within that section, do they?

A That is right.

Q How many acres do you have that would be 320 --

A (Interrupting) 480.

Q 480 acres total in that section?

A Right.

Q Does El Paso own any acreage west of that section?

A West of this section, no, sir, Gulf Oil owns this section west.

Q Does El Paso own any acreage south of that section?

A Yes, sir.

Q In the adjoining section there?

A Yes, sir.

Q How many acres do you have there?

A I believe to the best of my knowledge it is 640 in that Section 4 and 640 in this Section, Section 3.

Q Does El Paso own any acreage east of this section, do you

drilled the well?

A No, sir, not as such.

Q Then you own 480 acres in Section, what is that, 35?

A 33.

Q 33? A Yes, sir.

Q And 640 acres south of that section which is Section number what?

A That is Section Number 4.

Q Number 4. Which 640 acres do you propose to put in this unit?

MR. WOODWARD: I don't believe the witness has testified that he proposes to put 640 acres in a unit.

MR. HARDIN: El Paso proposes that, does it not?

MR. WOODWARD: He has testified solely on the geology of the area.

MR. HARDIN: If he can't answer the question, just say so.

Q You don't know that?

A I am not prepared to answer, no, sir.

Q I believe you said you were a reservoir engineer?

A Reservoir geologist.

Q Oh, geologist? A Yes.

Q Have you had calculations to calculate the [illegible] reserves in that area?

A I have worked volumetrics, yes, on this field.

Q Do you have an opinion as to the per acre reserves?

A Yes, sir.

Q I am not asking you what they are, just whether or not you have an opinion.

A Yes, sir.

Q Have you had occasion to calculate the cost of drilling and operating a well in that area? If you haven't just say no.

A The cost, yes, but not the operating.

Q Is the cost large or small?

A For drilling a well in this field?

Q No, I am talking about operating.

A I'm not familiar or qualified.

Q Well, then, in your opinion you do have an opinion as to the per acre reserves, you have an opinion as to the cost of drilling a well. Now, I'll ask you whether or not in your opinion you think that it is possible to drill a well on 160 acres and expect to make a reasonable profit.

MR. WOODWARD: I believe we have a witness that is familiar with the production practice, the economics of drilling and the recovery that can answer that question better.

MR. HATCH: I will be glad to withdraw my question and wait for the other witness then. I believe that is all.

MR. PORTER: Mr. Mankin, I believe you have some questions.

By MR. MANKIN:

Q Mr. Ludwig, your Exhibit A indicates that Gulf has now completed a well in the Northeast Quarter of Section 33, is that correct?

A I say that they are in the process to the best of my knowledge. The well was not completed when this was drawn up.

Q Has not that well now been completed and awaiting connection?

A I do not know, truthfully.

Q You are not in a position to know whether your estimated top of the Devonian is true to what is actually found in the well?

A That was reported by Gulf, the top I used on this well.

Q That was the reported top? A Yes, sir.

Q I take it from your testimony that at this time you are not suggesting that the south half of Section 33 be included in this particular pool, is that correct?

A That is right.

Q However, at some future date if development should show that, you feel that should be put in the pool?

A Like I stated, I said that any acreage which appears to be productive now from present development, I think should be included at a subsequent delineation hearing.

Q Previously the Commission has set all of Section 24 for the

Crosby-Devonian Pool, would you at this time with your structure map suggest that the Northeast Quarter of Section 28 be withdrawn from the pool?

A I believe I would, yes, sir.

Q Would you suggest any other withdrawals?

A Well, I feel in my opinion that any acreage found on the eastern or down throw side of the fault as indicated here is not productive in this reservoir or in the Crosby reservoir.

Q When you say not productive, you mean not productive of gas?

A Of this equivalent reservoir, right.

Q We do have oil production on the down throw side, do we not?

A That is right.

MR. PORTER: Anyone else have a question of Mr. Ludwig? Judge Foster.

By MR. FOSTER:

Q Mr. Ludwig, I believe you testified there that the Devonian formation was continuous and connected?

A Yes, sir, as shown by this cross section, I believe it to be continuous.

Q Your El Paso Federal 2-K Well, is that higher or lower than the Anderson-Prichard Federal No. 1?

A It is higher structurally.

Q Is your 2-x Well making any distillate?

A I don't know the exact figures on that well. We do have them; another witness could answer that.

Q Is it making any distillate?

A I feel sure that it is, yes, sir.

Q Now, the Anderson-Prichard Federal No. 1, that's not making any distillate, is it?

A I'm not qualified to answer that. I don't know.

Q Well, if I tell you it's not for the purpose of this question, will you accept that for this next question?

A Well, if you say it is not.

Q Just accept it now. I might be wrong about it. If I am that will alter the situation, but for the purpose of the next question if I tell you that the Anderson-Prichard Federal Well is not making any distillate, you just accept it for the time being. If this Anderson-Prichard Federal Well No. 1 is not making any distillate and your El Paso Federal No. 2 is making distillate and the El Paso 2-x is higher than the Anderson-Prichard, how do you explain then your statement that the Devonian Formation is continuous and connected?

A Well, my question when I said that I believe that this formation is continuous, were based solely on the logs that I have examined in that field. You can correlate those wells readily and

as you can see here, equivalent sections have been perforated on the basis of information that was available to me I believe this all right.

Q With your Federal El Paso 2-x being higher than the Anderson-Prichard Well and not making any distillate, doesn't that indicate that the formation is not continuous and connected, doesn't that indicate that to you?

MR. WOODWARD: If the Commission please, that appears to be an engineering question.

MR. FOSTER: He says it is connected. I don't care if he is an engineer or geologist.

MR. WOODWARD: He has asked for an expert opinion as to what certain assumptions would indicate to a man that is not qualified for that kind of a hypothetical question. We will have a qualified engineer on the stand next whose answer will be of more value we feel, to the Commission.

MR. PORTER: If you can answer the question go ahead and answer. If not, Mr. Foster, would you refer your question to the witness again?

MR. FOSTER: Of course I will refer it to all of them before I get through. If he doesn't know he can say so. He's an expert he said.

A I'll say on the basis of this well not making distillate and

this well making distillate, I am not qualified to answer that question.

Q You are just saying you wouldn't know what the situation was?

A Yes, sir, I am.

Q That exhibit there, the first one, is that Exhibit A where you have the contour lines?

A Yes.

Q That indicates a rather steep dip on the west side, does it not?

A It does.

Q Wouldn't that indicate a fault? A Not necessarily.

Q Well, it might necessarily indicate one too, might it not?

A It could, but we have no way of indication of a fault being out on the west flank there.

Q Now, some other geologist quite as competent as you might interpret it differently?

A He sure may.

Q And they probably will before they get through. What basis do you have for closing that contour on the south?

A No basis. These lines have been dashed.

Q Sir?

A There is no basis for closing the contours, the lines are

dash, indicating that there is no control to the south.

Q Sir?

A There is no control to the south.

Q None at all? Does that indicate that you don't indicate what is down there south?

A We can only guess, that is right.

Q It is a guess, isn't it?

A As I said, they are not closed lines, they are dashed lines.

Q What I am saying, you don't know what is actually there to the south?

A No, sir, I sure don't.

Q Do you have a seismatic survey that you made of that area?

A We do.

Q Do you have it with you? A I do.

Q Would you mind introducing it in evidence for our information?

MR. WOODWARD: We don't have those prepared as exhibits. We'll be happy to submit them to the Commission if they desire that information in evidence.

Q Don't you think that might help us in solving these problems?

A Ask Mr. Woodward.

Q I don't care about Mr. Woodward.

A We have not prepared this for exhibit. We will be glad to

let the Commission see the picture.

MR. WOODWARD: We would point out that these contour lines have been drawn partially on the basis of the seismic picture and it was an effort to give that picture that we drew these contours. If some additional more basic data is necessary we will be delighted to submit those. We would like to prepare them, keep the copy we have and prepare them in exhibit form to submit.

Q Don't you think that the survey might be helpful to us in trying to solve this problem?

A Well, I've used all the information that I had available in drawing this map.

Q You made certain interpretations from it, didn't you?

A Certainly, but --

Q You don't have any objection to giving us this information, do you?

A I would be glad to let the Commission look at that seismic picture.

Q Would you mind if I looked at it?

A I myself would have no objection, no.

Q Do you know anybody that would from your company?

A No.

MR. WOODWARD: We don't have any objection to Judge Foster looking at it.

MR. WALKER: I think the counsel has already stated that he had no objection.

MR. FOSTER: Okay, that is all.

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

By MR. UTZ:

Q Mr. Ludwig, in your opinion is there communication across this fault line that you have drawn on your Exhibit A?

A No, sir.

Q Do you have an opinion as to what type of drive this reservoir is, water solution or other type of drive?

A I feel that it is gas expansion type drive, but I believe that that question could be answered more fully by the engineer when he is testifying.

MR. UTZ: All right, that is all.

MR. PORTER: Anyone else have a question of this witness? Did you intend to offer any of those exhibits at this time?

MR. WOODARD: Yes, we would like to offer Exhibit 1 and 2 in evidence.

MR. PORTER: Without objection they will be admitted. The witness may be excused.

(Witness excused.)

MR. WOODARD: [illegible] witness will be Mr. [illegible] Derrick to testify as to the [illegible] features of this case.

A. M. DERRICK

a witness, of lawful age, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

By MR. WOODWARD:

Q Would you state your name? A A. M. Derrick.

Q Where do you live? A Houston, Texas.

Q By whom are you employed and what capacity?

A I am employed by the El Paso Natural Gas Company as a Senior Petroleum Engineer in the Reservoir Engineering Department.

Q What education and experience have you had as a petroleum engineer?

A I graduated with a Bachelor of Science from the University of Texas and Master in Science from the University of Houston. I was employed for six years with the Stanolind, two years was spent in field engineering work and four years in reservoir engineering. I have been employed in El Paso in the Reservoir Engineering Department for three and a half years.

Q What work have you done as a petroleum engineer in the Crosby-Devonian Pool?

A I have followed the development of the Crosby-Devonian very closely since it was discovered, and observed the pressure ~~maintenance~~ of the field and the producing characteristics of the wells,

and also employed the pressure performance in estimating gas reservoirs for this field.

MR. WOODWARD: Is Mr. Derrick's qualification as a petroleum engineer in this case, accepted?

MR. PORTER: They are accepted.

Q To your knowledge, has any analysis been made of any core taken from the Crosby-Devonian pay section in this field?

A Yes, sir, they have.

Q Have you studied that analysis?

A Yes, on the one well cored and analyzed I have studied.

Q What well is that?

A Anderson-Prichard Coll No. 1.

Q What does the core analysis show?

A It was cored and the analysis shows excellent permeability and very uniform porosity. Of approximately 137 feet cored, the majority of it was productive just in the lower limits, the porosity decrease and, is has been described by Mr. Ludwig, this pay is [illegible] and fractured and indicates very good permeability and communication throughout.

Q What was the porosity on this core analysis?

A The average for the cross section was approximately [illegible] millidarcies.

Q Is that the porosity or permeability?

A That is the permeability. The porosity is approximately four per cent.

Q A well completion sheet marked Exhibit C has been placed in front of you. Are you familiar with this exhibit?

A Yes, I am.

Q Was it prepared under your supervision and direction?

A Yes.

Q What does that exhibit show?

A It shows the pertinent completion data for the wells drilled in the Crosby-Devonian Field; completion intervals, date of completion, pressures and so forth.

Q A production data sheet marked El Paso D is placed in front of you.

A Yes, sir.

Q Are you familiar with this exhibit?

A Yes.

Q Was it prepared under your supervision and direction?

A Yes.

Q Will you tell what it shows?

A This production sheet for the Crosby-Devonian Pool was prepared to show the production from each of the wells in that field since the first pipeline connection in March of 1955. In other words, all the metered gas that has gone to the pipeline is shown.

here. The monthly volumes for each well are shown along with the cumulative for each well and then the total field production by months with the cumulative at the end of October 1956.

Q Now, a graph entitled Reservoir Pressure versus Cumulative Gas Production has been marked as El Paso Exhibit E, has been placed on the board. Are you familiar with this exhibit?

A Yes, I am.

Q Was it prepared under your direction and supervision?

A Yes, sir.

Q Will you tell what it shows?

A The reservoir pressure at a minus 5400 foot datum is plotted here, and a cumulative gas production since the first pipeline connection in March 1955 plotted here. The method of preparing this curve was that the shutin wellhead pressures were converted to bottomhole conditions at four different points and 9-8-56, that should be 55, 1-24-56 and 11-1-56. These small points, dark points, were used in constructing this curve. Then after this curve was completed the individual well bottomhole pressures at the time of their completion was plotted along this curve.

As you can see, there are six wells. They are marked in red on the exhibits. All of the wells with the exception of Phillips Copper No. 1 fit very well on this curve. We didn't have a copy of their test or we didn't test the well, but we used the reported

pressure. That well was completed or first tested in January of 1956, and it showed from what was reported to have a higher pressure than was the pressure in Anderson-Prichard American Republics-Federal No. 1 in March of 1956; in 1955 all of the other wells came in at just about the average reservoir pressure at the time they were completed, which indicates that the wells which had been producing previously had been draining a large area.

Q Mr. Derrick, do you know how the pressure on the Phillips wells compares with the field average at this time?

A As I will bring out in a subsequent exhibit, it is very nearly the same or a little bit lower at the present time than the other wells in the field.

Q Now, what conclusion do you draw from Exhibits D and E with respect to the extent of drainage in this pool?

A Well, both the core analysis and the pressures that have been reported in wells subsequent to the initial completion, indicate that the wells are draining a large area.

Q How large an area in your opinion?

A Well, something in excess of 640 acres.

Q A tabulation entitled Pressure Build-up and Well Interference Tests has been marked El Paso Exhibit F, has been placed in front of you. Are you familiar with this exhibit?

A Yes, I am.

Q Was it prepared under your direction and supervision?

A Yes, sir.

Q Also a plat marked El Paso Exhibit G has been placed on the board. Are you familiar with this exhibit?

A Yes, I am.

Q Was it prepared under your direction and supervision?

A Yes, sir.

Q Can you tell what Exhibits F and G show?

A Pressure interference and pressure build-up test was conducted in this field commencing November 1st and continuing through November 12. The wells were shutin on November 1st for a period of seventy-two hours. The pressures were essentially equalized over the field, or essentially constant I should say, before the Anderson-Prichard American Republics-Federal No. 1 and the Sinclair Lanehart No. 1 were placed on production. These two wells marked in red, Sinclair's Lanehart 1 and Anderson-Prichard American Republics-Federal No. 1 were the wells which were produced during this interference test.

American Republics-Federal No. 1 was placed on production at approximately 9700 MCF per day and Sinclair Lanehart approximately 6000 MCF per day. During that time that these two wells were produced with all the other wells shut in and wellhead pressures observed with deadweight gauges, this is Anderson-Prichard Coll No. 1

which is located 2345 feet west of Sinclair's Lanehart. This well showed a five pound pressure drawdown during the interference tests. R. Olsen Gutman "D" 1 which is 2655 feet west of Anderson-Prichard American Republics-Federal No. 1 showed a pressure drawdown of four pounds during this pressure interference test.

El Paso Natural Gas Gregory Federal 2-[illegible], 2785 feet south of Anderson-Prichard producing well showed a pressure drawdown of seven pounds. Phillips Copper No. 1, which is 1320 feet of Anderson-Prichard producing well, showed a pressure drawdown during this test of thirteen pounds.

Q The maximum pressure drawdown was thirteen pounds, and the minimum was four?

A Yes, that is correct.

Q All of the wells showed some drawdown?

A They did. I might point out that the static casing pressures on these wells while being produced were not very much below the static pressure for the reservoir. So we didn't have enough drawdown to pull these wells down more. It again indicates that these wells are very prolific and very very good permeability surrounding them.

Q Now, Mr. Derrick, on the basis of Mr. Ludwig's testimony, on the basis of your study of core analysis, pressure and production data, and the results of these interference tests, what [illegible]

opinion can be efficiently drained by one well?

A Well, in my estimation one well stratigically located can drain the entire reservoir, but certainly one well can drain more in excess of 640 acres.

Q In the producing life of the field, say twenty years, how much gas would you expect to produce with an additional well?

A I don't think there would be any additional gas recovered.

Q The additional well would serve no purpose whatever in obtaining additional recoveries.

A No, sir.

Q It would then be a completely waste of money insofar as getting the gas out of the ground is concerned?

A That is right.

Q How much do development wells cost in this pool?

A Slightly in excess of $200,000.

Q Well, if one well on a tract containing 640 acres or less will efficiently drain that tract, why would any operator drill a second well on it?

A Well, in the event that you had 160 acre proration units, it might be necessary for the offset operators to drill additional wells to protect their gas to prevent migration. If they drill those, for example, if an operator had 160 acres and the standard

proration unit was 160, he might be required to drill two additional wells or two unnecessary wells in order to be able to get his share of the gas in the reservoir.

Q Then the price that such an operator would have to pay in order to get his fair share of the production from the pool would be an expenditure of some two hundred thousand or four hundred thousand in unnecessary drilling?

A That is correct.

MR. WOODWARD: We have no further questions of this witness on direct examination. We would like to offer Exhibits C, D, E, F and G in evidence at this time.

MR. PORTER: Are there any objections to the admittance of these exhibits? They will be admitted.

Anyone else have a question of Mr. Derrick? Mr. Mankin.

CROSS EXAMINATION

By MR. MANKIN:

Q Mr. Derrick, referring to your Exhibit I which was the Reservoir Pressure versus Cumulative Gas Production, it is noted that the Phillip's Copper No.1 had a little over a hundred pounds higher reservoir pressure at the time it was taken than the other wells that fit on the curve at that time. Do you feel that was a proper test at that time?

A I wouldn't say it is improper or improper, but I don't believe

it was or is a comparable test.

Q During the month of November were the shutin wellhead pressures through this area essentially within a few pounds of each other?

A As I recall, the Phillip's Copper No. 1 was 2629, or the other wells were up 2636 which would be up eighteen pounds.

Q So all the wells completed, the pressure was on the decline curve except the Phillip's Copper Well?

A That is correct.

Q There is reason to believe that was slightly higher?

A I only had a report on the well and I didn't have the test nor did El Paso Natural Gas test the well at the time of completion.

Q Is there any recent test on the Gulf completion?

A No, I don't have any. I haven't seen any completion date on that well.

MR. PORTER: Anyone else have a question of Mr. Derrick? Judge Foster.

By MR. FOSTER:

Q Mr. Derrick, could this be a correct statement, in your opinion of the situation that we have here that we are not so much concerned with the area that can drain this field will drain as we are with whether or not you can put in this area 640 acre productive acres back of your well?

A Would you restate that question?

REPORTER: Reading: "Mr. Derrick, could this be a correct statement, in your opinion of the situation that we have here that we are not so much concerned with the area that one well in this field will drain as we are with whether or not you can get in this area 640 acre productive acres back of your well?"

A No, sir, my chief concern is how many acres a well can drain and to prevent unnecessary drilling of wells.

Q You don't think it makes any difference whether you have got 640 productive acres that you can put back of the well or not?

A Certainly you would have to have 640 productive acres, that would have to be something that was decided as to whether or not they are productive.

Q That is what I am saying. Really that is our problem here.

A We have two problems. We want to see that everybody gets their fair share of the gas and also we want to prevent the drilling of any unnecessary wells.

Q I am not arguing with you about your testimony as to what a well will drain in this area. What I am saying, the problem here we have is whether or not you can get 640 productive acres back of the well.

A Did you say south of the well?

Q I say back of it, whether it is south or north.

A It would have to be shown that it could be productive.

Q You do have the problem as to whether the acreage is productive?

A Yes, it is a problem in any field.

Q That is what we are kind of hubbed up here on, ain't it?

A To me that is not the chief problem.

Q To me that isn't the chief problem. It doesn't make any difference to you whether the acreage is productive or not?

A No, sir, I didn't say. You would have to show that the well had some productive acres before the acres could be assigned to the well for the productive purpose.

Q We are not quarreling with you about the drainage area. All we have left is what acreage is actually productive, is that correct?

A That is right.

Q Do you have any opinion about that?

A No, sir.

Q You haven't studied it?

A Yes, sir, but I believe that will be brought out in subsequent testimony.

MR. [illegible]: That is all.

MR. [illegible]: Any [illegible] question of Mr. Morris? Mr. Morris.

By MR. HARBIN:

Q Mr. Derrick, in your opinion can an operator drill wells in that pool on 160 acres and expect to make a reasonable profit?

A Yes, sir. He could make a profit.

Q He could make a reasonable profit by drilling up the field on 160 acres in accordance with the order which this Commission has heretofore entered?

A He can make a profit based on 160 acres based on reserve work I have already done.

Q Suppose you drill one well as you suggested, to each section. Wouldn't that be more apt to pull in water or cause water coning than if you had the field drilled up uniform on 160 acres?

A No, sir, not in my estimation. I believe this is a gas expansion or depletion type reservoir. I don't think we are going to be concerned with any water coning or anything. The good permeability indicated here both vertical and horizontal will mean we wouldn't have to have too much pressure drawn down to produce a reasonable amount of gas.

Q Could you lift up the bottom portion of the graph there so we can see the contour map, please?

A Yes.

Q Could you point out to us [illegible] which has not already been [illegible]?

A No, sir, I don't believe I could.

Q In other words, you don't have 640 acres productive acreage which has not already been assigned to a well in that field?

A According to the productive limits as we have estimated them to be, you couldn't.

Q You have heard it testified that as far as the south part of the field is concerned, that that is more or less guesswork. You don't know how far the productive acreage will extend south?

A No.

Q So if we had an order here permitting 640 acres to be assigned to a well, there wouldn't be any acreage to assign to it, would there?

A Well, I think there would be.

Q Well, point it out to us.

A Well, for example, El Paso's well has more than 160 acres and I don't know all the lease or fees on those other wells, but we have here A. P. Coll No. 1.

Q And that has 160 acres assigned to it?

A I suppose all wells do.

Q How much more productive acreage in that section which could be assigned to that well?

A Well, I don't know, I guess this is Grile's tract over here. So based on that you see I only have the 160 acres.

Q Only 160 acres. All right, point out another well which has already 160 acres assigned to it and show us more productive acreage within the section which could be assigned to the well.

A Well, this hasn't been proven productive yet, but more than 160 could be assigned this tract over here.

MR. NUTTER: Which one?

A Southern California, Skelly, Dabbs. It is the west half of Section 34.

Q Now, you would not expect that to be productive north, northeast of the fault line, would you?

A No, it looks like there is probably 80 acres or so outside there.

Q Then you would have about 140 acres there, wouldn't you?

A No, it would be in excess of that, that is 320, if you took off 80 it would be 240.

Q But you would not have 640 in that section?

A No, sir.

Q Then when you get down in that south section, there'd only be about 80 productive acres there in Section 4?

A Section 4. Oh, I believe it would be in excess of that.

Q How many acres would you say?

A Well, just eyeball, it looks like two hundred acres or so.

Q But not 640? A No.

Q You go over to, what is that section number east there?

A Three, yes.

Q How many productive acres in that section?

A It appears to be 80.

Q You wouldn't have 640 acres in that section to be assigned?

A No, sir.

Q By the way, do you know who takes the gas, who is the purchaser who purchases the gas from that field?

A El Paso Natural Gas from six wells presently completed in there.

Q They are the only purchaser in the field I believe?

A I believe that is correct, yes, sir.

Q I am going to ask you this question, if you do not know the answer you can say so. Do you know how much gas has been taken from each of those wells in the field during the month of August and September of 1956?

A That was introduced in an exhibit, the gas production by wells.

Q Do you have the exhibit there? A What was that exhibit?

Q May I see it, please? A Yes.

Q Thank you. Do you have that exhibit before you?

A I gave you mine. Here is another one.

Q Do you have another one? A Yes, sir.

Q All right. Now, the first column you have the El Paso Well?

A Yes, sir.

Q And in August how much gas was taken from that well?

A 184,402 MCF.

Q And how much did you take out of Phillip's Petroleum Company Cooper No. 1 Well in that month?

A 131,648.

Q How much gas did you take out of the Anderson-Prichard American Republics-Federal No. 1 during the month of August?

A 145,100 MCF.

Q Out of Sinclair Oil and Gas Company Lanehart No. 1?

A 87,633 MCF.

Q Do you know whether that well is capable of producing more gas than 87,000,000 cubic feet?

A Yes, sir, it is.

Q How much did you take out of Anderson-Prichard Coll No. 1 during that month?

A 177,640 MCF.

Q How much did you take out of R. Olsen Gutman No. 1-D Well?

A 127,724 MCF.

Q Now, lets go to the month of September. How much gas did you take out of El Paso's well that month?

A 208,303 MCF.

Q How much did you take out of Phillip's well during that month?

A 102,616 MCF.

Q How much did you take out of Anderson-Prichard American Republics No. 1 that month?

A 111,401 MCF.

Q How much did you take out of Sinclair's Lanehart Well?

A 90,437 MCF.

Q How much did you take out of Anderson-Prichard Coll No. 1?

A 142,348 MCF.

Q How much did you take out of R. Olsen Gutman No. 1-D?

A 143,439 MCF.

Q Well, now, can you account for the fact that El Paso took out of its well during the month of September 268,303,000 cubic feet but you only took out of Sinclair's Well 90,437,000 cubic feet?

A No, sir.

Q In other words, I believe you took approximately, well, you took approximately three times as much gas out of your well in September as you took out of Sinclair's well, didn't you?

A Roughly, yes, sir.

Q As a matter of fact you took approximately twice as much out of your well during September as you did from any other well in the field?

A Yes, sir, that is correct.

Q Now, you have the figures here for October. Let's go over those figures. How many cubic feet did you take out of El Paso's well during October?

A In MCF it is 195,055.

Q 195,055,000, isn't it? A Yes.

Q How much did you take out of Phillips?

A 115,575 MCF.

Q The Anderson-Prichard American Republics Well?

A 138,577 MCF.

Q Sinclair Oil and Gas Company's Lanehart Well?

A 107,346 MCF.

Q Anderson-Prichard Coll No. 1?

A 147,[illegible]82 MCF.

Q The R. Olsen Gutman Well? A 153,000 MCF.

Q During October you took out of the El Paso well considerably more gas, at least, approximately 50,000,000 cubic feet more, than you did out of any other well in the field?

A About 40,000,000 more.

Q Sir? A About 40,000,000.

Q You took 40,000,[illegible] more out of your well than you did the R. Olsen?

A Yes.

Q But as to the other wells, it was approximately 50,000,000 more, wasn't it?

A Yes, sir, that is correct.

Q As far as Sinclair's well is concerned you took 88,000,000 feet more out of your well than you did out of Sinclair's well?

A That is correct.

Q And you can't give us any explanation of that?

A No, sir, I can't.

Q How that happens at all, can you?

MR. HARBIN: I believe that's all.

MR. PORTER: This witness will be called back to the stand after our recess for lunch. The hearing will be recessed until one o'clock.

MR. WOODWARD: I would like to make a brief request to introduce a few minutes of testimony at this point before this gathering recesses. We feel there is a certain type of prejudice involved in a recess at this point in the event some of you people don't return. We would like to explain this situation of explaining by the witness. If the Commission please, I would like to call Mr. Norman Woodruff to make this brief explanation at this time. He would be available for testimony later on.

E. NORMAN WOODRUFF

a witness, of lawful age, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

By MR. WOODWARD:

Q Will you state your name and residence, please?

A F. Norman Woodruff, El Paso, Texas.

Q By whom are you employed and in what capacity?

A I am employed by El Paso Natural Gas Company as a company gas proration engineer and Manager of the Proration Department.

Q Have you previously testified before this Commission as an expert witness in conservation and proration matters?

A Yes, I have.

MR. PORTER: His qualifications are accepted.

Q Mr. Woodruff, directing your attention to El Paso's Exhibit D and particularly the Sinclair Oil and Gas No. 1 Lanehart Well, what is the first date or month in which gas was taken from that well?

A January, 1956.

Q What was the take from the well in January, 1956?

A 71,197,000 cubic feet.

Q What was it in March? A 198,028,000 cubic feet.

Q What was it in April? A [illegible] cubic feet.

Q Would you check those figures again?

A Did you ask for March, Mr. Woodward?

Q April.

A I believe that I gave March instead of April. The figure for April was 227,939,000 cubic feet. I believe we skipped the month of March which was what I was attempting to give you. During March the production from that well was 241,730,000 cubic feet.

Q Now, turning to the R. Olsen Gutman No. 1-D Well, what was the first month in which there were takes from that well?

A January, 1956.

Q What were the takes during January?

A 33,962,000 cubic feet.

Q What were they in February? A 174,154,000 cubic feet.

Q In March? A 216,404.

Q In April. A 216,404,000 cubic feet.

Q For March. Now April. A 208,216,000 cubic feet.

Q Now are those takes for the Sinclair and R. Olsen wells greater or less than the takes from those wells during the last three months as shown by this exhibit?

A They are greater than their takes during the last three months.

Q Are they considerably greater or lesser than the takes from the El Paso well shown on this exhibit?

A The El Paso well was not completed at the time of the takes for the first four months after completion of those two wells.

Q That was their well normal [illegible]

A I haven't the exact completion date with me. However, first production was in July of 1956.

Q The three following months, August, September and October, show takes of 184,402 MCF, 268,303 and 195,055 MCF?

A That is correct.

Q How do those takes compare with the first four months, let us say withdrawal or takes from the Sinclair No. 1 Lanehart Well?

A They are very comparable.

Q How do they compare with the R. Olsen Gutman No. 1-D Well?

A They are very comparable, I believe a little in excess of the takes of the Olsen Gutman 1-D Well for the first few months.

Q How do you explain the greater withdrawals from the El Paso Gregory Federal 2-x Well during the last four months as compared with all the other wells in the field?

A Well, as has been true for all wells in the Crosby-Devonian Pool since the first well, upon completion there have been increased rates of withdrawals for newly completed wells both for test purposes and as a reward for getting a new well. It has been true for all wells as may be noted from the exhibit D that has been furnished to the Commission. Each well has during the first three or four months of completion, produced at rates in excess of those rates being produced from other wells in the pool unless at the same time they were getting the higher rates because of being newly completed.

Q In other words, it has been your practice in taking to arrive at somewhat the same result that would be obtained through a discovery allowable or a test allowable, is that correct?

A That is correct.

Q If there is any question of discrimination in your opinion, Mr. Woodruff, in your opinion does it indicate a need for field rules?

A Yes, sir.

Q Is El Paso asking for such field rules in this hearing?

A They are.

MR. PORTER: Mr. Harbin.

CROSS EXAMINATION

By MR. HARBIN:

Q Mr. Woodruff, you got your well connected in July, 1956, didn't you?

A Yes, sir.

Q And your first full month's run was in August, 1956?

A That is correct.

Q All right, now, look on Exhibit D and tell me how much gas you took out of Sinclair's well in July, 1956.

A From Sinclair's well, 107,703,000 cubic feet were produced.

Q How much did you take out now in August, how much did you reduce it when your well was connected up?

A The takes for August from the Sinclair well were 87,300,000.

Q In other words, you reduced your take from Sinclair's well 60,000,000 feet during the month of August, 1956?

A That is correct.

Q You took out of your well 184,402,000 cubic feet?

A That is correct.

Q Well, now, you didn't reduce other wells in the field in August as much as you did Sinclair's, did you?

A That is apparent from these figures.

Q As a matter of fact, you increased your take from the Phillip's well in August over July, you increased your take in the Anderson-Prichard well over July, Sinclair you dropped it 60,000,000, Anderson-Prichard Coll No. 1 you increased the take there, R. Olsen Gutman you increased your take there over July, every other well in the field you increased the take considerably, but reduced Sinclair's take 60,000,000 feet during that month. Is that correct, isn't it?

A Yes, sir.

Q Why did you do that, do you know?

A No, sir, I don't know.

Q You can't explain that? A No, sir.

MR. MARBIN: That is all.

MR. PORTER: Judge Foster.

By MR. FOSTER:

Q Do you subscribe to the principle of retroactive proration?

A Retroactive proration?

Q Yes.

MR. WOODWARD: I don't believe that issue has been raised in the application, the testimony, or anywhere else.

MR. FOSTER: He just got through testifying about it.

MR. WOODWARD: This is a non-prorated takes, if there is a question about the takes in a prorated field I think the proper forum for discussing that is between the purchaser and the producer on the basis of their contract and it shouldn't be a matter that is burdening the Commission at this time, particularly when the purchaser is asking for prorationing.

MR. PORTER: Are you objecting to the question?

MR. WOODWARD: I am, the relevancy of questioning of Mr. Harbin.

MR. PORTER: The objection is overruled. Judge Foster, do you have other questions?

MR. FOSTER: Yes, I can get through soon.

MR. PORTER: The hearing will stand in recess.

(Recess.)

AFTERNOON SE

MR. PORTER: The meeting will please.

Mr. Woodruff, I believe you were on the stand.

MR. WOODWARD: Do you want to take Mr. Derrick first?

MR. PORTER: We will take Mr. Derrick first.

MR. WOODWARD: I believe he was being cross examined.

MR. PORTER: Does anyone have any further questions of Mr. Derrick? Mr. Mankin.

A. M. DERRICK

having been previously sworn, testified further as follows:

CROSS EXAMINATION

By MR. MANKIN:

Q Mr. Derrick, did you indicate that you felt this Crosby-Devonian Pool was a gas expansion reservoir?

A Yes, sir.

Q You don't feel there might be partial water drive?

A I don't believe so, based on the evidence to date.

Q Has there been any wells that have produced water, that is water rather than drilling --

A Well, the Humble well found water I believe, but none of the wells south and west of the fault to my knowledge have produced water.

Q The one oil well across the fault is producing some water, is it not?

A That is my understanding. I don't have my production data

on it.

Q Again, you don't believe there is any communication across the fault with the oil well in one zone and oil on the other?

A No, I don't believe there is.

Q No communication whatever? A No.

MR. PORTER: Mr. Utz.

By MR. UTZ:

Q Would you care to explain why you think this is a gas expansion drive?

A Well, for a long, one thing, the large part every one that knows anything about the Crosby, the Dollarhide and the Wheeler and the Patton are all depletion type reservoirs and from the historical standpoint we would expect it to be a depletion type reservoir. The completion data to date indicates it is a depletion type reservoir.

MR. PORTER: Mr. Mankin.

By MR. MANKIN:

Q One other question. What kind of bottom holes samples have you taken?

A None to my knowledge.

Q Then you have no PVT analysis? A No.

Q Indicating whether there is any retrograde condensation?

A No.

MR. PORTER: Mr. Campbell.

By MR. CAMPBELL:

Q Do you have any information confirming a report that the Gulf Oil, after it's original drillstem test, flowed 87 barrels of water?

A No, sir, I don't.

Q For sixteen hours?

A No, sir, I don't. I wouldn't know what interval that was if it had. It's a very high well structurally.

MR. PORTER: Anyone else have a question? The witness may be excused.

A Thank you. (Witness excused.)

MR. PORTER: I believe you had introduced your exhibits?

MR. WOODWARD: Yes, I think we introduced Exhibits C through G. If we haven't we ask that they be admitted.

MR. PORTER: We already have admitted them.

MR. WOODWARD: We will call Mr. Woodruff to the stand again.

MR. PORTER: Mr. Woodward, would you proceed with your witness?

R. HOWARD WOODRUFF

having previously been sworn, testified further as follows:

RE-DIRECT EXAMINATION

By Mr. WOODWARD:

Q What is the market demand for gas in the Crosby-Devonian Pool at this time?

A As shown on our previously submitted Exhibit D, production for the last several months has been approximately 850,000,000 per month. That would be about twenty-eight and a half million per day.

Q What is the productive capacity of the pool, if you know?

A The productive capacity of the pool has not been positively determined. However, we do know it is in excess of 50,000,000 cubic feet per day.

Q 50,000,000 cubic feet per day compared with 28,000,000 cubic feet demand?

A That is correct.

Q In your opinion are field rules necessary to prevent waste and protect correlative rights under these circumstances?

A Yes.

Q What has been marked El Paso's Exhibit H has been placed before you. The exhibit is "Proposed Special Rules and Regulations for the Crosby Devonian Gas Pool". Are you familiar with this exhibit?

A Yes, sir, I am.

Q Was this prepared under your supervision and direction?

A It was.

Q Will you state what provision for the spacing of wells hereafter drilled in the pool is made by these rules?

A Rule two provides for the drilling of wells subsequent to the date of adoption of these orders or these rules that we are proposing, and provides for wells to be located not less than 990 feet from an outer boundary or section line, and not closer than 330 feet to a quarter-quarter section line or subdivision inner boundary line.

Q Now, plat marked Exhibit I has been placed on the board. Are you familiar with this exhibit?

A Yes, sir, I am.

Q Was it prepared under your direction and supervision?

A It was.

Q Will you tell what it shows?

A This plat shows the location or where wells may be located under the rules proposed by El Paso Natural Gas Company. The well may be located in any of the colored spots along any of the colored lines, or on any of the four colored dots or spots there. The areas are the lines of the spot.

Q That is a graphic illustration of the Rule Two of your proposed special rules?

A Yes, sir, as it pertains to new wells. The wells drilled after these orders will go into effect.

Q What about existing wells?

A Existing wells drilled in conformance with rules as of the time they were drilled are considered to be in conformance with the rule we are proposing.

Q What do the provisions, do the proposed rules make for standard and not standard proration units?

A The rules proposed provide for standard proration units of between 632 and 648 acres and it provides for the establishment of non-standard proration units, either after hearing or with administrative approval on no objection by offset operators.

Q How do these provisions compare with the other rules adopted in other gas pools for southeast New Mexico?

A The rules correspond with the rules for the Jalmat Gas Pool overlying the Crosby-Devonian.

Q How do the conditions at the time the rules were adopted compare with the conditions in the Crosby-Devonian Pool at this time with respect to the age of the pools?

A Well, the Jalmat Pool was much older at the time of the institution of the rules, it was a little over twenty years old I believe.

Q How do they compare as to the density of development at the time the rules were considered?

A The density of development was very similar in the Jalmat

Pool as what we find in the Crosby-Devonian today. The development was for the most part on small acreage and probably averaged in the vicinity of what we find in the Crosby-Devonian Pool.

Q How does the evidence for drainage in the two pools compare?

A The evidence for the Crosby-Devonian is much more conclusive in my opinion. We have the performance indicated by previous exhibits showing that the new wells come in with pressures more comparable than that expected for the reservoir in considering the production as related to pressure decline, and we also have shown evidence by the interference test that was taken and testified to by Mr. Derrick.

Q How do these two pools compare as to the cost of wells?

A The Crosby-Devonian wells cost about four times as much as the well in the shallower Jalmat Pool.

Q So that that an unnecessary well is four times more expensive in the Crosby-Devonian than it would be in the Jalmat?

A That is right.

Q Now, if 640 acre proration units are justified in the Jalmat Pool, do you know of any relevant reason or circumstance which would not justify such units in this pool?

A I do not.

Q Directing your attention, Mr. Woodruff, to Exhibit ..., is there any undrilled [illegible] acre tract within the [illegible] limits of that

pool at this time?

A No, sir, there is not.

Q Well, now, if the Commission entered it's order granting or establishing standard proration units of 640 acres, what dedication of acreage could El Paso make to its well or wells?

A Well, El Paso could follow one of two approaches. It could communitize with its well, the Southwest Quarter of Section 33, and if the Gulf were willing to permit us to unitize the Southeast Quarter of the same section with their well in the Northeast Quarter, we could form 320 acre proration units in that manner. Or we could asign the full 480 acres in Section 33 which is owned by El Paso to the one El Paso well.

Q In other words, you could form possibly a 480 acre non-standard unit or a 320 acre non-standard unit, is that correct?

A That is correct.

Q Under either allocation would you eliminate the drilling of any unnecessary wells in your opinion?

A You would.

Q Under either or both? A Under either or both.

Q Mr. Woodruff, have you ever heard of a condition or an area where the density of development was actually less than 640 acres where 640 acres have been established?

A Yes, that is true for the overlying Dalmat Pool.

Q Have you ever seen a standard proration unit of 480 acres?

A No, sir.

Q Returning to El Paso Exhibit H, what provisions do these rules make for the allocation of production?

A Rule 8 of the recommended rules, provides for the allocation of production and provides that the Commission shall determine the market demand, and after subtracting the allowables of marginal wells to allocate the remaining market demand to those non-marginal wells in the relationship that each well's assiged acreage times its shutin wellhead pressure bears to the sum of such products for all prorated wells in the pool.

Q Does this allocation formula contain a qualitative factor that is some index of the value of the various acres dedicated to the well?

A Yes, sir, it does.

Q What is that qualitative factor?

A That is pressure.

Q Does it also contain a quantitative factor?

A Yes.

Q Which is -- A Acreage.

Q Do you know if it is customary procedure in other producing states to include both a qualitative and quantitative factor in the allocation formula adopted in those states?

A In some states almost entirely that is done. In others it isn't. However, it isn't, I say it isn't done exclusively, the deeper higher pressure pools such as we have here are normally prorated in such a manner.

Q In your opinion does such an allocation formula provide a reasonably accurate and equitable measure for the share in pool production that individual wells and units are entitled to see?

A I consider that it does.

Q What provision do the rules make for under and over production and for balancing production?

A The rules provide for six-month accrual and makeup of both over production and under production.

Q What provision do they make for marginal wells?

A It provides for the classification of wells that are marginal based on their actual producing ability.

Q Are there any other provisions of these rules you feel require comment or explanation?

A I might mention that in the alleged provisions we have gone a little bit more into detail in spelling out what will be done than is true in the Jalmat rules. We provide for under production in the sample that I'll give, under production of a well existing as of the beginning of a balancing period. Any subsequent over production during any one month of the succeeding balancing period

will be applied to the under production accumulated or accrued to the well at the beginning of the balancing period. For an over produced well, or well going into the period with over production to be made up, any under production accumulated to the well during any one month for the succeeding six-month proration period will be applied to the over production accumulated by the well as of the beginning of the proration period. We also provide that any additional allowable assigned a well through cancellation of underage and the redistribution thereof, will be applied to any over production which may have been accrued to the well at the beginning of the proration period.

Q Are these suggestions in line with the recommendations recently submitted to this Commission by an industry committee?

A Yes, sir, they are.

Q Mr. Woodruff, you have heard the testimony of Mr. Ludwig and Mr. Derrick, have you not?

A Yes, sir.

Q On the basis of their testimony and your own testimony in this case, will the proposed rules in your opinion prorate gas on a reasonable basis, prevent waste and the drilling of unnecessary wells while protecting the correlative rights of all owners in the field?

A I consider that they will.

Q You have a statement of the ownership of the deep gas rights in Section 4 as shown on Exhibit A.

A Yes, sir. On cross examination Mr. Ludwig said that to the best of his knowledge the deep gas rights for Sections 4 and 5, Township 26 South, Range 37 East were owned by El Paso Natural Gas Company. The ownership shown here is erroneous. We have only right down to 4,000 feet. It is my understanding that the deep rights are owned by the Texas Company, Amerada and Columbian Carbine. If you would change your plats to reflect that you would have a more accurate exhibit there.

Q Do you have any further statement to make in this case, Mr. Woodruff?

A As was pointed out, we have suggested or recommended the use of shutin wellhead pressures in the allocation formula. Our data to date indicates no liquid accumulation in the well bore or other reasons which are causing wellhead pressures not to be indicative of bottomhole conditions. For that reason we are recommending the use of wellhead pressures. Should a well have liquid accumulation in the well bore, in a number then there is the taking of bottomhole pressure, could correct the wellhead pressure to that pressure which would have resulted with no accumulation of liquid in the well bore. This procedure of taking [illegible] recommended, but we feel less objective than [illegible]

As I have said, it will give an accurate or possibly more accurate results than bottomhole pressures, particularly from the standpoint of the instrument used. The dead weight tester is a more accurate measurement than the bottomhole pressure tool. I believe that's all I have.

MR. PORTER: Anyone else have a question of Mr. Woodruff? Judge Foster.

RE-CROSS EXAMINATION

By MR. FOSTER:

Q Mr. Woodruff, do you know that the Phillips well is making 56 barrels of distillate a day?

A I do not know. I did know that some of the wells do make distillate. I am not surprised to hear it.

Q I thought I understood you to say there was no accumulation of distillate in the well bore?

A No, sir, I didn't.

Q You didn't know of any well that has any accumulation of distillate in the well bore?

A That is correct. My statement was to that effect. A well can produce condensate and not have it accumulated in the well bore. It is due to the condensation at the wellhead rather than production from the reservoir itself.

Q Just where does it condensate on the way up the pipe?

A I would consider that it condenses probably at the wellhead or in the equipment.

Q Not until it reaches the wellhead?

A Frankly I can't say positively whether it may condense within the well bore on the way up or at the wellhead. However, with the pressures existing in the reservoir, any matter which may condense in the well bore would return to a gaseous state.

Q Are you prepared to say that this liquid that is produced with the gas does not exist as a liquid in the reservoir?

A That is my belief.

Q It's possible though that it does, is it not?

A I don't consider it is possible.

Q Is it probable? A No, sir.

Q Some of those wells when they were first brought in, didn't make any distillate and then did they begin to make some distillate?

A I am not aware, Judge Foster, of a condition of that nature where it began without distillate and then later started making it.

Q You think it's possible that this field might possibly develop into an oil field rather than a gas field?

A No, I don't think there is any possibility.

Q You don't think? A No, sir.

Q It isn't unheard of, is it?

A Certainly there have been fields classified as gas fields

which were later reclassified as oil, but none of this nature that I am aware of.

Q This 990 foot provision in the rules there, will you tell me again what that is?

A That is a minimum distance from lease or section lines.

Q That is you can't get no closer than that?

A That is correct.

Q Well now, you think locating wells that way would be most likely to prove up the productivity of the balance of the section on which the wells might be located?

A It wouldn't prove it up as well as one situated further from the line.

Q Why wouldn't you suggest that they be situated further than that?

A I see no basis for it for at least two reasons, Judge Foster. First because of the nature of the reservoir, I don't think it matters particularly where the well is located as far as recovering the reserves assigned to the well is concerned. Whether it was 990 or 2640, in other words. I still think that the well would be capable of recovering the reserves, say underlying a section where assigned to it.

Q I don't have any quarrel with that, but we have a problem here of determining what the productive acreage of this particular

area is and don't you think that you can more nearly determine what the productive area is by locating your wells more near the center?

A As I said, it would prove up more acreage.

Q Would you be willing to suggest so that you can locate it where you could take as much gas out on the productive acreage as possible?

A No, I wouldn't recommend it. Certainly the features you recommend are desirable. I think it would be up to the operator to prove to the Commission that the acreage is assumed to be reasonably productive, that he takes the risk himself upon locating his well.

Q Wouldn't it be a better way to prove it by locating it further out?

A Sure would be.

Q Aren't you in favor of the best evidence?

A I am in favor of the most reasonable approach.

Q Wouldn't that be the most reasonable?

A No, sir, I don't consider that it would be.

Q Would you explain to me the use of the term that you used just before noon, the discovery bonus term that you used, what did you mean by that?

A I don't know that I used that word. I think it is pretty self explanatory, Jason.

Q Do you mind just for my uninformed benefit, to tell me what you had in mind?

A You, of course, are referring to the condition which I explained that has existed for all wells where initially they had larger volumes of production possibly during the first two or three months of operation. I explained that that as a result of tests taken and result of the more or less understanding as I visualized, and understand it, that possibly unwritten between our company and the operators that new wells do get you referred to a discovery bonus I believe.

Q I didn't refer to it that way. That is the way you referred to it.

A I don't believe the record will reflect that, but we will describe it as such, upon completion of the well.

Q You said that you got that for completing the well. You got this bonus, this discovery bonus or whatever term it was you used, for completing the well.

A I may possibly go into that in a little more detail. I did say that upon completion, larger volumes of gas are normally taken from wells. I think I mentioned two or three reasons. However, in practice, our company does equalize or attempt to equalize as we consider over months the periods the production from wells during periods of time.

Q You talking about rate of take now?

A Yes.

Q Your contract requires your rate of taking gas?

A Yes, sir.

Q Who determines whether you take this rateably or not?

A I would assume that we determine whether we do or not, and that the operator doesn't agree, he has his recourse under the contract.

Q You didn't have in mind the application of any retroactive rate of take this morning?

A No, sir, I didn't.

Q You think wells, when they come in, ought to take the field like they found it and start from that?

A I believe that is correct.

MR. FOSTER: That is all.

MR. PORTER: Mr. Hankin.

BY MR. HANKIN:

Q Mr. Woodruff, to what do you account for the rapid increase of gas liquid ratios in this pool whereas Judge Foster has suggested going from nothing to very high gas liquid ratios is less than one hundred though? What do you account for that rapid increase in this particular pool?

A I don't know as what to account for it. I don't know what

the reason for it is.

Q Do you think that you are possibly getting some retrograde condensation?

A I wouldn't think so with the pressures existing in the reservoir.

Q Is it normal that a gas reservoir of this type, gas liquid ratios increase rapidly as they have in this reservoir?

A I wouldn't think so.

Q You wouldn't think it was normal?

A No, I don't think it is normal.

Q You don't know what would be the basis for that increase?

A No.

MR. PORTER: Anyone else have a question?

MR. FOSTER: One more question.

MR. PORTER: Judge Foster.

By MR. FOSTER:

Q Well, there must be some way to account for it, isn't there?

A Yes, sir, I am sure there is.

Q Is this the first experience of anything like this you have ever had in all your long years of experience?

A I recall none other comparable to it.

Q Anything very near it? A No, sir.

Q Unheard of thing?

A None that I recall at this time.

Q Classified as phenomenal?

A I think there's a reason that we will probably ultimately discover or that someone may know, but I am not aware of the reason.

Q Would you classify it as phenomenal?

A No, sir, I wouldn't.

Q How would you describe it?

A I have described it about as well as I can.

Q You just wouldn't look at it?

A Are you asking me a question?

Q Yes.

A You are asking me would I not just look at --

Q You wouldn't classify as phenomenal, you wouldn't classify it any other way, how would you classify it?

A I think we ought to attempt to discover what the reason is. I think it would be well to attempt to classify it.

Q How would you suggest that we go about it?

A Probably if we, and possibly it has been made by some, if we were to make a more thorough examination of the completion practices and the areas performed and the manner in which certain wells were completed in the pools, we may find there is more than one development, say in the Devonian, which possibly from a horizontal standpoint may not be in communication with the other. I

am theorizing.

Q Sure.

A That one of the stringers may be condensate producing and the other one may not. It could be that some wells produce with high condensate ratios because of being produced, completed in say either, both or in the condensate portion of it, and another one may not be in the condensate portion of it. Now, it may be completed in that portion primarily which has no condensate. A little bit in one and a whole lot in the other, so to speak. I wouldn't be surprised at all to find that to be the condition existing, but I don't know that it exists.

Q Would you be surprised if somebody else as reasonably competent as you could explain this?

A Not at all.

By MR. CAMPBELL:

Q Mr. Woodruff, your well in Section 33 is located 660 feet south of the north line of the section, is it not?

A That is correct.

Q Despite that and despite your 990 regulation on wells hereafter drilled, you would feel it is proper to try to attribute the south half of that section to that well?

A Yes, sir, I would think so.

Q Do you have any reason to be certain that you won't run

into the same condition on the south end of this field that you did in the north end with either a steep dip or fault line?

A Did you ask me if I had any reason?

Q Any reason to be sure that won't happen.

A We don't consider that it's likely. Of course, as has been brought out in the testimony, there is no well down there to prove it.

Q The only way you can determine that is to drill a well?

A That is the only positive way of knowing, Mr. Campbell, as was pointed out by Mr. Ludwig in his testimony, the south portion of the pool is based primarily on the seismic work that has been done. The seismic work has been found to agree very closely with the known data in the north portion where the wells are presently drilled, and we have little reason to doubt that the result of the seismic survey for the rest of it won't be consistent also.

Q What did your well cost, Mr. Woodruff?

A It cost $201,000 and a few more.

Q Does it produce any distillate?

A Yes, sir, it does.

Q How much?

A I don't know what the ratio is. It has produced I believe maximum during any one month in excess of 3,000 barrels.

Q During the months of August, September and October you sold

from that well approximately $64,000 worth of dry gas, did you not?

A I haven't made any such computation, but I think that would probably be about right.

Q Plus the distillate during that period of time?

A Yes.

Q At any rate, even at that cost the well will pay out in less than a year, won't it, pay out?

A If the rates at which the well was produced during that period was maintained, it would closely approach that I believe.

Q Does your company consider that is a pretty reasonable return on your investment?

A I can't say positively on that. I don't know what my company considers along those lines.

MR. PORTER: Mr. Grieg with Humble, I believe you had a question.

By MR. GRIEG:

Q Mr. Woodruff, as I understand it, you are using this surface pressure as a qualitative factor in your allocation formula. Is it not more usual to use a bottomhole pressure test for that purpose?

A Did you say usual?

Q Yes.

A I believe the major portion of instances where pressures are used are bottomhole pressures.

Q Where a pressure factor is used, it is usually bottomhole pressure?

A That is right.

Q Does Jalmat have any surface pressure factor in its field?

A No, it doesn't.

Q Do the presence of liquids in the well bores indicate to you it would be more desirable to use bottom rather than surface?

A The liquids would require a determination of bottom pressure.

Q As I understand it, El Paso has not determined if there is leakage in the well bore or not. It would be your testimony if liquids were present, it would be desirable and necessary to make bottomhole pressures?

A Under liquids, I assume you are referring to water?

Q Any liquid.

A And anything which remains in a liquid phase in the well bore, so as to influence the pressures. As I testified, we have found no evidence to date to indicate that there is liquid accumulation in the well bore, which would cause the surface pressures not to be the reflection of bottom pressure.

Q I understand that, that no tests or investigations have been made at all.

A I base my testimony and my statement on evidence to date from production.

Q Could it be possible that because of the behavior of the water in the reservoir and the unequal withdrawals, there could be some water in the well bore?

A I do not believe that it is possible for there to be water accumulated in the well bores of these wells, particularly in view of the rates of withdrawals that have been experienced and will be experienced as we anticipate, for many years to come. It would be blown out with the gas, it wouldn't remain in there.

Q Isn't that a tendency with unequal withdrawals in some places where you have gas underlain with water?

A It is not normal to cone water by gas production. However, it is accomplished in some of the strong water drive pools.

Q Yes.

A Where you decrease the pressure greatly in certain areas allowing the aquiver to encroach and possibly enter into the well bore. There has been no evidence, as I understand, that there is any bottom water and that the only evidence of water has been that shown in the well drilled by your company in the Northeast Quarter of Section 23 which showed water on a drillstem test.

Q El Paso has made no test to determine whether water is present or not, have you?

A I don't know what test you can be referring to. Actually, if there is no evidence of water, I consider there is none there.

There was no evidence upon completion of our well, and I have heard and the records so far as I have seen them, have not reflected that water was found in any other wells drilled except your well that was drilled as a dry hole.

Q As these wells are produced and the reservoir is depleted, might it not be possible to have some retrograde condensation with leakage resulting in the reservoir?

A Yes, sir.

Q As I understand at that point when water or other liquids are discovered, would you advise that some operators who have the cone would make bottom pressures and others would not, so we would have the operators operating different bases?

A That is correct. I think at that time the operator, as I previously explained, should take a bottomhole pressure with bomb and calculate his wellhead pressure. However, at that stage of depletion it may be that the operators would feel it appropriate to come in at that time and request that the formula be changed to utilize bottomhole pressure if the condition becomes apparent enough to require that. Certainly what we are wanting to reflect is bottom-hole conditions. As long as we can do it with wellhead pressures, the expense and the danger that is encountered by taking the bottom-hole pressures is unwarranted in my opinion.

Q You don't know whether that is true or not whether the

surface pressure tests would reflect bottomhole pressure?

A We consider it does. I have testified that I consider it does.

Q I'm like the Judge, if somebody could test, otherwise that would be all right?

A Yes, sir.

Q Thank you.

MR. PORTER: Go ahead, Judge Foster.

MR. FOSTER: Let Mr. Mankin go ahead.

MR. PORTER: Mr. Mankin.

By MR. MANKIN:

Q Mr. Woodruff, is it not true that five of the presently completed wells on the line are producing distillate? In other words, only the original discovery well is the only one that is not reported as producing distillate?

A I am not positive.

Q There is presently one well drilling which is the Gulf well?

A Are you referring to the well that would be in the Northeast Quarter of Section 32?

Q Yes.

A I understand there is a well drilling there.

Q Don't you think to solve this particular problem that it would be either the advantage of someone like Gulf to take a bottomhole pressure to take a PVT analysis, or for El Pasos having the

next most recently completed well, to take a sample to determine if there is retrograde condensation?

A I think the information would be very useful.

Q Don't you think that would solve most of the questions which we have brought up here today?

A I think the information would be very useful.

Q You don't think that El Paso would desire to solve that problem then?

A Well, I am sure that we will cooperate in any way to aid in solving the problem.

MR. PORTER: Judge Foster.

By MR. FOSTER:

Q You use the term there, well bore. You said there is no distillate in the well bore. Would you define that term for me the way you use it? How do you use it? What do you have in mind when you use that?

A I had in mind, Judge Foster, the string through which the well was producing.

Q Would that be the bottom of the hole up to the top?

A From where the producing string was set to the top of the hole.

Q Well, now, if there is any distillate in that space there, would you say that there would be some distillate in the well bore?

A Yes, sir.

Q It comes out of there from somewhere. Where would you say it is, in the well bore or not?

A The distillate or condensate is in a gaseous state in the reservoir we consider, and condenses through the decrease of pressure either in the well bore as pressures decline or at the wellhead when the gas is produced into the separating facilities there.

Q It would decline all the way up that hole?

A Yes, sir. I can't say positively at what pressure we would have the condensing occurring.

Q But it would be somewhere between the bottom and the top?

A It would be somewhere between the bottom and the outlet of the separator.

Q You know it comes out of that pipe as liquid, don't you?

A What pipe, Judge Foster?

Q This well bore.

A No, sir, I am not aware of that.

Q You don't know? A No, sir.

MR. PORTER: Does anyone else have any questions? Mr. Hatch.

MR. HATCH:

Q Mr. Woodruff, is El Paso the only purchaser in this pool

at the present time?

A That is correct.

Q Do you know whether, or do you anticipate there are going to be other purchasers in the pool?

A I have no knowledge of the possibility of an additional purchaser. However, I am not aware that my company has all of the acreage under contract. It may be, but I am not aware of it if we do.

Q Now, Mr. Woodruff, your application and also your proposed pool rules call for prorationing of gas in the pool. Why is prorationing of gas necessary when there is only one purchaser in the pool?

A Possibly proration isn't necessary where there is one purchaser under ideal situations of where the purchaser might pipeline prorate himself. However, I consider it appropriate that a basis of proration be established by a regulatory board. Pipeline proration normally leaves a bad taste in people's mouths. I think it is more appropriate for the basis of allocation to be determined as we are sucking 'em and then to be established by the regulatory board.

Q Do you think that the difference in the amount of acreage dedicated to the various wells is one of the reasons that you should have proration in?

A Yes. I think that's a very significant reason that in so doing you can assign additional acreage to wells and thereby preventing the drilling of unnecessary wells.

Q You have also mentioned this qualitative factor that you have entered into your proposed proration formula. What purpose does that serve?

A That serves in an allocation formula to more nearly allocate the gas in accordance with recoverable reserves taken existing as of the time the pressure was taken.

Q Does that pressure indicate the volume of gas that is present or the permeability making the gas availabe to the well bore or the porosity around the well bore, or just what does that pressure indicate?

A It just indicates reserves. Now the pressures can vary for the other reasons that you mentioned, but the pressure reflects to me the recoverable reserves as of the time that the pressure is taken.

Q Do you mean that two wells could have different pressures on the same reserves?

A Yes, I do.

Q Is that seismic picture going to be made available to the Commission today?

A Today?

Q Yes.

A Yes, we will be glad to show it to you after this hearing.

MR. PORTER: Mr. Cooley, I believe you had a question.

By MR. COOLEY:

Q Mr. Woodruff, I believe you testified as to the similarity in the Jalmat and other gas pools with respect to conditions of advance stages of development at the time the rules were promulgated in those fields?

A Yes, I did.

Q They were quite similar to the Crosby-Devonian?

A That is correct.

Q Are you aware of any pool in which a spacing pattern was established and it was impossible to form at least one standard proration unit?

A I don't recall any such pool right off-hand. It's possible that one exists in the Justis, but I am not sure on that. I would have to check to see.

MR. PORTER: [illegible]

MR. [illegible]: [illegible] would like to [illegible].

MR. [illegible]: [illegible].

MR. [illegible]:

[illegible]

oil saturation shown to be 13.2, now the porosity in this field is tested to be rather high. Does that indicate anything to you?

A You point out residual oil saturation and referred to porosity and asked if it indicates anything to me?

Q Yes.

A I am afraid you are not getting through to me.

Q Well, that's not surprising.

A I can't visualize, well, it indicates things to me possibly.

Q What are they? That is what I asked you, what does it indicate.

A I don't know of any scientific facts that it indicates.

Q Do you know of any that ain't scientific?

A I think you just got through stating the ones that aren't scientific.

Q I am trying to get them in the record, if that means anything to you as engineer, I want to know about it.

A Alone, no, Judge Foster, I fail to grasp the significance of your question.

MR. FOSTER: That is all.

MR. PORTER: Mr. Woodruff, you may have already indicated this, but what is the gravity of the condensate [illegible], do you know?

A I do not know. It is possible that we have that [illegible].

MR. FOSTER: It is about sixty-three.

MR. PORTER: Thank you, Judge. Mr. Utz.

By MR. UTZ:

Q Mr. Woodruff, I am referring to the paragraph at the bottom of page six on Exhibit H wherein you referred to the cancellation of under production, the paragraph that I have reference to is where you state that "if it appears that such continued underproduction has resulted from the inability of the well to produce its allowable, it may be classified as a marginal well and its allowable will be set at the maximum monthly volume --

A (Interrupting) Yes, sir.

Q Produced in the preceeding six months and its adjusted allowable shall be equal to its production". Did you mean "adjusted" to be in there?

A No, adjusted should be stricken.

Q By a well's inability to produce its allowable, do you mean by that paragraph that if a well produced 40,000,000 cubic feet in six months and its allowable was 5,000,000 it would constitute inability of the well to produce its allowable?

A [illegible] to be in error [illegible].

[illegible] read during the six-month period the [illegible] cubic feet, would that indicate

to you that the well could produce it's allowable?

A Should it produce it's allowable during a month, I would consider that it should not be classified as marginal.

Q If the well produced 10,000,000 cubic feet and its allowable, we will say, was 12,000,000 cubic feet for that month, it would not produce its allowable for that particular month?

A That is correct.

Q But if it produced 10,000,000 for that one month and the allowable for six months was 50,000,000, would that indicate to you that that well could produce its allowable at 50,000,000?

A Yes, it would.

Q Then under the terms of this paragraph here, would you say that that well's ability, had the ability to produce its allowable?

A In the example you gave me, yes, I would consider that it did.

Q At the top of page eight where you refer to the overproduction, balancing of the well, I wonder if you would explain just how that procedure would work?

A Now, just starting with the first paragraph on page eight?

Q Yes.

A That provides if at the end of the first succeeding proration period the well is still overproduced and has not been in balance since the end of the preceeding proration period, then it

shall be shutin and its current monthly allowable chargedagainst said overproduction until the well is in balance" -- I consider that it should be handled in the same manner as is followed in the San Juan Basin. If these rules do not specifically provide as those do, I would change my recommendation to provide that those rules provide-- let me find a copy of it.

Q The paragraph I am questioning, Mr. Woodruff, is that current monthly allowable being charged to the overproduction. Is that in conformance with the committee's recommendation?

A I believe it is.

Q I don't know whether it was an industry committee.

A It was my recollection that is what was recommended.

Q Would that require in a third proration period where a well had been overproduced, for the full balancing period and never made up its overage, would that require in the third proration period a well to show by its chen status that it had made up that overage?

A If an operator is to have full benefit of the six months' balancing provisions, he should be privileged to correct the condition existing during any one six-month period, during the succeeding six-month period, so that in the example as I understand it you have given, if a well is overproduced going into one balancing period and is still over-produced at the end of the succeeding balancing period, what would you do with that well. I believe that's your question?

Q Yes.

A I think it should be shutin until that overproduction accumulated to the well at the end of the first balancing period was made up. At which time it would be permitted to continue producing with that volume of overproduction accumulated at the end of the second period to be made up by the end of the third period. I trust that I have been understandable, but as I said, for the balancing rule, for the operator to get full privileges under the balancing rule, what occurs during one six-month period he should be privileged to make up during the succeeding and should the well be required to be shutin in my example, at the end of the second proration period until all overproduction, both that which it had at the end of the third period and which it had accumulated during the second period, was made up, it would be denying the operator of that well the flexibility of operations during the third period to make up the overproduction during the second period as he desires to.

Q In other words, what you are saying I believe, is that the overproduction that he accumulated during the first period didn't make up in the second period, he should be shutin for the third period or his allowable reduced by that amount?

A That is correct.

MR. PORTER: Anyone else have any question of Mr. Goodloff?

MR. WOODWARD: I have a couple of questions on redirect examination if I may.

MR. PORTER: Go ahead, Mr. Woodward.

RE-DIRECT EXAMINATION

By MR. WOODWARD:

Q Mr. Nutter asked a question about two wells having different reserves in the same pressures I believe. You stated that such a condition was possible. Now, if the same volume of gas is withdrawn from those two wells, what will happen to the pressure of the well having the smaller reserves?

A Pressure of the well having the small reserves will decrease more rapidly than the pressure having the greater reserve.

Q Would that mean on the next six months testing period that an appropriate adjustment or correction of the allocation formula would be made to correspond to the value of the reserves in place at that time?

A Yes, sir.

Q Now, considering the presently known facts about this field at this time and as a practical matter, would well allowables very greatly under any all acreage formula representing an acreage factor?

A No, sir, no formula that took into consideration, that had one hundred percent consideration of acreage as well as any other factor. In other words, a three formula, under similar conditions, any

such formula would have essentially the same results.

Q Is that because of the uniform conditions throughout this reservoir at the present time?

A Yes, sir.

Q Would it make the slightest practical difference to a pipeline purchaser in its operations as to which of those formulae you adopt, that is one recommended or any other formula carrying an acreage factor?

A No, sir.

Q The basis of your recommendation is a purely equitable one, is that right?

A That is correct.

MR. WOODWARD: That is all we have.

MR. PORTER: Mr. Abbott.

MR. ABBOTT: W. G. Abbott.

RE-CROSS EXAMINATION

By MR. ABBOTT:

Q Mr. Woodruff, is this a gas pool with an oil rim or gas condensate reservoir?

A After having listened to the testimony today and from what I know of it, I consider it to be a gas condensate reservoir, and I know of no existence of an oil rim.

Q You testified you had no bottomhole samples. Do you have

a gas analysis or a bottomhole pressure to indicate whether or not there was any distillate in the well or well bore? You are saying it is a gas condensate reservoir, but you don't have any test to back that up?

A I have no data available to me. I will question the witness that have testified to see if they do. I am not familiar with that particular feature.

MR. WOODWARD: We'd be glad to put our engineer back on the stand. I don't know if he can add much to what he said. He would be glad to consider this question.

MR. PORTER: Let's finish with Mr. Woodruff. Mr. Mankin.

By MR. MANKIN:

Q Mr. Woodruff, as long as there is only one pipeline purchaser in this pool, what would gas proration in this pool serve as long as the one purchaser would take ratably from the wells in question?

A Nothing.

Q Why is it called for?

A [illegible] this pool.

MR. [illegible] I may, I might answer Mr. [illegible]. That the statute by itself provides for [illegible] purchaser's connection within a field. [illegible]

one, two decisions that have discussed this concept of rateable takes, the Texas case which has said in effect that has to be in reference to some standard. Well now, the allocation program adopted by the state becomes a standard to which the purchaser attempts to take rateably. Rateable take doesn't mean equal take. It means a take in accordance with some standard in the same proration.

MR. FOSTER: It means unequal take?

MR. WOODWARD: For example, we might take sixty percent of the allowable for each well in the field, but under the standards set by the Commission, the allowables for those wells may vary so that the actual withdrawals may vary, but it is a proportionate take on our part or a proportionate reduction if you want to look at it that way, in total allowable per unit. That is what we have asked the Commission to do whether there is any other purchaser here is to fix the standard.

MR. PORTER: Mr. Nutter.

By MR. NUTTER:

Q I don't know whether to direct this to Mr. Woodruff or Woodward. This pool is on 160 acre unit. Does each well in the pool have currently 160 acres dedicated to it?

A I believe it does.

Q You can have rateable take, just by taking the same amount

of gas from each well except for the qualitative factor that you have introduced here today, that is the only need for the proration to bring the pressure in, is that correct?

A That is the only reason for bringing pressure in, is that what you say?

Q That is the only need for prorationing is to allow the pressure factor to enter?

A No, I think in your previous questioning of me you brought out a very important feature in that by assigning more acreage than 160 acres to a well, you can increase the takes from that well and prevent the drilling of unnecessary wells. That is one of the important features and reasons for wanting proration in this pool. The only way that an operator otherwise could protect his reserves would be by drilling of the wells on 160 acre basis so as to have a well there to get his rateable share.

Q Each well presently has an equal amount of acreage assigned to it, is that correct?

A Each well has at least 160 acre drilling units. There is no assignment of acreage for proration purposes. There is no proration. With proration additional acreage can be assigned to a well if the acreage is productive and there to be assigned.

Q I believe the testimony today indicated that a well on 160 acres would pay though, didn't it?

A That is correct.

MR. PORTER: Anyone else have a question of Mr. Woodruff? The witness may be excused.

(Witness excused.)

MR. PORTER: Mr. Abbott, would you like to have Mr. Derrick return to the stand so you might direct your question concerning the type of reservoir?

MR. ABBOTT: No, I don't think it is necessary.

MR. PORTER: Do you have any other witnesses, Mr. Woodward?

MR. WOODWARD: No, that is all our direct case, Mr. Porter.

MR. PORTER: Judge Foster, are you prepared to present your witnesses at this time?

(Recess.)

MR. PORTER: The meeting will come to order, please. We will proceed with the next witness.

EARL P. LAWRENCE

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

DIRECT EXAMINATION

by MR. POSTAL:

Q Mr. Lawrence, you were sworn this morning along with the other witnesses?

A Yes, sir.

Q Will you state your name? A Earl P. Lawrence.

Q Where do you reside, Mr. Lawrence?

A Midland, Texas.

Q By whom are you employed? A Phillips Petroleum Company.

Q What capacity?

A Assistant Division Development Geologist.

Q Will you state for the purpose of the record your educational background?

A I was graduated in 1952 from Colorado College with a B.S. in geology and 1953 with a B.S. degree in geological engineering.

Q Since that time what has been your business?

A Pool development in both Texas and New Mexico for the past three and a half years.

Q Are you familiar with the Crosby-Devonian Pool that we have been discussing here today?

A Yes, sir. I have followed it right from the discovery well on up to its present status.

Q Have you prepared a map or an exhibit for use in evidence in this hearing?

A Yes. This will be our Exhibit A.

Q Will you turn there to Exhibit A that is on the board and tell us first what that is?

MR. PORTER: The witness's qualifications are acceptable.

A Before we consider this structure map I think we should

first of all consider its geologic location. The Crosby-Devonian Pool is located on the western flank of the Central Basin platform the Delaware Basin lying immediately to the west. The control in that area Devonian and pre Permian control is sparse to the west and to the south. Our Exhibit A is a structure map contoured on top of the Devonian with fifty foot contour intervals. The wells shown on this plat are all wells that have gone to the Devonian whether they were producing or dry holes. This map we have depicted the fault. First of all we have interpreted the structure to be a dolomitic truncated anticlinal truncated at its northeastern border by an abrupt throw fault. The throw of the fault we calculate to be between 250 and 300 feet. We feel that this fault probably cuts the Anderson-Prichard No. 1 Lanehart for three reasons.

We feel the fault is in there for three reasons. We feel that it cuts this well here for one reason. Those three reasons are based on the first one, the completion of the Olsen No. 1 Evans [illegible] an oil well, it was a structurally low [illegible], completed [illegible] as oil well flowing 1314 barrels of oil per day. The gravity of that oil was 34 degrees [illegible] the gravity of the distillate in the Crosby-Devonian Pool is [illegible].

We feel that the fault [illegible] primarily [illegible] of the difference in section. [illegible] a total of [illegible] feet of Woodford, the Olsen No. 1 [illegible] a section of 45 [illegible] which is

common to the Crosty-Devonian Pool proper. So we feel that the fault is pretty close to this well, if not cutting it and lying between the boundaries are then the Olsen No. 1 Owens and Sinclair Lanehart Well.

Q Tell me what was the source of your information from which you prepared that map?

A Electric logs and sample logs.

Q There is a very steep dip to the west indicated there, is there not?

A Yes, there is. As I say, there is no control to the south, but the steep dip could indicate a fault to the southwest. Originally when the discovery well was drilled in there, there was steep dip interpreted to the northeast. As it turned out later, it turned out to be a fault.

Q I notice you don't close those contour lines on the south there like the map of [illegible] did this morning. Will you tell the Commission why you didn't close those lines?

A Well, primarily because you don't have any control down here to close them.

Q What do you mean by control?

A No wells have gone to the Devonian. In my opinion [illegible] is no justification [illegible]. The steep dip [illegible] indicated on the previous [illegible] wells.

Q Now, will you indicate on that map there about where the fault line was located by the witness for El Paso Natural on the east, just draw a pencil mark down through there so we can see it.

A If I remember correctly, their fault was trending more in a north, northeasterly, southwesterly direction similar like this, I believe.

Q Their fault line there placed our well where?

A Would you repeat the question?

Q The fault line that El Paso placed on their map this morning had the effect of placing our well in the field where with respect to the fault?

A With respect to the fault, the previous structure map showed that the fault was closer to our well than this present interpretation.

Q Did it place our well north or south of the fault?

A South of the fault.

Q South of the fault? A Yes, sir, southwest.

Q South and west of the fault? A Yes.

Q It didn't take our well out of the field, did it?

A No, sir.

Q Well, as a geologist and from your experience in the work that you have done here in correlating the information available to you in this field, would you say that in Section 28 is it,

where is the El Paso Natural Well located?

A The El Paso Natural Well is located in Section 33 approximately 990 from the north and 1980 feet from the west.

Q Would you say from the information that you have that you could tell what the productive acreage should be assigned to that well?

A No, sir. Chances are they probably will have 160, but that is as far as I would predict it.

Q That is as far as you would go?

A Yes, sir.

MR. FOSTER: I believe that is all.

MR. PORTER: Are there any more questions of Mr. Lawrence? Does anyone have a question? Mr. Mankin.

CROSS EXAMINATION

By MR. MANKIN:

Q I note that El Paso's Exhibit .. had some very sharp, steeply dipping structure on the west side of the pool whereas yours was more uniform throughout the pool.

A Yes, as I remember I think perhaps they made their map up in conjunction with seismic information and with the electric logs we had. What they have done, they have brought these contours here and drawn them or brought them in there to conform with [illegible]

Q Then their map indicates some seismic picture in additi.. to actual drilling of logs?

A Yes, I believe it does.

Q Your map does not indicate seismic picture?

A No, sir, this is made up on the information that we know is positive and not what we hope it will be.

MR. PORTER: Any more questions?

MR. WOODWARD: I would like to ask some questions, if I may.

By MR. WOODWARD:

Q Is the acreage north and east of the fault outside of the Crosby-Devonian reservoir in which the gas wells shown in connected up circles are drilled?

A I would say the acreage on the northeast side of the pool is out of the Crosby-Devonian gas field if we combined them with the Jal-Devonian Field.

Q This acreage of Sinclair, this well of Sinclair's is not draining then any acreage in the Devonian formation north and east of that fault, is that right?

A I cannot speak for Sinclair the way they have interpreted.

Q We are just talking about your field like it is here.

A Yes, sir, according to my interpretation it would be.

Q This very small part of the southeast of Section 29 would be outside of the productive limits of the Crosby-Devonian

A In this little piece we are talking about such a small minute matter that the fault could be moved up this way a little bit and it would take care of it.

Q It might not even cut this far down?

A You mean this fault here?

Q Yes, it might be to the north of that slightly.

A It may be an angle there, yes, sir.

Q So the entire 160 acres is fully productive?

A Yes, sir.

Q On the fault line that the witness for El Paso drew, I think you have traced it on here?

A Yes, sir, roughly approximately like that. They moved it closer to our well.

Q It leaves a little more acreage in the northwest of Section 28 south of the fault, doesn't it?

A I don't believe it does a whole lot. You see they have a sharper angle and they are cutting off portions down here which would probably make up for that.

Q Is it cutting sporadically into the amount of acreage in the southeast of 28?

A Yes, sir. Depending on [illegible] interpretation it would effect considerably, take more acreage off our well. I don't see how [illegible]

Prichard Lanehart. You are awfully close to it because of the difference in the Woodford Section.

Q You don't have any doubt the fault is there?

A Yes, there is a fault there and we have depicted it pretty close to where it is.

Q Depending on where it is, the amount of acreage available for dedication to those two wells under 160 acre and 640 acre spacing will be affected, is that right?

A Yes, sir.

Q What estimate, if you have one, of the productive limits of the Crosby-Devonian Pool to the west do you have?

A They have been recently established for us by the Humble No. 1 Diggs which drillstem tested 1312 feet of salt water from the Devonian. I pick at oil-water contact in there minus 6,054 which would put the oil-water contact at approximately in here. That is as far as you can carry it because we don't know if there is a fault in there or not.

Q You don't know how far around the periphery of the structure that salt water contact continues?

A Well, we don't know if these contours do contain down here.

Q When you made this map you didn't have a seismic picture, did you?

A No, sir.

Q If you had had a seismic picture and made a well analysis and the well analysis substantiated the seismic picture, would you have been inclined to follow the seismic picture in drawing the structure to the south where you have at present no well control?

A No, sir, not with the steep dip that is over here. I think that it's a pretty big guess to say that all the contours go close down here because the field is located in such an area that faulting along like that is typical.

Q Then your seismic picture wouldn't be of any particular value to you in drawing your contour?

A No, sir, I don't believe it should be used, mainly for this reason: That Anderson-Prichard had fairly good seismic dope in there. I don't think that they did depict a steep dip over here. I don't believe they had anticipated a fault or they would have drilled this well, or Mr. Olsen would have drilled up here.

Q But the fact that the seismic picture indicated a fault that was found by actual drilling would tend to confirm the seismic picture, wouldn't it?

A To this extent, that a steep dip would prove to this extent that a steep dip might have possibly been a fault instead of just a continuous dip.

Q Well, now, in the absence of any well control to the south, you don't know where these contours extend?

A Not down here, no, sir.

Q They could extend a great distance or you could make this a fault cutting the field short in that direction, is that correct?

A You could expect a fault here, yes, sir.

Q You could expect one. Without reference --

A (Interrupting) We have nothing to say there is or --

Q (Interrupting) You have no reason to believe there is a fault there than there isn't a fault?

A There is more reason there is than to believe there isn't.

Q What is your basis, assuming that the seismic picture doesn't give you any information and doesn't indicate fault?

A Well, we know that over here there was a fault and it did indicate steep dip.

Q That was the fault indicated by the seismic picture?

A Yes, sir. Now you have a similar situation where you have a steep dip indicated on your seismic picture. Now would you in drilling a well be inclined to believe that steep dip indicated a fault or just actual dip, drawing a similarity --

Q (Interrupting) You are the expert on these matters. I am not.

A Well, I'm trying to bring my point that steep dip could be a fault here. We have no reason to say that these contours are closing here.

Q According to your testimony, as I understand it, is you have no well data in the south half and the seismic picture gives you no reliable information?

A I don't believe we should rely on seismic data to prove up productive acreage, no, sir.

Q Is it a correct statement of your position that you have no well data in the south half and that your seismic picture gives you no reliable information as to whether you have got a fault or whether those contours closed?

A As far as productive acreage is concerned, it shouldn't be used.

Q Then you have no basis one way or the other of saying this structure may or continue much further to the south or is truncated by a fault?

A We have to this extent in reasoning, realizing that this is located in an area where faulting like that like the fault to the northeast is common and you expect it, knowing that and having steep dip on this side and your map did bear that out, it would be normal from a geologic standpoint to expect a possibility of a fault.

Q Do you know whether that fault occurs two miles south of the original one or ten miles south?

A Well, we'll have to have another well in there to find that out. We can interpret this several ways. You can interpret

another high coming up here and a fault in between them, but you have no proof by putting that in there.

Q Is there reasonable possibility, we will leave probability out of this thing, is there reasonable possibility that there is some productive acreage to the south of Section 33 in the Crosby-Devonian Pool?

A There is a possibility, yes. There is always a possibility of that much. But it may be an entirely different field. It may be another Jal-Devonian Field.

Q That's speculation on your part?

A Yes, sir.

MR. WOODWARD: That is all.

MR. PORTER: Mr. Mankin.

By MR. MANKIN:

Q Mr. Lawrence, isn't it very common practice to find in Devonian fields of New Mexico and West Texas, that there is more than one fault which limits the production in a particular field?

A Yes, sir.

Q In other words, it would be common to find two or three faults in structures such as this from your experience in West Texas and New Mexico?

A Yes, sir, particularly in this geologic province where the field is located right on the edge of the Central Basin platform

adjacent to the Delaware Basin.

Q So this sharply dipping structure could well be another fault?

A Yes, sir.

MR. PORTER: Mr. Harbin.

By MR. HARBIN:

Q Mr. Lawrence, which is the downthrow side of the fault and which is the upthrow side?

A The northeast part is the downthrow side, the southwest part is the upthrow side.

Q How much displacement is there?

A We estimated the throw to be approximately 250, 300 feet.

Q Do you know whether or not any well has been drilled which cut the fault line?

A We believe that the Anderson-Richard No. 1 Lanehart did cut part of the fault in the Woodford, accounting for the extra 200 odd feet of Woodford that this well did cut.

Q Isn't it possible that instead of there being a fault line along there that could be a very steep dip?

A I don't believe so, no, sir. However, it is possible to map it in without a fault.

Q Now, the only two controls you have is that Olsen oil well to the north, isn't it?

A Yes, sir.

Q And the Anderson-Prichard well down where you are pointing?

A To the south, yes.

Q Then you draw this fault line in there from the data that you got from those wells comparing it with the other wells?

A Yes, sir.

Q If you had a very steep dip running through there, why it would show the same thing, wouldn't it, as to displacement?

A No, sir, I don't believe so. Well, my, I had actually three reasons for putting th[illegible]ault in there. The first one was the completion of the Olson [illegible] was 34. It is presently pumpi[illegible] plus 54 barrels of water. The datum on [illegible]. The tig difference there is the difference in the [illegible] reason was the Anderson-Prichard [illegible] of Woodford.

Q Well now --

A (Interrupting) [illegible]ence, the Devo[illegible]. The [illegible]hart, 3375, [illegible].

Q If you [illegible], you would [illegible] situation, would you not? [illegible]

A Well, this well didn't [illegible], but [illegible]

was 607 I believe. Let me check that here, just a minute. The IGOR was 630, the flowing tubing pressure was only 500 pounds.

Q Would there be any reason why that fault wouldn't be closer to that oil well than the position you have it there?

A Well, that is, it's pretty hard. Well, it's practically impossible to say this is the point exactly where the fault is. The only point I am sure of is on the Anderson-Prichard Lanehart. Now that fault could angle up in a horseshoe shape fault. You are just limited on your control if that was a 20 acre spacing we could pin that down.

Q In other words, the fault line on the northwest there at the end of it as shown on that map could swing further north or, as you say, in a horseshoe shape up there?

A Well, you know it goes through this well or right next to it.

Q Yes.

A This well here is making gas.

Q Yes.

A Where you put your fault in here.

Q It would be somewhere between this well making gas and the oil?

A Between this one and this one here.

Q All right.

A I don't believe it is close to this, otherwise it would have cut a little larger section or maybe had a little higher GOR, but that point is very debatable. Well, it is just impossiblw to pinpoint that fault where it is.

MR. HARBIN: That is all.

MR. PORTER: Anyone else have a question of Mr. Lawrence? The witness may be excused.

(Witness excused.)

MR. PORTER: Did you want to offer your exhibit?

MR. FOSTER: I want to offer Exhibit A.

MR. PORTER: Without objection it will be admitted. Any more witnesses in this case? Does anyone have a statement? Mr. Campbell.

MR. CAMPBELL: James M. Campbell, Campbell and Russell, Roswell, New Mexico. I would like to make a statement on behalf of Harry Leonard, who appeared in the first hearing of this, of the field rules, and the original transcript will contain the interest owned by Mr. Lenoard, both royalty interest and a six and a quarter per cent obtainable working interest in the Olsen Well.

We would like to protest the granting of the application for a 640 acre proration unit. This field has been developed extensively today, and perhaps limited, on a 160 acre pattern,

both as to spacing and drilling units and proration unit. We feel that it is untimely, to say the least, at this stage, for a 640 acre unit to be established when it would appear that the applicants' own well, located some 660 south of the section line would be seeking a 480-acre gas allowable, when there is no evidence other than their statement as to seismic information, that the south half of that section would be productive of gas.

We feel that the proper way for them to obtain the gas is to do what everyone else has done, and that's to drill a well to determine whether the gas is there, and produce it.

We also feel that it is unwise, with the lack of information available on the reservoir conditions, to impose any appreciable factor in the allowable for any proration unit at this time until it is fully determined what the condition of the reservoir may be, whether it is a gas area with an oil ring or whether it is a producing field, or whatever it might be. We also think that there is some smatter of evidence as to possible water production in some of these wells that should be explored before any proration system, different or otherwise, is applied in southeastern New Mexico and is put into effect.

We strenuously oppose the application to change the rules herein, and what we consider is considerably past the middle of the game, and we feel that the wells have paid out and are paying out on a very satisfactory basis, that it has been a very good

investment. Other people have drilled dry holes, it is unfortunate to have to take this risk, but it is part of the game and we feel that El Paso should not come in at this time and ask to be attributed acreage to the south, which we do not feel has proved to be productive of gas.

MR. PORTER: Does anyone else have a statement?

MR. Grieg: Grieg, with Humble. I would like to say for Humble that we are in accord with the proration unit of 640 acres. We have no objections to the other rules as proposed other than Rule Eight. We do not see, however, any reason to include any factor in the proration formula other than acreage at this time, but if one is to be included and is to be a pressure factor, it should be bottomhole pressure and not surface pressure. The purpose of securing the bottomhole pressure rather than the surface pressure is to determine the bottomhole condition, and to do so is only shown by surmise and with no evidence to support it, and we do think that it should be so.

MR. PORTER: Mr. Walker.

MR. WALKER: Don Walker, with Gulf. When this case was originally heard in April of 1955, Gulf recommended a proration unit which would eliminate the drilling of unnecessary wells, preferably 640 acres, and our position has not changed. We still like it. However, [illegible]

in the allocation formula. We think that if a pressure is desired, certainly the bottomhole pressure is the one that should be applied. However, we would be satisfied with the 100 per acreage allocation which is now used in New Mexico. We would like to recommend that all acreage included in any unit should be reasonably certain to be productive of gas, and also we would like to underline some statements here that were made here today, that any wells drilled or drilling, if the rules are adopted, should be an exception to those rules, for spacing with the outer boundary.

MR. McCLURE: C. G. McClure, Anderson-Prichard Oil Corporation. Anderson-Prichard Oil Corporation drilled the discovery well in the field acting upon our information and our belief at that time when the original hearing was held. In reference to the rules for the promulgation of spacing in the field, it was our opinion that probably 320 acres would be a proper unit. Since that time subsequent drilling has proven that we have the nature of a reservoir and that it is a deep reservoir with steeply dipping formations. Subsequent drilling, and we admit that we did it with the best information that we had, we drilled a dry hole offsetting the discovery well in the northeast of 28. Since that time the western limit has been determined by that dry hole. In view of the structures as we find them, and in view of the value in the orders in this field, the field has been developed to this period, we think it untimely

to agree with what has been said, that any change be made with reference to the spacing or proration units, that at this time, the rules should remain for 160 acres.

The best evidence that we have heard today relative to the area to the south is that it is either guesswork or upon their interpretation of seismic information. Sometimes that seismic information may be wrong. We have heard a difference of opinion on the west side as to whether or not that might be a steeply dipping formation or there might be a fault down there. Needless to say, we urge that the Commission stand by it's original order, and further, that before any acreage is admitted, that it be reasonably certain of gas productivity.

For that reason, we strongly protest any change as to the acreage in the proration units. The Commission has received a letter from Southern California Petroleum Corporation in which you are advised that we have authority to speak for that company in regard to any protest, in regard to protesting a change from the 160 acre proration unit that we now have. I might state that our company is certainly in favor of wide spacing insofar as gas production is concerned. We feel that we have a unique situation in this particular field, and you only have to refer to the arrow marks on the exhibits, as placed in evidence today, to show the particular significance of the difficulty of actually

proving whether or not you actually have gas productivity. We say that when you have drilled it and found it, at that time, then you are entitled to placing your acreage in a unit.

MR. PORTER: Any further statement? Mr. Girand.

MR. GIRAND: W. G. Girand, Hobbs, New Mexico, representing Norman Olsen. We would like to adopt the remarks of Mr. Jack Campbell, and the representative of Anderson-Prichard Oil Corporation, in protesting any changes in the rules and regulations covering the Crosby-Devonian Gas Pool.

MR. ABBOTT: Abbott, representing Amerada Drilling Corporation. Amerada has no production in this field at this time, but it does have prospective acreage. It is Amerada's position that in order to protect the investment of the companies that are drilled on a 160 acre tract, under Order R-639, that it would be fair and reasonable to conduct further development under the same order. We understand there is one oil well properly completed in the Devonian Formation with the possibility of other wells being properly completed as oil wells. An allocation formula to protect that oil well may be adviseable sometime in the future, but until such time, we prefer to be consistent with the present method of acreage allocation in Lea County and recommend gas production in this field be allocated on the basis of straight acreage.

Therefore, we recommend the applicant's application for 640

acre units and allocation based on acreage times well-head pressure be defined and that the field continue to be developed in accordance with Order R-639 and gas production allocated on the basis that other oil and/or gas units in Lea County are allocated.

MR. SELINGER: Mr. Selinger, Skelly Oil Company, and we approve the continuation of Order R-639 with the proviso that should proreation be made necessary, that the allocation formula be a hundred per acreage, as is commonly and prevelantly throughout all southeast New Mexico gas fileds, on a hundred per acreage.

MR. HARBIN: Mr. Harbin, representing Sinclair Gas and Oil Company. We wish to object to the granting of this application insofar as it seeks to change the proration unit from 160 acres to 640 acres. It appears that if such an order were entered into changing the proration unit to 640 acres, it would be a moot order because it is apparent that there is not any block of 640 continuous acres, productive acreage, which could be assigned to such a unit. As I see it, it seemed the most which could be assigned to any unit of definite productive acreage would be 160 acres.

Now, we wish to oppose the application also, insofar as it seeks to change the allocation formula. We believe that the allocation formula should remain as is provided under the statewide rule, a hundred per acreage. However, because of the non-ratable take which exists in that pool today, we are in agreement that the

pools should be prorated, that is, the gas production be prorated. We would like to recommend that the Commission take whatever action necessary to insure a ratable take from all of the wells in the field.

I do not know whether the Commission has the power to issue an emergency order or not, but I think that should be taken care of at the earliest possible moment so that there will be ratable take from all of the wells in the field.

MR. KELLY: We have a small working interest in the El Paso well, and it is not our intention to take issue with the request of El Paso for the spacing or the allocation, but in case in considering this, the Commission decides to formulate rules for proration ofthe gas, the proposed rules by El Paso, we have some recommended changes in those, and I would like to make them here.

The first thing that I would like to mention is that under Rule 11 on Page Eight, the Commission may allow overproduction to be made at a lesser rate than would be the case, showing that a public hearing has been completed, because the shuting of the well may result in material damage to the well. Now, some of these leases are approaching the primary turn and we think there should be a provision there for production of the lease. Also Under Rule 11-B on this overproduction, we feel that the last sentence of the first paragraph, that should be deleted in accordance with the recommendation of the industry commission on oil-gas allocation. And, furthermore, we

would like oil and gas wells defined in any order that is issued.

MR. TOMALSON: W. P. Tomalson for Atlantic. We own a working interest in the Anderson-Prichard gas well. We favor continuation of 160 acre proration unit, one hundred per cent acreage allocation, and adoption of a system of nomination with balancing periods. That would be necessary in order to have proper proration of a pool.

MR. PORTER: Does anyone else have a statement. Mr. Foster.

MR. FOSTER: We want to be authorized to speak for the William Wells, we have no representative of that company here. We think, first, that this field should be prorationed. We think that we should enter a proration order in the field. We do not believe that a pipeline company or anybody else instituted some sort of private or semi-private way of allocating gas among the wells tere. We further think that you should prorate it on the basis at this time at least, of a hundred per cent acreage, but if you want to put the pressure in there, we think you should take the bottomhole pressure and not surface pressure. We think that the question involved here is not a question of the drainage area of the gas well. We think you have a situation here where you are unable to determine the productive limits of the field, and a situation here which might work a grave injustice, if you are attempting to assign acreage to the wells, on the south end of the field there.

When you do not have any more evidence than you do have of the

productive limits of the field, and on the productivity of acreage that would be assigned to that well. Now, I want to say here for the record that we are also and have also been in favor of wide spacing, at least wide spacing to begin with. Now, I do not want to appear critical of the Commission at all, but I think this case and the circumstances in this case clearly indicate that this Commission should give serious consideration to the adoption of a statewide rule that materially increases the spacing pattern of gas wells so that we won't have the situation develop here where we get a field started on a small spacing pattern that can't ever be expanded and change to a situation where you start on a larger pattern and change it to a smaller pattern as the field facts are developed.

Now, we are opposed to the application here of the El Paso Natural Gas Company for the reason that I have stated; the request of the spacing of 640 acres. I do not think that there is any particular issue in this case as to how much a well will drain. The question is whether there is anything there for it to drain, that is whether there is any gas there for it to drain in this area at this time. And I urge the Commission to deny the application of the El Paso Natural.

Now, if you do not do that, now on this [illegible] provision, I think you ought to require, if you are going to put in

this wider spacing pattern, I think you ought to require them to drill a well pretty near the center so that you would get more control over productive acreage in that well.

MR. PORTER: Anyone else have anything? El Paso has a closing statement if all others are completed.

The Commission has a couple of letters which I would like to have read into the record at this time.

MR. WALKER: These letters are rather lengthy and I will give the general text of it, and if anyone wishes to examine it they will be in with the rest of the record.

The first letter is from Culbertson and Irwin and the general text of the letter is,"we object to any change in the size of the present 160-acre proration unit".

The second letter from Sun Oil, we will object to the use of shutin well pressure in the allocation formula. These letters will be made part of the record.

MR. PORTER: Mr. Woodward.

MR. WOODWARD: Woodward, El Paso Natural Gas Company. We comment on the evidence for 640 acre proration unit in this case, I feel is required. That evidence speaks for itself. The statute of this area defined proration unit as the area which can be efficiently and economically drained by one well. In principal I do not have a reasonable objection to the 640 acre

proration units which are less in the area which can be efficiently and economically drained by one well for a small operator who favors the drilling of unnecessary wells. And yet there are instances where an operator has already drilled a well on a tract smaller than the area that well can efficiently drain. Except as a matter of principle, you can hardly accept such an operator who has drilled his well and spent his money to be wildly enthusiastic about field rules which will permit the owner or afford future owner of a larger tract to recover his fair share of a pool's production without drilling some unnecessary wells.

But it might be questioned what legitimate benefit does the operator of a small tract receive under these circumstances. If the operator of a big tract will pay the price of drilling some unnecessary wells, he can then obtain his rightful share of production. The owner of a small tract has gained nothing. There is the same withdrawal from the larger tract and the owner of the larger tract has wasted some money, some money that was not needed, to get the gas out of the ground under that tract.

Now, if the owner of the larger tract refuses to invest his money on unnecessary drilling, a part of his gas is produced by others who received a wholly undeserved windfall. I see nothing right or just in that type of situation. The requirement that because others have drilled wells on less than the area which [illegible]

efficiently drilled or efficiently drained by one well, that all other operators of larger tracts should be obliged to do likewise. That is the situation which existed in many parts of the Eumont-Jalmat Pools, and that is the situation which exists in this pool at this time. Much of this field, the majority of it, quite clearly has held a hundred and sixty acre leases and has been developed on a hundred and sixty acre spacing. El Paso owns a tract larger than one hundred sixty acres, one hundred and eighty acres to be exact.

It is shown that one well will efficiently and economically drain an area of not less than 640 acres. It is asked that the Commission not require it to drill unnecessary wells in order to obtain its fair share of the pool's production under thefact, and we think we are entitled to this relief.

Speaking of the facts, every relevant circumstance indicates that 640 acres proration unit is at least appropriate in this pool as in other pools in southeast, New Mexico, where they have already been established. Proration units of less than 640 acres in the Crosby-Devonian Pool in our opinion, would represent a discriminatory distinction without a reasonable difference. This is the primary burden of our case. What we are here talking about is whether we spend one hundred or [illegible] additional dollars in additional and unnecessary drilling [illegible] of 33 in order to get the pool's production that we are entitled to.

Now, considerable comment has been made as to whether or not this area is productive, and it has been suggested that we drill a well to find out. In other words, that we go ahead and spend the two hundred thousand dollars, or the four hundred thousand dollars. I would suggest this, that if there is any doubt as to whether or not that south half of 33 is productive, that question will be raised in an application for a non-standard proration unit, at which time the development, when that application is heard, can be considered.

If, for example, additional drilling determines that it is productive, it should be allocated to the well without the necessity of spending some money for additional wells, which we feel are not needed, and which the testimony in this case indicates will not refer any additional gas in the producing life of the field.

I might explain another consideration in asking for 640 acres proration units when there is not an undrilled section in the present limit of the pool, as you may recall, and an attempt was made to fix proration units on multiples of 160 acres in Dumont and Jalmat, and it was found unworkable. Though there were large areas where the density of development in some wells was up to 120 acres. Itwas pointed out by Humble and others that 640 acres proration unit, or any proration unit, standard proration units should be in the form of a square of uniform size and shape. In talking about the 640 acres unit or forty units, that would involve placing

it in a square.

Now, as indicated by the testimony, I don't think there is a record in any instance where you have 480 acre proration unit. Obviously they could not follow governmental sections or quarter section lines. And for that reason, 640 acre standard units were adopted in these other pools, making that non-standard proration unit within the boundary of what constituted a standard unit could be established even though they are of uniform size and shape. I think very possibly, of course, this obviously does not apply to your 320 acre units which would be north and south half, or east and west half of the section, but so long as it is demonstrated that one well can efficiently and economically drain an area of 640 acres around that well, I see no basis in the statute for fixing a proration unit of a lesser size, a standard proration unit of a lesser size.

Now, a great deal has been said about the presence of liquids in either a liquid or gaseous phase in the reservoir, and the possibility of an oil rim. The presence of those liquids in either phase in a a gas pool is not uncommon and has never effected the area which a gas well can effectively drain. As a matter of fact, in the older pools you not only have the presence of liquid, you have some completed oil wells and you have established proration units for those oil wells, and other proration unit for your gas wells.

I find that circumstances either the presence or absence of liquids, has no bearing on the size of the proration units. It may very possibly affect the allocation formula as to whether we are going to go to bottomhole or wellhead pressure.

Now, as to the allocation formula we have recommended, we feel on principle that every realistic allocation formula should contain both a qualitative and a quantitative factor. In our opinion, there is no known relationship between the number of surface acres, sagebrush and cactus, dedicated to a well and the reserve underlying those acres. Some index of the value of the acreage dedicated to the well should be included in the allocation formula, if you are going to make allocation on the basis of recoverable reserves and not just an acreage lottery. As has been pointed out, the conditions in this reservoir are, conditions as we know them now, are so uniform that any allocation formula containing a quantitative or acreage factor are going to produce very similar results in the MCF allowable assigned units.

Our recommendation on this score is based purely on our belief that it is better conservation practice to retain such a qualitative factor in the formula.

MR. PORTER: Is there anything further to be stated? We will take the case under advisement.

C E R T I F I C A T E

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand and seal this day of December, 1956, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Notary Public

My commission expires:

June 19, 1957.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 861
Order No. R-639

THE APPLICATION OF THE OIL
CONSERVATION COMMISSION ON ITS
OWN MOTION FOR AN ORDER CREATING
AND DESIGNATING A NEW POOL TO BE
KNOWN AS THE CROSBY-DEVONIAN POOL
FOR THE PRODUCTION OF GAS FROM THE
DEVONIAN FORMATION, SUCH POOL TO
CONSIST OF ALL OF SECTION 28, TOWN-
SHIP 25 SOUTH, RANGE 37 EAST, NMPM,
LEA COUNTY, NEW MEXICO; AND FOR
THE ESTABLISHMENT OF POOL RULES,
DRILLING UNITS, WELL SPACING AND
OTHER RELATED MATTERS FOR SAID POOL.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. March 16, 1955, and was continued to April 20, 1955, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this 27th., day of May, 1955, the Commission, a quorum being present, having considered the record and testimony adduced, and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing having been given as required by law, the Commission has jurisdiction of this case and the subject matter thereof.

(2) That Anderson-Prichard Oil Corporation did complete its American Republics-Federal No. 1 discovery well in the NE/4 SW/4 of Section 28, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico on or about January 18, 1955.

(3) That said well potentialed 30,000 MCF of gas per day on an absolute open flow test from the Devonian formation in the depth interval of 8270 to 8390 feet.

(4) That said well discovered a new common source of supply in this area.

(5) That sufficient evidence was presented to the Commission as to the probable areal extent and directional trend of the newly discovered common source of supply to justify the creation of the new pool as contemplated.

(6) That in conformity with the practices of the Commission, a pool should be created, defined and classified including such acreage as appears to cover the newly discovered source of supply.

(7) That the probable areal extent of the common source of supply is limited, and as a result thereof a proration unit of more than 160 acres could cause the inclusion in units of acreage that cannot reasonably be assumed to be productive of gas.

(8) That one well will efficiently and economically drain at least 160 acres of the said common source of supply.

(9) That in order to provide for the orderly development of the common source of supply, and to prevent waste, drilling units of 160 acres, well-spacing regulations, and a casing program should be established for said common source of supply.

IT IS THEREFORE ORDERED:

(1) That the Crosby-Devonian Gas Pool is hereby created, and that said pool shall consist of the following described acreage:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
All of Section 28

(2) That effective on the date of this order, the following Rules and Regulations shall apply to wells hereafter drilled, completed, or recompleted to the Devonian formation in the Crosby-Devonian Gas Pool area, as defined above, in addition to the Commission's applicable rules, regulations and orders heretofore or hereafter adopted, to the extent not to conflict herewith;

SPECIAL RULES AND REGULATIONS FOR
THE CROSBY-DEVONIAN POOL

SECTION 1. Any well drilled one mile or less from the outer horizontal boundary of the Crosby-Devonian Gas Pool, and drilled to the Devonian formation, shall be spaced, drilled, operated, and prorated in accordance with the rules and regulations in effect in the said Crosby-Devonian Gas Pool.

SECTION 2. No well shall be drilled, completed or recompleted, and no Notice of Intention to Drill or drilling permit shall be approved, unless,

(a) Such well be located on a designated drilling unit of not less than 160 acres of land, more or less, said acreage to be substantially in the form of a square conforming to a legal sub-division (quarter-section) of the U. S. Public Lands Survey, in which unit all the interests are consolidated by pooling agreement or otherwise, and on which unit no other well is completed or approved for completion in said pool.

(b) Such well shall be located not closer than 660 feet to any outer boundary line of the tract, nor closer than 330 feet to any quarter-quarter section or subdivision inner boundary, nor closer than 1320 feet to a well drilling to or capable of producing from the same pool.

(c) The pooling of properties or parts thereof shall be permitted, and if not agreed upon may be required in any case when and to the extent that the smallness or shape of a separately owned tract would, under the enforcement of a uniform spacing plan, deprive or tend to deprive the owner of such tract of the opportunity to recover its just and equitable share of the natural gas in said pool, provided that the owner of any tract that is smaller than a drilling unit established for the pool shall not be deprived of the right to drill on and produce from such tract if same can be done without waste, but in such case the allowable production from such tract, as compared with the allowable production therefrom if such tract were a full 160-acre unit area shall be in the ratio of the area of such non-standard proration unit expressed in acres to the area of the standard 160-acre proration unit.

SECTION 3. The casing program for the field shall include three strings of casing set in accordance with the following plan:

(a) The surface string shall be new or reconditioned pipe with a mill test of not less than two thousand (2,000) pounds per square inch and shall be set and cemented at a depth of approximately five hundred (500) feet, such depth being sufficient to protect the fresh water bearing sands of the Santa Rosa Formation.

Cementing shall be by the pump-and-plug method and sufficient cement shall be used to fill the annular space back of the pipe to the surface of the ground or

(a) (continued)

the bottom of the cellar. Cement shall stand a minimum of sixteen (16) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating pressure tests. Before drilling the plug, this string shall be tested by the application of at lease one thousand (1,000) pounds per square inch and, if at the end of thirty (30) minutes the pressure shows a drop of one hundred fifty (150) pounds per square inch or more, the cementing job shall be condemned. After corrective measures have been taken, the pipe shall again be tested in the same manner.

(b) The intermediate string shall consist of new or reconditioned pipe that has been tested to two thousand (2,000) pounds per square inch and shall be set at approximately thirty-six hundred (3,600) feet. Cementing shall be by the pump-and-plug method, and sufficient cement shall be used to fill the calculated annular space back of the pipe to a point one hundred (100) feet above the top of the Salado formation. The cement shall stand a minimum of twenty-four (24) hours under pressure and a total of thirty (30) hours before drilling plug or initiating tests. Casing shall be tested by the application of at least twelve hundred (1200) pounds per square inch pump pressure. If, at the end of thirty (30) minutes, the pump pressure shows a drop of one hundred (100) pounds per square inch or more, the cementing job shall be condemned. After corrective measures have been taken, the pipe shall again be tested in the same manner.

(c) The producing or oil string shall be new or reconditioned casing that has been tested to four thousand (4,000) pounds per square inch and shall be set at a depth not less than the top of the Devonian formation. Cementing shall be with a minimum of three hundred fifty (350) sacks of cement applied by the pump and plug method and shall stand a minimum of twenty four (24) hours under pressure and a total of forty eight (48) hours before drilling the plug or initiating tests. After cementing, the casing shall be tested by pump pressure of at least fifteen hundred (1,500) pounds per square inch for a period of at least thirty (30) minutes. If, at the end of 30 minutes the pressure shows a drop of one hundred (100) pounds per square inch or more, the cementing job shall be condemned. After corrective measures have been taken, the pipe shall again be tested in the same manner.

SECTION 4. All additional lands located within one mile of any land in the pool defined above or as it may be extended shall conform to these Rules and Regulations; provided, that by order of the Commission the pool may be redesignated from time to time so as to embrace other lands in the vicinity which are believed to be capable of production from the Devonian formation, whether or not such land shall have been at one time included in another designated field or pool.

IT IS FURTHER ORDERED, that the Commission retains jurisdiction of this case for such other and further order or orders in the premises as may become necessary in order to make spacing and other adjustments to protect correlative rights and further prevention of waste.

DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN F. SIMMS, Chairman

E. S. WALKER, Member

W. B. MACEY, Member and Secretary

S E A L

ir

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

February 5, 1957

COPY

El Paso Natural Gas Company
P.O. Box 1492
El Paso, Texas

ATTENTION: John A. Woodward

Gentlemen:

This is to acknowledge receipt of your request for continuances in Case 668 (Rehearing of Application of El Paso Natural Gas Company for Promulgation of Pool Rules for the Crosby-Devonian Gas Pool) and Case 1284 (Application of El Paso Natural Gas Company for an Order Amending the Horizontal Limits of the Crosby-Devonian Gas Pool).

It is the decision of the Commission to grant the continuances as requested and to set the above-referenced cases for hearing at 9:00 o'clock a.m. on March 14, 1957, at Mabry Hall, Santa Fe, New Mexico.

Yours very truly,

A. L. Porter, Jr.
Secretary - Director

ALP:MJC:bp

[redacted]

File

El Paso Natural Gas Company

El Paso, Texas

February 5, 1957

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.
Secretary Director

Re: IN THE MATTER OF THE APPLICATION OF EL PASO NATURAL GAS COMPANY FOR AN ORDER AMENDING ORDER NOS. R-639, R-787, AND R-914 DELINEATING THE AREAL LIMITS OF THE CROSBY-DEVONIAN POOL, LEA COUNTY, NEW MEXICO, BY INCLUDING THEREIN THE SOUTH HALF (S/2) OF SECTION 33, TOWNSHIP 25 SOUTH, RANGE 37 EAST, N.M.P.M., AND EXCLUDING THEREFROM ALL ACREAGE LYING NORTH AND EAST OF A FAULT RUNNING NORTHWEST-SOUTHEAST THROUGH SECTION 28 OF SAID TOWNSHIP AND RANGE.

Gentlemen:

Please refer to our letter of February 4, 1957, wherein El Paso Natural Gas Company, as applicant in Case 861, requested a continuance of rehearing in said case to the regular statewide meeting in March.

Since El Paso is also applicant in captioned matter (case number not yet received), which involves some of the same factual questions as Case No. 861, we request that the hearing in captioned matter be continued to the March meeting and the two cases be consolidated, at least for the purpose of presentation.

Respectfully submitted,

EL PASO NATURAL GAS COMPANY

By John W. Woodward
Attorney for Applicant

JAW:jw

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF EL PASO NATURAL GAS COMPANY FOR AN ORDER AMENDING ORDER NOS. R-639, R-787, and R-914 DELINEATING THE AREAL LIMITS OF THE CROSBY-DEVONIAN POOL, LEA COUNTY, NEW MEXICO, BY INCLUDING THEREIN THE SOUTH HALF (S/2) OF SECTION 33, TOWNSHIP 25 SOUTH, RANGE 37 EAST, N.M.P.M., AND EXCLUDING THEREFROM ALL ACREAGE LYING NORTH AND EAST OF A FAULT RUNNING NORTHWEST-SOUTHEAST THROUGH SECTION 28 OF SAID TOWNSHIP AND RANGE.

ORDER NO._____

APPLICATION

COMES NOW, El Paso Natural Gas Company and alleges and states:

1. That it is the owner of oil and gas leases in the Crosby-Devonian Gas Pool, as delineated by Order Nos. R-639, R-787, and R-914, heretofore entered by the Commission.

2. That the areal limits of the Crosby-Devonian Pool, as delineated, by said orders, consist of the East Half (E/2) of Section 29, all of Section 28, and the North Half (N/2) of Section 33, all in Township 25 South, Range 37 East.

3. That the Commission entered its Order R-639-A, December 28, 1956, establishing proration units and allocating production in said Pool.

4. That a fault running Northwest-Southeast through Section 28, Township 25 South, Range 37 East, N.M.P.M., defines the Northeast limits of production in the Crosby-Devonian Pool, and all acreage lying North and East of said fault in said section is not productive of gas in the Crosby-Devonian common source of supply.

5. That the exclusion of the acreage lying North and East of said fault from the areal limits of said pool is necessary for the protection of correlative rights and the equitable allocation of production from the Crosby-Devonian Pool.

6. That the Crosby-Devonian common source of supply underlies the South Half (S/2) of Section 33, Township 25 South, Range 37 East, and that the South Half (S/2) of said section is within the probable productive limits of the Crosby-Devonian common source of supply.

7. That the inclusion of the South Half (S/2) of said Section 33 within the probable productive limits of the Crosby-Devonian Pool is necessary for the prevention of waste and the protection of correlative rights.

WHEREFORE, your applicant respectfully requests this matter be set for hearing, as prescribed by law, and that upon notice and hearing the Commission issue its order amending its Order Nos. R-639, R-787, and R-914 in the manner herein described.

Respectfully submitted,

EL PASO NATURAL GAS COMPANY

By _____
Attorney for Applicant

JAW:jw

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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Respectfully submitted,

EL PASO NATURAL GAS COMPANY

By John A. Woodward
Attorney for Applicant

JAW:jw

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF EL PASO NATURAL GAS COMPANY FOR AN ORDER AMENDING ORDER NOS. R-639, R-787, and R-914 DELINEATING THE AREAL LIMITS OF THE CROSBY-DEVONIAN POOL, LEA COUNTY, NEW MEXICO, BY INCLUDING THEREIN THE SOUTH HALF (S/2) OF SECTION 33, TOWNSHIP 25 SOUTH, RANGE 37 EAST, N.M.P.M., AND EXCLUDING THEREFROM ALL ACREAGE LYING NORTH AND EAST OF A FAULT RUNNING NORTHWEST-SOUTHEAST THROUGH SECTION 28 OF SAID TOWNSHIP AND RANGE.

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5. That the exclusion of the acreage lying North and East of said fault from the areal limits of said pool is necessary for the protection of correlative rights and the equitable allocation of production from the Crosby-Devonian Pool.

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WHEREFORE, your applicant respectfully requests this matter be set for hearing, as prescribed by law, and that upon notice and hearing the Commission issue its order amending its Order Nos. R-639, R-787, and R-914 in the manner herein described.

Respectfully submitted,

EL PASO NATURAL GAS COMPANY

By _____
Attorney for Applicant

BEFORE THE

Oil Conservation Commission

SANTA FE, NEW MEXICO

February 14, 1957

IN THE MATTER OF:

CASE NOS. 861 & 1204 (Cont.)

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
February 14, 1957

IN THE MATTER OF: (Rehearing) Application of El Paso Natural Gas Company for rehearing on Case 861, Order R-639-A. Applicant, in the above-styled cause, seeks a rehearing in Case 861, Order R-639-A, on these matters concerning the size of a standard drilling and proration unit in the Crosby-Devonian Gas Pool, Lea County, New Mexico.	Case No. 861
Application of El Paso Natural Gas Company to amend the horizontal limits of the Crosby-Devonian Gas Pool, Lea County, New Mexico, as established in Commission Order R-639-A. Applicant, in the above-styled cause, seeks an order extending the horizontal limits of the Crosby-Devonian Gas Pool to include the S/2 of Section 33, Township 25 South, Range 37 East, and to exclude all acreage lying north and east of a fault running Northwest - Southeast through Section 28 of said Township and Range.	Case No. 1204

BEFORE:

Honorable Edwin L. Mechem
Mr. A. L. Porter
Mr. Murray Morgan

TRANSCRIPT OF HEARING

MR. PORTER: In regard to the next two cases listed on the docket, Case 861, which is an application for rehearing, and Case 1204, which is a nomenclature case, the Commission received written application from the applicant, El Paso Natural Gas Company

for continuation of these cases, and we granted the continuance by letter on February 5th, sending a copy of the letter granting the continuance to all of the parties who entered an appearance when Case 861 was first called.

So, let the record show that Cases 861 and 1204 will be continued to the regular March hearing.

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

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached statement of proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS MY HAND AND SEAL this, the 18th day of February, 1957, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Notary Public

My Commission Expires:
June 19, 1959

BEFORE THE

Oil Conservation Commission

SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO._____

TRANSCRIPT OF PROCEEDINGS

ADA DEARNLEY AND ASSOCIATES

COURT REPORTERS

605 SIMMS BUILDING

TELEPHONE 3-6691

ALBUQUERQUE, NEW MEXICO